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CLEAN ENERGY CNG
FUELING PRODUCTS
2017 CATALOG

OPW
A DOVER COMPANY

www.opwglobal.com

OPW CleanEnergy Fueling Products

CNG Fueling Products Dedicated to Product Innovation and Quality

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

CLEANENERGY FUELING PRODUCTS

Helping You Make the World a Greener, Cleaner Place.

We are dedicated to continuous innovation in the design, engineering and manufacture of high-quality components used for alternative fueling applications, such as CNG (compressed natural gas). A division of OPW, the global leader in fueling solutions since 1892, CleanEnergy Fueling Products is a name synonymous with innovation, quality, reliability and Customer service. OPW CleanEnergy Fueling Products offers you a complete selection of alternative fueling products to meet your specification. Each product is designed and built to exacting standards for your fueling safety and efficiency.

You believe that blue skies, clean water and being green are good business. Through environmentally safe, alternative fueling systems, we can have a world of cleaner air, cleaner water and sustainable fueling. OPW CleanEnergy Fueling Products is Leading the Way in fueling your future, offering global solutions for Compressed Natural Gas products, including Nozzles, Breakaways, Adaptors and Factory Tested Hose Assemblies.

CNG Fueling Products

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Information may change at any time. Data contained herein shall not be used for construction or engineering purposes

CleanEnergy Nozzle Compatibility Matrix

			CNG Breakaways		NEW CNG Breakaways & CNGBREAKKITS			Standard NGV1 CNG Receptacles NOTE: These use Receptacle Fit Gage RINGO-0001						High Flow CNG Receptacles NOTE: These use Receptacle Fit Gage RINGO-0005						Nozzle Gages	
		CNG Nozzles	ILB-1	ILB-5	FLB 1000 & CNG BREAK KIT-1000	FLB 5000 & CNG BREAK KIT-5000	NGVLB	LB30	LD30	LE30	LB36	LD36	LE36	CL40	CL4078	CL50	CL5000	CL5016	CL5078	JAWGO -1	JAWGO -5
NGV1	Type 1	PGXXP30	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	✓	X
		PGXXP36	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	✓	X
		CT1000SS (3,000 psi/ 200 bar)	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	✓	X
		CT1000P36S (3,600 psi/ 250 bar)	✓	X	✓	X	✓	X	X	X	✓	✓	✓	X	X	X	X	X	X	✓	X
	Type 2 & 3	CC300P30S (3,000 psi/ 200 bar)	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	✓	X
		CC300P36S (3,600 psi/ 250 bar)	✓	X	✓	X	✓	X	X	X	✓	✓	✓	X	X	X	X	X	X	✓	X
		CC600S (3,000 psi/ 200 bar)	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	✓	X
		CC600P36S (3,600 psi/ 250 bar)	✓	X	✓	X	✓	X	X	X	✓	✓	✓	X	X	X	X	X	X	✓	X
		CC600 Series Nozzle including 3-Way Valve (3WV series) (3,600 psi/ 250 bar & 3,000 psi/ 200 bar)	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	✓	X
	Type 3	CC250 (3,000 psi/ 200 bar)	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	X
		CC270 (3,000 psi/ 200 bar)	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	X
Bus / High Flow	Type 1	CT5000S (3,600 psi/ 250 bar)	X	✓	X	✓	✓	X	X	X	X	X	X	✓	✓	✓	✓	✓	✓	X	✓
	Type 2	CC6000 (3,600 psi/ 250 bar)	X	✓	X	✓	✓	X	X	X	X	X	X	✓	✓	✓	✓	✓	✓	X	✓
CNG Defueling		BDN (3,600 psi/ 250 bar)	✓	X	✓	X	✓	✓	✓	X	✓	✓	X	X	X	X	X	X	X	✓	X

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CleanEnergy Hose Kit Compatibility Matrix

Fully Factory Assembled and Tested

				Time Fill			Light Duty (LD)					Heavy Duty (HD)		Extra Heavy Duty (XHD)	Defueling	
				2' Whip Hose / 14' Main Hose	2' Whip Hose / 18' Main Hose	8' Whip Hose / 12' Main Hose	2' Whip Hose / 8.3' Main Hose	2' Whip Hose / 8.3' Main Hose	2' Whip Hose / 10' Main Hose	2' Whip Hose / 13' Main Hose	2' Whip Hose / 13' Main Hose	2' Whip Hose / 8.3' Main Hose	2' Whip Hose / 8.3' Main Hose	2' Whip Hose / 8.3' Main Hose	10' Whip Hose / 2' Main Hose	25' Whip Hose / 25' Main Hose
			Hose Kit Component	TFCNG KIT-14C36	TFCNG KIT-20B36	TFCNG KIT-20D36	LDCNG KIT-11	LDCNG KIT-11 FLB	LDCNG KIT-12	LDCNG KIT-15A	LDCNG KIT-20B36	HDCNG KIT-11	HDCNG KIT-11FLB	XHDCNG KIT-10	LDCN DPK-12	XFLDCNG KIT-50
Nozzles	NGV1	Type 1	PGXXP30	X	X	X	Contact OPW for Quote					X	X	X	X	X
			PGXXP36	X	X	X	Contact OPW for Quote					X	X	X	X	X
			CT1000SS	X	X	X	X	X	X	✓	X	X	X	X	X	X
			CT1000P36S	X	X	X	✓	✓	✓	X	X	X	X	X	X	✓
		Type 2 & 3	CC600 Nozzle including 3-Way Valve	✓	✓	✓	X	X	X	X	✓	X	X	X	X	X
	Bus / High Flow	Type 1	CT5000S	X	X	X	X	X	X	X	X	✓	✓	✓	X	X
	Defueling		BDN	X	X	X	X	X	X	X	X	X	X	X	✓	✓ with 3WV-46D
Fill Line Break-aways	Standard Duty		ILB-1	X	X	X	✓	X	X	X	X	X	X	X	X	X
			FLB-1000	X	X	X	X	X	X	X	X	X	X	X	✓	X
			CNGBREAK KIT-1000	✓	✓	✓	X	✓	✓	✓	✓	X	X	X	X	✓
Fill Line Break-aways	Bus / High Flow		ILB-5	X	X	X	X	X	X	X	X	✓	X	X	X	X
			FLB-5000	X	X	X	X	X	X	X	X	X	X	X	X	X
			CNGBREAK KIT-5000	X	X	X	X	X	X	X	X	X	✓	✓	X	X
Vent Line Breakaways			NGVLB	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	X	✓
Hose Retractor			6102-CNG	X	X	X	✓	✓	✓	✓	✓	X	X	X	X	✓
			6102-CNG2	X	X	X	X	X	X	X	X	X	X	X	X	X
			6102-CNG3	X	X	X	X	X	X	X	X	✓	✓	X	X	X
			6102-CNG4	✓	✓	✓	X	X	X	X	X	X	X	X	X	X

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 are used throughout the world.

200 Series (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.

300 Series (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.

600 Series (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.

CNG Type 2 Fueling System

The OPW CleanEnergy CNG 3-Way Valve and Type 2 Nozzle features the latest in industrial and commercial fueling innovations. A Fueling System which bridges the gap between convenience and comfort, without sacrificing flow or reliability. Ergonomically designed to be easy to use and prevent unnecessary wear and tear during the fueling process.

NEW

1000 Series (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.

Pistol Grip Series Self-Service Nozzles (NGV1 Type 1)

OPW Pistol Grip 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.

5000 Series (Type 1)

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.

6000 Series (Type 2)

OPW 6000 Series nozzles are designed for extremely high-flow public and private CNG fueling systems when connected to OPW CL50 series receptacles. Applications include quick-fill, self-service fueling of transit buses and large trucks.

BDN Vehicle Defueling Nozzle

OPW has developed this 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.

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Materials

Body: Stainless steel

Jaws: Stainless steel

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

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. (See Compatibility Matrix)

Specifications:

Min. Flow Rate: 800 SCFM @ 3000 psid

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

Cv: 0.55

MAWP: 4532 psi (312.5 Bar)

Ordering Specifications

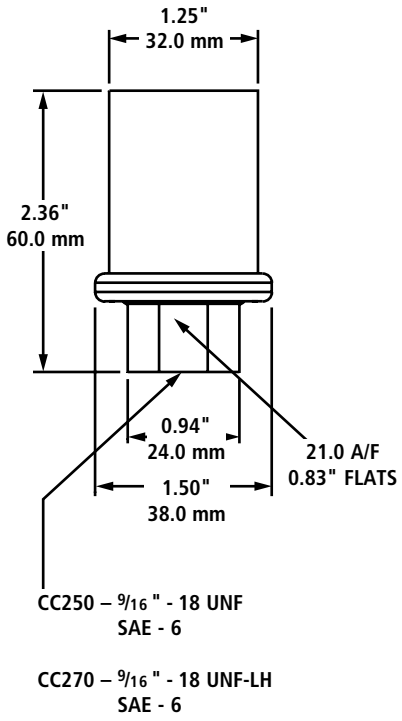
Product #	Inlet Thread Size	Service Pressure	Weight
CC250	SAE - 6, 9/16" - 18 UNF	P30 - 3000 psi (200 bar)	0.53 lb. - 0.24 kg
CC270	SAE - 6, 9/16" -18 UNF-LH (Left-Handed) For use with Fuelmaker™ home fueling device.	P30 - 3000 psi (200 bar)	0.53 lb. - 0.24 kg

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

CC200 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.

CC270



CC250 – 9/16 " - 18 UNF
SAE - 6

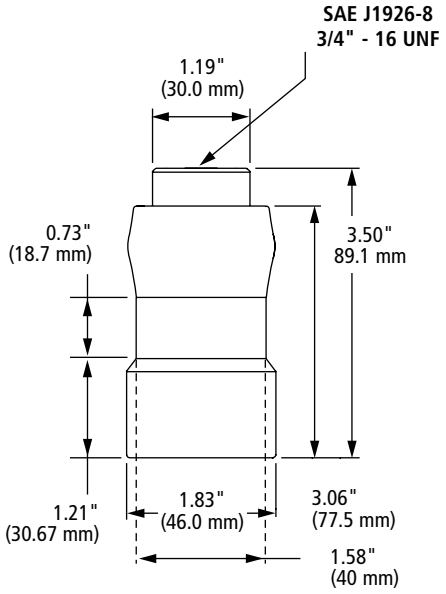
CC270 – 9/16 " - 18 UNF-LH
SAE - 6

Listings and Certifications

Fil-Mate™ CC300 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.

CC300



Materials

Body: Brass

Jaws: Stainless steel

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

CC300P30S Coupling End

CC300P30S Hose Connection End

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 "easy-guide" front alignment ring to smooth connection on hard to reach receptacles.
- **Durable Construction** - Brass & Stainless Steel 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. (See Compatibility Matrix)

Specifications:

Min. Flow Rate: 1000 SCFM @ 3000 psid

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

Cv: 1.05

MAWP: 4532 psi (312.5 Bar)

Ordering Specifications

Product #	Inlet Thread Size	Color	Service Pressure	Weight.
CC300P30S	SAE - 8, 3/4" - 16 UNF	Blue	P30 - 3000 psi (200 bar)	1.30 lb. 0.59 kg
CC300P36S	SAE - 8, 3/4" - 16 UNF	Yellow	P36 - 3600 psi (250 bar)	1.30 lb. 0.59 kg

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

Listings and Certifications

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Materials

Body: Brass

Jaws: Stainless steel

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

CC600P36S Coupling End

CC600P36S Hose Connection End

Features

- **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.
- **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.
- **Internal Filter Option -** to capture gas-borne 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. Filter is stainless steel, 250 mesh.
- **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 -** brass and 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. (See Compatibility Matrix)
- **Individually Leak Tested and Inspected with Traceable Serial Number**.

