

# PMVGBuyer's Guide

Innovative Product Solutions for the Lubrication Marketplace



PROVEN QUALITY. LEADING TECHNOLOGY.



Go online at [www.graco.com/lubrication](http://www.graco.com/lubrication) for :

- Literature
- Instruction Manuals
- Buyer's Guide
- Product Knowledge Exchange
- Distributor Locator
- What's New
- GEDI<sup>®</sup>

GEDI is the Graco Extranet Distributor Information<sup>®</sup> area on our web site where distributors have access to up-to-the-minute pricing, product order and shipping status and order entry. Information is accessed by an account number and a confidential password.

## To Find Your Nearest Authorized Graco Lubrication Equipment Distributor

Call: 1-800-533-9655 (toll free North America)

Fax: 1-800-533-9656

[Literature Index](#) | [Service Manuals](#) | [Literature](#)





# Table of Contents

Oil Pumps and Packages	
Oil Pumps Quick Reference	5-6
Fast-Ball <sup>®</sup>	7
LD Series Pumps and Packages	8-11
LD Series Pump Accessories	12
Mini Fire-Ball <sup>®</sup> 225, Fire-Ball 300, Fire-Ball 425 and Packages	13-19
Fire-Ball <sup>®</sup> and Oil Pump Accessories	20-22
NXT <sup>®</sup> High-Flo <sup>®</sup> and NXT Dura-Flo <sup>®</sup>	23-24
Grease Pumps and Packages	
Grease Pumps Quick Reference	25-26
LD Series Pumps, Packages and Accessories	27-28
Mini Fire-Ball 225	29
Fire-Ball 300	30-31
Fire-Ball 425	32-34
Grease Pump Packages and Accessories	35-40
NXT Check-Mate <sup>®</sup>	41
Transfer Pumps	
Air-Operated Double-Diaphragm Pumps	42
Fast-Flo <sup>®</sup> (Stainless Steel)	43-44
Electrical Powered Oil and Fuel Pumps	
APEX <sup>®</sup> Electric Dispense Systems	45-46
GTP10 and GTP12 Fuel Transfer Pumps	47
Specialty Pump Package Solutions	
Diesel Exhaust Fluid (DEF) Dispense Systems	48-49
Lube Truck and Undercoating/Rust-Proofing Packages	50-51
Windshield Washer and Coolant Dispense Systems	52
Hydraulic Oil and Grease Pumps	
Dyna-Star <sup>®</sup> , Power-Star <sup>®</sup> and Viscount <sup>®</sup> II Pumps	53-54
Manually Operated Oil and Grease Pumps and Packages	
Oil and Grease Dispense	55
Windshield Wash and Coolant Transfer	56
Reels and Packages	
SD Cord and Light Reels and Accessories	57-59
LD, SD and XD Hose Reels and Accessories	60-78
Dispense Consoles	
Multi-Station Consoles and Oil Bar	79
Dispense Meters and Control Valves	
LD, SD, EM6, EM12 and In-Line Electronic Meters	80-84
Mechanical Meters	85
Accessories	86
SDV15, XDV20, Pro-Shot <sup>®</sup> and Accu-Shot <sup>®</sup> Control and Dispense Valves	87-89
Fluid Management Systems	
Matrix <sup>®</sup>	90-93
Horizon <sup>®</sup>	94-95
Fluid Commander <sup>®</sup>	96-97
Manual Grease Guns	
Grease Guns, Accessories and Fittings	98-100
Fluid Reclaim Packages	
Oil King <sup>®</sup> , Coolant King <sup>®</sup> , Oil Ace <sup>®</sup> and Accessories	101-104
Hoses, Fittings and Accessories	105-110
Ordering and Warranty Information	111-112
Index	113-119



# Oil Pumps Quick Reference

## Technical Specifications and Selection Chart

	Annual Usage	Line Length <sup>□</sup>	Dispense Points	Fluids	Air Inlet	Fluid Inlet	Fluid Outlet
	<b>Fast-Ball, 1:1</b>						
	5,000 gal (19,000 l)	< 100 ft (30 m)	1 (no reels)	Motor Oil, ATF, Hydraulic Fluid	1/4 in npt(f)	1-1/2 in npt(f)	3/4 in npt(f)
	<b>LD Series, 3:1</b>						
	20,000 gal (75,000 l)	300 ft (91 m)	1 to 2	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	1/4 in npt(f)	1 in npt(f)	1/2 in npt(f)
	<b>LD Series, 5:1</b>						
	20,000 gal (75,000 l)	300 ft (91 m)	1 to 2	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	1/4 in npt(f)	1 in npt(f)	1/2 in npt(f)
	<b>Mini Fire-Ball 225, 3:1</b>						
	30,000 gal (113,500 l)	250 ft (76 m)	1 to 2	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	3/8 in npt(f)	1-1/2 in npt(f)	1/2 in npt(f)
	<b>Fire-Ball 300, 5:1</b>						
	35,000 gal (132,000 l)	500 ft (152 m)	1 to 3	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	3/8 in npt(f)	1-1/2 in npt(f)	1/2 in npt(f)
	<b>Fire-Ball 425, 3:1</b>						
	>35,000 gal (132,000 l)	Up to 250 ft (76 m)	3 to 4	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	1/4 in npt(f)	1-1/2 in npt(f)	3/4 in npt(f)
	<b>Fire-Ball 425, 6:1</b>						
	>35,000 gal (132,000 l)	Up to 500 ft (152 m)	3 to 4	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	1/4 in npt(f)	1-1/2 in npt(f)	3/4 in npt(f)
	<b>Fire-Ball 425, 10:1</b>						
	>35,000 gal (132,000 l)	Up to 750 ft (228.6 m)	3 to 4	Motor Oil, Gear Oil, ATF, Hydraulic Fluid	1/4 in npt(f)	1-1/2 in npt(f)	3/4 in npt(f)

<sup>□</sup> Consult your local authorized Graco representative for line or pipe sizing

# Oil Pumps Quick Reference

## Technical Specifications and Selection Chart



Annual Usage	Line Length	Dispense Points	Pump Ratio(s)	Output Per Cycle	Fluids
<b>Dura-Flo, 6:1</b>					
>35,000 gal (132,000 l)	Up to 500 ft (152 m)	2 to 4	6:1	1000 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid
<b>Dura-Flo, 10:1</b>					
>35,000 gal (132,000 l)	Up to 750 ft (228.6 m)	2 to 4	10:1	1000 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid
<b>Dura-Flo, 12:1 Carbon Steel or Dura-Flo, 12:1 Stainless Steel</b>					
>35,000 gal (132,000 l)	Up to 1000 ft (305 m)	2 to 4	12:1	580 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid
<b>Dura-Flo, 23:1</b>					
>35,000 gal (132,000 l)	Up to 1000 ft (305 m)	2 to 4	23:1	580 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid



Annual Usage	Line Length	Dispense Points	Pump Ratio(s)	Output Per Cycle	Fluids
<b>High-Flo, 3.5:1</b>					
>35,000 gal (132,000 l)	Up to 250 ft (76 m)	4 to 5	3.5:1	2000 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid
<b>High-Flo, 4.5:1</b>					
>35,000 gal (132,000 l)	Up to 450 ft (137.1 m)	4 to 5	4.5:1	1500 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid
<b>High-Flo, 6:1</b>					
>35,000 gal (132,000 l)	Up to 500 ft (152.5 m)	4 to 5	6:1	2000 cc	Motor Oil, Gear Oil, ATF, Hydraulic Fluid

Consult your local authorized Graco representative for line or pipe sizing

# Fast-Ball<sup>®</sup> 1:1

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- In-line design with fewer parts for less pump wear
- Differential air motor ensures smooth pumping
- Double-acting pump provides reliable fluid flow

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

### Technical Specifications

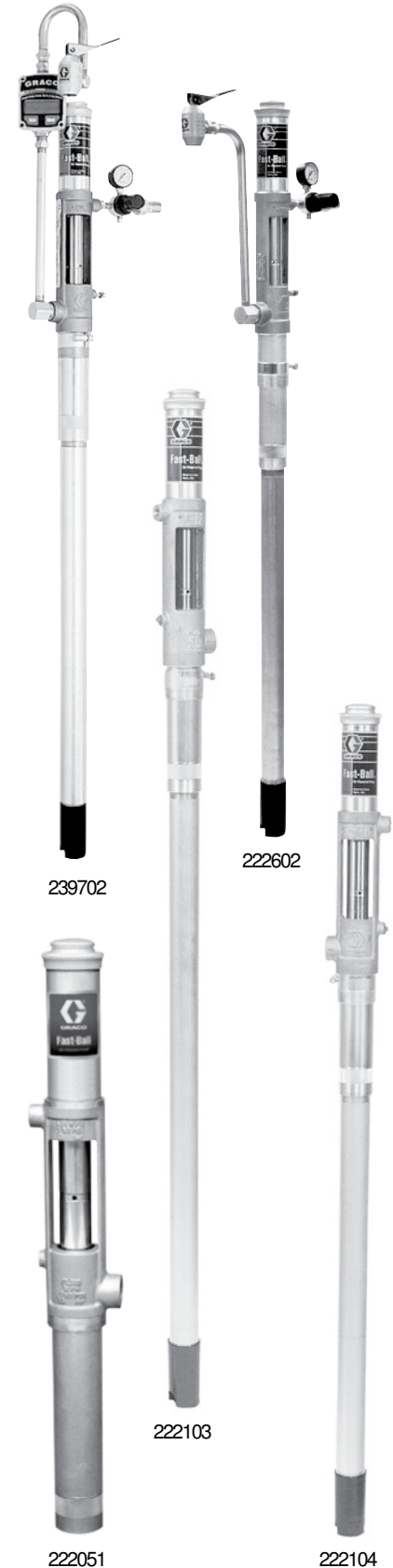
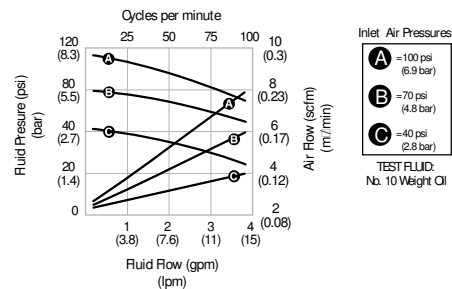
Cycles per Gallon.....10 (45.5 liters)  
 Fluid Flow gal/min @80 cpm......5 (19 liters)  
 Maximum Fluid Pressure..... 180 psi (12.5 bar)  
 Air Motor Effective Diameter..... 1.4 in (35.6 mm)  
 Air Operating Range..... 40-180 psi (2.7-12.5 bar)  
 Approx. Air Use and Flow @ 100 psi and 80 cpm......5 scfm  
 Wetted Materials.....CS, Polyurethane  
 Air Inlet Port Size..... 1/4 in npt(f)  
 Fluid Inlet Port Size..... 1-1/2 in npt(f)  
 Fluid Outlet Port Size..... 3/4 in npt(f)  
 Line Length.....Up to 100 ft (30.5 m)  
 Dispense Points.....1 (not recommended with hose reel)  
 Annual Usage.....Up to 5,000 gal (19,000 l)  
 Typical Applications.....Continuous duty, maintenance facility dispensing motor oil,  
 automatic transmission fluid, hydraulic fluid

### Ordering Information

Package	Non-Metered Dispense	U.S./Metric Metered Dispense	Bung-Mounted	Bung-Mounted	Universal
Container Size	55 gal (200 l)			275 gal (1040 l)	Universal
Package No.	222602	239702	222103	222104	222051
Pump	222103			222104	222051
Dispense Kit	218115	239703	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator Assembly	218316		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hose	109125	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hose Length	6 ft (1.8 m)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bung Adapter	222308				<input type="checkbox"/>
Instruction Manual	307637		307906		

Consult your local authorized Graco representative for line or pipe sizing

### Pump Performance



Air-Powered Oil Pumps and Packages

# LD Series 3:1 Pump

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- Built-in thermal relief protects your equipment from thermal expansion
- Three inch air motor provides more power to create better flow
- Cup and plate design eliminates the need for O-rings that wear out faster

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Fast lube centers
- Service shops
- Lube trucks

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

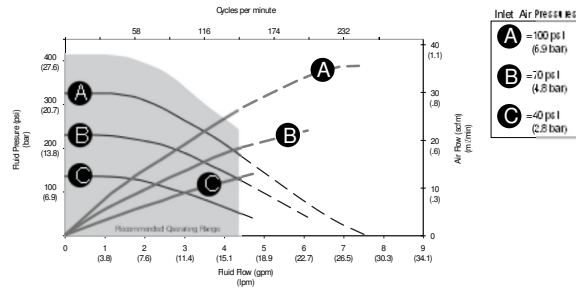
### Technical Specifications

Maximum Fluid Working Pressure.....	450 psi (31 bar, 3.10MPa)
Fluid Pressure Ratio.....	3:1
Suction Lift (feet of oil).....	10
Air Operation Range.....	20 to 150 psi (1.37 to 10.3 bar)
Recommended Air Pressure (for optimum life).....	< 125 psi (8.6 bar, 0.86 MPa)
Max Recommended Pump Speed.....	120 cycles per minute
Cycles Per Gallon/pound (l/kg).....	29 cycles per gallon (7 cycles per liter)
Recommended Pump Speed (for maximum life).....	75 cycles per minute or lower
Wetted Parts.....	Zinc plated carbon, steel, aluminum, nitrile, polyurethane, nickel plated aluminum
Sound Pressure Level.....	72.9 dB(a)
Sound Power Level.....	82 dB(a)
Approximate Weight.....	7 pounds (3.2 kg)
Air Inlet.....	1/4 in
Fluid Inlet.....	1 in
Fluid Outlet.....	1/2 in
Free Flow.....	7.8gpm
Annual Usage.....	Up to 20,000 gal (76,000 l)

### Ordering Information

LD Series 3:1 Pumps	
24G576	3:1 Universal Oil Pump with Bung Adapter (24F918)
24G579	3:1 Oil Pump with Cut to length Down Tube, and Bung Adapter (24F918)
24G582	3:1 Oil Pump with 55 gal (200 liter) Down Tube and Bung Adapter (24F918)
24G585	3:1 Oil Pump with 275 gal (1040 liter) Down Tube and Bung Adapter (24F918)

### Pump Performance



LD Series 3:1 Pump

# LD Series 5:1 Pump

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- Built-in thermal relief protects your equipment from thermal expansion
- Three inch air motor provides more power to create better flow
- Cup and plate design eliminates the need for O-rings that wear out faster

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Fast lube centers
- Service shops
- Lube trucks

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

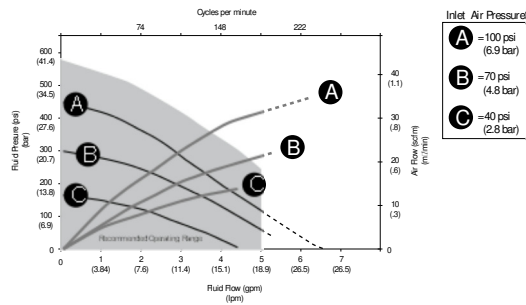
### Technical Specifications

Maximum Fluid Working Pressure.....	750 psi (51.7 bar, 5.17MPa)
Fluid Pressure Ratio.....	5:1
Suction Lift (feet of oil).....	10
Air Operation Range.....	20 to 150 psi (1.37 to 10.3 bar)
Recommended Air Pressure (for optimum life).....	< 125 psi (8.6 bar, 0.86 MPa)
Max Recommended Pump Speed.....	180 cycles per minute
Cycles Per Gallon/pound (l/kg).....	37 cycles per gallon (10 cycles per liter)
Recommended Pump Speed (for maximum life).....	75 cycles per minute or lower
Wetted Parts.....	Zinc plated carbon, steel, aluminum, nitrile, polyurethane, nickel plated aluminum
Sound Pressure Level.....	72.9 dB(a)
Sound Power Level.....	82 dB(a)
Approximate Weight.....	7.7 pounds (3.5 kg)
Air Inlet.....	1/4 in
Fluid Inlet.....	1 in
Fluid Outlet.....	1/2 in
Free Flow.....	6.7gpm
Annual Usage.....	Up to 20,000 gal (76,000 l)

### Ordering Information

LD Series 5:1 Pumps	
24G588	5:1 Universal Oil Pump with Bung Adapter (24F918)
24G591	5:1 Oil Pump with Cut to Length Down Tube and Bung Adapter (24F918)
24G594	5:1 Oil Pump with 55gal (200 liter) Down Tube and Bung Adapter (24F918)
24G597	5:1 Oil Pump with 275 gal (1040 liter) Down Tube and Bung Adapter (24F918)

### Pump Performance



LD Series 5:1 Pump

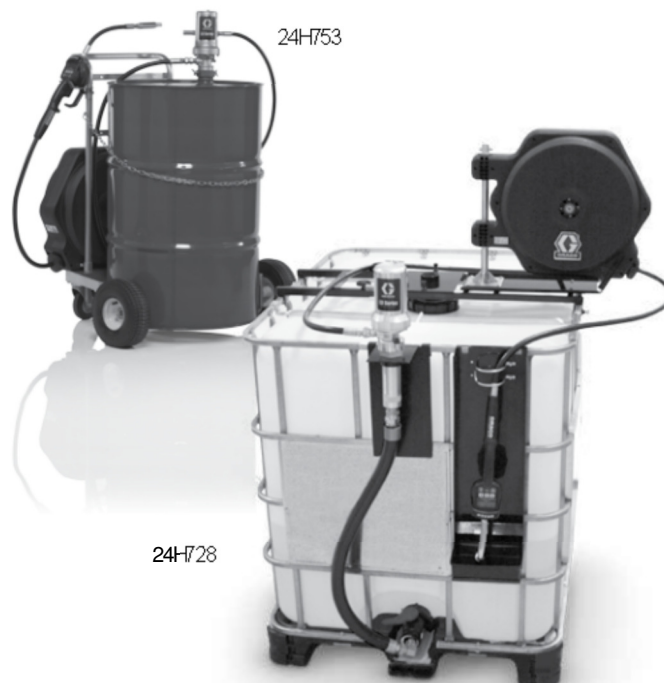
# LD Series Oil Pump Packages

## Air-Powered Oil Pumps and Packages

### Ordering Information

3:1 Tank Packages with LD Reel	
24J776	3:1 LD Tank Package. Includes: 3:1 Universal oil pump (24G576), LDM5 Manual meter (256215), 1/2" x 35' LD oil hose reel (24H662), 1/2" Oil inlet kit (24C538), LD swivel mount bracket (24C772)
3:1 Tank Packages with SD Reel	
24J733	3:1 Tank Package - Manual. Includes: 3:1 Universal Oil pump (24G576), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 50' (HFM65B), SD Reel Inlet Kit (218549)
24J734	3:1 Tank Package - Preset. Includes: 3:1 Universal Oil pump (24G576), LDP5 Preset meter with rigid extension (256216), SD oil reel, 1/2" x 50' (HFM65B), SD Reel Inlet kit (218549)
24K836	3:1 Tank Package - Manual Flex. 3:1 Universal Oil pump (24G576), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 50' (HFM65B), SD Reel Inlet Kit (218549)
3:1 Deluxe Tank Packages with SD Reel	
24K777	3:1 Deluxe Tank Package - Preset Rigid. 3:1 Universal Oil Pump (24G576), LDP5 Preset meter with rigid extension (256216), SD oil reel, 1/2" x 50' (HFM65B), 6ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K797	3:1 Deluxe Tank Package - Manual Rigid. 3:1 Universal Oil Pump (24G576), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 50' (HFM65B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K799	3:1 Deluxe Tank Package - Manual Flex. 3:1 Universal Oil Pump (24G576), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 50' (HFM65B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K832	3:1 Deluxe Tank Package - Manual Flex. 3:1 Universal Oil Pump (24G576), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 35' (HFM33B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K834	3:1 Deluxe Tank Package - Manual Rigid. 3:1 Universal Oil Pump (24G576), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 35' (HFM33B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
3:1 Tote Mount Packages with SD Reel	
24K838	3:1 Oil Tote Mount with SD Reel - Preset Rigid. Includes: 3:1 Oil pump with 275 gal (1040 liter) steel down tube (24G585), LDP5 Preset meter with rigid extension (256216), SD oil reel, 1/2" x 50' (HFM65B), 6 ft Air and Fluid hoses with fittings (24J495), Pump tote mount bracket (24F930), SD reel bracket for tote mount, Meter tray (24F914)
24K840	3:1 Oil Tote Mount with SD Reel - Manual Rigid. Includes: 3:1 Oil pump with 275 gal (1040 liter) steel down tube (24G585), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 50' (HFM65B), 6ft Air and Fluid hoses with fittings (24J495), Pump tote mount bracket (24F930), SD reel bracket for tote mount, Meter tray (24F914)
24K842	3:1 Oil Tote Mount with SD Reel - Manual Flex. Includes: 3:1 Oil pump with 275 gal (1040 liter) steel down tube (24G585), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 50' (HFM65B), 6 ft Air and Fluid hoses with fittings (24J495), Pump tote mount bracket (24F930), SD reel bracket for tote mount, Meter tray (24F914)
3:1 Tote Mount Packages with LD Reel	
24H702	3:1 Oil Tote Mount Package - Top. Includes: 3:1 275 gal (1040L) Oil pump (24G585), 6 ft Oil hose kit (24J495), Top mount tote bracket (24F930), LD Reel bracket kit (24F932), Meter tray (24F914), LDM5 Rigid Meter (256215), 1/2" x 35' LD oil hose reel (24H662)
24H704	3:1 Oil Tote Mount Package - Top. Includes: 3:1 275 gal (1040L) Oil pump (24G585), 6 ft Oil hose kit (24J495), Top mount tote bracket (24F930), LD Reel bracket kit (24F932), Meter tray (24F914), LDP5 Rigid Meter (256216), 1/2" x 35' LD oil hose reel (24H662)

24H726	3:1 Oil Tote Mount Package - Drain. Includes: 3:1 Universal oil pump (24G576), 6ft Oil hose kit (24J495), 6 ft Suction hose kit (24H669), Tote mount pump bracket (24F920), Top mount tote bracket (24F931), LD Reel bracket kit (24F932), Meter tray (24F914), LDM5 Rigid meter (256215), LD oil hose reel, 1/2" x 35' (24H662)
24H728	3:1 Oil Tote Mount Package - Drain. Includes: 3:1 Universal oil pump (24G576), 6ft Oil hose kit (24J495), 6ft Suction hose kit (24H669), Tote mount pump bracket (24F920), Top mount tote bracket (24F931), LD Reel bracket kit (24F932), Meter tray (24F914), LDP5 Rigid meter (256216), LD oil hose reel, 1/2" x 35' (24H662)
3:1 Wall Mount Packages	
24H689	3:1 Oil Wall Mount Package - Drum. Includes: 3:1 Universal oil pump (24G576), 6 ft LD oil pump suction hose kit for 55 gal drum (24F935), Wall mount bracket (24F910)
24H695	3:1 Oil Wall Mount Package - Tote. Includes: 3:1 Universal oil pump (24G576), 6 ft LD Oil pump section hose kit for 275 gal tote (24H666), Oil hose kit (24H659), Wall mount bracket (24F910)
3:1 Mobile Packages	
24H751	3:1 Oil Mobile Package with LD Reel. Includes: 3:1 200L Oil pump (24G582), 6ft Oil hose kit (24J495), LDM5 Rigid meter (256215), 55 gal Cart (24F915), LD oil hose reel, 1/2" x 35' (24H662)
24H753	3:1 Oil Mobile Package with LD Reel. Includes: 3:1 200L Oil pump (24G582), 6ft Oil hose kit (24J495), LDP5 Rigid meter (256216), 55 gal Cart (24F915), LD oil hose reel, 1/2" x 35' (24H662)
24H775	3:1 Oil Mobile Package. Includes: 3:1 200 L Oil pump (24G582), Fluid hose kit, 5 M (24H665), LDM5 Rigid meter (256215), 55 gal Cart (24F915)
24H777	3:1 Oil Mobile Package. Includes: 3:1 200 L Oil pump (24G582), Fluid hose kit, 5 M (24H665), LDP5 Rigid meter (256216), 55 gal Cart (24F915)
3:1 Stationary Packages	
24H800	3:1 Oil Stationary Package. Includes: 3:1 Multilength oil pump (24G579), 6ft Oil hose kit (24H659), LDM5 Rigid meter (256215)
24H802	3:1 Oil Stationary Package. Includes: 3:1 Multi-length oil pump (24G579), 6 ft Oil hose kit (24H659), LDP5 Rigid meter (256216)





# 5:1 LD Series Pump Packages

## Air-Powered Oil Pumps and Packages

### Ordering Information

5:1 Tank Packages with LD Reel	
24J777	5:1 LD Tank Package. Includes: 5:1 Universal oil pump (24G588), LDM5 Manual meter (256215), 1/2" x 35' LD oil hose reel (24H662), 1/2" CI inlet kit (24C538), LD swivel mount bracket (24C772)
5:1 Tank Packages with SD Reel	
24J735	5:1 Tank Package - Manual. Includes: 5:1 Multi-length oil pump (24G588), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 50' (HPM65B), SD Reel Inlet kit (218549)
24J736	5:1 Tank Package - Preset. Includes: 5:1 Multi-length oil pump (24G588), LDP5 Preset meter with rigid extension (256216), SD reel, 1/2" x 50' (HPM65B), SD Reel Inlet Kit (218549)
24K837	5:1 Tank Package - Manual Flex: 5:1 Universal Oil pump (24G588), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 50' (HPM65B), SD Reel Inlet Kit (218549)
5:1 Deluxe Tank Packages with SD Reel	
24K796	5:1 Deluxe Tank Package - Preset Rigid: 5:1 Universal Oil Pump (24G588), LDP5 Preset meter with rigid extension (256216), SD oil reel, 1/2" x 50' (HPM65B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K798	5:1 Deluxe Tank Package - Manual Rigid: 5:1 Universal Oil Pump (24G588), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 50' (HPM65B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K800	5:1 Deluxe Tank Package - Manual Flex: 5:1 Universal Oil Pump (24G588), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 50' (HPM65B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K833	5:1 Deluxe Tank Package - Manual Flex: 5:1 Universal Oil Pump (24G588), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 35' (HPM63B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
24K835	5:1 Deluxe Tank Package - Manual Rigid: 5:1 Universal Oil Pump (24G588), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 35' (HPM63B), 6 ft Air and Fluid hoses with fittings (24J495), 1/4" x 3/8" Mini air regulator with valve (24H420)
5:1 Tote Mount Packages with SD Reel	
24K839	5:1 Oil Tote Mount with SD Reel - Preset Rigid. Includes: 5:1 Oil pump with 275 gal (1040 liter) steel down tube (24G597), LDP5 Preset meter with rigid extension (256216), SD oil reel, 1/2" x 50' (HPM65B), 6 ft Air and Fluid hoses with fittings (24J495), Pump tote mount bracket (24F930), SD reel bracket for tote mount, Meter tray (24F914)
24K841	5:1 Oil Tote Mount with SD Reel - Preset Rigid. Includes: 5:1 Oil pump with 275 gal (1040 liter) steel down tube (24G597), LDM5 Manual meter with rigid extension (256215), SD oil reel, 1/2" x 50' (HPM65B), 6 ft Air and Fluid hoses with fittings (24J495), Pump tote mount bracket (24F930), SD reel bracket for tote mount, Meter tray (24F914)
24K843	5:1 Oil Tote Mount with SD Reel - Preset Rigid. Includes: 5:1 Oil pump with 275 gal (1040 liter) steel down tube (24G597), LDM5 Manual meter with flex extension (258693), SD oil reel, 1/2" x 50' (HPM65B), 6 ft Air and Fluid hoses with fittings (24J495), Pump tote mount bracket (24F930), SD reel bracket for tote mount, Meter tray (24F914)
5:1 Tote Mount Packages with LD Reel	
24H868	5:1 Oil Tote Mount Package - Top. Includes: 5:1 1040L Oil pump (24G597), 6 ft Oil hose kit (24J495), Tote top mount bracket (24F930), LD Reel bracket (24F932), Meter tray (24F914), LDM5 rigid meter (256215), 1/2" x 35' LD oil hose reel (24H662)
24H870	5:1 Oil Tote Mount Package - Top. Includes: 5:1 1040L Oil pump (24G597), 6 ft Oil hose kit (24J495), Tote top mount bracket (24F930), LD Reel bracket (24F932), Meter tray (24F914), LDP5 Rigid meter (256216), 1/2" x 35' LD oil hose reel (24H662)

