

CLEANENERGY

FUELING PRODUCTS

2025 CATALOG



www.opwretailfueling.com

FUELED BY
EXCELLENCE

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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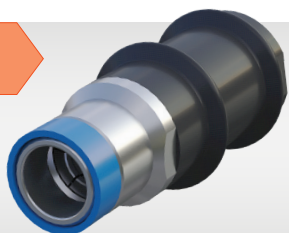
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CNG Fueling Nozzles (NGV1 & ISO14469)

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.

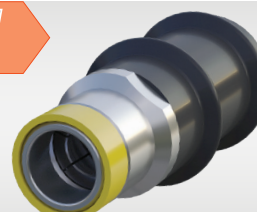
NEW



NT2AP30 (Type-2 or 3)

The NEW NT2A Series nozzle is designed to be versatile for all of your Type-2 CNG fueling applications. The NT2A has true Class A-specified durability and will optimize your time-fill, fast-fill and fleet-fueling sites. The ergonomic design, positive locking jaws and best-in-class internal seals will make this nozzle the preferred choice of your operators.

NEW



NT2AP36 (Type-2 or 3)



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.



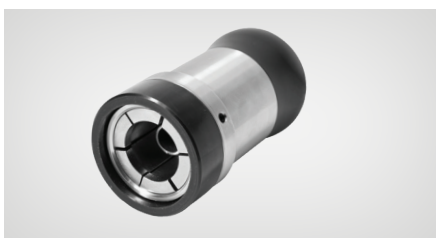
1000 Series (Type-1)

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.



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.

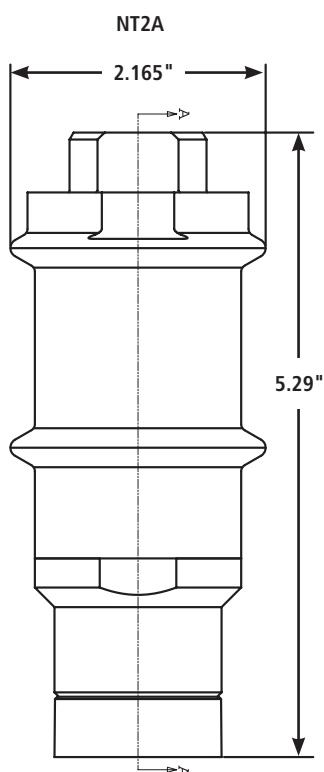


BDN Vehicle Defueling Nozzle

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.

NT2A Series General Purpose Nozzles (NGV1 & ISO14469, Type-2 or 3)

The NEW NT2A Series nozzle is designed to be versatile for all of your Type-2 CNG fueling applications. The NT2A has true Class A-specified durability and will optimize your time-fill, fast-fill and fleet-fueling sites. The ergonomic design, positive locking jaws and best-in-class internal seals will make this nozzle the preferred choice of your operators.



NT2A Series Fast-Fill/ Fleet-Fill Nozzles (NGV1 & ISO14469 Type-2 or 3)

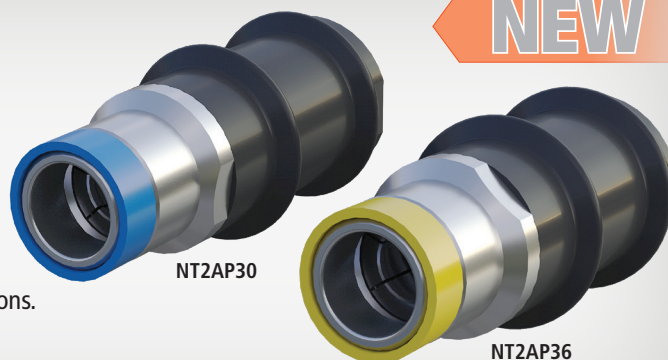
OPW NT2A Series Fast-Fill/Fleet-Fill Nozzles are designed for high-flow CNG-fueling systems. Applications include quick-fill fueling of automobiles, light trucks, shuttle buses, vans and time-fill or overnight fleet fueling.

Materials

Body: Brass

Jaws: Stainless steel

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



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 NT2A 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.
- ◆ **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 specially designed Duratuff® sleeve. Also incorporates stainless-steel front sleeve for those hand-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 and ISO14469 Fueling Standard** - Can be used to fuel any vehicle with approved profile receptacle.

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	Color	Service Pressure	Weight.
NT2AP30	SAE - 6, 9/16" - 18 UNF	Blue	NGV1 P30 ISO14469 B200 3000 psi (200 bar)	1.30 lb. 0.59 kg
NT2AP36	SAE - 6, 9/16" - 18 UNF	Yellow	NGV1 P36 ISO14469 B200 36000 psi (250 bar)	1.30 lb. 0.59 kg

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

Listings and Certifications



**NGV1
ISO14469**



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. It is a fueling system that 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.

(PLEASE SEE PAGE 4 FOR DETAILS)

Materials



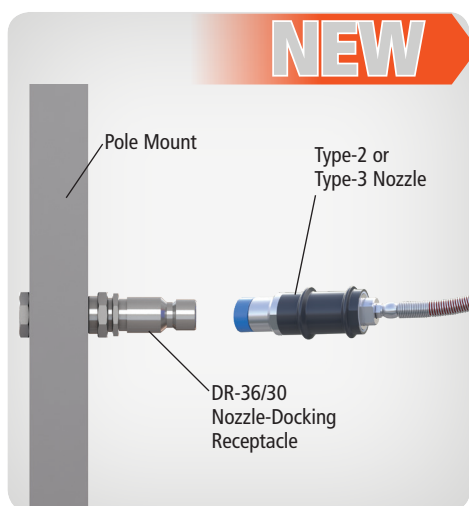
Features

- ◆ **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** - Provides user comfort and control while protecting vehicles from dents and scratches during fueling.

