

# Balcrank



*true blue*

**DEF Dispense Systems**

*Automotive*

*Commercial*

*Industrial*

**Diesel Exhaust Fluid**



# Introduction to Diesel Exhaust Fluid (DEF)

**For over 100 years, Balcrank has designed and manufactured quality fluid dispensing equipment systems and packages for the Automotive, Commercial, and Industrial Marketplace.**

The tradition continues with...true blue diesel exhaust fluid (DEF) dispensing system packages. Designed specifically to handle DEF, the true blue systems and packages help to reduce vehicle emissions.

DEF is packaged in totes, drums, and bottles. Balcrank offers drum and tote system packages for dealerships, garages, fleets, and commercial facilities. These packages

are designed to make DEF refills convenient for technicians and drivers.

You are never far from an authorized Balcrank installation distributor. A national network of trained and authorized technicians stand ready to install and service our equipment. Balcrank is committed to providing DEF support to their customers in the Automotive, Commercial, and Industrial markets.

- Truck fleet service facilities and networks
- Automotive dealerships
- Agricultural service applications
- Specialty and off-road vehicle service facilities
- Vehicle manufacturers

The EPA's working to reduce pollution by mandating a multi-year diesel emission-reduction plan. In 1996, the EPA published Tier 1.

In 2009, the EPA published Tier 2 for new light and heavy-duty diesel vehicles. These vehicles must meet new strict emission control standards of 0.07 grams/mile of  $\text{NO}_x$ , effective January 1, 2010.

In 2010, the EPA published Tier 3 for new heavy-duty highway engines and vehicles. These vehicles must meet new strict emission control standards of 0.20 grams/break horsepower-hour of  $\text{NO}_x$ , effective June 2010 in truck applications.

To assist these standards, vehicle and engine manufacturers have developed a technology called, Selective Catalytic Reduction (SCR) for diesel engines. This technology uses Diesel Exhaust Fluid to convert the  $\text{NO}_x$  into harmless nitrogen gas ( $\text{N}_2$ ) and water vapor ( $\text{H}_2\text{O}$ ).

Balcrank offers a wide range of true blue DEF dispensing equipment system packages designed specifically to handle DEF.

As your DEF volume increases, the true blue system packages can easily be adapted to fit various container sizes and distribution options.



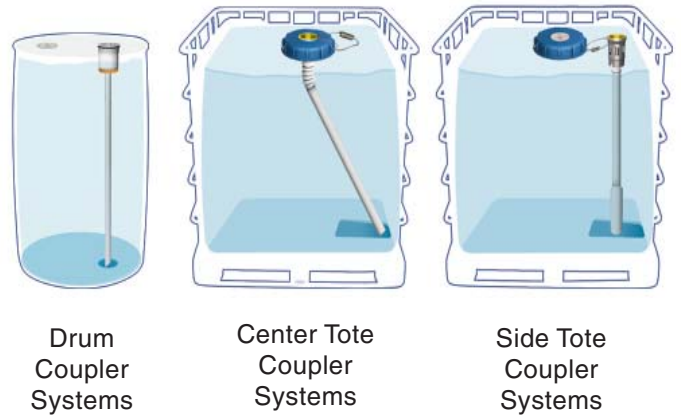
## Open & Closed Coupler Systems

DEF purity is essential. A critical system consideration in maintaining DEF quality is the type of dispensing system used.

CLOSED system containers have a valve coupling system that seals the container opening on drums and totes (IBC) to prevent dirt, debris, bugs etc. from entering the container and contaminating the diesel exhaust fluid. Liquid in container system is sealed and secure, throughout container life cycle. For closed systems, use Economic Plastic Valve (EPV) or Reusable Stainless Valve (RSV) systems accessories.

OPEN system containers are drums or totes (IBC) that do not contain a valve insert in the container's bung opening; potentially, allowing dirt, debris, bugs, etc. to enter the container and contaminate the diesel exhaust fluid. For open systems, use Drum Quick Pro (DQP) accessories.

Both open and closed systems are approved for use in DEF applications. Check with your DEF supplier for fluid warranty details.



