# PRODUCT CATALOGUE

SERVICE SYSTEMS

The Leader in Fueling Systems Since 1967

WORK FASTER, CLEANER, SAFER



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### **About Us**



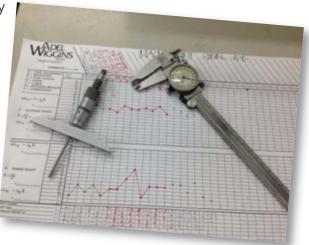






### **History & Innovation**

By 1967, when we entered the off highway market, Wiggins connectors was already recognized throughout the aerospace industry as an innovator in fueling systems. With over 45 years of experience in high quality refueling systems, AdelWiggins Group has the connectors, nozzles, receivers and vents to make your fleet as efficient and safe as possible.



As a leader in the field of highly engineered aerospace components, we have leveraged our knowledge to successfully develop high quality parts to support the mining and construction industry. Leading the way with new products, in 1972 we introduced the ZZ9A nozzle, part of the fast, clean and efficient refueling which has become virtually an industry standard today. Following up on that success, we made a more reliable, lighter and faster fueling nozzle, the ZZ9A1. And now, we are introducing the new Wiggins nozzle, ZZ9A2 and the new JNX receiver with the JVX vent; the industry's safest and most reliable refueling system.





### **Contact Us**

#### **Contact Us**

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# Non-Pressurizing



### The Patented JNX-Series Non-Pressurizing Fast Fueling System

Fast, Clean, and ULTRA-SAFE

#### Introduction

The Wiggins JNX non-pressurizing system allows for automatic diesel refueling at up to 211 gpm (800 lpm) with existing Wiggins nozzles and does not pressurize the fuel tank. Shutoff is automatic, fully self-contained, and cannot be overridden. JNX offers top-line quality, performance, and reliability at a competitive price.

#### Competitors' Non-Pressurizing Systems

Competitors' non-pressurizing systems use float-valves and are FAIL-OPEN systems. They will overfill and pressurize the fuel tank if fueling is carried out with a faulty float valve or bleed hose. (Competitors' systems commonly make use of an internal bleed hose, which is vulnerable to fatigue due to fuel slosh.) In this situation, fuel continues to bleed through the faulty float valve or hose even when the fuel level has passed the required shutoff point, preventing pressure from equalizing across the shutoff piston. The pressure imbalance keeps the piston open, and fuel continues to flow into the tank unchecked. Consequently, the tank overfills and is pressurized in proportion to the flow rate – the higher the flow rate, the greater the spillage and pressure build-up – creating a potentially severe safety and environmental hazard.

#### The Wiggins Patented ULTRA-SAFE JNX System

The Wiggins JNX system represents a technological leap forward in non-pressurizing automatic diesel refueling systems. The JNX system uses conventional pressure-sensitive fuel nozzles such as the Wiggins ZZ9A1 and ZZ9A2 while providing users with unique FAIL-SHUT and OVERFILL RESISTANT features not matched by the competition.

The Wiggins JNX shutoff valve is FAIL-SHUT: the spring-closed main valve can only be opened by a pressure signal from the jet level sensor – if for any reason the pressure signal is lost, the main valve will close, shutting off the flow of fuel into the tank. This ensures that overfilling the tank is not possible even if any part of the jet level sensor or signal hose were to fail.

The unique Wiggins jet level sensor does not have any moving parts to wear out and is thus extremely reliable. The Wiggins non-pressurizing system uses only external signal hoses, making JNX easy to install and maintain. The JNX system is available in both direct and remote fill configurations.