24H892	5:1 Oil Tote Mount Package - Drain. Includes: 5:1 Oil universal pump (24G588), 6 ft Oil hose kit (24J495), Suction hose kit tote (24H669), Tote mount pump bracket (24F920), Tote top mount bracket (24F931), LD reel bracket kit (24F932), Meter tray (24F914), LDM5 Rigid meter (256215), LD oil hose reel, 1/2" x 35' (24H662)
24H894	5:1 Oil Tote Mount Package - Drain. Includes: 5:1 Oil universal pump (24G588), 6 ft Oil hose kit (24J495), Suction hose kit tote (24H669), Tote mount pump bracket (24F920), Tote top mount bracket (24F931), LD reel bracket kit (24F932), Meter tray (24F914), LDP5 Rigid meter (256216), LD oil hose reel, 1/2" x 35' (24H662)
5:1 Wall Mount Packages	
24H836	5:1 Oil Wall Mount Package - Drum. Includes: 5:1 Oil universal pump (24G588), 6 ft LD oil pump suction hose kit for 55gal drum (24F935), Wall mount bracket (24F910)
24H842	5:1 Oil Wall Mount Package - Tote. Includes: 5:1 Oil universal pump (24G588), 6ft Oil hose kit (24H859), 6ft LD Oil pump section hose kit for 275gal tote (24H666), Wall mount bracket (24F910)
5:1 Mobile Packages	
24H816	5:1 Oil Mobile Package with LD Reel. Includes: 5:1 55 gal (200 L) Oil pump (24G594), 6 ft Oil hose kit (24J495), LDM5 Rigid meter (256215), 55 gal Cart (24F915), LD oil hose reel, 1/2" x 35' (24H662)
24H818	5:1 Oil Mobile Package with LD Reel. Includes: 5:1 55 gal (200 L) Oil pump (24G594), 6ft Oil hose kit (24J495), LDP5 Rigid meter (256216), 55 gal Cart (24F915), LD oil hose reel, 1/2" x 35' (24H662)
24H841	5:1 Oil Mobile Package. Includes: 5:1 55 gal (200 L) oil pump (24G594), Fluid hose kit, 5M (24H865), LDM5 Rigid meter (256215), 55 gal Cart (24F915)
24H843	5:1 Oil Mobile Package. Includes: 5:1 55gal (200L) oil pump (24G594), Fluid hose kit, 5M (24H865), LDP5 Rigid meter (256216), 55 gal Cart (24F915)
5:1 Stationary Packages	
24H865	5:1 Oil Stationary Package. Includes: 5:1 Oil multi-length pump (24G591), Fluid oil hose kit (24H859), LDM5 Rigid meter (256215)
24H867	5:1 Oil Stationary Package. Includes: 5:1 Oil multi-length pump (24G591), Fluid oil hose kit (24H859), LDP5 Rigid meter (256216)



# LD Series Oil Pump Accessories

## Air-Powered Oil Pumps and Packages

### Ordering Information

Down Tubes	
16F878	Universal cut to length pvc down tube for LD3:1 and 5:1 pumps
16F886	Drum length steel down tube for LD3:1 and 5:1 pumps
16F885	Tote length steel down tube for LD3:1 and 5:1 pumps
Drum Covers	
24F904	Cover for 35 lb (16 kg) pails
24F905	Cover for open-head 120 lb drums
24F906	Cover for open-head 400 lb drums
Suction Kits	
24F935	LD Oil Pump Suction hose kit for 55 gal (200 L) drum. Includes: 55 gal (200 L) drum length metal down tube, bung adapter, foot valve, and 6 ft of 1" suction hose
24H666	LD Oil Pump Suction hose kit for 275 gal (1040 L) drum. Includes: 275 gal (1040 L) tote length metal down tube, bung adapter, foot valve, and 6 ft of 1" suction hose
24H669	LD Oil Pump Suction hose kit and adapter for mounting pump to the side of IBC tote and dispensing from drain. Includes 1" x 3' Suction hose, 1" Elbow fitting, and union fitting (160022)
Hose and Fitting Kits	
24H865	15 ft LD pump fluid hose kit. Includes 1/2" x 15 ft fluid hose, 3/8" x 6 ft Air hose, Swivel (157705), and union fitting (156684)
24H859	6ft LD pump fluid hose kit. Includes 1/2" x 6ft fluid hose, 3/8" x 6 ft Air hose, Swivel (157705), and union fitting (156684)
Air Regulators	
24H420	Mini air pressure regulator with valve, 1/4 inch NPT x 3/8 inch NPT
Tote Mount Accessories	
24F914	Meter drip tray for mounting to the side of IBC tote
24F932	LD Reel bracket for mounting reel to IBC top mount tote bracket (24F930 and 24F920)
24F931	Tote mounting bracket to mount reel on top of IBC tote, (pump mounting bracket is not included)
24F930	Top of tote mounting bracket. For mounting LD pump in top of IBC tote
24F920	Bracket for mounting LD pump on the side of IBC tote
24K285	Bracket for mounting SD hose reel to IBC tote mounting bracket 24F930 (24F930 bracket sold separately)
Mounting Hardware	
24F910	LD pump wall mounting bracket. For use with LD3:1 and 5:1 pumps
24F918	Bung adapter for LD3:1 and 5:1 pumps
Carts	
24F915	Drum cart with pneumatic wheels for 400 lb drums, includes chain for securing drum to cart
24H422	Drum cart with pneumatic wheels for 120 lb drums, includes chain for securing drum to cart



24F910



24F914



24F930



24F932



24H422

24F915



# Mini Fire-Ball<sup>®</sup> 225 3:1

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- In-line design with fewer parts for less pump wear
- Differential air motor ensures smooth pumping
- Double-acting pump provides reliable fluid flow

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

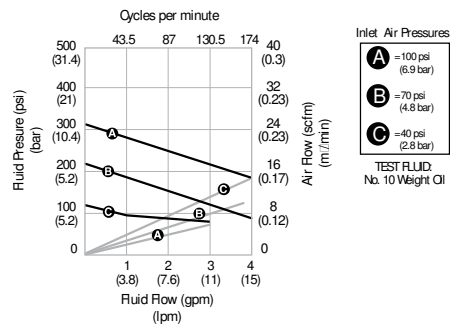
### Typical Fluids Handled

- Petroleum- and synthetic-based oils

### Technical Specifications

Cycles per Gallon.....	43.5 (11.4 liters)
Fluid Flow gal/min @80 cpm.....	1.84 (7.0 liters)
Maximum Fluid Pressure.....	540 psi (37 bar)
Air Motor Effective Diameter.....	2.25 in (57.2 mm)
Air Operating Range.....	40-180 psi (2.8-12 bar)
Approx. Air Use and Flow @ 100 psi and 80 cpm.....	8.5 scfm @ 2.1 gpm, (0.241 m <sup>3</sup> /min @ 7.9 lpm)
Wetted Materials.....	Steel, Buna-N, Polyurethane, Aluminum, Pulon <sup>®</sup>
Air Inlet Port Size.....	3/8 in npt(f)
Fluid Inlet Port Size.....	1-1/2 in npt(f)
Fluid Outlet Port Size.....	1/2 in npt(f)
Line Length.....	Up to 250 ft (76.2 m)
Dispense Points.....	1 to 2
Annual Usage.....	Up to 35,500 gal (132,000 l)
Typical Applications.....	Continuous duty, maintenance facility dispensing motor oil, gear oil, automatic transmission fluid, hydraulic fluid

### Pump Performance



246775

### Ordering Information

Mini Fire-Ball 225 3:1 Pump	
248097	3:1 Universal Oil Pump with suction tube (15C502) and bung adapter (222308)
246775	3:1 Universal Oil Pump

□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 300 5:1

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- In-line design with fewer parts for less pump wear
- Differential air motor ensures smooth pumping
- Double-acting pump provides reliable fluid flow

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

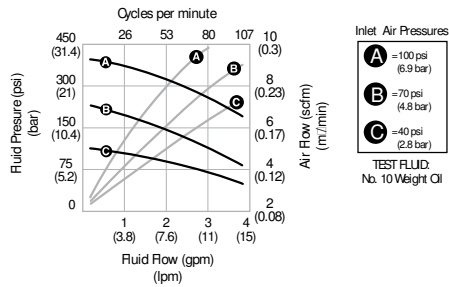
### Technical Specifications

Cycles per Gallon.....	28.4 (8.6 liters)
Fluid Flow gal/min @80 cpm.....	2.8 (9.3 liters)
Maximum Fluid Pressure.....	900 psi (62 bar)
Air Motor Effective Diameter.....	3 in (76.2 mm)
Air Operating Range.....	40-180 psi (2.8-12 bar)
Approx. Air Use and Flow @ 100 psi and 80 cpm.....	27 scfm @ 3 gpm (0.765 m <sup>3</sup> /min @ 11.5 lpm)
Wetted Materials.....	Steel, Polyurethane, Aluminum, Buna-N
Air Inlet Port Size.....	3/8 npt(f)
Fluid Inlet Port Size.....	1-1/2 npt(f)
Fluid Outlet Port Size.....	1/2 npt(f)
Line Length.....	Up to 500 ft (152.5 m)
Dispense Points.....	1 to 3
Annual Usage.....	Up to 35,500 gal (132,000 l)
Typical Applications.....	Continuous duty, maintenance facility dispensing motor oil, gear oil, automatic transmission fluid, hydraulic fluid

### Ordering Information

Fire-Ball 300 5:1 Pump	
203876	5:1 Universal Oil Pump
203872	5:1 Oil Pump, 16 gal (120 lb) drum size, for cover mount
203857	5:1 Oil Pump, 55 gal (400 lb) drum size, for cover mount
204254	5:1 Oil Pump, 55 gal (400 lb) drum size, bung mount
222087	5:1 Oil Pump, 275 gal (1040 lb) tank size, bung mount

### Pump Performance



203876

□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 425 3:1

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- In-line design with fewer parts for less pump wear
- Differential air motor ensures smooth pumping
- Double-acting pump provides reliable fluid flow

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

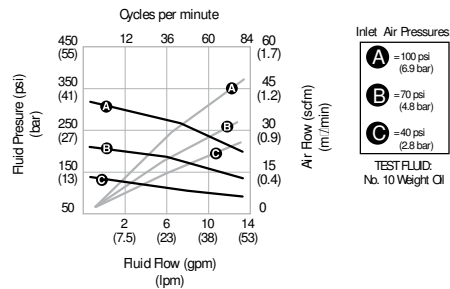
### Technical Specifications

Cycles per Gallon.....	6 (1.6 liters)
Fluid Flow gal/min @80 cpm.....	13.4 (50.6 liters)
Maximum Fluid Pressure.....	540 psi (37 bar)
Air Motor Effective Diameter.....	4.25 in (107.9 mm)
Air Operating Range.....	40-180 psi (2.8-12 bar)
Approx. Air Use and Flow @ 100 psi and 80 cpm.....	58 scfm @ 13.4 gpm (1.64 m <sup>3</sup> /min @ 50.6 lpm)
Wetted Materials.....	Steel, Polyurethane, Aluminum, Nitrile
Air Inlet Port Size.....	1/2 in npt(f)
Fluid Inlet Port Size.....	1-1/2 in npt(f)
Fluid Outlet Port Size.....	3/4 in npt(f)
Line Length.....	Up to 250 ft (76.2 m)
Dispense Points.....	3 to 4
Annual Usage.....	Over 35,500 gal (132,000 l)
Typical Applications.....	High flow, low pressure maintenance facility dispensing motor oil, gear oil, automatic transmission fluid, hydraulic fluid

### Ordering Information

Fire-Ball 425 3:1 Pump	
237526	3:1 Universal Oil Pump

### Pump Performance



237526

Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 425 6:1

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- In-line design with fewer parts for less pump wear
- Differential air motor ensures smooth pumping
- Double-acting pump provides reliable fluid flow

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

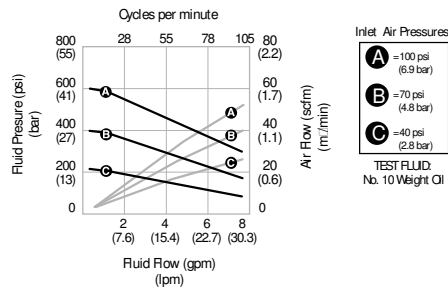
### Technical Specifications

Cycles per Gallon.....	12 (3.2 liters)
Fluid Flow gal/min @80 cpm.....	6.6 (25.3 liters)
Maximum Fluid Pressure.....	1100 psi (76 bar)
Air Motor Effective Diameter.....	4.25 in (107.9 mm)
Air Operating Range.....	40-180 psi 2.8-12 bar
Approx. Air Use and Flow @ 100 psi and 80 cpm.....	49.5 scfm @6.8 gpm (.334 m <sup>3</sup> /min @25.7 lpm)
Wetted Materials.....	Steel, Polyurethane, Aluminum, Nitrile
Air Inlet Port Size.....	1/2 in npt(f)
Fluid Inlet Port Size.....	1-1/2 in npt(f)
Fluid Outlet Port Size.....	3/4 in npt(f)
Line Length.....	Up to 500 ft (152.5 m)
Dispense Points.....	3 to 4
Annual Usage.....	Up to 35,500 gal (132,000 l)
Typical Applications.....	High flow, medium pressure, maintenance facility dispensing motor oil, gear oil, automatic transmission fluid, hydraulic fluid

### Ordering Information

Fire-Ball 425 6:1 Pump	
238108	6:1 Universal Oil Pump

### Pump Performance



238108

□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 425 10:1

## Air-Powered Oil Pumps and Packages

### Features and Benefits

- In-line design with fewer parts for less pump wear
- Differential air motor ensures smooth pumping
- Double-acting pump provides reliable fluid flow

### Typical Applications

- Lubricant transfer
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

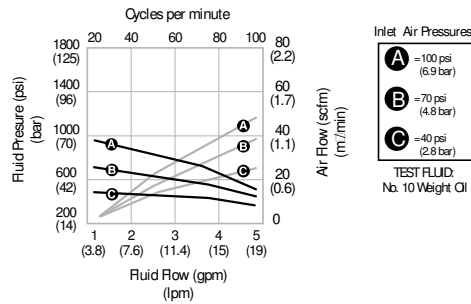
### Technical Specifications

Cycles per Gallon.....	19.6 (5.2 liters)
Fluid Flow gal/min @80 cpm.....	4.1 (15.4 liters)
Maximum Fluid Pressure.....	1800 psi (124 bar)
Air Motor Effective Diameter.....	4.25 in (107.9 mm)
Air Operating Range.....	40-180 psi (2.8-12 bar)
Approx. Air Use and Flow @ 100 psi and 80 cpm.....	32 scfm @ 4.1 gpm (.555 m <sup>3</sup> /min @ 15.4 lpm)
Wetted Materials.....	Steel, Polyurethane, Aluminum, Nitrile
Air Inlet Port Size.....	1/2 in npt(f)
Fluid Inlet Port Size.....	1-1/2 in npt(f)
Fluid Outlet Port Size.....	3/4 in npt(f)
Line Length.....	Up to 750 ft (228.6 m)
Dispense Points.....	3 to 4
Annual Usage.....	Over 35,500 gal (132,000 l)
Typical Applications.....	Long distance, maintenance facility dispensing motor oil, gear oil, automatic transmission fluid, hydraulic fluid

### Ordering Information

Fire-Ball 425 10:1 Pump	
205626	10:1 Universal Oil Pump
222065	10:1 Oil Pump, 55 gal (400lb) drum size, cover mount
222095	10:1 Oil Pump, 55 gal (400lb) drum size, bung mount

### Pump Performance



205626

□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> Oil Pump Packages

## Air-Powered Oil Pumps and Packages

### Mini Fire-Ball 225 and Fire-Ball 300 Ordering Information

Packages	Portable	Cover-Mounted	Bung-Mounted		Universal
Container Size	16 gal (60 l)	55 gal (200 l)	275 gal (1040 l)	Universal	
Mini Fire-Ball 225, 3:1 Package	246903 <sup>(4)</sup>	246904 <sup>(4)</sup>	246906 <sup>(4)</sup>	246907 <sup>(3),(4)</sup>	248230 <sup>(3),(4)</sup>
Mini Fire-Ball, 225 3:1 Pump	248097 <sup>(1),(3)</sup>				246775
Fire-Ball 300, 5:1 package	225728 <sup>(2),(4)</sup>	225094 <sup>(3),(4)</sup>	225642 <sup>(3),(4)</sup>	225640 <sup>(3),(4)</sup>	225931 <sup>(3),(4)</sup>
Fire-Ball 300 Pump	203872	203857	204254	222087	203876
Dispense/Hbse Fitting Kit	237075	222063			222062
Fluid Hbse	6 ft x 1/2 in (1.8 m x 12.7 mm)				1.5 ft x 1/2 in (0.5 m x 9.5 mm)
Air Hbse	<input type="checkbox"/>	6 ft x 3/8 in (1.8 m x 9.5 mm)			1.5 ft x 3/8 in (0.5 m x 9.5 mm)
Air Regulator	224512		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cover	24F350	200326	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caster Base	203622	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bung Adapter for 300, 5:1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	222308	<input type="checkbox"/>
225, 3:1 Manual	309868				
300, 5:1 Manual	307884	307883		306520	

<sup>(1)</sup> 248097 includes suction tube (15C502) and bung adapter (222308)

<sup>(2)</sup> Use 3/8 in (9.5 mm) installation kit (224512) as required

<sup>(3)</sup> Use 3/8 in (9.5 mm) air regulator 109075 as required; must be ordered separately

<sup>(4)</sup> Order low-level cut-off 203688 (1 1/2 inch NPT) separately for metered dispense systems

### Fire-Ball 425 Package Ordering Information

Packages	Cover-Mounted	Bung-Mounted	Universal Supply	Wall-Mounted
Container Size	55 gal (200 l)		Universal	
Fire-Ball 425, 3:1 Package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	244846 <sup>(3)</sup>
Fire-Ball 425, 3:1 Pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	237526
Fire-Ball 425, 6:1 Package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	244628 <sup>(3)</sup>
Fire-Ball 425, 6:1 Pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	238108
Fire-Ball 425, 10:1 Package	225782 <sup>(1),(2)</sup>	225786 <sup>(1),(2)</sup>	225853 <sup>(1),(2)</sup>	244847
Fire-Ball 425, 10:1 Pump	222065	222095	205626	205626
Hbse/Fitting Kit	222066		222068	
Fluid Hbse	6 ft x 3/4 in (1.8 m x 19.05 mm)		1.5 ft x 3/4 in (0.5 m x 19.05 mm)	
Air Hbse	6 ft x 1/2 in (1.8 m x 12.7 mm)		1.5 ft x 1/2 in (0.5 m x 12.7 mm)	
Cover	200326	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter Regulator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	217072
Air Shutoff Valve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	110225
Fluid Shutoff Valve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	108537
Wall Mount Bracket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	238245
Instruction Manual	307883		306520	309351

<sup>(1)</sup> Use 1/2 in (12.7 mm) air regulator (104266) and air pressure gauge (100960) as required; must be ordered separately  see mounting accessories section

<sup>(2)</sup> Order low-level cut off (203688) separately for metered dispense systems  see mounting accessories section

<sup>(3)</sup> Includes pump plus: Filter Regulator (217072), Hbse and Fitting Kit (222066), Air Shutoff Valve (110225), Fluid Shutoff (108537), Wall Mount Bracket, (238245)

Cover-mounted



Bung-mounted



Universal Supply



Portable

# Fluid Dispense Packages

## Air-Powered Oil Pumps and Packages

### Mini Fire-Ball<sup>®</sup> 225, 3:1 Bulk-Oil Dispensing Packages

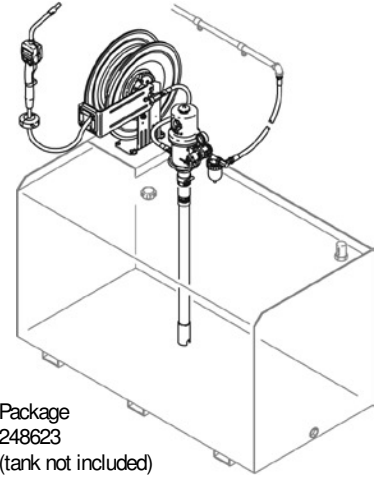
Mini Fire-Ball 225, 3:1 Pump Package	
248623*	Includes: Mini Fire-Ball 225, 3:1 Universal pump with bung adapter and down tube (248097), SD Series reel with 50 ft (15.2 m) x 1/2 in (12.7 mm) fluid hose (HFM65B), LDM5 meter (256215)
248622*	Includes: Mini Fire-Ball 225, 3:1 Universal pump with bung adapter and down tube (248097), SD Series reel with 25 ft (7.6 m) x 1/2 in (12.7 mm) fluid hose (HFM33B), LDM5 meter (256215)

\*Order 218549 (1/2 in x 24 in) hose reel inlet kit separately NOTE Tanks not included

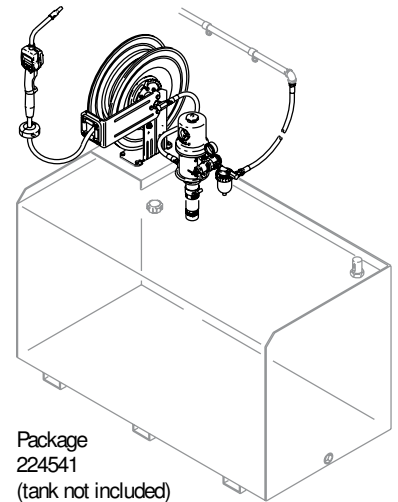
### Fire-Ball 300, 5:1 Deluxe Bulk-Oil Dispensing Packages

Fire-Ball 300, 5:1 Pump Packages	
241633*	Includes: Fire-Ball 300, 5:1 pump universal (203876), 3/8 in (9.5 mm) regulator/gauge (109075), 3/8 in (9.5 mm) x 3/8 in (9.5 mm) nipple (156849), 2 in (50.8 mm) bung adapter (222308), SD Series reel with 25 ft (7.6 m) x 1/2 in (12.7 mm) hose (HFM33B), SDM5 meter (255350)
224541*	Includes: Fire-Ball 300, 5:1 pump universal (203876), 3/8 in (9.5 mm) regulator/gauge (109075), 3/8 in (9.5 mm) x 3/8 in (9.5 mm) nipple (156849), 2 in (50.8 mm) bung adapter (222308), SD Series reel with 50 ft (15.3 m) x 1/2 in (12.7 mm) hose (HFM65B), 18 in (45.7 cm) hose (220598), 90° swivel (inlet on hose reel) (157416), SDM5 meter (255350)
244038*	Includes: Fire-Ball 300, 5:1 pump universal (203876), 3/8 in (9.5 mm) regulator/gauge (109075), 3/8 in (9.5 mm) x 3/8 in (9.5 mm) nipple (156849), 2 in (50.8 mm) bung adapter (222308), SD Series reel with 50 ft (15.3 m) x 1/2 in (12.7 mm) hose (HFM65B), 18 in (45.7 cm) hose (220598), 90° swivel (157416), SDF5 meter (255200)
224534*	Dispensing from Bench-Top Tanks with Fire-Ball 300, 5:1 Pump Package. Includes: Fire-Ball 300, 5:1 pump, Universal (203876), 3/8 in (9.5 mm) regulator/gauge (109075), Air filter (106148), 3/8 in (9.5 mm) x 3/8 in (9.5 mm) nipple (156849), SD Series reel with 50 ft (15.3 m) x 1/2 in (12.7 mm) hose (HFM65B), Drain valve (106151), 72 in (182.9 cm) hose kit (222063), Thermal relief valve (237893), 90° swivel (157416), SDM5 Meter (255350)

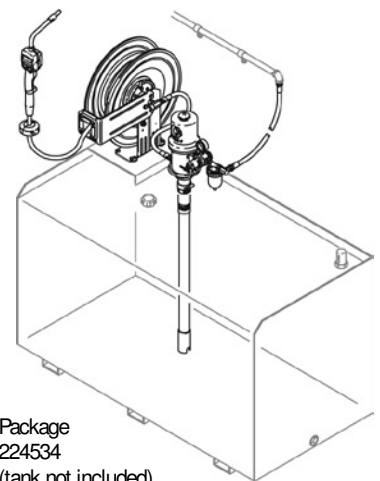
\*Order 218549 (1/2 in x 24 in) hose reel inlet kit separately NOTE Tanks not included



Package  
248623  
(tank not included)



Package  
224541  
(tank not included)



Package  
224534  
(tank not included)



# Fire-Ball<sup>®</sup> and Oil Pump Accessories

## Air-Powered Oil Pumps and Packages

Hose and Fittings Kits for Mini Fire-Ball 225, 3:1 and Fire-Ball 300, 5:1 Pumps	
222062	18 in (0.5 m) for connecting wall-mounted Mini Fire-Ball 225, 3:1 and Fire-Ball 300, 5:1 pumps to piping. Includes air hose (204560) with swivel elbow (155494), fluid hose (220598) with swivel elbow (155470). Instruction manual 306520
222063	6 ft (1.8 m) for use with drum-mounted Mini Fire-Ball 225, 3:1 and Fire-Ball 300, 5:1 pumps. Includes air hose (203320) with swivel elbow (155494), fluid hose (220591) with swivel elbow (155470). Instruction manual 307883
Dispense Kits for Mini Fire-Ball 225, 3:1 and Fire-Ball 300, 5:1 Pumps	
237075	6 ft (1.8 m) for use with portable lubricators powered by the Fire-Ball 300, 5:1. Includes fluid hose (220591) and SDMV6 gear lube valve (255349). Instruction manual: 307884
Hose and Fittings Kits for Fire-Ball 425, 3:1, 6:1 and 10:1	
222068	18 in (0.5 m) for connecting wall-mounted Fire-Ball 425, 10:1 pumps to piping. Includes air hose (218093) with swivel elbow (155470), fluid hose (109108) with swivel elbow (160327). Instruction manual: 306520
238246	24 in (0.6 m) for use with Fire-Ball 425, 3:1 and 6:1 wall-mounted pumps to piping. Includes air hose (218093) with swivel elbow (155470), fluid hose (238247) with swivel elbow (160327)
222066	6 ft (1.8 m) for use with drum-mounted Fire-Ball 425, 10:1 pumps. Includes air hose (205418) with swivel elbow (155470), fluid hose (109105) with swivel elbow (160327). Instruction manual: 307883
Suction Kits	
236054	6 ft (1.8 m) Suction Kit for 55-gal. (200 l) drums. Includes: 55-gal. (200 l) drum tube, bung adapter and 6 ft (1.8 m) of 3/4 in fluid hose with 3/4 in ID x 1-1/2 in bushing to adapt to any universal Graco oil pump. Allows use of Fast-Ball 1:1, Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 or Fire-Ball 425, 10:1 universal pumps with barrels. Order wall brackets separately. Use with low-level cut-off (203688) when metering fluids. Instruction manual: 308335
Drum Covers	
200326	Cover for open-head 55 gal (200 l) drums. Use with Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 or Fire-Ball 425, 10:1 pump. Use adapter 160754 for cover-mounting bung-style pumps
24R350	Cover for open-head 16 gal (60 l) or 70 lb (32 kg) drums. Mounts Fast-Ball 1:1, Mini-Fire-Ball or Fire-Ball pumps
222058	Cover for 5 gal (20 l) pails. Mounts Fast-Ball 1:1, Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 and 15:1 pumps. Bung adapter (222308) and bung adapter plate (160754) sold separately
160754	Bung-adapter plate for 55 gal (200 l) or 16 gal (60 l) covers. Mounts to 55 gallon (400 lb, 200 l), 16 gal (120 lb, 60 l) drum or 5 gal (20 l) pail covers and converts mounting to standard 2 npt bung opening. Allows use of bung-mounted pumps with drum covers
Wall-Mounting Brackets	
203987	For universal Fast-Ball 1:1, Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 and Fire-Ball 425, 10:1 pumps. Clamps onto universal pump tube
238245	For use with Fire-Ball 425, 3:1, 6:1 and 10:1 pumps. Mounts directly to pump flange
236778	For use with Fire-Ball 425, 3:1, Dyna-Star 1/4:1 and Power-Star 1:1 pumps. Clamps to pump tube and provides mounting to wall surface by flange
Clamps	
203156	Open-drum pump clamp. Attaches to side of open-head drum and mounts on any size pump except Fire-Ball 425, 3:1
210880	Open-drum pump clamp for Fire-Ball 300, 5:1 and Fire-Ball 425, 10:1 pumps. Clamps onto pump tube and attaches to open-drum lip
Tools for Working on Fire-Ball Air Motors	
207579	Padded pliers
171818	Poppet gauge
168085	Insert tool
Carts	
203650	Cart for 5, 10 and 16 gal (20, 40, and 60 l) drums. Drums fit into recess on formed base. Firm clamps secure drum to cart. Use with pail clamp (159952) when using cart with 5 gal (20 l) pails
222243	Heavy-Duty Cart with Pneumatic Wheels for 120 lb (55 kg) drums. Used for moving lubrication equipment over rough terrain. Requires: Hld down kit (222061)
111470	55 gal (200 l) Drum Truck. Heavy-duty drum truck secures 55 gal (200 l) drum on roll-around base



