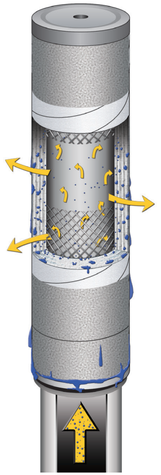
VESSEL SPECIFICATIONS

Standard

- 6” to 72” diameter
- ASME Code Section VIII, Div. 1
- Design temperature from -20°F to 450°F
- Quick Opening Closure
- Pressure Parts: Carbon Steel
- External Attachments: Carbon Steel
- Hydrostatic testing at 1.3 or 1.5 x design pressure

Options

- Other Design Codes
- Design Pressure up to 10,000 psig
- Materials of Construction
  - 304 Stainless Steel
  - 304L Stainless Steel
  - 316 Stainless Steel
  - 316L Stainless Steel
  - Low Temperature Materials
- Non-Destructive Test (NDT)
  - Radiography
  - Magnetic Particle
  - Liquid Penetration
  - Ultrasonic
  - Brinnel Hardness
  - Charpy Impact
- Coating options
  - Sandblast: commercial, near white and white metal
  - Paint: 2 & 3 coat corrosion resistant
- Optional PECO SafeLock Closure®
- Auxillary Packages in Stock



Advanced Technology Cartridges

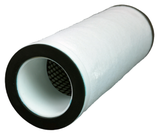
The Series 77V uses the PEACH® DynaCeptor™ cartridge. One of the best coalescer cartridge technologies on the market today! NGGC cartridges utilize Saturated Depth Coalescing™ to provide an open 3-D depth matrix structure which allows liquids to saturate the media depth and grow to their fullest potential then drain with gravity when the droplet is ready, all while maintaining a low differential pressure. These liquid droplets often take with them solid contaminant particles, as well, causing a “self-cleaning” effect within the media matrix.

Tripod Riser Support

Self-centering tripod riser supports and provides a knife-edge sealing surface, preventing gas bypass.

Internal Drainage Protection Sleeve

Creates a zero gas velocity drainage area which enhances liquid removal performance by giving the liquids a quiet area to drain and not be re-entrained into the gas stream.



CARTRIDGE PERFORMANCE LEVEL	STYLE	SERVICE	EFFICIENCY*
NGGC PL-01	PEACH Saturated Depth	Normal to heavy contaminant loading conditions	99.5% of 0.3 µm & larger liquid droplets ≤50 PPB (wt) effluent
NGGC PL-20	PEACH Saturated Depth	Polishing; protection of critical equipment such as gas turbines	99.99% of 0.3 µm & larger liquid droplets ≤2 PPB (wt) effluent
NGGC PL-23	PEACH Saturated Depth	Ultra-high effluent applications	99.98% of 0.1 µm & larger liquid droplets ≤0.5 PPB (wt) effluent
NGGC PL-51	Pleated, Treated Glass	Light continuous oil or condensate removal	99.97% of 0.3 µm & larger liquid droplets ≤10 PPB (wt) effluent

* Based on standard PECO test protocols.

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Parker Hannifin has a policy of continuous product research and development and reserves the right to change design and specifications without notice.

BR-OG-SPARTAN-77V-190501

VESSEL ORDERING INFORMATION

77V	–	16	–	336	–	30	–	285
Series		No. Cartridges		Cartridge Size 312 324 336		Nominal Shell Diameter (Inches)		Design Pressure (PSIG)

Refer to data sheet DS-OG-PEACHDYNACEPTOR-NGGC for detailed cartridge information.

The following information is required when requesting a quote for a Spartan PuraSep

- Operating pressure range
- Operating temperature range
- Gas molecular weight, or specific gravity
- Type of liquid contaminant
- Liquid density or specific gravity
- Amount of liquid load
- Design pressure
- Design temperature
- Corrosion allowance requirements
- Special design requirements

PECO, PEACH, PuraSep, PEACH Gemini PuraSep, Saturated Depth Coalescing and PECO SafeLock Closure are trademarks of Parker Hannifin. ® indicates a Parker Hannifin trademark registered in the USA and various other countries.

Spartan PuraSep®

PECO Series 77V Vertical Gas Coalescer

ISO 9001

ENGINEERING YOUR SUCCESS.

RECOVER AEROSOLIZED LIQUIDS with Spartan PuraSep

For high efficiency coalescing to capture aerosolized mist and small liquid droplets in gas streams choose the Spartan PuraSep, Series 77V vessel. The 77V uses advanced technology coalescing cartridges that flow gas from the inside-to-outside to capture fine liquid droplets and grow them to a larger size so they are able to be removed.