Listings and Certifications



**NGV1
ISO14469**



DR-36/30 Nozzle-Docking Receptacle

This is a Nozzle-Docking receptacle to be used **ONLY** for Type-2 and 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.

Nozzle Types

- Type 1** - Nozzle with an integrated vent-valve system. This vent valve is controlled by 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.

Designed as a Type-2 or 3 nozzle used in conjunction with the L-Series receptacles.

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

Ordering Specifications

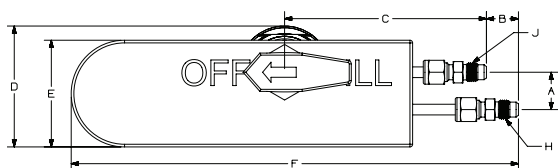
Product #	Description
DR-36/30	Nozzle-Docking Receptacle

CNG Type-2 Fueling System



Ordering Specifications

Product #	Description	Connection Fill	Vent	Approx. Weight	Service Pressure
3WV-44P	3-way valve, cover and outlet tubing and 3/4" extender	4-SAE-AN	4-SAE-AN	1.4 lb. (.63 kg)	up to 5,000 psi / 345 bar
3WV-44AP30-NT	3-way valve, cover, outlet tubing and 3/4" extender and NT2AP30	4-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,000 psi / 207 bar
3WV-44AP36-NT	3-way valve, cover, outlet tubing and 3/4" extender and NT2AP36	4-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,600 psi / 250 bar
3WV-46P	3-way valve, cover, outlet tubing and 3/4" extender	8-SAE-AN	4-SAE-AN	1.4 lb. (.63 kg)	up to 5,000 psi / 345 bar
3WV-46AP30-NT	3-way valve, cover, outlet tubing and 3/4" extender and NT2AP30	8-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,000 psi / 207 bar
3WV-46AP36-NT	3-way valve, cover, outlet tubing and 3/4" extender and NT2AP36	8-SAE-AN	4-SAE-AN	2.74 lb. (1.24 kg)	3,600 psi / 250 bar

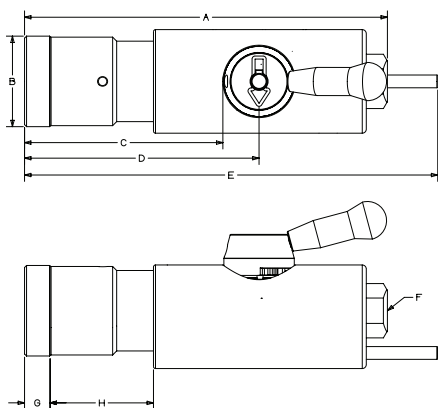


Dimensions

	3WV-44AP30/6-NT		3WV-46AP30/36-NT		3WV-44PFG		3WV-46PFG	
	in	mm	in	mm	in	mm	in	mm
A	.875	22.22	.875	22.2	.875	22.22	.875	22.22
B	.75	19.05	.75	19.05	.75	19.05	.75	19.05
C	4.73	120.14	4.73	120.14	4.73	120.14	4.73	120.14
D	2.83	71.95	2.83	71.95				
E	2.5	63.5	2.5	63.5	2.5	63.5	2.5	63.5
F	10.48	266.19	10.48	266.19	10.48	266.19	10.48	266.19
G	8.69	220.76	8.69	220.76	3.79	96.16	3.79	96.16
H	#4 SAE		#8 SAE		#4 SAE		#8 SAE	
J	#4 SAE		#4 SAE		#4 SAE		#4 SAE	

CT1000 Series Self-Service Nozzles (NGV1 & ISO14469 Type-1)

OPW CT1000 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

	CT1000P36S / CT1000LS	
	in	mm
A	7.10	180.4
B	1.77	45.0
C	3.88	98.6
D	4.59	116.6
E	8.08	205.4
F	Straight Thread O-ring Boss Port SAE-6 J1926 (9/16" - 18 UNF-2B)	
G	.50	12.7
H	2.02	51.4

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 harsh refueling environments.
- ◆ **Tamper Resistant** - specially designed cam system actuates the front and rear module. Tampering with the valve results in immediate dispensing shutoff.
- ◆ **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	Vent Tube Size OD		Service Pressure	Weight	
CT1000LS	SAE - 6, 9/16" - 18 UNF	1/4"	NGV1P30 ISO14469 B200	3000 psi 207 bar	3.66 lbs.	1.66 kg
CT1000P36S	SAE - 6, 9/16" - 18 UNF	1/4"	NGV1P36 ISO14469 B250	3600 psi 250 bar	3.65 lbs.	1.65 kg

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

Listings and Certifications



NGV1
ISO14469

CRN

See page 23 for Canadian Registration Number



Materials

Body: Brass

Jaws: Stainless steel

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

CT5000S
Coupling End



CT5000S Hose
Connection End

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:

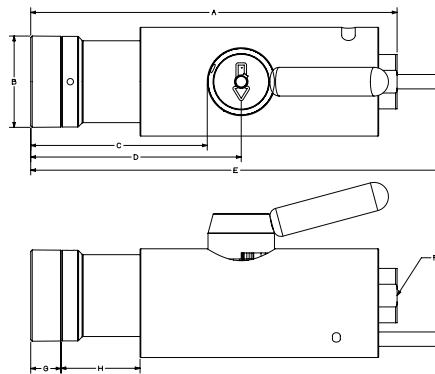
Min. Flow Rate: 5000 SCFM @ 3000 psid
Temperature Range: -40°F to 185°F
(-40°C to 85°C)

Cv: 2.75

MAWP: 4532 psi (312.5 Bar)

CT5000 Series Bus/ Heavy-Duty Truck Nozzles (NGV1 & ISO14469 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.