Specifications:

Min. Flow Rate: 1500 SCFM @ 3000 psid

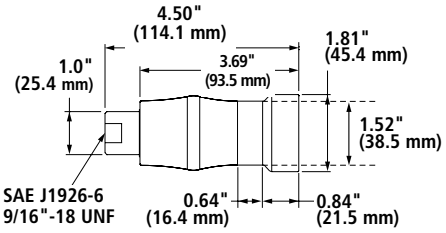
Temperature Range: -40° F to 185° F (-40° C to 85° C)

Cv: 1.05

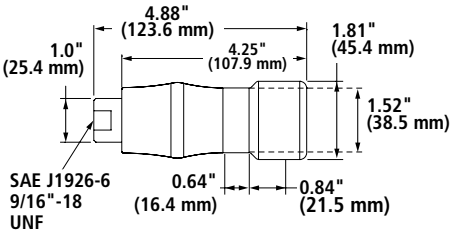
MAWP: 4532 psi (312.5 Bar)

FIL-MASTER™ CC600 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.



CC600S



CC600P36S

Ordering Specifications

Product #	Inlet Thread Size	Color	Service Pressure	Weight.
CC600P30NFS	SAE - 6, 9/16" - 18 UNF	Blue	P30 - 3000 psi (200 bar)	1.34 lb. - .61 kg
CC600S	SAE - 6, 9/16" - 18 UNF	Blue	P30 - 3000 psi (200 bar)	
CC600P36NFS	SAE - 6, 9/16" - 18 UNF	Yellow	P36 - 3600 psi (250 bar)	
CC600P36S	SAE - 6, 9/16" - 18 UNF	Yellow	P36 - 3600 psi (250 bar)	

NOTE: NF nozzles do not include 200 micron filter.
Connects to any L-Series-NGV-1 CNG Receptacle

Listings and Certifications

CRN

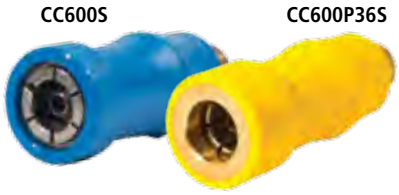
See page 33 for Canadian Registration Number

CNG Type 2 Fueling System

The OPW CleanEnergy CNG 3-Way Valve and Type 2 Nozzle features the latest in industrial and commercial fueling innovations. A Fueling System which bridges the gap between convenience and comfort, without sacrificing flow or reliability. Ergonomically designed to be easy to use and prevent unnecessary wear and tear during the fueling process.

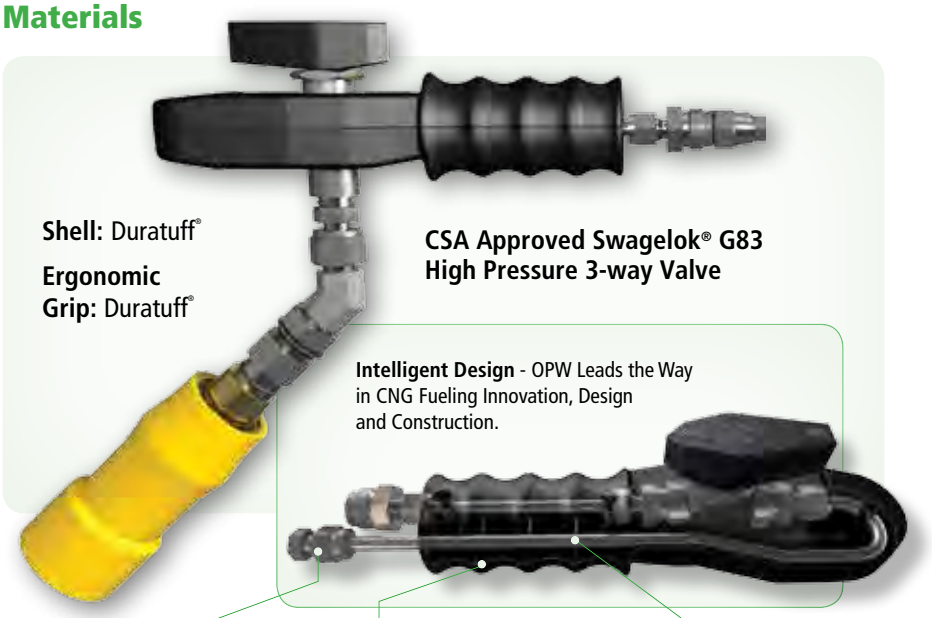
FIL-MASTER™ CC600 Series Fast-Fill/ Fleet-Fill Nozzles (NGV1 Type 2 or 3)

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.



Product #	Inlet Thread Size	Color	Service Pressure
CC600S	SAE - 6, 9/16"-18 UNF	Blue	P30 - 3000 psi (200 bar)
CC600P36S	SAE - 6, 9/16"-18 UNF	Yellow	P36 - 3600 psi (250 bar)

Materials

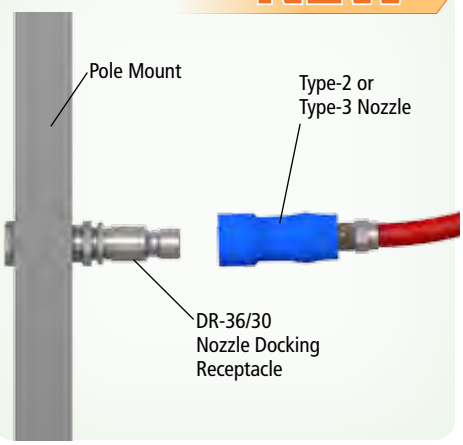


Features

- **Hose Connection Options** - Time-Fill Applications - 4/4 Sized Hose (1/4" Inlet and 1/4" Vent). Fast-Fill Applications - 4/6 Sized Hose (3/8" Inlet and 1/4" Vent)
- Ergonomic Grip - Duratuff® Grip provides maximum user comfort and control
- **Duratuff® Shell** - Specifically designed to handle operational wear-and-tear as well as protecting your vehicle from dents and scratches during fueling.
- **CNG Type 2 Fueling System Extension Options** - Offers the convenience of connection flexibility. Operators can connect to vehicles regardless of the application. Use one of four different connection options; 3/4", 45°, 4" Rigid or 17" Flex Hose to help in fueling difficult-to-reach receptacles or tanks.
- **CC600S Series Nozzle** - OPW CC600S (3,000 psi) and CC600P36S (3,600 psi) Nozzles feature an internal filter to capture gas-borne debris commonly found in CNG Fueling systems.

Listings and Certifications

NEW

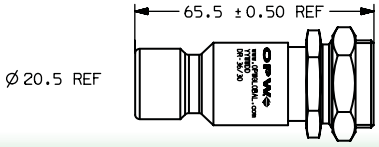


DR-36/30 Nozzle Docking Receptacle

This is a Nozzle Docking receptacle to be used ONLY for Type-2 & Type-3 nozzle mounting purposes. There are no working internals, therefore it may only be used as a docking storage device. **NOTE:** It shall not be used to dock a Type-1 nozzle.

Ordering Specifications

Product #	Description
DR-36/30	Nozzle Docking Receptacle



Nozzle Types

Type 1- Nozzle with an integrated vent valve system. This vent valve is controlled by the single lever operation which will safely vent the gas trapped between the receptacle check valve and the nozzle inlet valve. After the venting process, the nozzle will disconnect from the vehicle's receptacle.

Type 2- The vent valve operating mechanism is external to the nozzle. Venting is required prior to disconnection of this type of nozzle.

Type 3- The fueling hose is automatically depressurized below 50psi (3.4Bar) at dispenser shutdown. The nozzle will vent low pressure gas between the receptacle check valve and the nozzle inlet valve.

NOTE: This device shall not be installed on a vehicle nor be connected to a pressurized source of any type.

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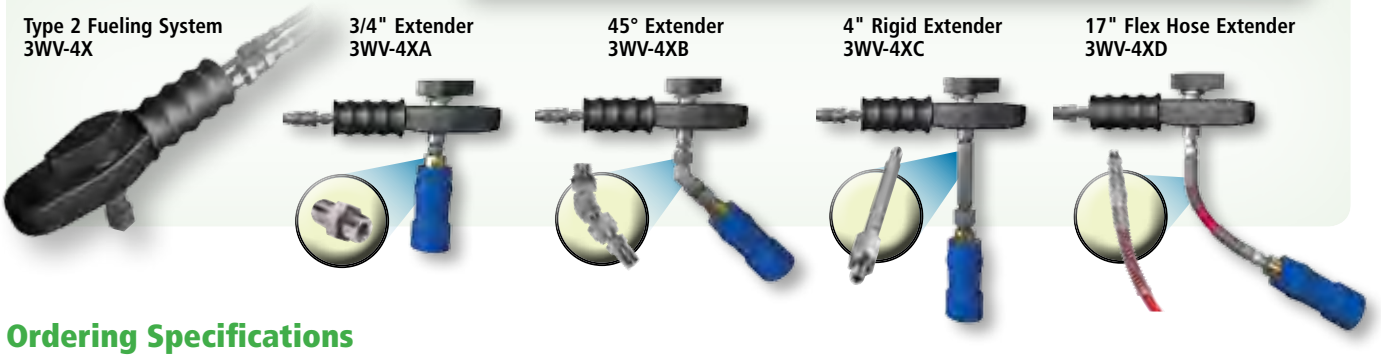
CNG

CNG Type 2 Fueling System

FOUR EXTENDER OPTIONS TO CHOOSE FROM



Ordering Specifications

Product #	Description	Connection Fill	Connection Vent	Approx. Weight	Service Pressure
3WV-44	3-way valve, cover and outlet tubing, connections	4-SAE-AN	4-SAE-AN	1.4 lb. (.63 kg)	up to 5,000 psi / 345 bar
3WV-44A	3-way valve, cover, outlet tubing				
3WV-44B	3-way valve, cover, outlet tubing and 45 degree extender				
3WV-44C	3-way valve, cover, outlet tubin, connections and 4" rigid extender				
3WV-44D	3-way valve, cover, outlet tubing, connections and whip-hose extender				
3WV-44AP30	3-way valve, cover, outlet tubing and 3/4" extender & CC600S	4-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,000 psi / 200 bar
3WV-44BP30	3-way valve, cover, outlet tubing and 45 degree extender & CC600S				
3WV-44CP30	3-way valve, cover, outlet tubing and 4" rigid extender & CC600S				
3WV-44DP30	3-way valve, cover, outlet tubing and whip-hose extender & CC600S				
3WV-44AP36	3-way valve, cover, outlet tubing and 3/4" extender & CC600P36S	4-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,600 psi / 250 bar
3WV-44BP36	3-way valve, cover, outlet tubing and 45 degree extender & CC600P36S				
3WV-44CP36	3-way valve, cover, outlet tubing and 4" rigid extender & CC600P36S				
3WV-44DP36	3-way valve, cover, outlet tubing and whip-hose extender & CC600P36S				
3WV-46	3-way valve, cover, outlet tubing	8-SAE-AN	4-SAE-AN	1.416 lb. (.63 kg)	up to 5,000 psi / 345 bar
3WV-46A	3-way valve, cover, outlet tubing and 3/4" extender				
3WV-46B	3-way valve, cover, outlet tubing and 45 degree extender				
3WV-46C	3-way valve, cover, outlet tubing and 4" rigid extender				
3WV-46D	3-way valve, cover, outlet tubing and whip-hose extender				
3WV-46AP30	3-way valve, cover, outlet tubing and 3/4" extender and CC600S	8-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,000 psi / 200 bar
3WV-46BP30	3-way valve, cover, outlet tubing and 45 degree extender and CC600S				
3WV-46CP30	3-way valve, cover, outlet tubing and 4" rigid extender and CC600S				
3WV-46DP30	3-way valve, cover, outlet tubing and whip-hose extender and CC600S				
3WV-46AP36	3-way valve, cover, outlet tubing and 3/4" extender and CC600P36S	8-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,600 psi / 250 bar
3WV-46BP36	3-way valve, cover, outlet tubing and 45 degree extender and CC600P36S				
3WV-46CP36	3-way valve, cover, outlet tubing and 4" rigid extender and CC600P36S				
3WV-46DP36	3-way valve, cover, outlet tubing and whip-hose extender and CC600P36S				

