aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Products for Aviation Fuel Handling

Parker Velcon

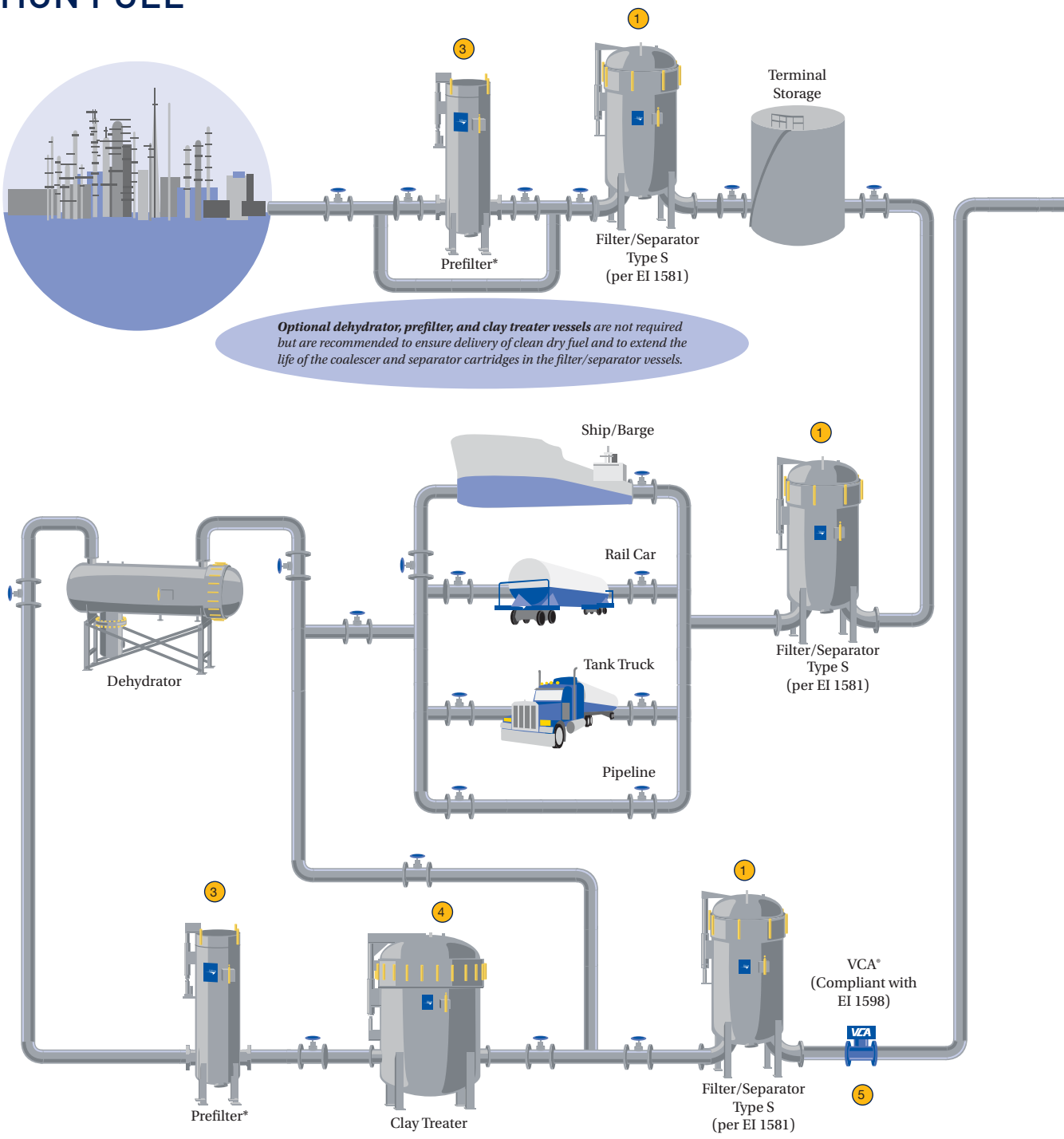
ENGINEERING YOUR SUCCESS.

