

PRODUCT CATALOG

Wiggins

SERVICE SYSTEMS

The Leader in Fueling Systems Since 1967

WORK FASTER, CLEANER, SAFER



Volume 09-21

About Us

Wiggins
SERVICE SYSTEMS

TRANSDIGM
GROUP INC.

ADEL
WIGGINS
GROUP

Wiggins
SERVICE SYSTEMS

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.

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Business Unit Manager | **Chris Quang**, cquang@adelwiggins.com, 323.881.7667



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.

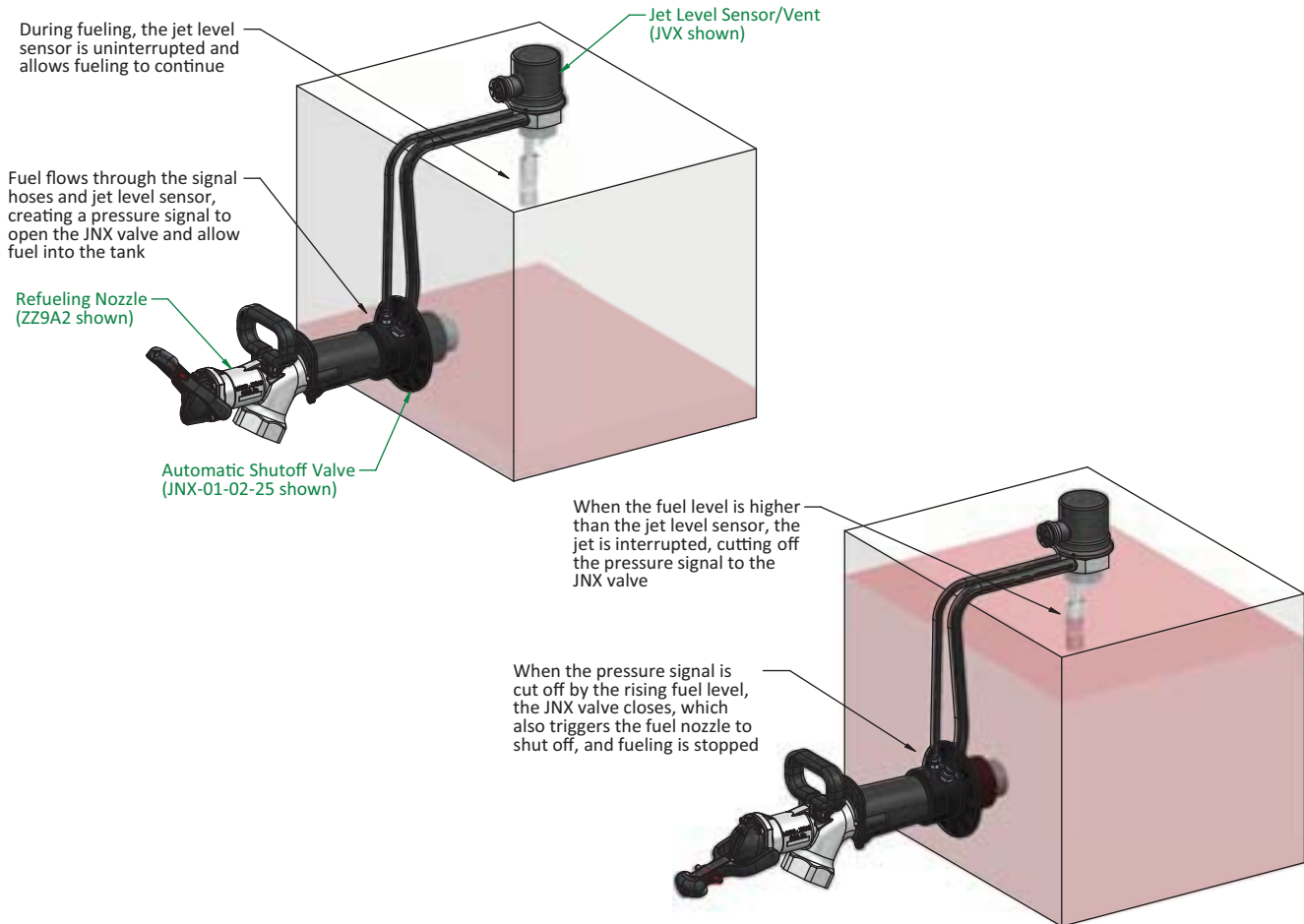
The unique Wiggins jet level sensor does not have any moving parts to wear out and is thus extremely reliable. The Wiggins non-pressurizing system uses only external signal hoses, making JNX easy to install and maintain. The JNX system is available in both direct and remote fill configurations.



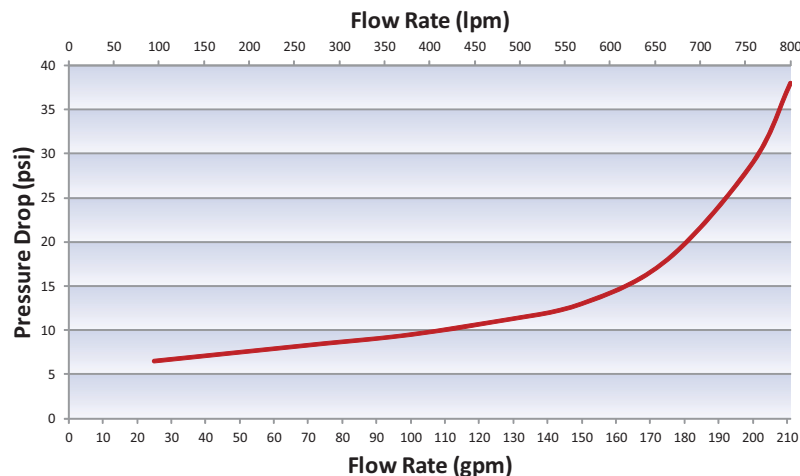
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How It Works



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.