NEW

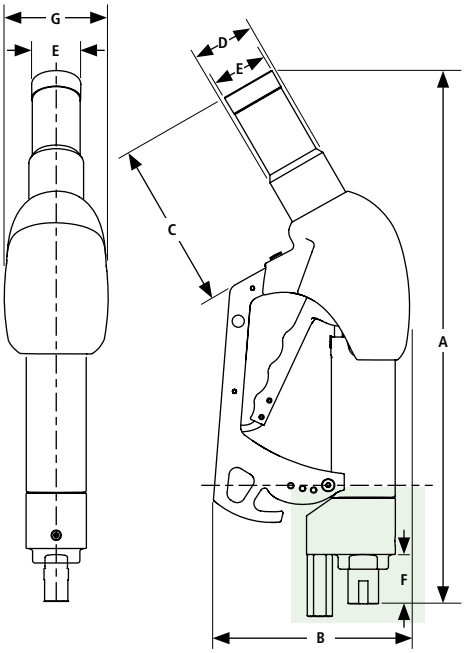
Pistol Grip Series Self-Service Nozzles (NGV1 Type 1)

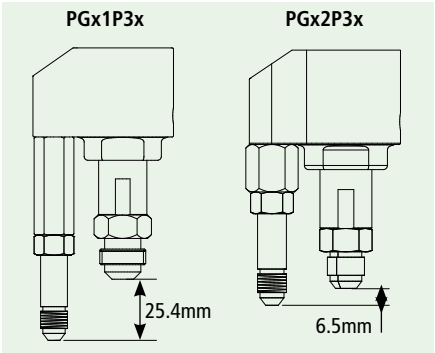
OPW Pistol Grip Series Self-Service Nozzles are designed for high-flow public and private CNG fueling systems. Applications include quick-fill, self-service fueling of automobiles, light trucks, shuttle buses and vans.

Dimensions Without Adaptors

Pistol Grip Nozzle

	in	mm
A	13.80	350.5
B	5.07	128.7
C	4.35	110.6
D	1.57	40.0
E	1.41	36.0
F	1.27	32.4
G	2.85	72.3





PGN Inlet Adaptor

Inlet Adaptors available to fit common hose configurations.

PGx1P3x	PGN Inlet Adaptor, 25.4 mm Offset
PGx2P3x	PGN Inlet Adaptor, 6.5 mm Offset

Materials

Body: Stainless Steel & Aluminum

Jaws: Stainless steel

Seals: Specialty polymers and elastomers for NGV applications

Inlet Filter & Magnet in hand guard are standard

Features

- **High-Flow/Fast-Fill Capability -** provides quick fueling of medium storage vehicles. Internal seals are designed for fast-fill NGV fueling.
- **Ergonomic Design -** simple squeeze and release motion ensures connection and dispensing by all users. Insulated body to protect operator's hand.
- **Directed Vent -** captures the gas vented at disconnect and directs it out of the nozzle via a 1/4" stainless steel vent 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 the 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.
- **User-Friendly Lever-Action Operation (see visuals below) -** engage nozzle and receptacle with a familiar lever action. 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, squeeze and release the lever to automatically stop the flow of gas into the vehicle, vent the trapped gas and release the nozzle from the receptacle. Designed for public or private self-service applications, no attendant is needed.
- **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.
- **Meets NGV1 Fueling Standard -** can be used to fuel any vehicle with an NGV1 profile receptacle. (See Compatibility Matrix)
- **Individually Leak Tested and Inspected with Traceable Serial Number**

Specifications:

Min. Flow Rate: 1200 SCFM @ 3000 psid

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

MAWP: 4532 psi (312.5 Bar)

Insert nozzle onto receptacle.

Squeeze-and-click to FILL.

Squeeze-and-click to VENT.

Listings and Certifications

Pat. 9,527,720

Pending Listings and Certifications

CRN

OPW A DOVER COMPANY
9393 Princeton-Glendale Road • Hamilton, Ohio USA 45011 • Phone: (800) 422-2525 • Fax: (800) 421-3297

Ordering Specifications

EXAMPLES:
PG41P36 = #4 GUARD, #1 INLET HOSE CONFIGURATION; 3600 PSI (250 BAR)
PG82P30 = #8 GUARD, #2 INLET HOSE CONFIGURATION; 3000 PSI (200 BAR)

Pistol Grip Nozzle	Guard Style	Inlet Hose Configuration	Service Pressure	Connection Fill	Connection Vent	Approximate Weight
PG	3	1	P36	3/4-16 UNF-2A, -8 37° JIC	-4 37° JIC	4.6 lbs.
	4	1	P36	3/4-16 UNF-2A, -8 37° JIC	-4 37° JIC	4.6 lbs.
	8	1	P36	3/4-16 UNF-2A, -8 37° JIC	-4 37° JIC	4.6 lbs.
	3	2	P36	9/16-18 UNF-2A, -6 37° JIC	-4 37° JIC	4.6 lbs.
	4	2	P36	9/16-18 UNF-2A, -6 37° JIC	-4 37° JIC	4.6 lbs.
	8	2	P36	9/16-18 UNF-2A, -6 37° JIC	-4 37° JIC	4.6 lbs.
PG	3	1	P30	3/4-16 UNF-2A, -8 37° JIC	-4 37° JIC	4.6 lbs.
	4	1	P30	3/4-16 UNF-2A, -8 37° JIC	-4 37° JIC	4.6 lbs.
	8	1	P30	3/4-16 UNF-2A, -8 37° JIC	-4 37° JIC	4.6 lbs.
	3	2	P30	9/16-18 UNF-2A, -6 37° JIC	-4 37° JIC	4.6 lbs.
	4	2	P30	9/16-18 UNF-2A, -6 37° JIC	-4 37° JIC	4.6 lbs.
	8	2	P30	9/16-18 UNF-2A, -6 37° JIC	-4 37° JIC	4.6 lbs.

*NOTE: Inlet filter and magnet in hand guard are standard.

Guard Style

Inlet Hose Adaptors

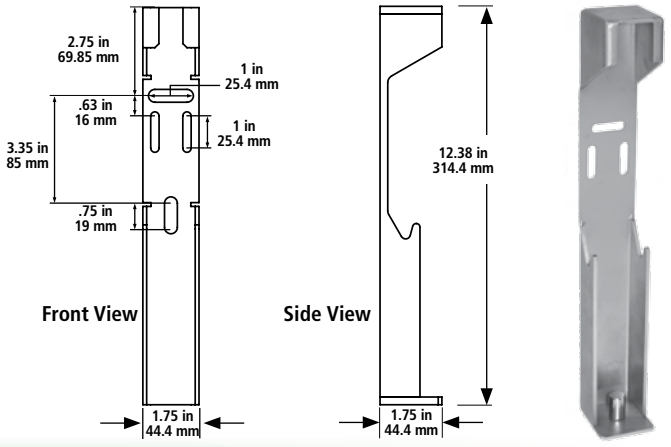
1	Compatible with most CNG hose configurations in USA using -8 fill and -4 vent
2	Compatible with most hose configurations using -6 fill and -4 vent

Parts

	P36 Yellow	P30 Blue
#3 Guard Assembly	210072	210240
#4 Guard Assembly	210055	210239
#8 Guard Assembly	210073	210242
Protective Sleeve	209018	209801
Top Cover	209802	209803
Inlet Filter	001065	

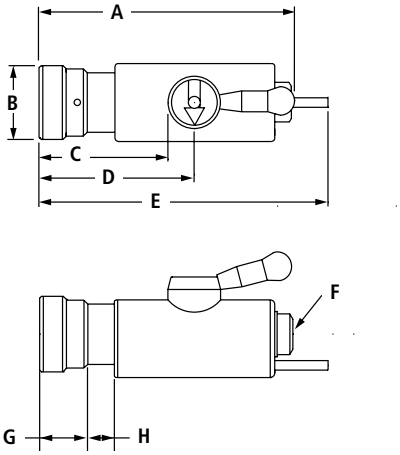
Dispenser Mount

211290	Stainless steel, II gage compatible with 3, 4 and 8 guards shown above



CT1000 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.

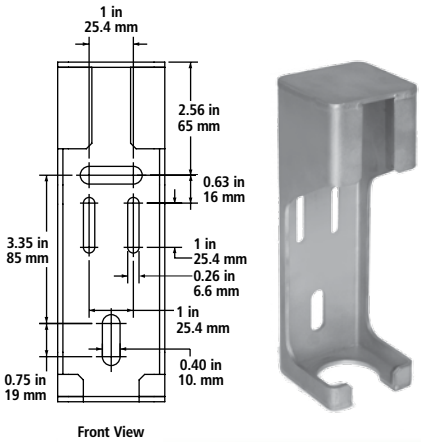


Dimensions

	CT1000SS		CT1000P36S / CT1000LS	
	in	mm	in	mm
A	6.69	167.8	7.32	185.8
B	1.94	48.9	1.94	48.9
C	3.37	85.1	4.0	102.1
D	4.06	102.4	4.69	119.4
E	7.5	191.0	8.19	208.0
F	Straight Thread O-ring Boss Port SAE-6 J1926 (9/16" - 18 UNF-2B)			
G	1.24	31.4	2.01	51.2
H	0.75	19	0.72	18.4

Dispenser Mount

210644	Stainless steel, II gage



Front View

Materials

Body: Brass

Jaws: Stainless steel

Seals: Specialty polymers and elastomers for NGV applications

CT1000P36S
Coupling End

CT1000P36S
Hose Connection End

Features

- **High-Flow/Fast-Fill Capability -** provides quick fueling of medium storage vehicles. Internal seals are designed for fast-fill NGV fueling.
- **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.
- **Directed Vent (CT1000) -** captures the gas vented at disconnect and directs it out of the nozzle via a 1/4" stainless steel vent tube (requires -4 compression adaptor), 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 the 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 receptacle. (See Compatibility Matrix)
- **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**

Specifications:

Min. Flow Rate: 1200 SCFM @ 3000 psid

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

Cv: 0.84

MAWP: 4532 psi (312.5 Bar)

Ordering Specifications

Product #	Inlet Thread Size	Service Pressure		Weight	
CT1000SS	SAE - 6, 9/16" - 18 UNF	3000 psi	200 bar	3.61 lbs.	1.63 kg
*CT1000LS Same as CT1000SS. Adds a Guide Ring	SAE - 6, 9/16" - 18 UNF	3000 psi	200 bar	3.66 lbs.	1.66 kg
CT1000P36S	SAE - 6, 9/16" - 18 UNF	3600 psi	250 bar	3.65 lbs.	1.65 kg

Listings and Certifications

CRN

See page 33 for Canadian Registration Number

OPW A DOVER COMPANY
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

Materials

Body: Brass

Jaws: Stainless steel

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

Features

- **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.
- **User-Friendly Single-Action Operation** - entire fueling operation is initiated by simply engaging nozzle and receptacle with a single 180° 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.
- **Directed Vent** - directs the gas vented at disconnect and directs it out of the nozzle via a 3/8" stainless steel tubing connection (requires -6 compression adaptor), 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** - 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**

Specifications:

Min. Flow Rate: 5000 SCFM @ 3000 psid

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

Cv: 2.75

MAWP: 4532 psi (312.5 Bar)

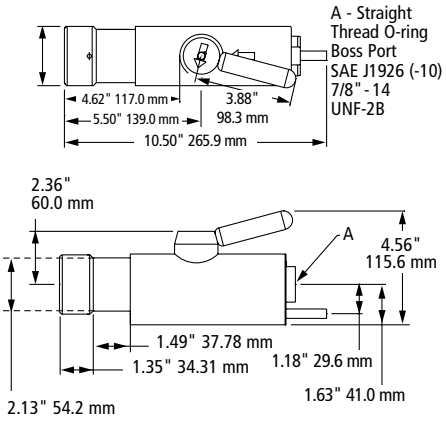
Listings and Certifications

CE 0036 CRN

See page 33 for Canadian Registration Number

CT5000 Series Bus/Heavy-Duty Truck Nozzles (Type 1)

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.



