

OPW CLEANENERGY™ FUELING PRODUCTS













- **◆ CNG FUELING PRODUCTS**
- ◆ HYDROGEN FUELING PRODUCTS
- **◆ LPG FUELING PRODUCTS**

ONE COMPANY.

ONE WORLD.

ONE SOURCE.







OPW CLEANENERGY™ FUELING PRODUCTS

Quality Statement

OPW Fueling Components will provide defect-free products and services meeting the requirements of our customers and each other.

Mission Statement

OPW Fueling Components, while satisfying the terms of its quality statement, will strive for continuous, demonstrated improvement in all areas.

- We will conduct our business activities with respect and integrity while employing a healthy portion of calculated risk taking.
- We will provide the most comprehensive line of fueling equipment and systems on a global basis, primarily through innovative design, manufacturing and worldwide distribution channels.
- We will generate the necessary atmosphere to allow all employees to become involved in the activities of their company.

OPW Fueling Components faces its future determined to meet customer demand with quality products and outstanding service, while being the industry leader.

OPW products may hold one or more listings or certifications with the following agencies:

CARB

California Air Resources Board

















OPW is a member of the following associations:



National Association of Truck Stop **Operators**

NFPA (National Fire Protection Agency)

National Association of Convenience Stores

NATIONAL COUNCIL OF WEIGHTS AND MEASURES



PE PEI Manufacturer of the Year



CNG FUELING PRODUCT	-S
NOZZLES	200 Series – Time-Fill (NGV1 Type 2 or 3) .2 300 Series – (Fil-Mate) General Purpose (NGV1 Type 2 or 3) .3 600 Series – (Fil-Master™) Fast-Fill/Fleet-Fill (NGV1 Type 2 or 3) .4 1000 Series – Self-Service (NGV1 Type 1) .5 5000 Series – Bus/Heavy-Duty Truck (NGV1 Type 1) .6 6000 Series – Bus/Heavy-Duty Truck (NGV1 Type 2) .7
RECEPTACLES	"L" Series (NGV1)
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HYDROGEN FUELING PR	RODUCTS
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RECEPTACLES	"L" & "LW" Series
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LPG FUELING PRODUCT	S
AUTOGAS NOZZLES	NOR100 - Russian-Type w/Trigger Release.28OT300 - Italian-Type (Old Style).29NOT300 - Italian-Type (New Style) w/Trigger Release.30OT400 - Italian-Type w/Thumb Release.31NOM500 - Bayonet-Type w/Trigger Release.32NOT600 - 1¾" Stub Acme w/Trigger Release.33
BOTTLE FILLING PINCERS	PSA910 – Standard Valve 22mm Maximum Diameter
ACCESSORIES	OAS100 – 1" Nozzle Breakaway OAS400 – ¾" In-Line Hose Breakaway w/Anchor Strap OC123 – ¾" Shear Valve/Dispenser Breakaway OT318 – 1¾" Acme-To-Italia Adaptor OT321 – Male 1" Thread-To-Female ¾" Thread Bushing OT322 – Italian-To-1¾" Acme Adaptor OVG100 – Nozzle Shut-Off Service Valve
FUEL CONTROL SYSTEM	AS/TANK GAUGING/HOSE RETRACTORS Fuel Control Systems (System2 and K800 Models)





OPW CleanEnergy™ Fueling Products – Committed to Providing Innovative and Effective Clean Energy Fueling Solutions Worldwide

OPW CleanEnergy™ Fueling Products is dedicated to continuous innovation in the design, engineering and manufacture of high-quality components used for clean energy fueling applications, such as CNG (compressed natural gas), Hydrogen and LPG (liquefied petroleum gas) on vehicles and dispensing systems.

A division of OPW, the global leader in fueling solutions since 1892, OPW CleanEnergy™ Fueling Products is a name synonymous with innovation, quality, reliability and customer service. OPW CleanEnergy™ Fueling Products offers the most complete selection of clean energy fueling products in the industry, with each product designed and built to exacting engineering specifications for fueling safety and efficiency.

Dedicated to Product Innovation and Quality



CNG Fueling Products

OPW CleanEnergy™ Fueling Products offers a complete line of NGV1 profile nozzles (Type 1,2 and 3) for self-service, fast-fill, and high-flow applications and NGV1 profile receptacles, hose assemblies, in-line breakaways, fittings, valves and filters.



Hydrogen Fueling Products

OPW CleanEnergy™ Fueling Products offers a complete line of fueling products for high-pressure, Hydrogen fueling systems. The line includes a series of nozzles for time-fill, quick-fill, self-service applications, receptacles, in-line breakaways, fittings.



LPG Fueling Products

OPW CleanEnergy™ Fueling Products offers an extensive line of patented LPG fueling products. Formerly the B/N Italy, Brevetti Nettuno brand, OPW CleanEnergy™ Fueling Products' LPG line of nozzles and accessories are manufactured in Bologna, Italy and deliver design and manufacturing excellence on more than 50 years of reliable gas supply equipment experience.



CNG FUELING NOZZLES

OPW CleanEnergy[™] Fueling Products offers an extensive line of CNG fueling nozzles to meet a wide variety of fueling applications. OPW CNG nozzles have been used throughout the world for more than a decade.



OPW 200 Series

OPW 200 Series time-fill nozzles are designed for low flow CNG fueling systems. Applications include home fueling devices and fleets that use overnight or time-fill fueling. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.



OPW 300 Series

The OPW Fil-Mate 300 is a versatile nozzle designed for both medium and low flow CNG fueling systems. Applications include home fueling devices, overnight or time-fill fueling and fleet filling. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.



OPW 600 Series

OPW Fil-Master™ 600 Series fast-fill/fleet-fill nozzles are designed for high flow CNG fueling systems. Applications include quick-fill fueling of automobiles, light trucks, shuttle buses, vans and time-fill or overnight fleet fueling. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.



OPW 1000 Series

OPW 1000 Series self-service nozzles are designed for high flow public and private CNG fueling systems. Applications include quick-fill, self-service fueling of automobiles, light trucks, shuttle buses and vans. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency



OPW 5000 Series

OPW 5000 Series nozzles are designed for extremely high flow public and private CNG fueling systems. Applications include quick-fill, self-service fueling of transit buses and large trucks. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.



OPW 6000 Series

OPW 6000 Series nozzles are designed for extremely high flow public and private CNG fueling systems when connected to OPW "CR50," and "CL50" series receptacles. Applications include quick-fill, self-service fueling of transit buses and large trucks. This Type 2 nozzle must be used with some type of secondary flow control valve that either vents down only the nozzle or the nozzle and hose. This nozzle can also be used for defueling buses in conjunction with an open receptacle arrangement.





OPW 200 SERIES TIME-FILL NOZZLES (NGV1 Type 3)

OPW 200 Series time-fill nozzles are designed for low flow CNG fueling systems. Applications include home fueling devices and fleets that use overnight or time-fill fueling. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Features:

- Easy Slide-Back Collar Operation For smooth, simple engaging/
 disengaging of nozzle and receptacle.
 The 200 Series nozzle is designed to
 remain securely connected to the
 receptacle until the nozzle is
 depressurized after fueling is complete.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of NGV fueling. Forces at the contact point are distributed over the entire surface area of the receptacle.
- Compact Design Lightweight, compact design allows for easy one-handed operation.
- Durable Construction -Stainless-steel construction provides excellent corrosion resistance in the harsh refueling environment.
- Meets NGV1 Fueling Standard -Can be used to fuel any vehicle with an NGV1 profile receptacle.
- Agency Listings AGA 1-90, CGA Application Approval, Railroad Commission of Texas.

Materials:

Body: Stainless Steel

Seals: Specially Formulated Elastomers specific to High Pressure NGV

applications.

Specifications:

Min. Flow Rate: 800 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

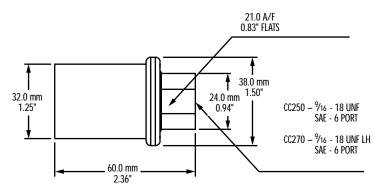
Weight: 0.24 kg. (0.53 lb.)

Cv: 0.55

Design Pressure: 4000 psi (276 Bar)







Ordering Information

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
CC250	SAE - 6, 9/16 - 18 UNF	P30 - 200 bar (3000 psi)
CC270	SAE - 6, 9/16 - 18 UNF-LH For use with Fuelmaker™ home fueling device.	P30 - 200 bar (3000 psi)

• Connects to any L-Series-NGV-1 CNG Receptacle

OPW FIL-MATE 300 SERIES GENERAL PURPOSE NOZZLES (NGV1 Type 2 or 3)

The OPW Fil-Mate 300 is a versatile nozzle designed for both medium and low flow CNG fueling systems. Applications include home fueling devices, overnight or time-fill fueling and fleet filling. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Features:

- User-Friendly Push-On/Pull-Off
 Operation For smooth, simple engaging
 and disengaging of nozzle and receptacle
 without the added step of pulling back a
 collar. The 300 is designed to remain
 securely connected to the receptacle until
 the nozzle is depressurized after fueling
 is complete.
- Type Designed as a Type 2 or 3 nozzle for use with P30 or P36 NGV1 receptacles.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of NGV fueling. Forces at the contact point are distributed over the entire surface area of the receptacle.
- Ergonomic Design Has a comfortable "tool-grip" specially formulated urethane coated sleeve which locks in place upon connection. Also incorporates "easyguide" front alignment ring to smooth connection on hard to reach receptacles.
- Durable Construction Brass construction provides excellent corrosion resistance in the harsh refueling environment.
- Safe Disconnect Accidental disconnection under pressure is very difficult due to our unique force multiplier design.
- Meets NGV1 Fueling Standard Can be used to fuel any vehicle with an NGV1 profile receptacle.

Materials:

Body: Brass

Seals: Specially Formulated Polymers and Elastomers specific to High Pressure NGV applications.

Specifications:

Min. Flow Rate: 1000 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

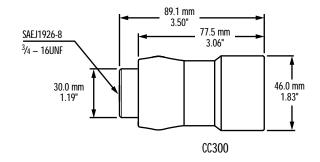
Weight: 0.59 kg. (1.30 lb.)

Cv: 1.05

Design Pressure: 4000 psi (276 Bar)







Ordering Information

Product No.	Inlet Thread Size	Color	Maximum Allowable Service Pressure
CC300P30	SAE - 8, 3/4 - 16 UNF	Blue	P30 (3000 psi)
CC300P36	SAE - 8, 3/4 - 16 UNF	Yellow	P36 (3600 psi)

NOTE: Available with Stainless Steel jaws for demanding applications. Add suffix S to product number when ordering.

Connects to any L-Series-NGV-1 CNG Receptacle





OPW FIL-MASTER™ 600 SERIES FAST-FILL/FLEET-FILL NOZZLES (NGV1 Type 2 or 3)

OPW Fil-Master™ 600 Series fast-fill/fleet-fill nozzles are designed for high flow CNG fueling systems. Applications include quick-fill fueling of automobiles, light trucks, shuttle buses, vans and time-fill or overnight fleet fueling. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User-Friendly Push-On/Pull-Off
 Operation For smooth, simple
 engaging and disengaging of nozzle
 and receptacle without the added step
 of pulling back a collar. The CC600 is
 designed to remain securely connected
 to the receptacle until the nozzle is
 depressurized after fueling is complete.
- High-Flow/Fast-Fill Capability -To provide quick fueling of medium storage vehicles. Internal seals are specially designed to meet the demands of fast-fill NGV fueling.
- Internal Filter Option To capture gasborne debris commonly found in CNG systems. Filter offers protection against impurities in the high velocity gas stream that can damage the nozzle and receptacle seals and the vehicle fuel system.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of NGV fueling. Forces at the contact point are distributed over the entire surface area of the receptacle.
- Ergonomic Design Fits the operator's hand for easy one hand connecting and disconnecting. Insulated jacket provides thermal protection for operator's hand.
- Durable Construction Heavy-duty brass construction provides excellent corrosion resistance in the harsh refueling environment.

- Meets NGV1 Fueling Standard -Can be used to fuel any vehicle with an NGV1 profile receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Number.
- Agency Listings ANSI/CGA NGV1
 Type 2 Class A Certified, German
 Pressure Vessel Ordinance (Druckbeh V)
 ASME Approved (P30 model only).
 Bauart number 02CDN2



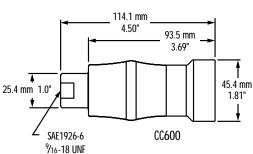
Materials:

Body: Brass

Filter: Stainless Steel, 200 micron

Seals: Specially formulated Polymers and Elastomers specific to high pressure

NGV applications.



Specifications:

Min. Flow Rate: 1500 SCFM @ 3000 psid Temperature Range: -40° C to 85° C

(-40° F to 185° F)

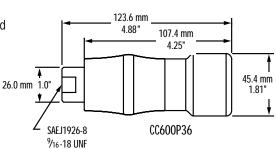
Weight: 0.61 kg. (1.34 lb.)

Cv: 1.05

Design Pressure: 4500 psi (310 Bar)







Ordering Information

Product No.	Inlet Thread Size	Color	Maximum Allowable Service Pressure
CC600	SAE - 6, 9/16 - 18 UNF	Blue	P30 - 200 Bar (3000 psi)
CC600P30NF	SAE - 6, 9/16 - 18 UNF	Blue	P30 - 200 Bar (3000 psi)
CC600P30NFS	SAE - 6, 9/16 - 18 UNF	Blue	P30 - 200 Bar (3000 psi)
CC600S	SAE - 6, 9/16 - 18 UNF	Blue	P30 - 200 Bar (3000 psi)
CC600P36	SAE - 6, 9/16 - 18 UNF	Yellow	P36 (3000 psi)
CC600P36NF	SAE - 6, 9/16 - 18 UNF	Yellow	P36 (3000 psi)
CC600P36NFS	SAE - 6, 9/16 - 18 UNF	Yellow	P36 (3000 psi)
CC600P36S	SAE - 6, 9/16 - 18 UNF	Yellow	P36 (3000 psi)

NOTE: NF nozzles do not include 200 micron filter.