## Container Size Options

### 55 Gallon:

Supplies up to 11,000 miles\*. Ideal for one or two trucks operations and can last several months.

### 275 Gallon:

Supplies up to 55,000 miles\*. Tote (IBC) is delivered by truck and requires unloading by forklift.

### 330 Gallon:

Supplies up to 66,000 miles\*. Tote (IBC) is delivered by truck and requires unloading by forklift.

Note:\*

Above calculations based at 3% usage at average fuel economy of 6 miles per gallon. Container volume /mileage usage may vary depending on vehicle dosage rate.

## DEF Fluid Distribution Options



### One-way:

Fill – Transport – Dispense and dispose or recycle



### Returnable/Refillable:

Fill – Transport – Dispense and return or refill



### On-site refilling:

Fill – Transport – Dispense and refill on-site - The true blue system focuses on on-site refilling.



**Features**

- Lever action pump with unique design incorporating a toggle mechanism in the handle to connect the piston to the shaft for smooth operation
- Polypropylene construction, includes 2" bung adapter and adjusting nut
- Pump delivers 1 pint per stroke/ 8 strokes per gallon
- EPDM seals for maximum chemical compatibility
- 6' Dispense hose

**Models Available**

1310-005	Lever Pump & Spout
1310-006	Lever Pump & Manual Nozzle

**Technical Data**

Delivery Volume	1 pint per stroke (500 cc)
Temp Range	-5°C + 45°C (23°F- 113°F)
Wetted Materials	Polypropylene, EPDM
Service Bulletin	SB1117



**Features**

- 1/2 horsepower motor, 120 VAC 4.5 to 6.0 GPM flow rate
- Ergonomic design, safe to run dry - lightweight, rugged and easy to use
- Self priming, self draining - prevents product spills on floor
- Integral clip to hang the pump for storage when not in drum - keeps dirt out of pump tube
- 6' Dispense hose
- Bung adapter included - securely fasten pump to drum

**Models Available**

1210-007A	Drum Stick Pump & Manual Nozzle
1210-007B	Drum Stick Pump & Auto Nozzle
1210-008A	Drum Stick Pump, Meter & Manual Nozzle
1210-008B	Drum Stick Pump, Meter & Auto Nozzle

**Technical Data**

Flow Rate	4.5-6 GPM
Power	110 VAC
Wetted Materials	PTE, 316SS, Viton, PP., PE., ETFE
Service Bulletin	SB1108
Accessories & Kits Catalog Pg	9-14



See pages 9-14 for pump, handle, meter, and accessory options.

**Features**

- 4 speed 2/3 horsepower motor, 120 VAC 8-12 GPM flow rate
- Ergonomic design, safe to run dry - lightweight, rugged and easy to use
- Self priming, self draining - prevents product spills on floor
- Integral clip to hang the pump for storage when not in tote - keeps dirt out of pump tube
- Bung adapter included - securely fasten pump to drum
- 12' Dispense hose

**Models Available**

1210-009A	2/3 horsepower electric Tote Stick Pump & Manual Nozzle
1210-009B	2/3 horsepower electric Tote Stick Pump & Auto Nozzle
1210-010A	2/3 horsepower electric Tote Stick Pump, Meter & Manual Nozzle
1210-010B	2/3 horsepower electric Tote Stick Pump, Meter & Auto Nozzle

**Package Data**

Flow Rate	8-12 GPM
Power	110 VAC
Wetted Materials	Stainless Steel, EPDM, PTFE, Viton, PP, PE, ETFE
Service Bulletin	SB1109
Accessories & Kits Catalog Pg	9-14





*Couplers systems are not included, choose from Open or Closed Systems on pg. 9-10*



1210-016

*Dual system capability*

- 1) dispense from a 55-gal drum portable unit,
- 2) refill 55-gal drum from a tote or tank utilizing the same electric pump & 3-way diverter valve.