CT5000S and CT5000S-CE

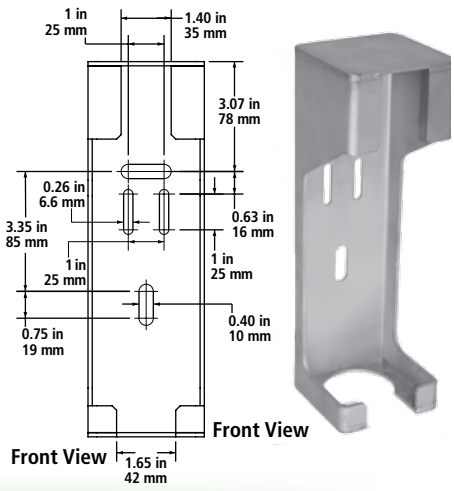
Ordering Specifications

Product #	Inlet Thread Size	Service Pressure	Weight
CT5000S (directed vent)	SAE - 10, 7/8" - 14 UNF	3625 psi (250 bar)	8.77 lb. - 3.98 kg
CT5000S-CE (for EU & 1S0-14469-2 Markets)	SAE - 10, 7/8" - 14 UNF	3625 psi (250 bar)	8.77 lb. - 3.98 kg

Connects to CL50 Series heavy-duty receptacles

Dispenser Mount

210642 Stainless steel, II gage



CC6000 Series Bus/Heavy-Duty Truck Nozzles (Type 2)

OPW 6000 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. 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.

Materials

Body: Stainless steel; acetal

Jaws: Stainless steel

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

Features

- High-Flow/Super Fast Fill Capability 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.
- 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 CC6000 is designed to remain securely connected to the receptacle until the nozzle is depressurized after fueling is complete.
- **Type** - designed as a High-Flow Type 2 nozzle used in conjunction with CL50 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**

Specifications:

Min. Flow Rate: 5000 SCFM @ 3000 psid

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

Cv: 3.30

MAWP: 4532 psi (312.5 Bar)

Ordering Specifications

Product #	Inlet Thread Size	Service Pressure	Weight
CC6000	SAE-10 J1926, 7/8" - 14 UNF	3600 psi (250 bar)	2.94 lb. - 1.33 kg

Connects to CL50 Series Heavy-Duty Receptacles

Listings and Certifications

OPW A DOVER COMPANY
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

Materials

Body and Internal Components:
316L stainless steel

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

BDN or BDN-H

Features

- **Durable Corrosion-Resistant Construction -** stainless steel and brass provide improved durability and corrosion resistance in the harsh environments. All wetted components are CNG fuel compatible.
- **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.
- Shaft extenders are included inside the handle to open receptacle check valves.
- **NOTE:** Remove Filter from Receptical if present.
- **SAE -6 O-ring Outlet Port** allows for standard fittings to be used when connecting nozzle to hose.
- Check valves installed on the vehicle, behind the receptacle, will prevent the BDN from functioning.
- **BDN Connects to OPW's NGV-1 Style Receptacle.**
- **Individually Leak Tested and Inspected with Traceable Serial Numbers**
- **CRN'S Pending**

Specifications:

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

Cv: 0.5

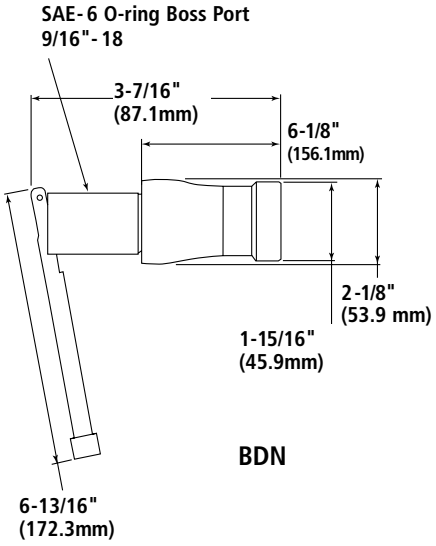
MAWP: 6250 psi (430 bar) BDN

Ordering Specifications

Product #	Outlet Thread Size	Receptacle/ Connection	Service Pressure		Weight
BDN for CNG Service	SAE -6, 9/16"- 18 UNF	OPW NGV1 Profile	3600 psi	250 bar	3 lb. (1.35 kg)

BDN Vehicle Defueling Nozzles

OPW 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 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.



BDN

BDN Defueling Nozzle Hose Kits

Contact OPW for Alternate Configurations.

Listings and Certifications

CE 0036 CRN

See page 33 for Canadian Registration Number

CNG Fill-Line and Vent Line Breakaways and 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 drive-away. 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.

Fill-Line Breakaway (FLB-1000) Standard Duty

OPW has optimized the in-line breakaway for use in automotive NGV refueling applications. This unit will function consistently, independent of the inlet pressure.

Fill-Line Breakaway (FLB-5000) Heavy-Duty Truck/Bus

OPW has optimized the in-line breakaway for use in heavy-duty truck and bus NGV refueling applications. This unit will function consistently, independent of the inlet pressure.

Vent Line Breakaway (NGVLB)

The OPW NGVLB is an in-line breakaway that fits into the nozzle vent line. This new pressure balanced NGVLB unit will function consistently when used in conjunction with OPW high pressure In-line breakaways in the event of a drive-away.

In-Line Breakaway (ILB-1)

Designed for medium flow and automotive NGV and hydrogen refueling applications. This unit will function consistently, independent of the inlet pressure.

In-Line Breakaway (ILB-5) – Heavy-Duty Truck/Bus

Designed for high flow and heavy-duty truck and bus NGV and hydrogen refueling applications. This unit will function consistently, independent of the inlet pressure.

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

CNG Hose Retractor

OPW CNG Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards.

Gages - RINGGO

Available for easily measuring worn receptacles, which may lead to connection/ disconnection issues resulting from brinelling or other damage.

Gages - JAWGO

Available for easily measuring worn nozzles, which may lead to connection/ disconnection issues resulting from brinelling or other damage.

OPW A DOVER COMPANY
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

CNG

Materials

Body: Stainless steel

Internal Components: Stainless steel

Seals: Specially formulated polyurethane seals to withstand high pressure NGV applications

FLB-1000

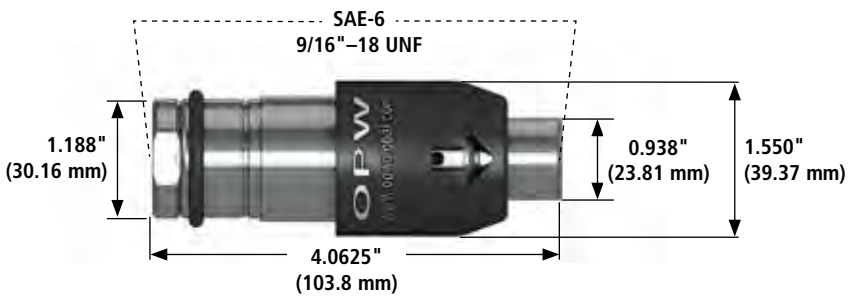
Features

- **High-Flow/Fast Fill Capacity -** This NGV1 breakaway will provide quick fueling of large vehicles.
- **Durable, Corrosion-Resistant Construction -** stainless steel construction provides improved durability and corrosion resistance in harsh environments.
- **Reconnectable Design -** allows the component to be reused, reducing total cost of ownership
- **Innovative Valve System -** the sealing system in this breakaway minimizes the amount of vent gas released during a drive-away incident.
- **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.
- **Disconnection Force -** 120 lbs. (+/- 30 lbs.) (534+/- 134 N).
- **100% Leak and Breakaway Tested, with Traceable Serial Numbers**

Ordering Specifications

Product #	Inlet Thread Size	Outlet Thread Size	Service Pressure		Weight
FLB-1000	SAE - 6, 9/16" - 18 UNF (female)	SAE - 6, 9/16" - 18 UNF (female)	3,600 psi	250 bar	0.91 lb (0.41 kg)
CNGBREAKKIT-1000 (Includes FLB-1000 and NGVLB Breakaway)	**FLB-1000** SAE - 6, 9/16" - 18 UNF (female)	**FLB-1000** SAE - 6, 9/16" - 18 UNF (female)	3,600 psi	250 bar	1.13 lb (0.51 kg)
	NGVLB SAE - 6, 9/16" - 18 UNF	NGVLB SAE - 6, 9/16" - 18 UNF	3,600 psi	250 bar	

FLB-1000 Dimensions



Fill-Line Breakaway (FLB-1000) - Standard Duty

OPW has optimized the in-line breakaway for use in automotive NGV refueling applications. This unit will function consistently, independent of the inlet pressure.

Specifications

Max Flow Rate: 3,700 SCFM @ 3,600 psid

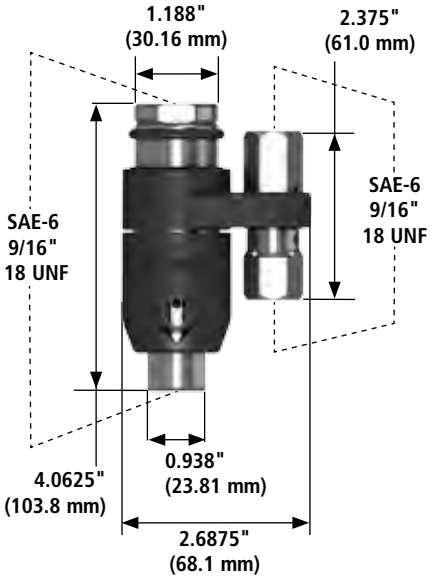
Temperature Range: -40° F to 185° F (-40° C to 85° C)

Cv: 1.85

MAWP: 4,532 psi (312.5Bar)

Fill-Line Breakaway Kit

CNGBREAKKIT-1000
(Includes NGVLB Breakaway)



Listings and Certifications

CRN

See page 33 for Canadian Registration Number

Fill-Line Breakaway (FLB-5000) - Heavy-Duty Truck/Bus

OPW has optimized the in-line breakaway for use in heavy-duty truck and bus NGV refueling applications. This unit will function consistently, independent of the inlet pressure.

Specifications:

Max Flow Rate: 7,500 SCFM @ 3,600 psid

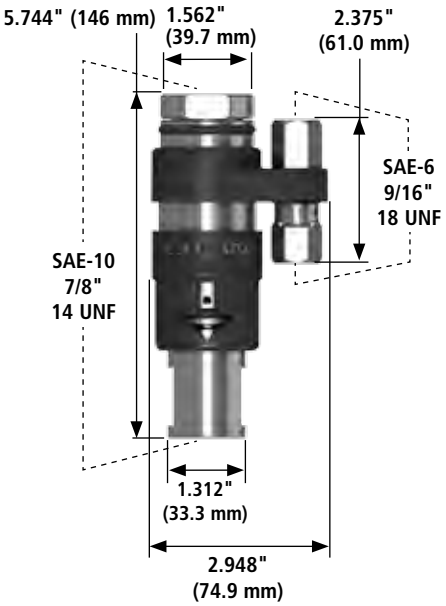
Temperature Range: -40° F to 185° F (-40° C to 85° C)

Cv: 3.91

MAWP: 4,532 psi (312.5 Bar)

Fill-Line Breakaway Kit

CNGBREAKKIT-5000
(Includes NGVLB Breakaway)



Materials

Body: Stainless steel

Internal Components: Stainless steel

Seals: Specially formulated polyurethane seals to withstand high pressure NGV applications