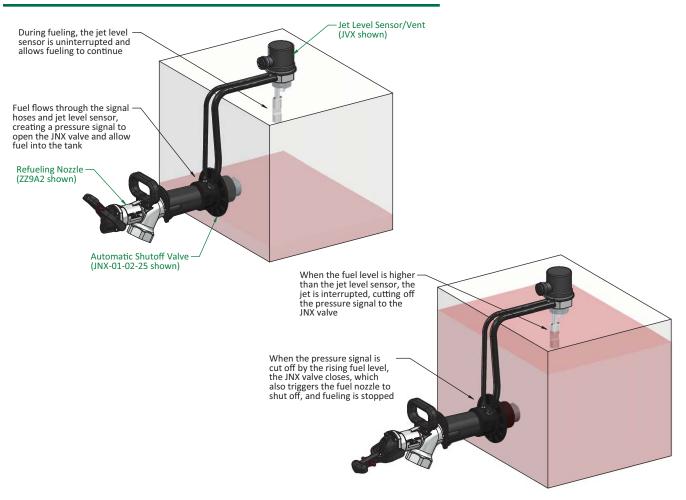
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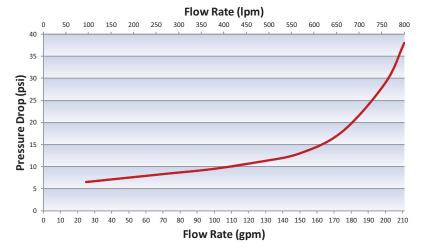


# Non-Pressurizing

#### **How It Works**



#### **JNX System Pressure Drop vs. Flow Rate** (ZZ9A2 nozzle connected to JNX-01-02)



\*Note: actual pressure drop will vary based on fluid density and viscosity.



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# Non-Pressurizing



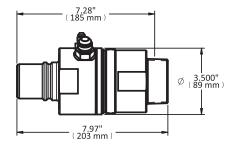
### **Automatic Shutoff Valves**

JNX-01-02



- Standard automatic shutoff valve
- ZN2-style receiver interface to mate with ZZ9A1 or ZZ9A2 nozzle
- 2" NPT male thread for mounting to tank
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate

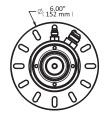


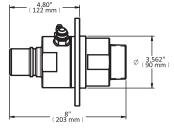


#### JNX-01-02-25



- Standard automatic shutoff valve
- ZN2-style receiver interface to mate with ZZ9A1 or ZZ9A2 nozzle
- Bolt-on mounting flange
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate







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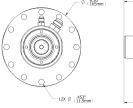


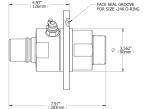
# Non-Pressurizing

#### JNX-01-02C-25S



- Standard automatic shutoff valve
- Stainless steel ZN2-style receiver interface to mate with ZZ9A1 or ZZ9A2 nozzle
- 12-bolt mounting flange (as used on certain CAT® machines)
- Bolt-on mounting flange
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate





#### JNX-01-61



- Remote automatic shutoff valve
- Code 61 inlet adapter
- 2" NPT male thread for mounting to tank
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate

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# Non-Pressurizing



### **Automatic Shutoff Valves**

JNX-01-61-25S



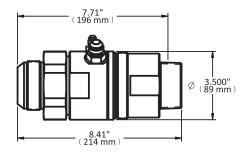
- Remote automatic shutoff valve
- Code 61 inlet adapter
- 12-bolt mounting flange (as used on certain CAT® machines)
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate

#### JNX-01-64



- Standard automatic shutoff valve
- 2" JIC Adapter for fuel transfer hose
- 2" NPT male thread for mounting to tank
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate





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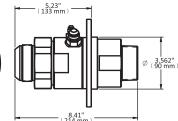
# Non-Pressurizing

#### JNX-01-64-25



- Standard automatic shutoff valve
- 2" JIC Adapter for fuel transfer hose
- Bolt-on mounting flange
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate





JNX-01-86



- Automatic shutoff valve
- 2" NPT adapter for ZN2-type receiver
- 2" NPT male thread for mounting to tank
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate

JNX-01-86-25



- Automatic shutoff valve
- 2" NPT adapter for ZN2-type receiver
- Bolt-on mounting flange
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate



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# Non-Pressurizing



### **Super-High Flow JNX System**

### JNX-M2 Super-High Flow Upgrade for JNX



- Standard JNX valve is limited to just over 200 gpm (800 lpm) by inlet connection
- New JNX-M2 system has larger inlet connection, allowing flow rates of at least 300 gpm (1140 lpm)
- JNX-M2 system works with the new ZZ9A3 nozzle
- All other components remain unchanged uses the exact same JNX shutoff valve subassembly
- Existing 800 lpm JNX systems can easily be upgraded in the field by changing the nipple adapter to the JNX-M2 configuration