200326



204574



160754



203987



203156



210880



203650



111470



# Fire-Ball<sup>®</sup> and Oil Pump Accessories

## Air-Powered Oil Pumps and Packages

### Ordering Information

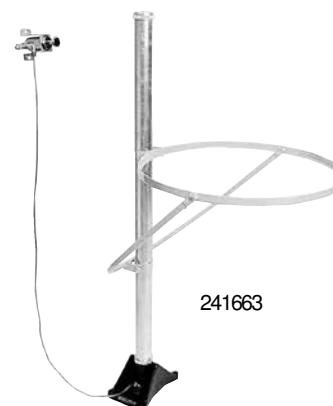
Portable Bases	
205054	Band Dolly for 5 gal (20 l) pails (11-1/2 in ID)
204144	Band Dolly for 10 and 16 gal (40 and 60 l) drums (14 in ID)
203622	Caster Base for 5, 10 and 16 gal (20, 40 and 60 l) drums
Drum Elevator	
241663	Air-powered elevator to speed-up 55 gal (200 l) drum changes. Maximum raised height is 39.5 in (100.3 cm). Includes cover support (207562), drum elevator (204385), and air control kit (207561)
Suction Tubes For Pumps	
238592	For 16 gal (60 l) cover-mounted Fast-Ball 1:1, Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 and Fire-Ball 425, 10:1. Use bung adapter 222308 on all current production models. Includes (191126) 14-1/2 in (0.36 m) extension (110127) foot spacer
238593	For 55-gal (200 l) cover-mounts. Includes (191128) 21-3/4 in (0.55 m) extension (110127) foot spacer
238595	For 55 gal (200 l) bung-mounted Fast-Ball 1:1, Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 and Fire-Ball 425, 10:1. Use bung adapter 222308 on all current production models. Includes (191130) 26 in (0.66 m) extension (110127) foot spacer
238596	For 275-gal (1100 l) bung-mounts. Includes (191131) 36 in (0.91 m) extension (110127) foot spacer
15C502	Universal Down Tube 1-1/2 in tube marked for standard container lengths from 20-41 in (0.51-1.04 m)
Bung Adapters	
222308	For Fast-Ball 1:1; Mini Fire-Ball 225, 3:1; Fire-Ball 300, 5:1; and Fire-Ball 425, 10:1 Pumps. Allows direct mounting of all universal length and extended Fast-Ball 1:1, Mini Fire-Ball 225, 3:1, Fire-Ball 300, 5:1 and Fire-Ball 425, 10:1 pumps into standard 2 npt drum bung
238125	For Mini Fire-Ball 225, 3:1; Fire-Ball 300, 5:1; and the Fire-Ball 425, 10:1. Includes double tap bushing (191075), 1 ft 3/8 in hose (238370), and 90° 3/8 in adapter (155494) for mounting universal pumps to tanks (see 308403 for details)
214583	For Fast-Flo 1:1 Pumps, allows direct mounting of full-length pump into standard 2 npt drum bung. Comes with bushing sleeve (172405)
187754	Acetal Bung Adapter includes (100220) thumbscrew (for Fire-Ball 300, 15:1 SST undercoating pump)
176684	Bung Adapter for Suction Kit (203992). Includes (100220) thumbscrew
Sealed Bung Adapters (prevents rain water and other fluids from entering drum when pump is outdoors.)	
204076	Sealed bung adapter for full-length Fire-Ball with 2-1/8 in (53.9 mm) bung and Mini Fire-Ball 225, 3:1 (2.140 inch diameter)
224579	Sealed bung adapter for universal length Fire-Ball pumps, 2.159 inch diameter (will not fit Mini Fire-Ball 225, 3:1 or old style pumps with bottom foot valve)
217359	Sealed bung adapter for Fast-Flo pumps; can be used with suction kit 236054
Low-Level Cut-Offs (Prevents air from entering pump by closing intake when fluid supply to pump is exhausted. Can be used with suction hose kit or standard suction tube without changing tube length.)	
203688	Low-level cut-offs for Fast-Ball and Fire-Ball pumps that have a universal design with suction tube extension supplying metered outlets; replaces stand-off suction tube; 1.5 npt (f) inlet. 3 in (76 mm) h
Thermal Relief Valve Kits (includes valve, hose and fittings)	
235998	Mini Fire-Ball 225, 3:1 thermal relief valve rated to 600 psi (41 bar)
237893	Fire-Ball 300, 5:1 and Fire-Ball 425, 6:1 thermal relief valve rated to 900 psi (62 bar)
248296	Fire-Ball 300, 5:1 and Fire-Ball 425, 6:1 thermal relief valve rated to 900 psi (62 bar) (same as 237893 minus bung adapter and swivel. Includes 6 foot hose)
237601	Fire-Ball 425, 3:1 thermal relief valve rated to 600 psi (41 bar)
240429	Fire-Ball 425, 10:1 thermal relief valve rated to 1600 psi (110 bar)
248324	Fire-Ball 425, 10:1 thermal relief valve rated to 1600 psi (110 bar) (same as 240429 minus bung adapter and swivel. Includes 6 foot hose)
238899	Diaphragm pump thermal relief valve rated to 150 psi (10.4 bar)
112353	Diaphragm pump thermal relief valve for fuel dispense; rated to 50 psi (3.4 bar), valve only



204144



203622



241663



203688

# Fire-Ball<sup>®</sup> and Oil Pump Accessories

## Air-Powered Oil Pumps and Packages

### Ordering Information

Bleed-Type Air Shut-Off Valves (rated to 250 psi [17.4 bar]) Female ends						
110223	1/4 in (6.4 mm)					
110224	3/8 in (9.5 mm)					
110225	1/2 in (12.7 mm)					
110226	3/4 in (19.1 mm)					
Fluid Shut-Off Valves (rated to 2000 psi [138 bar]) For isolating oil dispense lines.						
108458	1/2 in (12.7 mm)					
108537	3/4 in (19.1 mm)					
110314	1 in (25.4 mm)					
Fluid T-Strainers 60 Mesh Strainer, 750 psi (51 bar) working pressure. Prevents foreign material from entering dispense lines. Not for use with grease lines.						
240417	1/2 in npt(f) swivel x 1/2 in npt(m) ports					
240418	3/8 in npt(f) x 3/8 in npt(m) ports					
Mesh Strainer Replacement for 240417						
3 replacement Elements	25 replacement Elements		Mesh			
238433	238434		40 mesh			
238431	238432		60 mesh (standard)			
238429	n/a		100 mesh			
Y-Strainers 400 psi (28 bar) max. working pressure filters material before it enters the pump. 20 mesh screen.						
Y-Strainer	Replacement Screens		Inlet/Outlet			
101078	180199		3/4 npt(f) both ends			
110877	110906		1/2 npt(f) both ends			
110878	110907		1 npt(f) both ends			
Mounting Accessories						
Pump	Fast-Ball 1:1	Mini Fire-Ball 225, 3:1	Fire-Ball 300, 5:1	Fire-Ball 425, 3:1	Fire-Ball 425, 6:1	Fire-Ball 425, 10:1
Bung Adapter	222308			NA	NA	222308
Connection Hose Kit	222118 18 inch (45.7 cm)	222062 18 inch (45.7 cm)		238246 24 inch (60.9 cm)		222068 18 inch (45.7 cm)
	222119 72 inch (182.8 cm)	222063 72 inch (182.8 cm)				222066 72 inch (182.8 cm)
Wall Mounting Bracket	203987			238245		203987
Thermal Relief Kit	<input type="checkbox"/>	235998	237893	237601	240429	
Air Regulator and Gauge	110147	109075		104266/100960		
Air Filter	110146	106148		106149		
Air Lubricator	110148	214847		214848		
FFL*	110149	110150		217072		
Airline Shutoff Valve	110223	110224		110225		
Fluid Shutoff Valve	108537	108458		108537		
Fluid Outlet Filter	240417			101078	<input type="checkbox"/>	
Low-Level Outoff	203688					
Suction Hose Kit	236054			NA**	NA**	



\*Filter, Regulator, Lubricator and Gauge  
 \*\*Recommend 1-1/2 in, 6 ft hose assembly as suction kit  
 Must be wall-mounted or range-mounted

# NXT<sup>®</sup> High-Flo<sup>®</sup> Air-Powered Oil Pumps and Packages



## Features and Benefits

- Move large amounts of oil fast—dispenses up to 31 gallons of oil per minute
- Tested to outperform and outlast all other pumps on the market with its long-life packing design
- Models available with intuitive, easy-to-use DataTrak<sup>®</sup> controls—gives you pump diagnostics, material usage tracking and pump runaway protection
- Reduces icing and noise—new NXT air motor is up to 50% quieter than previous models

## Typical Applications

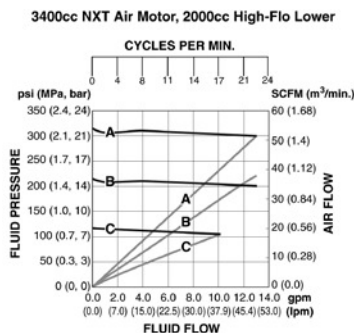
- In-plant to supply long-pipe runs or large volume header systems with multiple dispense locations
- Fill remote reservoirs or feed an automated lubrication system
- Transfer and dispense large amounts of lubricant to supply a production process
- Mines/construction for rapid re-fill of lube trucks and to service off-road equipment

Package Number with DataTrak	247888	247889	247892	247893	
Package Number without DataTrak	24D602	24D603	24D606	24D607	
Pump Specifications	Ratio	3.5:1	4.5:1	6:1	6:1
	Mounting	Wall (255143)	Wall (255143)	Wall (255143)	Stand (218742)
	Pump with DataTrak and thermal relief kit	24D590	24D591	24D594	24D594
	Pump w/o DataTrak and thermal relief kit	24D596	24D597	24D600	24D600
	Output per Cycle	2000cc	1500 cc	2000 cc	2000 cc
	Output at 60 CPM*	31.5 gpm (119.2 lpm)	23.2 gpm (87.8 lpm)	31.5 gpm (119.2 lpm)	31.5 gpm (119.2 lpm)
	Motor Size	NXT 3400		NXT 6500	
	Maximum Fluid Pressure	350 psi (24.1 bar)	450 psi (31.0 bar)	500 psi (35.2 bar)	
	Maximum Air Input Pressure	100 psi (6.9 bar)		75 psi (5.2 bar)	
Manuals	System Manual	312862			
	Pump Manual	311211	311831		
	Pump Lower Manual	311690	311832		
	Motor Manual	311238			
Inlet/Outlet	Pump Inlet Size	1 1/2 in npt (f)		2 in npt (f)	
	Pump Outlet Size	1 in npt (f)		2 in npt (f)	
Hoses	3/4 in x 4 ft Air Hbse	110048			
	1 in x 6 ft Fluid Hbse	115042	247969		

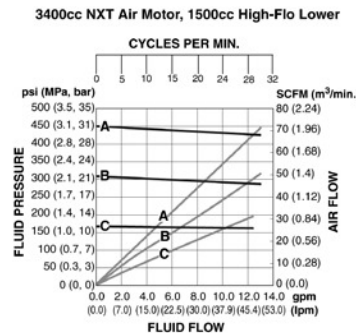
\*Graco recommends 20 CFM or less for supply applications

## Performance Charts

A = 100 psi (7.0 bar) air pressure  
B = 70 psi (4.9 bar) air pressure  
C = 40 psi (2.8 bar) air pressure

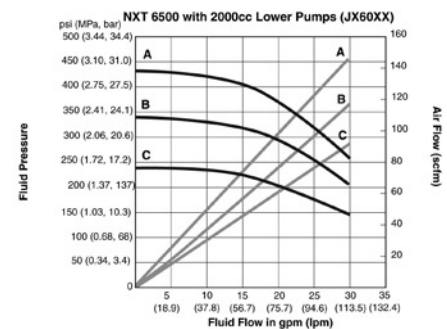


A = 100 psi (7.0 bar) air pressure  
B = 70 psi (4.9 bar) air pressure  
C = 40 psi (2.8 bar) air pressure



Test Fluid is No. 10 Weight Oil for all pumps

A = 70 psi (4.9 bar) air pressure  
B = 55 psi (3.7 bar) air pressure  
C = 40 psi (2.8 bar) air pressure

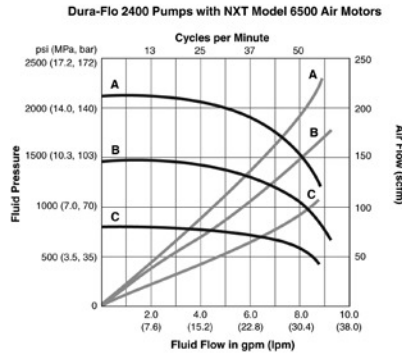
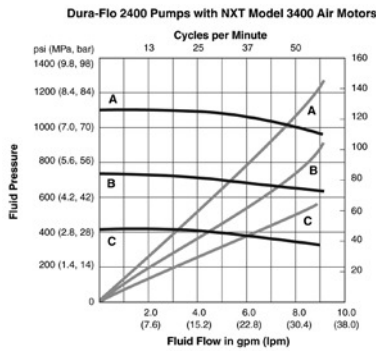
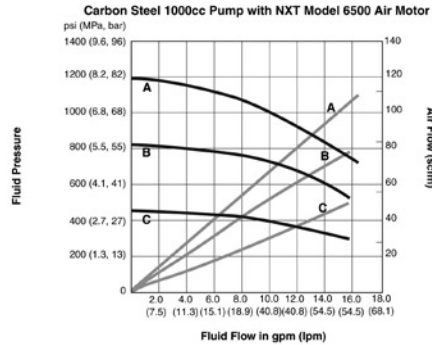
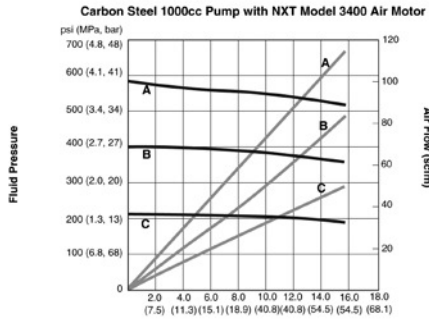


# NXT<sup>®</sup> Dura-Flo<sup>®</sup> Air-Powered Oil Pumps and Packages

## Performance Charts

A = 7 bar (100 psi) air pressure or 105 bar (1500 psi) hydraulic oil pressure  
 B = 4.9 bar (70 psi) air pressure or 75 bar (1050 psi) hydraulic oil pressure  
 C = 2.8 bar (40 psi) air pressure or 42 bar (600 psi) hydraulic oil pressure

Test Fluid is No. 10 Weight Oil for all pumps










Package Number with DataTrak	247890	247894	247891	247895	
Package Number without DataTrak	24D604	24D608	24D605	□	
Pump Specifications	Ratio	6:1	10:1	12:1	23:1
	Mounting	Wall (255143)			
	Pump with DataTrak and thermal relief kit	24D592	24D595	24D593	□
	Pump w/o DataTrak and thermal relief kit	24D598	24D601	24D599	□
	Output per Cycle	1000cc		580cc	
	Output at 60 CPM*	17.4 gpm (65.9 lpm)		9.2 gpm (34.8 lpm)	
	Motor Size	NXT 3400	NXT 6500	NXT 3400	NXT 6500
	Max. Fluid Pressure	620 psi (42.7, 4.3 bar)	1180 psi (81.3 bar)	1190 psi (82.1 bar)	1725 psi (118.9 bar)
	Max. Air Input Pressure	100 psi (6.9 bar)			75 psi (5.2 bar)
Manuals	System Manual	312862			
	Pump Manual	311833	311826		
	Pump Lower Manual	311717	311825		
	Motor Manual	311238			
Inlet/Outlet	Pump Inlet Size	2 in npt(f)			
	Pump Outlet Size	1 1/2 in npt(m)			
Hoses	3/4 in x 4 ft Air Hose	110048			
	1 in x 6 ft Fluid Hose	115042			

\*Graco recommends 20 CFM or less for supply applications

# Grease Pumps Quick Reference

## Technical Specifications and Selection Chart

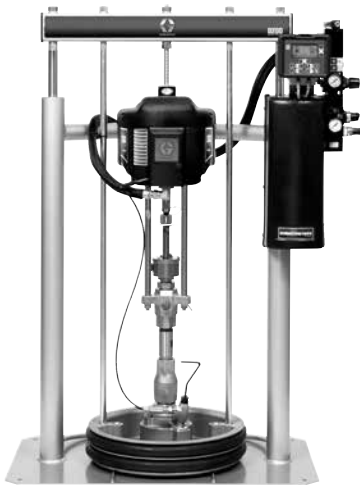
	Annual Usage	Line Length	Dispense Points	Air Inlet	Material Inlet	Material Outlet
	<b>LD Series , 50:1</b>					
	7,000 lb (3,125 kg)	300 ft (91 m)	1 to 2	1/4 in npt(f)	Priming Plston	1/4 in npt(f)
	<b>Mini Fire-Ball 225, 50:1</b>					
	10,000 lb (4,535 kg)	100 ft (30 m)	1	3/8 in npt(f)	Slotted	1/4 in npt(f)
	<b>Fire-Ball 300, 50:1</b>					
	10,000 lb (4,535 kg)	250 ft (76 m)	1 to 2	3/8 in npt(f)	Slotted	1/4 in npt(f)
	<b>Fire-Ball 425, 50:1</b>					
	20,000 lb (9,072 kg)	250-500 ft (76-152 m)	4 or more	1/2 in npt(f)	Slotted	3/8 in npt(f)
	<b>Fire-Ball 425, 75:1</b>					
	20,000 lb (9,072 kg)	250-500 ft (76-152 m)	4 or more	1/2 in npt(f)	Slotted	3/8 in npt(f)
	<b>Fire-Ball 300, 15:1</b>					
	10,000 lb (4,535 kg)	250 ft (76 m)	1 to 2	3/8 in npt(f)	Slotted	1/4 in npt(f)
	<b>Fire-Ball 425, 10:1</b>					
	20,000 lb (9,072 kg)	250-500 ft (76-152 m)	4 or more	1/2 in npt(f)	Slotted	1 in npt(f)

Grease Pumps Quick Reference

□ Consult your local authorized Graco representative for line or pipe sizing

# Grease Pumps Quick Reference

## Technical Specifications and Selection Chart



Grease Pumps Quick Reference

Annual Usage	Line Length <sup>□</sup>	Dispense Points	Pump Ratio(s)	Output Per Cycle	Fluids
<b>Check-Mate, 14:1**</b>					
20,000 lb (9,072 kg)	Up to 100 ft (76 m)	1	14:1	500 cc	Grease
<b>Check-Mate, 26:1</b>					
20,000 lb (9,072 kg)	Up to 250 ft (76 m)	1-2	26:1	500 cc	Grease
<b>Check-Mate, 29:1</b>					
20,000 lb (9,072 kg)	Up to 250 ft (76 m)	4 or more	29:1	250 cc	Grease
<b>Check-Mate, 55:1</b>					
20,000 lb (9,072 kg)	Up to 250 ft (76 m)	1-2	55:1	250 cc	Grease
<b>Check-Mate, 63:1**</b>					
20,000 lb (9,072 kg)	Up to 250 ft (76 m)	1-2	63:1	100 cc	Grease
<b>Check-Mate, 68:1**</b>					
20,000 lb (9,072 kg)	Up to 500 ft (152 m)	1-2	68:1	200 cc	Grease

<sup>□</sup> Consult your local authorized Graco representative for line or pipe sizing  
 \*\*NXT Check-Mate pump is available in floor stand or FAM Package.



# LD Series 50:1 Pump

## Air-Powered Grease Pumps and Packages

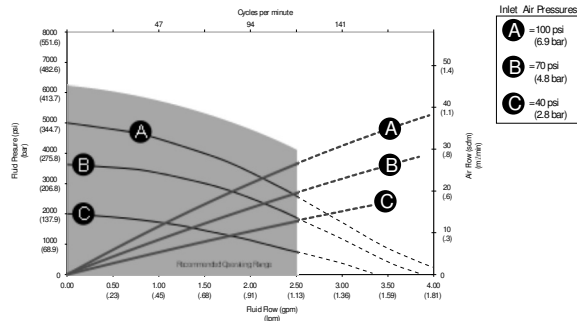
### Features and Benefits

- Built-in thermal relief protects your equipment from thermal expansion
- Three inch air motor provides more power to create better flow
- Cup and plate design eliminates the need for O-rings that wear out faster

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Fast lube centers
- Service shops
- Lube trucks

### Pump Performance



LD Series 50:1 Pump

Air Powered Grease Pumps and Packages

### Technical Specifications

Maximum Fluid Working Pressure.....	7500 psi (517 bar, 51.7 MPa)
Fluid Pressure Ratio.....	50:1
Air Operation Range.....	20 to 150 psi (1.37 to 10.3 bar)
Recommended Air Pressure (for optimum life).....	<125 psi (8.6 bar, 0.86 MPa)
Max Recommended Pump Speed.....	120 cycles per minute
Cycles Per Gallon/pound (l/kg).....	247 cycles per pound (103 cycles per kg)
Recommended Pump Speed (for maximum life).....	.60 cycles per minute or lower
Wetted Parts.....	Steel, brass, nitrile rubber, polyurethane, UHMWPE, acetal
Sound Pressure Level.....	72.9 dB(a)
Sound Power Level.....	82 dB(a)
Approximate Weight.....	35 pound drum □ 11.2 pounds (5.1 kg), 120 pound drum □ 15.0 pounds (6.8 kg), 400 pound drum □ 17.0 pounds (7.7 kg)
Air Inlet.....	1/4 in
Fluid Inlet.....	Priming Plston
Fluid Outlet.....	1/4 in
Free Flow*.....	5 lb/min
Annual Usage.....	Up to 7,000 lb (3175 kg)

### Ordering Information

LD Series 50:1 Pumps	
24G600	35 lb (16 kg) Grease Pump - 50:1
24G603	120 lb (55 kg) Grease Pump - 50:1
24G606	400 lb (180 kg) Grease Pump - 50:1

# LD Series Pump Packages and Accessories

## Air-Powered Grease Pumps and Packages

### Ordering Information

50:1 Grease Packages	
24J030	35# Portable Grease package includes: 50:1 35# (16kg) Grease pump (24G600), 6ft Grease hose kit (24H-B62), 35# follower plate (24F901), 35# Drum cover (24F904), Grease valve (242056), Z-swivel (202577)
24J036	120# Stationary Grease Package includes: 50:1 120# Grease pump (24G603), 6 ft Grease hose kit (24H-B62), 120# follower plate (24F902), 120# Drum cover (24F905), Grease valve (242056), Z-swivel (202577)
24J048	120# Mobile Grease Package includes: 50:1 120# pump (24G603), 6ft hose kit (24H-B62), 120# follower plate (24F902), 120# Drum cover (24F905), 120# Cart (24H422), Grease valve (242056), Z-swivel (202577)
24J060	120# Mobile Grease Package with LD Peel. Includes: 50:1 120# Grease pump (24G603), 6ft Grease hose kit (24J501), 120# follower plate (24F902), 120# Drum cover (24F905), 120# Cart (24H422), LD grease hose reel, 1/4" x 35" (24H663), Grease valve (242056), Z-swivel (202577)
24J042	400# Stationary Grease Package includes: 50:1 400# Grease pump (24G606), hose kit (24H-B62), 400# follower plate (24F903), 400# Drum cover (24F906), Grease valve (242056), Z-swivel (202577)
24J054	400# Mobile Grease Package. Includes: 50:1 400# Grease pump (24G606), 6 ft hose kit (24H-B62), 400# follower plate (24F903), 400# Drum cover (24F906), 400# Cart (24F915), Grease valve (242056), Z-swivel (202577)
24J066	400# Mobile Grease Package with and LD Peel. Includes: 50:1 400# Grease pump (24G606), 6 ft Grease hose kit (24J501), 400# follower plate (24F903), 400# Drum cover (24F906), 400# Cart (24F915), LD grease hose reel, 1/4" x 35" (24H663), Grease valve (242056), Z-swivel (202577)
Drum Covers	
24F904	Cover for 35 lb (16 kg) pails
24F905	Cover for open-head 120 lb drums
24F906	Cover for open-head 400 lb drums
Follower Plates	
24F901	For 35lb (16 kg) pails with LD 50:1 pumps
24F902	For 120 lbs drum with LD 50:1 pumps
24F903	For 400 lb drums with LD 50:1 pumps
Hose and Fitting Kits	
24H-B62	6 ft LD pump grease hose kit. Includes 1/4" x 6' grease hose, 3/8" x 6 ft air hose, and fittings
Air Regulators	
24H420	Mini air pressure regulator with valve, 1/4 inch NPT x 3/8 inch NPT
Carts	
24F915	Drum cart with pneumatic wheels for 400 lb drums, includes chain for securing drum to cart
24H422	Drum cart with pneumatic wheels for 120 lb drums, includes chain for securing drum to cart



24J030



24J048



24J060



24J054



24J066



24F915



24H422



24F904



24F901



24J042



# Mini Fire-Ball<sup>®</sup> 225, 50:1

## Air-Powered Grease Pumps and Packages

### Features and Benefits

- Non-corrosive air motor design for long life
- Double-acting pump ensures smooth fluid flow
- Robust grease inlet cage withstands the most abusive handling

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube and service centers
- Fleet service facilities
- Lube trucks
- Mining
- In-plant

### Typical Fluids Handled

- Grease up to NLG #2

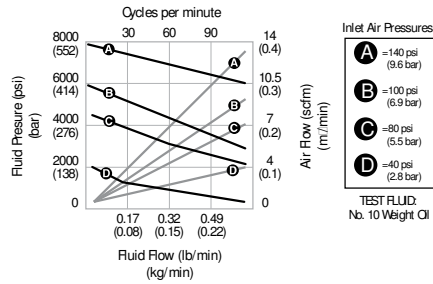
### Technical Specifications

Continuous-Duty Flow Rate.....	0.32 lb/min (0.15 kg/min)
Maximum Fluid Pressure .....	8400 psi (578 bar)
Air Motor Effective Diameter.....	2.25 in (57.2 mm)
Operating Range .....	40-140 psi (3-10 bar)
Approximate Air Use.....	7.3 scfm @ 0.41 lb/min. (.18 kg/min) @ 100 psi @ 80 cpm
Wetted Materials .....	Steel, Urethane, Aluminum, Buna-N, Brass, Ethylene, Delrin <sup>®</sup>
Air Inlet Port Size.....	3/8 in npt(f)
Material Inlet .....	Slotted
Material Outlet.....	1/4 in npt(f)
Line Length.....	Up to 100 ft (30.5 m)
Dispense Points.....	1
Annual Usage.....	Up to 10,000 lb (4,535 kg)

### Ordering Information

Mini Fire-Ball 225 50:1 Pumps	
246909	35 lb (16 kg) Grease Pump - 50:1
246780	120 lb (55 kg) Grease Pump - 50:1
246781	400 lb (180 kg) Grease Pump - 50:1

### Pump Performance



Air Powered Grease Pumps and Packages

# Fire-Ball<sup>®</sup> 300, 15:1

## Air-Powered Grease Pumps and Packages

### Features and Benefits

- Non-corrosive air motor design for long life
- Double-acting pump ensures smooth fluid flow
- Robust grease inlet cage withstands the most abusive handling

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube and service centers
- Fleet service facilities
- Lube trucks
- Mining
- In-plant

### Typical Fluids Handled

- Grease up to NLG #0

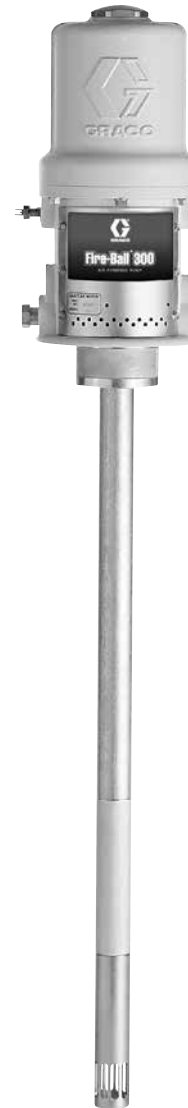
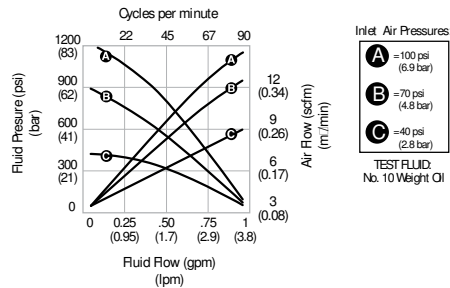
### Technical Specifications

Continuous-Duty Flow Rate.....	0.7 gpm
Maximum Fluid Pressure.....	2700 psi (186 bar)
Air Motor Effective Diameter.....	3 in (7.6 cm)
Operating Range.....	40-180 psi (2.8-12.5 bar)
Approximate Air Use.....	17 cfm@100 psi (7 bar)
Wetted Materials.....	CS, AL, Leather, PTFE, Rubber
Air Inlet Port Size.....	3/8 in npt(f)
Material Inlet.....	1 in npt(f) Straight Inlet
Material Outlet.....	1/4 in npt(f)
Line Length.....	Up to 250 ft (76.2 m)
Dispense Points.....	1 to 2
Annual Usage.....	Up to 10,000 lb (4,535 kg)

