

Replacement Filter Barrels

Applications

Kadant AES now offers replacement filter barrels for all RPA Process Technologies backwashing filtration systems. Most barrels can be installed in minutes, without the use of tools.

Advantages

- ▶ **Easy Filter Basket Removal**—Quarter turn cap allows filter screen removal in seconds. Unlike the RPA design, the O-rings stay with the cap and basket handle, reducing the chances of loss.
- ▶ **Increased Flow Capacity**—Additional filtration surface area translates to about 12% more capacity, or fewer backwash cycles at the existing flow.
- ▶ **Simplify Maintenance**—Unlike the quarter turn safety cap on the Kadant AES design, the RPA Bale Clamp & "T" Handle can be a maintenance headache. When over tightened to seal leaks, the future removal can be difficult.
- ▶ **Discontinue Quick Coupler Use**—The need to open the quick couple connection is eliminated once the new barrel is installed.
- ▶ **Improved Safety**—Optional flanges to replace the existing quick coupler connections are available. In addition, the quarter turn safety cap (see details on backside) allows the operator to visually observe that the pressure has been relieved from the barrel before removing the cap.
- ▶ **Sturdy Element Design**—Kadant AES filter elements are bottom supported and locked in place by the safety cap, assuring the element integrity. Existing RPA elements are top supported by the element flange. Cracking/failure has been reported at the flange weld.



Single Kadant AES barrel (left) retrofit on RPA Low Pressure Quick Coupler Filter System.



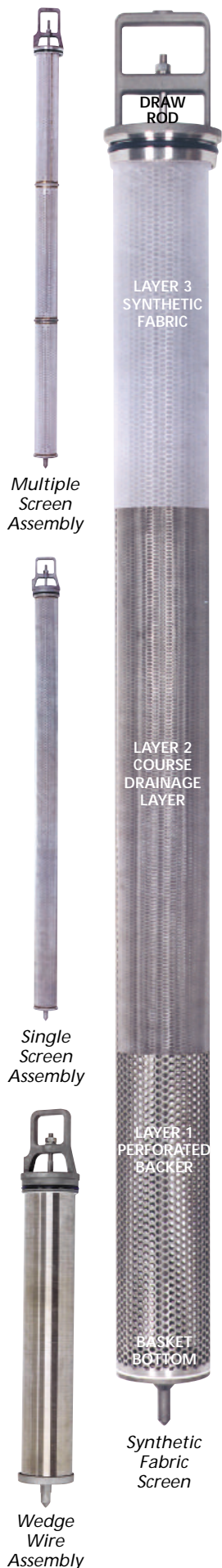
Kadant AES filter barrels with high pressure flanges (left) replace RPA barrels with quick couple connections (right).

Filter Barrel Specifications

- ▶ Construction Material: 316L stainless steel
- ▶ Design Pressure (psig): 300, 740, 1000
- ▶ Inlet/Outlet Connections: Male Quick Coupler Connection standard; optional flanges
- ▶ Drain Connection: NPT Plug standard; optional ball valve
- ▶ Gasket Material: EPDM, Buna-N, Viton, Teflon Encapsulated Viton
- ▶ Filter Elements: See Backside

FILTER ELEMENTS

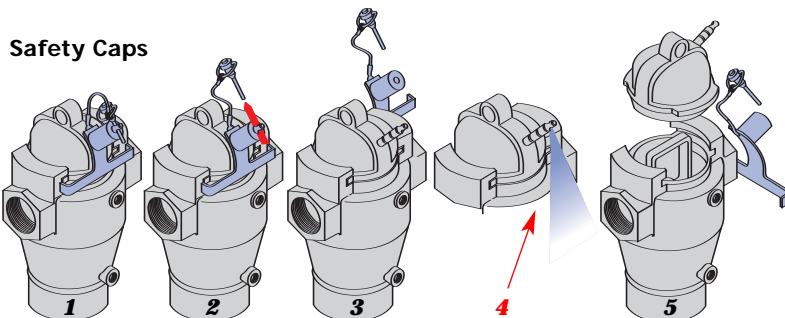
With easy maintenance in mind, Kadant AES basket assemblies are equipped with rugged reusable filter elements that can be removed and replaced in seconds, minimizing the time a filter housing is out of service. To reduce required spare parts, the basket handle, basket bottom, and draw rod are reusable and normally do not require replacement.



- 1 - Perforated stainless steel** can be used as filter media alone for the removal of course particles, or as the support structure for wire mesh or synthetic type filter elements. The rolled steel straight seam design provides an element with exceptional crush resistance and more open area compared with tubes with spiral wrap construction.
- 2 - Wire mesh** filter screens are wrapped tightly around and welded to a perforated stainless steel backer screen. For 150 mesh and finer filter elements, a course mesh drainage layer is placed between the fine mesh and the perforated backer screen for structural support, to disperse the flow and assure full utilization of the screen surface, and to eliminate the dead spots that would otherwise be created.
- 3 - Synthetic fabric** filters screens are available in different materials that include nylon and polyester. As with the wire mesh, a course 20 or 60 mesh drainage layer is attached to the perforated backer. The filter cloth is a sewn tube and the ends are tucked inside the bottom and top of the perforated element. The gasketed basket handle and basket bottom firmly clamp the fabric in place preventing bypass of contaminants.
- 4 - Spiral wound slotted wedge wire** is an extremely rugged filter media capable of withstanding very high differential pressures. It is especially suited for filtering fibers or gelatinous particles that have a tendency to "staple" themselves into the openings of the filter screens, making manual cleaning difficult.
- 5 - Diffusion bonded** filter elements are highly efficient, extremely durable wire mesh screens that can withstand many high pressure washes without the need for replacement. They are manufactured with multiple layers of 316 stainless steel wire mesh that are supported by a perforated element. All layers are sintered at above 2000°F (1095°C) in a controlled atmosphere to allow molecules to migrate (diffuse) across the contact points and recrystallize. This forms a strong, integrated structure where all contact points of the structures are bonded together.

Particle Retention Microns	Retention Inches	Approximate Mesh Equivalent	Wedge Wire	Wire Mesh	Diffusion Bonded	Synthetic	Perforated Backup Only
2	0.0001				○		
5	0.0002				○	○	
10	0.0004				○	○	
15	0.0006				○	○	
20	0.0008				○		
25	0.0010		X			○	
32	0.0013	700			○		
36	0.0014	400				○	
44	0.0017	325		X	○		
50	0.0020		X			○	
60	0.0024	250		X	○		
75	0.0030	200	X	X	○	○	
100	0.0039	150	○	X		○	
104	0.0041				○		
140	0.0055				○		
150	0.0059	100	X	X		○	
180	0.0071	80	○				
250	0.0098	60	X	X		○	
355	0.0140	45	X				
425	0.0167	40		X			
500	0.0197	35	○				
600	0.0236	30	○				
787	0.0310		○				
841	0.0331	20		X			
1600	0.0630	12	○				○
4750	0.1870	4					X

X - normally stocked elements ○ - consult factory for availability



- 1** Pressure relief caps provide safe pressure release for service and maintenance.
- 2** A locking pin and O-ring secure the lock assembly to the integral pressure relief stem.
- 3** Removal of the lock assembly provides visual evidence that pressure has been relieved and quarter-turn cap removal can proceed.
- 4 STOP**—if pressure is present, do not remove cap.
- 5** Safe, quick access to interior components

AN ACCENT ON INNOVATION

Kadant AES is a world leader in supplying filtration systems that continually enhance a wide range of process applications.

Our Website has more details on our products and services.

www.kadantaes.com

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