- Achieve flow rates of 300+ gpm
- Same style of operation as industrystandard Wiggins ZZ9A1 Nozzle





- New JNX-M2R receiver for use with remote installations: mates with ZZ9A3 nozzle
- Extra-light spring to minimize risk of premature shutoff
- Comes with protective dust cap



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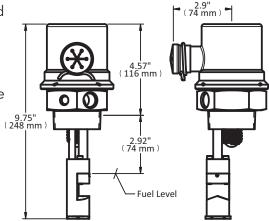
# Non-Pressurizing

### Integrated Jet Level/Sensor/Vent

#### **JVX**



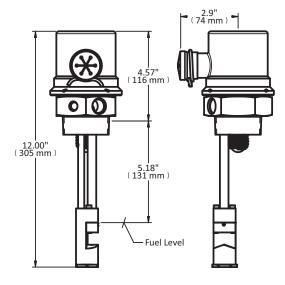
- Vent assembly with integrated jet level sensor,
- 3 psig relief valve, and spill protection
- Jet level sensor does not have moving parts: it is extremely reliable
- 2" NPT male thread for mounting to tank
- Short sensor length



#### **JVXL**



- Vent assembly with integrated jet level sensor,
- 3 psig relief valve, and spill protection
- Jet level sensor does not have moving parts: it is extremely reliable
- 2" NPT male thread for mounting to tank
- Long sensor length





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# Non-Pressurizing

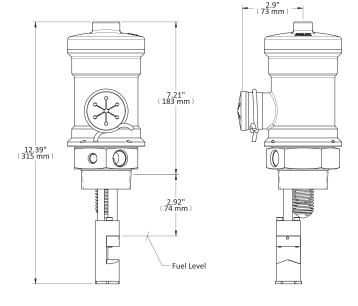


### Integrated Jet Level/Sensor/Vent

#### **JVXF**



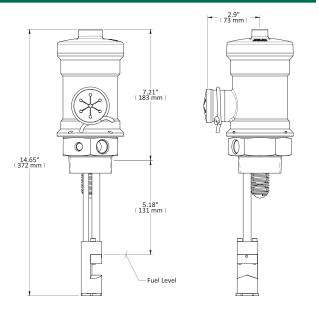
- Vent assembly with integrated jet level sensor and 10 micron filter
- Short sensor length



#### **JVXFL**



- Vent assembly with integrated jet level sensor and 10 micron filter
- Long sensor length





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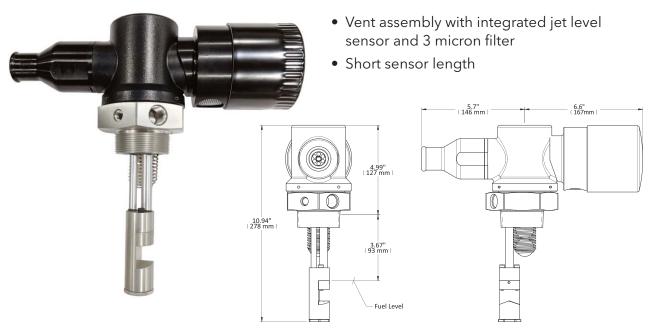
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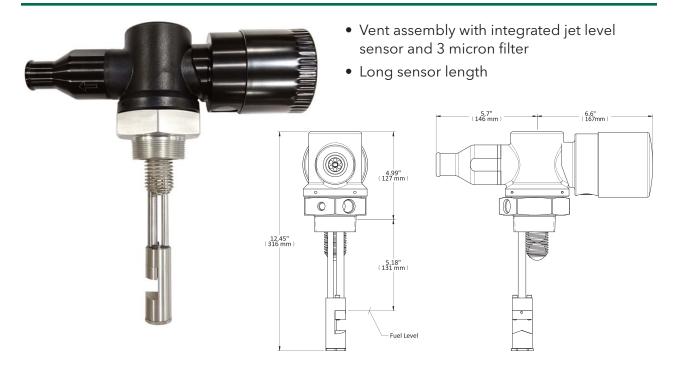
# Non-Pressurizing