### Ordering Information

Fire-Ball 300 15:1 Pumps	
206405	35 lb (16 kg) Grease Pump - 15:1
206699	120 lb (55 kg) Grease Pump - 15:1
206700	400 lb (180 kg) Grease Pump - 15:1

### Pump Performance



□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 300, 50:1

## Air-Powered Grease Pumps and Packages

### Features and Benefits

- Non-corrosive air motor design for long life
- Double-acting pump ensures smooth fluid flow
- Robust grease inlet cage withstands the most abusive handling

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube and service centers
- Fleet service facilities
- Lube trucks
- Mining
- In-plant

### Typical Fluids Handled

- Grease up to NLG #2

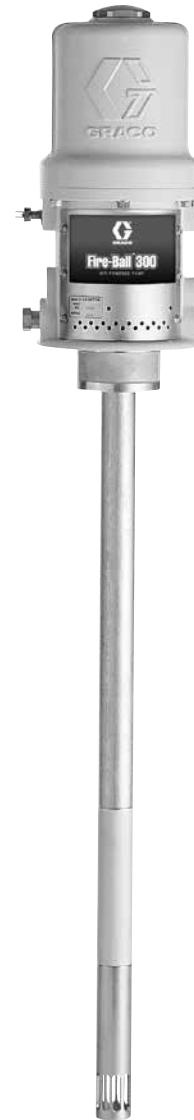
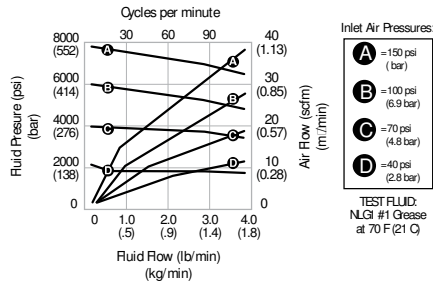
### Technical Specifications

Continuous-Duty Flow Rate.....	1.19 lb/min. (.54 kg/min.)
Maximum Fluid Pressure.....	8400 psi (580 bar)
Air Motor Effective Diameter.....	3 in (76.2 cm)
Operating Range.....	30-140 psi (3.0-9.7 bar)
Approximate Air Use.....	22.8 cfm @ 100 psi (7 bar)
Wetted Materials.....	CS, Delrin <sup>®</sup> , Buna-N, Polyurethane
Air Inlet Port Size.....	3/8 in npt(f)
Material Inlet.....	Sotted
Material Outlet.....	1/4 in npt(f)
Line Length.....	Up to 250 ft (76.2 m)
Dispense Points.....	1 to 2
Annual Usage.....	Up to 10,000 lb (4,535 kg)

### Ordering Information

Fire-Ball 300 50:1 Pumps	
239877	35 lb or 70 lb (16 kg or 32 kg) Grease Pump - 50:1
239887	120 lb (55 kg) Grease Pump - 50:1
239888	400 lb (180 kg) Grease Pump - 50:1

### Pump Performance



Air Powered Grease Pumps and Packages

□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 425, 10:1

## Air-Powered Grease Pumps and Packages

### Features and Benefits

- Non-corrosive air motor design for long life
- Double-acting pump ensures smooth fluid flow
- Robust grease inlet cage withstands the most abusive handling

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube and service centers
- Fleet service facilities
- Lube trucks
- Mining
- In-plant

### Typical Fluids Handled

- Grease up to NLG #2

### Technical Specifications

Continuous-Duty Flow Rate.....	3.5 gpm
Maximum Fluid Pressure.....	1800 psi (124 bar)
Air Motor Effective Diameter.....	4.25 in (10.8 cm)
Operating Range.....	40-180 psi (2.8-12.5 bar)
Approximate Air Use.....	13 cfm @ 100 psi (7 bar)
Wetted Materials.....	Steel, Brass, Aluminum, Leather, Buna-N
Air Inlet Port Size.....	1/2 in npt(f)
Material Inlet.....	Slotted
Material Outlet.....	1 in npt(f)
Line Length.....	Up to 500 ft (152.4 m)
Dispense Points.....	4 or more
Annual Usage.....	20,000 lb or more (9,072 kg)

### Ordering Information

Fire-Ball 425 10:1 Pumps	
965129	Fire-Ball 425, 10:1 pump complete with bung adapter. For open head drum, remove bung adapter and mount to 200326, 400 lb (180 kg) drum cover. Ideal for transferring grease from 400 lb (180 kg) drum or side pocket of tote tank. Can be modified for stubby horizontal mount on tote tanks. For more information contact Lubrication Equipment Technical Assistance
965124	Stubby mount Fire-Ball 425, 10:1 pump only



□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 425, 50:1

## Air-Powered Grease Pumps and Packages

### Features and Benefits

- Non-corrosive air motor design for long life
- Double-acting pump ensures smooth fluid flow
- Robust grease inlet cage withstands the most abusive handling

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube and service centers
- Fleet service facilities
- Lube trucks
- Mining
- In-plant

### Typical Fluids Handled

- Grease up to NLG #2

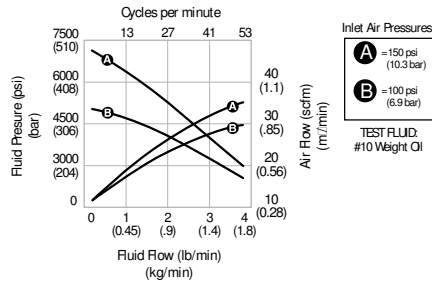
### Technical Specifications

Continuous-Duty Flow Rate.....	3.35 lb/min (1.5 kg/min.)
Maximum Fluid Pressure .....	7500 psi (517 bar)
Air Motor Effective Diameter.....	4.25 in (10.8 cm)
Operating Range .....	40-150 psi (2.8-10.4 bar)
Approximate Air Use.....	19 cfm @ 70 psi (4.8 bar)
Wetted Materials .....	CS, Leather
Air Inlet Port Size.....	1/2 in npt(f)
Material Inlet .....	Slotted
Material Outlet.....	3/8 in npt(f)
Line Length.....	Up to 250 ft (76.2 m)
Dispense Points.....	4 or more
Annual Usage.....	20,000 lb or more (9,072 kg)

### Ordering Information

Fire-Ball 425 50:1 Pumps	
205394	120 lb (55 kg) Grease Pump - 50:1
205395	400 lb (180 kg) Grease Pump - 50:1

### Pump Performance



Air Powered Grease Pumps and Packages

□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> 425, 75:1

## Air-Powered Grease Pumps and Packages

### Features and Benefits

- Non-corrosive air motor design for long life
- Double-acting pump ensures smooth fluid flow
- Robust grease inlet cage withstands the most abusive handling

### Typical Applications

- Medium pressure, low to medium volume grease dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube and service centers
- Fleet service facilities
- Lube trucks
- Mining
- In-plant

### Typical Fluids Handled

- Grease up to NLG #2

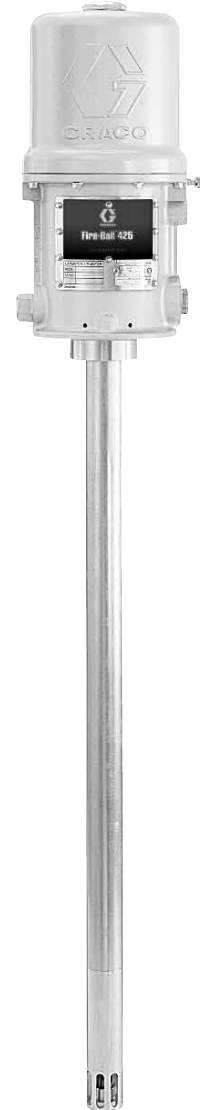
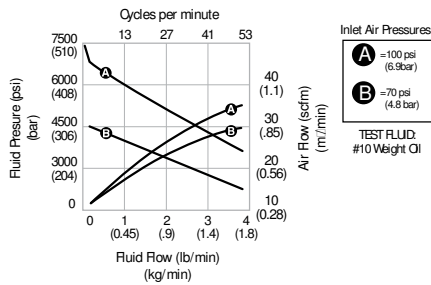
### Technical Specifications

Continuous-Duty Flow Rate.....	1.95 lb/min (0.88 kg/min)
Maximum Fluid Pressure.....	7500 psi (517 bar)
Air Motor Effective Diameter.....	4.25 in (10.8 cm)
Operating Range.....	40-100 psi (2.8-7 bar)
Approximate Air Use.....	26 cfm @ 100 psi (7 bar)
Wetted Materials.....	CS, Leather
Air Inlet Port Size.....	1/2 in npt(f)
Material Inlet.....	Slotted
Material Outlet.....	3/8 in npt(f)
Line Length.....	Up to 500 ft (152.5 m)
Dispense Points.....	4 or more
Annual Usage.....	20,000 lb or more (9,072 kg)

### Ordering Information

Fire-Ball 425 75:1 Pumps	
239729	120 lb (55 kg) Grease Pump - 75:1
239730	400 lb (180 kg) Grease Pump - 75:1
239731	35/70 lb (16/32 kg) Grease Pump - 75:1

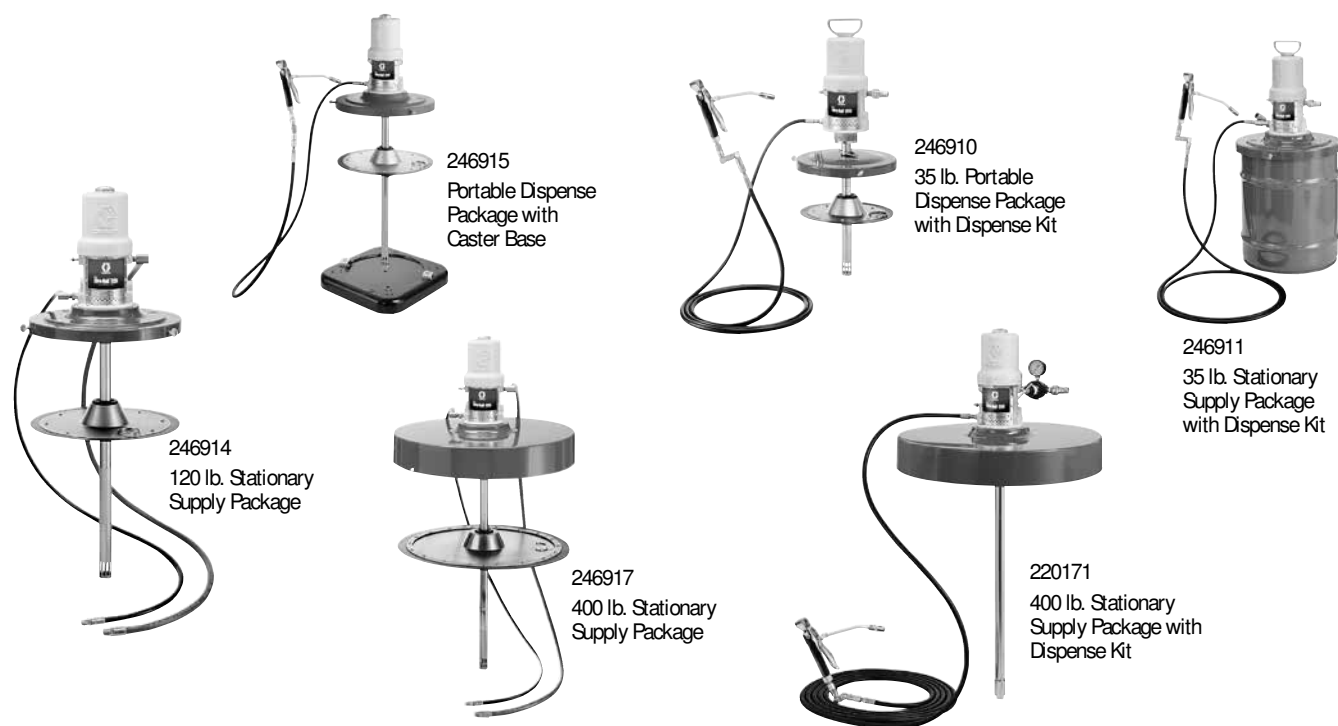
### Pump Performance



□ Consult your local authorized Graco representative for line or pipe sizing

# Fire-Ball<sup>®</sup> Grease Pump Packages

## Air-Powered Grease Pumps and Packages



Air Powered Grease Pumps and Packages

### Mini Fire-Ball<sup>®</sup> 225, 50:1 Grease Pumps and Packages

	Portable Pail Dispenser	Stationary Pail Dispenser	Cart-Mounted Pail Dispenser	Stationary Supply Package	Portable Package w/ Caster Base	Portable Package w/ 2-Wheel Cart	Stationary Supply Package
Container Size	35 lb (16 kg) pail	35 lb (16 kg) pails or 70 lb (32 kg) bulk		120 lb (55 kg)			400 lb (180 kg)
Package No.	246910 +	246911 +	246913 +	246914 +	246915 +	246916 +	246917 +
Pump Only.	246909			246780			246781
Container	<input type="checkbox"/>	204134		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Follower Plate	24F901	*	*	24F902			24F903
Dispense Kit	236058			222072	236058		222072
Fluid Hbse	12 ft x 1/4 in (3.7 m x 6.4 mm)			6 ft x 1/4 in (1.8 m x 6.4 mm)	12 ft x 1/4 in (3.7 m x 6.4 mm)		6 ft x 1/4 in (1.8 m x 6.4 mm)
Dispense Hbse Kit	236058			6 ft x 3/8 in (1.8 m x 9.5 mm)	<input type="checkbox"/>	<input type="checkbox"/>	6 ft x 3/8 in (1.8 m x 9.5 mm)
Cover	222059	24F850					200326
Cart	<input type="checkbox"/>	<input type="checkbox"/>	203650	<input type="checkbox"/>	203622	203650	<input type="checkbox"/>
Manual	309967						

+ Order 3/8 in (9.5 mm) air regulator (109075) separately \* Order follower plate 220653 separately for 35 lb (16 kg) pails or 220654 for 70 lb (32 kg) bulk

### Fire-Ball<sup>®</sup> 300, 15:1 Grease Pumps and Packages

	Stationary Pail Dispenser	Stationary Drum Dispenser	Cover-Mounted Drum Dispenser
Container Size lb (kg)	35 lb (16 kg)	120 lb (55 kg)	400 lb (180 kg)
Package No.	222078	220170	220171
Pump Only	206405	206699	206700
Dispense Kit	222080	222081	222081
Fluid Hbse	15 ft x 3/8 in (4.6 m x 9.5 mm)	25 ft x 3/8 in (7.6 m x 9.5 mm)	25 ft x 3/8 in (7.6 m x 9.5 mm)
Drum Cover	222058	204574	200326
Instruction Manual	307882		

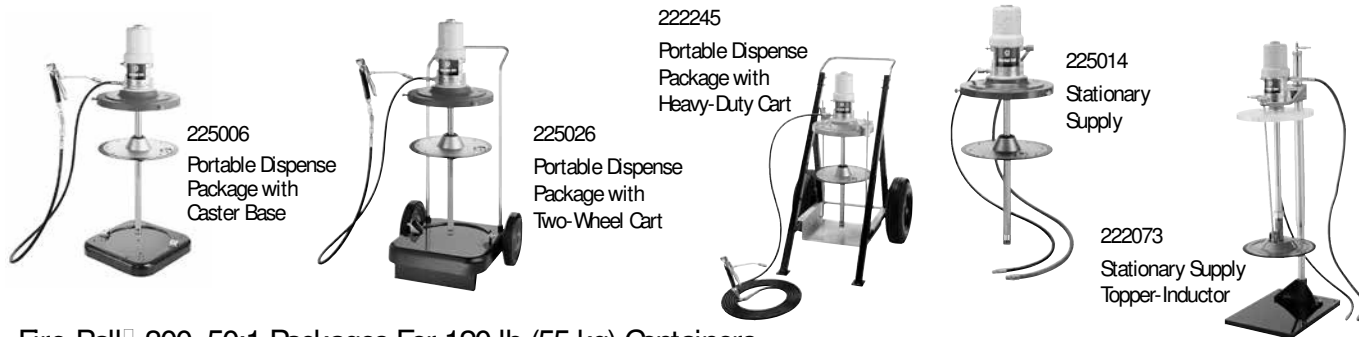
# Fire-Ball<sup>®</sup> Grease Pump Packages

## Air-Powered Grease Pumps and Packages

### Fire-Ball<sup>®</sup> 300, 50:1 35-70 lb (16-32 kg) Grease Pumps and Packages

	Portable Pail Dispenser	Stationary Pail Dispenser	Cart-Mounted Pail Dispenser	Cart-Mounted Pail Topper
Container Size	35 lb (16 kg)	35 lb or 70 lb (16 kg or 32 kg)	35 lb or 70 lb (16 kg or 32 kg)	35 lb (16 kg)
Package No.	222069 *	225827 *	225773 *	226012 *
Metered Package**	245694	<input type="checkbox"/>	245695	<input type="checkbox"/>
Pump No.	239877			
Dispense Kit	222070			
Fluid Hose	12 ft x 1/4 in (3.7 m x 6.4 mm)			
Follower Plate	24F901	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cover	222059	24F850		<input type="checkbox"/>
Hblster	<input type="checkbox"/>	203976		
Container	<input type="checkbox"/>	204134	204134	<input type="checkbox"/>
Cart	<input type="checkbox"/>	<input type="checkbox"/>	203650	
Elevator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	203664
Inductor Plate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	204351
Instruction Manual	307878			

\* Use 3/8 in (9.5 mm) air regulator 109075; must be ordered separately \*\* Metered grease package includes 233807 Accu-Shot instead of 242056 Pro-Shot  Order follower plate 220653 for 35 lb (16 kg) containers, and follower plate 220654 for 70 lb (32 kg) containers; must be ordered separately



### Fire-Ball<sup>®</sup> 300, 50:1 Packages For 120 lb (55 kg) Containers

	Portable with Caster Base	Portable with Two-Wheel Cart	Portable with Heavy-Duty Cart	Stationary Supply	Stationary Supply Topper-Inductor
Container Size lb (kg)	120 (55)	120 (55)	120 (55)	120 (55)	120 (55)
Package Number	225006 *	225026 *	222245 *	225014 *	222073 *
Metered Package	<input type="checkbox"/>	245696 **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pump Only	239887	239887	239887	239887	239887
Dispense Kits	222070	222070	222383	222072	-
Fluid Hose	12 ft x 1/4 in (3.7 m x 6.4 mm)		25 ft x 1/4 in (7.6 m x 6.4 mm)	6 ft x 1/4 in (1.8 m x 6.4 mm)	6 ft x 1/4 in (1.8 m x 6.4 mm)
Air Hose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6 ft x 3/8 in (1.8 m x 9.5 mm)	6 ft x 3/8 in (1.8 m x 9.5 mm)
Follower Plate	24F902	24F902	24F902	24F902	<input type="checkbox"/>
Cover	24F850	24F850	222060	24F850	<input type="checkbox"/>
Hblster	203976	203976	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caster Base	203622	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cart	<input type="checkbox"/>	203650	222243	<input type="checkbox"/>	<input type="checkbox"/>
Elevator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	204121
Pump Support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	222074 <input type="checkbox"/>
Hbl Down Kit	<input type="checkbox"/>	<input type="checkbox"/>	222061	<input type="checkbox"/>	<input type="checkbox"/>
Instruction Manual	307878	307878	307878	307880	306523

\* Use 3/8 in (9.5 mm) air regulator 109075; must be ordered separately \*\* Metered grease package includes 233807 Accu-Shot instead of 242056 Pro-Shot  Pump support assembly includes dust cover, base, inductor plate and 6 ft (1.8 m) fluid and air hose



# Fire-Ball<sup>®</sup> Grease Pump Packages

## Air-Powered Grease Pumps and Packages

### Fire-Ball<sup>®</sup> 300, 50:1 Packages for 400 lb (180 kg) Containers

	Stationary	Topper-Inductor
Container Size lb (kg)	400 (180)	400 (180)
Package Number	225016*	226013*
Pump Only	239888	239888
Hose and Fitting Kit	222072	204467
Fluid Hose	6 ft (1.8 m) x 1/4 in (6.4 mm)	6 ft (1.8 m) x 1/4 in (6.4 mm)
Air Hose	6 ft (1.8 m) x 3/8 in (9.5 mm)	6 ft (1.8 m) x 3/8 in (9.5 mm)
Follower Plate	24F903	□
Cover	200326	□
Carriage	□	204461
Elevator	□	204385
Inductor Plate	□	204353
Base	□	205339
Instruction Manual	307880	306556

\* Use 3/8 in (9.5 mm) air regulator 109075; must be ordered separately



225016  
400 lb. Stationary  
Supply Package



226013  
120 lb. Stationary  
Supply with  
Topper-Inductor



223108  
Stationary Supply  
Package



226018  
400 lb. Stationary  
Supply with  
Topper-Inductor

### Fire-Ball<sup>®</sup> 425, 10:1 Packages

#### 10:1 Pump for Closed Head Drum for 400 lb (180 kg)

965129	Fire-Ball 425, 10:1 pump complete with bung adapter. For open head drum, remove bung adapter and mount to 200326, 400 lb (180 kg) drum cover. Ideal for transferring grease from 400 lb (180 kg) drum or side pocket of tote tank. Can be modified for stubby horizontal mount on tote tanks. For more information contact Lubrication Equipment Technical Assistance
--------	---

#### Fire-Ball 425, 10:1 Pump Only

965124	Fire-Ball 425, 10:1 pump only, Stubby Universal Mount
--------	---

### Fire-Ball<sup>®</sup> 425, 50:1; Bulldog<sup>®</sup> 3:1 Packages for 120-400 lb (56-180 kg) Containers

Description	Stationary Supply	Stationary Supply	Stationary Supply Topper-Inductor	Pam	Bulldog 3:1 (Snker)
Container Size lb (kg)	120 (55)	400 (180)	400 (180)	400 (180)	400 (180)
Package Number	223108*	225781*	226018*	244905	244848
Pump Only	205394	205395	205395	205395	205148
Air Hose Kit	222076	222076	205102	222076	208610
Fluid Hose	6 ft x 3/8 in (1.8 m x 9.5 mm)				
Air Hose	6 ft x 1/2 in (1.8 m x 12.7 mm)				
Cover	204574	200326	□	□	□
Follower Plate	223344	223846	□	□	□
Carriage	□	□	204461	□	□
Elevator	□	□	204385	□	□
Inductor Plate	□	□	205699	□	222404
Base	□	□	205339	□	□
Pam	□	□	□	257435	□
Air Regulator	□	□	□	**	207651
Adapter Plate	□	□	□	162225	□
Adapter Kit	□	□	□	224266	□
Manual	307880	307880	306556	309345	309345

\* Use 1/2 in (12.7 mm) air regulator 104266 and gauge 100960; must be ordered separately For Fire-Ball 425, 50:1 Lube Truck Packages, see the Specialty Pump Section. \*\*Regulator included in Pam air control for 244905.

# Fire-Ball<sup>®</sup> Grease Pump Packages

## Air-Powered Grease Pumps and Packages

### Fire-Ball<sup>®</sup> 425, 75:1 Packages for 35-400 lb (16-180 kg) Containers

Description	Cover-Mount	Cover-Mount	Inductor	Pam	Pail Length	Bung or Cover
Container Size lb (kg)	120 (55)	400 (180)	400 (180)	400 (180)	35/70 lb (16/32 kg)	400 (180)
Package Number	244635*	244636*	244637*	244906	<input type="checkbox"/>	<input type="checkbox"/>
Pump Only	239729	239730	239730	239730	239731	239730
Hose and Fitting Kit	222076	222076	205102	222076		<input type="checkbox"/>
Drum Cover	204574	200326	<input type="checkbox"/>	<input type="checkbox"/>	204574	<input type="checkbox"/>
Follower Plate	223344	223846	<input type="checkbox"/>	<input type="checkbox"/>	**	<input type="checkbox"/>
Carriage	<input type="checkbox"/>	<input type="checkbox"/>	204461	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elevator	<input type="checkbox"/>	<input type="checkbox"/>	204385	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Base	<input type="checkbox"/>	<input type="checkbox"/>	205339	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inductor	<input type="checkbox"/>	<input type="checkbox"/>	205699	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Regulator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	244844	<input type="checkbox"/>	<input type="checkbox"/>
Adapter Plate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	162225	<input type="checkbox"/>	<input type="checkbox"/>
Adapter Kit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	224266	<input type="checkbox"/>	<input type="checkbox"/>
Manual	307880	307880	306556	309345	<input type="checkbox"/>	<input type="checkbox"/>

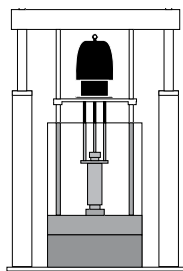
\* Use 1/2 in (12.7 mm) air regulator (104266) and gauge (100960); must be ordered separately \*\* 35 lb: 220653/ 70 lb: 223344  For Lube Truck Packages, see the Specialty Pumps and Packages Solution Section

### RAM Assemblies

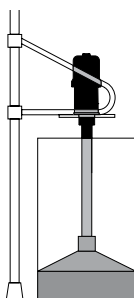
Description	Fire-Ball 300, 50:1	Fire-Ball 425, 75:1	Fire-Ball 425, 50:1	Fire-Ball 425, 10:1	Bull Dog, 3:1 <sup>□</sup>
System Package	*	244906	244905	*	244641
Bare Pump	239888	239730	205395	965129	205148
Pam	257435	<input type="checkbox"/>	257435	<input type="checkbox"/>	<input type="checkbox"/>
Pump Mount Kit	247336	247337	247337	247337	<input type="checkbox"/>
Adapter Kit	224267	224266	224266	not needed	<input type="checkbox"/>
Air Regulator and Gauge	203716	244844	**	207468	207651
Pam Plate Seal Kit	247335	247335	247335	247335	224829
Air Hose 3/4 in x 6 ft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	208610

\*Order individual components. \*\*Regulator included in Pam air control for 244905. Drum clamp when required 206537.

