# Aviation Ground Fuelling Solutions

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# Get to know us

#### A HISTORY OF EXCELLENCE AND SERVICE

Since 1936, Cla-Val has produced the world's highest quality automatic control valves and aviation fuelling products for a diverse array of applications and market places. Our unique blend of engineering expertise, quality materials and sophisticated manufacturing processes has earned Cla-Val a reputation for excellence throughout the United States and around the world.

Cla-Val's tradition of innovation began in World War II when we built the world's first control valves that allowed fuel-water separators to automatically eliminate water from aviation fuel, preventing catastrophic failure in aircraft engines. Later, Cla-Val worked with the US Air Force to improve the speed and efficiency of aircraft refuelling; and again with the commercial aviation industry to develop the first pressurized hydrant refuelling system. Today, Cla-Val has become the standard bearer for technical expertise and performance, continuing to introduce innovative products that improve the safety and efficiency of commercial and military aviation fuelling worldwide.

#### MANUFACTURING AND TECHNICAL EXPERTISE

All Cla-Val products are made from the highest quality materials and backed by the best warranty in the industry. Because of our in-house foundries, Cla-Val is able to manufacture products in more than 50 different varieties of metals and grades.

To help ensure that our customers receive the technical and product support they need, we conduct the industry's most comprehensive engineering and application seminars. We also offer in-depth end-user training programs to help our customers derive the maximum benefit from their product investment.

With strategically located distribution centers and sales offices throughout the world, Cla-Val is the ideal source for superior technical know-how, unparalleled customer service and the finest quality products.



Lausanne, Switzerland - European Offices

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#### **ENGINEERING CAPABILITIES**

One of Cla-Val's most unique characteristics is the strong focus we place on continuous improvement in our products. This focus is personified by our in- house Engineering Department. They work hand-in-hand with our customers to develop real-world solutions to help them meet their operational challenges, such as the D-3 Swivel Inlet for nozzles used in aircraft fuselage and underwing fuelling applications.

Beyond analysing and understanding our customers' existing requirements, Cla-Val Engineering uses the latest in solid modeling design software to develop new products to meet the everchanging requirements of the industries we serve. To further enhance the value we provide, our Manufacturing Engineers continually work to develop and implement the latest technologies in our production and foundry facilities to ensure that all of our products are crafted with the highest possible quality, precision and accuracy.

#### **CERTIFICATIONS & APPROVALS**

Cla-Val aviation and ground fuelling products are designed and manufactured in accordance with applicable industry standards and our own rigorous in-house quality program, amongst which are;

El Specification 1584, Fourth Edition – Four Inch Hydrant System Components and Arrangements. SAE-AS 5877-B – Detailed Specification for Aircraft Pressure Refuelling Nozzles. ISO and CE Certified.



Costa Mesa CA, USA - Global Headquarters





## 341GF Underwing Refuelling Nozzle

- Nozzle designed primarily for Military and heavy duty applications
- Conforms to SAE-AS5877
- Connects to MS24484 single point adapter
- All Aluminium and Stainless Steel construction
- Compact swivel for easier aircraft connections
- Safety interlock with square pins
- Two threaded ports in nozzle body to fit accessories
- Guard bar protects operating handle
- D1, D2 and D3 swivel inlets available



### **342GF Underwing Refuelling Nozzle**

- Nozzle designed for severe and heavy duty applications
- Conforms to SAE-AS5877
- Connects to MS24484 single-point adapter
- Low pressure drop
- All Aluminium and Stainless Steel construction
- Safety interlock with square pins
- Two threaded ports in nozzle body to fit accessories
- Convenient guard bar hand grip
- Guard bar protects operating handle
- Multiple handle options and designs



## 347GF Underwing Refuelling Nozzle

- Light weight and compact size
- Designed in accordance with SAE-AS5877
- Connects to MS24484 single point adapter
- Six-slot connection head with 'lead-in ramps'
  - Low pressure drop

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- All Aluminium and Stainless Steel construction
- Integrated durable swivel joint
- Unique poppet design does not require adjustment nor specialist tools
- Two threaded ports in nozzle body to fit accessories
- Multiple handle options and designs



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#### 343GF / 348GF Hose End Pressure Control Valve

- Durable anodised Aluminium body
- Unique one-piece stainless steel piston is stronger and more durable than Aluminium pistons
- Larger springs improve pressure control
- Lowest available pressure loss
- Multiple pressure settings available
- Flanged or swivel-type connection
- Defuelling capable with a lockout device