## Features

- Heavy-duty cart - easily holds and rolls up to 55 gallon drum
- 110 VAC Stainless Steel Centrifugal pump
- Large semi-pneumatic tires - allows for easy maneuvering of cart
- Large non-marking rear caster - built in break for safe and secure dispensing
- Includes: 3' suction hose and 12' dispense hose
- Optional, battery powered electronic meter with display
- Dispense nozzle options:
  - Stainless steel automatic shut-off nozzle
  - Manual nozzle, polyethylene

## Models Available

1210-022P	Drum Package w/Side Mount, Centrifugal Pump, Non-Metered Manual Nozzle
1210-023P	Drum Package w/Side Mount, Centrifugal Pump, Metered Manual Nozzle
1210-024P	Drum Package w/Side Mount, Centrifugal Pump, Non-Metered Auto Nozzle
1210-025P	Drum Package w/Side Mount, Centrifugal Pump, Metered Auto Nozzle
1210-016	Drum Package Centrifugal Pump, meter, Auto Nozzle, Cart & 3-way Diverter

NOTE: Additional Drum & Tote packages available. Contact your Customer Service Representative.

## Package Data

Flow Rate	8-10 GPM
Power	110 VAC
Wetted Materials (pump)	Stainless Steel, Vinton, PPE
Service Bulletin	SB1087
Accessories & Kits Catalog Pg	9-14



*Couplers systems are not included, choose from Open or Closed Systems on pg. 9-10*



*See pages 9-14 for pump, handle, meter, and accessory options.*

## Features

- Heavy-duty cart - easily holds and rolls up to 55 gallon drum
- 1/2" Air Operated Double Diaphragm pump
- Large semi-pneumatic tires - Allows for easy maneuvering of cart
- Large non-marking rear caster - built in break for safe and secure dispensing
- Includes: 3' suction hose and 12' dispense hose
- Optional, battery powered electronic meter with display
- Dispense nozzle options:
  - Stainless steel automatic shut-off nozzle
  - Manual nozzle, polyethylene

## Models Available

1210-026P	Drum Package w/Side Mount, AODD Pump, Non-Metered, Manual Nozzle
1210-027P	Drum Package w/Side Mount, AODD Pump, Metered, Manual Nozzle
1210-028P	Drum Package w/Side Mount, AODD Pump, Non-Metered, Auto Nozzle
1210-029P	Drum Package w/Side Mount, AODD Pump, Metered, Auto Nozzle

## Package Data

Flow Rate	10-15 GPM
Wetted Materials (pump)	PTFE, PP, Santoprene
Service Bulletin	SB1111
Accessories & Kits Catalog Pg	9-14



### Standard System Features

- 110 VAC Stainless Steel Centrifugal pump
- Includes: 3' suction hose and 20' dispense hose
- Optional, battery powered electronic meter with display
- Dispense nozzle options:
  - Stainless steel automatic shut-off nozzle
  - Manual nozzle, polyethylene

### Models Available

1210-022	Tote Package w/Side Mount, Centrifugal Pump, Non-Metered Manual Nozzle
1210-023	Tote Package w/Side Mount, Centrifugal Pump, Metered Manual Nozzle
1210-024	Tote Package w/Side Mount, Centrifugal Pump, Non-Metered Auto Nozzle
1210-025	Tote Package w/Side Mount, Centrifugal Pump, Metered Auto Nozzle

*Couplers systems are not included, choose from Open or Closed Systems on pg. 9-10*



### Quick Start System Features

- Quick Start units automatically start and shut-off within seconds after the dispense operation is complete
- Quick Start eliminates damage to the pumps seals, protecting your DEF equipment and fluid quality
- Built-in check valves
- Monitors pressure and flow

### Models Available

1210-022Q	Tote Package w/Side Mount, Centrifugal Pump, Non-Metered Manual Nozzle-Quick Start
1210-023Q	Tote Package w/Side Mount, Centrifugal Pump, Metered Manual Nozzle-Quick Start
1210-024Q	Tote Package w/Side Mount, Centrifugal Pump, Non-Metered Auto Nozzle-Quick Start
1210-025Q	Tote Package w/Side Mount, Centrifugal Pump, Metered Auto Nozzle-Quick Start

### Package Data

Flow Rate	8-10 GPM
Power	110 VAC
Wetted Materials (pump)	Stainless Steel, Viton, PPE
Service Bulletin	SB1087
Accessories & Kits Catalog Pg	9-14