### Integrated Jet Level/Sensor/Vent

#### **JV23**



#### JV23L





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# Non-Pressurizing

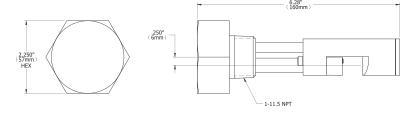


### Integrated Jet Level/Sensor/Vent

#### **VR306X**



- Jet Sensor Assembly
- 1" NPT mounting thread



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# Non-Pressurizing

### JNX Accessories

Wiggins offers a variety of adapters, flanges, and hose kits that allow JNX to be customized to suit even the most challenging installations. Below are just a few examples:

#### JNC2A



- Receiver for use with remote JNX: mates with ZZ9A1 or ZZ9A2 nozzle
- Extra-light spring to minimize risk of premature shutoff
- Comes with protective dust cap

#### VR310-11



• Weld-on flange for mounting JNX-01-02-25 or JNX-01-64-25

#### **JNX-75**



• 2' NPT Extension for mounting JNX receiver inside ZNC3, ZNC3L, ZNC4 and ZNC4L

#### CSPF-C007



Weld-on 2" NPT halfcoupling for mounting automatic shutoff valve or jet level sensor/vent

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# Non-Pressurizing





## **LNX Compact Refueling System**

Introducing the LNX compact, non-pressurized fast fueling system!

- Compact and efficient: based on the proven Wiggins JNX fast fueling system, but scaled down for smaller vehicles, generator sets, lighting towers, etc.
- Non-pressurized: uses the patented and ultra-reliable Wiggins jet sensor technology to control shutoff – does not pressurize tank and does not rely on floats
- Achieve flow rates of up to 50 gallons per minute
- Compatible with existing Wiggins ZZ9A1 nozzle
- 2" male NPT connection to tank (other options available such as flange mount)



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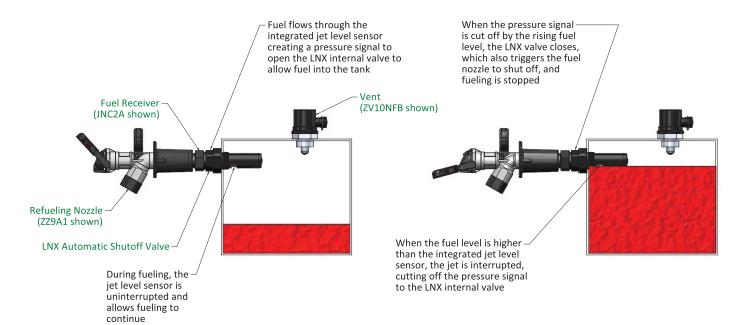
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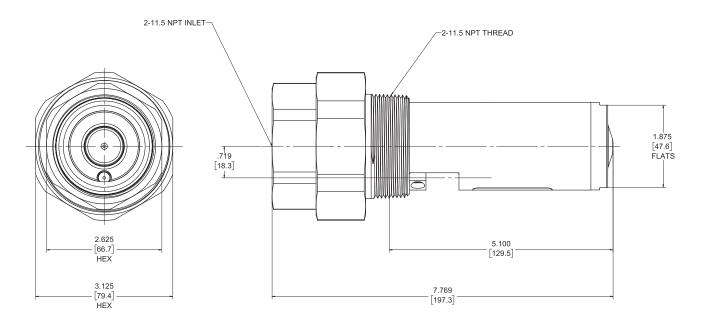
# Non-Pressurizing

## **LNX Compact Refueling System**

### How the LNX System Works



#### LNX Dimensions and Interface





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# Non-Pressurizing



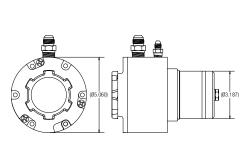
### Ultra-High Flow Rate VR300 System

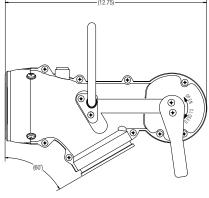
#### The VR300 - Fuel at 300 GPM

The VR300 system is also non-pressurized and has a flow capacity of over 300 gallons per minute. Non-pressurized systems allow operators to use Wiggins high flow fueling systems on vehicles with lightweight or composite fuel tanks.