Dimensions

	CT5000S	
	in	mm
A	9.55	242.6
B	2.38	60.5
C	4.60	116.9
D	5.49	139.4
E	10.69	271.5
F	Straight Thread O-ring Boss Port SAE-10 J1926 (7/8" - 14 UNF-2B)	
G	.79	20
H	2.06	52.4

Ordering Specifications

Product #	Inlet Thread Size	Vent Tube Size OD	Service Pressure
CT5000S (directed vent)	SAE - 10 7/8" 14 UNF	3/8"	NGV1P30HD JAW profile w/service pressure rated to 3600 psi
			8.77 lb. - 3.98 kg

Connects to CL50 Series heavy-duty receptacles

Listings and Certifications



PED
2014/68/EU
NGV1
ISO14469

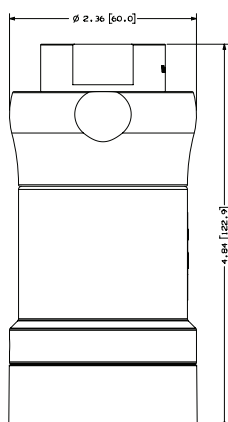
C E 0036

CRN

See page 23 for Canadian
Registration Number

CC6000 Series Bus/Heavy-Duty Truck Nozzles (NGV1 & ISO14469, 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.

CC6000
Coupling End

CC6000
Hose Connection End



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 CL series 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	NGV1P30HD JAW profile w/service pressure rated to 3600 psi	2.94 lb. - 1.33 kg

Connects to CL50 Series heavy-duty receptacles

**Listings and
Certifications**



**NGV1
ISO14469**

Materials

Body and Internal Components:
316L stainless steel

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



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 Receptacle 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.
- ◆ **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)

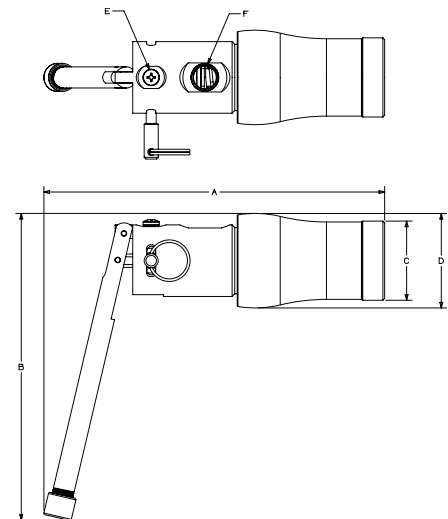
Ordering Specifications

Product #	Outlet Thread Size	Service Pressure		Weight
BDN for CNG Service	SAE -6, 9/16" 18 UNF	NGV1P30 profile JAW w/3600-psi-rated service pressure	ISO14469 B200 JAW w/250-bar-rated service pressure	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.



Dimensions

	BDN	
	in	mm
A	7.62	193.7
B	6.87	174.6
C	1.77	45.0
D	2.11	53.7
E	Bonded Wire Length	
	85.0	2159
F	Straight Thread O-ring Boss Port SAE-6 J1926 (9/16" - 18 UNF-2B)	

Listings and Certifications

CRN

See page 23 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 driveway. 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 driveway.

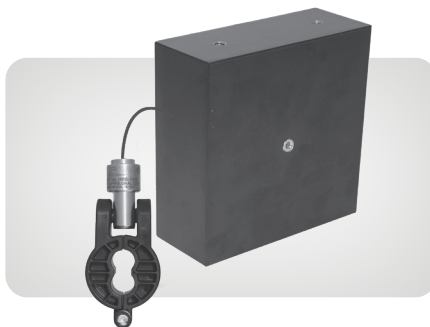


In-Line Breakaway (ILB-1)

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

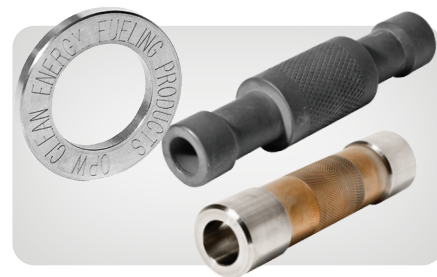
In-Line Breakaway (ILB-5) – Heavy-Duty Truck/Bus

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



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.

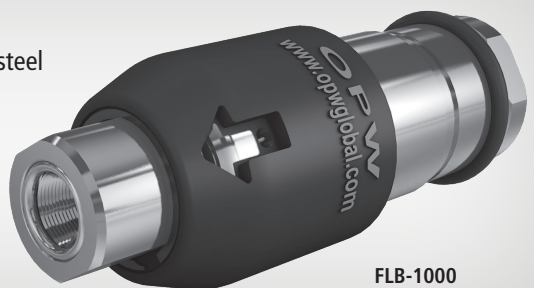


Materials

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 driveway 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**

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)

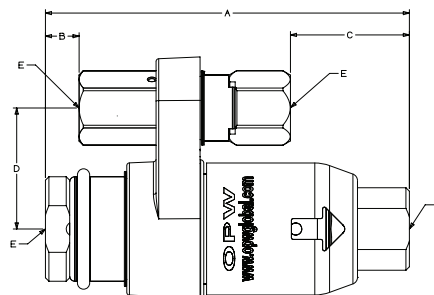


Fill-Line Breakaway Kit

CNGBREAKKIT-1000
(Includes NGVLB Breakaway)