#### 344GF Standard & Dry-Break Quick Disconnects

- For easy nozzle removal from delivery hose to inspect or clean the strainer
- Numerous independent safety interlocks
- Unique dry-breaking butterfly valve design provides extremely low pressure drop
- Disconnecting automatically closes the valve
- Reconnecting automatically opens the valve
- Durable hard-anodised Aluminium body
- Contains up to 600 psig when Dry Break is in the closed position





### 358GF Hose-End Shut-Off and Strainer Ball Valve

- Full port, quarter turn ball valve with strainer mounted within the ball
- Eliminates fuel spill when checking hose end strainer
- Inspection port on side of valve body gives access to strainer without draining hose
- Standard glass inspection cover allows for quick visual inspection without removing the strainer
- Ball can be reversed for defuel operation, preventing damage to strainer
- Arrow etched on Ball to easily identify direction of strainer
- Unique and interlocked Operating Handle design means no spanners or specialist tools are required to operate
- Operating Handle indicates flow direction of fuel through the valve
- A traditional Operating Tool may be used in lieu of the removable Operating Handle
- Swivel joint and threaded inlet with NPT or BSPP threads

### 354GF In-line Control Valves

- 3" or 4" sizes available
- Deadman operated
- Externally sensed pressure regulation
- Air, fuel, or electric pilot operation
- Standard ANSI 150 Flanges
- Victaulic adapters available
- Lightweight Aluminium body
- Internal Stainless Steel pistons for better performance



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### 353GF Pressure Hydrant Control Coupler

- Qualified to the latest El 1584 Specification
- Patented breakaway feature
- High strength Aluminium and Stainless Steel
  construction
- Stainless Steel 2-piece Piston
- Utilises low friction seal technology for accurate operation
- Accurate pressure regulation
- Excellent surge pressure control
- Pneumatic or hydraulic deadman option
- Deadman and Fuel Sense connections conveniently located
- Bleed Valve(s) included on the Pilot Block
- Lowest available pressure drop when fully open
- Flag Stick holder
- Multiple carrying handle configurations
- Mates with all Standard El 1584 hydrant valves



#### 353GF-E Hydrant Coupler

- For connection to a standard El 1584 hydrant pit valve to allow pressurized delivery of fuel to aircraft
- Qualified to the latest El 1584 Specification
- · Large radius elbow provides lower pressure loss
- Multiple Carrying Handle Configurations
- Multiple Outlet sizes available
- Mates with all Standard El 1584 hydrant valves





### 352GF Series Hydrant Pit Valve

- Complies with the latest El 1584 Specification
- Body of Ductile Iron and Stainless Steel Upper Internally electroless Nickle plated
- Stainless Steel piston
- Multiple pilot valve options
- Optional emergency air release lanyard for the pneumatic pilots
- Operating temperature: -40 to +180 F (-40 to 80C)
- Fits Within 13 Inch Diameter Pits
- Optional Excess Flow Shut-off
- Durable Dust Cap included



#### 355GF Isolating Ball Valve

- 6-inch inlet x 4-inch outlet, Mates to ANSI Flanges
- Stainless Steel "Full-Bore" ball valve
- Allows for complete removal of pit valve while hydrant system is in operation
- Fire safe qualified to API 607
- Inlet stone guard protects hydrant pit valve
- Simple close / open position indicator
- Epoxy coated Ductile Iron body
- Operating temperature: -40 to +180 F (-40 to 80C)

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## 340AF Single Point Fuelling Adaptor

- 2 ½" Aircraft standard bayonet refuelling adaptor
- Conforms to the latest MS24484 specification
- Multiple sizes available from 2 to 4"
- Flanged or threaded connection options
- Aluminium and Stainless Steel construction
- Convenient sample point included
- Designed for bottom loading or fixed pipework applications
- Sealing or non-sealing dust covers offered



#### 380GF Sexless Couplers

- Created for tactical US Army fuelling systems
- Interchangeable with similar 2-inch or 3-inch couplings manufactured by other suppliers
- Provides drip-tight sealing
- Constructed of aircraft-grade aluminium and stainless steel
- Sexless configuration is designed to mate with any two couplings, allowing for the connection of hose assemblies, regardless of end fitting
- Designed as per A-A-59377A
- A variety of adapter connections available including flat MS flanges; Camlock fittings; NPT and BSP adapters