*Couplers systems are not included, choose from Open or Closed Systems on pg. 9-10*



*See pages 9-14 for pump, handle, meter, and accessory options.*

**Features**

- 1/2" Air Operated Double Diaphragm pump
- Includes: 3' suction hose and 20' dispense hose
- Optional, battery powered electronic meter with display
- Dispense nozzle options:
  - Stainless steel automatic shut-off nozzle
  - Manual nozzle, polyethylene

**Models Available**

1210-026	Tote Package w/Side Mount, AODD Pump, Non-Metered Manual Nozzle
1210-027	Tote Package w/Side Mount, AODD Pump, Metered Manual Nozzle
1210-028	Tote Package w/Side Mount, AODD Pump, Non-Metered Auto Nozzle
1210-029	Tote Package w/Side Mount, AODD Pump, Metered Auto Nozzle

**Package Data**





Flow Rate	10-15 GPM
Wetted Materials (pump)	PTFE, PP, Santoprene
Service Bulletin	SB1111
Accessories & Kits Catalog Pg	9-14

Tote Systems

# Couplers




## Open Systems

### Drum Quick Pro (DQP)

	4530-001	Coupler, polyethylene - 3/4" barb	
	832769	Replacement filter, air - used on 4530-001	
		4530-002	Insert, polyethylene, 2 1/2" ABUT (American Buttress)
		4530-003	Key - DQP series
		4530-004	Dip tube, 330-gal tote length
		4530-005	Dip tube, 275-gal tote length
4530-006		Dip tube, 55-gal drum length	
			
<b>Suction Kits</b>			
	4530-007	Suction Kit, DQP series - includes: coupler, insert, key & 55-gal drum dip tube	
	4530-008	Suction Kit, DQP series - includes: coupler, insert, key & 275-gal tote dip tube	
	4530-009	Suction Kit, DQP series - includes: coupler, insert, key & 330-gal tote dip tube	

## Closed Systems

### Reusable Stainless Valve (RSV) - 4 Prong, Green Seal - Preferred & Balcrank recommended

	4530-036	Coupler, Stainless Steel - 3/4" barb	
		4530-048	Coupler, Fill head 1" NPT
		4530-037	Insert, stainless steel, 2 1/2" ABUT (American Buttress)
		4530-038	Key - RSV series

## Closed Systems-continued

### Continued Reusable Stainless Valve (RSV) - 4 Prong, Green Seal



4530-039	Dip tube, 330-gal tote - side length
4530-040	Dip tube, 275-gal tote - side length
4530-041	Dip tube, 55-gal drum length
4530-043	Dip tube, 330-gal tote - center length
4530-044	Dip tube, 275-gal tote - center length

### Suction Kits

4530-042	Suction Kit, RSV series - includes: coupler, insert, & 55-gal drum dip tube
4530-045	Suction Kit, RSV series - includes: coupler, insert, & 275-gal tote dip tube
4530-046	Suction Kit, RSV series - includes: coupler, insert, & 330-gal tote dip tube
4530-050	1210-016 suction kit, RSV series - includes: coupler, fill head, 2 inserts, 3 dip tubes (55-gal drum, 275-gal center, & 330-gal center)

### Economic Plastic Valve (EPV) - 3 Prong, Orange Seal



4530-026	Coupler, Stainless Steel - 3/4" barb
4530-027	Insert, polyethylene, 2 1/2" ABUT (American Buttress)
4530-028	Key - EPV series
4530-029	Dip tube, 330-gal tote - side length
4530-030	Dip tube, 275-gal tote - side length
4530-031	Dip tube, 55-gal drum length
4530-033	Dip tube, 330-gal tote - center length
4530-034	Dip tube, 275-gal tote - center length


### Suction Kits

4530-032	Suction Kit, EPV series - includes: coupler, insert, & 55-gal drum dip tube
4530-035	Suction Kit, EPV series - includes: coupler, insert, & 275-gal tote dip tube
4530-047	Suction Kit, EPV series - includes: coupler, insert, & 330 gal tote dip tube
4530-049	1210-016 suction kit, EPV series - includes: 2 couplers, 2 inserts, 3 dip tubes (55-gal drum, 275-gal center, & 330-gal center)