Non-Pressurizing

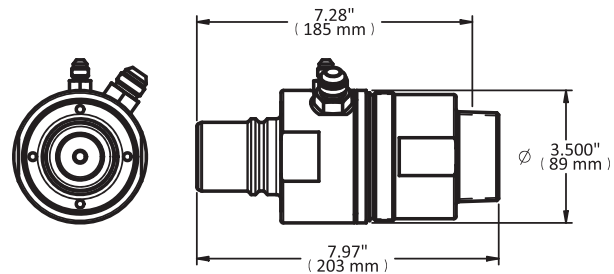
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Automatic Shutoff Valves

JNX-01-02



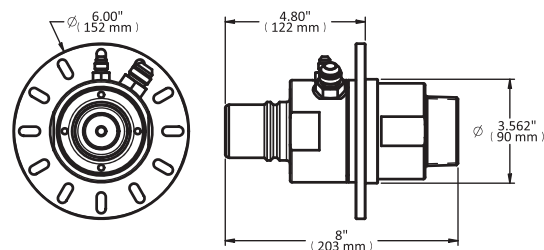
- Standard automatic shutoff valve
- ZN2-style receiver interface to mate with ZZ9A1 or ZZ9A2 nozzle
- 2" NPT male thread for mounting to tank
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate



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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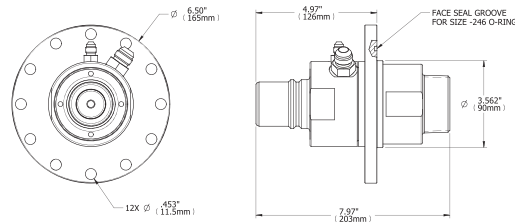
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JNX-01-02C-25S



- 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

Non-Pressurizing

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Automatic Shutoff Valves

JNX-01-61-25S

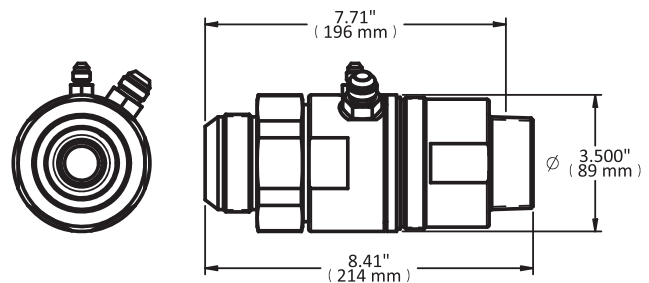


- Remote automatic shutoff valve
- Code 61 inlet adapter
- 12-bolt mounting flange (as used on certain CAT® machines)
- Works with JVX (short) or JVXL (long) jet level sensor/vent
- 211 gpm (800 lpm) maximum flow rate

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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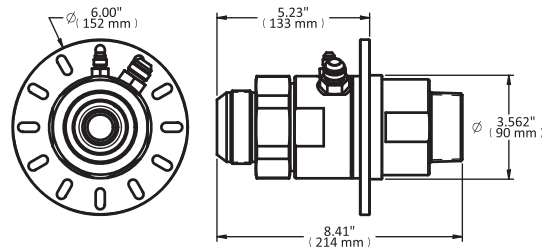
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JNX-01-64-25



- 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

Non-Pressurizing

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Super-High Flow JNX System

JNX-M2 Super-High Flow Upgrade for JNX



JNX-01-M2

- 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

- New ZZ9A3 Nozzle works with JNX-M2 Series
- Achieve flow rates of 300+ gpm
- Same style of operation as industry-standard Wiggins ZZ9A1 Nozzle



ZZ9A3



JNX-M2R

- 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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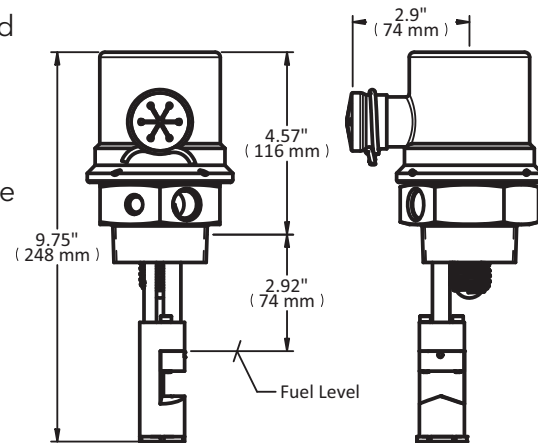
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Integrated Jet Level/Sensor/Vent

JVX



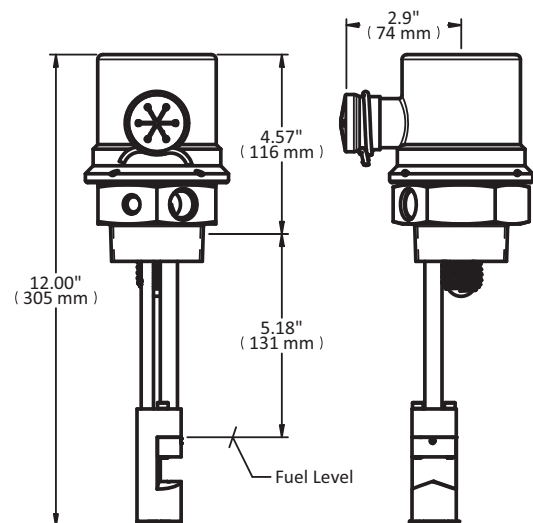
- Vent assembly with integrated jet level sensor,
- 3 psig relief valve, and spill protection
- Jet level sensor does not have moving parts: it is extremely reliable
- 2" NPT male thread for mounting to tank
- Short sensor length



