

# Cartridge or Repair Kit System

Differences in terms of time, tightness and serviceability

## Definitions

### What is a Cartridge?

- It is a compact, interchangeable unit containing the complete valve and seal system.
- In case of malfunction, only the cartridge can be replaced.

### What is a Repair Kit?

- It is the whole of the parts embedded in the system, consisting of components such as bottom valve, spring, gasket.
- When it fails, it can be replaced piece by piece, but disassembly/assembly is quite difficult.

## Failure Scenarios

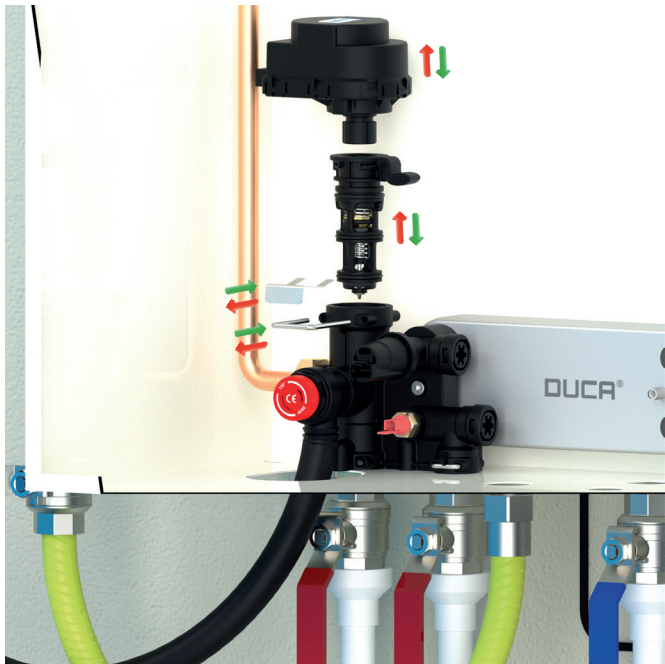
### If the Cartridge Model Fails:

- Only the cartridge is removed and a new one is installed.
- Surrounding parts are not dismantled, sealing is maintained.

### If the Repair Kit Model Fails:

- All parts must be dismantled (bottom valve etc.).
- During dismantling, other sealing elements and connections may deteriorate due to the dismantling of surrounding parts,
- There is a risk of leakage during reassembly.

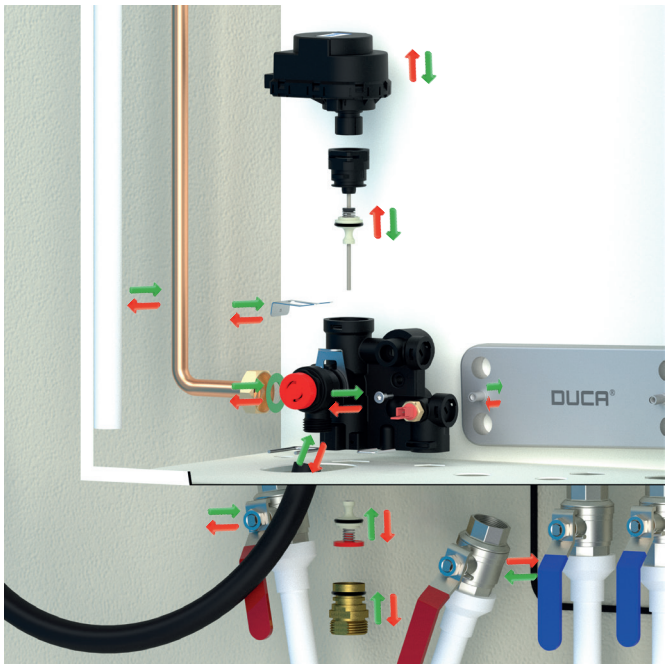
Cartridge Model Disassembly: 



Average Duration:



Model Disassembly with Repair Kit: 



Average Duration:



| Features           | Cartridge System | Repair Kit System |
|--------------------|------------------|-------------------|
| Response Time      | ~10 minute       | ~1 hour           |
| Intervention Point | Cartridge only   | Entire body       |
| Leakage Risk       | None             | Present           |
| Ease of Service    | Simple           | Tough             |
| Operational Risk   | Low              | High              |