Connects to any L-Series-NGV-1 CNG Receptacle



OPW 1000 SERIES SELF-SERVICE NOZZLES (NGV1 Type 1)

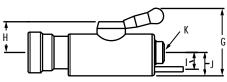
OPW 1000 Series self-service nozzles are designed for high flow public and private CNG fueling systems. Applications include quick-fill, self-service fueling of automobiles, light trucks, shuttle buses and vans. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency

Features:

- User-Friendly Single-Action Operation -Engage nozzle and receptacle with a 180° rotation of the handle. This secures nozzle jaws onto receptacle, activating a system of three internal valves that regulate fueling. The nozzle will not dispense gas until securely engaged onto an appropriate receptacle. When fueling is complete, rotate the handle to the disconnect position to automatically stop the flow of gas into the vehicle, vent the trapped gas, and release the nozzle from the receptacle. The 1000 Series nozzles connect directly to the hose, with no need for a three-way valve. Designed for public or private self-service applications, no attendant is needed.
- High Flow/Fast-Fill Capability -Provides quick fueling of medium storage vehicles. Internal seals are designed for fast-fill NGV fueling.
- Internal Filter Captures gas-borne debris commonly found in CNG systems. Filter protects against impurities in the high velocity gas stream that can damage the nozzle and receptacle seals and the vehicle fuel system.
- Directed Vent (CT1000) Captures the gas vented at disconnect and directs it out of the nozzle via a 1/4" stainless-steel vent tube which can be piped to a remote venting location or back to the upstream side of the compressor. Capturing vent gas is environmentally desirable by agencies such as EPA, and provides an added measure of safety by minimizing the amount of gas present at the filling site. It also reduces vent noise and eliminates escaped gas smell.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of NGV fueling. Forces at the contact point are distributed over the entire surface area of the receptacle.

- Ergonomic Design One simple and convenient motion ensures connection and dispensing by all users. Insulated jacket protects operator's hand.
- Durable Construction Heavy-duty brass and stainless-steel construction provides corrosion resistance in the harsh refueling environment.
- Meets NGV1 Fueling Standard -Can be used to fuel any vehicle with an NGV1 profile receptaclé.
- Tamper Resistant Specially designed cam system actuates the front and rear module. Tampering with the valve results in immediate dispensing shut-off.
- Individually Leak Tested and Inspected with Traceable Serial Number.
- Agency Listings ASME Pressure Vessel Registered, Railroad Commission of Texas, ANSI/AGA/CGA NGV1 Type 1 (CT1000). Class A Certified, German Pressure Vessel Ordinance (Druckbeh V) Approved (P30 models only). Bauart number 02CDN1









Materials:

Body: Brass

Internal Components: Stainless Steel Seals: Specially blended polymers and elastomers specific to high pressure NGV applications.

Specifications:

Min. Flow Rate: 1200 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

Weight: 1.52 kg. (3.35 lb.)

Cv: 0.48

Design Pressure: 4500 psi (310 Bar)

Ordering Information

CLEANENERGY FUELING PRODUCTS

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Product No.	Inlet Thread Size M	laximum Allowable Service Pressure
CC1000	SAE - 6, 9/16 - 18 UNF	3000 psi (200 Bar)
CT1000S (directed vent)	SAE - 6, 9/16 - 18 UNF	3000 psi (200 Bar)
CT1000L - Same as CT1000S	and (directed vent) includes G	uide Ring. 3000 psi (200 Bar)
CT1000-P36 (directed vent)	SAE - 6, 9/16 - 18 UNF	3600 psi (248 Bar)

NOTE: Available with Stainless Steel Jaws for more demanding applications. Add suffix S to product number.

Connects to any L-Series-NGV-1 CNG Receptacle

Dimensions

	CC1000		CC1000 CT1000S		CT1000L CT1000P36		5
	in	mm	in	mm	in	mm	
A	6.25	159.1	6.69	167.8	7.32	185.8	
В	2.56	66.1	2.63	65.4	2.63	66.4	
С	1.94	49.4	1.94	48.9	1.94	48.9	
D	3.0	75.5	3.37	85.1	4.0	102.1	
E	3.69	93.0	4.06	102.4	4.69	119.4	
F	N/A	N/A	7.5	191.0	8.19	208.0	
G	3.06	78.5	3.25	83.1	3.25	83.1	
Н	1.5	37.9	1.5	37.9	1.5	37.9	
L	N/A	N/A	1.37	20.7	0.81	20.7	
J	1.5	24.2	1.13	28.8	1.13	28.8	

Straight Thread O-Ring Boss Port SAE J1926-6 (⁹/₁₆-18UNF-2B)





OPW 5000 SERIES BUS/HEAVY-DUTY TRUCK NOZZLES

OPW 5000 Series nozzles are designed for extremely high flow public and private CNG fueling systems. Applications include quick-fill, self-service fueling of transit buses and large trucks. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User-Friendly Single-Action
 Operation Entire fueling operation is initiated by simply engaging nozzle and receptacle with a single 180 degree rotation of the handle. This automatically secures the nozzle jaws onto the receptacle and activates a system of three internal valves that regulate fueling. The nozzle will not dispense gas until securely engaged onto an appropriate receptacle. When fueling is completed, rotation of the handle to the disconnect position automatically stops the flow of gas into the nozzle, vents the trapped gas, and releases the nozzle from the receptacle. The 5000 Series nozzles connect directly to the hose, eliminating the need for a three-way valve. They are designed for public or private self-service applications, eliminating the need for a trained attendant.
- High Flow/Fast-Fill Capability To provide quick fueling of large storage vehicles. Internal seals are specially designed to meet the demands of fast-fill NGV fueling.
- Directed Vent (CT5000S) Directs the gas vented at disconnect and directs it out of the nozzle via a 3/8" stainless-steel tubing connection which can be piped to a remote venting location or back to the upstream side of the compressor. Directing the vent gas is environmentally desirable and will provide an added measure of safety by minimizing the amount of gas present at the filling site. It also reduces vent noise and escaped gas smell.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of NGV fueling. Forces at the contact point are distributed over the entire surface area of the receptacle.

- Ergonomic Design One simple and convenient motion ensures connection and dispensing by all users. Insulated jacket provides thermal protection for operator's hand.
- Durable Construction Heavy-duty brass and stainless-steel construction provides excellent corrosion resistance in the harsh refueling environment.
- Tamper Resistant Specially designed cam system actuates the front and rear valve module. Any tampering with the valve will result in an immediate shut-off of the dispensing process.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Agency Listings ASME
 Pressure Vessel Registered,
 Railroad Commission of Texas,
 Special Application of German
 Pressure Vessel Available at
 additional TUV cost.

Materials:

Body: Brass & Stainless Steel Internal Components: Stainless Steel and Brass

Seals: Specially formulated polymers and elastomers specific to high pressure NGV applications.

Specifications:

Min. Flow Rate: 5000 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

Weight: 3.98 kg. (8.77 lbs.)

Cv: 2.75

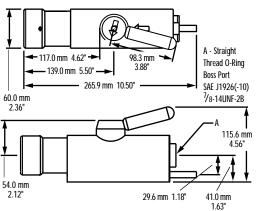
Design Pressure: 4500 psi (310 Bar)

Ordering Information

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
CC5000S (non-directed vent)	SAE - 10, 7/8 - 14 UNF	3600 psi (248 Bar)
CT5000S (directed vent)	SAE - 10, 7/8 - 14 UNF	3600 psi (248 Bar)

Connects to CL50 Series Heavy-Duty Receptacles







OPW 6000 SERIES BUS/HEAVY-DUTY TRUCK NOZZLES

OPW 6000 Series nozzles are designed for extremely high flow public and private CNG fueling systems when connected to OPW "CR50," "CL50" and "CM50" series receptacles. Applications include quick-fill, self-service fueling of transit buses and large trucks. This Type 2 nozzle must be used with some type of secondary flow control valve that either vents down only the nozzle or the nozzle and hose. This nozzle can also be used for defueling buses in conjunction with an open receptacle arrangement. All OPW NGV fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Features:

- High Flow/Super Fast Fill Capability -This is OPW's fastest flowing nozzle.
 This nozzle will provide quick fueling of large storage vehicles. Internal seals are specially designed to meet the demands of fast-fill NGV fueling.
- Type Designed as a High Flow Type 2 nozzle used in conjunction with CR50, CL50 and CM50 type receptacles.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of NGV fueling. Forces at the contact point are distributed over the entire surface area of the receptacle, significantly reducing nozzle wear.
- Ergonomic Design Has a comfortable "tool-grip" like all other OPW Type 2 nozzles.
- Durable Construction Heavy-duty stainless-steel construction provides excellent corrosion resistance in the harsh refueling environment.
- Individually Leak Tested And Inspected With Traceable Serial Numbers.

Materials:

Body: Stainless Steel; Acetal
Seals: Specially formulated polymers
and elastomers specific to high
pressure NGV applications.

Specifications:

Min. Flow Rate: 5500 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

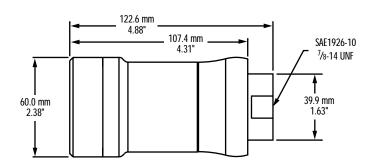
Weight: 1.33 kg. (2.94 lbs.)

Cv: 4.00

Design Pressure: 5000 psi (345 Bar)







Ordering Information

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
CC6000	SAE - 10, 7/8 - 14 UNF	3600 psi (248 Bar)

• Connects to CL50 Series Heavy-Duty Receptacles



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CNG RECEPTACLES

OPW offers a complete line of fueling receptacles for any natural gas vehicle (NGV) application. Our receptacles form part of a dedicated system designed specifically for fueling NGV. OPW product designs and features are the result of many years of field experience in the demanding NGV environment and built to exacting engineering specifications for safety and efficiency.



OPW "L" Series

OPW "L" Series NGV1 certified refueling receptacles are designed for use on medium storage natural gas vehicles, including automobiles, light trucks, shuttle buses and vans. All OPW NGV receptacles are designed and built to exacting engineering specifications for fueling safety and efficiency.

OPW CL50 SERIES

OPW now adds stainless steel receptacles to their line of heavy-duty refueling receptacles, namely the CL Series. These new designs are the result of many years of experience in the demanding NGV environment.

Durable, Corrosion Resistant Construction

All OPW Receptacles are made from stainless steel. Also available is specially formulated brass. Both materials are proven in the harsh refueling environment.

Non-Contact Check Valve

Each OPW NGV receptacle contains a highly reliable non-contact check valve that opens only when differential pressure is present during fueling.

Unique Sealing System

The sealing system in all OPW receptacles consists of a stainless steel poppet that aligns with a rearward facing, captured seal located in the receptacle body. This arrangement prevents: seal "wash out" during high flow conditions and "cratering" due to debris. The new seal material has exceptionally long service life, resists creep and deformation and has exceptional wear resistance under all operating pressure and temperature conditions. The poppet is treated, impactresistant stainless steel with a polished surface to provide reliable sealing at low back pressures.

High Flow Capacity

The new "L" Series Receptacles have much larger flow capacity than conventional receptacles. The flow path allows very high flows, combined with low pressure drop and enhanced resistance to hydrate formation.

Bulkhead or Straight Thread

The "L" Series allows the user to order a complete receptacle, or buy and assemble their own adaptor shaft. They come with and without bulkhead fitting and with or without filter. The external bulkhead nut costs less than conventional stainless steel fittings. "L" Series Receptacles can be used with parallel thread or compression tube fittings. The standard body is steel, but brass is also available. "L" Series bodies come with either wrench flats or hex to ease vehicular mounting.

Filtered Receptacle (LE)

Filters capture dirt and gas-borne debris commonly found in CNG systems. Filtered receptacles protect the receptacle seals and the vehicle fuel system. A 400 micron filter is incorporated ahead of the receptacle check valve.

Design Your Own Sub-System

The OPW "L" Series Receptacles come with the following standard features: rubber dust cap; mounting hex or wrench flats. LD and LE receptacles come with a standard external bulkhead nut.

The Bulkhead fittings allow the use of inexpensive compression tube fittings. A 400 micron filter upstream of the poppet seal is available as an option. All adaptor shafts can be purchased from OPW or from your supplier of choice.

OPW "L" Series NGV1 Receptacles are designed for medium storage NGV at 200 Bar (3000 psi) or 248 Bar (3600 psi) operating pressure. All OPW NGV Receptacles are designed and built to exacting engineering specifications for safety and efficiency.

Rubber Dust Cap

Standard protective dust caps are supplied with all receptacles.

Serviceable 0-Ring

Designed to prevent leakage at the connection point.

Individually Leak Tested and Inspected

L Series CNG Receptacles: Agency Listings

ANSI/AGA/CGA NGV1 Certified, German Pressure Vessel Ordinance (Druckbeh V) Approved. Bauart Number 02USA17.





OPW: "L" SERIES-NGV1 FUELING RECEPTACLES

OPW "L" Series NGV1 certified refueling receptacles are designed for use on medium storage natural gas vehicles, including automobiles, light trucks, shuttle buses and vans. All OPW NGV receptacles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Features:

- Protective rubber dust caps are included with all OPW "L" series receptacles.
- Connects with CC250, CC600, CT1000 Series NGV-1 CNG Nozzles



Materials:

Body: Stainless Steel

Internal Parts: Stainless Steel and Brass

Seals: Specially formulated polymers and elastomers specific to high pressure NGV applications.

Specifications:

Min. Flow Rate: 1500 SCFM @ 3000 psid Temperature Range: -40° C to 120° C (-40° F to 250° F)

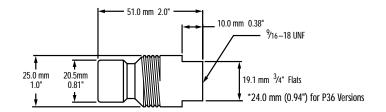
Weight: 1.33 kg. (2.94 lbs.)