The Hydraulic & Fuel Filtration Division (HFFD) of Parker Hannifin manufactures a wide range of best in class Parker Velcon filtration and separation solutions and fuel condition monitoring products for use in assuring clean dry aviation fuel.

As the global leader in aviation bulk fuel filtration, Parker HFFD proprietary products range from micronic filters, fiberglass coalescers, separators, water absorbent cartridges, and clay canisters designed to meet required industry standards.

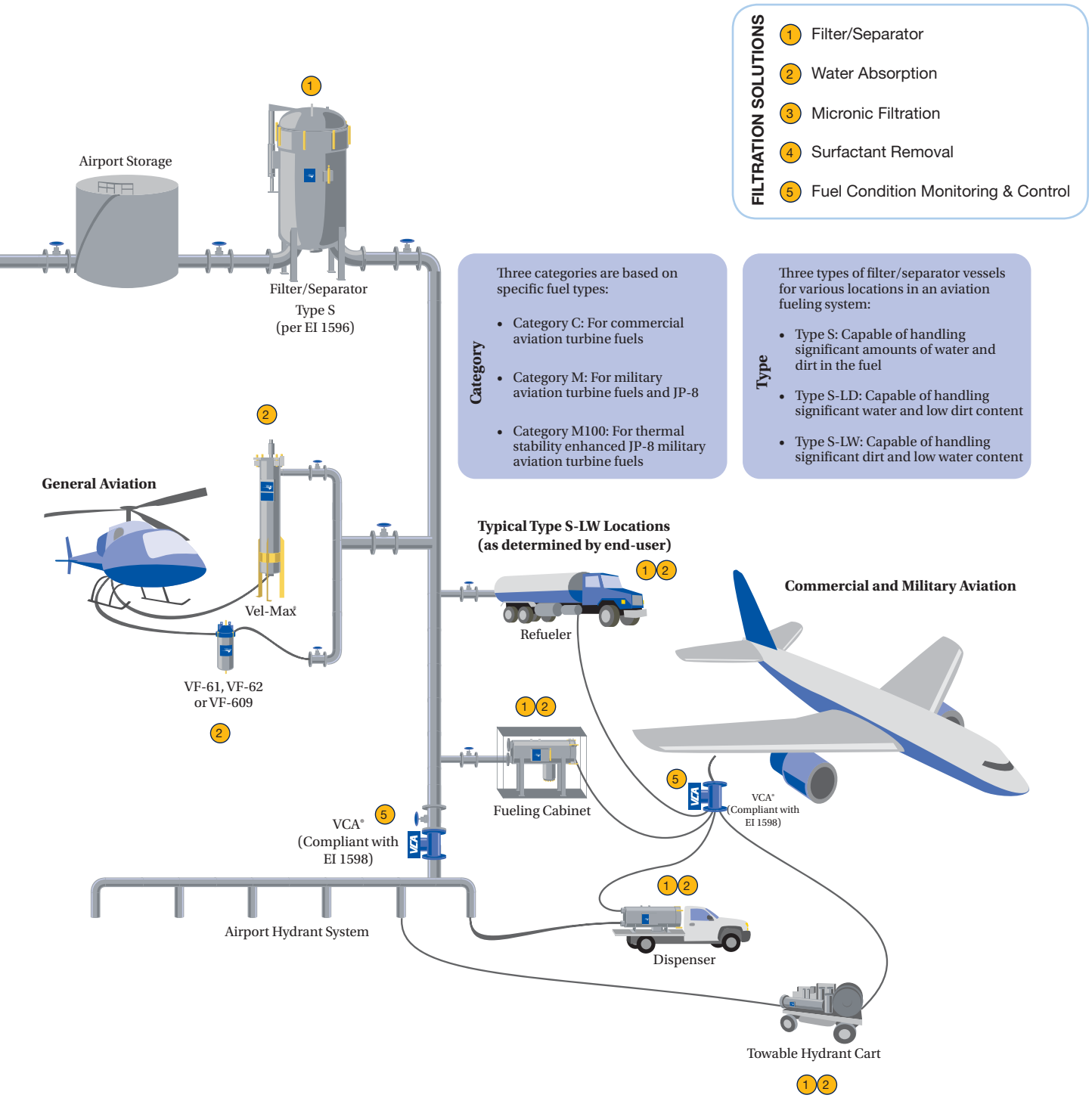
This includes a complete line of cartridges qualified to the latest editions of EI specifications: EI 1581, EI 1583, EI 1590 as well as housings that meet best in class EI 1596 requirements.