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



Non-Pressurizing

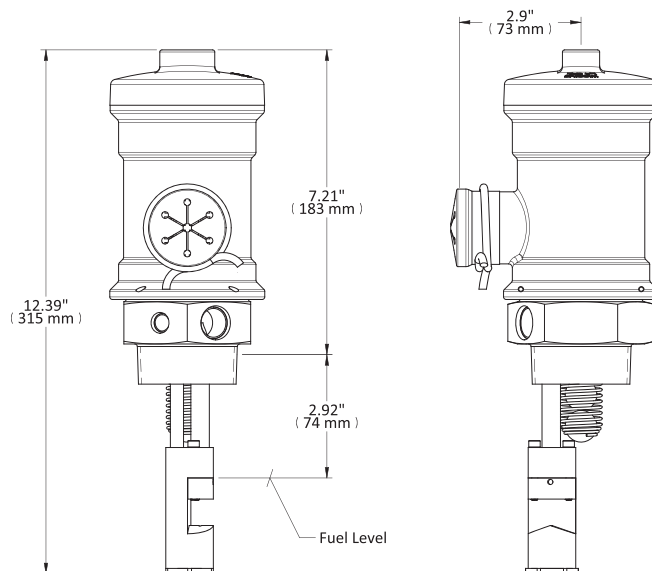
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Integrated Jet Level/Sensor/Vent

JVXF



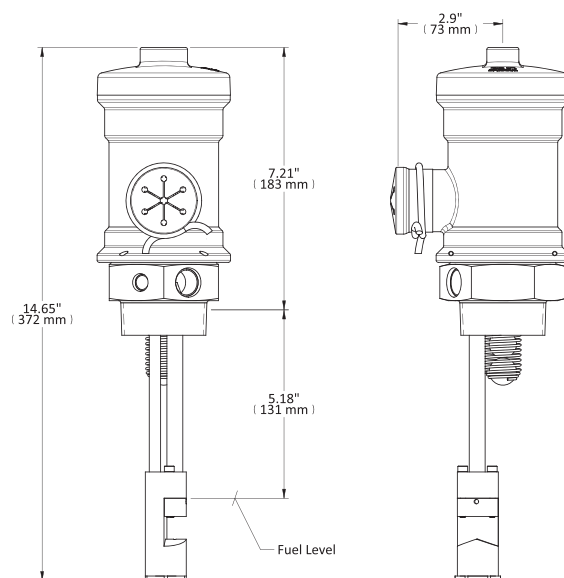
- Vent assembly with integrated jet level sensor and 10 micron filter
- Short sensor length



JVXFL



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



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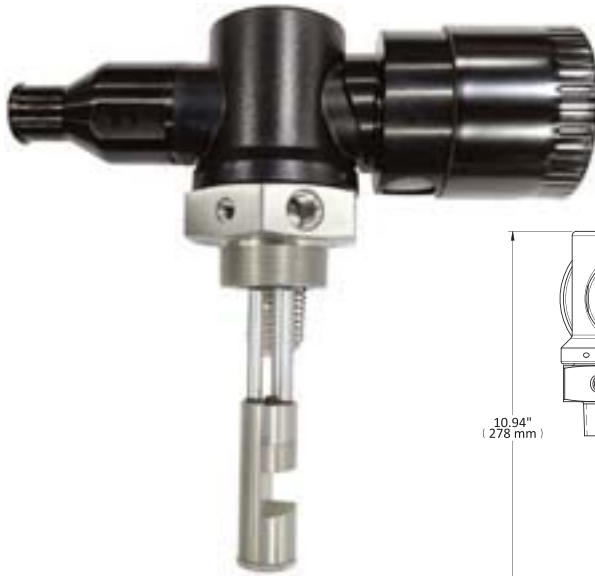
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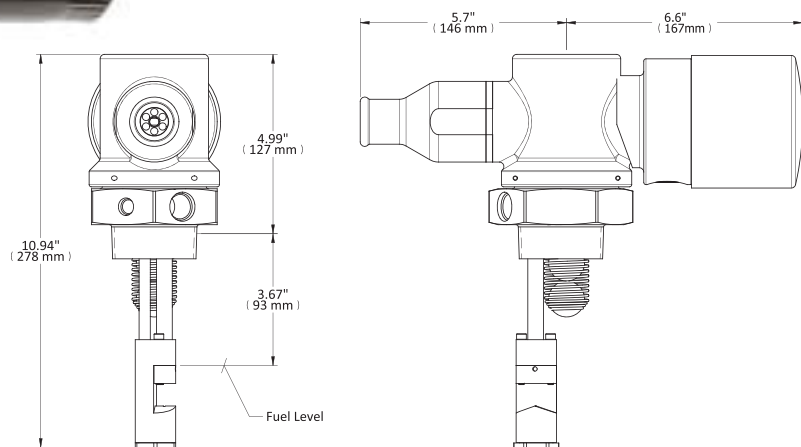
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Integrated Jet Level/Sensor/Vent

JV23



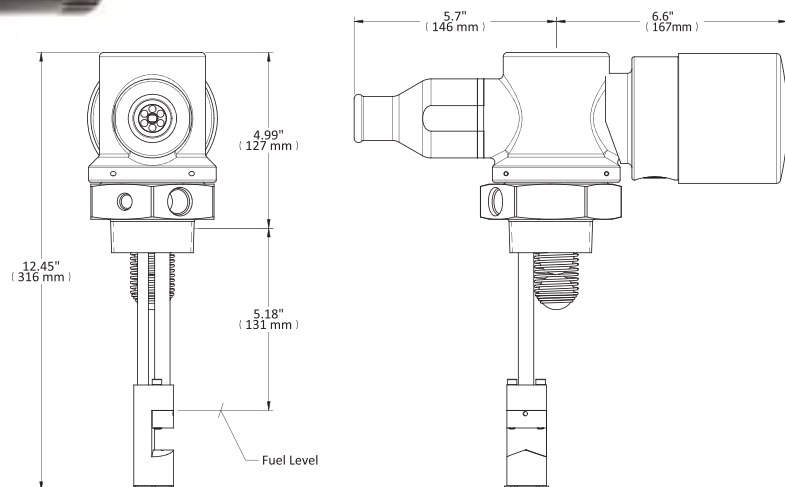
- Vent assembly with integrated jet level sensor and 3 micron filter
- Short sensor length



JV23L



- Vent assembly with integrated jet level sensor and 3 micron filter
- Long sensor length