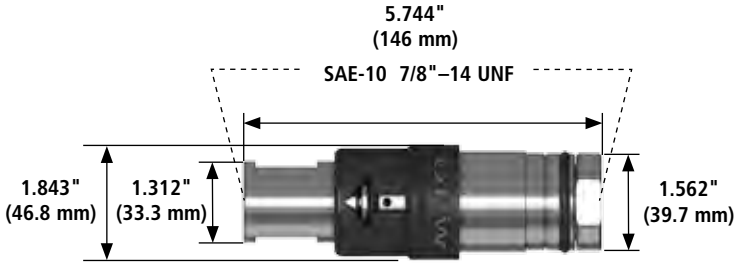
FLB-5000

Features

- **High-Flow/Fast Fill Capacity -** this is OPW's fastest flowing breakaway. This breakaway will provide quick fueling of large vehicles.
- **Durable, Corrosion-Resistant Construction -** stainless steel construction to provide improved durability and corrosion resistance in harsh environments.
- **Reconnectable Design -** allows the component to be reused, reducing total cost of ownership
- **Innovative Valve System -** the sealing system in this breakaway minimizes the amount of vent gas released during a drive-away incident.
- **Reduced Size and Weight -** to allow for more applications where size may be a concern.
- **Easy Installation -** the in-line breakaway has SAE-10 O-ring fittings for easy installation in line between the dispenser and nozzle.
- **Disconnection Force -** 120 +/- 30 lbs. (534+/- 134 N).
- **100% Leak and Breakaway Tested, with Traceable Serial Numbers**

Ordering Specifications

Product #	Inlet Thread Size	Outlet Thread Size	Service Pressure		Weight
FLB-5000	SAE - 10, 7/8" - 14 UNF (female)	SAE - 10, 7/8" - 14 UNF (female)	3,600 psi	250 bar	2 lb (0.907 kg)
CNGBREAKKIT-5000 (Includes FLB-5000 and NGVLB Breakaway)	**FLB-5000** SAE - 10, 7/8" - 14 UNF (female)	**FLB-5000** SAE - 10, 7/8" - 14 UNF (female)	3,600 psi	250 bar	2.22 lb (1 kg)
	NGVLB SAE - 6, 9/16" - 18 UNF	NGVLB SAE - 6, 9/16" - 18 UNF	3,600 psi	250 bar	



FLB-5000 Dimensions

Listings and Certifications

CE 0036 CRN

See page 33 for Canadian Registration Number

OPW A DOVER COMPANY
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

Materials

Body: Stainless Steel

Internal Components: Stainless Steel

Seals: Specially formulated seals, specific to high pressure NGV applications

NGVLB

Features

- **Durability -** Stainless-steel construction provides improved performance, durability and corrosion resistance in harsh environments.
- **Reconnectable -** Allows the component to be reused, reducing maintenance cost.
- **Pressure Balanced -** Performance stability eliminates nuisance separation due to pressure surges in the vent line.
- Passive design allows pressure to freely move through the vent line.
- Disconnection force of 40 lbs. ± 15 lbs. (178N ± 67N)
- **No tools required for reconnection** (12 lbs./53 N reconnection force).
- **100% Leak and Breakaway Tested, with Traceable Serial Numbers**

Specifications:

Pressure balanced to 18,129 psi (1,250 bar)

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

Cv: 0.24

1,000 SCFM @ 3,600 psi (250 bar)

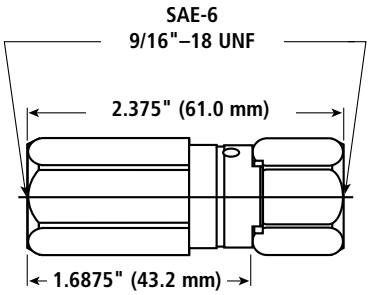
MAWP: 4,532 psi (312.5 bar)

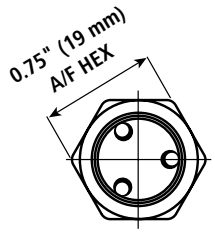
Ordering Specifications

Product #	Inlet Thread Size	Outlet Thread Size	Service Pressure		Weight
NGVLB	SAE - 6, 9/16" - 18 UNF	SAE - 6, 9/16" - 18 UNF	3600 psi	250 bar	0.22 lb (0.1 kg)

OPW Vent Line Breakaway (NGVLB)

The OPW NGVLB is an in-line breakaway that fits into the nozzle vent line. This new pressure balanced NGVLB unit will function consistently when used in conjunction with OPW high pressure In-line breakaways.





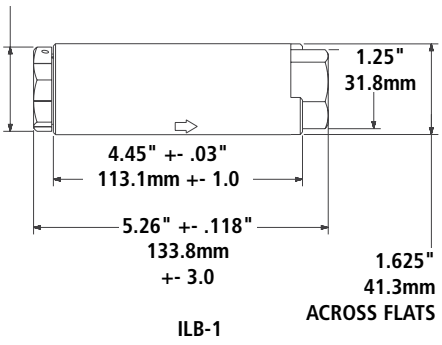
Listings and Certifications

CRN

See page 33 for Canadian Registration Number

In-Line Breakaway (ILB-1)

Designed for medium flow and automotive NGV refueling applications. This unit will function consistently, independent of the inlet pressure.



ILB-1

Materials

Body: Stainless steel

Internal Components: Stainless steel

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

ILB-1

Features

- **High-Flow -** the flow path has been matched to provide ample flow for all NGV-1 Type 1 and Type 2 nozzles.
- **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.
- **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.
- **Disconnection Force-**150 lbs. (668 N).
- **Individually Inspected, Leak and Breakaway Tested, with Traceable Serial Numbers**

Specifications:

Min. Flow Rate: 2000 SCFM @ 3000 psid

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

Cv: 1.17

MAWP (ILB-1): 4532 psi (312.5 Bar)

Ordering Specifications

Product #	Inlet Thread Size	Outlet Thread Size	Service Pressure		Weight.
ILB-1	SAE - 6, 9/16" - 18 UNF (female)	SAE - 6, 9/16" - 18 UNF (female)	3600 psi	250 bar	2.3 lb. - 1.04 kg

Listings and Certifications

CRN

See page 33 for Canadian Registration Number

OPW A DOVER COMPANY
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

Materials

Body: Stainless steel

Internal Components: Stainless steel

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

ILB-5

Features

- **High-Flow/Super Fast Fill Capacity -** This breakaway will provide quick fueling of large storage vehicles. Internal seals are specifically designed to meet the demands of fast-fill NGV fueling.
- **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.
- **Easy Installation -** the in-line breakaway has SAE-10 O-ring fittings for easy installation in line between the dispenser and nozzle.
- **Disconnection Force -** 150 lbs. (668 N).
- **Individually Inspected, Leak and Breakaway Tested, with Traceable Serial Numbers**

Specifications:

Min. Flow Rate: 5500 SCFM @ 3000 psid

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

Cv: 3.6

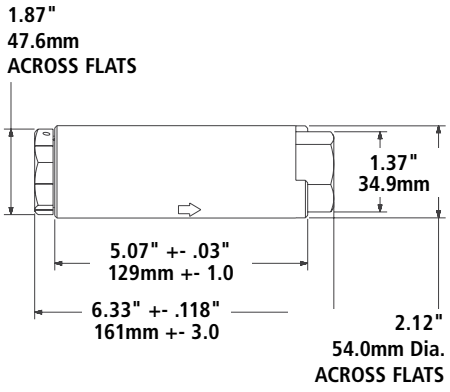
MAWP: 4532 psi (312. 5 Bar)

Ordering Specifications

Product #	Inlet Thread Size	Outlet Thread Size	Service Pressure		Weight.
ILB-5	SAE - 10, 7/8" - 14 UNF (female)	SAE - 10, 7/8" - 14 UNF (female)	3600 psi	250 bar	5 lb. - 2.26 kg

In-Line Breakaway (ILB-5) - Heavy-Duty Truck/Bus

Designed for high flow and heavy-duty truck and bus NGV refueling applications. This unit will function consistently, independent of the inlet pressure.



ILB-5

Listings and Certifications

CE 0036 CRN

See page 33 for Canadian Registration Number

Hose & Hose Assemblies

OPW CNG 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.

Materials

Fittings: Plated steel/
316 stainless steel

Features

- **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.
- **Quality Tested -** All hoses conform to CSA 12.52. Hose assemblies are leak-proof tested and conductively tested. All hose assemblies conform to NFPA 52 and AGA/CGA, ANSI NGV 4.2.
- **Available In Standard NGV-1 and Heavy-Duty Dual Hose Sizes**
- **Hose Assemblies Complete With Filling Line, Vent Line Breakaways, and Nozzles -** Dispenser thread-ready and fully tested kits available for all Type 1, Type 2 and high-flow nozzle applications.
- **Custom Lengths, Fittings and Sizes Available -** Please forward specific design requirements to OPW.

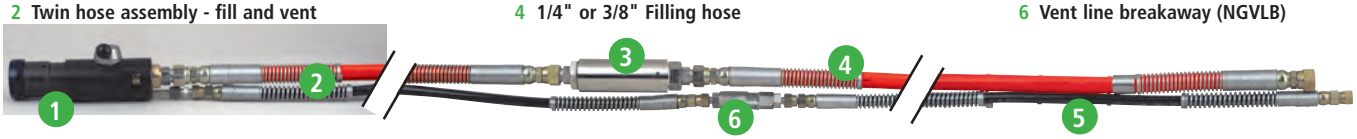
Specifications:

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

MAWP: 5000 psi (345 Bar)

ASSEMBLY DEPICTION ONLY – For specific design requirements, contact OPW

1 Type 1 or Type 2 Nozzle (CT1000, or 3WV Series)
2 Twin hose assembly - fill and vent
3 Fill line breakaway (ILB-1)
4 1/4" or 3/8" Filling hose
5 1/4" Venting hose
6 Vent line breakaway (NGVLB)



1 Type 1 Nozzle (CT5000)
2 Twin hose assembly - fill and vent
3 Fill line breakaway (ILB-5)
4 1/2" Filling hose
5 1/4" Venting hose
6 Vent line breakaway (NGVLB)

Ordering Specifications: Contact OPW for Alternate Configurations

NOTE: All hoses have a Maximum Allowable Working Pressure of 5000 PSI / 345 BAR

Listings and Certifications:

See page 33 for component listings & certifications

Product # Hoses	Item Description: Replacement hose only. Fittings NOT included	Dispenser Connection Fill Hose	Dispenser Connection Vent Hose	Hose Cross Reference
42034	2' WHIP HOSE (3/8" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-11, LDCNGHOSE-11W
42035	10' MAIN HOSE (3/8" FILL, 1/4" VENT)	N/A	N/A	CNGHOSE122, LDCNGHOSE-20TF
204356	2' WHIP HOSE (1/2" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	HDCNGHOSE-11
204357	11' MAIN HOSE (1/2" FILL, 1/4" VENT)	N/A	N/A	CNGHOSE5
207173	8.3' MAIN HOSE (3/8" FILL, 1/4" VENT)	N/A	N/A	LDCNGHOSE-11, LDCNGHOSE-11FLB
207174	8.3' MAIN HOSE (1/2" FILL, 1/4" VENT)	N/A	N/A	HDCNGHOSE-11, HDCNGHOSE-11FLB
207786	13' MAIN HOSE (3/8" FILL, 1/4" VENT)	N/A	N/A	LDCNGHOSE-15, LDCNHOSE-15A
207880	2' WHIP HOSE (1/4" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGHOSE-14, TFCNGHOSE-20, TFCNGKIT-14C36, TFCNGKIT-20B36
207890	18' MAIN HOSE (1/4" FILL, 1/4" VENT)	N/A	N/A	TFCNGHOSE-20, TFCNGKIT-20B36
207953	17" NOZZLE FLEX HOSE (-6 HOSE, 1/4 NPT TO #6 SAE O-RING)	N/A	N/A	3WV-44D, 3WV-44DP30, 3WV-DP36, 3WV-46D, 3WV-46DP30, 3WV-46DP36, TFCNGKIT-20D36, XFLDCNGKIT-50
208122	8.3' MAIN HOSE (3/8" FILL, 1/4" VENT)	N/A	N/A	LDCNGHOSE-11W, LDCNGKIT-11W
208408	2' WHIP HOSE (3/8" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-15A
208523	12' MAIN HOSE (1/4" FILL, 1/4" VENT)	N/A	N/A	TFCNGKIT-20D36, TFCNGHOSE-14, TFCNGHOSE-12-8, TFCNGKIT-14C36
208989	2' WHIP HOSE (3/4" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 1-1/16" -12 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	XHDCNGHOSE-10
208990	8.3' MAIN HOSE (3/4" FILL, 1/4" VENT)	N/A	N/A	XHDCNGHOSE-10
209413	10' (3/8") CNG HOSE - Breakaway to Defuel Panel - For Defuel Panel Kit	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	N/A	LDCNGDPK-12
209414	2' (3/8") CNG HOSE - BDN to Break-away Hose for Defuel Panel Kit	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	N/A	LDCNGDPK-12