A variety of cartridge performance levels are offered to handle different service needs that can provide liquid effluent amounts from ≤50 PPB (wt) all the way down to ≤10 PPB (wt). The 77V is a great choice for removal of low surface tension liquids such as lube oil and NGL with minimal solids and liquid loading.

A Series 77V-VKO is available for higher liquid load capacity and utilizes a patented Vertical Knock-Out device. This device will remove a substantial amount of the liquid prior to entering the cartridges.

HIGH EFFICIENCY COALESCING

TYPICAL APPLICATIONS

• Compressor Discharge • Contactor Carryover • Fired Reboilers • Fuel Gas
• Gas Analyzer • Gas Injection System • Landfill Gas • Line Heaters • Propane Refrigeration System
• Upstream of Solid Dessicant or Molecular Sieve Beds

Compressor Discharge
- Lube oil recovery

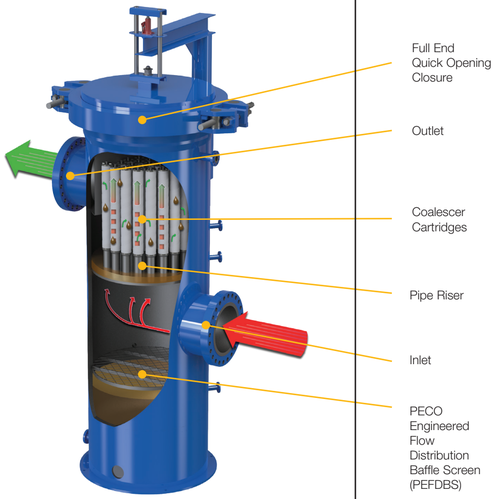
Contactor Outlet
- Process liquid carryover recovery (i.e.Amine & Glycol)

Fuel Gas
- Residual water & condensate removal

FEATURES & ADVANTAGES

- Full-end closure eliminates confined space entry
- Pipe Risers:
  - Provide an area for liquids to collect eliminating liquid build up on coalescer cartridges and eliminating gas flow from entering the drainage system during liquid drainage
  - Eliminate the need for spider bar supports
- Tripod riser support holds cartridge square to sealing surface and allows cartridge to self-center on riser
- Full cartridge length rod and lock down seal nut provides hold-down strength necessary to withstand upsets
- Rod supports are threaded and replaceable
- Knife-edge sealing surface on tripod riser ensures tight seal of flat gasket style cartridge and allows easy cleaning of surface unlike competitor o-ring type seals which can stick and become hard to remove
- Vessel designed to accept a wide range of coalescer cartridge technologies to handle unique separation applications
- Standard design utilizes PEACH® DynaCeptor™ Advanced Technology cartridges with PECO's exclusive internal drainage sleeve which provides a zero gas velocity drainage area to enhance liquid removal performance
- Free liquid knock-out section, larger than industry standard, which handles upsets and prolongs cartridge life
- PECO Engineered Flow Distribution Baffle Screen (PEFDBS) reduces turbulence in bottom section of vessel and keeps liquids in sump from re-entraining
- Outlet baffle, proven by CFD analysis, to equally distribute gas flow eliminating flow channeling through cartridges close to the outlet nozzle
- Outlet baffle also allows coalescer cartridges to be located closer to the closure, versus other designs, making them easier to install and remove while also eliminating confined space entry and the use of special removal tools

Removes 99.5% of aerosolized liquids 0.3 micron and larger at a capacity of up to 25 gpd per cartridge.

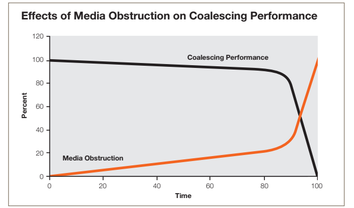


Series 77V
10" to 84" diameter unit

Series 77V
6" to 8" diameter unit

Series 77V-VKO
Patented Vertical Knock-Out device for higher liquid load capacity

HOW IT WORKS

Contaminated gas enters through the inlet in the lower portion (1st stage) of the housing allowing droplets with a heavy enough mass to drop out with gravity and be drained off. A proprietary PEFDBS baffle screen in the 1st stage ensures that liquid collected in the bottom will not re-entrain with the gas. The gas then flows inside-to-outside through the coalescing cartridges allowing aerosol liquid droplets to grow within the cartridge media then drain down the cartridge and collect on the support plate (2nd stage) where they are then drained off. Clean gas will exit the outlet.

Although coalescing cartridges can capture solids contaminants, this is not the cartridges main purpose. Solids that enter the reverse flow coalescing cartridges will plug off pores and reduce coalescing efficiency over time. If heavy solids are present with the gas it is recommended to switch to a horizontal PEACH Gemini PuraSep® vessel which is designed to handle heavy solids and liquids.