Non-Pressurizing

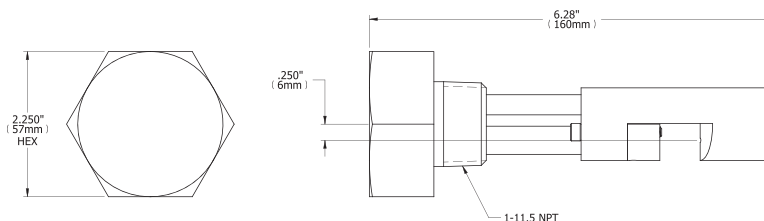
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Integrated Jet Level/Sensor/Vent

VR306X



- Jet Sensor Assembly
- 1" NPT mounting thread



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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 half-coupling for mounting automatic shutoff valve or jet level sensor/vent



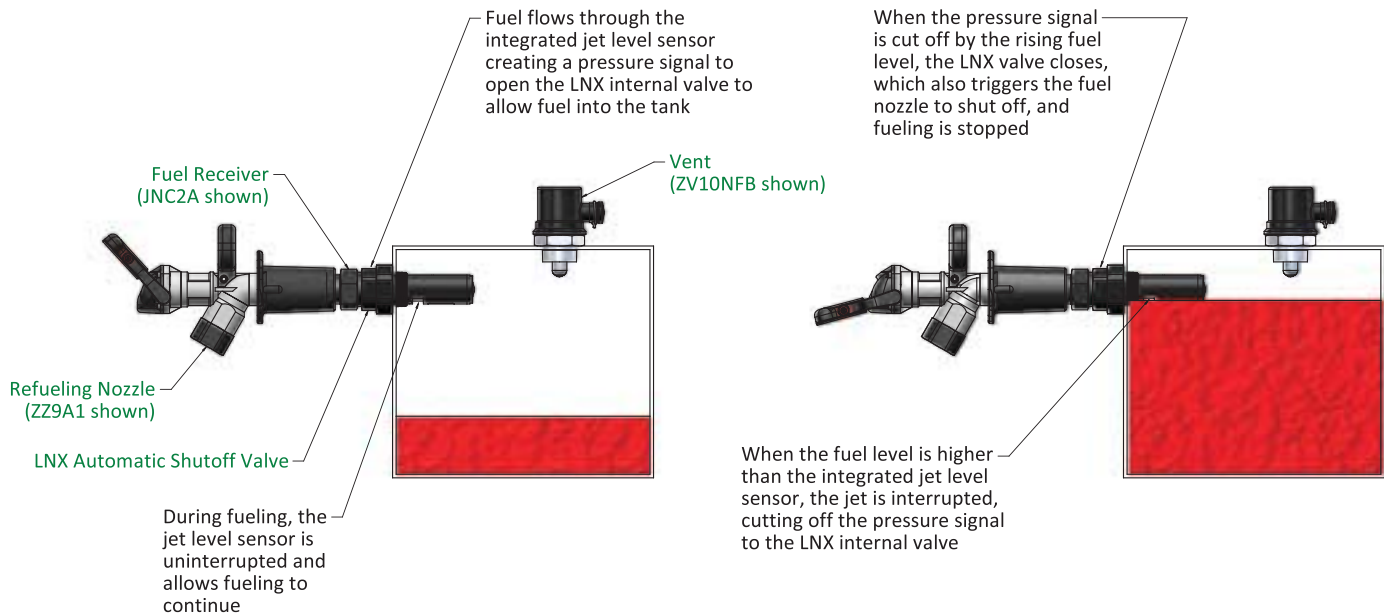
LNX Compact Refueling System

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

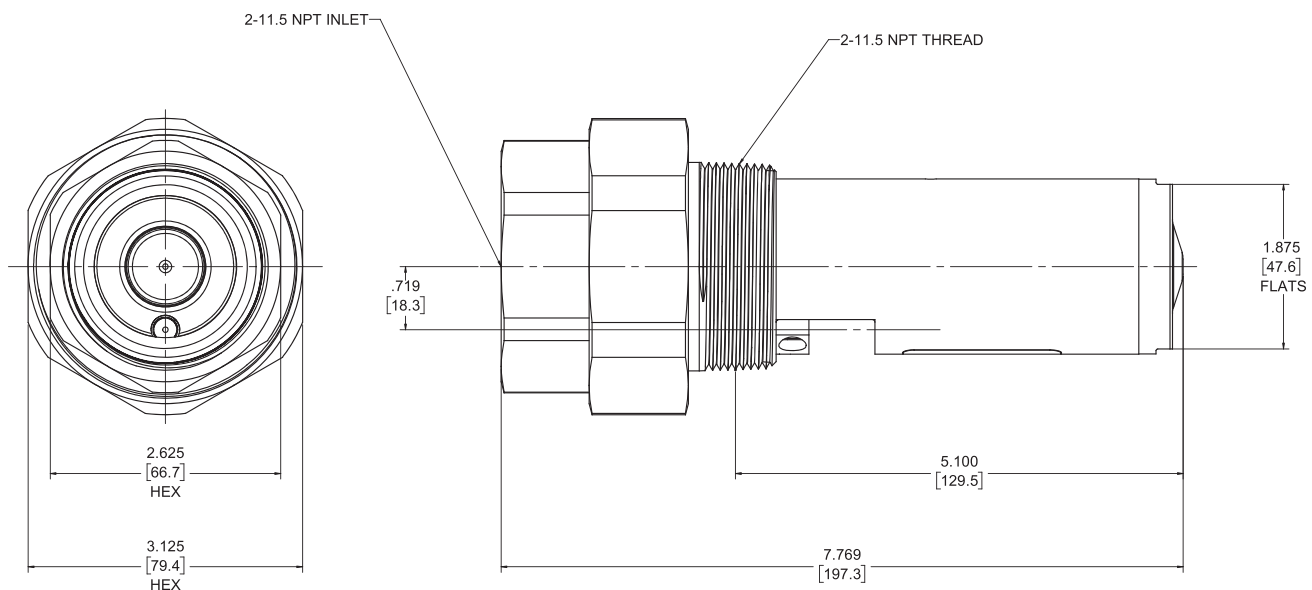
- Compact and efficient: based on the proven Wiggins JNX fast fueling system, but scaled down for smaller vehicles, generator sets, lighting towers, etc.
- Non-pressurized: uses the patented and ultra-reliable Wiggins jet sensor technology to control shutoff – does not pressurize tank and does not rely 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)