OPW A DOVER COMPANY
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

Product # Hoses	Item Description: Replacement hose only. Fittings NOT included	Dispenser Connection Fill Hose	Dispenser Connection Vent Hose	Hose Cross Reference
209435	2' WHIP HOSE (1/2" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	CNGHOSE5, HDCNGHOSE-11FLB, HDCNGKIT-11FLB
209443	2' WHIP HOSE (3/8" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	CNGHOSE122, LDCNGHOSE-15, LDCNGHOSE-11FLB, LDCNGKIT-11FLB, LDCNGKIT-12
209624	8' WHIP HOSE (1/4" FILL, 1/4" VENT)	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGHOSE-12-8, TFCNGKIT-HOSE-12-8, TFCNGKIT-20D36
209626	25' CNG HOSE (3/8" FILL, 1/4" VENT) - For 50' CNG Transfer Kit	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	XFLDCNGKIT-50
209627	25' CNG HOSE (3/8" FILL, 1/4" VENT) - For 50' CNG Transfer Kit	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	XFLDCNGKIT-50

Product # Hose Sets	Item Description: Includes Fittings and Labor to Assemble	Dispenser Connection Fill Hose	Dispenser Connection Vent Hose	Hose Cross Reference
CNGHOSE122	2' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 10' MAIN HOSE (3/8" FILL, 1/4" VENT) (209443 & 42035 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGKIT-12, 209443 & 42035
CNGHOSE5	2' WHIP HOSE (1/2" FILL, 1/4" VENT) plus 11' MAIN HOSE (1/2" FILL, 1/4" VENT) (209435 & 204357 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	209435 & 204357
HDCNGHOSE-11	2' WHIP HOSE (1/2" FILL, 1/4" VENT) plus 8.3' MAIN HOSE (1/2" FILL, 1/4" VENT) (204356 & 207174 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	HDCNGKIT-11, 204356 & 207174
HDCNGHOSE-11FLB	2' WHIP HOSE (1/2" FILL, 1/4" VENT) plus 8.3' MAIN HOSE (1/2" FILL, 1/4" VENT) (209435 & 207174 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	HDCNGKIT-11FLB, 209435 & 207174
LDCNGHOSE-11	2' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 8.3' MAIN HOSE (3/8" FILL, 1/4" VENT) (42034 & 207173 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGKIT-11, 42034 & 207173
LDCNGHOSE-11FLB	2' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 8.3' MAIN HOSE (3/8" FILL, 1/4" VENT) (209443 & 207173 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGKIT-11FLB, LDCNGKIT-11FLB-PG81P36, 209443 & 207173
LDCNGHOSE-11W	2' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 8.3' MAIN HOSE (3/8" FILL, 1/4" VENT) (42034 & 208122 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGKIT-11W, 42034 & 208122
LDCNGHOSE-15	2' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 13' MAIN HOSE (3/8" FILL, 1/4" VENT) (209443 & 207786 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	209443 & 207786
LDCNGHOSE-15A	2' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 13' MAIN HOSE (3/8" FILL, 1/4" VENT) (208408 & 207786 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGKIT-15A, 208408 & 207786
LDCNGHOSE-20TF	10' WHIP HOSE (3/8" FILL, 1/4" VENT) plus 10' MAIN HOSE (3/8" FILL, 1/4" VENT) (42035 & 42035 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGKIT-20B36 & 42035
TFCNGHOSE-12-8	8' WHIP HOSE (1/4" FILL, 1/4" VENT) plus 12' MAIN HOSE (1/4" FILL, 1/4" VENT) (209624 & 208523 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGKIT-20D36, 209624 & 208523
TFCNGHOSE-14	2' WHIP HOSE (1/4" FILL, 1/4" VENT) plus 12' MAIN HOSE (1/4" FILL, 1/4" VENT) (207880 & 208523 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGKIT-14C36, 207880 & 208523
TFCNGHOSE-20	2' WHIP HOSE (1/4" FILL, 1/4" VENT) plus 18' MAIN HOSE (1/4" FILL, 1/4" VENT) (207880 & 207890 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGKIT-20B36, 207880 & 207890
XHDCNGHOSE-10	2' WHIP HOSE (3/4" FILL, 1/4" VENT) plus 8.3' MAIN HOSE (3/4" FILL, 1/4" VENT) (208989 & 208990 plus adaptors)	SAE (JIC) 37 DEGREE SWIVEL 1-1/16" -12 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	XHDCNGKIT-10, 208989 & 208990

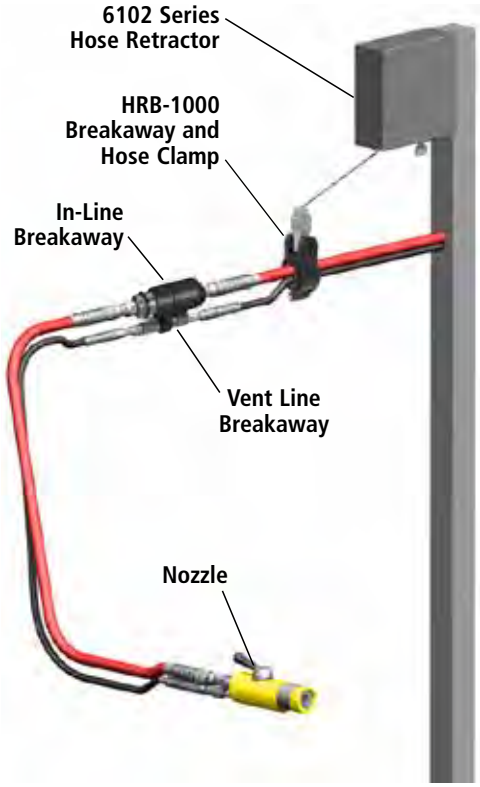
Product # Hose-Breakaways-Nozzle Assemblies	Item Description: Includes Fittings, and OPW Pressure Testing of Complete Assembly	Dispenser Connection Fill Hose	Dispenser Connection Vent Hose	Hose Cross Reference
HDCNGKIT-11	2' WHIP HOSE (1/2" FILL, 1/4" VENT), 8.3' MAIN HOSE (1/2" FILL, 1/4" VENT), ILB-5, NGVLB, CT5000S	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	HDCNGHOSE-11
HDCNGKIT-11FLB	2' WHIP HOSE (1/2" FILL, 1/4" VENT), 8.3' MAIN HOSE (1/2" FILL, 1/4" VENT), CNGBREAKKIT-5000, CT5000S	SAE (JIC) 37 DEGREE SWIVEL 7/8" -14 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	HDCNGHOSE-11FLB
LDCNGDPK-12	BDN, 2' MAIN HOSE (3/8"), FLB-1000, 10' WHIP HOSE (3/8") to Defuel Panel	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	N/A	209414 & 209413
LDCNGKIT-11	2' WHIP HOSE (3/8" FILL, 1/4" VENT), 8.3' MAIN HOSE (3/8" FILL, 1/4" VENT), ILB-1, NGVLB, CT1000P36S	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-11
LDCNGKIT-11FLB	2' WHIP HOSE (3/8" FILL, 1/4" VENT), 8.3' MAIN HOSE (3/8" FILL, 1/4" VENT), CNGBREAKKIT-1000, CT1000P36S	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-11FLB
LDCNGKIT-11FLB-PG81P36	2' WHIP HOSE (3/8" FILL, 1/4" VENT), 8.3' MAIN HOSE (3/8" FILL, 1/4" VENT), CNGBREAKKIT-1000, PG81P36	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-11FLB
LDCNGKIT-12	2' WHIP HOSE (3/8" FILL, 1/4" VENT), 10' MAIN HOSE (3/8" FILL, 1/4" VENT), CNGBREAKKIT-1000, CT1000P36S	SAE (JIC) 37 DEGREE SWIVEL 3/4" -16 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	CNGHOSE122
LDCNGKIT-15A	2' WHIP HOSE (3/8" FILL, 1/4" VENT), 13' MAIN HOSE (3/8" FILL, 1/4" VENT), CNGBREAKKIT-1000, CT1000SS	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-15A
LDCNGKIT-20B36	10' WHIP HOSE (3/8" INLET, 1/4" VENT), 10' MAIN HOSE (3/8" INLET, 1/4" VENT), CNGBREAKKIT-1000, 3WV-46BP36	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	LDCNGHOSE-20TF
TFCNGKIT-14C36	2' WHIP HOSE (1/4" FILL, 1/4" VENT), 12' MAIN HOSE (1/4" FILL, 1/4" VENT), CNGBREAKKIT-1000, 3WV-44CP36	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGHOSE-14
TFCNGKIT-20B36	2' WHIP HOSE (1/4" FILL, 1/4" VENT), 18' MAIN HOSE (1/4" FILL, 1/4" VENT), CNGBREAKKIT-1000, 3WV-44BP36	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGHOSE-20
TFCNGKIT-20D36	8' WHIP HOSE (1/4" FILL, 1/4" VENT), 12' MAIN HOSE (1/4" FILL, 1/4" VENT), CNGBREAKKIT-1000, 3WV-44DP36	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 7/16" -20 FEMALE THREAD	TFCNGHOSE-12-8
XFLDCNGKIT-50	BDN + 3WV-46D, 25' HOSE (3/8" FILL, 1/4" VENT) 209627, CNGBREAKKIT-1000, 25' HOSE (3/8" FILL, 1/4" VENT) 209626, CT1000P36S	N/A	N/A	209627, 209626 & 207953
XHDCNGKIT-10	2' WHIP HOSE (3/4" FILL, 1/4" VENT), 8.3' MAIN HOSE (3/4" FILL, 1/4" VENT), CNGBREAKKIT-5000, CT5000S	SAE (JIC) 37 DEGREE SWIVEL 1-1/16" -12 FEMALE THREAD	SAE (JIC) 37 DEGREE SWIVEL 9/16" -18 FEMALE THREAD	XHDCNGHOSE-10

CNG Hose Retractor

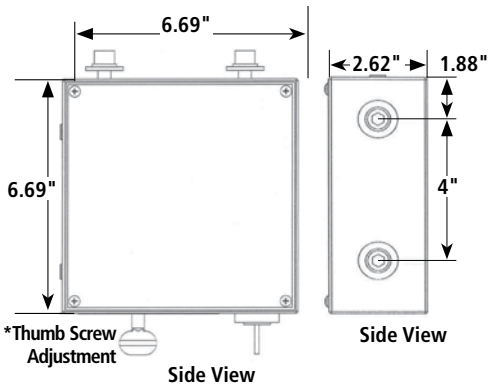
OPW CNG Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards.

CNG Hose Retractor Sample Configuration

CNG Hose, Nozzle, Breakaways and mounting post are not included.