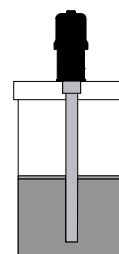
### Drum Systems



- Pam-Mount**
- Force feed high volume pumps
  - Extreme viscous grease
  - Reduce waste
  - Clean and convenient method of drum change



- Inductor-Mount**
- Reduce waste
  - Clean and convenient method of drum change



- Cover-Mount with Follower Plate**
- Economical

# Fire-Ball<sup>®</sup> Grease Pump Accessories

## Air-Powered Grease Pumps and Packages

Air Powered Grease Pumps and Packages

Dispense, Hose and Fitting Kits	
Rated to 4,000-5,000 psi (345 bar) for Portable Fire-Ball 300, 50:1 or Mini Fire-Ball 225, 50:1 Pumps	
222080	For Fire-Ball 300, 15:1. Includes: 15 ft (4.6 m) of 4,000 psi, 3/8 in (9.5 mm) fluid hose (109165), grease dispense valve (242056), Z-Swivel (202577), 3/8 in (9.5 mm) closed nipple (156849), quick-disconnect nipple (169971), quick-disconnect air coupler (110198) and 3/8 in (9.5 mm) air regulator (110234)
222081	For Fire-Ball 300, 15:1. Includes: 25 ft (7.6 m) of 4,000 psi, 3/8 in (9.5 mm) fluid hose (109167), grease dispense valve (242056), Z-Swivel (202577), 3/8 in (9.5 mm) closed nipple (156849), quick-disconnect nipple (169971), quick-disconnect air coupler (110198) and 3/8 in (9.5 mm) air regulator (110234)
236058	For Mini Fire-Ball 225, 50:1. Includes: 12 ft (3.6 m) fluid hose (109151), air coupler (208536), air nipple (169971), grease dispense valve (242056) and Z-Swivel (202577)
222070	For Fire-Ball 300, 50:1. Includes: 12 ft (3.6 m) fluid hose (109151), air coupler (208536), air nipple (169971), grease dispense valve (242056) and Z-Swivel (202577). Instruction manual 307878
222383	For Portable Units Powered by the Mini Fire-Ball 225, 50:1 or Fire-Ball 300, 50:1 Pumps. Includes dispense kit: grease dispense valve (242056), 25 ft (7.6 m) fluid hose (109154), air coupler (208536), air nipple (169971) and Z-Swivel (202577). Instruction manual 307878
Hose and Fitting Kits	
Rated to 5000 psi (345 bar) for Stationary Drum-Mounted Fire-Ball 300, 50:1 Pumps	
222072	Hose and Fittings Kit. Includes: 6 ft (1.8 m) air hose (203320) with swivel elbow (155494) and 6 ft (1.8 m) fluid hose (109150) with swivel elbow (155541). Instruction manual 307880
Rated to 4000 psi (276 bar) for Stationary Drum-Mounted Fire-Ball 425, 50:1 Pumps	
222076	Hose and Fittings Kit. Includes: 6 ft (1.8 m) air hose (205418) with swivel elbow (155470) and 6 ft (1.8 m) fluid hose (109163) with swivel elbow (155494). Instruction manual 307880
Bung Adapters	
239965	For Fire-Ball 425, 50:1 and 75:1 Pumps, 1.65 in ID
239966	For Fire-Ball 300, 15:1 and 50:1 Pumps
Lincoln-to-Graco Adapter Kit	
241246	For Fire-Ball 300, 50:1 when replacing a Series 20 Lincoln
Flange Mounting Accessories for Fire-Ball Pumps	
948393	Flange adapter (male) Fire-Ball 300
948392	Flange adapter (male) Fire-Ball 425
512874	Coupler (female)
Follower Plates	
24F901	For 35 lb (16 kg) pails with Mini Fire-Ball 225, 50:1, Fire-Ball 300, 15:1 and 50:1 pumps
24F902	For 70 and 120 lb (32/55 kg) drum, Mini Fire-Ball 225, 50:1, Fire-Ball 300, 15:1 and 50:1 pumps
223344	For 120 lb (55 kg) drums with Fire-Ball 425, 50:1 and 75:1 pumps
223700	For 120 lb (55 kg) drums with Dyna-Star 5:1 pumps
24F903	For 400 lb (180 kg) drum, Mini Fire-Ball 225, 50:1, Fire-Ball 300, 15:1 and 50:1 pumps, 1.19 in ID
204130	Follower plate same as 223845, but without flexible wiper
223846	For 400 lb (180 kg) drums with Fire-Ball 425, 50:1 and 75:1 pumps, 1-13/32 in ID
205337	Follower plate same as 223846, but without flexible wiper
223701	For 400 lb (180 kg) drums with Dyna-Star 5:1 and Fire-Ball 425, 10:1 pumps, 2.1 in ID
Drum Covers	
200326	Cover for open-head 400 lb (180 kg) drums. Use with any Mini Fire-Ball 225-50:1, Fire-Ball 300-15:1 and 50:1, Fire-Ball 425-10:1 or Dyna-Star 5:1 pump. Use adapter 160754 for bung mounted pumps
24F350	Cover for open-head 120 lb (55 kg) or 70 lb (32 kg) drums. Mounts Mini Fire-Ball 225, Fire-Ball grease pumps or Dyna-Star 5:1 pump. Use adapter 160754 for bung mounted pumps
222059	Cover for 35 lb (16 kg) pails. Mounts Mini Fire-Ball 225, 50:1 and Fire-Ball 300, 50:1 pumps using friction-style clutch lock. Allows use of 70 lb (32 kg) length pump with 35 lb (16 kg) pail
160754	Bung-adapter plate. Mounts to standard 400 lb (180 kg) or 120 lb (55 kg) drum cover and converts mounting to standard 2 rpt bung opening. Allows use of bung-mounted pumps with drum covers



24F901



24F350



200326



222059



160754

# Fire-Ball<sup>®</sup> Grease Pump Accessories

## Air-Powered Grease Pumps and Packages

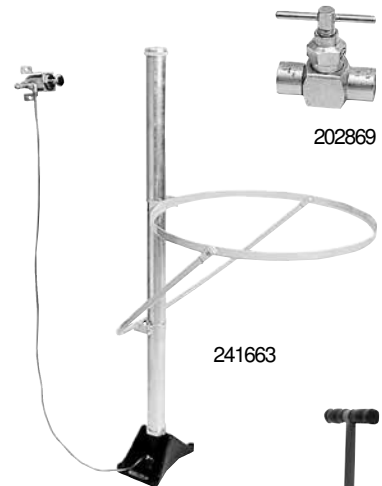
Portable Bases	
205054	Band Dolly for 35 lb (16 kg) pails
204144	Band Dolly Base for 70 lb (32 kg) or 120 lb (55 kg) drums
203622	Caster Base for 35 lb (16 kg), 70 lb (32 kg) or 120 lb (55 kg) drums
Carts	
203650	For 35 lb (16 kg), 70 lb (32 kg) and 120 lb (55 kg) drums. Drums fit onto recess on formed base. Firm clamps secure drum onto cart. Use with pail clamp 159952 when using cart with 35 lb (16 kg) pails
222243	For 120 lb (55 kg) drums with pneumatic wheels for rough terrain
111470	Heavy-duty drum truck for 400 lb (180 kg) drums secures drum onto roll-around base
Drum Elevators	
241663	Air-Powered Elevator to speed drum changes. Maximum raised height: 39.5 in (100.33 cm). Includes: Cover Support (207562), Drum Elevator, (204385), Air Control Kit (207561)
Air Shut-Off Valves, Bleed-type, rated to 250 psi (17.4 bar)	
110223	1/4 in (6.4 mm)
110224	3/8 in (9.5 mm)
110225	1/2 in (12.7 mm)
110226	3/4 in (19.1 mm)
High-Pressure Grease Shut-Off Valves	
202869	5000 psi (345 bar) high-pressure needle valve, 1/2 npt(f) ported valve for drop-line isolation



204144



203622



241663

202869



111470



203650

# NXT<sup>®</sup> Check-Mate<sup>®</sup> Packages

## Air-Powered Grease Pumps and Packages

### Ordering Information

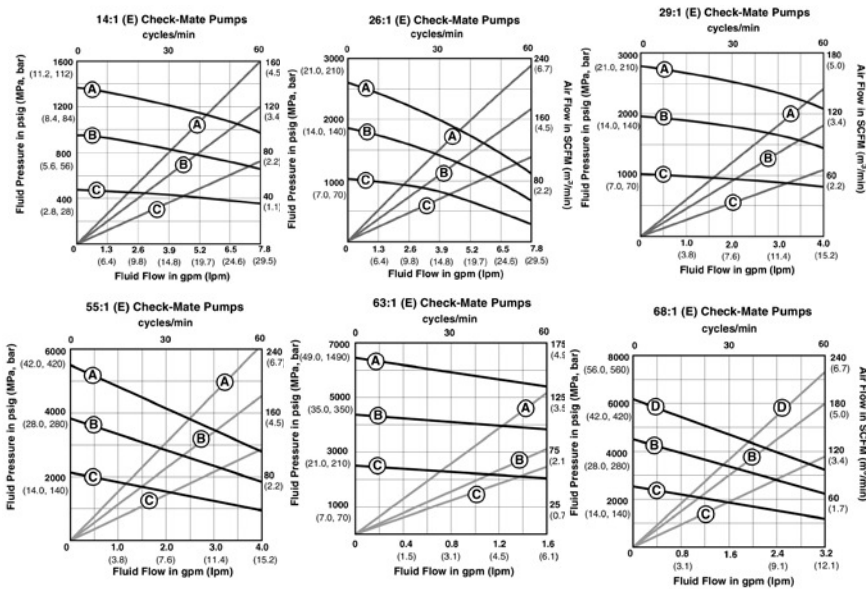
Package Number with DataTrak	247973	247976	247974	247977	247975	247978
Package Number without DataTrak	24E006	24E007	24E008	24E009	24E010	24E011
Ratio	14:1	26:1	29:1	55:1	63:1	68:1
Pump with DataTrak	P14MCS	P26MCS	P29MCS	P55MCS	P63MCS	P68MCS
Pump w/o DataTrak	P14DCS	P26DCS	P29DCS	P55DCS	P63DCS	P68DCS
Mounting	Floor Stand (223952)					
3/4 in x 6 ft Air Hose	208610					
1 in x 6 ft Fluid Hose	115042	244657				
System Manual	312863					
Pump Manual	312376					
Pump Lower Manual	312375					
Motor Manual	311238					

Note: Graco recommends 20 cpm or less for supply applications

### Performance Charts

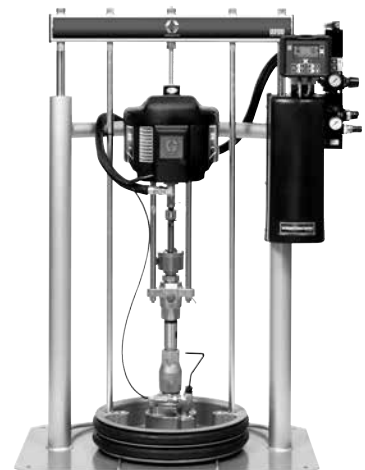
A = 100 psi (7 bar)      C = 40 psi (2.8 bar)  
 B = 70 psi (5.0 bar)      D = 90 psi (6.3 bar)

Test Fluid : #10 Weight OI for all pumps



### Ordering Information

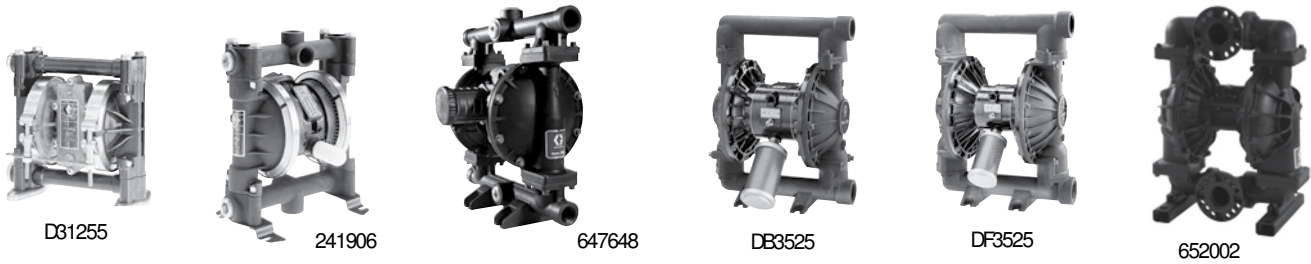
NXT Check-Mate RAM Packages			
Ratio	14:1	63:1	68:1
Package Number	247979	247980	247981
Mounting	RAM System		
Operation Manual	312863		



Air Powered Grease Pumps and Packages

# Diaphragm Pumps and Accessories

## Air-Operated Double Diaphragm Transfer Pumps



### Ordering Information and Technical Specifications

Key	OT = Oil Transfer	CE = Oil Evacuation	WA = Water, Anti-Freeze	FD = Fuel Dispense (with 50 psi relief valve)	FT = Fuel Transfer	WWS = Windshield Wash Solution					
Body/Diaphragm Description	Part Number	Typical Application	Max. Air SCFM	Air Inlet NPT	Max. psi (bar)	Fluid Inlet/Outlet	Free Flow gpm (lpm)	Air Valve Replacement Kit	Kits (Seats, Balls, Diaphragms)	Diaphragm Kit	Manual
307 3/8 in Diaphragm Pump Acetal/TPE	D81255	OT, WA, WWS	7 <sup>(1)</sup>	1/4	100 (7)	3/8	7 (31.8)	239952	D03255	D03005	308553
515 3/4 in Diaphragm Pump Acetal/Buna Dual Inlet	243669	50/50 WWS, WA	28 <sup>(1)</sup>	1/4	100 (7)	3/4	16 (60.6)	241657	D05277	D05007	309204
716 3/4 in Diaphragm Pump Aluminum/Buna N	241906	OT, CE, WA, WWS	28 <sup>(1)</sup>	1/4	100 (7)	3/4	16 (61)	241657	D05277	D05007	308573
1 in Diaphragm Pumps 1050A Aluminum/TPE (LL)	647016	CE, WA, FT (leaded fuel only)	67	1/2	120 (8.2)	1	50 (189)	24B766	Seats-24B634 and Balls-24B639	24B624	313597
1050A Aluminum/TPE (LL)	647648	FD	20 <sup>(2)</sup>	1/2	50 (3.4)	1	32 (121)				313597
1050A Aluminum/TPE	647666	OT, CE, WA	67 <sup>(2)</sup>	1/2	125 (8.6)	1	50 (189)				312877
1590 1-1/2 in Diaphragm Pump Aluminum/TPE	DB3525	OT, CE, WA	90 <sup>(3)</sup>	1/2	120 (8.3)	1 1/2	90 (341)	236273	D0B525	D0B005	308441
2150 2 in Diaphragm Pump Aluminum/TPE	DF3525	OT, CE, WA	175 <sup>(3)</sup>	1/2	120 (8.3)	2	150 (567)	236273	D0F525	D0F005	308368
3300 3 in Diaphragm Pump Aluminum/TPE	652002	OT, CE, WA	335 <sup>(3)</sup>	3/4	125 (8.6)	3	280 (1,060)	24K855	Seats-24K932 Balls-24K937	24K901	3A0410

NOTE: All pumps are 1:1 ratio <sup>(1)</sup> Max air use at 100 psi (7.0 bar) <sup>(2)</sup> Max air use at 125 psi (8.6 bar) <sup>(3)</sup> Max air use at 120 psi (7.0 bar)

### Mounting Accessories

Pump	307	515/716	1050	1590	2150	3275
Air Line Filter	110146		106148	106149	106150	106150
Air Regulator and Gauge	110147	110147	244844	202858	206199	207651
Air Quick-Connect Coupler	208536, 1/4 npt(f)		110199, 1/2 npt(f)			N/A
Air Quick-Connect Nipple	169970, 1/4 npt(m)		110196, 1/2 npt(f)			N/A
Bleed Type Air Valve	110223		110224	110225		110226
Wall Bracket	224835		240637	N/A	N/A	N/A
Thermal Relief Kit	238899	238428		N/A	N/A	N/A
Thermal Relief Valves 150 psi (10.3 bar)	113497 al/bn, 112119 ss/ff		113497 al/bn, 112119 ss/ff			
Grounding Wire and Clamp	222011					
Suction Hose Kit	236054		N/A	N/A	N/A	N/A
Flange Adapter Kit	N/A	N/A	N/A	N/A	N/A	N/A
Dual Inlet Manifold	N/A	243669*	24D205	N/A	N/A	N/A
Instruction Manual	308553	308573 and 308981	308326 and 308479	308441	308368	308639

\*Includes the dual inlet manifold.



# Fast-Flo<sup>®</sup> 1:1

## Transfer Pumps and Accessories

### Features and Benefits

- Differential air motor for smooth operation and reliability
- Stainless steel models available for corrosion resistance

### Typical Applications

- Low pressure, high volume transfer of low viscosity fluids
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Water
- Anti-freeze
- Windshield wash fluid
- Used oil
- Used anti-freeze

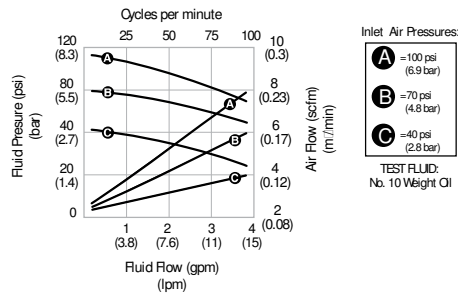
NOTE: Use Fast-Ball 1:1 for petroleum-based products.

### Technical Specifications

Flow Rate (gpm) (lpm).....	5 (19)
Maximum Fluid Pressure (psi) (bar).....	180 (12.4)
Operating Range <sup>(1)</sup> (psi) (bar).....	40-180 (2.8-12)
Wetted Materials.....	See Ordering Info
Air Inlet Size.....	1/4 npt(f)
Material Inlet <sup>(2)</sup> .....	1-1/2 npt(f)
Material Outlet.....	3/4 npt(f)
Line Length.....	Up to 100 ft (30 m)
Dispense Points.....	1
Annual Usage.....	Up to 5000 gal (18921 l)

(1) Max Operating Air Pressure for 226951 is 60 psi (4.2 bar)  
 (2) For universal pumps  
 □ Consult your local authorized Graco representative for line or pipe sizing

### Pump Performance



Transfer Pumps and Accessories

# Fast-Flo<sup>®</sup> 1:1

## Transfer Pumps and Accessories

### Ordering Information

Universal-Length Pumps (includes motor and pump-lower assembly)									
Part Number	226948	226952	237130	237131	237132	226943 *	226944 **	226945 **	
Material	CS	SST	CS	CS	SST	CS	CS	SST	
Std. Seal Repair Kits	218112	218112	213012	213013	213013	213012	215964	215964	
Material	Rubber	Rubber	Leather	PTFE	PTFE	Leather	Polyethylene	Polyethylene	
Typical Fluids	Motor Oil							Anti-Freeze, Windshield Wash	

Note: All seal repair kits are interchangeable with other Fast-Flo pumps.

Drum-Length Pumps (includes motor and pump-lower assembly)									
Part Number	226947	226951 □	226953	237133	237134	237129	226940	226941	226942
Wetted Parts	CS	CS	SST	CS	CS	SST	CS	CS	SST
Std. Seal Repair Kits	218112			213012	213013		213012	215964	
Material	Rubber			Leather	PTFE		Leather, PTFE, Leather	Polyethylene, UHMWPE	
Typical Fluids	Motor Oil								A/W

Note: All seal repair kits are interchangeable with other Fast-Flo pumps.

\* UL-listed

\*\* UL-listed and CE-marked

□ Adjustable down tube length between 18 in (457 mm) to 46.4 in (1180 mm)

### Accessories

Motor Service Kits for all Fast-Flo 1:1 Pumps	
220168	Motor Service Kits for all Fast-Flo 1:1 Air Valve Piston Assembly (used with repair kit 214584, which must be ordered separately)
Hose and Fittings Kits	
222118	18 in (0.5 m) for connecting wall-mounted Fast-Flo 1:1 pumps to piping. Includes: air hose (109123) with swivel elbow (155541), fluid hose (109108) with swivel elbow (160327)
222119	6 ft (1.8 m) for use with drum-mounted Fast-Flo 1:1 pumps. Includes: air hose (109125) with swivel elbow (155541), fluid hose (109105) with swivel elbow (160327)
Bung Adapters	
214583	Allows direct mounting of full-length Fast-Flo 1:1 pumps into standard 2 npt drum bung
217359	Sealed bung adapter for Fast-Flo pumps; can be used with suction kit 236054
Installation Kits	
218316	Includes shut-off valve, regulators, gauges and fittings as necessary for normal installation

# APEX<sup>®</sup> and APEX On-Demand Electrical Powered Pumps and Packages

## APEX Transfer Pumps

- Available with 12 VDC, 115 VAC and 230 VAC electric motors
- Self-priming, positive displacement design
- Pumps petroleum- and synthetic-based lubricants up to 8 gpm (30 lpm)
- Built-in bypass valve
- Transfer used oil with inlet suction screen (260306)
- TENV electric motor for demanding environments, models 260105, 260106, 260108 and 260109
- System includes suction tube, fluid hose, dispense valve and bung adapter for models 260100, 260101, 260102 and 260104



APEX 115 VAC oil transfer system

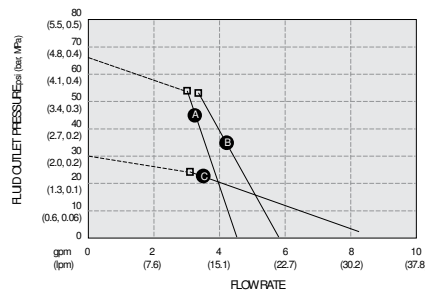
## APEX On-Demand Dispensing Pumps

- On-demand sensing system automatically starts and stops the pump
- Low operating and installation costs
- Available in 12 VDC and 115 VAC
- TENV electric motor for demanding environments
- Extremely quiet pump operation
- Output flow is continuous and non-pulsating
- Inlet and outlet check valves with thermal relief valves included

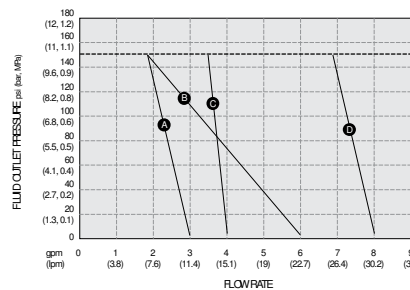


APEX On-Demand  
12 volt DC dispensing pump

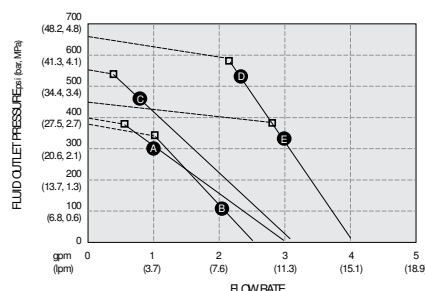
### Pump Performance



PART NUMBERS	LEGEND
Ⓐ - 260101, 260104	Relief valve
Ⓑ - 260100	valve opens
Ⓒ - 260102	□



PART NUMBERS	LEGEND
Ⓐ - 260105, 260106	Relief valve
Ⓑ - 260106	setting at 150 psi
Ⓒ - 260340	(10.3 bar, 1.0 MPa)
Ⓓ - 260109	□



PART NUMBERS	LEGEND
Ⓐ - 260112	□
Ⓑ - 260110	○
Ⓒ - 260111	○
Ⓓ - 260114	○
Ⓔ - 260113	○
	Pressure switch opens

## Typical Applications

- Filling bulk tanks from drums
- Agricultural equipment
- Lubricant transfer from remote locations
- Filling in-plant machinery
- Construction equipment
- Evacuating used oil receivers
- Automotive and truck service garages
- Fleet marine and personal boat service

## Typical Fluids Handled

- Synthetic oil
- Petroleum oil\*
- Used oil\*
- Anti-freeze
- Hydraulic fluids
- Cutting oils
- Liquid soap
- Non-flammable oil based solvents
- Oil-based herbicide carriers

\*Not for food grade use

# APEX<sup>®</sup> and APEX On-Demand Transfer Pumps and Packages

## APEX Transfer System

Part Number	260100	260101	260102*	260104
Motor	12 VDC	115 VAC	115 VAC	230 VAC
Hertz	NA	60 Hz		50/60 Hz
Horsepower	0.75	0.50	0.75	0.50
Maximum Current	35 amps	9.2 amps	9.0 amps	3.9 amps
Maximum Flow Rate	5.8 gpm (22 lpm)	4.25 gpm (16 lpm)	8.0 gpm (30 lpm)	4.25 gpm (16 lpm)
Maximum Pressure	65 psi (4.5 bar)		30 psi (2.1 bar)	65 psi (4.5 bar)
Inlet Port	1 npt(f)			
Outlet Port	3/4 npt(f)			
Weight	34 lbs (15 kg)	25 lbs (11 kg)		
Instruction manual	311305			

Note: All oil transfer systems come with 3/4 in x 8 ft hose, 1 in x 34 in suction tube and 3/4 in outlet dispense valve  
\*Designed for fluid viscosities of 1000 centistokes or less. If fluid viscosity is greater than 1000 centistokes use part 260101.

## APEX Transfer Pumps

Part Number	260105*	260106	260108	260109
Motor	115 VAC			
Hertz	60 Hz			
Horsepower	1.00			
Maximum Current	7.5 amps		9.0 amps	11.0 amps
Maximum Flow Rate	3.0 gpm (11 lpm)		4.0 gpm (15 lpm)	8.0 gpm (30 lpm)
Maximum Pressure	150 psi (10 bar)			
Inlet Port	1 npt			
Outlet Port	3/4 npt			
Weight	25 lb (11 kg)			30 lb (14 kg)
Instruction Manual	311306			

Note: All oil transfer pumps come with bung adapter.  
\*Part no. 260105 is a wall mount unit

## APEX On-Demand Pumps

Part Number	260110	260111	260113	260114	260112
Voltage	115 VAC				12 VDC
Hertz	60 Hz				NA
Horsepower	0.75	1.00	1.50	2.00	0.75
Maximum Current	10 amps	13 amps	18 amps	21 amps	75 amps
Maximum Flow Rate	2.3 gpm (9 lpm)	3 gpm (11 lpm)	4.0 gpm (15 lpm)		3 gpm (11 lpm)
Maximum Pressure	370 psi (25 bar)	550 psi (38 bar)	470 psi (32 bar)	650 psi (45 bar)	400 psi (28 bar)
Inlet Port	3/4 npt				
Outlet Port	1/2 in NPT				
Weight	27 lb (12 kg)	32 lb (15 kg)	41 lb (19 kg)	52 lb (24 kg)	27 lb (12 kg)
Instruction Manual	311307				

Note: All on-demand pumps come with bung adapter

## Accessories

260145	Wall Mounting Bracket, fits all models
260238	Y-Strainer with 3/4" npt female in-line strainer for used oil transfer
260306	Inlet Suction Screen Assembly, required for used oil applications, 20 mesh screen
260124	55 in (1.3 m) PVC Suction Tube With inlet check valve



APEX 115 VAC oil transfer system



APEX On-Demand  
12 volt DC dispensing pump

# GTP10 and GTP12

## Transfer Pumps and Packages

### Features and Benefits

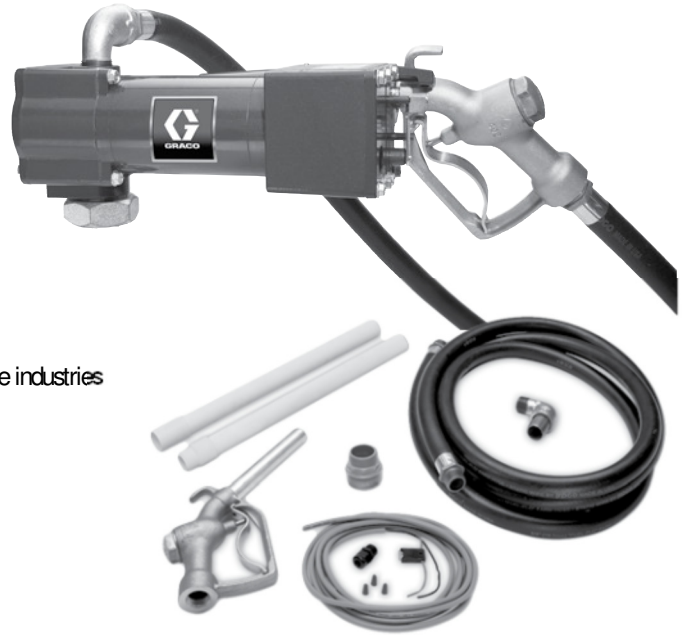
- Heavy-duty, die-cast aluminum
- CSA listed motor
- Built-in relief valve and filter strainer
- Easy-to-lock security
- High quality, UV resistant automotive finish
- Rain proof for extreme weather conditions
- Two year warranty

### Typical Applications

- Fuel transfer for the construction, agriculture, manufacturing and marine industries

### Typical Fluids Handled

- Gasoline
- Diesel fuel
- Kerosene
- Bio-fuels



### Ordering Information

Kit Number	260000	260020	260025	260022
Voltage	12 VDC	24 VDC	115 VAC	230 VAC
Inlet Port	1 npt			
Outlet Port	3/4 npt			
Current	12 amps	6 amps	1.7 amps	1 amps
Power Cord	18 ft (5.5 m)		NA	
Hose	3/4 in x 12 ft (19 mm x 3.7 m)			
Suction Tube	1 in x 34 in (25 mm x 0.9 m)			
Weight	20 lbs (9 kg)			
Max Fluid Flow	10 gpm (38 lpm)		12 gpm (45 lpm)	
Instruction Manual	311304			

Fuel Transfer Kit: Includes pump, fuel nozzle, bung adapter, 34 in (0.9 m) suction tube, 12 ft (3.7 m) grounded hose, elbow fitting, 18 ft (5.5 m) power cable, wire nuts and strain relief

NOTE: AC units do not include power cable, wire nuts or strain relief

### Accessories

260078	Unleaded nozzle
260083	Unleaded nozzle with auto shut-off
260082	Regular/diesel nozzle with auto shut-off
260079	Regular/diesel nozzle
260523	8 ft x 3/4 in (2.4 m) npt UL Listed hose
260521	12 ft x 3/4 in (3.7 m) npt UL Listed hose



# Diesel Exhaust Fluid (DEF) Dispense Systems Specialty Pumps and Packages

## Features and Benefits

All packages come with quick changeover inlet kit, air controls, air-operated double diaphragm pump, inlet hose, dispense hose and manual or auto shut-off nozzle. Simple bolt together assembly with no special tools.