LNx Compact Refueling System

How the LNx System Works



LNx Dimensions and Interface



Non-Pressurizing

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Ultra-High Flow Rate VR300 System

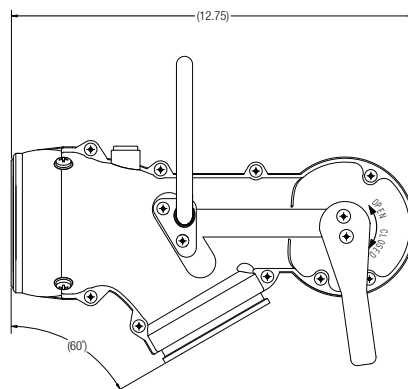
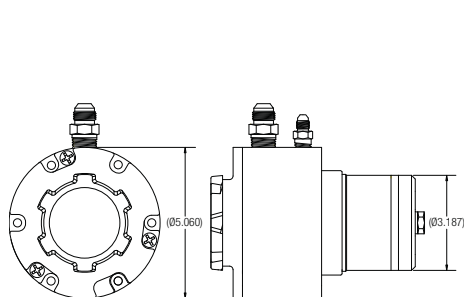
The VR300 – Fuel at 300 GPM

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.

VR325



VR301



VR321

Jet Sensor Assembly

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



VR306

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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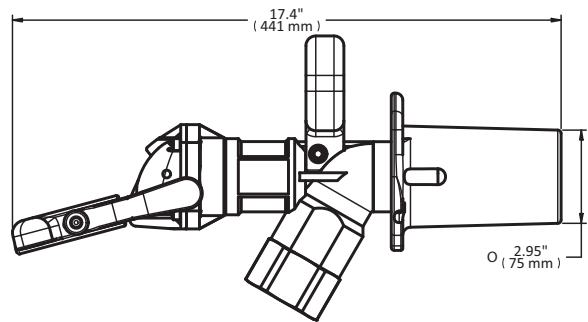
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Refueling Nozzles

ZZ9A1



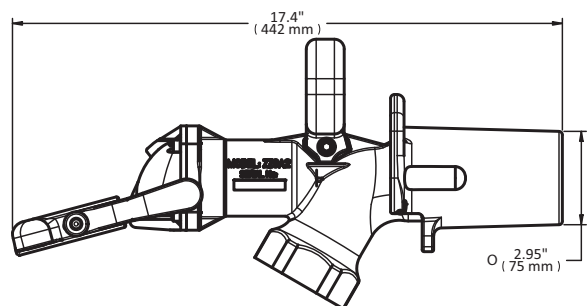
- Industry-standard diesel refueling nozzle
- 150 gpm (570 lpm) maximum flow rate
- Automatic shutoff; works with pressurizing and non-pressurizing systems
- 1.5" NPT female inlet thread
- Durable, dependable Elast-O-Dog latching
- Field-replaceable components



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



Splash Fill Adapters for the ZZ9A1 & ZZ9A2



**Straight ZN6A
Adapter Tube**



**90° ZN6B
Adapter Tube**

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**



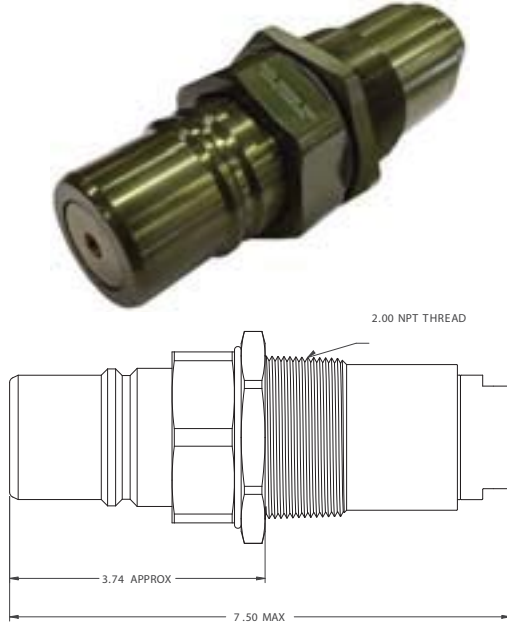
KR93

**Housing Handle
Replacement Kit**



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



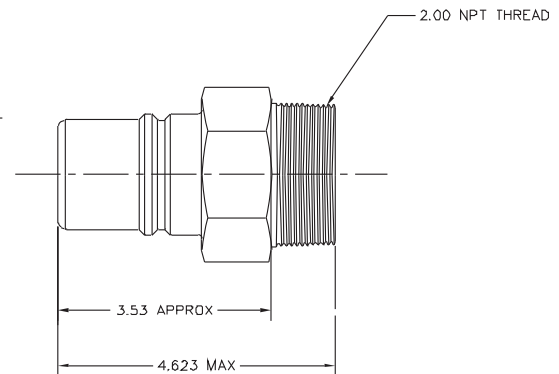
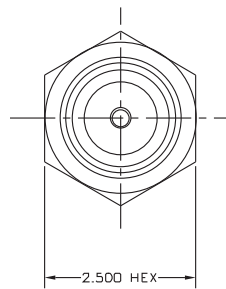
ZN2CVC-100