TYPICAL DISTRIBUTION SYSTEM FOR CLEAN DRY AVIATION FUEL



Parker HFFD research testing and product development team continues to seek innovative solutions to many fuel quality problems and issues. Among some of Parker HFFD's most recent product innovations are the:

- DPM™ – Differential Pressure Module monitors differential pressure of filter monitor or filter water separator vessels
- FDPM® MKII – Flow Differential Pressure Module, Mark II provides automatic reporting of flow corrected differential pressure for varying flow rates.
- VCA® – Velcon Contaminant Analyzer for real-time fuel quality analysis in the field.
- VCA-CV – The VCA combined with a Cla-Val valve.



* Prefilter elements compliance with EI 1590 and vessel compliance with EI 1596 is customer dependent.
Optional EI 1583 Qualified Vessels/Absorbent Type Cartridges for jet fuel without anti-icing additive.

1 Filter/Separator

Filter/Separators are two-stage vessels designed to remove dirt and separate water from aviation fuel at refineries, product terminals, fuel farms, and on refueling vehicles.

They continuously coalesce and separate water, which collects in the vessel sump where it can be drained. Velcon Filter/Separators have passed numerous tests qualifying them to the latest EI 1581 edition. Construction is to ASME Code and EI1596 Specifications. Units qualified to military specifications are also available.

Vessels

- Fixed Installations
  - VV Vertical Vessels
  - HV Horizontal Vessels
- Mobile Fueling Equipment
  - HV Horizontal Vessels
  - HVS Horizontal Vessels

Coalescer Cartridges

Used as a first-stage cartridge in Filter/Separators. Remove particulates and coalesce water into large water droplets. Available in open-ended or threaded base designs.

Separator Cartridges

Second stage cartridges in Filter/Separators repel coalesced water drops which then collect in the sump for easy removal. Available in Teflon® Coated Screen, Synthetic Media or Pleated Paper Media.

2 Water Absorption

Velcon's Water Absorbent Filters are single-stage filter vessel systems which remove water and dirt from Avgas and Jet Fuel and provide protection from water at the point of final fuel filtration. When a monitor system's water holding capacity is reached, the flow of fuel is restricted. Units meet EI 1596 Specifications. Construction is to ASME Code Section VIII.

Vessels

- Fixed or Mobile Units
  - AHM or HM Horizontal Monitor Vessels
  - AVM or VM Vertical Monitor Vessels
- High Capacity Aquacon® Units
  - HA Horizontal Vessels
  - VA Vertical Vessels

CDF® Fuel Monitor

Absorb water and filter particulate from Avgas and Jet Fuel. Provide protection against water slug transmission.

Aquacon®

Filter particulate matter and absorb water with great efficiency. Water capacity is approximately 40 times greater than 2" diameter monitor cartridges. Also provide protection against water slugs.

3 Micronic Filtration

Micronic vessels offer economical particulate prefiltration upstream of clay units or Filter/Separators. Units available to meet EI1596 Specifications. Construction is to ASME Code Section VIII.

Vessels

- Fixed Installations
  - VF, VFAP (EI1596) Vertical Filter Vessels
  - HF, HFAP (EI 1596) Horizontal Filter Vessels

Pleated Filter

Corrugated pleated media with large surface area for filtration of particulate contaminants. Available in open-ended or threaded base designs.

Fiberglass Filter

Progressively finer layers of fiberglass filter colloidal or slimy contaminants.

Commissioning Cartridges

Commissioning Cartridges (FI Series) can be used in place of coalescers to remove heavy solid contaminants during start up.