Cv: LB = 0.91 LD = 0.85 LE = 0.83

Design Pressure: 5000 psi (345 Bar)

LB30 & LB36





Ordering Information

	Receptacle + Adaptor				
P36	Description	P/N	Shaft P/N	Weight	
	ISO G 1/2" Female s.s. with 3/4" flats	LB30	50027	0.42 lb.	0.190 kg
	ISO G1/4" Female s.s. with 3/4" flats	LB30	50064	0.42 lb.	0.190 kg
LB3606	SAE-6 Female s.s. with 3/4" flats	LB3X	50028	0.42 lb.	0.190 kg
LB3616	SAE-6 Male s.s. with 3/4" flats	LB3X	50030	0.42 lb.	0.190 kg
LB3678	SAE-10 Male s.s. with 3/4" flats	LB3X	50061	0.70 lb.	0.318 kg
	6 mm Compression fitting with bulkhead on shaft	LB30	50069	0.42 lb.	0.190 kg
	8 mm Compression fitting with bulkhead on shaft	LB30	50070	0.42 lb.	0.190 kg
	10 mm Compression fitting with bulkhead on shaft	LB30	50071	0.42 lb.	0.190 kg
LB3620	3/8" Compression fitting s.s. with 3/4" flats	LB3X	50068	0.42 lb.	0.190 kg
LB3640	1/4" Compression fitting s.s. with 3/4" flats	LB3X	50067	0.42 lb.	0.190 kg
	ISO G 1/4" Male s.s. with 3/4" flats	LB30	50029	0.42 lb.	0.190 kg
	LB3606 LB3616 LB3678	ISO G 1/2" Female s.s. with 3/4" flats ISO G1/4" Female s.s. with 3/4" flats ISO G1/4" Female s.s. with 3/4" flats LB3606 SAE-6 Female s.s. with 3/4" flats LB3616 SAE-6 Male s.s. with 3/4" flats LB3678 SAE-10 Male s.s. with 3/4" flats 6 mm Compression fitting with bulkhead on shaft 8 mm Compression fitting with bulkhead on shaft 10 mm Compression fitting with bulkhead on shaft LB3620 3/8" Compression fitting s.s. with 3/4" flats LB3640 1/4" Compression fitting s.s. with 3/4" flats	P36 Description P/N ISO G 1/2" Female s.s. with 3/4" flats LB30 ISO G1/4" Female s.s. with 3/4" flats LB30 LB3606 SAE-6 Female s.s. with 3/4" flats LB3X LB3616 SAE-6 Male s.s. with 3/4" flats LB3X LB3678 SAE-10 Male s.s. with 3/4" flats LB3X LB3678 SAE-10 Male s.s. with 3/4" flats LB3X LB3678 SAE-10 male s.s. with 3/4" flats LB3X IB30 8 mm Compression fitting with bulkhead on shaft LB30 8 mm Compression fitting with bulkhead on shaft LB30 10 mm Compression fitting with bulkhead on shaft LB30 LB3620 3/8" Compression fitting s.s. with 3/4" flats LB3X LB3640 1/4" Compression fitting s.s. with 3/4" flats LB3X	ISO G 1/2" Female s.s. with 3/4" flats LB30 50027 ISO G1/4" Female s.s. with 3/4" flats LB30 50064 LB3606 SAE-6 Female s.s. with 3/4" flats LB3X 50028 LB3616 SAE-6 Male s.s. with 3/4" flats LB3X 50030 LB3678 SAE-10 Male s.s. with 3/4" flats LB3X 50061 6 mm Compression fitting with bulkhead on shaft LB30 50069 8 mm Compression fitting with bulkhead on shaft LB30 50070 10 mm Compression fitting with bulkhead on shaft LB30 50071 LB3620 3/8" Compression fitting s.s. with 3/4" flats LB3X 50068 LB3640 1/4" Compression fitting s.s. with 3/4" flats LB3X 50067	P36 Description P/N Shaft P/N Weight ISO G 1/2" Female s.s. with 3/4" flats LB30 50027 0.42 lb. ISO G1/4" Female s.s. with 3/4" flats LB30 50064 0.42 lb. LB3606 SAE-6 Female s.s. with 3/4" flats LB3X 50028 0.42 lb. LB3616 SAE-6 Male s.s. with 3/4" flats LB3X 50030 0.42 lb. LB3678 SAE-10 Male s.s. with 3/4" flats LB3X 50061 0.70 lb. 6 mm Compression fitting with bulkhead on shaft LB30 50069 0.42 lb. 8 mm Compression fitting with bulkhead on shaft LB30 50070 0.42 lb. 10 mm Compression fitting with bulkhead on shaft LB30 50071 0.42 lb. LB3620 3/8" Compression fitting s.s. with 3/4" flats LB3X 50068 0.42 lb. LB3640 1/4" Compression fitting s.s. with 3/4" flats LB3X 50067 0.42 lb.

- B = 3/4" Wrench Flats without bulkhead mounting - Stainless Steel Housing
- X = Service Pressure rating. Substitute with "0" for P30-3000psi or "6" for P36-3600psi.



Ordering Information

		Receptacle + Adaptor				
P30	P36	Description	P/N	Shaft P/N	Weight	
LD3002		ISO G 1/2" Female s.s. with bulkhead	LD30	50027	0.55 lb.	0.250 kg
LD3004		ISO G1/4" Female s.s. with bulkhead	LD30	50064	0.55 lb.	0.250 kg
LD3006	LD3606	SAE-6 Female s.s. with bulkhead	LD3X	50028	0.55 lb.	0.250 kg
LD3016	LD3616	SAE-6 Male s.s with bulkhead	LD3X	50030	0.46 lb.	0.250 kg
LD3060		6 mm Compression fitting with bulkhead	LD30	50024	0.55 lb.	0.250 kg
LD3080		8 mm Compression fitting with bulkhead	LD30	50025	0.55 lb.	0.250 kg
LD3010		10 mm Compression fitting with bulkhead	LD30	50026	0.55 lb.	0.250 kg
LD3020	LD3620	3/8" Compression fitting with bulkhead	LD3X	50066	0.55 lb.	0.250 kg
LD3040	LD3640	1/4" Compression fitting with bulkhead	LD3X	50065	0.55 lb.	0.250 kg
LD3014		ISO G 1/4" Male s.s. with bulkhead	LD30	50029	0.55 lb.	0.250 kg

- D = 1-1/16" Hex with bulkhead mounting -Stainless Steel Housing
- X = Service Pressure rating. Substitute with "0" for P30-3000psi or "6" for P36-3600psi.

LE30 & LE36



Ordering Information

		F	Receptacle	+ Adaptor		
P30	P36	Description	P/N	Shaft P/N	Weight	
LE3002		ISO G 1/2" Female s.s. with bulkhead and filter	LE30	50027	0.55 lb.	0.250 kg
LE3004		ISO G1/4" Female s.s with bulkhead and filter	LE30	50064	0.55 lb.	0.250 kg
LE3006	LE3606	SAE-6 Female s.s. with bulkhead and filter	LE3X	50028	0.55 lb.	0.250 kg
LE3016	LE3616	SAE-6 Male s.s. with bulkhead and filter	LE3X	50030	0.55 lb.	0.250 kg
LE3060		6 mm Compression fitting with bulkhead and filter	LE30	50024	0.55 lb.	0.250 kg
LE3080		8 mm Compression fitting with bulkhead and filter	LE30	50025	0.55 lb.	0.250 kg
LE3010		10 mm Compression fitting with bulkhead and filter	LE30	50026	0.55 lb.	0.250 kg
LE3020	LE3620	3/8" Compression fitting with bulkhead and filter	LE3X	50066	0.55 lb.	0.250 kg
LE3040	LE3640	1/4" Compression fitting with bulkhead and filter	LE3X	50065	0.55 lb.	0.250 kg
LE3014		ISO G 1/4" Male s.s. with bulkhead and filter	LE30	50029	0.55 lb.	0.250 kg

- E = 1-1/16" Hex with bulkhead mounting and 400 micron filter - Stainless Steel Housing
- X = Service Pressure rating. Substitute with "0" for P30-3000psi or "6" for P36-3600psi.





OPW CL50 SERIES BUS/HEAVY-DUTY TRUCK RECEPTACLES

OPW now adds stainless steel receptacles to their line of heavy-duty refueling receptacles. The new CL50 Series design is the result of many years of experience in the demanding NGV environment.

Features:

- Durable, Corrosion- Resistant Construction - Stainless-steel construction provides improved durability and corrosion resistance in the harsh on-highway, heavy-duty environment. This material is harder than the original brass for even greater wear resistance and longer life.
- Non-Contact Check Valve Each OPW CL series receptacle contains a highly reliable non-contact check valve that opens when differential pressure is present during refueling.
- Improved Sealing System The sealing system in all CL series receptacles consists of a stainless steel poppet that aligns with a rearward facing captured seal located in the receptacle body. This arrangement prevents seal "wash out" during high flow deformation and has exceptional wear resistance under all operating pressure and temperature conditions.
- High Flow The flow path has been redesigned to increase the amount of flow and decrease the pressure drop resulting in a reduction of noise/vibration from the check valve during the "end of fill."
- Rubber Dust Cap A standard protective dust cap is supplied with CL50 series receptacles.
- Serviceable O-Ring Designed to prevent leakage at the connection point.
- Individually Leak Tested and Inspected.

Materials:

Body and Adaptor Shaft: Stainless Steel

Internal Components: Stainless Steel
Seals: Specially formulated polymers
and elastomers specific to high
pressure NGV applications.



Specifications:

Min. Flow Rate: 5000 SCFM @ 3000 psid Temperature Range: -40° C to 120° C (-40° F to 250° F)

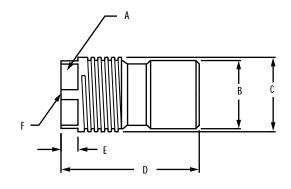
Cv: 3.30

Design Pressure: 5000 psi (345 Bar)

Agency Listings: Pending

Dimensions

	CL50		
	in	mm	
Α	1.25	38.1	
В	1.25	32.0	
С	1.39	35.0	
D	2.56	65.0	
E	0.31	8.0	
F	SAEJ1926-10		
	⁷ /8−14 UNF		



Ordering Information

Product No.	Type/Size	Max. Allowable Service Pressure	Wei	ght
CL50	7/8" - 14 SAE-10 Female Port	3600 psi 310 Bar	0.91 lb.	0.410 kg.
CL5000	5/8" Double Ferrule Fitting	3600 psi 310 Bar	1.29 lbs.	0.587 kg.
CL5078	7/8" - 14 SAE-10 Male O-ring Fitting	3600 psi 310 Bar	1.141 lbs.	0.520 kg
CL5016	16mm Double Ferrule Fitting	3600 psi 310 Bar	1.29 lbs.	0.587 kg.

Connects to the CT5000S and CC6000 Series Heavy-Duty CNG Nozzles



CNG FUELING PRODUCTS ACCESSORIES

OPW in-line breakaways are installed on fuel dispensing hoses between the nozzle and dispenser, and will separate when subjected to a designated pull force, such as in the event of a driveaway. The dual valves seat automatically upon separation to stop the flow of gas while protecting the dispensing equipment from catastrophic damage. Defueling nozzles are designed to safely depressurize vehicles and can be used to transfer fuel from one vehicle to another. The fueling hoses are specially designed for dispensing compressed natural gas.



OPW IN-LINE BREAKAWAY (ILB-1)

OPW has developed an in-line breakaway that can be used in automotive NGV refueling applications. This unit will function consistently, independent of the inlet pressure.



OPW IN-LINE BREAKAWAY (ILB-5) - HEAVY-DUTY TRUCK/BUS

OPW has developed an in-line breakaway that can be used in heavy-duty truck and bus NGV refueling applications. This unit will function consistently, independent of the inlet pressure.



OPW VENT LINE BREAKAWAY (VLB)

The VLB is a simple, in-line breakaway that fits into the nozzle vent line. This unit will function consistently when used in conjunction with OPW high pressure In Line Breakaway. It allows for 360° swivel. It contains no internal check valves and therefore cannot contain hose pressure in the event of a "drive-away."



OPW BDN VEHICLE DEFUELING NOZZLE

OPW has developed a new tool to safely depressurize vehicles. This valve can also be used to transfer fuel from one vehicle to another in the event of a breakdown on the side of the road, or be used in areas where no refueling station is available. This nozzle should be hooked up to a check valve, three-way valve, hose and appropriate storage tank or fueling device.



OPW HOSE AND HOSE ASSEMBLIES

OPW CNG hose assemblies are designed of electrically conductive polymer core tubing for working pressures of 3600 to 5000 psi. All hose assemblies conform to NFPA 52 and AGA/CGA, ANSI NGV 4.2



OPW IN-LINE BREAKAWAY (ILB-1)

OPW has developed an in-line breakaway that can be used in automotive NGV refueling applications. This unit will function consistently, independent of the inlet pressure.

Features:

- Durable, Corrosion-Resistant Construction - Stainless steel and specially plated steel construction provide improved durability and corrosion resistance in harsh environments.
- Reconnectable Design Allows the component to be reused, reducing maintenance costs.
- Innovative Valve System The sealing system in this breakaway minimizes the amount of vent gas released during a drive-away incident.
- High Flow The flow path has been matched to provide ample flow for all NGV-1 Type 1 and Type 2 nozzles.
- Reduced Size and Weight To allow for more applications where size may be a concern.
- Easy Installation The in-line breakaway has SAE-6 O-ring fittings for easy installation in line between the dispenser and nozzle.
- Individually Inspected, Leak and Breakaway Tested, with Traceable Serial Numbers.
- Disconnection Force 150 lbs. (668 N).

Materials:

Body: Stainless Steel

Internal Components: Stainless Steel Seal: Specially formulated polymers and elastomers specific to high pressure NGV applications.

Specifications:

Min. Flow Rate: 2000 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

lhs

Weight: 2.3 lbs. Cv: 1.17

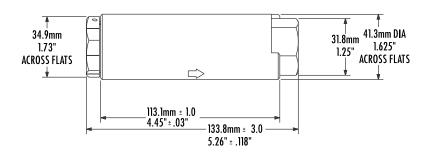
Design Pressure: 5000 psi (345 Bar)



ILB-1

ILB-1

Agency Listings: Pending



Ordering Information

Product No.	Inlet Thread Size	Outlet Thread Size	Max. Allowable Service Pressure
ILB-1	SAE - 6, 9/16 - 18 UNF (female)	SAE - 6, 9/16 - 18 UNF (female)	3600psi (P36) (248 Bar)

Recommended to be used with the CC250, CC300, CC600 and CT1000 Series NGV-1 CNG Nozzles



OPW IN-LINE BREAKAWAY (ILB-5) - HEAVY-DUTY TRUCK/BUS

OPW has developed an in-line breakaway that can be used in heavy-duty truck and bus NGV refueling applications. This unit will function consistently, independent of the inlet pressure.

Features:

- Durable, Corrosion-Resistant Construction - Stainless steel and specially plated steel construction provide improved durability and corrosion resistance in harsh environments.
- Reconnectable Design Allows the component to be reused, reducing maintenance costs.
- Innovative Valve System The sealing system in this breakaway minimizes the amount of vent gas released during a drive-away incident.
- High Flow/Super Fast Fill Capacity -This is OPW's fastest flowing breakaway. This breakaway will provide quick fueling of large storage vehicles. Internal seals are specifically designed to meet the demands of fast-fill NGV fueling.
- Easy Installation The in-line breakaway has SAE-10 O-ring fittings for easy installation in line between the dispenser and nozzle.
- Individually Inspected, Leak and Breakaway Tested, with Traceable Serial Numbers.
- Disconnection Force 150 lbs. (668 N).