Rebuild Kit ZN2CVC



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



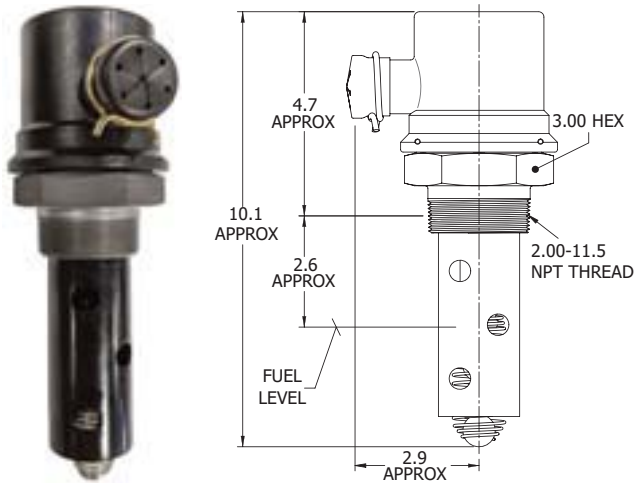
ZNC4L

Pressurized flush mount weld-on receiver with full coupling

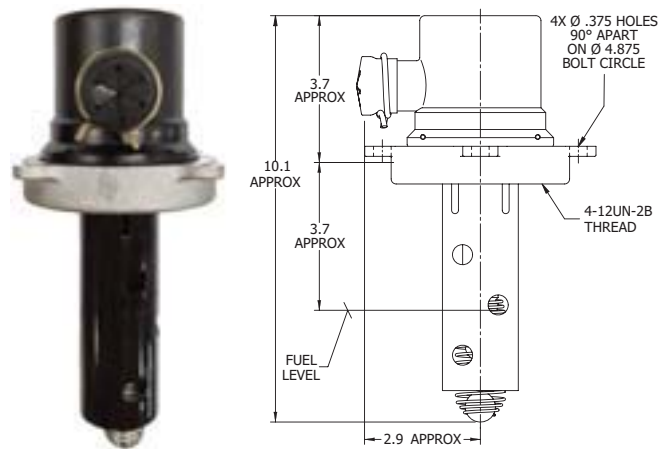


Fuel Tank Vents

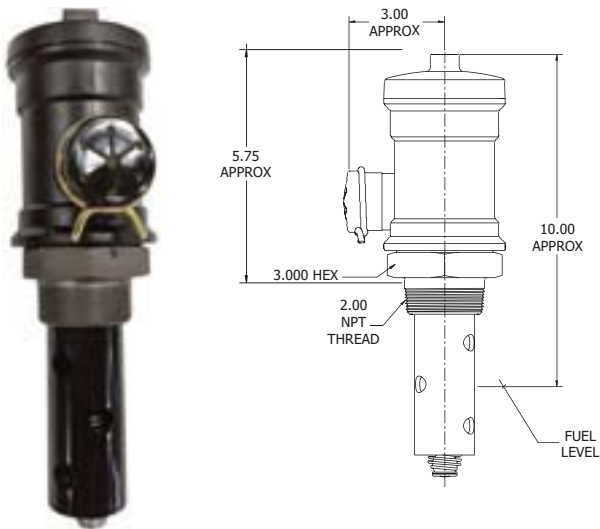
ZV10



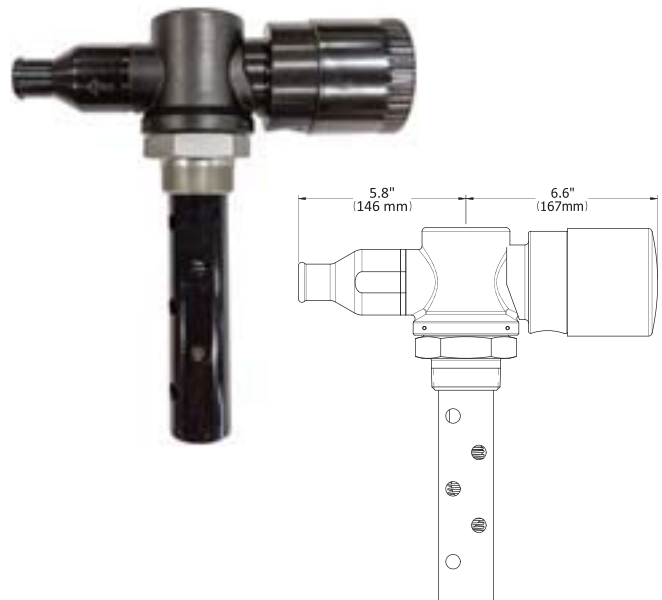
ZV11



ZV13



ZV23

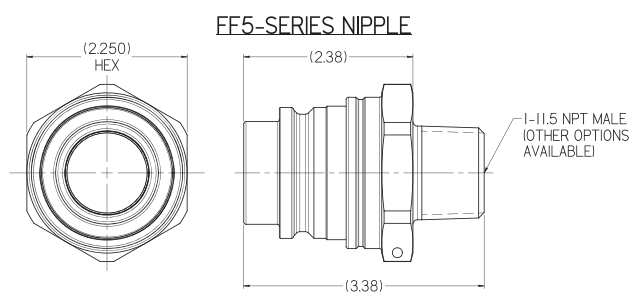
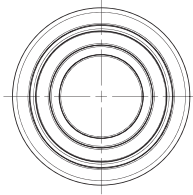
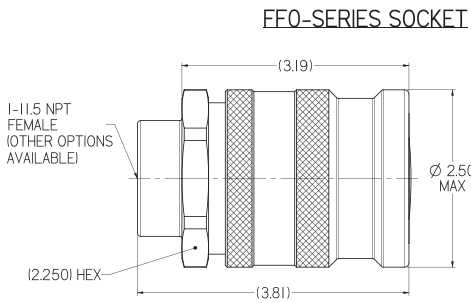




High Flow Flush Face Couplings

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

DESIGN FEATURE	PURPOSE
Flush face design allows easy cleaning by wiping with rag	Reduce fluid contamination during connection with flush face feature
Push to connect, without needing to pull back actuating ring	Simple, quick connection
Color coded for visual identification and mechanically differentiated	Eliminate possibility of customer cross mixing fluids
Reduce vehicle service time by increasing fluid flow rates	Reduce customer time and cost during fluid filling with higher flow rate
1" NPT standard. Other options available	Standard sizing for entire range of couplings
Master socket to connect to all receivers for fluid evacuation	Reduce customer time and cost during fluid evacuation using master 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