## 346GF Emergency Breakaway Coupling

- Double shut-off design
- Lowest possible pressure drop
- Twin Stainless Steel butterfly valves
- Two versions available, designed to breakaway at either 200 lb or 450 lb Axial Force
- Pressure balanced design
- No broken pins to replace
- Re-coupled by one person with no tools
- Robust design for long life
- Large Aluminium drag ring
- Approved for Navy and Marine use



#### X69 Series Flow Compensating Venturi

- Emulates the delivery pressure at the refuelling nozzle, regardless of change in flow rates
- Adjustable pressure drop compensation
- Accurate at any flow rate
- Two separate adjustable outputs
- Both adjustments located on top of body
- Internal adjustment valves Model X69
- Durable hard-anodised Aluminium body
- 3, 4, and 6" sizes available
- Flanged or Victualic connections

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# Underwing Refuelling Nozzle





347GF Ball Collection Tool PN 300861-01

347GF Aircraft Adaptor Tool with Poppet Locking Pin PN 212325-01J

347GF Aircraft Adaptor Tool **PN 206119-01A** 

341GF Aircraft Adaptor Tool **PN 207210-01G** 

343GF / 348GF Block-Out Pin PN 203431-01J

341GF / 347GF Poppet Nut Torque Tool PN 212398-01A

X79 Aircraft Adaptor Wear Gauge PN 211663-01A



# **Hydrant Pit Coupler**



353GF Coupler Wear Gauge PN 210492-01K

353GF Coupler Seal Installation Tool PN 212360-01E

353GF Coupler Nose Seal Removal Tool PN 201365D

# **Hydrant Valve & Isolating Valve**



352GF Go No-Go Gauge PN 210446-01G

355GF Gear Box Operator Tool PN 210963-04G

X146 - 352GF API Adapter Removal Tool PN 209101-01E

355GF Ball Retainer Removal Tool PN 210736-01F

352GF Hydrant Pit Valve Tester PN 208862-01F

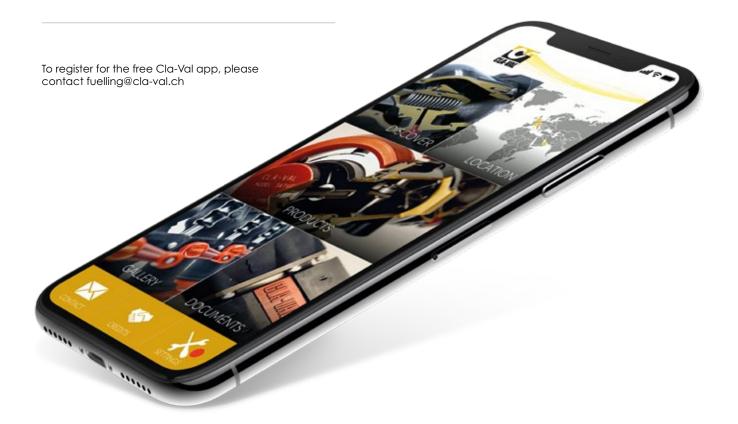
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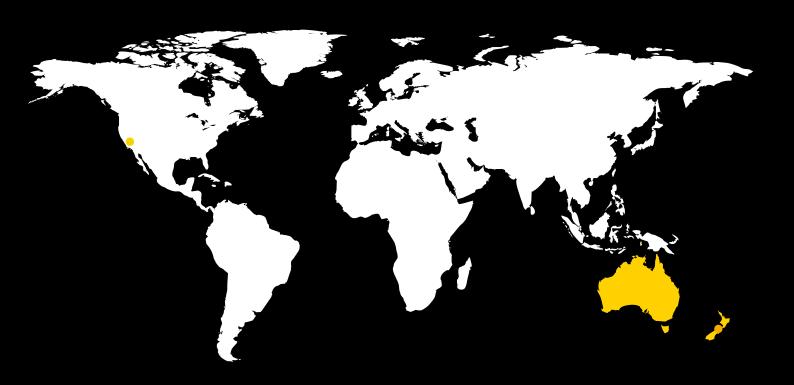
# Download the Cla-Val app today

SIMPLE TO USE, EASY TO NAVIGATE

Developed as a maintenance and training tool for Operations personnel, this innovative new App enables the user to electronically configure Cla-Val Ground Fuelling Products; create and then interact with 3D models; see an exploded view of the product; and determine the recommended spare parts and repair kit for their configuration



CLA-WA



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