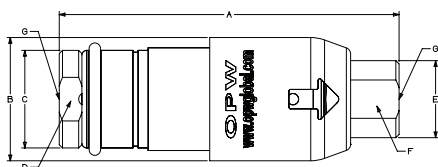
Ordering Specifications

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	



Dimensions

FLB-1000



	in	mm
A	4.14	105.5
B	1.50	38.1
C	1.19	30.2
D	1.06	27.0 Across Flats
E	0.94	23.8
F	0.81	20.65 Across Flats
G	Straight Thread O-ring Boss Port SAE-6 J1926 (9/16" - 18 UNF-2B) Both Ends	

Dimensions

CNGBREAKKIT-1000

	in	mm
A	4.14	105.0
B	0.38	9.7
C	1.35	34.3
D	1.38	34.9
E	2.74	69.6
F	Straight Thread O-ring Boss Port SAE-6 J1926 (9/16" - 18 UNF-2B) Both Ends	

Listings and Certifications



NGV 4.4

CRN

See page 23 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.

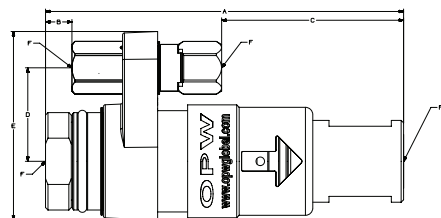
Specifications:

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)



Dimensions

CNGBREAKKIT-5000		
	in	mm
A	5.74	145.9
B	0.42	10.8
C	2.92	74.1
D	1.50	38.1
E	3.03	76.9
F	Straight Thread O-ring Boss Port SAE-10 J1926 (7/8" - 14 UNF-2B) Both Ends	

Materials

Body: Stainless steel

Internal Components: Stainless steel

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

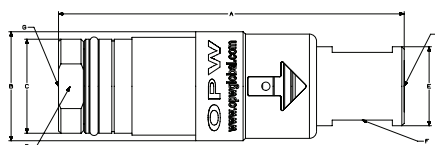


Features

- ◆ **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 driveaway 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 (0.91 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	



Dimensions

FLB-5000		
	in	mm
A	5.74	145.9
B	1.81	46.0
C	1.56	39.7
D	1.37	34.9 Across Flats
E	1.31	33.3
F	1.13	28.6 Across Flats
G	Straight Thread O-ring Boss Port SAE-10 J1926 (7/8" - 18 UNF-2B) Both Ends	

Listings and Certifications



NGV 4.4

PED
2014/68/EU

CE 0036

CRN
See page 23 for Canadian
Registration Number



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)

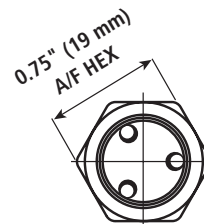
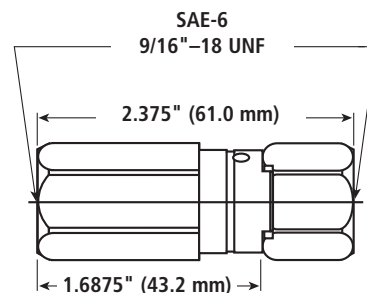
Cv: 0.24

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

MAWP: 4,532 psi (312.5 bar)

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.



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)

Listings and Certifications



NGV 4.4 With Exceptions

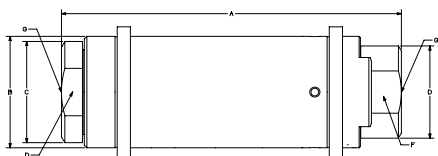
CRN

See page 23 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.



Dimensions

	ILB-1	
	in	mm
A	5.22	132.7
B	1.71	43.5
C	1.55	39.5
D	1.37	34.9 Across Flats
E	1.41	36.0
F	1.26	32.0 Across Flats
G	Straight Thread O-ring Boss Port SAE-10 J1926 (9/16" - 18 UNF-2B) Both Ends	

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 driveway 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



NGV 4.4

CRN

See page 23 for Canadian Registration Number



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 driveaway 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

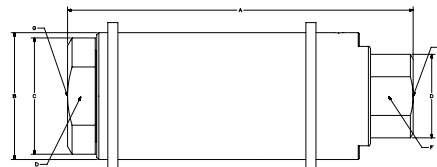
Temperature Range: -40°F to 185°F
(-40°C to 85°C)

Cv: 3.6

MAWP: 4532 psi (312.5 Bar)

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.



Dimensions

	ILB-5	
	in	mm
A	6.44	163.5
B	2.36	60.0
C	2.17	55.0
D	1.87	47.6 Across Flats
E	1.56	39.5
F	1.38	35.0 Across Flats
G	Straight Thread O-ring Boss Port SAE-10 J1926 (7/8" - 14 UNF-2B) Both Ends	

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
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Listings and Certifications