Service Couplings

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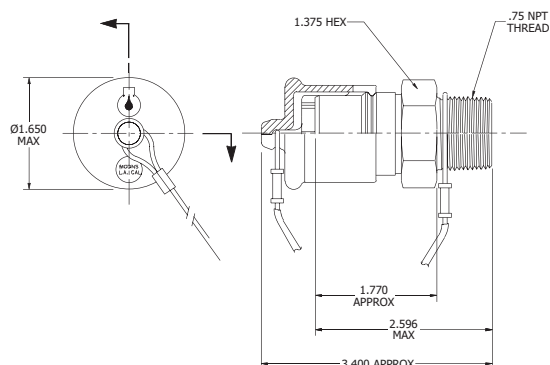
0N2

Crankcase Receiver and Cap



0N2

To order receiver with cap, specify 0NC2A



P-1804 / P-1880

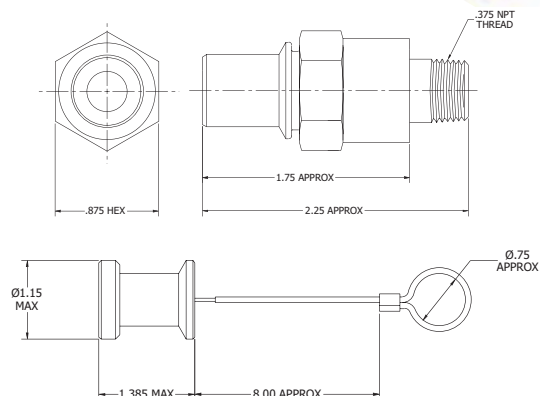
Transmission Receiver and Cap



P-1804



P-1880



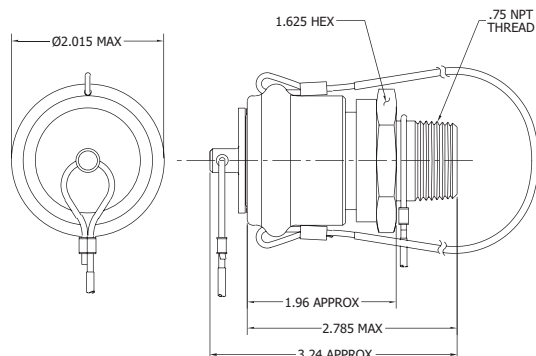
0S2

Crankcase Nozzle and Plug



To order nozzle with plug (0P12), specify 0SP2

Mates with 0N2 and 0NC2A Receivers



C-1807 / P-1844

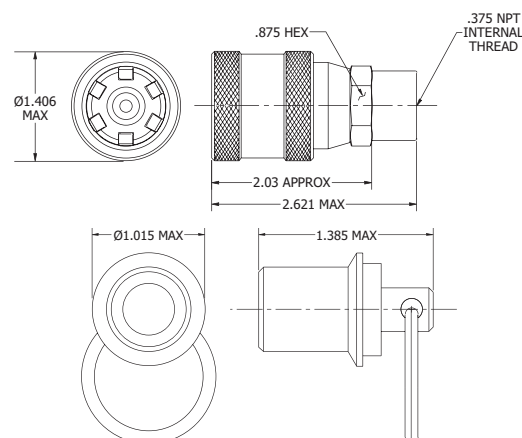
Transmission Nozzle and Plug



C-1807



P-1844



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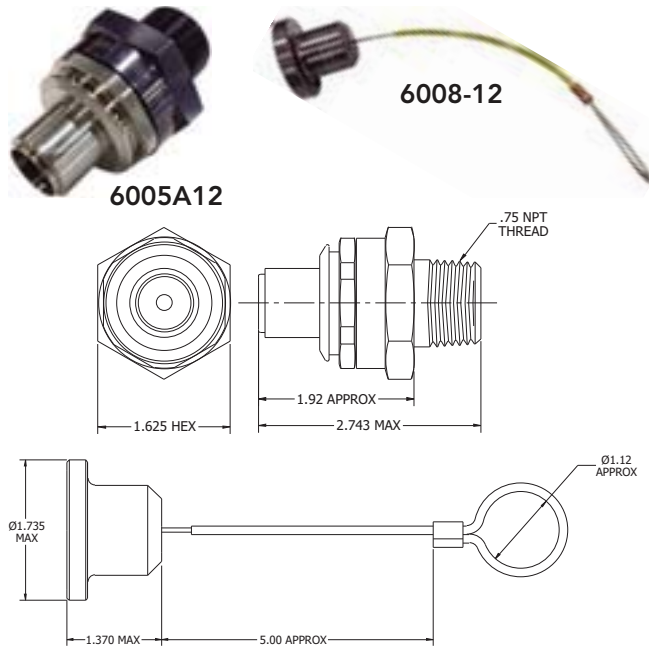
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6005A12 / 6008-12

