



Multiple Cartridge Housings & End Cap Styles Housing Design Overview

Often overlooked in industrial system design, the filter housing itself can play a very important part in the overall efficiency of many processes. It determines the differential pressure, the choice of materials, the cartridge end caps and temperature/pressure range. The range of stainless steel housings includes 10, 16 and 28 bar pressure ratings, with a choice of Vee clamp (standard), ACME screw head and through bolt sealing mechanism. Sanitary housings used in the pharmaceutical, micro electronics and beverage and fine chemicals industries may also be produced in Hastelloy C 22 steel and with different sealing materials (EPDM, Viton, FEP, Silicone).

The typical plastic housings in private households (POU) are almost always designed to work with a design pressure of 4 bar (400 kPa) and are unsafe with pressure hammers or hot water (over 24 degrees Celsius). The special Carbonit VARIO HP is a unique plastic design which often equals the stability of steel housings. Tested above existing European legal requirements it is used even in some industrial processes, where an excellent price value relation is paramount.

End Cap Styles Overview

Filter cartridges are commonly available in SOE (Single Open End) or DOE (Double Open End) configurations. The Carbonit Monoblock NFP cartridges, which are typically equipped in the Carbonit systems (UNO, DUO, VARIO), have a SOE design with an additionally built in 'O' ring for a more efficient and reliable sealing. These cartridges are designed to fit housings of all major makings. Nevertheless a gasket adjustment might be necessary as the housing designs vary slightly (please inquire).

The sintered Carbonit Monoblock "IFP cartridges" equal the dimensions of (good) extruded carbon blocks and are offered in DOE or SOE design as well as in different lengths (5", 10", 20", 30", 40" or OEM). They fit into plastic housings and a lot of steel housings. DOE cartridges are ideal for non-critical, general purpose filtration and pre-filtration applications, where operation economies are of prime importance. Their disadvantage is that knife edge seal mechanisms are relatively crude and might be subject to damage or operation installation errors leading to potential bypass of the filter cartridge and a reduction in the efficiency of the filter system. Carbonit offers adapters for a better sealing of DOE filter into multiple cartridge stainless steel housings.

The Carbonit Monoblock "AFP cartridges" are designed to fit into stainless steel housings for sanitary usage and offered in a wide range of the most common end cap styles (Code 2,3,7,8,S) with an optional stainless steel, which is recommended for use in extreme temperature applications (i.e. in-situ steaming, autoclaving, hot water flushing). To create a Carbonit Monoblock AFP cartridge a spun-bounded polypropylene prefilter is mechanically woven over the surface of a raw block. The end caps are thermally welded to assure bypass-proof performance and structural

integrity without adhesives or additives, maintaining cartridge purity. All materials are KTW approved or at least FDA approved. The sintered Carbonit Monoblock is heat stable and can be produced with pharmaceutical charcoal.

The “Code 7 configuration” uses two “226” O-rings with locking “ears” (bayonet) combined with a molded “spear fin” (or bomb-fin) at the closed end. The function of the bayonet is to be located to the corresponding component in the housing design, which allows the operator to confirm successful installation, prevents the cartridge being dislodged during sterile filtration, guards against a seal failure due to reverse flow and prevents the cartridge lifting out on backflushing.

The “Code S (Sartorius) cartridge” uses two “222” O-rings combined with a three-lug bayonet design, achieving the advantages of the Code 7 design. This is combined with a spear (or bomb-fin) at the closed side.

The Carbonit Monoblock “Puro cartridges” are SOE with a Ster-O-Tap capillary membrane inserted into a carbon block. It delivers sterile water and leaves the minerals in the filtrate. Therefore a filtration of seawater or water with nitrate/nitrate substances is not possible.

Functional Guarantee

Carbonit guarantees a trouble free handling only with Carbonit system components and for an installation according to the manual. Any change (cartridges, adjustments, etc.) destroys this guarantee.