PED
2014/68/EU

NGV4.4

CE 0036

CRN

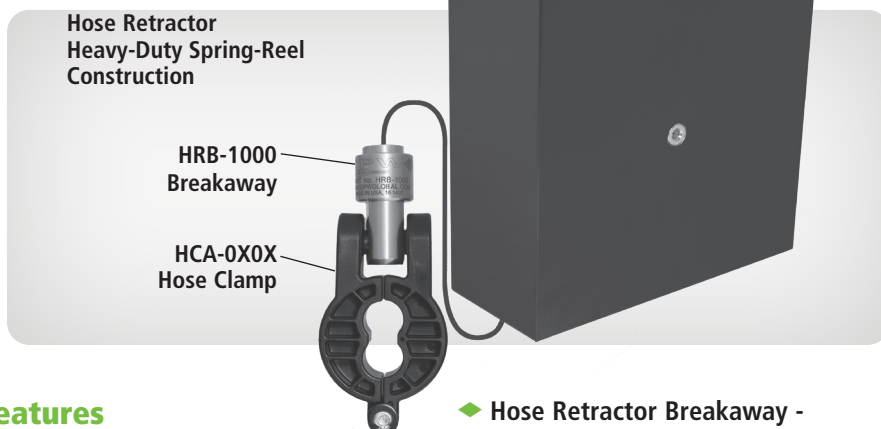
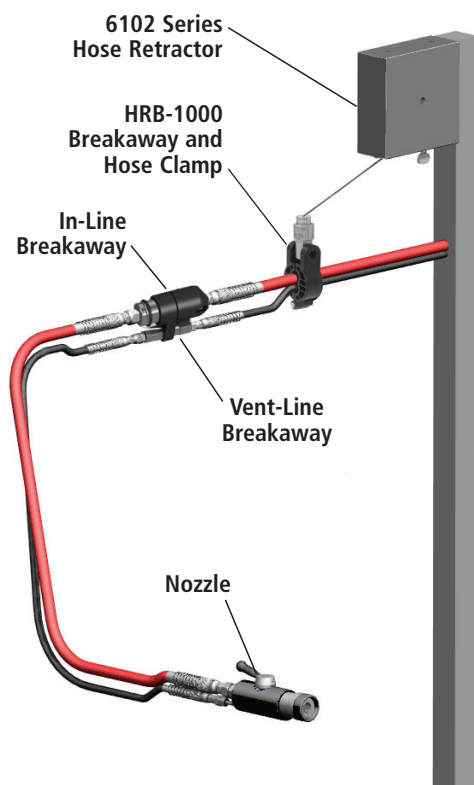
See page 23 for Canadian Registration Number

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.



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 designs 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.	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
6102-CNG5	CNG Hose Retractor with HRB-1000 and HCA-0606	3/8"	3/8"	10ft.	7 lbs.	3.1

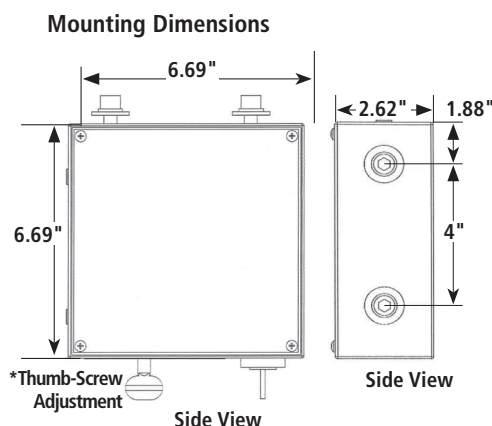
◆ NON-BREAKAWAY VERSIONS AVAILABLE, CONTACT US FOR MORE DETAILS

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-0606	HRB-1000 with HCA-0606 for CNG Hose 3/8" Fill x 3/8" Vent [-6 x -6]

HRB-1000 Hose Retractor Breakaway

HRB-10000	Hose Retractor Breakaway
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L SERIES

OPW L Series 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

Stainless-steel construction provides improved durability and corrosion resistance in the everyday environment.

◆ Non-Contact Check Valve

Each OPW L Series Receptacle contains a highly reliable non-contact check valve that opens when differential pressure is present during refueling.

◆ 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 and has exceptional wear resistance under all operating pressure and temperature conditions.

◆ Bulkhead or Straight Thread

L Series receptacles can be used with parallel thread or compression-tube fittings. See OPW offerings on the next page. If you don't see an offering that meets your needs, contact our product management team.

LD & LE Series bodies have Hex flats and bulk head nuts to ease vehicular mounting. The LB Series have wrench flats but no bulk head nut.

◆ 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.

◆ 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 Receptacles are designed for medium-storage NGV at 200 Bar (3000 psi) or 250 Bar (3600 psi) operating pressure.

Need a receptacle with a specific fitting? Don't want the dust cap? Contact our product management team to create the perfect receptacle system to meet your needs.

Connects to the CT1000 Series and NT2A series Standard duty CNG Nozzles for filling and the BDN for P30 and P36 de-fueling.

◆ Rubber Dust Cap

Standard protective dust caps are supplied with all receptacles.

◆ Serviceable O-ring

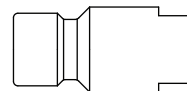
Designed to prevent leakage at the connection point.

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.

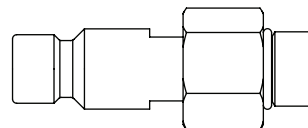
LB

- Wrench Flats



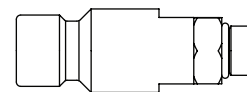
LBXX78

- 7/8 - 14 UNF - 2A



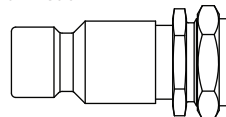
LBXX16

- 9/16 - 18 - UNF - 2A



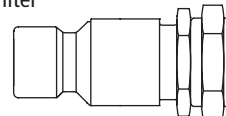
LD

- Bulkhead



LE

- Bulkhead
- Filter



Listings and Certifications

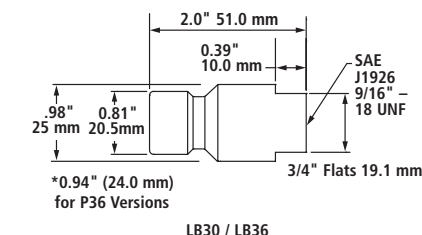


**NGV1
ISO14469**

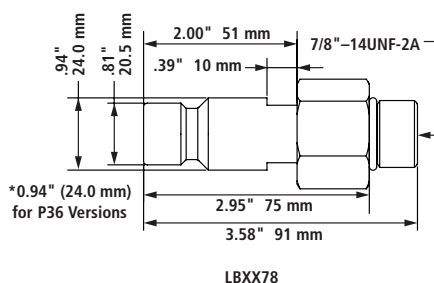


L Series Fueling Receptacles

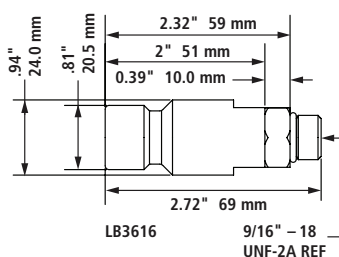
OPW L Series Refueling Receptacles are designed for use on medium-storage natural gas vehicles, including automobiles, light trucks, shuttle buses and vans.