Materials:

Body: Stainless Steel

Internal Components: Stainless Steel Seal: Specially formulated polymers and elastomers specific to high pressure NGV applications.

Specifications:

Min. Flow Rate: 5500 SCFM @ 3000 psid Temperature Range: -40° C to 85° C

(-40° F to 185° F)

Weight: 5 lbs.

Cv: 3.6

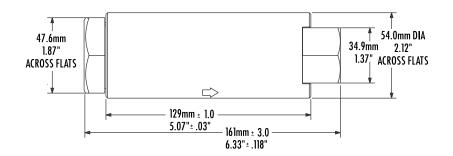
Design Pressure: 5000 psi (345 Bar)

Agency Listings: Pending





ILB-5



Ordering Information

Product No.	Inlet Thread Size	Outlet Thread Size	Max. Allowable Service Pressure
ILB-5	SAE - 10, 7/8 - 14 UNF (female)	SAE - 10, 7/8 - 14 UNF (female)	4500psi (310 Bar)

Recommended to be used with the CT5000S and CC6000 Series Heavy-Duty CNG Nozzles





OPW VENT LINE BREAKAWAY (VLB)

The VLB is a simple, in-line breakaway that fits into the nozzle vent line. This unit will function consistently when used in conjunction with OPW high pressure In Line Breakaways. It allows for 360° swivel. It contains no internal check valves and therefore does not contain hose pressure in the event of a "drive-away."

Features:

- Durable, Corrosion Resistant Construction - Hardened brass construction provides excellent durability and corrosion resistance in harsh refueling environments.
- Reconnectable Design Allows the component to be reused, reducing maintenance costs.
- For Vent Hose Only Design not pressure balanced. Must be at least 8 feet from nozzle vent outlet.
- Prevents Excessive Back Pressure on Nozzle Vent Line - Maximum pressure of 350 ± 50 psi (24 ± 3.5 Bar).
- Easy Installation The vent line breakaway has SAE-6 female ports for easy installation.
- Disconnection Force 70 lbs. (312 N).

Materials:

Body: Brass

Seal: Specially formulated polymers and elastomers specific to high pressure NGV applications.

Specifications:

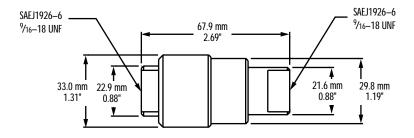
Temperature Range: -40° C to 85° C (-40° F to 185° F)

Weight: 0.330 kg (0.72 lb.)

Cv: 3.25

Design Pressure: 350 psi (24 Bar)





Ordering Information

Product No.	Inlet Thread Size	Outlet Thread Size	Max. Allowable Service Pressure
VLB	SAE - 6, 9/16 - 18 UNF	SAE - 6, 9/16 - 18 UNF	350 psi (24 Bar)

OPW BDN VEHICLE DEFUELING NOZZLE

OPW has developed a new tool to safely depressurize vehicles. This valve can also be used to transfer fuel from one vehicle to another in the event of a breakdown on the side of the road, or be used in areas where no refueling station is available. This nozzle should be hooked up to a check valve, three-way valve, hose and appropriate storage tank or fueling device.

Key Features Include:

- Durable Corrosion Resistant Construction - Stainless steel and brass provide improved durability and corrosion resistance in the harsh environments.
- Jaw Lock Connection To ensure against damage to the receptacle during the defueling process.
- User Friendly Operation Low force actuation lever provides enough mechanical advantage to open receptacle check valves with up to 4500 psi pressure differentials.
- Good for both Filtered and Non-Filtered Receptacles - Shaft extenders are included inside the handle to open receptacle check valves.
- SAE-4 O-Ring Outlet Port Allows for standard fittings to be used when connecting nozzle to hose.
- Connects to NGV-1 style receptacles (BDN).
- Individually Leak Tested and Inspected with Traceable Serial Numbers.

Materials:

Body and Internal Components:

316L stainless steel

Seals: Specially formulated

polymers and elastomers specific to high pressure NGV applications.

BDN - Front View



Temperature Range: -40° C to 85° C (-40° F to 185° F)

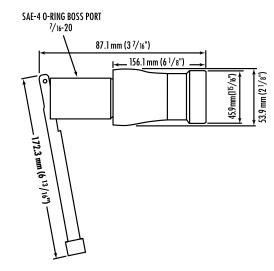
Weight: 1.35kg (3 lbs.)

Specifications:

Cv: 0.5

Design Pressure: 5000 psi (345 Bar)

NOTE: For Sherex/OPW Filtered Receptacles - order the TA031 Filter Removal and Installation Tool.



Ordering Information

Product No.	Outlet Thread Size	Max. Allowable Service Pressure
BDN for CNG Service	SAE - 4, 7/16 - 20 UNF	5000 psi (345 Bar)





OPW CNG (Compressed Natural Gas) hose assemblies are designed for dispensing compressed natural gas at working pressures to 5000 psi. Constructed of high-strength conductive polymer core tubing to dissipate static charge, all OPW hose assemblies conform to NFPA 52 and AGA/CGA, ANSI NGV 4.2.

Key Features Include:

- Quality Construction high-strength, reinforced synthetic fiber braid, electrically conductive polymer core tubing dissipates static electrical buildup while protecting the hose from wear and tear with an abrasion-resistant polymer cover.
- Multiple Fitting Configurations Available - 316 Stainless and Carbon Steel, JIC 37 degree Flare and Universal Tube Stub
- Quality Tested All hose assemblies are proof tested and electrically tested. Each CNG kit includes a warning tag and spring stress reliefs. All hose assemblies confirm to NFPA 52 and AGA/CGA, ANSI NGV 4.2.
- Twin Hose Assemblies Complete With Filling Line and Vent Line Breakaways - Complete hose assemblies available.
- Custom Lengths, Fittings and Sizes Available - Please forward design needs to OPW Fueling Components.
- Optional Stainless Steel Fittings -Available for custom orders.
- Available In Light-Duty and Heavy-Duty Dual Hose Sizes

-6 (Inlet) | NGV-1 Nozzle -4 (Outlet) | Application

-10 (Inlet) | Heavy-Duty -6 (Outlet) | Application

 Hydrogen Hose Applications also Available - Please call OPW Customer Service for more information.



Materials:

Fittings: Plated Steel/ 316 Stainless Steel

Specifications:

Service Pressures: 5000psi (345 bar)

Temperature Range: -40° C to 85° C (-40° F to 185° F)

FOR INFORMATION CONTACT OPW CUSTOMER SERVICE:

In the US at (800) 422-2525 Outside the US at (513) 870-3315 or (513) 870-3261



- 1) Type 1 Nozzle
- 2) Twin hose assembly (fill and vent)
- 3) Filling line break-away
- 4) Filling hose

- 5) Venting hose
- 6) Venting line break-away



HYDROGEN FUELING PRODUCTS

OPW CleanEnergy[™] Fueling Products offers a complete line of fueling products for high-pressure, high-flow hydrogen fueling systems. This line includes a series of nozzles for quick-fill, self-service applications, receptacles, in-line breakaways, fittings and valves and filters.



OPW 290 SERIES TIME-FILL HYDROGEN NOZZLES

OPW CH290 Series time-fill nozzles are designed for low flow H₂ fueling systems. Applications include home fueling devices and fleets that use overnight or time-fill fueling. All OPW H₂ fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.



OPW CH1000/CH2000 and CW3600/CW5000 SERIES SELF-SERVICE HYDROGEN NOZZLE

OPW Series self-service nozzles are designed for high pressure, high flow Hydrogen fueling systems. Applications include quick-fill, self-service fueling nozzles of automobiles, light trucks, vans and buses. All OPW Hydrogen fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency. Must be used only in conjunction with OPW "L" Series Hydrogen receptacles.



OPW "L" SERIES HYDROGEN FUELING RECEPTACLE

OPW "L" Series Hydrogen refueling receptacles are designed for use on automobiles, light trucks, vans and buses. All OPW Hydrogen fueling receptacles are designed and built to exacting engineering specifications for fueling safety and efficiency. Must be used in conjunction with OPW Hydrogen Nozzles.



OPW IN-LINE HYDROGEN BREAKAWAY

OPW has developed an in-line breakaway that can be used in automotive H_2 refueling applications. This unit will function consistently, independent of the inlet pressure.



OPW BDN-H VEHICLE DEFUELING NOZZLE

OPW has developed a new tool to safely depressurize vehicles. This valve can also be used to transfer fuel from one vehicle to another in the event of a breakdown on the side of the road, or be used in areas where no refueling station is available. This nozzle should be hooked up to a check valve, three-way valve, hose and appropriate storage tank or fueling device.



OPW 290 SERIES TIME-FILL HYDROGEN NOZZLES

OPW 290 Series time-fill nozzles are designed for low flow H₂ fueling systems. Applications include home fueling devices and fleets that use overnight or time-fill fueling. All OPW H₂ fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency.

Features:

- ◆ Easy Slide-Back Collar Operation -For smooth, simple engaging/disengaging of nozzle and receptacle. The 290 Series nozzle is designed to remain securely connected to the receptacle until the nozzle is depressurized after fueling is complete.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of the high pressure gas connections of H₂ fueling. Forces at the contact point are distributed over the entire surface area of the receptacle.
- Compact Design Lightweight, compact design allows for easy one-handed operation.
- Durable Construction -Stainless-steel construction provides excellent corrosion resistance in the harsh refueling environment. All wetted components are made from 316L stainless-steel.
- Individually Leak Tested and inspected with traceable serial numbers.

Materials:

Body: 316L Stainless Steel
Seals: Specially Formulated
Elastomers specific to High
Pressure Hydrogen applications.

Specifications:

Min. Flow Rate: 800 SCFM @ 3000 psid Temperate Range: -40° C to 85° C (-40° F to 185° F)

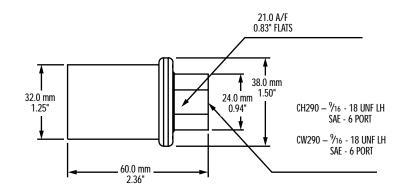
Weight: .24 kg. (0.53 lb.)

Cv: 0.55

Design Pressure: 6250 psi. (430 Bar)







ORDERING INFORMATION

Product No.	Inlet Thread Size	Receptacle Profile	Max. Allowable Service Pressure
CH290	SAE- 6, 9/16- 18 UNF-LH	ISO	5000 psi (345 Bar)
CW290	SAE- 6, 9/16- 18 UNF-LH	SAE	5000 psi (345 Bar)

CH290 - Connects to LH5000, LJ5000, LK5000, LK3600 ISO Profile Receptacles

CW290 - Connects to LW3600 and LW5000 SAE Profile Receptacles



OPW CH1000/CH2000 SERIES SELF-SERVICE HYDROGEN NOZZLE

OPW Series self-service nozzles are designed for high pressure, high flow Hydrogen fueling systems. Applications include quick-fill, self-service fueling nozzles of automobiles, light trucks, vans and buses. All OPW Hydrogen fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency. Must be used only in conjunction with OPW LH5000, LJ5000, LK5000 or LK3600 ISO Profile Hydrogen receptacles.

Features:

- User Friendly Single Action
 Operation Engage nozzle and
 receptacle with a180° rotation of the
 handle. This secures nozzle jaws onto
 receptacle, activating a system of three
 internal valves that regulate fuel flow.
 The nozzle will not dispense gas until
 securely engaged onto matching
 receptacle. When fueling is complete,
 rotate the handle back through 180° to
 the disconnect position to automatically
 stop the flow of gas and release the
 nozzle from the receptacle.
- Ergonomic Design One simple and convenient motion ensures connection and dispensing by all users. Insulated jacket protects operator's hands.
- High Flow / Fast-Fill Capability -Provides quick fueling for all types of vehicles. Internal seat designs and materials have been specially selected for high flow Hydrogen fueling.
- Internal 0.2 mm Filter Filter protects from impurities in the high velocity gas stream that can damage the nozzle and receptacle seals as well as components in the vehicle fuel system.
- Directed Vent Captures the gas vented at disconnect and directs it out of the nozzle via a 1/4" stainless steel vent tube which can be piped to a remote venting location or back to a compressor. Capturing vent gas is environmentally desirable by agencies such as EPA and provides an added measure of safety by minimizing the amount of gas present at the filling site.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of high-pressure gas connections of Hydrogen fueling. Contact pressures are distributed over the entire beveled edge of the receptacle, thus reducing long-term wear.

- Dedicated Coupling Profile -The jaw and receptacle profiles are designed to eliminate the chance of misconnection to any other form of fuel such as CNG. This nozzle will only couple securely to an OPW "L" Series Hydrogen receptacle.
- Durable Construction Heavy Duty 316 Stainless Steel construction provides unmatched corrosion resistance in this harsh and difficult refueling environment.
- Stuart Energy, a Leader in Hydrogen Fuel Systems, Provided Support in Developing These Nozzles.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.

Materials:

Body: 316L Stainless Steel with Stainless Steel Jaws

Internal Components: 316L Stainless Steel

Seals: Specially blended polymers and elastomers specific to high pressure Hydrogen applications.

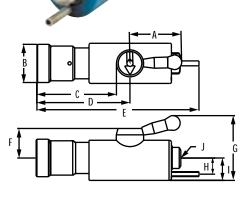


Min. Flow Rate: 2000 SCFM @ 3600 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

Weight: 1.52 kg (3.35 lb.)

Cv: 0.48

Design Pressure: 6250 psi (430 Bar)



Dimensions

	mm	in.
A	66	2- 5/8
B C	49	1-15/16
С	102	4
D	119	4- 11/16
E	208	8- 3/16
F	38	1-1/2
G	83	3- 1/4
Н	21	13/16
I	29	1-1/8

J Straight Thread O-Ring Boss Port SAE J1926-6 (9/16 - 18UNF-2B)

ORDERING INFORMATION

Product No.	Inlet Thread Size	Max. Allowable Service Pressure
CH1000	SAE- 6, 9/16- 18 UNF	5000 psi (345 Bar)
CH2000	SAE- 6, 9/16- 18 UNF	3600 psi (248 Bar)

Connects to LH5000, LJ5000, LK5000, LK3600 ISO Profile Receptacles





OPW CW3600/CW5000 SERIES SELF-SERVICE HYDROGEN NOZZLE

OPW Series self-service nozzles are designed for high pressure, high flow Hydrogen fueling systems. Applications include quick-fill, self-service fueling nozzles of automobiles, light trucks, vans and buses. All OPW Hydrogen fueling nozzles are designed and built to exacting engineering specifications for fueling safety and efficiency. Must be used only in conjunction with OPW LW5000 or LW3600 SAE Profile Hydrogen receptacles.