Mounting Dimensions



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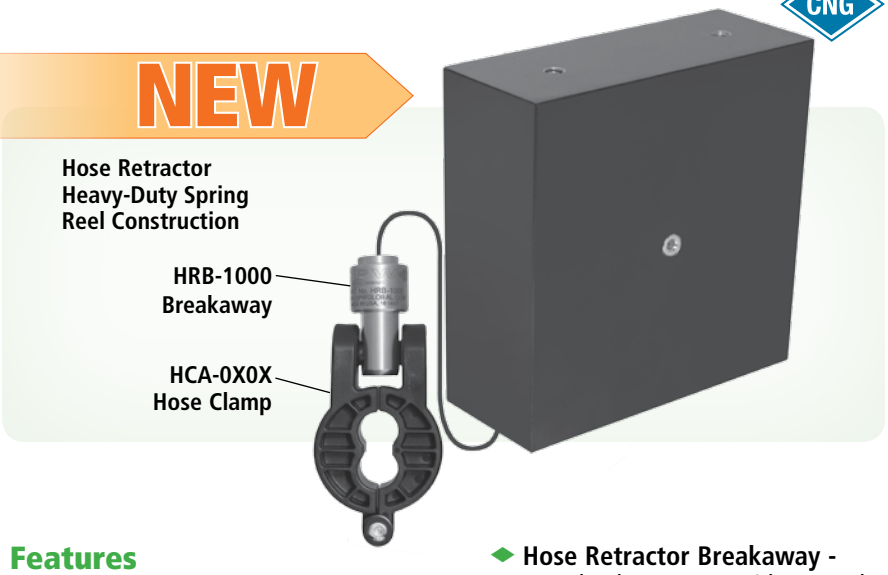

Features

- **Easy-to-use -** the spring loaded reel and stretch resistant cable provide smooth and steady tension throughout hose extension and return.
- **Compact and versatile design -** that can be easily installed under a fast-fill dispenser canopy or on a time-fill fueling post.
- **Innovative Hose Clamp -** multiple designes to fit standard NGV-1 and heavy-duty hose combinations.
- **Hose Retractor Breakaway -** seamlessly connects with Hose Clamp to protect Hose Assemblies.
- **Robust reel -** designed especially for heavy-duty CNG fueling applications.
- **Easy to maintain -** the removable side plate 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.

Ordering Specifications

Product #	Description	Fill Line	Vent Line	Length of Cord	Shipping Weight lbs.	Shipping Weight kg
6102-CNG	CNG Hose Retractor with HRB-1000 and HCA-0604	3/8"	1/4"	10ft.	7 lbs.	3.1
6102-CNG2	CNG Hose Retractor with HRB-1000 and HCA-0806	1/2"	3/8"	10ft.	7 lbs.	3.1
6102-CNG3	CNG Hose Retractor with HRB-1000 and HCA-0804	1/2"	1/4"	10ft.	7 lbs.	3.1
6102-CNG4	CNG Hose Retractor with HRB-1000 and HCA-0404	1/4"	1/4"	10ft.	7 lbs.	3.1

Breakaway and Hose Clamp Assembly

HRB-0404	HRB-1000 with HCA-0404 for CNG Hose 1/4" Fill x 1/4" Vent [-4 x -4]
HRB-0604	HRB-1000 with HCA-0604 for CNG Hose 3/8" Fill x 1/4" Vent [-6 x -4]
HRB-0804	HRB-1000 with HCA-0804 for CNG Hose 1/2" Fill x 1/4" Vent [-8 x -4]
HRB-0806	HRB-1000 with HCA-0806 for CNG Hose 1/2" Fill x 3/8" Vent [-8 x -6]

HRB-1000 Hose Retractor Breakaway

HRB-10000	Hose Retractor Breakaway

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L SERIES

OPW L Series NGV1-certified fueling receptacles are designed for use on medium storage natural gas vehicles, including automobiles, light trucks, shuttle buses and vans.

Features

- High-Flow Capacity

  The 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.

- Durable, Corrosion-Resistant Construction

  All OPW receptacles are made from stainless steel.

- Non-Contact Check Valve

  Each OPW NGV1 receptacle contains a highly reliable non-contact check valve that opens only when differential pressure is present during fueling (per NGV1 1.5.4).

- 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 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, impact-resistant stainless steel with a polished surface to provide reliable sealing at low back pressures.

- 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. 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 50-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 50-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 250 Bar (3600 psi) operating pressure.

- Rubber Dust Cap
  Standard protective dust caps are supplied with all receptacles.

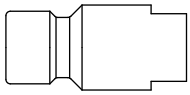
- Serviceable O-ring
  Designed to prevent leakage at the connection point.

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.

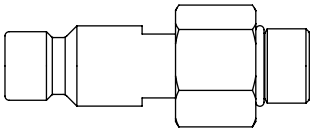
LB

- Wrench Flats



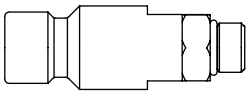
LBXX78

- 7/8 - 14 UNF - 2A



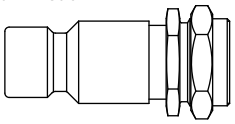
LBXX16

- 9/16 - 18 - UNF - 2A



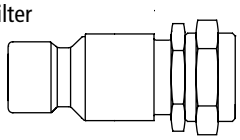
LD

- Bulk Head



LE

- Bulk Head
- Filter

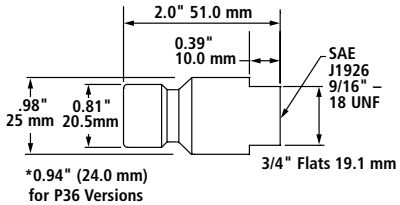


Listings and Certifications

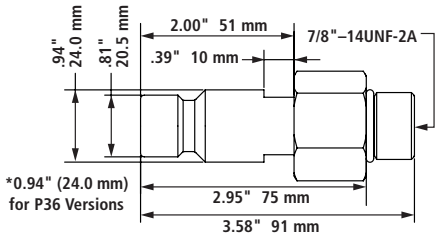
E24 110R

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.



LB30 / LB36



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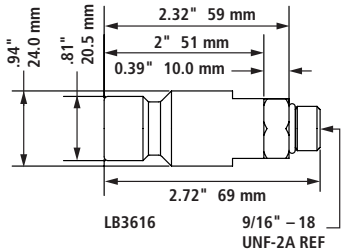
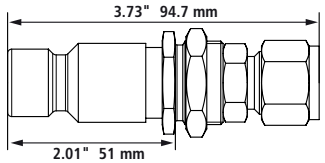
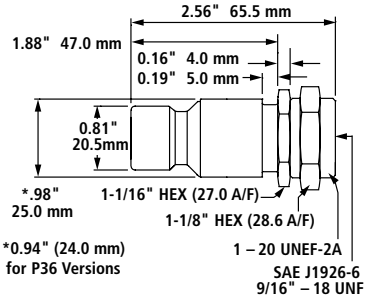




LD36B50 / LE36B50



LD30 / LD36 / LE30 / LE36

Materials

Body: Stainless steel

Internal Parts: Stainless steel and brass

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

LB30 or LB36 with stainless steel filter; 250 mesh

Features

- **Protective Rubber Dust Caps** - included with all OPW "L" series receptacles.
- Connects with CC200, CC300, CC600 and CT1000 Series NGV1 CNG Nozzles and BDN Defueling Nozzles.

Specifications:

Min. Flow Rate: 1500 SCFM @ 3000 psid

Temperature Range: -40° F to 250° F (-40° C to 120° C)

Cv: LB = 0.91
LD = 0.85
LE = 0.83

MAWP: 5000 psi (345 Bar)

Ordering Specifications

Product #	Type/Size	Service Pressure		Weight	
LB30	NGV1 Receptacle w/ 3/4" Flats, P30	3000 psi.	200 bar	.31 lb.	.14 kg
LB36	NGV1 Receptacle w/ 3/4" Flats, P36	3600 psi.	250 bar	.31 lb.	.14 kg
LB3078	LB30 + 50061	3000	200	0.68	0.31
LB3678	LB36 + 50061	3600	250	0.74	0.34
LB3616	LB36 + 50030	3600	250	0.42	0.19
LD30	NGV1 Receptacle w/ Bulkhead, P30	3000 psi.	200 bar	.44 lb.	.2 kg
LD36	NGV1 Receptacle w/ Bulkhead, P36	3600 psi.	250 bar	.44 lb.	.2 kg
LD36B50	LD36 + 212435	3600 psi.	250 bar	.44 lb.	.2 kg
LE30	NGV1 Receptacle w/ Bulkhead and Filter, P30	3000 psi.	200 bar	.44 lb.	.2 kg
LE36	NGV1 Receptacle w/ Bulkhead and Filter, P36	3600 psi.	250 bar	.44 lb.	.2 kg
LE36B50	LE36 + 212435	3600 psi.	250 bar	.44 lb.	.2 kg
1141	Replacement "Interface" O-ring for L Series receptacles				
001147	Replacement Rubber Dust Cap				
001147 ORANGE	Orange Color Replacement Rubber Dust Cap NEW				

Adaptor Shafts: Can be threaded into LB/LD/LE receptacles above. Materials: Stainless steel

Adaptor Shafts P/N	Description	Weight lbs.	Weight kg
50030	Adaptor Shaft SAE-6 (9/16"- 18 UNF - 2A) x SAE-6 (9/16"- 18 UNF - 2A)	0.07	0.03
50061	Adaptor Shaft SAE-10 (7/8"- 14 UNF - 2A) x SAE-6 (9/16"- 18 UNF - 2A)	0.12	0.05
50066	SAE-6, (9/16"x 18 UNF) to 3/8" Tube Fitting with Cap, Ferrule and Swage Ring	0.09	0.04
212435	SAE-6, (9/16"x 18 UNF) to 1/2" Tube Fitting with Cap, Ferrule and Swage Ring	0.09	0.04

Listings and Certifications

CE 0036 E24 110R

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Materials

Body and Adaptor Shaft: Stainless steel

Internal Components: Stainless steel

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

CL50

Features

- **High-Flow** - the flow path has been optimized to increase the amount of flow and decrease the pressure drop resulting in a reduction of noise and vibration from the check valve.
- **Durable, Corrosion-Resistant** Construction - stainless steel construction provides improved durability and corrosion resistance in the harsh on-highway, heavy-duty environment.
- **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.
- **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 and has exceptional wear resistance under all operating pressure and temperature conditions.
- **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.
- Connects to CT5000S and CC6000 series heavy-duty CNG nozzles

Specifications:

Min. Flow Rate: 5000 SCFM @ 3000 psid

Temperature Range: -40° F to 250° F (-40° C to 120° C)

Cv: 3.30

MAWP: 5000 psi (345 bar)

Ordering Specifications

Product #	Type/Size	Service Pressure		Weight	
CL50	7/8" - 14 SAE-10 Female Port	3600 psi.	(250 bar)	0.91 lb.	0.413 kg
CL5000	5/8" Double Ferrule Fitting	3600 psi.	(250 bar)	1.29 lbs.	0.585 kg
CL5078	CL50 + 001129	3600 psi.	(250 bar)	1.141 lbs.	0.518 kg
CL5016	CL50 + 001133	3600 psi.	(250 bar)	1.29 lbs.	0.585 kg
CL50B50	CL50 + 1/2" Double Ferrule Fitting	3600 psi.	(250 bar)	1.29 lbs.	0.585 kg
001129	7/8"-14 SAE-10 Male Fitting				
001133	16 mm Double Ferrule Fitting				
212433	7/8" - 14 SAE-10 to 1/2" Tube Fitting				
212439	1/2" Tube Nut and Ferrule Fitting				
001121	Replacement "Interface" O-ring for CL50 Series Receptacles				
001126	Replacement Rubber Dust Cap				

Listings and Certifications

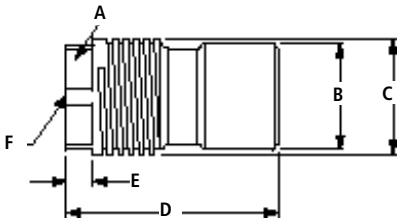
TÜV Industry Service

CE 0036

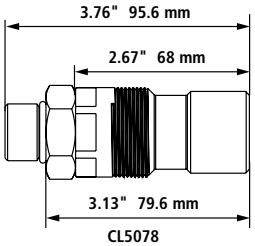
E24 110R

CL50 Series Bus/Heavy-Duty Truck Receptacles

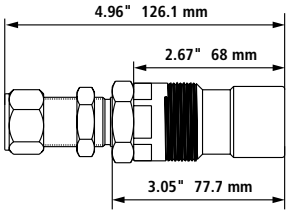
OPW CL50 Series receptacles are designed for use on extremely high-flow, heavy-duty applications including quick-fill, self-service fueling of transit buses and large trucks.