# System Components

## All Systems


### Hose - Suction - before pump

	8570-003	3/4" ID x 3' w/hose clamps
	8570-006	3/4" ID x 6' w/hose clamps
	8572-006	1" ID x 6' w/hose clamps, 100% virgin PVC

### Hose - dispense-after pump *All hoses are specially formulated polyurethane unless otherwise stated*

	8551-006	1" ID x 6' w/hose clamps and simple spout
	8560-003	3/4" ID x 3' w/hose clamps
	8560-012	3/4" ID x 12' w/hose clamps
	8561-003	3/4" ID x 3' Swivel 3/4" BSPP (M) <i>cut end requires a hose clamp NOT included. order #832760</i>
	8561-006	3/4" ID x 6' Swivel 3/4" BSPP (M) <i>cut end requires a hose clamp NOT included. order #832760</i>
	8561-012	3/4" ID x 12' Swivel 3/4" BSPP (M) <i>cut end requires a hose clamp NOT included. order #832760</i>
	8561-016	3/4" ID x 16' Swivel 3/4" BSPP (M) <i>cut end requires a hose clamp NOT included. order #832760</i>
	8561-020	3/4" ID x 20' Swivel 3/4" BSPP (M) <i>cut end requires a hose clamp NOT included. order #832760</i>
	8561-030	3/4" ID x 30' Swivel 3/4" BSPP (M) <i>cut end requires a hose clamp NOT included. order #832760</i>
	8562-003	3/4" ID x 3' Swivel 3/4" BSPP (M) - Straight 3/4" BSPP (M)
	8569-016	3/4" ID x 16' Swivel 3/4" BSPP (M/M)
	8569-020	3/4" ID x 20' Swivel 3/4" BSPP (M/M)
	8569-030	3/4" ID x 30' Swivel 3/4" BSPP (M/M)
	8569-050	3/4" ID x 50' Swivel 3/4" BSPP (M/M)

### Pumps

	1120-020S	Air diaphragm pump 1/2" NPT
	1120-021S	Air diaphragm pump 1" NPT
	1200-013	Electric centrifugal pump, 110 VAC, 3/4" barb
	1200-014	Electric diaphragm pump - 12 VDC, 3/4" barb Rated for outdoor use
	1200-017	Electric diaphragm pump - 110 VAC, 3/4" barb
	1200-015	Electric stick pump-drum - 120 VAC, 3/4" barb
	1200-016	Electric stick pump-tote - 120 VAC, 3/4" barb
	1300-028	Lever hand pump, manual 1" barb



## All Systems

### Hose Reels



2400-006	Bare reel up to 30' - 3/4" ID BSPP (F/F)
2400-007	3/4" ID x 16' BSPP (M) includes 3' inlet hose
2400-008	3/4" ID x 20' BSPP (M) includes 3' inlet hose
2400-009	3/4" ID x 30' BSPP (M) includes 3' inlet hose

### Meters & Solenoids



832773	Meter, 1" BSPP (M/M)
832867	Meter, pulse-out - 1" BSPP (F/F) 83 PPQ
832896	Meter, 1" NPT (M/M)
832952	Solenoid, Stainless Steel , 3/4" NPT (F/F), 24 VAC, 150 PSI

### Miscellaneous

832924	Center cap, tote 6" dia. x 2.5" ID ABUT (American Buttress)
6210-001	Funnel with spout
832932	Hose bend restrictor - 12" black poly
832760	Stainless steel hose clamp 3/4"

### Nozzles



3340-011	Nozzle, manual, polyethylene 3/4" barb
3340-015	Nozzle, manual, polyethylene 1" barb
3340-012	Nozzle, automatic shut-off, stainless steel, 3/4" BSPP (F)
3340-013	Nozzle, magnetic, 21Gu, 1" BSPP (M)
4530-054	Nozzle holder, drip tray

## All Systems

### Adapters- Elbow



832772	Poly Hose elbow, 1" BSPP(M) to 3/4" barb
832982	Poly Hose elbow, 1" NPT(M) to 3/4" barb
832964	Stainless steel elbow, 1" BSPP(M) X 3/4" BSPP(F) 90 DEG.