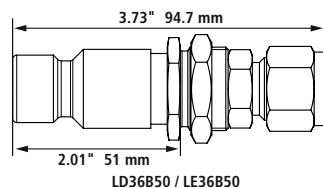
LB30 / LB36



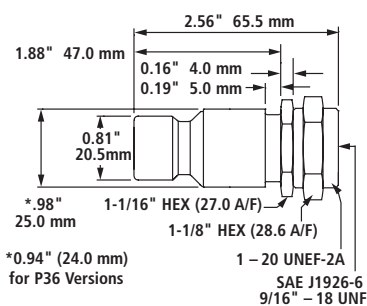
LBXX78



LB3616



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

Features

- ◆ **Protective Rubber Dust Caps** - included with all OPW L series receptacles.

Specifications:

Min. Flow Rate: 1500 SCFM @ 3000 psid

Temperature Range: -40°F to 85°F
(-40°C to 85°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 P30; ISO14469 B200 Receptacle w/ 3/4" Flats	3000 psi.	200 bar	.31 lb.	.14 kg
LB36	NGV1 P36; ISO14469 B250 Receptacle w/ 3/4" Flats	3600 psi.	250 bar	.31 lb.	.14 kg
LB3078	LB30 + 50061	3000 psi.	200 bar	0.68 lb.	0.31 kg
LB3678	LB36 + 50061	3600 psi.	250 bar	0.74 lb.	0.34 kg
LB3616	LB36 + 50030	3600 psi.	250 bar	0.42 lb.	0.19 kg
LD30	NGV1 P30; ISO14469 B200 Receptacle w/ Bulkhead	3000 psi.	200 bar	.44 lb.	.2 kg
LD36	NGV1 P36; ISO14469 B250 Receptacle w/ Bulkhead	3600 psi.	250 bar	.44 lb.	.2 kg
LD36B50	LD36 + 212435	3600 psi.	250 bar	.44 lb.	.2 kg
LD36B375	LD36 + 50066	3600 psi.	250 bar	.44 lb.	.2 kg
LE30	NGV1 P30; ISO14469 B200 Receptacle w/ Bulkhead and Filter	3000 psi.	200 bar	.44 lb.	.2 kg
LE36	NGV1 P36; ISO14469 B250 Receptacle w/ Bulkhead and Filter	3600 psi.	250 bar	.44 lb.	.2 kg
LE36B50	LE36 + 212435	3600 psi.	250 bar	.44 lb.	.2 kg
001141	Replacement "Interface" O-ring for L Series receptacles				
001147	Replacement Rubber Dust Cap				

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

Adaptor Shafts P/N	Description	Weight	
		lbs.	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



NGV1
ISO14469



Materials

Body and Adaptor Shaft: Stainless steel

Internal Components: Stainless steel

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



CL5078

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 all 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 85°F
(-40°C to 85°C)

Cv: 3.30

MAWP: 5000 psi (345 bar)

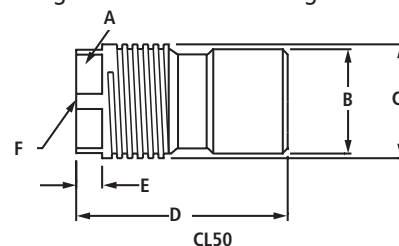
Ordering Specifications

Product #	Type/Size	Service Pressure*		Weight	
CL50	NGV1 P30HD; ISO14469 C200 7/8" - 14 SAE-10 Female Port	3600 psi.	250 bar	0.91 lb.	0.413 kg
CL5000	CL50 + 5/8" Double Ferrule Fitting	3600 psi.	250 bar	1.29 lbs.	0.585 kg
CL5078	CL50 + 001129	3600 psi.	250 bar	1.14 lbs.	0.518 kg
CL5016	CL50 + 001133	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				

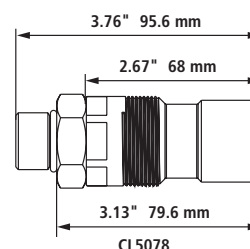
*CL series is certified for pressures NGV1 P36 & ISO14469 C250

CL50 Series Bus/Heavy-Duty Truck Receptacles

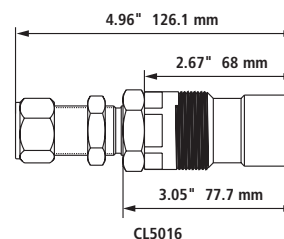
OPW CL50 Series Receptacles are designed for use on extremely high-flow, heavy-duty applications including quick-fill, self-service fueling of transit buses and large trucks.



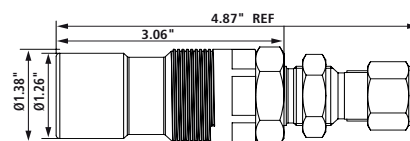
CL50



CL5078



CL5016



Custom w/tube fitting available. Call Us!