## Typical Applications

- Automotive and heavy-duty dealerships
- Mining
- Service and fast lube centers
- Fleet service facilities
- In-plant
- Lube trucks

## Typical Fluids Handled

- Diesel exhaust fluid

## Ordering Information

Tote/Wall DEF Package with Meter	
24F531	Package includes: Air-Operated Diaphragm pump (24G745), Tote/Wall mounting bracket with nozzle holder (24F870), Automatic shut off SST nozzle with swivel (24F529), DEF meter package for auto nozzle (24H293), Quick connect inlet kit (24F532), DEF Inlet hose: 6 ft, 3/4 in BSPP (M) (124581), DEF Dispense hose, 20 ft, 3/4 in BSPP, MBE (124603), Air Controls: Regulator (110147), vent (110223), 50 psi valve (124963)
Tote/Wall DEF Package without Meter	
24F878	Package includes: Air-Operated Diaphragm pump (24G745), Tote/Wall mounting bracket with nozzle holder (24F870), Automatic shut off SST nozzle with swivel (24F529), Quick connect inlet kit (24F532), DEF Inlet hose: 6 ft, 3/4 in BSPP (M) (124581), DEF Dispense hose, 20 ft, 3/4 in BSPP, MBE (124603), Air Controls: Regulator (110147), vent (110223), 50 psi valve (124963)
Drum DEF Package without Meter	
24F947	Air-Operated Diaphragm pump (24G745), Drum mounting bracket with nozzle holder (24F679), Manual nozzle (125078), Quick connect inlet kit (24F532), DEF Inlet hose: 2 ft, 3/4 in BSPP X cut (124875), DEF Dispense hose: 12 ft, 3/4 in BSPP M x cut end (125079), Air Controls: Regulator (110147), vent (110223), 50 psi valve (124963)
Pumps	
24G745	Air-Operated Diaphragm pump (15 gpm free flow, polypropylene 3/4 in BSPP (F)
24G636	Pump, hand, DEF compatible
Reels	
HSD5A	DEF XD-30 hose reel, 3/4 x 50, white (see XD hose reel section for dimension details)
HSD5B	DEF XD-30 hose reel, 3/4 x 50, blue (see XD hose reel section for dimension details)
HSD5F	DEF XD-30 hose reel, 3/4 x 50, yellow (see XD hose reel section for dimension details)
HSD5DA	DEF XD-30 hose reel, bare, white (see XD hose reel section for dimension details)
HSD5DB	DEF XD-30 hose reel, bare, blue (see XD hose reel section for dimension details)
HSD5DF	DEF XD-30 hose reel, bare, yellow (see XD hose reel section for dimension details)



24F531



24F947



24G745



24G636



HSD5B

Diesel Exhaust Fluid (DEF)



# Diesel Exhaust Fluid (DEF) Specialty Pumps and Packages

Hoses	
124875	DEF hose, 2 ft, 3/4 in BSPP(M) x cut end (inlet hose)
124581	DEF hose, 6 ft, 3/4 in BSPP(M) x cut end (inlet hose)
125478	DEF hose, 4 ft, 3/4 in BSPP cut both ends (for hand pump only)
125079	DEF hose, 12 ft, 3/4 in BSPP(M) x cut end
124671	DEF hose, 12 ft, 3/4 in BSPP (mbe)
124603	DEF hose, 20 ft, 3/4 in BSPP (mbe)
125074	DEF hose, 20 ft, 3/4 in BSPP(M) x cut end
125242	DEF hose, 50 ft, 3/4 BSPP X 3/4 BSPP
Mounting	
24F870	Tote/Wall mounting bracket with nozzle holder
24F679	Drum mounting bracket with nozzle holder
124541	Holder, nozzle bath
Meter Kits	
24G738	Meter only, 1/2 in BSPP(F/F)
24H293	Meter Kit with fittings for SST auto nozzle
Nozzles	
124398	Automatic shut off SST nozzle without swivel 3/4 in BSPP(F)
24F529	Automatic shut off SST nozzle with swivel 3/4 in BSPP(F)
125078	Manual nozzle
24F524	SST Swivel, 3/4BSPP (M) x 3/4 BSPP(F)
Inlet Kits and Accessories	
24F532	Quick connect inlet kit: Includes: 124548 drum coupler, 124549 drum insert and 124550 down tube
124548	Drum coupler
124549	Drum insert with NPS thread
125014	Drum insert with buttress thread
124550	47 in down tube
124963	50 psi air safety valve
125479	Suction tube (DEF hand pump)



124671



24F870



24F679



24H293



24F529



24F532

# Fire-Ball<sup>®</sup> Lube Truck Oil and Grease Packages

## Specialty Pumps and Packages

### Oil Package Selection and Ordering Information

	Fire-Ball 300 Cover-Mounted Package	Fire-Ball 300 Cover-Mounted Package	Fire-Ball 300 Bung-Mounted Package	Fire-Ball 425 Cover-Mounted Package	Fire-Ball 425 Bung-Mounted Package
Ratio	5:1			10:1	
Container Size	16 gal (60 l) Open-head	55 gal (200 l) Closed-head*			55 gal (200 l) Closed-head*
Package Number	222086	206655	204264	206656	222067
Pump Only	203872	203857	204254	222065	222095
Hose/Fitting Kit	222063			222066	
Hose Length	6 ft (1.8 m)	6 ft (1.8 m)	6 ft (1.8 m)	6 ft (1.8 m)	6 ft (1.8 m)
Air Regulator	(1)	(1)	(1)	(2)	(2)
Hld-Down Kit	222061	207361			
Drum Cover	222060	207367	-	207367 <sup>(3)</sup>	-
Bung Adapter	-	-	204076 (2.140 in Dia.)	-	224579 (2.159 in Dia.)
Pump Clamp	-	-	204095	-	204095
Instruction Manual	307883				

\* For closed-head drums, pump mounts off-center on drum cover. Pump draws through standard 2 npt bung opening and is equipped with grommet for rain-tight seal to the drum cover.

<sup>(1)</sup> Order 3/8 in (9.5 mm) air regulator and gauge separately, (109075).

<sup>(2)</sup> Order 1/2 in (12.7 mm) air regulator (104266) and gauge (100960) separately.

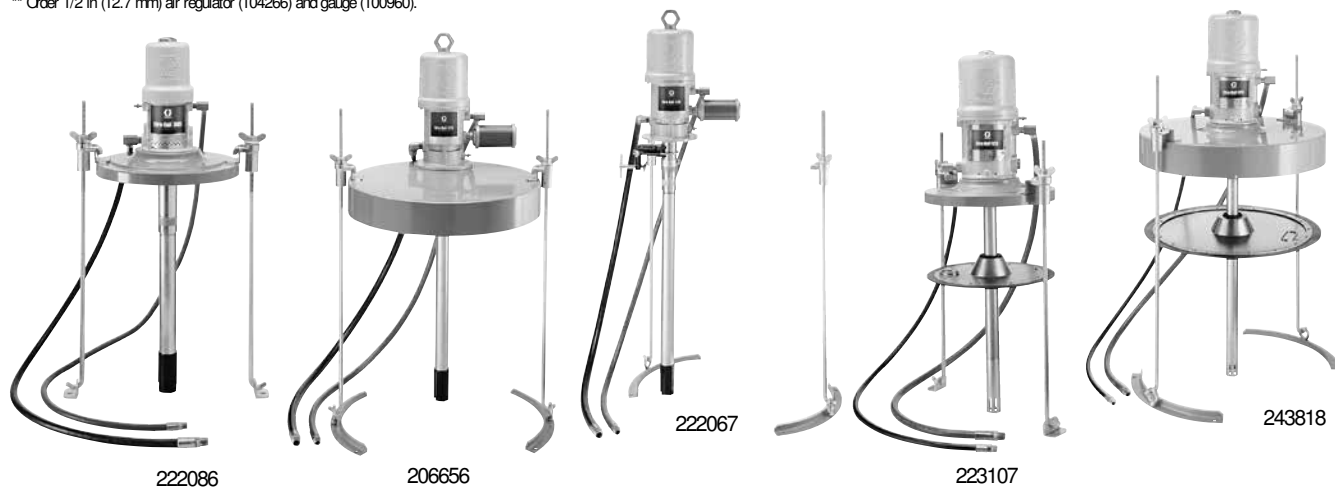
<sup>(3)</sup> Off set drum cover

### Grease Package Selection and Ordering Information

	Fire-Ball 300 Cover-Mounted Package	Fire-Ball 300 Cover-Mounted Package	Fire-Ball 425 Cover-Mounted Package	Fire-Ball 425 Cover-Mounted Package	Fire-Ball 425 Cover-Mounted Package	Fire-Ball 425 Cover-Mounted Package
Ratio	50:1				75:1	
Container Size	120 lb (55 kg) Open-head	400 lb (180kg) Open-head	120 lb (55 kg) Open-head	400 lb (180 kg) Open-head	120 lb (55 kg) Open-head	400 lb (180 kg) Open-head
Package Number	222085	222071	223107	222075	243817	243818
Pump Only	239887	239888	205394	205395	239729	239730
Hose/Fitting Kit	222072			222076		
Hose Length	6 ft (1.8 m)					
Air Regulator	*		**			*
Hld-Down Kit	222061	207361	222061	207361	222061	207361
Drum Cover	222060	207366	222060	207366	222060	207366
Follower Plate	220654	223845	223344	223846	223344	223846
Instruction Manual	307880					

\* Order 3/8 in (9.5 mm) air regulator and gauge separately, (109075).

\*\* Order 1/2 in (12.7 mm) air regulator (104266) and gauge (100960).



# Fire-Ball<sup>®</sup> 300, 15:1 Under coating/Rust-Pr oofing Packages Specialty Pumps and Packages

## Features and Benefits

- Available in carbon steel for petroleum-based or SST for water-based materials
- Durable air motor provides trouble-free operation

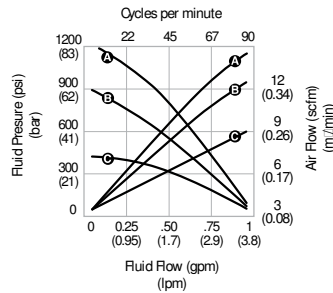
## Typical Applications

- Undercoating, rust-proofing and sound-deadening materials
- Automotive and heavy-duty vehicle dealerships
- Fast lube centers and service shops
- Fleet service facilities

## Typical Fluids Handled

- Undercoating and rust-proofing  
(verify chemical compatibility for pump's wetted components with undercoating material supplier or contact Graco directly at 1-800-533-9655)

## Pump Performance



Inlet Air Pressures:  
**A** = 100 psi (6.9 bar)  
**B** = 70 psi (4.8 bar)  
**C** = 40 psi (2.8 bar)  
 TEST FLUID:  
 No. 10 Weight Oil

## Technical Specifications

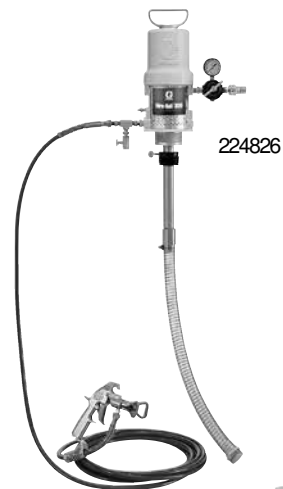
Maximum Fluid Pressure.....	2700 psi (186 bar)
Effective Air Motor Diameter .....	3 in (76.2 mm)
Operating Range.....	40-180 psi (2.8-12.5 bar)
Continuous-Duty Flow Rate.....	0.7 gpm (2.7 lpm)
Approx. Air Consumption @ 100 psi (7 bar).....	17 cfm
Air Inlet .....	3/8 npt(f)
Material Outlet.....	1/4 npt(f)
Material Inlet for Non-SST Pump.....	1 npt (straight inlet)
Material Inlet for 224825 (SST Pump).....	1 npt (barbed inlet)
Wetted Parts for Non-SST Pump.....	CS, Aluminum, PTFE, Rubber
Wetted Parts for SST pump.....	SST, Aluminum, Leather, PTFE, Rubber
Instruction Manual for non-SST Pump.....	306531
Instruction Manual for SST Pump.....	308069

## Ordering Information

Style	Undercoating			Spray Masking
	Portable	Portable Dolly-Mounted	Stationary	Bung-Mounted Stationary
Container Size	35 lb (16 kg)	120 lb (54 kg)	400 lb (180 kg)	400 lb (180 kg)
Package Number	222077	226342	226269	224826*
Pump Only	206405	206699	206700	224825 (SST pump)
Dispense Kit	222079	222079	222082	224023
Tip	286517			286211 / 286621
Hose Length	15 ft (4.6 m)	15 ft (4.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
Cover	222058	204574	200326	-
Caster Base	-	204144	-	-
Instruction Manual	307879/306531			308069

\* Package 224826 includes flexible short tube (224022) long enough for 400 lb (180 kg) container, but can be trimmed to accommodate smaller containers.

214570	60-mesh Aluminum Filter (3/8 npt(f) inlet; 1/4 npt(f) outlet). Max. working pressure: 3000 psi (210 bar)
Replacement Screen Elements (SST) 3-pack/25-pack 224458/238436 30-mesh   224459/238438 60-mesh   224468/238440 100-mesh	
202577	Z-Swivel allows non-binding movement for hard-to-reach spots. Order 155570 adapter separately to accommodate 234237 gun
206496	Nozzle Extension delivers 360° coating fan into blind areas. Length 30-3/4 in (99 cm) x 7/8-14(f) end. Tip 206502, size .043
234237	4 Finger Silver Gun with tip guard 243161 and tip 286517. 4,500 psi (310 bar) x 3/8 npt(f) inlet. Must order 155570 adapter and 239663 straight swivel to accommodate gun to 1/4" (mbe) hose
239966	Bung Adapter

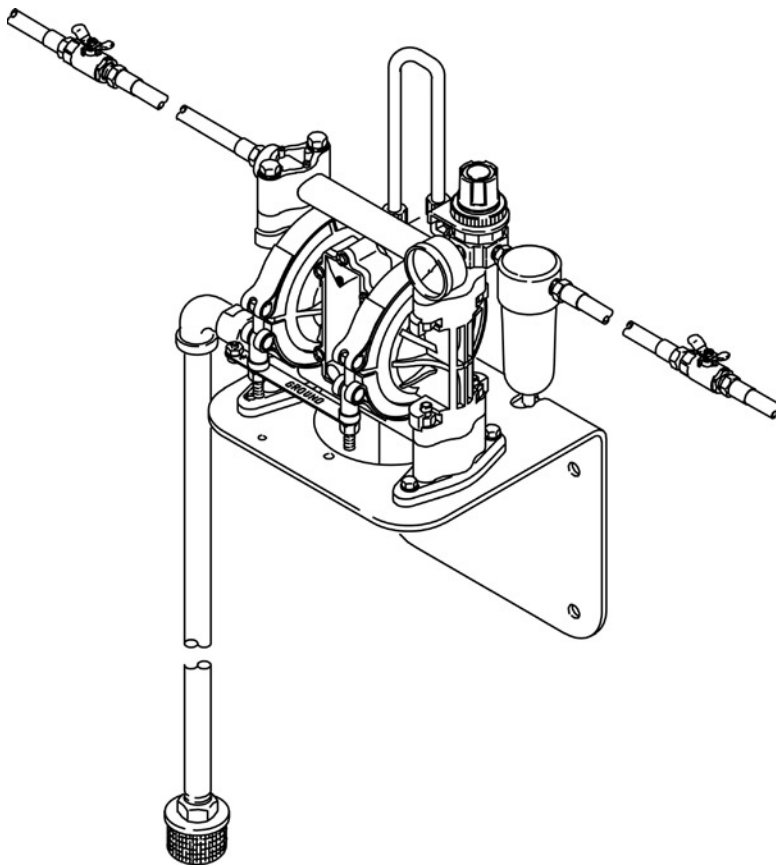


# Windshield Wash and Coolant Dispense

## Specialty Pumps and Packages

### Packages for Pre-Mixed Windshield Wash Solvent and Coolant Dispense

307 Air-Operated Double-Diaphragm Pump	
237161	Complete package includes the following: 307 Diaphragm Pump (D31255), 6 ft (1.8 m) air hose (109125), 4 ft (1.2 m) coupled nitrile fluid hose (220596), air filter (110146), air gauge (108190), air line fitting (111511), 1/4 npt air regulator (110318), elbow (100611), 15 in (381 mm) 3/8 in ID tube, (187479), mounting bracket (190125), adapter (156022), 1/4-18 npt nipple (156971), suction hose kit (223888), 6 ft (1.8 m) coupled PVC hose and 304 SST 16 mesh strainer, wall bracket (224835)
237160	Includes all items listed above except diaphragm pump and wall bracket



### Bulk Anti-Freeze and Windshield Solvent Transfer Packages

Description	1050 ACDD	1050 ACDD	515 ACDD	716 ACDD
	Dual Inlet	Single Inlet	Dual Inlet	Single Inlet
Package Number	244679	244680	244681	244682
Pump	647016	647016	243669	241906
Air Regulator	109075	109075	110147	110147
Fluid Connect Hbse	115042	115042	109105	109105
Air Connect Hbse	205418	205418	109125	109125
Air Shut-off Valve	110224	110224	110223	110223
Wall Mount Bracket	24C637	24C637	224835	224835
Dual Inlet Manifold	24D147	□	□	□
Suction Kit	2-236054	236054	2-236054	236054
Thermal Relief Kit	238428	238428	113497	113497
Instruction Manual	309353	309353	309353	309353

# Dyna-Star<sup>®</sup> and Power-Star<sup>®</sup> Pumps

## Hydraulic Powered Pumps and Packages

### Features and Benefits

- Ties into existing hydraulic systems on mobile equipment
- Operates quieter than air driven pumps and doesn't require mufflers
- Eliminates the need for air compressors
- Provides self-lubrication for long life and reliability
- Hydraulic changeover is faster with less pulsation allowing smoother output pressure, even with long plumbing runs

### Typical Applications

- Low pressure, high volume oil transfer
- High pressure, high volume grease dispense
- Heavy-duty dealerships
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Grease up to NLG #2

### Ordering Information for OI Packages

OI Applications	Power-Star, 1:1	Dyna-Star <sup>®</sup> , 1:1	Dyna-Star, 1:1	Dyna-Star, 1/4:1	Stainless Steel Dyna-Star, 1:1
Drum Size	Universal	Universal	55 gal (200 l) Bung- or Cover-Mounted	Universal	Universal
Pump Number	236754	224741	224742	236753	237653
Max. Input Pressure	1500 psi (102 bar)	1500 psi (102 bar)	1500 psi (102 bar)	1500 psi (102 bar)	1000 psi (70 bar)
Max. Fluid Input Volume	12 gpm (45.4 lpm)	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)
Max. Output Flow Rate	12 gpm (45.4 lpm)	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)	10 gpm (37.9 lpm)	3 gpm (11.4 lpm)
Maximum CFM	60	60	60	60	60
Max. Fluid Output Pressure	1500 psi (102 bar)	1500 psi (102 bar)	1500 psi (102 bar)	375 psi (25.1 bar)	1500 psi (102 bar)
Hydraulic Supply Inlet	3/4 npt	3/8 npt	3/8 npt	3/8 npt	3/8 npt(f)
Hydraulic Return Outlet	1-1/4 npt	3/4 npt	3/4 npt	3/4 npt	3/4 npt(f)
Fluid Outlet	1/2 npt	1/2 npt	1/2 npt	1/2 npt	1/2 npt(f)
Fluid Inlet	1-1/2 npt	1-1/2 npt	1-1/2 npt	1-1/2 npt	3/4 npt
Max. Incoming Fluid Temp.	130 °F (54 °C)	130 °F (54 °C)	130 °F (54 °C)	130 °F (54 °C)	130 °F (54 °C)
Instruction Manual	308391	308155	308155	308390	308155
Applications	Bulk oil transfer	Oil dispensing	Oil dispensing	Bulk oil transfer	Anti-freeze dispensing



# Dyna-Star<sup>®</sup> and Viscount<sup>®</sup> II Pumps

## Hydraulic Powered Pumps and Packages

### Ordering Information for Grease Packages

Grease Applications	Dyna-Star, 5:1	Dyna-Star, 10:1	Viscount II, 2.4:1
Part No. □ Drum Size	224912 □ 35 lb (16 kg) 224751 □ 120 lb (55 kg) 224752 □ 400 lb (180 kg)	247540 □ 60 lb (27 kg) 247443 □ 120 lb (55 kg) 247450 □ 400 lb (180 kg)	222902 □ 400 lb (180 kg)
Max. Input Pressure	1500 psi (102 bar)	600 psi (41 bar)	1500 psi (102 bar)
Max. Hydraulic Fluid Input Vol.	3 gpm (11.4 lpm)	3 gpm (11.4 lpm)	12 gpm (45.4 lpm)
Max Grease Flow Output Rate	4 lb/min (1.8 kg)	1.1 lb/min (0.5 kg)	54 lb/min (20.4 kg)
Maximum RPM	60	60	60
Max. Fluid Output Pressure	7,500 psi (517 bar)	7,500 psi (517 bar)	2,300 psi (159 bar)
Hydraulic Supply Inlet	3/8 npt	3/4-16 in. JIC (3/4" Flare)	3/4 npt
Hydraulic Return Outlet	3/4 npt	3/4 npt	1 npt
Fluid Outlet	1/2 npt	1/2 npt	1-1/2 npt
Maximum Incoming Hydraulic Fluid Temp.	130 °F (54 °C)	200 °F (93 °C)	130 °F (54 °C)
Instruction Manual	308156	312350	308149

### Hydraulic Fluid Controls (Required for each pump)

236864	Dyna-Star Fluid Controls [1500 psi (102 bar); 3 gpm (11.4 lpm)]. Includes manifold with pressure-reducing valve, flow control valve, pressure gauge, shut-off ball valves and 3 ft (0.9 m) supply and return hoses. Instruction manual 308395.
236865	Power-Star and Viscount II Fluid Controls [1500 psi (102 bar); 12 gpm (45.4 lpm)]. Includes manifold with pressure-reducing valve, flow control valve, pressure gauge, shut-off ball valves and 3 ft (0.9 m) supply and return hoses. Instruction manual 308395.
237904	1:1 Dyna-Star Thermal Relief Valve, 1600 psi (110 bar)
235998	Mini Fire-Ball 225, 3:1 thermal relief valve rated to 600 psi (41 bar)

### Accessories

Follower Plates	
224916	Follower plate for 35 lb (16 kg)
223700	Follower plate for 120 lb (55 kg)
223701	Follower plate for 400 lb (180 kg)

Covers	
224915	Cover for 35 lb (16 kg)
204574	Cover for 120 lb (55 kg)
200326	Cover for 400 lb (180 kg)

Tie-Down Covers	
222060*	Tie-Down Cover for 120 lb (55 kg)
207366**	Tie-Down Cover for 400 lb (180 kg)

\*Use with hold-down kit 222061 \*\*Use with hold-down kit 207361



222902



236754



224741



247540



# Oil and Grease Dispensing Packages

## Manually Operated Pumps

### 16 Gallon (60 l) Metered and Non-Metered Dispensing Packages

Designed for manual dispensing of fluid oil from bulk containers to point of application.

Description	Portable Metered ATF Dispenser	Portable Metered Gear Lube Dispenser	Cart-Mounted Metered Gear Lube Dispenser	Stationary Non-Metered Gear Lube Dispenser	Portable Non-Metered Gear Lube Dispenser
Package Number	225880	225376	225384	225380	225378 *
Pump Only	204867				
Metered Dispense Kit	239707	239705		-	-
Dispense Kit	-	-	-	214658	214658
Hose Diameter	-	-	1/2 in (12.7 mm)		
Hose Length	-	-	6 ft (1.8 m)		
Drum Cover	204574				
Caster Base	203622		-	-	203622
Cart	-	-	203650	-	-
Instruction Manual	306436				

\* Hydraulic; can be used for gear oil dispensing.

### Pail Dispensing Package for 5 gal (20 l) Pails

Mounts on top of a standard 5 gal (20 l) pail (pail not included).  
Delivery hose has curved nozzle that stores in cover port.

Description	Economy Gear-Lube Dispenser (Dispenses 1.6 to 1.9 oz. [47.3 to 56.2 ml] per stroke)
Package No.	226289
Hose length	4 ft (1.2 m)
Instruction manual	306875



# Lubricant and Coolant Transfer

## Manually Operated Pumps

Pumping Bulk Lubricants out of 16 gal (60 l) or 55 gal (200 l) Drums<sup>(1)</sup>

All pumps come with suction tube and bung adapter.

Description	Lever Pump <sup>(2)</sup>	Rotary Pump <sup>(3)</sup>	Hand-Lever Diaphragm Pump <sup>(4)</sup>
Pump Number	114829	226290	112202
Delivery rate	0.1 gal (0.4 l) per downstroke	1 gal (3.7 l) per 18 cycles	1 gal (3.7 l) per 9 cycles
Fluids Handled	Petroleum-based products, Anti-freeze	Petroleum-based products	Petroleum-based products <sup>(5)</sup>
Hose Length	-	-	8 ft (2.5 m)
Instruction manual	-	306876	-

<sup>(1)</sup> Drums not included

<sup>(2)</sup> Telescopic suction tube mounts 2 npt bung opening of 16 gal (60 l) or 55 gal (200 l) drum. Package includes bung adapter and spout outlet.

<sup>(3)</sup> Package has adjustable 2 npt bung mounting to allow use with either 16 gal (60 l) or 55 gal (200 l) drum. Package includes bung adapter and spout outlet.

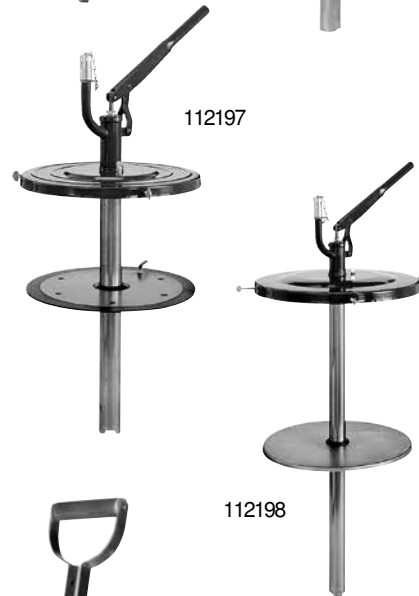
<sup>(4)</sup> A double-action high volume pump for gasoline and similar petroleum products. Fits 30 gal (113 l) to 55 gal (200 l) drum. Complete with an 8 ft (2.4 m) hose with 3/4 in fittings and aluminum telescoping suction pipe. Delivers approximately one gallon per nine strokes.

<sup>(5)</sup> This package is recommended for gasoline, diesel, heating oil and petroleum products, but NOT recommended for water-based fluids, solvents or weak acids.



226290

114829



112197

112198

### Manual Dispense from Bulk Containers

Description	Buckshot Luber with Booster Gun	Buckshot Luber without Booster Gun	Grease Gun Fill Pump	Grease Gun Fill Pump
Container Size	35 lb (16 kg)		120 lb (55 kg)	
Package No.	225914 <sup>(1)</sup>	225844 <sup>(1)</sup>	112197 <sup>(2)</sup>	112198 <sup>(2)</sup>
Pump	203702	-	-	-
Dispense Kit	203703	Filler Adapter <sup>(3)</sup>		
Booster Gun	203697	-	-	-
Cover and Follower Plate	203701	-	-	-
Instruction Manual	306455	-	-	-

<sup>(1)</sup> Delivers 1/4 oz (0.7 grams) of grease per stroke at pressures to 3,000 psi (207 bar). Can service fittings directly or be used to charge a booster gun for more efficiency at higher pressures.

<sup>(2)</sup> Fills all three-way loading grease guns equipped with filler fittings.

<sup>(3)</sup> Dispense kit 203703 can be used for direct greasing applications (must be ordered separately).



112202, 2 inch bung adapter, (2) 3/4 in npt(f) inlets includes down tube and hose

225914

# SD Series<sup>®</sup> Cord and Light Reels

## Electric Cord Reels, Light Reels and Accessories

### Features and Benefits

- Durable, heavy gauge steel frame won't flex or bend for long lasting performance
- Strong spring has the capacity to take on more load than the competition and is easy to pull down and retract so you don't have to fight to get it to operate
- One source for your entire automotive or industrial reel bank so you get everything you want including expert help when you need it
- Meets UL355\*, CSA22.2 No. 21 and IP44 standards for general, commercial and industrial grade use
- Enclosed spring and components are protected from harmful elements for longer lasting, dependable operation
- Easy to install, maintain, and repair

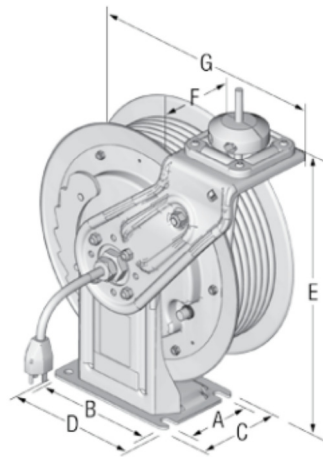
\* Rated for light outdoor use



24M521

### Dimensions

SD SERIES SIZE 5		SD SERIES SIZE 10	
A	3.5 in (89 mm)	A	3.5 in (89 mm)
B	6.38 in (162 mm)	B	7.5 in (191 mm)
C	4.7 in (120 mm)	C	4.7 in (120 mm)
D	7.48 in (190 mm)	D	9 in (229 mm)
E	14.8 in (376 mm)	E	19.5 in (498 mm)
F*	6.6 in (168 mm)	F*	7 in (177 mm)
G*	13.84 in (352 mm)	G*	17.5 in (445 mm)



- Measurement taken from base to top of bolts.
- \* Measurement taken from edge of spool to front of arm.
- \*\* Measurement taken from end of wire-nut to top surface of cover.