**Jet Sensor Assembly** 

Can be mounted on the top or the side of the tank.



#### Easy to Install

- Can be mounted directly on fuel tank, or in remote location
- Several manufacturers have equipped their vehicles to accept the VR300 mounting

#### **Fast**

- Designed for vehicles with large fuel tanks
- 300+ GPM flow rate
- Spend less time fueling and more time working

#### Clean

- Interlock feature prevents spills from disconnecting nozzle during fueling
- Positive shutoff cannot be overfilled, shutoff cannot be overridden
- Unique cam-lock nozzle attachment assures a leak proof seal between nozzle and receiver

#### Safe

- Uses same jet sensor technology as JNX
- Nozzle includes full tank indicator display
- Proven reliability hundreds of units in use world wide



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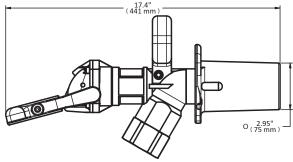
### **Nozzles**

### **Refueling Nozzles**

#### **ZZ9A1**



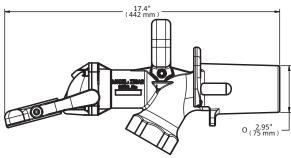
- Industry-standard diesel refueling nozzle
- 150 gpm (570 lpm) maximum flow rate
- Automatic shutoff; works with pressurizing and non-pressurizing systems
- 1.5" NPT female inlet thread
- Durable, dependable Elast-O-Dog latching
- Field-replaceable components



#### ZZ9A2



- High-flow rate diesel refueling nozzle
- 211 gpm (800 lpm) maximum flow rate
- Automatic shutoff; works with pressurizing and non-pressurizing systems
- 2" NPT female inlet thread
- Durable, dependable Elast-O-Dog latching
- Field-replaceable components





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## **Accessories**



### **Bulk Fuel Coupling**

#### ZS5 Nozzle (Mates with ZN2A)

The ZS5 Bulk Transfer Nozzle is designed to mate with the ZN2 receiver. It can be used to drain a fuel tank for servicing, or to transfer fuel from one tank to another. The end fitting is the same 1.5-inch NPT female fitting as the ZZ9A1.



#### **KR91**

### Actuating Assembly Replacement Kit



#### **KR92**

#### Latching Mechanism Replacement Kit



#### **KR93**

#### Housing Handle Replacement Kit



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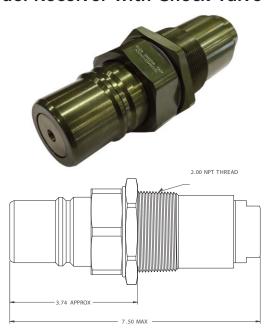
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## **Fuel Receivers**

#### **ZN2CV**

Fuel Receiver with Check Valve



#### **ZN2CV-100**

Rebuild Kit for ZN2CV



#### ZN2CV-1

Installation Kit for ZN2CV



#### **ZN2CVC**

**Stainless Steel Fuel** Receiver with Check Valve



#### ZN2CVC-100

Rebuild Kit ZN2CVC



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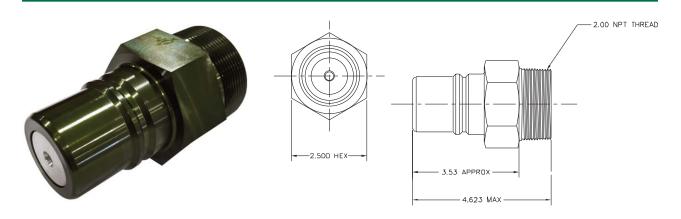
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## **Fuel Receivers**



### **Fuel Receivers**

#### ZN2A



#### Data Table

Receiver	Application	Poppet Color
ZN2A	Standard for most applications and mountings	Clear
ZN2B	has a light spring to avoid premature shutoff when head pressure is higher than normal	Blue
ZN2D	has a heavy spring to avoid overfilling the tank when head pressure is lower than normal	Red
ZNC2A	Same as ZN2 with cap	