Dimensions

	in	mm
CL50		
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	

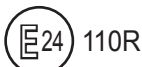
*D-Dimensions for:

	in	mm
CL5000	4.80	122.1
CL5016	4.96	126.1
CL5078	3.76	95.6

Listings and Certifications



**NGV1
ISO14469**



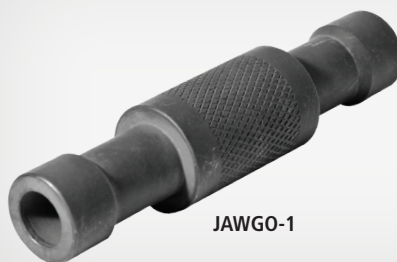


Gages - JAWGO

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 "Tight Fit" tolerances, the maximum acceptable diameter. JAWGO Gages 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.
- ◆ **JAWGO-1** - Used to test CC270, NT2A, CT1000 Series Nozzles.
- ◆ **JAWGO-5** - Used to test CT5000 and CC6000 Series Nozzle Jaws.

Ordering Specifications

Product #	Description	Works with	Weight	
JAWGO-1	NGV1 Nozzle Go/No-Go Gage	NGV1 P30, P36 ISO14469 B200, B250	.62 lb.	.28 kg
JAWGO-5	Heavy-Duty ISO-14469 Nozzle Go/No-Go Gage	NGV1 P30HD, P36HD ISO14469 C200, C250	1.3 lb.	.59 kg

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 "Tight Fit" tolerances, the maximum acceptable diameter. RINGGO Gages are used for inspecting and identifying worn receptacles.

Materials

Body: Stainless steel



RINGGO-0001

Features

- ◆ **Durable Construction** - stainless steel construction for long service life.
- ◆ **RINGGO-0001** - Compatible with L Series Receptacles.
- ◆ **RINGGO-0005** - Compatible with CL Series Receptacles.

Ordering Specifications

Product #	Description	Works with	Weight	
			lb.	kg
RINGGO-0001	Receptacle Fit Gage	NGV1 P30, P36 ISO14469 B200, B250	.03	.01
RINGGO-0005	Heavy-Duty Receptacle Fit Gage	NGV1 P30HD, P36HD ISO14469 C200, C250	.09	.03

Glossary of Terms

Interchangeability Between Service Pressures – The nozzle and receptacle have been designed 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 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's 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 50 psi (3.45 bar) 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 ISO14469 and NGV1.

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. Defined as the settled pressure at a uniform gas temperature, World (15°C), North America (70°F)

- a. For North America the service pressures are 3000 psi and 3600 psi. NGV1 P30 and P36 & P30HD, P36HD.
- b. For Europe (World) the service pressures are 200 bar and 250 bar. ISO14469 B200, C200 and B250, C250.

Maximum Allowable Working Pressure (MAWP)

For all OPW Clean Energy products the MAWP is 1.25 times the rated service pressure.

Standard the Product is Certified to:

- a. NGV1, NGV4.4, ISO14469 and PED 2014/68/EU, E_u110R

Certifying Agencies: Will be marked clearly on product

Generic Terms:

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 driveway event.

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

Go/No-Go or Fit Gage – A Go/No-Go or fit gage is designed to 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 NGV1, "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.

References:

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

SAE International

ISO-TC197 N0489 Revised ISO DIS 17268.2

ISO14469

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
NT2A series	0C21049.21	0C21049.2	0C21049.25	0C21049.26	0C21049.23	0C21049	0C21049.29	0C21049.29
CT1000 series	0H18834.21	0H18834.2	0H18834.25	0H18834.26	0H18834.23	0H18834.24	0H18834.28ADD1	0H18834.27ADD1
CT5000	0H15417.51	0H18834.2	0H15417.5	0H15417.56	0H15417.56	0H15417.54	0H15417.58ADD1	0H18834.27
CC600 series	0H18834.21	0H18834.2	0H18834.25	0H18834.26	0H18834.23	0H18834.24	0H18834.28ADD1	0H18834.27ADD1
ILB-1	0H18834.21	0H18834.2	0H18834.25	0H18834.26	0H18834.23	0H18834.24	0H18834.28ADD1	0H18834.27ADD1
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	0H17341.51	0H17341.52	0H17341.5	0H17341.56	0H17341.56	0H17341.56	0H17341.5987	0H17341.5987
FLB-5000	0H17341.51	0H17341.52	0H17341.5	0H17341.56	0H17341.56	0H17341.56	0H17341.5987	0H17341.5987
NGVLB	0H17341.51	0H17341.52	0H17341.5	0H17341.56	0H17341.56	0H17341.56	0H17341.5987	0H17341.5987
BDN	Pending	0H17140.21	0H17140.25	0H17190.26	Pending	0H17140.24	Pending	Pending

TUV Approved

- ◆ NT2A Series Nozzles
- ◆ CT1000 Series Nozzles
- ◆ CT5000 Series Nozzles
- ◆ CC 6000 Series Nozzles
- ◆ ILB Series Breakaways
- ◆ FLB Series Breakaways
- ◆ NGVLB Series Breakaways
- ◆ LB, LD, LE Series Receptacles
- ◆ CL Series Receptacles

Global Operations

1 OPW Corporate Headquarters

9393 Princeton-Glendale Road,
Hamilton, OH 45011, USA
Tel: (800) 422-2525
Fax: (800) 421-3297
Int'l Tel: +1 (513) 870-3315
Int'l Fax: +1 (513) 870-3157
domesticsales@opw-fc.com
www.opwglobal.com

2 OPW Fuel Management Systems

6900 Santa Fe Drive,
Hodgkins, IL 60525, USA
Tel: +1 (708) 485-4200
Fax: +1 (708) 485-7137
info@opwfms.com
www.opwglobal.com