Features:

- ◆ User Friendly Single Action
 Operation Engage nozzle and
 receptacle with a180° rotation of the
 handle. This secures nozzle jaws onto
 receptacle, activating a system of three
 internal valves that regulate fuel flow.
 The nozzle will not dispense gas until
 securely engaged onto matching
 receptacle. When fueling is complete,
 rotate the handle back through 180° to
 the disconnect position to automatically
 stop the flow of gas and release the
 nozzle from the receptacle.
- Ergonomic Design One simple and convenient motion ensures connection and dispensing by all users. Insulated jacket protects operator's hands.
- High Flow / Fast-Fill Capability -Provides quick fueling for all types of vehicles. Internal seat designs and materials have been specially selected for high flow Hydrogen fueling.
- Internal 0.2 mm Filter Filter protects from impurities in the high velocity gas stream that can damage the nozzle and receptacle seals as well as components in the vehicle fuel system.
- Directed Vent Captures the gas vented at disconnect and directs it out of the nozzle via a 1/4" stainless steel vent tube which can be piped to a remote venting location or back to a compressor. Capturing vent gas is environmentally desirable by agencies such as EPA and provides an added measure of safety by minimizing the amount of gas present at the filling site.
- Jaw-Lock Technology Designed specifically for the frequent coupling and uncoupling of high-pressure gas connections of Hydrogen fueling. Contact pressures are distributed over the entire beveled edge of the receptacle, thus reducing long-term wear.

- Dedicated Coupling Profile -The jaw and receptacle profiles are designed to eliminate the chance of misconnection to any other form of fuel such as CNG. This nozzle will only couple securely to an OPW "LW" Series Hydrogen receptacle.
- Durable Construction Heavy Duty 316 Stainless Steel construction provides unmatched corrosion resistance in this harsh and difficult refueling environment.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Agency Listings Pending.

Materials:

Body: 316L Stainless Steel with Stainless Steel Jaws Internal Components: 316L Stainless Steel

Seals: Specially blended polymers and elastomers specific to high pressure Hydrogen applications.

Specifications:

Min. Flow Rate: 2000 SCFM @ 3600 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

Weight: 1.52 kg (3.35 lb.)

Cv: 0.48

Design Pressure: 6250 psi (430 Bar)

Dimensions

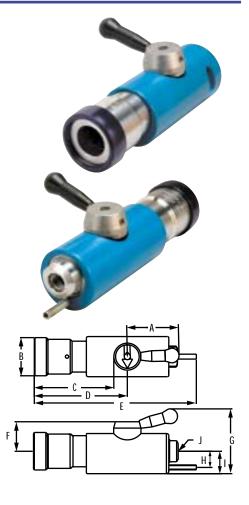
	mm	in.
A	66	2- 5/8
В	49	1-15/16
С	102	4
D	119	4- 11/16
E	208	8- 3/16
F	38	1-1/2
G	83	3- 1/4
Н	21	13/16
I	29	1-1/8

Straight Thread O-Ring Boss Port SAE J1926-6 (9/16 - 18UNF-2B)

ORDERING INFORMATION

Product No.	Inlet Thread Size	Max. Allowable Service Pressure
CW3600	SAE- 6, 9/16- 18 UNF	3600 psi (248 Bar)
CW5000	SAE- 6, 9/16- 18 UNF	5000 psi (345 Bar)

Connects to LW Series Hydrogen SAE Profile Receptacles



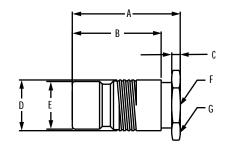
→ OPW "L" SERIES HYDROGEN FUELING RECEPTACLE

OPW "L" Series Hydrogen refueling receptacles are designed for use on of automobiles, light trucks, vans and buses. All OPW Hydrogen fueling receptacles are designed and built to exacting engineering specifications for fueling safety and efficiency. Must be used only in conjunction with OPW CH1000 Hydrogen Nozzles.

Features:

- Durable, Corrosion Resistant Construction - All OPW receptacles are made from 316 Stainless Steel. This material is proven to stand up in the harsh hydrogen refueling environment.
- Non-Contact Check Valve Each OPW receptacle contains a highly reliable non-contact check valve that opens when differential pressure is present during refueling.
- Unique Sealing System All OPW receptacles consist of a stainless steel poppet that aligns with a rearward facing captured seal located in the receptacle body. This arrangement prevents seal "wash-out" during high flow conditions and "cratering" due to debris. The seal material has exceptionally long service life, resists creep and deformation and has exceptional wear resistance under all operating pressure and temperature conditions. The poppet is also 316 stainless steel with a polished surface to provide reliable sealing at low back pressures.
- High Flow / Fast-Fill Capability The "L" Series receptacles have a large flow capacity. The flow path allows very high flows combined with low pressure drop and enhanced resistance to hydrate formation.
- ◆ Bulkhead or Straight Thread The "L" Series gives the user an economical choice of how they want the receptacle configured. The "L" series receptacles come with or without a filter and also with or without a bulkhead mounting on the receptacle housing. The external bulkhead receptacle offers a lower cost option than purchasing conventional stainless steel fittings. The LH5000 is a straight thread, no filter receptacle. The LJ5000 is a bulkhead mount, no filter receptacle. The LK5000 is a bulkhead mount, 0.4 mm rated filtered receptacle.

- Optional 0.4 mm Filter The LK5000/LK3600 receptacle has a filter located in front of the receptacle check valve. This captures most of the dirt and road grime that collects in and around the vehicle receptacle. The filter protects from impurities in the high velocity gas stream that can damage the receptacle seals as well as components in the vehicle fuel system. This is a serviceable item and can be removed and reinstalled with special tools supplied by OPW.
- Dedicated Coupling Profile -The receptacle profiles are designed to eliminate the chance of misconnection to any other form of fuel such as CNG.
- Individually Leak Tested and Inspected with Traceable Batch Numbers
- Agency Listings Pending



Materials:

Body: 316L Stainless Steel
Seals: Specially blended polymers
and elastomers specific to high
pressure Hydrogen applications.

Specifications:

Min. Flow Rate: 2000 SCFM @ 3600 psid Temperature Range: -40° C to 120° C (-40° F to 250° F)

Weight: .23 kg (0.50 lb.) Receptacles Receptacle Cv: 0.91 Non-filtered

0.83 Filtered
Design Pressure: 6250 psi (430 Bar)

Dimensions

			LJ500	00
	LH5000		LK50	00
	in	mm	in	mm
A	21/16	51	2⅓	66
<u>B</u> C	1 ¹¹ / ₁₆	42	111/16	42
	3/16	4	3/16	4
D	15/16	24	15/16	24
E F	7/8	23	7/8	23
	%-18 UNF-2B			
G	1¼ HEX			

LK3600 - "D" dimension = 25 All others are same as LJ/LK5000

ORDERING INFORMATION

Product No.	Inlet Thread Size	Max. Allowable Service Pressure	Description
LH5000	SAE- 6, 9/16- 18 UNF	5000 psi (345 Bar)	1-1/16" Hex ISO Profile
LJ5000	SAE- 6, 9/16- 18 UNF	5000 psi (345 Bar)	1-1/16" Hex without bulkhead mounting ISO Profile
LK5000	SAE- 6, 9/16- 18 UNF	5000 psi (345 Bar)	1-1/16" Hex without bulkhead mounting ISO Profile
LK3600	SAE- 6, 9/16- 18 UNF	3600 psi (248 Bar)	1-1/16" Hex without bulkhead mounting ISO Profile
LW3600	SAE- 6, 9/16- 18 UNF	3600 psi (248 Bar)	1-1/16" Hex SAE Profile
LW5000	SAE- 6, 9/16- 18 UNF	5000 psi (345 Bar)	1-1/16" Hex SAE Profile





OPW has developed an in-line breakaway that can be used in automotive compressed H_2 refueling applications. This unit will function consistently, independent of the inlet pressure.

Features:

- Durable, Corrosion-Resistant Construction - Stainless Steel and specially plated steel construction provide improved durability and corrosion resistance in harsh environments.
- Reconnectable Design Allows the component to be reused, reducing maintenance costs.
- Innovative Valve System The sealing system in this breakaway minimizes the amount of vent gas released during a drive-away incident.
- High Flow -The flow path has been matched to provide ample flow for all Hydrogen nozzles.
- Reduced Size and Weight -To allow for more applications where size may be a concern.
- Easy Installation -The in-line breakaway has SAE-6 O-ring fittings for easy installation in line between the dispenser and nozzle.
- Individually Inspected, Leak and Breakaway Tested, with Traceable Serial Numbers.
- ◆ Disconnection Force -150 lbs. (668 N).

Materials:

Body and Internal Components: 316L Stainless Steel

Seals: Specially blended polymers and elastomers specific to high pressure Hydrogen applications.

Specifications:

Min. Flow Rate: 2000 SCFM @ 3000 psid Temperature Range: -40° C to 85° C (-40° F to 185° F)

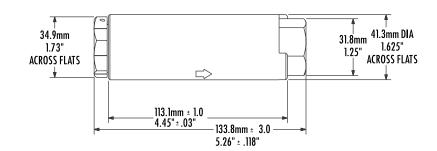
Weight: 2.3 lbs.

Cv: 1.17

Design Pressure: 6250 psi (430 Bar)







Ordering Information

Product No.	Inlet Thread Size	Outlet Thread Size	Max. Allowable Service Pressure
ILB-H	SAE - 6, 9/16 - 18 UNF (female)	SAE - 6, 9/16 - 18 UNF (female)	6250 psi (430 Bar)

OPW BDN-H VEHICLE DEFUELING NOZZLE

OPW has developed a new tool to safely depressurize vehicles. This valve can also be used to transfer fuel from one vehicle to another in the event of a breakdown on the side of the road, or be used in areas where no refueling station is available. This nozzle should be hooked up to a check valve, three-way valve, hose and appropriate storage tank or fueling device.

Key Features Include:

- Durable Corrosion-Resistant Construction - Stainless steel and brass provide improved durability and corrosion resistance in the harsh environments. All wetted components are Hydrogen fuel compatible (BDN-H).
- Jaw Lock Connection To ensure against damage to the receptacle during the defueling process.
- User Friendly Operation Low force actuation lever provides enough mechanical advantage to open receptacle check valves with up to 4500 psi pressure differentials.
- Good for both Filtered and Non-Filtered Receptacles - Shaft extenders are included inside the handle to open receptacle check valves.
- SAE-4 O-Ring Outlet Port Allows for standard fittings to be used when connecting nozzle to hose.
- Connects to NGV-1 style receptacles (BDN) and the proposed ISO Hydrogen receptacle standard (BDN-H).
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Agency Listings Pending.

Materials:

Body and Internal Components:

316L stainless steel

Specially formulated Seals: polymers and elastomers

specific to high pressure hydrogen applications.



Specifications:

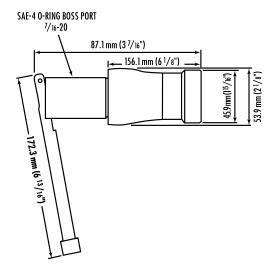
Temperature Range: -40° C to 85° C (-40° F to 185° F)

Weight: 1.35kg (3 lbs.)

Cv: 0.5

Design Pressure: 6250 psi (430 Bar)

NOTE: For Sherex/OPW Filtered Receptacles - order the TA031 Filter Removal and Installation Tool.



Ordering Information

Product No.	Outlet Thread Size	Max. Allowable Service Pressure
BDN-H for Hydrogen Service	SAE - 4, 7/16 - 20 UNF	5000 psi

· Connects to LH5000, LJ5000, LK5000 and LK3600 Series Hydrogen Receptacles





LPG AUTOGAS NOZZLES

OPW CleanEnergy™ Fueling Products offers an extensive line of patented LPG fueling products. Formerly the B/N Italy, Brevetti Nettuno brand, OPW CleanEnergy™ Fueling Products' LPG line of nozzles and accessories are manufactured in Bologna, Italy and deliver design and manufacturing excellence on more than 50 years of reliable gas supply equipment experience.



OPW AUTOGAS NOR100 SERIES LPG NOZZLE

The B/N OPW Autogas NOR100 with Trigger Release is designed for the Russian-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.



OPW AUTOGAS OT300 SERIES LPG NOZZLE

The B/N OPW Autogas OT300 is designed for the Italian-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.



OPW AUTOGAS NOT300 SERIES LPG NOZZLE

The B/N OPW Autogas NOT300 with Trigger Release is designed for the Italian-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.



OPW AUTOGAS OT400 SERIES LPG NOZZLE

The B/N OPW Autogas OT400 with Thumb Release is designed for the Italian-Type coupling. This style is the easiest to use of the locking LPG nozzles. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.



OPW AUTOGAS NOM500 SERIES LPG NOZZLE

The B/N OPW Autogas NOM500 with Trigger Release is designed for the Bayonet-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.



OPW AUTOGAS NOT600 SERIES LPG NOZZLE

The B/N OPW Autogas NOT600 with Trigger Release is designed for the 13/4" Stub ACME-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.



OPW AUTOGAS NOR100 SERIES LPG NOZZLE

The B/N OPW Autogas NOR100 with Trigger Release is designed for the Russian-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User Friendly Single-Action
 Operation Entire fueling operation is
 initiated by simply engaging nozzle to
 the receptacle with a single squeeze of
 the handle.
- Nozzle Lock Nozzle is safely locked into the fueling position until trigger on the lever is pushed to release nozzle.
- Jaw-Lock Technology Designed specifically for frequent coupling and uncoupling.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel, plated steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- ◆ Operating Range: -40° to 80°C.
- Ergonomic Design Insulated handle protects operator from temperature effects created by high flowing LP gas. Minimal force required to engage nozzle.

Materials

Body: Aluminum

Internal Components: Brass and Steel

Seals: Specially formulated polymers and elastomers specific to

LPG applications.

External Components: Plated

Steel/Stainless Steel.