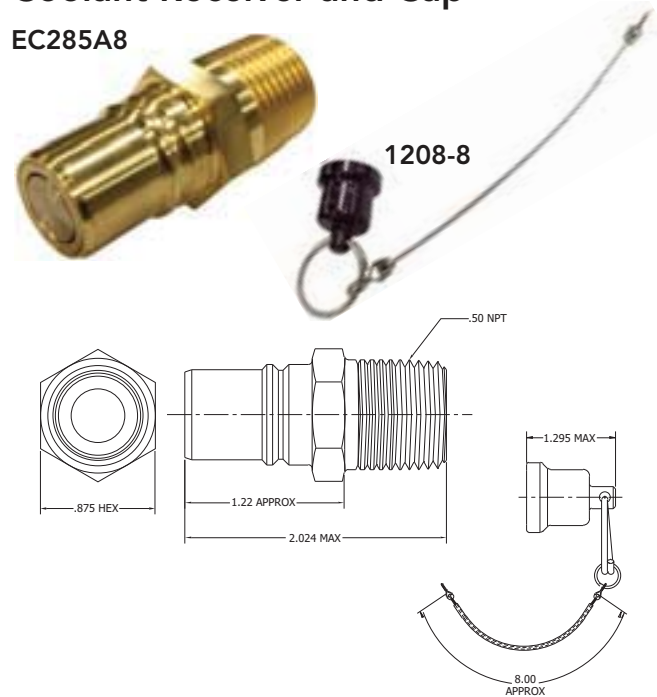
Hydraulic Receiver and Cap



EC285A8 / 1208-8

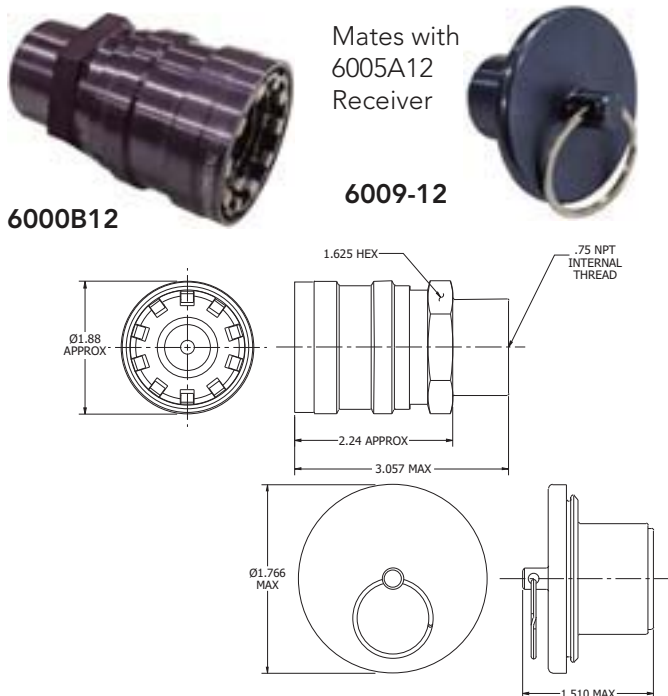
Coolant Receiver and Cap

EC285A8



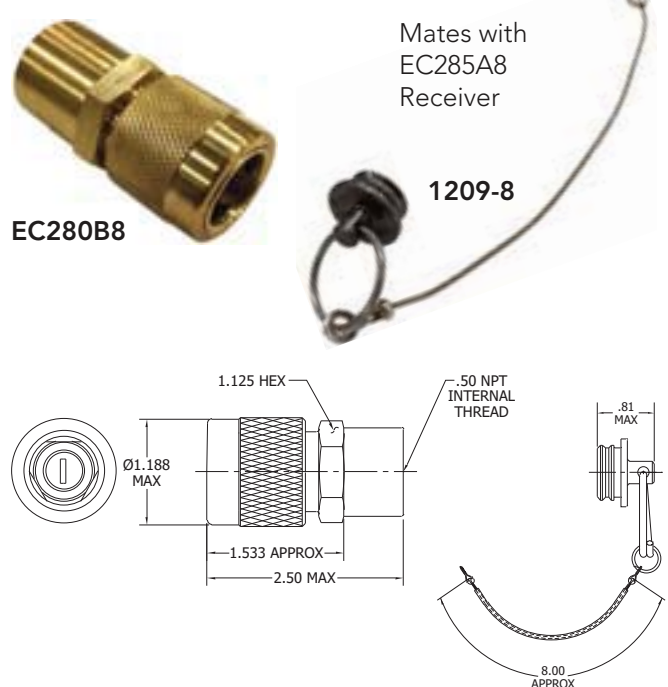
6000B12 / 6009-12

Hydraulic Nozzle and Plug



EC280B8 / 1209-8

Coolant Nozzle and Plug



Service Couplings

Wiggins
SERVICE SYSTEMS

R11

Coolant Nozzle



R12

Coolant Receiver



R13

Transmission Nozzle



R14

Transmission Receiver



R15

Oil Nozzle



R16

Oil Receiver



R17

Hydraulic Nozzle



R18

Hydraulic Receiver



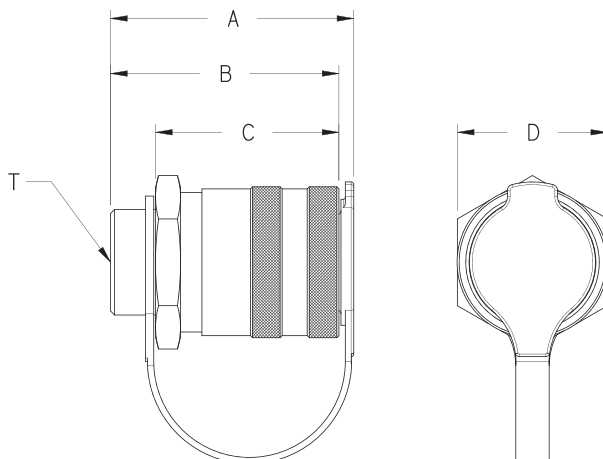
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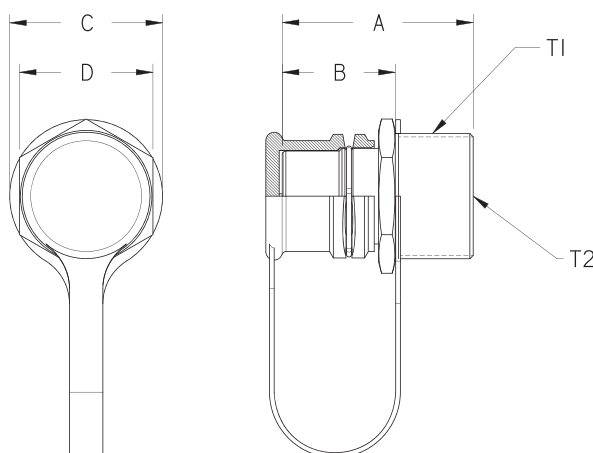
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NOZZLE



NOZZLE			Dimension				
Application	Part #	Cap	A	B	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	A	B	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	2.50" 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

Tier 4 Emission Solutions

Heated DEF Fast Filling System

(Patented)

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

DEFN Nozzle



DEFR Receiver



DEFVALVEH Shutoff Valve



DEFVENT Vent





Wiggins Service Systems has been the leader in fast fueling systems since 1967. Wiggins product is made with aerospace-grade materials and combines superior performance with unmatched quality and reliability. To learn more about Wiggins fast fueling systems, contact your authorized Wiggins distributor or visit www.adelwiggins.com.

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