### Technical Specifications

Operating Temperature:

Part numbers 24M510-24M518, 24M521-24M526, 24M542-24M544 ..... -22°F to 122°F (-30°C to 50°C)

Part numbers 24M527-24M541 ..... -4°F to 104°F (-20°C to 40°C)

Weight without accessories:

Size 5: 16AWG Cord Length - 35 Feet .....	25.4 lbs
Size 5: 16AWG Cord Length - 50 Feet .....	27.6 lbs
Size 10: 16 AWG Cord Length - 95 Feet .....	46.3 lbs
Size 5: 12AWG Cord Length - 35 Feet .....	28.2 lbs
Size 5: 12AWG Cord Length - 50 Feet .....	32.0 lbs
Size 10: 12 AWG Cord Length - 95 Feet .....	51.8 lbs
Sound Pressure(1).....	80 dB(A)
Sound Power(2).....	87 dB(A)
Manual .....	3A2592

# SD Series<sup>®</sup> Cord and Light Reels

## Electric Cord Reel and Accessories

### Ordering Information with Specifications

All Graco cord and light reels have a metallic blue finish and are 120 volt with UL/CSA approved.

Part Number	Size	Accessory	AWG	Amp	Cord Length	Insulation
24M510	5	No Accessory Cord Only	16	13	50 ft (15 m)	SJTOW
24M511	10		16	10	95 ft (29 m)	SJTOW
24M512	5		12	20	50 ft (15 m)	SJCOW
24M513	10		12	18	95 ft (29 m)	SJCOW
24M517	5	Single Industrial Receptacle	16	13	35 ft (10 m)	SJTOW
24M518	5		16	13	50 ft (15 m)	SJTOW
24M521	5		12	20	35 ft (10 m)	SJCOW
24M522	5		12	20	50 ft (15 m)	SJCOW
24M524	10		12	18	95 ft (29 m)	SJCOW
24M525	5	Duplex GFCI	12	20	50 ft (15 m)	SJCOW
24M526	10	Industrial Receptacle <sup>®</sup>	12	18	95 ft (29 m)	SJCOW
24M527	5	Fluorescent Light	16	<1	35 ft (10 m)	SJTOW
24M528	5		16	<1	50 ft (15 m)	SJTOW
24M529	10		16	<1	95 ft (29 m)	SJTOW
24M530	5	Fluorescent Light with Single Tool Tap Plug	16	10	35 ft (10 m)	SJTOW
24M531	5		16	10	50 ft (15 m)	SJTOW
24M532	10		16	10	95 ft (29 m)	SJTOW
24M533	5	LED Light	16	<1	35 ft (10 m)	SJTOW
24M534	5		16	<1	50 ft (15 m)	SJTOW
24M535	10		16	<1	95 ft (29 m)	SJTOW
24M536	5	LED Light with In-line Tool Tap	16	13	35 ft (10 m)	SJTOW
24M537	5		16	13	50 ft (15 m)	SJTOW
24M538	10		16	10	95 ft (29 m)	SJTOW

**Mounting Channel For Ceiling**  
For use when mounting reels without an enclosure. Available to accommodate one to six reels. Refer to manual for longer channels.

24N674	For mounting one SD Series Size 5 reel
24A934	For mounting one SD Series Size 10 reel**
24N675	For mounting two SD Series Size 5 reels
24A935	For mounting two SD Series Size 10 reels**

\*\*Design is the same as SD Series size 10 hose reels.

**Enclosed Reel Mounting Channel For Ceiling or Wall**  
For use with enclosure kits only. Available to accommodate one to six reels. Refer to the manual for longer channels.

203521	For mounting one Size 5 and 10 reel
203522	For mounting two Size 5 and 10 reels



24M525



24M521



24M527



24M530



24M533



24M536



24N675

# SD Series<sup>®</sup> Cord and Light Reels

## Electric Cord Reel and Accessories

### Ordering Information with Specifications

All Graco cord and light reels have a metallic blue finish and are 120 volt with UL/CSA approved.

#### Cord Reel Enclosure Kits

Enclosure kit for one reel provides protection to extend the life of reel, while giving your shop a professional look.

#### Size 5 Enclosure and spacer bracket

24N690	White
24N682	Metallic Blue
24N683	Red
24N684	Black
24N691	Dark Blue
24N685	Yellow

#### Size 10 Enclosure kit for one reel

24A217	White
24A940	Metallic Blue
24A941	Red
24A942	Black
24A943	Dark Blue
24A944	Yellow

#### End Panel Kits

24A950	Black only (Same kit as Size 10 hose reels)
--------	---

#### Retrofit Mounting Bracket

24P164	Size 5 spacer bracket only, for mounting in existing size 10 enclosure.
24P880	Size 5 spacer bracket only, for mounting in existing size 20 enclosure.
24P881	Size 10 spacer bracket only, for mounting in existing size 20 enclosure.
16N883	Clamping plate to mount size 5 reel to existing SD Series open channel.

#### Swivel Mount Bracket For Wall

Allows reel to swivel 120° with two lockable positions

24N814	SD Series size 5
24N444	SD Series size 10

#### Easy Slide-in Mount For Ceiling or Wall

Allows you to slide the reel in and out for easy installation

24N686	SD Series size 5
24H193	SD Series size 10

#### I Beam Mounting Kit For Ceiling

Secures mounting channel to I-beam without drilling

204741	Fits SD Series size 5 and 10 reels (Two brackets are required for one to three reels)
--------	---

#### Hands-free Magnetic Clip

16P999	Magnetic clip with non-marring cover won't scratch vehicle finish. Snap onto light tube for hands-free operation. Spin the fixture to direct light where you need it.
--------	---

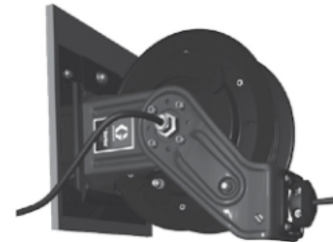
#### Retrofit Mounting Bracket

For Competitive reel replacement

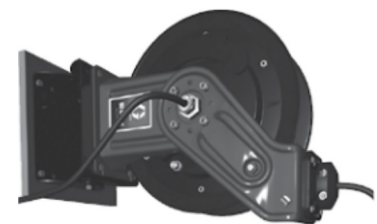
24N688	Fits size 5 reel
24N689	Fits size 10 reel



24N690



24N686



24N814



16P999

# LD Series Enclosed Hose Reels

## Hose Reels and Packages

### Features and Benefits

- Designed for light-duty applications
- Enclosed for safety and protection, extends hose life
- Flexible mounting options  hang on wall or ceiling; bench, table or tank top-mount options are available
- Full-flow swivel maximizes fluid flow with minimal pressure drop
- Easy spring tension adjustment  increase or decrease pressure spring tension while reel is pressurized

### Typical Applications

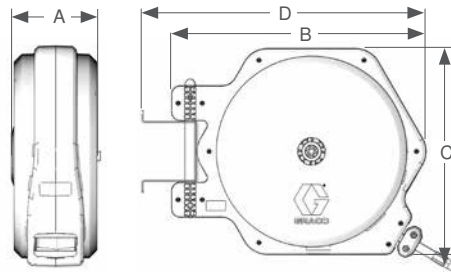
- Small maintenance shops
- Tire/muffler shops
- Small fast lubes
- Independent repair facilities
- Industrial manufacturing facilities

### Typical Fluids Handled

- Petroleum and synthetic based oils
- Grease
- Air only
- Air/water
- Anti-freeze
- Windshield washer

### Dimensions

LD SERIES	
A	7.1 in (180 mm)
B	23.0 in (585 mm)
C	18.5 in (470 mm)
D	25.6 in (650 mm)



Enclosed hose reel comes with ceiling/wall mounting swivel bracket. Required inlet hose kit sold separately.



Hose Inlet Kit for LD enclosed reels

### NPT Replacement Reels\* Ordering Information

Part Number	Application	Hose Size Id x Length		Pressure psi (bar)	Connection Size Inlet NPT(m) x Outlet NPT(m)
24H655	Air Only	6 mm x 11 m	1/4 in x 35 ft	250 (17.2)	1/2 in x 1/4 in
24H656	Air Only	6 mm x 15 m	1/4 in x 50 ft	250 (17.2)	1/2 in x 1/4 in
24H657	Air/Water/Anti-Freeze/Windshield Washer Fluid	10 mm x 11 m	3/8 in x 35 ft	250 (17.2)	1/2 in x 3/8 in
24H658	Air/Water/Anti-Freeze/Windshield Washer Fluid	10 mm x 15 m	3/8 in x 50 ft	250 (17.2)	1/2 in x 3/8 in
24H659	Air/Water/Anti-Freeze/Windshield Washer Fluid	12 mm x 11 m	1/2 in x 35 ft	250 (17.2)	1/2 in x 1/2 in
24H660	Air/Water/Anti-Freeze/Windshield Washer Fluid	12 mm x 14 m	1/2 in x 45 ft	250 (17.2)	1/2 in x 1/2 in
24H661	Oil	10 mm x 11 m	3/8 in x 35 ft	1800 (124)	1/2 in x 3/8 in
24H662	Oil	12 mm x 11 m	1/2 in x 35 ft	1800 (124)	1/2 in x 1/2 in
24H663	Grease	6 mm x 11 m	1/4 in x 35 ft	5000 (345)	3/8 in x 1/4 in

\*Reel only. Mounting Hardware is not included

### Hose Inlet Kits for LD Enclosed Hose Reel

	Part Number	Hose Inlet Description	Fits Reel	Pressure psi (bar)	Hose id in (mm)	Length in (mm)	Hose Inlet in	Hose Outlet in
For NPT connections	24C443	Air	24H655	250 (17.2)	1/4 (6)	36 in (915)	1/4 npt(m)*	1/4 npt(m)*
			24H656					
	24C444	Air/Water/Anti-Freeze/Windshield Washer Fluid	24H657				3/8 (10)	1/2 npt(m)*
			24H658	1/2 (12)	1/2 npt(m)*			
	24C537	Oil	24H661	1,800 (124)	3/8 (10)		3/8 npt(m)*	
			24H662		1/2 (12)		1/2 npt(m)*	
	24C538	Grease	24H663	5,000 (345)	1/4 (6)		1/4 npt(m)*	1/4 npt(m)*
24C539								

\* NPT hose connection when using BSP to NPT adapter (included)



# LD Series Enclosed Hbse Reels

## Hbse Reels and Packages

### Wall Mount Package\* (NPT)

Package Part Number	Application	Hbse Size Id x Length	Reel (NPT)	Wall Mount Kit	Inlet Kit
24F735	Air	1/4 in x 35 ft	24H655	24G866	24C443
24F736	Air	1/4 in x 50 ft	24H656	24G866	24C443
24F737	Air/Water/Anti-Freeze/Windshield Washer Fluid	3/8 in x 35 ft	24H657	24G866	24C444
24F738	Air/Water/Anti-Freeze/Windshield Washer Fluid	3/8 in x 50 ft	24H658	24G866	24C444
24F739	Air/Water/Anti-Freeze/Windshield Washer Fluid	1/2 in x 35 ft	24H659	24G866	24C444
24F740	Air/Water/Anti-Freeze/Windshield Washer Fluid	1/2 in x 45 ft	24H660	24G866	24C444
24F741	Oil	3/8 in x 35 ft	24H661	24G866	24C537
24F742	Oil	1/2 in x 35 ft	24H662	24G866	24C538
24F743	Grease	1/4 in x 35 ft	24H663	24G866	24C539

\*Hbse Reel, Inlet Kit, Wall Mount Bracket Kit Included

### Fixed Mount Package\* (NPT)

Package Part Number	Application	Hbse Size Id x Length	Reel (NPT)	Fixed Mount Kit	Inlet Kit
24F753	Air	1/4 in x 35 ft	24H655	24G865	24C443
24F754	Air	1/4 in x 50 ft	24H656	24G865	24C443
24F755	Air/Water/Anti-Freeze/Windshield Washer Fluid	3/8 in x 35 ft	24H657	24G865	24C444
24F756	Air/Water/Anti-Freeze/Windshield Washer Fluid	3/8 in x 50 ft	24H658	24G865	24C444
24F757	Air/Water/Anti-Freeze/Windshield Washer Fluid	1/2 in x 35 ft	24H659	24G865	24C444
24F758	Air/Water/Anti-Freeze/Windshield Washer Fluid	1/2 in x 45 ft	24H660	24G865	24C444
24F759	Oil	3/8 in x 35 ft	24H661	24G865	24C537
24F760	Oil	1/2 in x 35 ft	24H662	24G865	24C538
24F761	Grease	1/4 in x 35 ft	24H663	24G865	24C539

\*Reel, Inlet kit, Fixed Bracket Kit

### Swivel Mount Package\* (NPT)

Package Part Number	Application	Hbse Size Id x Length	Reel (NPT)	Swivel Mount Kit	Inlet Kit
24F771	Air	1/4 in x 35 ft	24H655	24C772	24C443
24F772	Air	1/4 in x 50 ft	24H656	24C772	24C443
24F773	Air/Water/Anti-Freeze/Windshield Washer Fluid	3/8 in x 35 ft	24H657	24C772	24C444
24F774	Air/Water/Anti-Freeze/Windshield Washer Fluid	3/8 in x 50 ft	24H658	24C772	24C444
24F775	Air/Water/Anti-Freeze/Windshield Washer Fluid	1/2 in x 35 ft	24H659	24C772	24C444
24F776	Air/Water/Anti-Freeze/Windshield Washer Fluid	1/2 in x 45 ft	24H660	24C772	24C444
24F777	Oil	3/8 in x 35 ft	24H661	24C772	24C537
24F778	Oil	1/2 in x 35 ft	24H662	24C772	24C538
24F779	Grease	1/4 in x 35 ft	24H663	24C772	24C539

\*Hbse Reel, Inlet Kit, Swivel Bracket Kit

### Mounting Kits Ordering Information

Part Number	Description
24G866	Wall Mount Kit
24G865	Fixed Bracket New Installation Kit
24E506	Fixed Bracket Replacement Kit
24C772	Swivel Bracket Kit



# SD10<sup>®</sup> and SD20<sup>®</sup> Hbse Reels

## Hbse Reels and Packages

### Features and Benefits

- Designed for daily use applications, such as dealerships, fleet service and maintenance facilities
- Structurally engineered frame made from high strength steel won't bend or flex
- Long-lasting spring provides constant spring torque through the entire range of motion
- Flexible positioning of guide arm for mounting on bench or ceiling, wall or utility truck
- Steel spool for demanding applications
- Open swivel ports ensure high fluid flow with minimal pressure loss
- Enclosure kits available ideal when appearance and protection is important
- Available in six colors. Metallic blue is standard

### Typical Applications

- Car dealerships
- Light/medium-duty truck dealers
- Fleet maintenance
- Mining maintenance
- Public works garages
- Construction vehicle maintenance
- Light-utility service trucks

### Dimensions

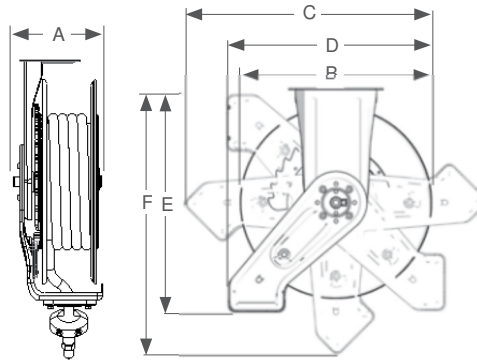
	SD10	SD20
A	7.0 in (177 mm)	7.0 in (177 mm)
B	16.2 in (412 mm)	18.1 in (460 mm)
C	21.0 in (533 mm)	23.4 in (594 mm)
D	17.1 in (435 mm)	19.2 in (488 mm)
E	19.5 in (495 mm)	21.8 in (554 mm)
F	22.5 in (571 mm)	25.2 in (640 mm)



Single pedestal with metal spool. Inlet Hbse Kit sold separately.

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Grease
- Air
- Water
- Anti-freeze
- Windshield washer



### Ordering Information

### Technical Specifications

Applications	Model numbers by color						Pressure psi (bar)	Hbse		Connection Size		Operating Temp.	
	Metallic Blue	White	Red	Black	Dark Blue	Yellow		id (in)	Length ft (m)	Inlet npsm(m)	Outlet		
Air, Water, Anti-Freeze, Windshield Washer Fluid	SD10	HPL23B	HPL23A	HPL23C	HPL23D	HPL23E	HPL23F	300 (20.7)	3/8	35 (11)	1/2	3/8 npt (m)	-20 to 190 F (-28 to 87 C)
		HPL25B	HPL25A	HPL25C	HPL25D	HPL25E	HPL25F	300 (20.7)	3/8	50 (15)	1/2	3/8 npt (m)	
		HPL33B	HPL33A	HPL33C	HPL33D	HPL33E	HPL33F	300 (20.7)	1/2	35 (11)	1/2	1/2 npt (m)	
	SD20	HPL56B	HPL56A	HPL56C	HPL56D	HPL56E	HPL56F	300 (20.7)	3/8	65 (20)	1/2	3/8 npt (m)	
		HPL65B	HPL65A	HPL65C	HPL65D	HPL65E	HPL65F	300 (20.7)	1/2	50 (15)	1/2	1/2 npt (m)	
		HPL65B*	HPL65A*	HPL65C*	HPL65D*	HPL65E*	HPL65F*	300 (20.7)	1/2	50 (15)	1/2	1/2 npt (m)	
Petroleum- or Synthetic-Based Oils	SD10	HPM33B	HPM33A	HPM33C	HPM33D	HPM33E	HPM33F	2,000 (138)	1/2	35 (11)	1/2	1/2 npt (m)	-40 to 200 F (-40 to 93 C)
		HPM33B*	HPM33A*	HPM33C*	HPM33D*	HPM33E*	HPM33F*	2,000 (138)	1/2	35 (11)	1/2	1/2 npsm (f)	
	SD20	HPM65B	HPM65A	HPM65C	HPM65D	HPM65E	HPM65F	2,000 (138)	1/2	50 (15)	1/2	1/2 npt (m)	
		HPM65B*	HPM65A*	HPM65C*	HPM65D*	HPM65E*	HPM65F*	2,000 (138)	1/2	50 (15)	1/2	1/2 npsm (f)	
		HPM65B	HPM65A	HPM65C	HPM65D	HPM65E	HPM65F	2,000 (138)	1/2	50 (15)	1/2	1/2 npt (m)	
		HPM65B*	HPM65A*	HPM65C*	HPM65D*	HPM65E*	HPM65F*	2,000 (138)	1/2	50 (15)	1/2	1/2 npsm (f)	
Grease	SD10	HPH15B	HPH15A	HPH15C	HPH15D	HPH15E	HPH15F	5,000 (345)	1/4	50 (15)	3/8	1/4 npt (m)	-40 to 200 F (-40 to 93 C)
		HPH23B	HPH23A	HPH23C	HPH23D	HPH23E	HPH23F	4,000 (276)	3/8	35 (11)	3/8	1/4 npt (m)	
		HPH1DB*	HPH1DA*	HPH1DC*	HPH1DD*	HPH1DE*	HPH1DF*	5,000 (345)	3/8	35 (11)	3/8	1/4 npt (f)	
	SD20	HPH55B	HPH55A	HPH55C	HPH55D	HPH55E	HPH55F	4,000 (276)	3/8	50 (15)	3/8	1/4 npt (m)	
		HPH55B*	HPH55A*	HPH55C*	HPH55D*	HPH55E*	HPH55F*	4,000 (276)	3/8	50 (15)	3/8	1/4 npt (f)	
		HPH55B	HPH55A	HPH55C	HPH55D	HPH55E	HPH55F	4,000 (276)	3/8	50 (15)	3/8	1/4 npt (m)	

Reels and Packages

# SD10<sup>®</sup> and SD20<sup>®</sup> Hose Reel Packages and Accessories

## Hose Reels and Packages

SD Reel Packages with Enclosure Kit							
Steel Spool	Application	SD Packages	Hose Reel	Hose Inlet Kit	White Enclosure	Valve/Meter	Fitting
	Air/Water	24D989	HFL23B	218549	24A217	<input type="checkbox"/>	<input type="checkbox"/>
	Air/Water	24D990	HFL25B	218549	24A217	<input type="checkbox"/>	<input type="checkbox"/>
	Air/Water	24D991	HFL33B	218549	24A217	<input type="checkbox"/>	<input type="checkbox"/>
	Air	24D992	HFL23B	218549	24A217	218545	<input type="checkbox"/>
	Water	24D993	HFL23B	218549	24A217	180685	150287
	Water	24D994	HFL33B	218549	24A217	180685	159842
	Motor Oil	24D995	HFM33B	218549	24A217	<input type="checkbox"/>	<input type="checkbox"/>
	Motor Oil	24D996	HFM33B	218549	24A217	255350	<input type="checkbox"/>
Motor Oil	24D997	HFM33B	218549	24A217	255348	<input type="checkbox"/>	
SD Reel Packages without Enclosure Kit							
Steel Spool	Application	SD Packages	Hose Reel	Hose Inlet Kit	Enclosure	Valve/Meter	Fitting
	Air	24D998	HFL23B	218549	<input type="checkbox"/>	218545	<input type="checkbox"/>
	Water	24D999	HFL23B	218549	<input type="checkbox"/>	180685	150287
	Motor Oil	24E001	HFM33B	218549	<input type="checkbox"/>	255350	<input type="checkbox"/>
Motor Oil	24E002	HFM33B	218549	<input type="checkbox"/>	255348	<input type="checkbox"/>	
SD Hose Inlet Kits		Pressure psi (bar)	Hose id in (mm)	Length in (mm)	Hose Inlet		
218549	Low/medium pressure	2000 (137)	1/2 (12)	24 (610)	npt(m)		
218550	High pressure	4000 (276)	3/8 (10)	24 (610)	npt(m)		
224417	High pressure	5000 (345)	1/4 (6)	24 (610)	npt(m)		
Reel Enclose Kits for One Reel	Provides protection to extend the life of hoses and bearings for SD single pedestal reels						
	White*	Metallic Blue	Red	Black	Dark Blue	Yellow	
SD 10 Enclosure	24A217	24A940	24A941	24A942	24A943	24A944	
SD 20 Enclosure	24A218	24A945	24A946	24A947	24A948	24A949	
SD 10 End Caps (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24A950	<input type="checkbox"/>	<input type="checkbox"/>	
SD 20 End Caps (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24A951	<input type="checkbox"/>	<input type="checkbox"/>	
Enclosed Reel Mounting Channel	Enclosure mounting channel kits include all parts for mounting hose reels to walls or ceilings						
Description	1 Reel	2 Reels	3 Reels	4 Reels	5 Reels	6 Reels	
SD Enclosed	203521	203522	203523	203524	203525	203526	
Open Reel Mounting Channel	Accommodates one, two, three, four, five or six reels (includes all parts for wall or ceiling mounts)						
	1 Reel	2 Reels	3 Reels	4 Reels	5 Reels	6 Reels	
SD10/SD20 Open	24A934	24A935	24A936	24A937	24A938	24A939	
Retrofit Adapter Kits							
24A224	Includes all parts to mount hose reel to existing 500 series mounting pattern						
24C100	Includes all parts to convert SD10 hose reels to existing 250 series enclosures						
Mounting Bracket (Secures mounting channel to I-beam without drilling)							
204741	Two brackets are required for 1-3 hose reels; three brackets for 4-6 hose reels						
Ball Stop Kits							
222225	For 1/4 in (6.4 mm) i.d. hose (Not for use with XD30, 700 or 750)						
218340	For 1/4-3/8 in (6.4-9.5 mm) i.d. hose (Not for use with XD30, 700 or 750)						
218341	.782 ID used for 3/8 in and 1/2 in (9.5 mm and 12.7 mm) hose (Not for use with XD30, 700 or 750)						
237872	1.0 ID used for 5/8 in (15.9 mm) hose						
237873	1.123 ID used for 3/4 in (19.1 mm) hose						
237874	1.374 ID used for 1 in (25.4 mm) hose						
24D132	For 3/8 in (9.5 mm) o.d. hose						
24D133	For 1/2 in (12.7 mm) o.d. hose						



Hose Reel Enclosure



Mounting Channel



Mounting Bracket



Hose Inlet Kit for SD open reels

\* Bare Reel: hose sold separately. Wetted parts: bare hose reel only; zinc plated steel, steel, nitrile rubber. Dry Weight: 52 lbs (23.5 kg). Instruction Manual: 313431

# XD10<sup>®</sup>, XD20<sup>®</sup> and XD30<sup>®</sup> Hbse Reels

## Hbse Reels and Packages

### Features and Benefits

- Designed for robust/heavy-duty applications such as mobile lube trucks or large equipment service, yet with a narrow footprint to fit more reels into small spaces
- Dual pedestal frame provides increased strength for extreme-duty applications
- Long lasting spring is sealed for protection against the weather
- Durable steel spool rides on sealed roller bearings to ensure trouble-free performance
- Available in four colors. Metallic blue is standard
- Available with arms removed for bulkhead mounting

### Typical Applications

- Heavy-duty truck dealers
- Fleet maintenance
- Mining maintenance
- Public works garages
- Construction vehicle maintenance
- Heavy-duty mobile service trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Grease
- Fuel
- Pressure wash
- Air
- Water
- Anti-freeze
- Windshield washer
- Waste oil

Note: Hbse Inlet Kit for all XD Reels sold separately.