Specifications

Maximum Operating Pressure: 350 psi LPG Discharge on Disconnect: 4.3cc

Weight: 1.60 kg

Locking Release: Lever on trigger Coupling Style: Russian Style Temperature Range: -40° C to 85° C

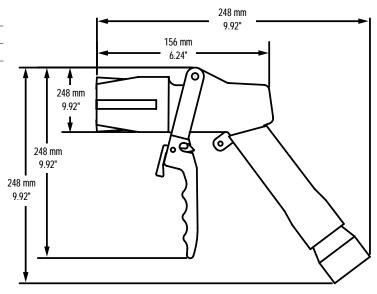
(-40° F to 185° F)



Ordering Information

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
NOR100	1" NPT	350 psi
OT321	3/4" NPT Adaptor	





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The B/N OPW Autogas OT300 is designed for the Italian-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User Friendly Single-Action
 Operation Entire fueling operation is initiated by simply engaging nozzle to the receptacle with a single squeeze of the hand.
- Hammer-Lock Technology Maximum durability. Designed specifically for frequent coupling and uncoupling.
- Ergonomic Design Insulated handle protects operator from temperature effects created by high flowing LP gas. Minimal force required to engage nozzle.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle. Once engaged, will not disengaged until released by operator.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Replaceable Rubber Cover Deflects venting LP gas away from operator's hand.

Materials

Body: Aluminum

Internal Components: Brass and Steel

Seals: Specially formulated polymers and elastomers specific to

LPG applications.

External Components: Brass, Stainless

Steel, Anodized Aluminum

Specifications

Maximum Operating Pressure: 350 psi LPG Discharge on Disconnect: 4.3cc

Weight: 1.40 kg

Locking Release: Trigger or Lever

Coupling Style: Italian Style

Temperature Range: -40° C to 85° C

(-40° F to 185° F)



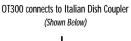


OT420 Rubber Cover

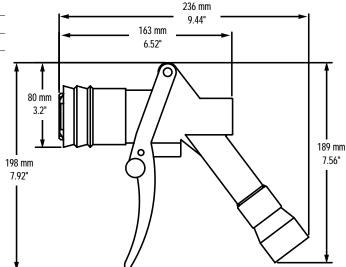
Ordering Information

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
OT300	1" NPT	350 psi
OT321	3/4" NPT Adaptor	

OT321











OPW AUTOGAS NOT300 SERIES LPG NOZZLE

The B/N OPW Autogas NOT300 with Trigger Release is the NEW B/N design for the Italian-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User Friendly Single-Action
 Operation Entire fueling operation is
 initiated by simply engaging nozzle and
 receptacle with a single squeeze of the
 hand.
- Nozzle Lock Nozzle is safely locked into the fueling position until trigger on the lever is pushed to release nozzle.
- Hammer-Lock Technology Maximum durability. Designed specifically for frequent coupling and uncoupling.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Replaceable Rubber Cover Deflects venting LP gas away from operator's hand.
- Ergonomic Design Insulated handle protects operator from temperature effects created by high flowing LP gas. Minimal force required to engage nozzle.

Materials

Body: Aluminum

Internal Components: Brass and

Steel

Seals: Specially formulated polymers

and elastomers specific to LPG applications.

External Components: Aluminum,

Stainless Steel, Brass

Specifications

Maximum Operating Pressure: 350 psi LPG Discharge on Disconnect: 4.3cc

Weight: 1.56 kg

Locking Release: Trigger on Lever

Coupling Style: Italian Style

Temperature Range: -40° C to 85° C

(-40° F to 185° F)





OT420 Rubber Cover

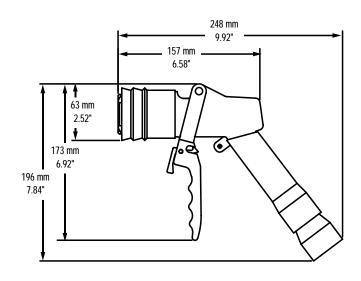
Ordering Information

<u> </u>		
Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
		301 VICC 1 1033 G 10
NOT300	1" NPT	350 psi
OT321	3/4" NPT Adaptor	





NOT300 connects to Italian Dish Coupler (Shown Above)



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The B/N OPW Autogas OT400 with Thumb Release is designed for the Italian-Type coupling. This style is the easiest to use of the locking LPG nozzles. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User Friendly Single-Action Operation

 Entire fueling operation is initiated by simply engaging nozzle to the receptacle with a single squeeze of the hand.
- Nozzle Lock Nozzle is safely locked into the fueling position until trigger on the lever is pushed to release nozzle.
- Hammer-Lock Technology Maximum durability. Designed specifically for frequent coupling and uncoupling.
- Ergonomic Design Insulated handle protects operator from temperature effects created by high flowing LP gas. Minimal force required to engage nozzle.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers
- ◆ Low Vent Volume upon disconnect: 1.3cc
- Replaceable Rubber Cover Deflects venting LP gas away from operator's hand.
- Vinyl Hand Insulator –
 Protects operator from temperature
 effects created by high flow LP gas.

Materials

Body: Aluminum

Internal Components: Brass and Steel

Seals: Specially formulated polymers and elastomers specific to

LPG applications.

External Components: Aluminum,

Stainless Steel, Brass

Specifications

Maximum Operating Pressure: 350 psi LPG Discharge on Disconnect: 1.3cc

Weight: 1.56 kg

Locking Release: push button on body

Coupling Style: Italian Style

Temperature Range: -40° C to 85° C

(-40° F to 185° F)





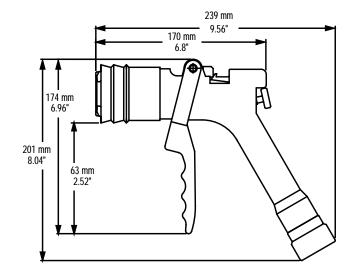
OT420 Rubber Cover

Ordering Information

ordering information		
Product No.	Inlet Thread Size	Maximum Allowable
		Service Pressure
OT400	1" NPT	350 psi
OT321	3/4" NPT Adaptor	_











OPW AUTOGAS NOM500 SERIES LPG NOZZLE

The B/N OPW Autogas NOM500 with the NEW design trigger release is designed for the Bayonet-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- User Friendly Single-Action
 Operation Entire fueling operation is
 initiated by simply engaging nozzle to
 the receptacle with small twist and a
 single squeeze of the hand.
- Nozzle Lock Nozzle is safely locked into the fueling position until trigger on the lever is pushed to release nozzle.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Certifications Pending
- Locks onto the Vehicle Connector Simply by rotating nozzle 30°.
- Replaceable Rubber Cover Deflects venting LP gas away from operator's hand.
- Ergonomic Design Insulated handle protects operator from temperature effects created by high flowing LP gas. Minimal force required to engage nozzle.

Materials

Body: Aluminum

Internal Components: Brass and Steel

Seals: Specially formulated polymers and elastomers specific to

LPG applications.

External Components: Aluminum and

Stainless Steel

Specifications

Maximum Operating Pressure: 350 psi LPG Discharge on Disconnect: 1.3cc

Weight: 1.50 kg

Locking Release: Lever on trigger Coupling Style: Bayonet Style Temperature Range: -40° C to 85° C

(-40° F to 185° F)



Rubber Cover

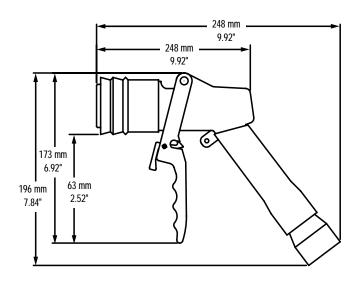
Ordering Information

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
NOM500	1" NPT	350 psi
OT321	3/4" NPT Adaptor	





NOM500 connects to the bayonett style coupler (Shown Above)



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The B/N OPW Autogas NOT600 with the new trigger release design for the 1-3/4" Stub ACME-Type coupling. Nozzle inlet has 1" NPT threads. All B/N OPW LPG fueling nozzles are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Nozzle Lock Nozzle is safely locked into the fueling position until trigger on the lever is pushed to release nozzle.
- Nozzle Threads Onto Vehicle Adaptor By rotating sleeve until tight, then squeeze lever to initiate flow.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.
- Certifications Pending
- Insulated handle Protects operator from temperature effects created by high flow LP gas.
- Nozzle fits Existing European Dispenser Holsters. For Other Holster Designs Please Contact B/N OPW for Special Adaptors

Materials

Body: Aluminum

Internal Components: Brass, Steel

and Plastic

Seals: Specially formulated polymers

and elastomers specific to LPG applications.

External Components: Stainless Steel

and Ergal (Brass Optional)



Maximum Operating Pressure: 350 psi LPG Discharge on Disconnect: 1.9cc

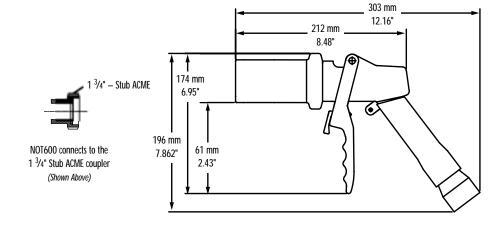
Weight: 1.80 kg

Locking Release: Trigger on Lever Coupling Style: 1¾" Stub ACME Style Temperature Range: -40° C to 85° C

(-40° F to 185° F)

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Product No.	Inlet Thread Size	Sleeve Material	Maximum Allowable Service Pressure
NOT600	1" NPT	Ergal Sleeve	350 psi
NOT600B	1" NPT	Brass Sleeve	350 psi
OT321	3/4" NPT Adaptor		









LPG BOTTLE FILLING PINCERS

OPW CleanEnergy™ Fueling Products offers an extensive line of patented LPG fueling products. Formerly B/N Italy, the Brevetti Nettuno brand, OPW CleanEnergy™ Fueling Products' LPG line of nozzles and accessories are manufactured in Bologna, Italy and deliver design and manufacturing excellence on more than 50 years of reliable gas supply equipment experience.



OPW BOTTLE FILLING PINCER PSA910 SERIES LPG VALVE

The B/N OPW Pincer PSA910 is designed as the standard for bottle filling pincers. Nozzle inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.



OPW BOTTLE FILLING PINCER PSA930 SERIES LPG VALVE

The B/N OPW Pincer PSA930 pincer with adjustable hook is designed for flexibility in filling larger bottles up to 22mm max diameter. Pincer inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.



OPW BOTTLE FILLING PINCER PSA200 SERIES LPG VALVE

The B/N OPW Pincer PSA200 pincer is designed for the TAP POL valve. Pincer inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.



OPW BOTTLE FILLING PINCER PSA970 SERIES LPG VALVE

The B/N OPW Pincer PSA970 valve. Pincer inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.



OPW BOTTLE FILLING PINCER PSA290 SERIES LPG VALVE

The B/N OPW Pincer PSA290. Pincer inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.

OPW BOTTLE FILLING PINCER PSA950 SERIES LPG VALVE

The B/N OPW Pincer PSA950 pincer is designed for filling camping bottles with 3/8" couplings. Pincer inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.

OPW BOTTLE FILLING PINCER PSA130 SERIES LPG VALVE

The B/N OPW Pincer PSA130 pincer inlet has 1/2" NPT threads. All B/N OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.



OPW BOTTLE FILLING PINCER PSA910, PSA930 and PSA200 SERIES LPG VALVES

The OPW Pincer PSA910 is designed as the standard for bottle filling pincers. The OPW Pincer PSA930 pincer with adjustable hook is designed for flexibility in filling larger bottles up to 22mm max diameter. The OPW Pincer PSA200 valve is designed for the TAP POL pincer. The OPW PSA910, PSA930, and PSA200 pincer inlet has 1/2" NPT threads. All OPW LPG pincers are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Positive Shut Off Valve can only be opened when attached to a bottle to be filled.
- Ergonomic Design One simple and convenient motion ensures connection and dispensing.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.

Materials

Body: Aluminum

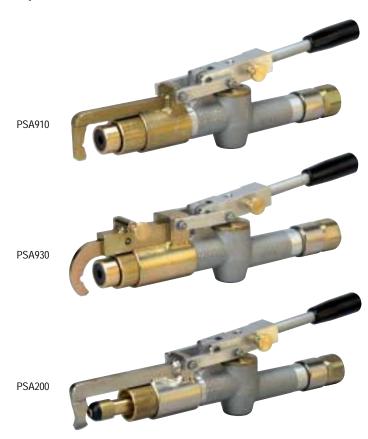
Internal Components: Brass and Steel
Seals: Specially formulated polymers and elastomers specific to

LPG applications.

Specifications

Maximum Operating Pressure: 350 psi Temperature Range: -40° C to 85° C

(-40° F to 185° F)



Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
PSA910	1/2 NPT	350 psi
PSA930	1/2 NPT	350 psi
PSA200	1/2 NPT	350 psi
1 3/1200	1/2 111 1	300 psi

OPW BOTTLE FILLING PINCER PSA950, PSA970, PSA290 and PSA130 SERIES LPG VALVE

The OPW Pincer valves are designed for filling camping bottles with 3/8" couplings. The PSA950, PSA970, PSA130 and PSA290 series pincer inlet has 1/2" NPT threads. All OPW LPG valves are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Positive Shut Off Valve can only be opened when attached to a bottle to be filled.
- Ergonomic Design One simple and convenient motion ensures connection and dispensing.
- Durable Construction Heavy-duty brass, aluminum and stainless-steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Ease of Use Incorporates a single plane 360 degree inlet swivel.
- Safety Will not dispense gas until securely engaged onto an appropriate receptacle.
- Individually Leak Tested and Inspected with Traceable Serial Numbers.



Body: Aluminum

Internal Components: Brass and

Stainless Steel

Seals: Specially formulated polymers

and elastomers specific to LPG

applications.

Specifications

Maximum Operating Pressure: 350 psi Temperature Range: -40° C to 85° C (-40° F to 185° F) PSA970
PSA290

SPECIAL ORDERS ONLY
MINIMUM QUANTITY = 10 PIECES
ALLOW 6 TO 8 WEEKS DELIVERY

Product No.	Inlet Thread Size	Maximum Allowable Service Pressure
PSA950	1/2" NPT	350 psi
PSA970	1/2" NPT	350 psi
PSA290	1/2" NPT	350 psi
PSA130	1/2" NPT	350 psi





LPG FUELING PRODUCTS ACCESSORIES

OPW CleanEnergy™ Fueling Products offers an extensive line of patented LPG fueling products. Formerly B/N Italy, the Brevetti Nettuno brand, OPW CleanEnergy™ Fueling Products' LPG line of nozzles and accessories are manufactured in Bologna, Italy and deliver design and manufacturing excellence on more than 50 years of reliable gas supply equipment experience.



