

2.2 Certools filter

Certools filter is a very small cartridge filter but he has an inside cartridge with innovative filtering elements allowing to have a higher filtering power with regards to the previous ones (pict. 3). We suggest replacing the inside cartridge each 20.000 km .



Pict. 3
Certools filter

2.3 Alluminium “Rail” with BRC MY09 injector

This is the element on which injectors are installed; it allows distributing gas in a suitable way to each injector at the pressure wished.

A patent covers BRC injectors protecting its details of construction.

It's a “bottom feed” injector (supplied from the bottom). Gas contained in the rail comes into the injector lower side and it's injected in the intake manifold when shutter, moved by the electromagnet, frees the passage section.

Tightness is assured by the rubber final part of the shutter that pushes on a frustum-of-cone-shaped component (called volcano).

Pressure differential acting on the shutter enables it remaining in the closure position when coil is not excited, and prevents gas from being discharged in the intake manifold.

The injector has been especially planned to have a long life in extreme conditions of use:

- Diaphragms insulate the delicate area of magnetic circuit, avoiding that any kind of gas deposit modifies its geometry.
- Operating temperature: from -40°C to $+100^{\circ}\text{C}$ or -15°C to $+120^{\circ}\text{C}$.
- 15 g accelerations.

Strong electromagnetic forces assure opening also if there are oils or waxes in the dirty gas that, not retained by the filter, tend to paste shutter to its seat.

It's a low impedance injector (1,66 ohm / 1,7 mH at 20°C) and so it requires a peak & hold piloting.

Shutter opens by applying all battery voltage during peak phase; then voltage with which injector is supplied becomes the keeping one (hold), enough to keep it open for the wished time. Shutter opens in brief time, and this allows



Pict. 4
Alluminum Rail



Pict. 5
Plastic Rail

having a good control of gas, injected in small doses too, as at idle conditions. Gas passage sections, then, allow a right supply also for the most powerful vehicles into the current market.

In order to better satisfy needs of good idle control and good supply in high speed, there are many kinds of injectors with different passage sections.

2.4 “Rail” with BRC MY09 injector plastic

This rail with plastic body presents Gas

inlet section improved through misalignment of Rail-Injectors axis

Performances concerning corrosion issues improved

Risk arising from aluminium porosity eliminated

2.5 Gas pressure and temperature sensor (PTS)

This sensor (pict. 7) has a compact body and is already integrated with the connector; it allows to measure gas pressure and temperature.