### Adapters - Hose Barb



832775	Poly Hose barb, 1" BSPP(M) to 3/4" barb
832850	Poly Hose barb, 1" NPT(M) to 3/4" barb
832851	Poly Hose barb, 3/4" NPT(M) to 3/4" barb
832890	Poly Hose barb, 1/2" NPT(M) to 3/4" barb
832800	Stainless steel swivel 3/4" BSPP(M) to 3/4" barb

### Adapters - Couplers (F/F)



832943	Poly coupler, 1" NPT(F) to 1" BSPP(F)
832853	Stainless steel coupler, 1" BSPP(F) to 1" BSPP(F)
832870	Stainless steel coupler, reducer - 1" BSPP(F) to 3/4" BSPP(F)

### Adapters - Hex Nipple (M/M)








832873	Poly Adapter, converts 3340-011 manual nozzle from 3/4" barb to 1" BSPP (M) threads
832847	Poly Nipple Adapter, 1" BSPP(M/M)
832929	Poly Nipple Adapter Reducer, 1" BSPP(M) x 3/4" NPT(M)
832909	Stainless steel Adapter, 3/4" NPT(M) to 3/4" BSPP(M)

### Adapters - Swivel Union



832947	Stainless steel swivel, 1" BSPP(F) to 3/4" BSPP(M)
832771	Poly swivel, 1" BSPP(M) X 1" BSPP(F)

All Systems		
<b>Adapters-Washer</b>		
	832913	3/4" Stainless steel /Viton bonded seal
	832880	1" Stainless steel /Viton bonded seal
<b>Brackets</b>		
	4530-053	Drum mounting plate
	4530-056	Side /Wall mount bracket
<b>Dolly Bases &amp; Drum Carts</b>		
	4320-007	Drum Cart, 55-gal heavy duty
	4310-004	Dolly Base, 55-gal heavy duty
<b>Filters</b>		
	3250-001	Filter, in-line 10 micron - 3/4" barb (filter included)
	832796	Replacement filter for 3250-001 in-line filter, 10 micron
<b>Kits - Conversion</b>		
	1210-017	Kit, Diverter starter to modify a 1210-025P to a 1210-016
	1210-018	Kit, Meter to nozzle conversion
<b>Kits - Repair</b>		
	832903	Kit, repair 1/2" DEF for 1120-020 <i>air end</i>
	832975	Kit, repair 1" DEF for 1120-021 <i>air end</i>
	832976	Kit, repair 1" DEF for 1120-021S <i>wet end</i>
	832978	Kit, repair 1/2" DEF for 1120-020S <i>wet end</i>
	833100	Kit, repair 1/2" DEF for 1120-020S <i>air end</i>
	833104	Kit, repair 1" DEF for 1120-021S <i>air end</i>
	833135	Kit, seal mechanical - 1200-013
	833136	Kit, Impeller for 1200-013

# **Balcrank**

Fluid Dispensing Systems

## **Customer Support**

**800-747-5300 or 828-645-4261**  
**(Mon. - Fri., 8 am - 5 p.m. ET)**

- Order entry
- Product availability
- Pricing
- Basic product information
- Shipping dates and delivery information
- Product return authorization

## **Order by fax**

**800-763-0840 or 828-658-0840**

- Fax orders day or night
- Free-up phone lines
- Order confirmed next business day by fax or email

## **Technical Support**

**800-747-5300 or 828-645-4261**  
**(Mon. - Fri., 8 am - 5 p.m. ET)**

- Repair Advice
- Product application recommendations
- Warranty claims and returns
- Service bulletins

## **E-mail Ordering & Online Support**

**Website:** [www.balcrank.com](http://www.balcrank.com)  
**E-mail:** [info@balcrank.com](mailto:info@balcrank.com)  
**E-mail Ordering:** [orders@balcrank.com](mailto:orders@balcrank.com)

## **Service Bulletins**

[www.balcrank.com](http://www.balcrank.com)