#### ZNC3L

Pressurized flush mount bolt-on receiver with full coupling



#### ZNC4L

Pressurized flush mount weld-on receiver with full coupling



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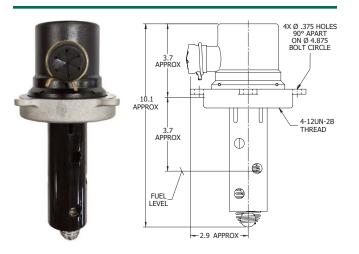
### **Fuel Tank Vents**

### **Fuel Tank Vents**

#### **ZV10**



#### **ZV11**



#### **ZV13**



#### **ZV23**



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# **Service Couplings**





Patented design: 12 color-coded, identically-sized, non-interchangeable couplings with Master Evac Socket

#### **DESIGN FEATURE**

Flush face design allows easy cleaning by wiping with rag

Push to connect, without needing to pull back actuating ring

Color coded for visual identification and mechanically differentiated

Reduce vehicle service time by increasing fluid flow rates

1"NPT standard. Other options available

Master socket to connect to all receivers for fluid evacuation

#### **PURPOSE**

Reduce fluid contamination during connection with flush face feature

Simple, quick connection

Eliminate possibility of customer cross mixing fluids

Reduce customer time and cost during fluid filling with higher flow rate

Standard sizing for entire range of couplings

Reduce customer time and cost during fluid evacuation using master socket



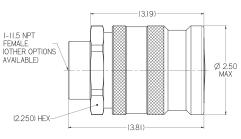
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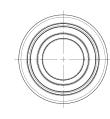
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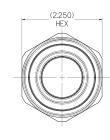