3 OPW Retail Fueling

3250 US Highway
70 Business West,
Smithfield, NC 27577, USA
Tel: (919) 934-2786
Fax: +1 (919) 359-3687
Customer Service:
1(800) 422-2525
Customer Service Fax:
1(800) 421-3297
www.opwglobal.com

4 OPW Engineered Systems

9393 Princeton-Glendale Road
Hamilton, Ohio, 45011, USA
Tel: +1 (513) 932-9114
(800) 547-9393
Fax: +1 (513) 932-9845
(800) 245-8536
www.opw-es.com

5 Midland Manufacturing

7733 Gross Point Road,
Skokie, IL 60077, USA
Tel: +1 (847) 677-0333
Fax: +1 (847) 677-0138
www.midlandmfg.com

6 Civacon

9393 Princeton-Glendale Road
Hamilton, Ohio, USA 45011, USA
Customer Service: (800) 560-6601
Tel: +1 (513) 870-3100
www.civacon.com

7 PDQ Manufacturing Inc.

1698 Scheuring Road,
P.O. Box 5190,
De Pere, WI 54115, USA
Tel: +1 (920) 983-8333
Fax: +1 (920) 983-8330
www.pdqinc.com

8 OPW Brazil

Avenida Prefeito Luis Latorre, 9.401
Galpão 3, Portões 1-3, Área Dover
Vila das Hortências
CEP: 13.209-430 - Jundiaí/SP
Tel: +55 (11) 2923-6600
www.opwbrasil.com.br

9 OPW Mexico

Homero 136 Int. 403
Col. Chapultepec Morales
México DF CP 11570
Delegación Miguel Hidalgo
Tel: 52 55 5254-5672
aanguiano@opw-fc.com

10 OPW FMS Poland

Petro Vend of Poland sp. z o.o.
ul. Warszawska 184
32-086 Węgrzce, Poland
Tel: + 48 12 4106600
Fax: + 48 12 4106690

11 OPW EMEA Headquarters

OPW Sweden AB
Fabriksgatan 3
Box 70
S-736 22
Kungsör, Sweden
Tel: +46 227 422 00
Fax: +46 227 422 01
www.opwglobal.com/emea

12 OPW FTG Europe

Roggestraat 38
2153 GC Nieuw-Vennep
P.O. Box 32
2150 AA Nieuw-Vennep
The Netherlands
Tel: +31 252 660 300
Fax: +31 252 687 258
www.opw-ftg.nl

13 OPW India

Dover India Pvt Ltd.
OPW Fueling Components Div.
A-93, Wagle Industrial Estate
Thane 400 604
Maharashtra, India
Tel: 91 22 6710 0812, 13, 14
Fax: 91 22 6710 0815
info@opwfc-in.com

14 OPW Asia Pacific

No.11 Weiwen Road
Suzhou Industrial Park
Suzhou, P.R.C. 215122
Tel: 86-(0)512-6274-5328
Fax: 86-(0)512-6274-5338
info@opw-fc.com.cn
www.opw-fc.com.cn

15 OPW Russia

Chistoprudnyy blvd. 17,
building 1, floor 8
Moscow 101000, Russia
www.opwglobal.ru

16 JUMP

Pearl River Road no. 2 Sino
Development Zone
Lianyungang Jiangsu, China,
222000
Tel: (86)0-013805122552

17 Liquip

13 Hume Road, Smithfield
Sydney NSW Australia 2164
PO Box 7049
Wetherill Park BC 2164

18 OPW France

73 avenue Carnot
FR-94230 Cachan
France
Tel: +33 1 4663 0400
www.opwglobal.com/emea

19 Fibrelite Composites Ltd.

Snaygill Industrial Estate
Keighley Road, Skipton
North Yorkshire
BD23 2QR
UK
Tel: + 44 (0) 1756 799 773
Fax: + 44 (0) 1756 799 539
covers@fibrelite.com

20 Tokheim

Unit 3 Baker Road
West Pitkerro Industrial Estate
Dundee DD5 3RT
Scotland, UK
Tel: +44 (0)1382 598 000
Fax: +44 (0)1382 598 001

21 Tokheim Sofitam Applications SAS

Route de Soliers
14540 Grentheville
France
Tel: +33 (0)2 31 15 15 15
Fax: +33 (0)2 31 23 15 06

22 Tokheim Netherlands B.V.

Industrieweg 5
5531 AD Bladel
The Netherlands
Tel: +31 (0) 497 389 500

23 Tokheim Belgium N.V.

Everdongenlaan 31
2300 Turnhout
Belgium
Tel: +32 (0)14 44 85 00
Fax: +32 (0)14 44 85 55

24 Tokheim India

A174, TTC Industrial area,
MIDC
Village Khairane, Navi Mumbai
Pin-400709 India
Tel : +91 (0)22 67614100
Fax: +91 (0)22 67614155

25 Tokheim Hengshan Technologies Co. Ltd.

Science City
No.66 Nanxiang Yi Road
510663 Guangzhou
China
Tel: +86 20 36 47 18 73

26 Tokheim Malaysia

14 Jalan Teknologi 3/1,
Section 3, Selangor
Science Park
1, Kota Damansara, Petaling
Jaya, Selangor Darul Ehsan,
Kuala Lumpur, 47810, Malaysia
Tel: +60 3 6156 1644,
Fax: +60 3 6156 1344

27 Tokheim Precision Brazil

Rua Cana Verde, 110 Conj. 295
Jd. Silvestre, Itaquaquecetuba,
São Paulo
CEP 08485-420
Tel: +55 11 4646 1130

28 TQC Quantum Quality

Carretera Federal
Mexico-Puebla km100,
Bodega 3 Col. San Juan Tlautila,
Cholula, Puebla, C.P. 72750
Mexico
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