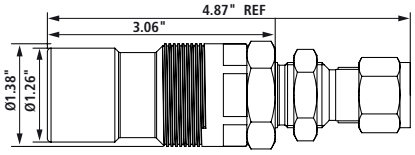
CL50



CL5078



CL5016



CL50B50

Dimensions

CL50	in	mm
A	1.25	32
B	1.25	32
C	1.39	35
D	2.67*	68*
E	0.31	8
F	SAE J1926-10 7/8"–14 UNF	

*D-Dimensions for:

	in	mm
CL5000	4.80	122.1
CL5016	4.96	126.1
CL5078	3.76	95.6
CL50B50	4.87	123.7

Gages - JAWGO

Available for easily measuring worn nozzles, which may lead to connection/disconnection issues resulting from brinelling or other damage. These gages are based on NGV1 and ISO-14469-2 "Tight Fit" tolerances, the maximum acceptable diameter. JAWGO are used for inspecting and identifying worn nozzle jaws.

Materials

Body: Stainless steel

JAWGO-1

JAWGO-5

Features

- **Durable Construction -** stainless steel construction for long service life.
- **RINGGO-0001 -** compatible with NGV1 for testing receptacles.
- **JAWGO-1 -** Compatible with NGV1 for testing Type 1 and Type 2 nozzle jaws.
- **JAWGO-5 -** Used to test CT5000 and CC6000 Series nozzle jaws.

Ordering Specifications

Product #	Description	Works with	Weight	
			lb.	kg
JAWGO-1	NGV1 Nozzle Go-No/Go Gage	NGV1 Type 1, 2 Nozzles	.62 lb.	.28 kg
JAWGO-5	Heavy Duty ISO-14469-2 Nozzle Go-No/Go Gage	CT5000 Series Nozzles	1.3 lb.	.59 kg

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Materials

Body: Stainless steel

RINGGO-0001

Features

- **Durable Construction -** stainless steel construction for long service life.
- **RINGGO-0001 -** compatible with NGV1 for testing receptacles.
- **RINGGO-0005 -** compatible with heavy duty ISO-14469-2 for testing receptacles.

Ordering Specifications

Product #	Description	Works with	Weight	
			lb.	kg
RINGGO-0001	NGV1 Receptacle Fit Gage	NGV1 Receptacles	.03	.01
RINGGO-0005	Heavy Duty ISO-14469-2 Receptacle Fit Gage	ISO-14469-2 Receptacles	.09	.03

Gages - RINGGO

Available for easily measuring worn receptacles, which may lead to connection/disconnection issues resulting from brinelling or other damage. This fit gage is based on NGV1 and ISO-14469-2 "Tight Fit" tolerances, the maximum acceptable diameter. RINGGO is used for inspecting and identifying worn receptacles.

Glossary of Terms

Interchangeability Between Service Pressures – The nozzle and receptacle have been designed such that to prevent a vehicle from being fueled by a higher rated dispenser than a lower rated vehicle service pressure. However, a lower rated dispenser system can fill a higher service pressure vehicle. This is controlled by the geometry of the receptacle and nozzle.

Nozzle Types
There are three types of nozzles:

a. **Type 1** – This is a nozzle with an integrated vent valve system. This vent valve is controlled by the single lever operation which will safely vent the gas trapped between the receptacle check valve and the nozzle inlet valve. After the venting process, the nozzle will disconnect from the vehicle's receptacle.

b. **Type 2** – The vent valve operating mechanism is external to the nozzle. Venting is required prior to disconnection of this type of nozzle.

c. **Type 3** – The fueling hose is automatically depressurized below 50psi (3.4Bar) at dispenser shutdown. The nozzle will vent low pressure gas between the receptacle check valve and the nozzle inlet valve.

Nozzle Class
There are two nozzle classifications, Class A and Class B

a. **Class A nozzle** – This nozzle has a high frequency of use, with a cycle life of 100,000 fueling cycles. This is approximately 100 fills per day for 3 years.

b. **Class B nozzle** – This nozzle has a medium frequency of use, with a cycle life of 20,000 fueling cycles. This equates to approximately 10 fills per day for 5 years.

Receptacle Design Life
All receptacles are designed to be capable of a minimum of 10,000 connection/disconnection cycles to be compliant to ISO 14469, NGV1 and J2600.

Breakaway Design Life
All breakaways are designed to be capable of a minimum of 102,000 fill cycle events to meet the NGV4.4 Standard.

Pressure Meanings

Service Pressure
OPW CNG products are designed to operate to pressures specified in ISO-14469 for Europe (World), NGV1 for North America and for Hydrogen SAE J2600. Defined as the settled pressure at a uniform gas temperature, World (15C), North America (70F)

a. For North America the service pressures are 3000psi and 3600psi

b. For Europe (World) the service pressures are 200bar and 250bar

c. Hydrogen service pressures are 3600psi (250bar), 5000psi (350bar) and 10150psi (700bar)

Working Pressure
SAE J2600 defines this as "Service Pressure", the pressure for which the product is intended to be operated at for a given gas temperature of 15C.

Maximum Allowable Working Pressure (MAWP)
For all OPW Clean Energy products the MAWP is 1.25 times the rated service pressure.

a. **Working Pressure** – ISO-14469 and ECE defines this as **MAWP**, the maximum pressure that a CNG refueling connector can be expected to withstand in actual service.

b. **Design Pressure** – SAE J2600 (Hydrogen) defines this as **MAWP**, the maximum pressure that a component will experience in actual service which is 1.25 times the working pressure (service pressure).

Hydrostatic Pressure
Pressure to which a component is taken to verify the structural strength of the component.

a. **CNG** – OPW equipment is tested to 4 times the maximum allowable working pressure 18,125psi (1250bar)

b. **Hydrogen** – OPW equipment is tested to 3 times the maximum allowable working pressure 18,850psi (1300bar)

Test Pressure
The pressure to which a component is taken during acceptance testing. OPW tests all products at the pressure prior to shipment for product validation, in most cases 5438psi (375bar) unless otherwise specified.

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Glossary of Terms (continued)

Product Markings

Nozzles
Will be marked with manufacturing company, nozzle type, class and product name, as well as:

- **a.** Manufacturing country
- **b.** Pressure ratings
- **c.** CSA and /or TUV and CE logos
- **d.** Year of manufacture
- **e.** Serial number

In-line Breakaways
Will be marked with manufacturing company and product name, as well as:

- **a.** Gas type
- **b.** Serial number
- **c.** Pressure ratings
- **d.** Year of manufacture
- **e.** Operating temperature range
- **f.** Manufacturing country
- **g.** TUV and CE logos

Receptacles
Will be marked with manufacturing company and product name, as well as:

- **a.** Pressure ratings
- **b.** Temperature ratings
- **c.** Manufacturing country
- **d.** Batch code
- **e.** ECE R110, TUV and/ or CSA logos

PT = Test Pressure

PS = Service Pressure

MAWP = Maximum Allowable Working Pressure

Standard the Product is Certified to:

- **a.** NGV1, NGV4.4, ISO 14469 and PED 2014/68/EU

Certifying Agencies: Will be marked clearly on product

Service Pressure Markings:

- **a.** B200 = 200 bar
- **b.** P30 = 3000 psi
- **c.** B250 = 250 bar
- **d.** P36 = 3600 psi
- **e.** C200 = 200 bar
- **f.** C250 = 250 bar

Generic Terms:

Accessory
A part capable of performing an independent function(s) and contributing to the operations of the equipment that it serves.

Breakaway Device
OPW sells "hose breakaways". These are items that are downstream of the dispenser and connected to it by a whip hose. This will allow the breakaway to align to the direction of pull during a drive off event.

C_V
Flow Coefficient lets one compare the capacities of valves at different sizes, types and manufacturers. Cv combines the effects of all flow restrictions in the valve into a single number. When comparing flow rates, a higher Cv value indicates higher flow (less flow restriction), whereas a lower Cv value indicates lower flow (higher flow restriction).

Fill Pressure
The pressure attained at the time of filling. The actual fill pressure will vary depending on the temperature of the gas in the container and the ambient conditions.

Go – No Go or Fit Gage
A go-no go or fit gage is designed to the test the wear on the jaws and front sleeve of OPW nozzles, or to test the condition of an NGV receptacle.

1. **Nozzle:**
   - **a.** If the nozzle go-no go gage (JAWGO-1, JAWGO-5) connects properly to the Go side it's considered good, as long as it cannot connect to the No Go side. If the nozzle can connect to the No Go side or cannot connect to the Go side then the front sleeve and jaws of the nozzle should be replaced (replacement kits available).

b. If the nozzle go-no go gage proves the jaws to be good, yet the jaws won't connect to the vehicle's receptacle, the receptacle should be replaced.

2. Receptacle:

a. If the receptacle fit gage (RINGGO-0001) connects properly to the receptacle it is considered good. If the receptacle cannot connect to the fit gage then the receptacle should be replaced.

b. If the receptacle fit gage proves the receptacle to be good yet the nozzle will not connect to the vehicle's receptacle, the nozzle jaws and front sleeve should be replaced (replacement kits available).

NPT Threads

OPW does not use NPT threads on its products. According to ANSI NGV1 -2008, "The use of threaded connections which rely on the joint between the male and female threads for sealing, such as NPT threads, is prohibited."

NGV Profile

A receptacle that is NGV1 approved must comply with the geometry set forth in the NGV1 standard. Receptacles that meet NGV1 will not have interchangeability restrictions and will permit the safe connection/ disconnection of the fueling nozzle. (See interchangeability).

Positive Locking

A feature that requires actuation of an interlocking mechanism to allow connection/disconnection of the nozzle from the receptacle.

References:

E/ECE/324, E/ECE/Trans/505

SAE International, SAE J2600

ISO-TC197 N0489 Revised ISO DIS 17268.2

ISO 14469

ANSI NGV1 / CSA NGV1

ANSI /AGA NGV3.1

ANSI/IAS NGV 4.4

Canadian Registration Numbers by Province

Canadian Registration Numbers OPW CleanEnergy Products	British Columbia	Alberta	Ontario	Quebec	Saskatchewan	Manitoba	Nova Scotia	New Brunswick
PG series	pending	pending	pending	pending	pending	pending	pending	pending
CT1000 series	0H13989.51	0H13989.52	0H13989.5	0H13989.56	0H13989.56	0H13989.56	pending	pending
CT5000	0H15417.51	0H15417.52	0H15417.5	0H15417.56	0H15417.56	0H15417.54	0H15417.58ADD1	pending
CC600 series	0H13989.51	0H13989.52	0H13989.5	0H13989.56	0H13989.56	0H13989.56	pending	pending
ILB-1	0H13989.51	0H13989.52	0H13989.5	0H13989.56	0H13989.56	0H13989.56	pending	pending
ILB-5	0H15417.51	0H15417.52	0H15417.5	0H15417.56	0H15417.56	0H15417.56	pending	pending
VLB	0H13989.51	0H13989.52	0H13989.5	0H13989.56	0H13989.56	0H13989.56	pending	pending
FLB-1000 (new)	0H17341.51	0H17341.52	0H17341.5	0H17341.56	0H17341.56	0H17341.56	0H17341.5987	0H17341.5987
FLB-5000 (new)	0H17341.51	0H17341.52	0H17341.5	0H17341.56	0H17341.56	0H17341.56	0H17341.5987	0H17341.5987
NGVLB (new)	0H17341.51	0H17341.52	0H17341.5	0H17341.56	0H17341.56	0H17341.56	0H17341.5987	0H17341.5987
BDN	Pending	0H17140.2	Pending	Pending	Pending	Pending	Pending	Pending

TUV Approved

- PGXXP3X Series
- CT1000 series nozzles
- CT5000 series nozzles
- CC 200 series nozzles
- CC 300 series nozzles
- CC 600 series nozzles
- CC 6000 series nozzles
- ILB series breakaways
- FLB series breakaways
- NGVLB series breakaways
- LB, LD, LE series receptacles
- CL series receptacles

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