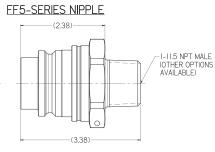
# Service Couplings

#### FF0-SERIES SOCKET











Red (Socket) FF010B16



Red (Nipple) FF015A16



Gold (Socket) FF070B16



Gold (Nipple) FF075A16



Yellow (Socket) FF020B16



Yellow (Nipple) FF025A16



Teal (Socket) FF080B16



Teal (Nipple) FF085A16



Blue (Socket) FF030B16



Blue (Nipple) FF035A16



Pink (Socket) FF090B16



Pink (Nipple) FF095A16



Orange (Socket) FF040B16



Orange (Nipple) FF045A16



Gray (Socket) FF100B16



Gray (Nipple) FF105A16



Green (Socket) FF050B16



Green (Nipple) FF055A16



Brown (Socket) FF110B16



Brown (Nipple) FF115A16



**Purple** (Socket) FF060B16



Purple (Nipple) FF065A16



Black (Socket) FF120B16



Black (Nipple) FF125A16



**Master Evacuation** Socket FFEVACB16



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# **Service Couplings**

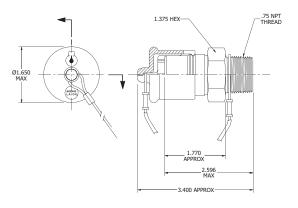


#### **0N2**

#### Crankcase Receiver and Cap



To order receiver with cap, specify ONC2A



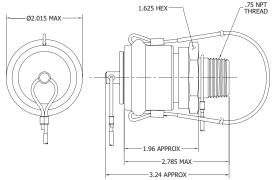
#### **0S2**

#### Crankcase Nozzle and Plug



To order nozzle with plug (0P12), specify OSP2

Mates with 0N2 and ONC2A Receivers



#### P-1804 / P-1880

#### Transmission Receiver and Cap



#### C-1807 / P-1844

#### Transmission Nozzle and Plug





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# **Service Couplings**

#### 6005A12 / 6008-12

#### **Hydraulic Receiver and Cap**

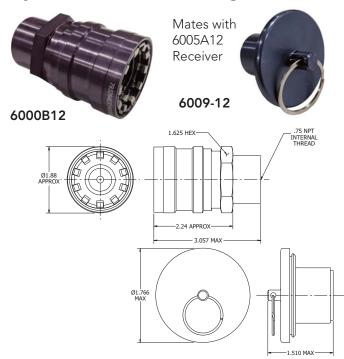


#### EC285A8 / 1208-8

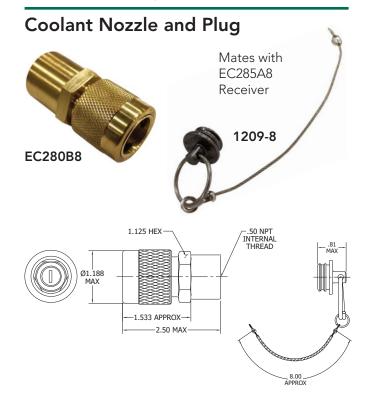


#### 6000B12 / 6009-12

#### Hydraulic Nozzle and Plug



#### EC280B8 / 1209-8





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# **Service Couplings**



#### **R11**

**Coolant Nozzle** 



**R13** 

Transmission Nozzle



**R15** 

Oil Nozzle



**R17** 

Hydraulic Nozzle



**R12** 

**Coolant Receiver** 



**R14** 

**Transmission Receiver** 



**R16** 

Oil Receiver



**R18** 

**Hydraulic Receiver** 



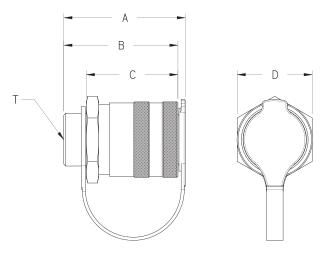


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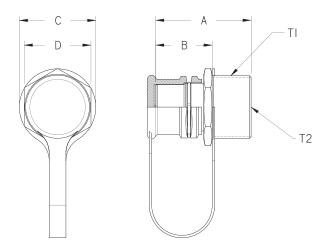
# **Service Couplings**

#### **NOZZLE**



NO	ZZLE		Dimension					
Application	Part #	Cap	A	В	C	D	T	
Coolant	R11	R1107	2.70" Max	2.53" Approx	1.92" Approx	1.500" Hex	.50" NPT Int. Thread	
Transmission	R13	R1307	3.100" Max	2.85" Approx	2.20" Approx	1.750" Hex	.75" NPT Int. Thread	
Oil	R15	R1507	3.300" Max	3.04" Approx	2.25" Approx	2.00" Hex	.75" NPT Int. Thread	
Hydraulic	R17	R1707	3.700" Max	3.42" Approx	2.75" Approx	2.250" Hex	1.00" NPT Int. Thread	

#### **RECEIVER**



RECEIVER		Dimension						
Application	Part #	Cap	Α	В	C	D	T1	T2
Coolant	R12	R1205	2.23" Max	1.17" Approx	1.410" Max	1.250" Hex	1.187"-12UN-2A Thread	.875"-14UNF-2B Int. Thread with SAE J1926/1-10 Boss Seal Surface
Transmission	R14	R1405	2.49" Max	1.39" Approx	1.610" Max	1.437" Hex	1.312"-12UN-2A Thread	1.062"-12UN-28 Int. Thread with SAE J1926/1-12 Boss Seal Surface
Oil	R16	R1605	250" Max	1.50" Approx	1.990" Max	1.750" Hex	1.625"-12UN-2A Thread	1.312"-12UN-2B Int. Thread with SAE J1926/1-16 Boss Seal Surface
Hydraulic	R18	R1805	2.89" Max	1.70 Approx	2.300" Max	2.000" Hex	1.875"-12UN-2A Thread	1.625"-12UN-2B Int. Thread with SAE J1926/1-20 Boss Seal Surface



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## **Diesel Exhaust Fluid**



### **Tier 4 Emission Solutions**

# **Heated DEF Fast Filling System**

(Patented)

Features:	Benefits:
Automatic shutoff system	Eliminates overfilling
Receiver has integrated 24V heater	Receiver is protected from freezing
Valve has integrated 24V heater	Valve is protected from freezing
Capable of 30 gpm flow rate	High flow rate improves efficiency
Nozzle and receiver are dry-break	Minimizes contamination and spillage
Vent has dual check valves	Minimizes evaporation, crystallization, and contamination
Made from 304/316 stainless steel	Material is compatible with DEF
Remote mounted option	Accessible fill point eliminates slip and fall hazard

#### **DEFN Nozzle**



#### **DEFVALVEH Shutoff Valve**



#### **DEFR** Receiver



#### **DEFVENT Vent**





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## **Notes**









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