OPW LPG ACCESSORIES OAS100 1" NOZZLE BREAKAWAY

The B/N OPW OAS100 1" Breakaway is designed for in-line use with any LPG System. Valve inlet has 1" NPT threads. All B/N OPW valves are built to exacting engineering specifications for fueling safety and efficiency.



OPW LPG ACCESSORIES OAS400 3/4" NOZZLE BREAKAWAY

The B/N OPW OAS400 3/4" Breakaway with Anchor Strap is designed for in line use with any LPG System. Valve inlet has 3/4" NPT threads. All B/N OPW valves are built to exacting engineering specifications for fueling safety and efficiency.



OPW LPG ACCESSORIES OC123 3/4" DISPENSER SHEAR VALVE

The B/N OPW OC123 3/4" Dispenser Shear Valve is designed to shut off LPG flow in the event of an impact to the dispenser. The Shear valve minimizes the damage to both the dispenser and supply piping. All B/N OPW shear valves are built to exacting engineering specifications for fueling safety and efficiency.



OPW LPG ACCESSORIES ADAPTERS - OT318 1 3/4" ACME TO ITALIAN

The B/N OPW Adapters are designed to allow for the best nozzle solution no matter what receptacle you have. All B/N OPW accessories are built to exacting engineering specifications for fueling safety and efficiency.



OPW LPG ACCESSORIES ADAPTERS - OT322 ITALIAN TO 1 3/4" ACME

The B/N OPW Adapters are designed to allow for the best nozzle solution no matter what receptacle you have. All B/N OPW accessories are built to exacting engineering specifications for fueling safety and efficiency.



OPW LPG ACCESSORIES OVG100 NOZZLE SHUT-OFF SERVICE VALVE

The B/N OPW OVG100 Nozzle Shut-Off Service Valve allows you to service the LPG nozzle without having to drain the entire system. All B/N OPW accessories are built to exacting engineering specifications for fueling safety and efficiency.





OPW LPG ACCESSORIES OAS100 1" NOZZLE RECONNECTABLE BREAKAWAY

The OPW OAS100 1" NPT Breakaway is designed for in-line use with any LPG System. Valve inlet has 1" NPT threads. All OPW valves are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Durable Construction Heavy-duty plated steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Reconnectable Design Allows the components to be reused, reducing maintenance costs.
- Ease of Use Simply insert in LPG supply line between nozzle and hose.
- Individually Leak Tested and Inspected.

Materials

Body: Steel Plated

Internal Components: Plated Steel and

Brass

Seals: Specially formulated polymers

and elastomers specific to

LPG applications.

Specifications

Maximum Operating Pressure: 350 psi

Separation Force: 150-200 lbs.

Weight: 0.350 kg

Temperature Range: -40° C to 85° C

(-40° F to 185° F)



Product No.	Inlet	Outlet	Maximum Allowable Service Pressure
OAS100	1" NPT Female	1" NPT Male	350 psi



OPW LPG ACCESSORIES OAS400 3/4" NOZZLE RECONNECTABLE BREAKAWAY

The B/N OPW OAS400 3/4" Breakaway with Anchor Strap is designed for in-line use with any LPG fueling system. Valve inlet has 3/4" NPT threads. All B/N OPW valves are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Durable Construction Heavy-duty brass, aluminum and steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Added Safety Anchor strap allows for installation anywhere, and added assurance.
- Patented Front Compression Collar Provides Ease of Use – Breakaway can be reconnected without tools by simply turning the front ring to compress the locking sleeve. Reinsert the breakaway half of the safety valve and then unscrew front ring to allow locking sleeve to return to its original position.
- Individually Leak Tested and Inspected.

Materials

Body: Steel (Brass Optional)
Internal Components: Brass and Steel
Seals: Specially formulated polymer

Specially formulated polymers and elastomers specific to

LPG applications.

Specifications

Maximum Operating Pressure: 350 psi Separation Force: 150-200 lbs.

Weight: 1.05 kg

Temperature Range: -40° C to 85° C

(-40° F to 185° F)



Product No.	Thread Size	Material	Maximum Allowable Service Pressure
OAS400	3/4" NPT Female	Steel	350 psi
OAS400B	3/4" NPT Female	Brass	350 psi

OPW LPG ACCESSORIES OC123 3/4" DISPENSER SHEAR TYPE BREAKAWAY

The OPW OC123 3/4" Dispenser Shear Valve is designed to shut off LPG flow in the event of a vehicle driveaway. The breakaway minimizes the damage to both the dispenser and refueling nozzle. All OPW shear type breakaway are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Durable Construction Heavy-duty steel and brass construction provides excellent performance in the harsh fueling environment.
- Reduced Maintenance Helps to prevent damage to fueling facilities and equipment.
- Ease of Use Connect directly to dispenser outlet. Hose assembly then threads into end of breakaway.
- Poppet Configuration Utilizes a double poppet design where both sides close when breakaway separates.

Materials

Body: Plated Steel and Brass Internal Components: Brass and Steel Seals: Specially formulated polymers

and elastomers specific to LPG applications.

Specifications

Maximum Operating Pressure: 350 psi Temperature Range: -40° C to 85° C

(-40° F to 185° F)



Ordering Information

Product No.	Thread Size	Maximum Allowable Service Pressure
OC123	3/4" NPT Female	350 psi



OPW LPG ACCESSORIES ADAPTORS

OT318 1¾" ACME TO ITALIAN OT322 ITALIAN TO 1¾" ACME

The OPW Adaptors are designed to allow for the best nozzle solution no matter what receptacle you have. All OPW accessories are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

 Durable Construction – Heavy-duty steel, aluminum and brass construction provides excellent corrosion resistance in the harsh fueling environment.

Materials

Body: Steel, Aluminum and Brass Seals: Specially formulated polym

s: Specially formulated polymers and elastomers specific to

LPG applications.

Specifications

Maximum Operating Pressure: 350 psi Temperature Range: -40° C to 85° C

(-40° F to 185° F)





Product No.	Description	Maximum Allowable Service Pressure
OT318	13/4" ACME to Italian	350 psi
OT322	Italian to 13/4" ACME	350 psi





OPW LPG ACCESSORIES OVG100 1" NOZZLE SHUT-OFF SERVICE VALVE

The B/N OPW OVG100 Nozzle Shut-Off Service Valve allows you to service the LPG nozzle without having to drain the entire system. All B/N OPW accessories are built to exacting engineering specifications for fueling safety and efficiency.

Key Features Include:

- Durable Construction Heavy-duty steel construction provides excellent corrosion resistance in the harsh fueling environment.
- Reduced Maintenance Time Allows for faster and easier nozzle service.
- Individually Leak Tested and Inspected.
- Reduced Spillage –Connects between hose outlet and nozzle inlet to reduce spillage when removing nozzle during field service and maintenance.

Materials

Body: Steel

Internal Components: Steel

Seals: Specially formulated polymers and elastomers specific to

LPG applications.

Specifications

Maximum Operating Pressure: 350 psi Temperature Range: -40° C to 85° C (-40° F to 185° F)



Product No.	Inlet	Outlet	Maximum Allowable Service Pressure
OVG100	1" NPT Female	1" NPT Male	350 psi

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FUEL CONTROL SYSTEMS/TANK GAUGING/ HOSE RETRACTORS

OPW CleanEnergy™ Fueling Products offers fuel control systems and LPG tank gauging through OPW Fuel Management Systems and hose retractors through its POMECO/OPW brand.



Petro Vend System2 Fuel Control System by OPW

The Petro Vend System2 works in all commercial fueling environments, including CNG and LPG applications. With its extensive selection of commercial and bank card network interfaces and enhanced appearance, the System2 invites your commercial customers to fuel up fast and easy.



Petro Vend K800™ Fuel Control System by OPW

The Petro Vend K800 Fuel Control System is commonly used in fleet fueling environments, including CNG and LPG applications, to provide security, accountability and control for up to 16 hoses simultaneously.



OPW SiteSentinel™ 1 Tank Gauge System

The OPW SiteSentinel 1 provides a cost-effective tank gauge solution for LPG, gasoline, and diesel. SiteSentinel 1 LPG tank gauge features include basic tank inventory, alarm functions and reporting in an icon-based system with graphics to communicate site management information. Magnetostrictive probe technology offers a high degree of measurement accuracy for LPG applications.



OPW EECO Galaxy Tank Gauge System

The EECO Galaxy provides advanced fuel management capabilities, maximum system flexibility, remote communications, and is available in 9 languages. Magnetostrictive probe technology offers a high degree of measurement accuracy for LPG applications.



POMECO/OPW Hose Retractors

POMECO/OPW offers spring balance and counterweight hose retractors designed to keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards.





PETRO VEND SYSTEM2 FUEL CONTROL SYSTEM BY OPW

The Petro Vend System2 works in all commercial fueling environments, including CNG and LPG applications. With its extensive selection of commercial and bank card network interfaces and enhanced appearance, the System2 invites your commercial customers to fuel up fast and easy.

System Features Include:

- Up to 16 C/OPTs can be added to a single system to control the largest fueling facilities
- Graphics display guides users through the fueling process with pictures and text
- Includes 4 function buttons next to display for ease of use
- Accepts magnetic, optical and/or ChipKey* readers for maximum flexibility and reliability
- Optional full alpha keypad allows entry of vehicle tags and other alpha information
- "Smart" weathershield automatically closes to protect card readers and receipt chute
- Fiber-optically lit keypads and LED backlit display for easy fueling at night
- Compatible with most System2 fuel site controller software versions
- Thermostatically-controlled heater for reliable operation in the coldest climates
- Advanced noise-filtering circuitry for greater reliability
- Single conduit for power and communication wires reduces installation costs
- Built-in diagnostics for simplified troubleshooting

Networks

- The C/OPT interfaces with these and many other authorization and commercial fueling networks
 - Pacific Pride
 - Wright Express
 - EFS
 - TCH
 - T-Chek
 - Fuelman/Gascard
 - CFN
 - Comdata
 - bank cards
- Easily field-upgradeable for your future network requirements





Petro Vend FUEL CONTROLS



Fuel Site Controller

Pump Control Terminal (PCT)

- Uses any combination of 3 different pump control methods:
 - PCT can be mounted in pedestal for low-cost, convenient wiring
 - Indoor-mounted PCT for low-cost retrofit to existing wiring
 - Universal Pump Controller (UPC) for electronic pumps and/or self-serve console compatibility (contact Petro Vend for specific applications)
- Pump handle monitor
- 4 adjustable fueling timers per hose position:
 - maximum fueling time
 - maximum time to activate pump handle
 - maximum time until first pulse
 - maximum time between pulses
- Counts in gallons or liters from thousandths to full units
- Pulse ratio is fully adjustable per hose (1:1 to 9999:1—in one pulse increments)
- Double-pole relay contacts
- Manual bypass can be activated on-site or remotely via modem
- Pump sentry provides protection from faulty pulsers

Fuel Site Controller (FSC)

- Compact desktop unit has status display, test and reset controls on front panel
- Communication ports for journal printer, PC/CRT, serial pass-through port, modem and Petro-Net
- Odometer reasonability checking
- Card expiration date checking
- Nine-character "name field" available in each card record
- Selectable or automatically generated PINs
- Individual drivers and vehicles can be grouped into accounts
- Mailbox messaging—up to 100 messages can be assigned to individual cards or accounts to be displayed at the C/OPT
- Extensive reporting capability
- Optional report package generates reports by driver, vehicle and account
- Daily and monthly credit allocations per card/key/account
- Selectable automatic lockout after three incorrect PIN entries

System Features Include:

- Menu-driven programming with on-line help for most software versions
- Runs most existing K2500 software versions
- System management easily performed on-site or remotely via modem
- Automatic daily pump totals
- Pump and product totals on demand
- Shift totals
- Tank inventory levels with low-level warning
- System2 pump totalizers can be set to correspond to actual pump totalizers
- 16 quantity restriction levels
- 16 product restriction combinations
- Odometer or hourmeter recording
- User can be prompted at each transaction to enter miscellaneous data-code of up to 10 digits
- Single or dual card/key/cardless entry operation (driver/vehicle)
- Card/key/account lockout
- Programmable C/OPT displays messages and user prompts
- Office journal printer included for transaction log and reports
- A discount can be assigned for each account
- A price may be assigned to each product to be recorded for each transaction
- Programmable system open/close modes
- Password protection for ultimate security
- Self-test and diagnostic utilities for start-up and troubleshooting

Memory

- Up to 105,000 proprietary cards, or 15,000 transactions, with memory level 4 (contact Petro Vend for specific applications)
- Up to 16 million proprietary cards with Structured Memory Software (contact Petro Vend for specific applications)
- Flexible memory allocation optimizes card/key/account and transaction storage
- 4 memory levels available

PC Software

- Phoenix[™] for Windows backup and restore utility
- Phoenix Plus[™] for Windows complete fuel management software
- Cardlink comprehensive billing packages
- Brochures and demonstration disks available.

Specifications

C/OPT

Readers (any two of the following): Magnetic-stripe Card Optical Card ChipKey[®]

Displays (both have LED backlights):

Standard Graphics (3° x 4° — 320 x 240 pixels)

Optional LCD (2 lines x 20 characters)

Receipt Printer (optional):

The high-resolution, thermal receipt printer has an integral cutter and large paper roll

Keypads (standard and optional alpha):

The keypads are constructed of a UV-stable weather-resistant material over stainless steel contacts

Cabinet Dimensions:

15° H x 18 1/2° W x 11° D (38cm H x 46cm W x 28cm D)

Pedestal Dimensions:

48° H x 14° W x 8° D (122cm H x 36cm W x 20cm D)

Operating Temperature Range:

- 40° F to 122° F (- 40° C to 50° C)

Power Requirements:

120/240 VAC (switch selectable), 50/60 Hz; 250 watts max.

