



Carbochem Activated Carbon Filter & Under Drain

Benefits of Carbochem's Proprietary ACF Design

- 1) Optimum configuration to maximize efficiency and performance (Mass Transfer Zone of the GAC, service life) and minimize the capital cost (in terms of size and shape of ACF)
- 2) Employ proprietary under drain (U/D) which eliminates the nozzle plate and void/dead space internally
- 3) Lower backwash flow rate to achieve required bed expansion
- 4) Minimize water consumption to operate the ACF
- 5) Minimize microbial contamination
- 6) Reduce energy consumption and steam requirement
- 7) Reduce formation of GAC fines
- 8) Easy maintenance and GAC replacement with minimum downtime
- 9) Carbochem U/D system eliminates dangerous internal pressure differentials that exist with filters incorporating nozzle plates or false bottoms
- 10) Small footprint reducing construction cost and physical plant size

Advantages of Carbochem's Under Drain vs. Nozzle Plates

- 1) Maximize use of vessel volume and eliminate dead space beneath the nozzle plate
- 2) Reduce CAPEX and OPEX of ACF
- 3) Minimize the major source of potential microbial contamination by eliminating the dead space beneath the nozzle plate and providing thorough scouring of the bottom head due to the optimum location of the nozzles
- 4) Lower backwash flow rate to achieve required bed expansion
- 5) Minimize water consumption to operate the ACF
- 6) Eliminate the requirement for a bed of supporting media which adds to the cost and impacts the backwashing efficiency (different densities are not compatible)
- 7) Supporting media is also more prone to microbial contamination if not maintained/sanitized adequately
- 8) ACF with nozzle plates are more susceptible to channeling (and premature breakthrough) due to problems with the nozzles (damaged, incorrect configuration etc)
- 9) Easy maintenance and GAC replacement with minimum downtime
- 10) Eliminates dangerous internal pressure differentials that exist with filters incorporating nozzle plates or false bottoms