4 Surfactant Removal

Clay Vessels & Elements are placed upstream of F/S vessels prior to pre-filtration to remove surfactants and protect coalescer and separator elements. Construction is to ASME Code Section VIII.

Vessels

- Fixed Installations
  - VC Clay Element Vessels

Clay Cartridges

Clay canisters use a low volatile matter (LVM), 60-90 mesh, with a superior water tolerant Attapulgite clay that has a lower tolerance for aggregating. The clay cartridges remove surfactants from jet fuel and other petroleum products.

5 Fuel Condition Monitoring & Control

Parker Velcon line of fuel condition monitoring solutions range from fixed on-line systems such as the Velcon Contaminant Analyzer (VCA®) to portable in-field systems such as the icountACM20, and icountBSplus. All are designed to provide reliable accurate results in very short time.

The VCA is an on-line monitoring system with the capability of detecting solid and liquid contaminants and can be configured to shut off flow when contaminant levels exceeds your defined threshold perimeters. In addition, the telemetry option allows for remote monitoring on a global scale via cellular network.

The icount particle analyzers are designed for monitoring and testing of solid contaminants. Parker HFFD offers four types of systems depending on your application needs. All products can be used as an on-line monitoring system or be completely portable while providing real-time or immediate results with the capability of storing of test results.

VCA® (Velcon Contaminant Analyzer)

MILITARY GRADE IN-LINE, FULL-FLOW SENSOR SYSTEM THAT SIMULTANEOUSLY DETECTS AND DIFFERENTIATES BETWEEN PARTICULATE AND WATER CONTAMINANTS IN REAL TIME.

The VCA can detect pipe scales, particulate and water from truck pipelines, dirt and water from storage or refullers vehicles.

The VCA, in combination with a proper filtration system, can provide assurance that the fueling system receives, maintains and dispenses fuel that meets ASTM D975 and ISO 4406 cleanliness levels.

As a “full–flow” analyzer, the VCA mounts within a fuel delivery system thereby providing a true representation of the pipeline contents. The VCA analyzes fuel at flow rates higher than 1000 gallons per minute through a 3, 4, or 6-inch diameter pipeline.

FDPM® (Flow Differential Pressure Module)

AUTOMATIC CALCULATION OF CORRECTED DIFFERENTIAL PRESSURE FOR VARYING FLOW RATES

The FDPM® MK II builds on its field tested predecessor. Designed to comply with the requirements of industry standards such as A4A 103 and JIG Guidelines, the FDPM® MK II eliminates this normally complicated calculation by automatically calculating the condition of the filters inside a vessel based on the inputs from differential pressure and flow-rate sensors. FDPM® MK II can be used with either mobile or stationary equipment.

DPM™ (Differential Pressure Module)

DIFFERENTIAL PRESSURE MONITORING AND SHUTDOWN SYSTEM

The DPM continuously monitors the differential pressure between the inlet and outlet of a filter monitor or filter water separator vessel in order to evaluate the condition of internal filter elements.

In the event that the filter differential pressure reaches maximum allowable pressure, the industrial strength relay on board the DPM control unit breaks the deadman circuit, immediately terminating the refueling operation. The system can only be overridden/reset by inserting a supervisor key. The DPM can also be placed in an override status in order to conduct the required DP Gauge free movement test.

icountACM20

STATE-OF-THE-ART FUEL CONTAMINATION MONITORING. THE FIRST FULLY FUNCTIONAL PARTICLE COUNTER APPROVED FOR USE ON AVIATION FUELS.

The icountACM20 Portable Particle Counter has been developed from existing technology for monitoring contamination in AVTur and other hydrocarbon fuels, in accordance with Energy Institute (EI) Method IP 564.

In addition, the ACM can also be used to monitor fuels from existing sampling points in locations from refineries, pipelines, distribution terminals, fuel supply storage.

Mission

Parker Velcon is committed to being the world's preferred company for the expert solutions we deliver to our customers.

Values

Superior customer service

Profitable growth

Meet or exceed customer expectations

Accountability

Integrity

U.S.A.

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