3/4 HP, 120/240 VAC Pulser Compatibility:

1:1 to 9,999:1 (in one pulse increments)

Pulser Speed:

6,000 pulses/minute (mechanical) 100,000 pulses per minute (electronic)

Pulser Type: Single channel

Pulser Duty Cycle: 50%

Operating Temperature Range (mounted in C/OPT):

- 40° F to 122° F (- 40° C to 50° C)

Cabinet Dimensions of Wall-mounted Indoor PCT:

25° H x 16° W x 5° D (64cm H x 41cm W x 13cm D)

Power Requirements of Indoor PCT: 120 VAC, 60 Hz; 100 watts max. (standard) 240 VAC, 50 Hz; 100 watts max. (optional) Operating Temperature Range of Indoor PĊTs:

32° F to 122° F (0° C to 50° C)

Fuel Site Controller

Cabinet Dimensions:

2° H x 10° W x 11° D (5cm H x 25cm W 28cm D)

Power Requirements:

120 VAC, 60 Hz; 50 watts max. (standard) 240 VAC, 50 Hz; 50 watts max. (optional)

Operating Temperature Range (indoors): 32° F to 122° F (0° C to 50° C)

Serial Communication Ports:

Petro-Net (RS-485) Printer (RS-232) Terminal (RS-232) Modem (RS-232) Pass-through (RS-232) 2 Auxiliary Ports (RS-232)

Maximum Petro-Net Distance: 5000 feet (1524m)



Contact / 12 VDC Electronic

Pulser Power Supply:

12 VDC; 40 milliamps max./pulser



PETRO VEND K800™ FUEL CONTROL SYSTEM BY OPW

The Petro Vend K800 Fuel Control System is commonly used in fleet fueling environments including CNG and LPG applications, to provide security, accountability and control for up to 16 hoses simultaneously.

System Features:

- System controls 16 hoses per fuel island simultaneously (maximum 16)
- Up to 4 fuel island terminals can be connected per location
- Can be activated either by card (optical or magnetic stripe) or ChipKey®
- Can lock out any key or card
- Card storage up to 10,000 users and transactions storage up to 1800 records
- Basic Inventory tracking
- Personal Identification Number (PIN) entry with auto-lockout
- Manual bypass switch for each hose
- Four adjustable fueling timers per hose position
- System captures odometer entries and miscellaneous 10-digit numbers
- Provides 4 levels of authorized time
- Restricts product and quantity for any key, card or account
- Restricts number of transactions per day for any key or card
- Adjustable pump time-outs
- Pump handle monitor and pulser sentry
- Diagnostic test programs for system start-up and troubleshooting
- Dot matrix printer uses plain paper
- Standard report package groups cards together by account and provides itemized reports including MPG, CPM and price extensions
- Inventory, pump and product total reports

PC Software

- K800 Phoenix[™] for Windows backup and restore utility
- K800 Phoenix Plus[™] for Windows backup and restore plus fuel management reporting



Fuel Island Terminal

Fuel Site Controller (FSC)

- Menu-driven programming with on-screen help
- Serial communication ports for printer, terminal and modem

Fuel Site Controller

Petro Vend

- Desktop controller can also be conveniently wall-mounted
- Easily interfaces to existing personal computers

Fuel Island Terminals (FIT)

- Programmable display messages
- Durable alloy keypad
- High-impact door overlay maintains its appearance for years
- Built-in pulser power supply and thermostatically-controlled heater
- Petro-Net (2-wire) twisted pair connects to fuel site controller up to 500 feet away
- Built-in pump control relays
- Matching pedestal included for easy installation

Specifications

Fuel Island Terminal

Dimensions: 12" H x 13" W x 10" D (30.5cm H x 33cm W 25.5cm D)

Power Requirements: 120/230 VAC, 50-60 Hz; 100 watts max.

Operating Temperature Range -40° F to 122° F (-40° C to 50° C)

Fuel Site Controller

Dimensions:

2" H x 9" W x 11" D (5cm H x 23cm W 28cm D)

Power Requirements:

120 VAC, 50-60 Hz; 50 watts max.

Operating Temperature Range 32° F to 122° F (0° C to 50° C)



OPW SITESENTINEL 1 - TANK GAUGE SYSTEM

The SiteSentinel 1 is designed to remove all language barriers. It is completely icon based, providing graphics to communicate every function from tank deliveries to inventory monitoring and alarms. System reports are printed on a graphic printer so no training or interpretation is required. Site information is available with the touch of a button. System configuration is made simple by PC-based software that also allows convenient remote access.

Centralized Information Management for LPG Applications

A higher degree of measurement accuracy is now available to the LPG industry as a result of Magnetostrictive probe technology. Automated tank inventory measurements, deliveries, and any changes in tank status are transmitted to the SiteSentinel 1. PC-based software provides remote access to data for enhanced site management.

- More accurate inventory measurement is provided by Magnetostrictive probe
- Unique design for quick and easy installation
- Easy tank programming and operation
- System interfaces directly to most POS devices – eliminating additional LPG interfaces
- PC based software for remote communications
- Install in both above and below ground LPG tanks

LPG Reports:

- Inventory
- Delivery
- High/low product (reports & alarms)

Comprehensive Fuel Management for Gasoline and Diesel Applications

- Four dedicated function buttons give one-touch access to real-time inventory data, delivery status, alarm conditions and leak detection
- Up to 16 probes and/or sensors can be connected in any combination
- Gross or net corrected tank volume, product level, water level and temperature are displayed for individual tanks
- Programmable ALD (Automatic Leak Detection) can be set to perform monthly or annually required leak tests
- System is capable of performing on-demand leak test for individual or all tanks

Tank Gauge Reports:

- Inventory
- Delivery
- Leak detection
- Sensor
- High/low product, high-high product, low-low product
- High water, high-high water

Display and Printer:

- Graphic Display uses international user-friendly icons
- Optional external graphics printer

OPW TANK GAUGES



SiteSentinel 1

Communication:

- SiteConnect PC software makes local or remote site configuration easy
- Flash memory allows remote downloading of new or updated system software features
- System interfaces with most POS devices
- System provides input / output capability to connect external devices for alarm management
- RS-232 serial communicate ports are provided to communication with a PC or modem

Quality Assurance:

 System safety approvals for most countries





OPW EECO GALAXY TANK GAUGE SYSTEM

The Galaxy monitoring system is designed to meet the demands of the international market for greater control of petroleum inventories. This modular fuel management system provides a variety of options including connection to external devices like overfill alarms and POS terminals. PC-based software allows this information to be exported into existing business management programs to increase control of valuable site resources.

Centralized Information Management For LPG Applications

A higher degree of measurement accuracy is now available to the LPG industry as a result of Magnetostrictive probe technology. Automated tank inventory measurements, deliveries, and any changes in tank status are transmitted to the EECO Galaxy. PC-based software provides remote access to data for enhanced site management.

- More accurate inventory measurement is provided by Magnetostrictive probe
- Unique design for quick and easy installation
- Easy tank programming and operation
- System interfaces directly to most POS devices – eliminating additional LPG interfaces
- PC-based software for remote communications
- Install in both above and below ground LPG tanks

LPG Reports:

- Inventory
- Delivery
- Shift
- Event history
- High/low product (reports & alarms)

Comprehensive Fuel Management for Gasoline and Diesel Applications

- OPW Tank Gauge systems provide everything from tank monitoring equipment to fuel management software. Specifically designed for use around the world, the Galaxy can be configured for numerous inventory management and leak detection applications to provide maximum flexibility.
- Optional Galaxy fuel management software automates the collection of inventory, delivery and metered sales information to provide fuel loss and variance analysis allowing greater management control of site data.
- Galaxy communicates to a variety of external devices including POS, PC, DCD, enabling more comprehensive business management.
- The Galaxy is available in most languages including Chinese, Dutch, English, French, Japanese, Korean, Portuguese, Russian, and Spanish.

Tank Gauge Reports:

- Inventory
- Delivery
- Shift Report
- Precision Reconciliation
- Leak Test History
- Last Passed Test
- Tank Level Monitor Alarm Status
- Leak Sensor Alarm Status
- Event History
- System Set-up





EECO Galaxy

Display and Printer:

- Graphic display for easy viewing of information
- Optional external graphics printers

Communication:

- Standard: two RS-232 ports and one RS-422/RS-232 port
- Optional: three RS-232 and two RS-422/RS-232
- System provides input / output capability to connect external devices for alarm management

System Diagnostics:

- Continuously running internal system diagnostics detect equipment malfunctions
- System stores 250 alarm and system trouble events for historical records and troubleshooting

Quality Assurance:

System safety approvals for most countries



POMECO/OPW 102 SERIES SPRING BALANCE SINGLE & MULTIPLE HOSE RETRACTORS

POMECO/OPW offers a variety of hose retractors, including spring balance - single, multiple hose, and counterweight hose retractors.

Features

- Easy to use The spring-loaded reel and stretch-resistant cable provide smooth and steady tension throughout hose extension and return.
- Easy to maintain The removable sideplate provides full access to the mechanism for easy tension adjustment and unit maintenance. A convenient safety thumb screw is provided to lock the reel in place during tension adjustment.
- Field adjustable for various hose, nozzle, swivel, breakaway combinations - No need for upgrading components if a breakaway or swivel is added to the hose assembly. Simply change the tension setting on the spring-loaded hose reel.
- Multiple mounting options The POMECO/OPW 102 single hose retractor housing is tapped on the top for bolting to overhead crossbars, and on the side for mounting to vertical posts. The 102 is available as a retractor kit (including post, retractor and mounting hardware) or as separate components. Models are also available for aboveground storage tank (AST) applications. AST models include a 44" (112 cm) post with a freestanding base and an optional nozzle hook/hood kit.

Materials

Housing: cast aluminum Cable: black polyester Post: aluminum



102 Multiple Hose

FOR INFORMATION ON MULTIPLE HOSE RETRACTORS CONTACT OPW CUSTOMER SERVICE:

In the US at (800) 422-2525 Outside the US at (513) 870-3315 or (513) 870-3261





102 Single Hose

Single Hose-Vertical Retractor Kits (Box, Post, Bracket, Foot, & Hardware)

		Clamp Fits					
		Hos	e O.D.	Hose	e I.D.	Wei	ght
Model	Mounting Method	in.	mm.	in.	mm.	lbs.	kg.
6102-1039P	39" Retractor/Post Kit	(Hos	se Clamp	Not Inc	luded)	12	5.4
6102-1078P	78" Retractor/Post Kit	(Hos	se Clamp	Not Inc	luded)	14	6.4
6102-AST	AST (No Hood Kit)	(Hos	se Clamp	Not Inc	luded)	9	4.1
6102-ASTH	AST (Standard Hood Kit)	(Hos	se Clamp	Not Inc	luded)	12	5.4
6102-ASTHS	AST(Short Spout Hood Kit)	(Ho	se Clamp	Not Inc	luded)	12	5.4

Single Hose-Separate Retractor Components (Box Only)

		Clamp Fits					
		Hose O.D.		. Hos	Hose I.D.		ght
Model	Mounting Method	in.	mm.	in.	mm.	lbs.	kg.
6102-1000	Overhead Crossbar	(Hos	e Clar	np Not Inclu	ded)	7	3.2
6102-1000P	Vertical Post*	(Hose	e Clan	np Not Includ	ded)	7	3.2
6102-4000	Overhead Crossbar	1³/8"	35	1"	25	7	3.2
6102-4000P	Vertical Post*	1³/8"	35	1"	25	7	3.2
6102-6000	Overhead Crossbar	1 ¹ /32"	26	5/8" or 3/4"	16 or 19	7	3.2
6102-6000P	Vertical Post*	1 ¹ /32"	26	5/8" or 3/4"	16 or 19	7	3.2
6102-8000	Overhead Crossbar	1"	25	⁵ /8"	16	7	3.2
6102-8000P	Vertical Post*	1"	25	⁵ /8"	16	7	3.2
+001150010011		D400 70 D4		2400 44/2400 0	10T (

*POMECO/OPW recommends using P102-39, P102-78 or P100-3F/P100-44/P100-2AST for use with 102 Series retractors. Other size tubes and clamps available upon request.

Single Hose-Options/Replacements Options/Replacement Parts

Part #	Description
P102-39	Post Kit, 39"(99cm), 11/6" x 2"
P102-78	Post Kit, 78"(198cm), 11/2" x 2"
P102-12	12' Replacement Cable
P100SPOOL	. 1500' Spool of Retractor Cable
P102-02	Replacement Cable Guide
P102-240	Replacement Reel
P100-3F	AST Replacement Base
P100-44	AST Replacement Post,
	2" x 2" x 44"
P100-2AST	Sliding Bracket (AST)

Part #	Description
P102-02	Replacement Cable Guide
P102-12	Replacement Cable-12 ft
P102-240	Replacement Reel
P102-0	Replacement Housing
P102-2	Sliding Bracket
P102-3	Foot (Bottom)
PDW3BR	Bracket Only for 06102-DW3
PDW4BR	Bracket Only for 06102-DW4



POMECO 100 COUNTERWEIGHT HOSE RETRACTORS

POMECO 100 Counterweight Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards.

Materials

Housing: impact-resistant plastic

Cable: black polyester Post: aluminum (2"x 2")

Features

- Easy to use Counterweights are precisely matched to each hose configuration to ensure that a minimal pulling force is needed throughout hose extension.
- Easy to maintain The 100 has just two moving parts, ensuring a long service life with a minimum of maintenance.
- Multiple hose configurations -The 100 is available in a multitude of configurations to meet virtually any hose/nozzle configuration.
- CNG/LPG Applications: -Contact OPW CUSTOMER SERVICE.



100-Series Single Hose Counterweight

Ordering Specifications

		Clamp Fits									
Model*	Hose Configuration	Hose Length		Hose O.D.		Hose I.D.		Height		Weight	
		ft.	meters	in.	mm.	in.	mm.	in.	cm.	lbs.	kg.
6100-4000	Conventional	12-14'	3.7-4.3	1 ³ /8"	35	1"	25	79"	201	33	15.0
6100-5000	Conventional	15-18'	4.6-5.5	1 ³ /8"	35	1"	25	92"	234	38	17.2
6100-6000	Conventional	12-14'	3.7-4.3	1 ¹ /32"	26	⁵ /8" or ³ /4"	16 or 19	79"	201	30	13.6
6100-7000	Conventional	15-20'	4.6-6.1	1 ¹ /32"	26	⁵ /8" or ³ /4"	16 or 19	92"	234	31	14.1
6100-8000	Conventional	12-14'	3.7-4.3	1"	25	⁵ /8"	16	79"	201	29	13.2
6100-9000	Conventional	15-20'	4.6-6.1	1"	25	⁵ /8"	16	92"	234	30	13.6

^{*}Add a "P" to the end model number for black epoxy coated mounting post. EXAMPLE: 6100-4000P





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