

# NuKey™

## Nuclear Grade Disposable Filter Elements



**The NuKey™ family of commercial nuclear grade disposable filters are designed for use in all areas of a power plant that require liquid filtration.**

NuKey™ filters are available with ratings as low as 0.5µm and can be manufactured for new applications as well as direct retrofits for existing OEM filters. Finer ratings may be discussed upon application.

These filters have a fully welded structure, which surpasses the older tie-rod design in terms of lifting safety and minimizes operator exposure, while meeting OEM filter specifications.

Porvair has over 50 years of experience delivering world class performance to the most demanding of environments. Commercial Nuclear experience specifically includes reactor coolant, spent fuel pool, radwaste filters, and resin trap strainers as well as other nuclear applications.

**Other options available upon request.**

### Options

Style	Common Description
022	362 O-ring upper seal, 356 O-ring lower seal, 6.15" OD, 3µm sintered disc at upper opening
044	6.65 OD, upper o-ring seal (special 6.65 OD), lower 358 unified o-ring seal
076	339 O-ring upper seal, 230 O-ring lower seal, 2.8" OD
105	339 O-ring seal, 6.1" OD, 7/16-14 end nut interface
130	362 O-ring upper seal, 356 O-ring lower seal, 6.15" OD, no upper opening
157	362 O-ring upper seal, 356 O-ring lower seal, 6.15" OD, no upper opening, alternate lifting handle

### Nuclear Media Filtration Test Summary

Instrumentation and Test Methodology	Compliant with NF X45-303 or ASTM F795-88
Fluid	Water at ambient conditions
Water at ambient conditions	15l/min
Sample form factor	Flat sheet

### Typical Applications

- Reactor Coolant / CVCS
- Seal Water Injection and Return
- Spent Fuel Pool and Skimmers
- Reactor Cavity
- Radwaste Containment

### Features and Benefits

- Designed to reduce out of core radiation while minimizing operator exposure
- Fully welded 316L construction with potted seals eliminates the potential for bypass while providing a robust support structure
- Pleated filter media is optimized to reduce outage duration when fuel pool clarity is critical path
- Available in a range of styles and filtration ratings
- AS9100 / ISO 9001 certified
- Form, fit, and function replacements for OEM filters

## Specifications

Filtration Designation Code	Filtration Claim @ $\geq 99.9\%$	Test Dust	MoC of Media	Leachables and Extractables: $<150\text{ppm}$ Fluorides, Chlorides, Sulfates
0008	0.8	ISO FTD	GF (Glass fiber)	Pass
0010	1	ISO FTD	PP (Polypropylene)	Pass
0020	2	ISO FTD	PP (Polypropylene)	Pass
0050	5	ISO FTD	PBT (Polybutylene terephthalate)	Pass
0100	10	ISO MTD	PP (Polypropylene)	Pass
0130	13	ISO MTD	PBT (Polybutylene terephthalate)	Pass
0550	55	ISO MTD	PES (Polyester)	Pass
Potting Compound	N/A	N/A	Urethane	Pass

Claims	022	076	105	130	157
Normal flow direction	In to out	In to out	Out to in	In to out	In to out
Burst minimum (psid)	75	75	-	75	75
Collapse minimum (psid)	10	10	75	10	10
Axial tensile load minimum (lbf)	100	100	100	100	100

## Ordering Information

Product Code: NuKey™ - 1 - 2 - 3 - 4

1: Style	2: Code	Length	3: Filtration Rating*	4: O-Ring Material
022	1088	10.878	0008 0.8 $\mu\text{m}$ @ 99.9% 0010 1 $\mu\text{m}$ @ 99.9% 0020 2 $\mu\text{m}$ @ 99.9%	E EP
	1886	18.858		N Buna N
	2713	27.128		S Silicone
044	2126	21.255	0050 5 $\mu\text{m}$ @ 99.9% 0100 10 $\mu\text{m}$ @ 99.9%	
	2494	24.942		
076	1140	11.399	0130 13 $\mu\text{m}$ @ 99.9% 0550 50 $\mu\text{m}$ @ 99.9%	
	2134	21.336		
	3127	31.273		
105	2134	34.635		
	1750	17.500		
130	1088	10.878		
	1886	18.858		
	2713	27.128		
157	1088	10.878		
	1886	18.858		
	2713	27.128		

\* Filtration ratings tested on flat sheet media, Single-Pass.

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