### Dimensions

XD 10	
A	7.5 in (196 mm)
B	16.2 in (412 mm)
C	21.0 in (533 mm)
D	18.0 in (457 mm)
E	18.5 in (470 mm)
F	22.5 in (571 mm)

XD 20	
A	7.5 in (196 mm)
B	18.1 in (460 mm)
C	23.4 in (594 mm)
D	20.0 in (508 mm)
E	21.0 in (533 mm)
F	25.2 in (640 mm)

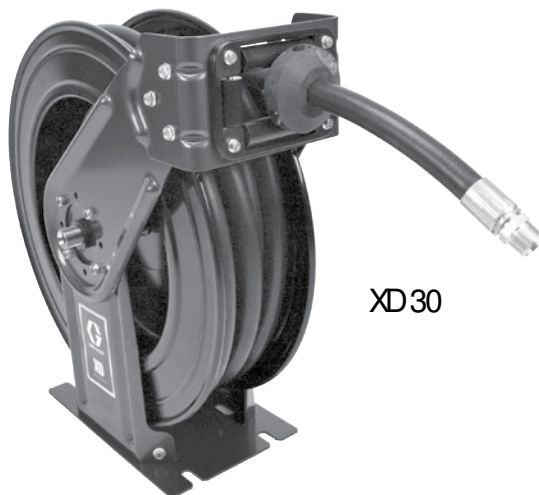
XD 30	
A	9.0 in (229 mm)
B	21.50 in (546.00 mm)
C	25.96 in (659.45 mm)
D	22.12 in (561.73 mm)
E	23.10 in (588.00 mm)
F	27.60 in (700.82 mm)



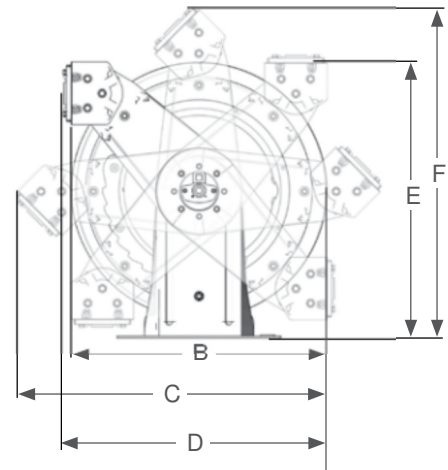
XD 10



XD 20



XD 30



# XD10<sup>®</sup>, XD20<sup>®</sup> and XD30<sup>®</sup> Hose Reels

## Hose Reels and Packages

### Ordering Information

### Technical Specifications

Applications	Model numbers by color				Pressure psi (bar)	Hose		Connection Size		Operating Temp.	
	Metallic Blue	White	Yellow	Desert Sand		id in	Length ft (m)	Inlet in	Outlet in		
Air, Water, Anti-Freeze, Windshield Washer Fluid	XD10	HSL25B	HSL25A	HSL25F	HSL25G	300 (20.7)	3/8	50 (15)	1/2 npsm(m)	3/8 npt(m)	-20-190 °F (-28-87 °C)
		HSL33B	HSL33A	HSL33F	HSL33G		1/2	35 (11)		1/2 npt(m)	
	XD20	HSL56B	HSL56A	HSL56F	HSL56G		3/8	65 (20)		3/8 npt(m)	
		HSL65B	HSL65A	HSL65F	HSL65G		1/2	50 (15)		1/2 npt(m)	
	XD30	HSLC8B	HSLC8A	HSLC8F	HSLC8G		1/2	75 (23)	3/4 npsm(m)	1/2 npt(m)	-40-180 °F (-40-82 °C)
		HSLD5B	HSLD5A	HSLD5F	HSLD5G		3/4	50 (15)		3/4 npt(m)	
Petroleum and Synthetic Based Oils	XD10	HSV33B	HSV33A	HSV33F	HSV33G	2,000 (138)	1/2	1/2 npsm(m)	1/2 npt(m)	-20-190 °F (-28-87 °C)	
		HSV3BB*	HSV3BA*	HSV3BF	HSV3BG				1/2 npt(f)		
	XD20	HSV65B	HSV65A	HSV65F	HSV65G				50 (15)		1/2 npt(m)
		HSV6DB*	HSV6DA*	HSV6DF*	HSV6DG				50 (15)		1/2 npt(f)
	XD30	HSV08B	HSV08A	HSV08F	HSV08G	1,500 (103)	1/2	1/2 npsm(m)	1/2 npt(m)	-40-180 °F (-40-82 °C)	
		HSV0FB*	HSV0FA*	HSV0FF*	HSV0FG*	2,000 (138)			75 (23)		1/2 npsm(f)
		HSV05B	HSV05A	HSV05F	HSV05G	1,250 (86)	3/4	3/4 npsm(m)	3/4 npt(m)		
		HSV0DB*	HSV0DA*	HSV0DF*	HSV0DG*	2,000 (138)	3/4	3/4 npsm(f)	3/4 npt(f)		
	Grease	XD10	HS15B	HS15A	HS15F	HS15G	8,000 (552)	1/4	50 (15)	3/8 npsm(m)	1/4 npt(m)
HS11DB*			HS11DA*	HS11DF*	HS11DG*	3/8		35 (11)	3/8 npt(f)		
XD20		HS55B	HS55A	HS55F	HS55G	4,000 (276)	3/8	50 (15)	1/2 npsm(m)	1/4 npt(m)	
		HS55DB*	HS55DA*	HS55DF*	HS55DG*	8,000 (552)				3/8 npsm(f)	
XD30		HS105B	HS105A	HS105F	HS105G	5,000 (345)	1/2	1/2 npsm(m)	1/2 npt(m)	-40-180 °F (-40-82 °C)	
		HS10DB*	HS10DA*	HS10DF*	HS10DG*				1/2 npsm(f)		
	HS107B	HS107A	HS107F	HS107G		3/8	75 (23)	3/8 npt(f)			
Pressure Wash	XD30	HSP88B	HSP88A	HSP88F	HSP88G	4,000 (276)	3/8	75 (23)	1/2 npsm(m)	3/8 npt(m)	-20-225 °F (-28-107 °C)
		HSPFFB*	HSPFFA*	HSPFF*	HSPFFG*					3/8 npsm(f)	
		HSP05B	HSP05A	HSP05F	HSP05G	4,500 (310)	1/2	50 (15)	1/2 npt(m)		
Fuel/Evacuation	XD30	HSLB3B	HSLB3A	HSLB3F	HSLB3G	125 (8.6)	1	30 (9)	3/4 npsm(m)	1 npt(m)	-40-120 °F (-40-49 °C)
DEF	XD30	HSDD5B	HSDD5A	HSDD5F	NA	50 (3.4)	3/4	50 (15)	3/4 bspp(m)	3/4 bspp CFB	12-140 °F (-11-60 °C)
		HSD0DB*	HSD0DA*	HSD0DF*	NA						

Maximum dry weight with hose: XD10 = 54 lbs (24.5 kg), XD20 = 59 lbs (27 kg), XD30 = 98 lbs (44.5 kg)  
Wetted parts: Bare hose reel only: zinc plated steel, anodized aluminum, nitrile rubber  
Instruction Manuals: XD10 and XD20: 313431, XD30: 3A0138  
\* Bare reel, hose sold separately

Reels and Packages



# XD10<sup>®</sup>, XD20<sup>®</sup> and XD30<sup>®</sup> Hbse Reel Accessories

## Hbse Reels and Packages

### Ordering Information

XD Enclosure Kits	Provides protection to extend the life of hose and bearings for XD reels					
Reel Enclose kits for One Reel	White	Metallic Blue	Red	Black	Dark Blue	Yellow
XD10 Enclosure	24NB31	24NB32	24NB33	24NB34	24NB35	24NB36
XD20 Enclosure	24NB37	24NB39	24NB40	24NB41	24NB42	24NB43
XD10 End Caps (2)	□	□	□	24A950	□	□
XD20 End Caps (2)	□	□	□	24A951	□	□
Enclosed Reel Mounting Channel	Enclosure mounting channel kits include all parts for mounting hose reels to walls or ceilings					
Description	1 Reel	2 Reels	3 Reels	4 Reels	5 Reels	6 Reels
XD Enclosed	24NB23	24NB24	24NB25	24NB26	24NB27	24NB28
Open Reel Mounting Channel	Accommodates one, two, three, four, five or six reels (includes all parts for wall or ceiling mounts)					
	1 Reel	2 Reels	3 Reels	4 Reels	5 Reels	6 Reels
XD10/XD20 Open	24A219	24A220	24A221	□	□	24A222
Retrofit Adapter Kits						
24A224	Includes all parts to mount hose reel to existing 500 series mounting pattern					
24C100	Includes all parts to convert SD10 hose reels to existing 250 series enclosures					
Mounting Bracket						
204741	Secures mounting channel to I-beam without drilling. Two brackets are required for 1-3 hose reels; three brackets for 4-6 hose reels					
Ball Stop Kits						
Typical Hbse I.D.						
222225	For 1/4 in (6.4 mm) I.D. hose (Not for use with XD30, 700 or 750)					
218340	For 1/4-3/8 in (6.4-9.5 mm) I.D. hose (Not for use with XD30, 700 or 750)					
218341	.782 I.D. used for 3/8 in and 1/2 in (9.5 mm and 12.7 mm) hose (Not for use with XD30, 700 or 750)					
237872	1.0 I.D. used for 5/8 in (15.9 mm) hose					
237873	1.123 I.D. used for 3/4 in (19.1 mm) hose					
237874	1.374 I.D. used for 1 in (25.4 mm) hose					
24D132	For 3/8 in (9.5 mm) O.D. hose					
24D133	For 1/2 in (12.7 mm) O.D. hose					
Hbse Inlet Kits for XD10 and XD20		Pressure psi (bar)	Hbse id in (mm)	Length in (mm)	Hbse Inlet	
218549	Low/medium pressure	2000 (137)	1/2 (12)	24 (610)	npt(m)	
218550	High pressure	4000 (276)	3/8 (10)	24 (610)	npt(m)	
224417	High pressure	5000 (345)	1/4 (6)	24 (610)	npt(m)	
Hbse Inlet Kits for XD30		Pressure psi (bar)	Hbse id in (mm)	Length in (mm)	Hbse Inlet	
24E283	High pressure	5000 (345)	1/2 (12)	24 (610)	npt(m)	
24E284	Low/medium pressure	1250 (86)	3/4 (19)	24 (610)	npt(m)	
24E285	Low pressure (for fuel)	125 (8.6)	1/2 (12)	24 (610)	npt(m)	
DEF Hoses						
124875	DEF hose, 2 ft, 3/4 in BSPP (M) x cut end (inlet hose)					
124581	DEF hose, 6 ft, 3/4 in BSPP (M) x cut end (inlet hose)					
Valve Hanger Kit						
224444	Mounts to side of reel to allow hanging of non-metered and high flow dispensing valves					
Metal Label Kits (includes one 3/4 in x 4-1/4 in (1.9 cm x 10.8 cm) metal label and mount)						
218670	Motor oil	218675	Air	218674	Hydraulic Oil	
218671	Grease	218676	Water	218673	ATF	
218672	Gear lube	218677	Anti-Freeze	218678	Evacuation	
Self Adhesive Identification Label Set						
180698	Set includes: 1 in x 5 in (25.4 mm x 127 mm) hose reels labels for Anti-Freeze, Water, SAE 5-40, SAE 10-40, SAE 20W Hydraulic, Gear, SAE 10W, SAE 10-30, SAE 30W Dexron, Air, Chassis, ATF					

Mounting Channel



Retrofit Bracket to 500 Series



Mounting Bracket



Ball Stop Kit



Hbse Reel Enclosure



# XD Series HN Model Hbse Reels

## Hbse Reels and Packages

### Features and Benefits

Ideally suited for lube truck installations where space is a premium. Structurally engineered frame and spool is made from high strength steel that won't bend or flex. Long-lasting spring provides constant spring torque through the entire range of motion. Open swivel ports ensure high fluid flow with minimal pressure loss.

### Typical Applications

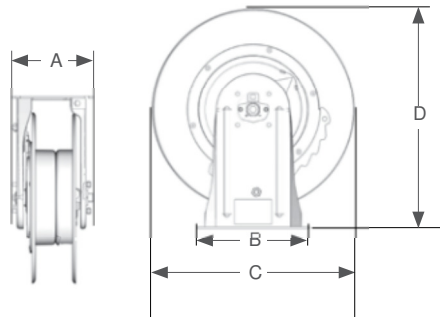
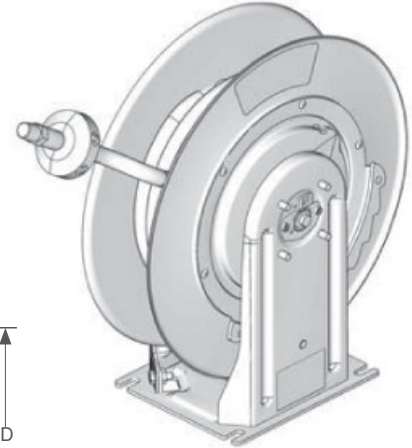
- Mining maintenance
- Public works garages
- Construction vehicle maintenance
- Light-utility service trucks

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Grease
- Air
- Water
- Anti-freeze
- Fuel evacuation
- Windshield washer
- Waste oil

### Dimensions

XD 30 Hbse Reels HN Model	
A	9.0" (229 mm)
B	13.77" (350.00 mm)
C	21.50" (546.00 mm)
D	23.10" (588.00 mm)



### Ordering Information

### Technical Specifications

Applications	Model numbers by color			Pressure psi (bar)	Hbse		Connection Size		Operating Temp.	
	Metallic Blue	White	Yellow		id in.(M)	Length ft (m)	Inlet npsm(m)	Outlet		
Air, Water, Anti-Freeze, Windshield Washer Fluid	XD 20 HN	HNL56B	HNL56A	HNL56F	300 (20.7)	3/8	65	1/2 npsm(m)	3/8 npt(m)	-20 °F to 190 °F (-28 °C to 87 °C)
		24C246^	24C245^	24C247^	300 (20.7)	3/8	65	1/2 npsm(m)	3/8 npt(m)	
		HNL65B	HNL65A	HNL65F	300 (20.7)	1/2	50	1/2 npsm(m)	1/2 npt(m)	
		24C249^	24C248^	24C250^	300 (20.7)	1/2	50	1/2 npsm(m)	1/2 npt(m)	
	XD 30 HN	HNL08B	HNL08A	HNL08F	300 (20.7)	1/2	75	1/2 npsm(m)	1/2 npt(m)	-40 °F to 180 °F (-40 °C to 82 °C)
		HNL05B	HNL05A	HNL05F	300 (20.7)	3/4	50	3/4 npsm(m)	3/4 npt(m)	
Petroleum and Synthetic-Based Oils	XD 20 HN	HNM65B	HNM65A	HNM65F	2000 (138)	1/2	50	1/2 npsm(m)	1/2 npt(m)	-20 °F to 190 °F (-28 °C to 87 °C)
		24C252^	24C251^	24C253^	2000 (138)	1/2	50	1/2 npsm(m)	1/2 npt(m)	
	XD 30 HN	HNM08B	HNM08A	HNM08F	1500 (103)	1/2	75	1/2 npsm(m)	1/2 npt(m)	-40 °F to 180 °F (-40 °C to 82 °C)
		HNM05B	HNM05A	HNM05F	1250 (86)	3/4	50	3/4 npsm(m)	3/4 npt(m)	
		HNMDDB*	HNMDDA*	HNMDDF*	2000 (138)	3/4	50	3/4 npsm(m)	3/4 npt(m)	
Grease	XD 20 HN	HNH65B	HNH65A	HNH65F	4800 (331)	3/8	50	3/8 npsm(m)	1/4 npt(m)	-40 °F to 200 °F (-40 °C to 93 °C)
		24C255^	24C254^	24C256^	4800 (331)	3/8	50	3/8 npsm(m)	1/4 npt(m)	
	XD 30 HN	HNH05B	HNH05A	HNH05F	5000 (345)	1/2	50	1/2 npsm(m)	1/2 npt(m)	-40 °F to 180 °F (-40 °C to 82 °C)
		HNH00B*	HNH00A*	HNH00F*	5000 (345)	1/2	50	1/2 npsm(m)	1/2 npt(m)	
		HNH07B	HNH07A	HNH07F	5000 (345)	3/8	75	1/2 npsm(m)	3/8 npt(m)	
		HNH08B	HNH08A	HNH08F	4000 (276)	3/8	75	1/2 npsm(m)	3/8 npt(m)	
Pressure Wash	XD 30 HN	HNHFFB*	HNHFFA*	HNHFFF*	4000 (276)	3/8	75	1/2 npsm(m)	3/8 npsm(f)	-20 °F to 225 °F (-28 °C to 107 °C)
		HNPC5B	HNPC5A	HNPC5F	4500 (310)	1/2	50	1/2 npsm(m)	1/2 npt(m)	
Fuel/Evacuation		HNLE3B	HNLE3A	HNLE3F	125 (86)	1	30	3/4 npsm(m)	1 npt(m)	-40 °F to 100 °F (-40 °C to 49 °C)

\*Bare reel hose sold separately ^ Peel package includes hose guide kit 15Y478

Wetted parts: bare hose reel only: zinc plated steel, steel, nitrile rubber HN Dry Weight: 64 pounds (29.0 kg) Instruction Manual: 3A0138  
Wetted parts: HSL, HSM, HNL, and HNM Models are Nickel Plated Carbon Steel, Aluminum, Buna N Rubber, UHMWPE HSH, HSP, HNH, and HNP Models are Nickel Plated Stainless Steel, Buna N Rubber, UHMWPE

# XD40<sup>®</sup> and XD50<sup>®</sup> Hbse Reels

## Hbse Reels and Packages

### Features and Benefits

- More hoses to choose from. Standard models come complete with factory installed hoses on the reel.
- Rotatable inlet position makes mounting easier in more applications.
- A Graco exclusive breakthrough swivel design allows better flow to get work done faster. Materials are corrosion resistant and strong for long lasting performance.
- Improved ratchet design has one set of teeth instead of two to avoid reel lockout.
- Heavy-duty welded spool is stronger than bolted frames that can loosen with use. Ribs add extra strength for toughness over the long haul.
- Meets worldwide standards. Built with NPT, BSPP or BSPT threads means accessories screw right on without the need for adapters.



### Typical Applications

- Heavy-duty truck dealers
- Fleet maintenance
- Mining maintenance
- Public works garages
- Construction vehicle maintenance
- Heavy-duty mobile service trucks

### Typical Fluids Handled

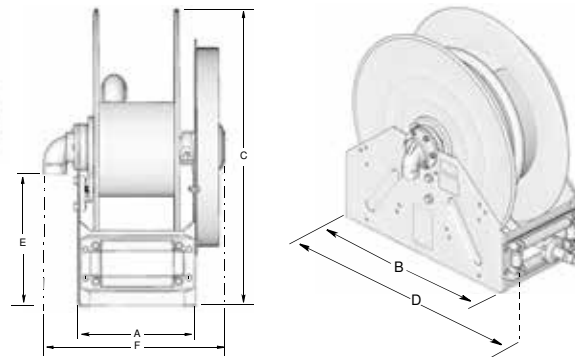
- Petroleum- and synthetic-based oils
- Diesel fuel
- Air
- Water
- Anti-freeze
- Waste oil



### Dimensions

XD40 FEELS	
A	11.83 in (300 mm)
B	24 in (610 mm)
C	26.13 in (664 mm)
D	26.4 in (671 mm)
E	10.91 in (277 mm)
F: Model 1	16.54 in (420 mm)
F: Model 2	17.47 in (444 mm)

XD50 FEELS	
A	11.83 in (300 mm)
B	28.5 in (724 mm)
C	30.13 in (765 mm)
D	29.4 in (747 mm)
E	10.91 in (277 mm)
F: Model 3	17.47 in (444 mm)
F: Model 4	18.24 in (463 mm)



# XD40<sup>®</sup> and XD50<sup>®</sup> Hbse Reels

## Hbse Reels and Packages

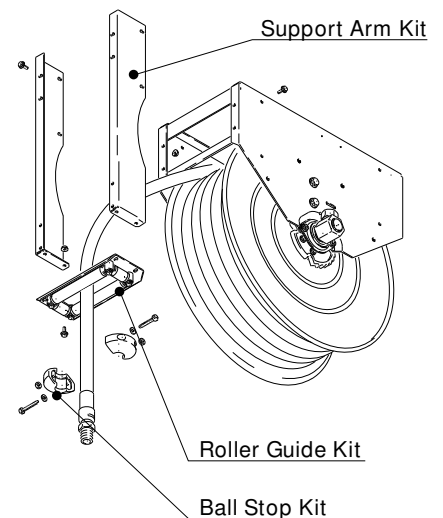
### Reel with Hbse Ordering Information | Technical Specifications

Applications	Model numbers by color			Pressure psi (bar)	Hbse		Dimension [F]	Connection Size		Operating Temperature	
	Blue	Yellow	White		id in	Length ft (m)		Inlet npt (f)	Outlet npt (m)		
Air/Water/ Anti-Freeze	XD 40	24P327	24P328	24P329	300 (21)	1/2	100 (30)	Model 1	1	1/2	-20=180 F (-28=82 C)
		24P330	24P331	24P332	300 (21)	3/4	75 (23)		1	3/4	
		24P333	24P334	24P335	300 (21)	3/4	100 (30)		1	3/4	
		24P336	24P337	24P338	300 (21)	1	50 (15)		1	1	
	XD 50	24P470	24P471	24P472	300 (21)	1	75 (23)	Model 3	1	1	
		24P473	24P474	24P475	300 (21)	1	100 (30)		1	1	
Oil	XD 40	24P339	24P340	24P341	2000 (138)	1/2	100 (30)	Model 2	1	1/2	-40=180 F (-40=82 C)
		24P342*	24P343*	24P344*	1500 (103)	3/4	75 (23)	Model 1	1	3/4	
		24F857 <sup>□</sup>	24F859 <sup>□</sup>	24F860 <sup>□</sup>	1500 (103)	3/4	75 (23)	Model 2	1	3/4	
		24P345	24P346	24P347	1500 (103)	3/4	100 (30)		1	3/4	
		24P348*	24P349*	24P350*	1275 (88)	1	50 (15)	Model 1	1	1	
		24F861 <sup>□</sup>	24F862 <sup>□</sup>	24F863 <sup>□</sup>	1275 (88)	1	50 (15)	Model 2	1	1	
	XD 50	24P476	24P477	24P478	1275 (88)	1	75 (23)	Model 3	1	1	
Waste Oil Evacuation	XD 40	24P351	24P352	24P353	250 (17)	1	50 (15)	Model 1	1	1	
	XD 50	24P479	24P480	24P481	200 (14)	1 1/4	35 (11)	Model 4	1 1/2	1 1/4	
		24P482	24P483	24P484	200 (14)	1 1/4	50 (15)		1 1/2	1 1/4	
Diesel Fuel	XD 40	24P354	24P355	24P356	250 (17)	1	50 (15)	Model 1	1	1	
	XD 50	24P485	24P486	24P487	250 (17)	1	75 (23)	Model 3	1	1	
		24P488	24P489	24P490	250 (17)	1	100 (30)		1	1	
		24P491	24P492	24P493	250 (17)	1 1/4	35 (11)	Model 4	1 1/2	1 1/4	
		24P494	24P495	24P496	250 (17)	1 1/4	50 (15)		1 1/2	1 1/4	
		24P497	24P498	24P499	150 (10)	1 1/2	50 (15)		1 1/2	1 1/2	

\*Truck/bench mount only. <sup>□</sup> Overhead or truck mount. See manual 3A2990 on graco.com for more dimensional information.

### Accessories

Inlet Hbse Kits		Pressure psi (bar)	Hbse id in (mm)	Length in (mm)	Hbse Inlet
24R111	Inlet kit for Air/Water and Oil	1275 (88)	1 (25)	28 (711)	npt(m)
24R112	Inlet kit for Waste Oil Evacuation	250 (17)	1 (25)	28 (711)	npt(m)
24R115	Inlet kit for Diesel Fuel	250 (17)	1 (25)	28 (711)	npt(m)
24R117	Inlet kit for Diesel Fuel	150 (10)	1.5 (38)	28 (711)	npt(m)
Ball Stop Kits					
237873	Ball stop kit used for 3/4 in (19.1 mm) hbse				
237874	Ball stop kit used for 1 in (25.4 mm) hbse				
24F060	Ball stop kit used for a 1.25 in (31.75 mm) hbse				
24F061	Ball stop kit used for a 1.5 in (38.1 mm) hbse				
Arm Kits and Roller Guides					
24F076	Support Arm Kit for XD 40				
24F077	Support Arm Kit for XD 50				
24F072	Roller Guide Kit with Bracket for XD 40				
24F074	Roller Guide Kit with Bracket for XD 50				
237932	Overhead mounting kit for XD 40. Includes all parts needed for ceiling mounting 1 reel				



# XD40<sup>®</sup> and XD50<sup>®</sup> Hbse Reels

## Hbse Reels and Packages

### Bare Reel Ordering Information

### Technical Specifications

Applications		Model numbers by color			Pressure psi (bar)	Hbse Length Capacity		Dimension □F□	Connection Size		Operating Temperature		
		Blue	Yellow	White		id in	Length ft (m)		Inlet npt (f)	Outlet npt (f)			
Air/Water/ Anti-Freeze	XD 40	24P313	24P315	24P316	600 (41)	1/2	100 (30)	Model 1	1	1	-40□180°F (-40□82°C)		
		24P317	24P318	24P319		3/4	75 (23)						
		24P317	24P318	24P319		1	50 (15)						
	XD 50	24P455	24P456	24P457		3/4	100 (30)	Model 3					
		24P455	24P456	24P457		1	75 (23)	Model 3					
		24P455	24P456	24P457		1	100 (30)	Model 3					
Oil	XD 40	24P320*	24P322*	24P323*	2000 (138)	1	50 (15)	Model 1	1	1			
		24P320*	24P322*	24P323*		3/4	75 (23)						
		24F854□	24F855□	24F856□		1	50 (15)	Model 2					
		24P324	24P325	24P326		3/4	75 (23)						
		24P324	24P325	24P326		1/2	100 (30)						
	XD 50	24P458	24P459	24P460		3/4	100 (30)	Model 3				1	75 (23)
		24P458	24P459	24P460		1	50 (15)				Model 1	1	1
		24P458	24P459	24P460		1 1/4	35 (11)				Model 4	1 1/2	1 1/2
24P461	24P462	24P463	50 (15)										
Waste Oil Evacuation	XD 40	24P317	24P318	24P319	600 (41)	1	50 (15)	Model 1	1	1			
	XD 50	24P461	24P462	24P463		1 1/4	35 (11)	Model 4	1 1/2	1 1/2			
Diesel Fuel	XD 40	24P317	24P318	24P319	600 (41)	1	50 (15)				Model 1	1	1
		24P455	24P456	24P457		1	100 (30)	Model 3	1	1			
	XD 50	24P461	24P462	24P463		1 1/4	35 (11)	Model 4	1 1/2	1 1/2			
		24P461	24P462	24P463		50 (15)							
		24P464	24P465	24P466		1	75 (23)	Model 3	1	1			
		24P467	24P468	24P469		1 1/2	50 (15)	Model 4	1 1/2	1 1/2			

\*Truck/bench mount only.

□Overhead or truck mount.

See manual 3A2990 on graco.com for more dimensional information.

### Accessories

Inlet Hbse Kits	Pressure psi (bar)	Hbse id in (mm)	Length in (mm)	Hbse Inlet
24R111 Inlet kit for Air/Water and Oil	1275 (88)	1 (25)	28 (711)	npt(m)
24R112 Inlet kit for Waste Oil Evacuation	250 (17)	1 (25)	28 (711)	npt(m)
24R115 Inlet kit for Diesel Fuel	250 (17)	1 (25)	28 (711)	npt(m)
24R117 Inlet kit for Diesel Fuel	150 (10)	1.5 (38)	28 (711)	npt(m)
<b>Ball Stop Kits</b>				
237873	Ball stop kit used for 3/4 in (19.1 mm) hose			
237874	Ball stop kit used for 1 in (25.4 mm) hose			
24F060	Ball stop kit used for a 1.25 in (31.75 mm) hose			
24F061	Ball stop kit used for a 1.5 in (38.1 mm) hose			
<b>Mounting Kits, Arms and Roller Guides</b>				
24F076	Support Arm Kit for XD 40			
24F077	Support Arm Kit for XD 50			
24F072	Roller Guide Kit with Bracket for XD 40			
24F074	Roller Guide Kit with Bracket for XD 50			
237932	Overhead mounting kit for XD 40. Includes all parts needed for ceiling mounting 1 reel			

# XD60<sup>®</sup>, XD70<sup>®</sup> and XD80<sup>®</sup> Motor Driven Hoist Reels

## Hoist Reels and Packages

### Features and Benefits

Choose from multiple frame and motor combinations—mix and match to make quick work of configuring the reel for your application. Reels can easily be configured for left or right inlet orientation by switching the outlet direction and motor rotation to suit your needs. Order reels assembled, or choose frames and motor modules to maximize uptime for on-site installations.

- Drive unit is clean and lubricated for life, so there's no need to worry about greasy, exposed drive chains that need maintenance and can be dangerous to operators
- A Graco exclusive breakthrough swivel design allows better flow to get work done faster
- Materials are corrosion resistant and strong for long lasting performance
- Direct drive hydraulic, and enclosed gear drive pneumatic and electric with 12, 24, 115, and 230 VAC motor options
- Electric motors are UL listed for use in hazardous locations
- 600 psi (41 bar) low pressure and 3,000 psi (207 bar) medium pressure models
- Operating temperature range of -40 to 180 °F (-40 to 82 °C)\*
- Adjustable band clamp brake used to slow and stop reel
- Optional roller guides and arms available as accessories

Not all options available in every configuration. Please see ordering guide for available sizes.

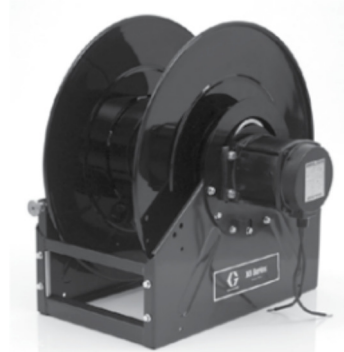
\*Grease reels are rated for 0 to 180 °F (-18 to 82 °C)

### Typical Fluids

- Air
- Water
- Petroleum- and sythetic-based oils
- Grease
- Diesel fuel
- Waste oil evacuation
- Anti-freeze

### Top Quality Solutions for:

- Mining operations
- Oil and gas industry
- Heavy-duty construction
- Agriculture
- Sewer and waste water
- Transportation



XD 60

Hose Capacity	Up to 1 in x 100 ft, 1.5 in x 100 ft, 2 in x 50 ft
Swivel Size	1 inch npt inlet and outlet



XD 70

Hose Capacity	Up to 1 in x 100 ft, 1.5 in x 65 ft, 2 in x 33 ft
Swivel Size	1, 1.5 or 2 inch npt inlet and outlet



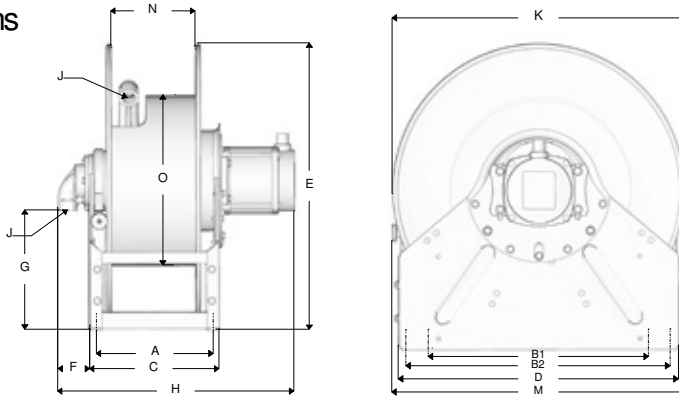
XD 80

Hose Capacity	Up to 1 in x 150 ft, 1.5 in x 100 ft, 2 in x 50 ft
Swivel Size	1, 1.5 or 2 inch npt inlet and outlet

# XD60<sup>□</sup>, XD70<sup>□</sup> and XD80<sup>□</sup> Motor Driven Hose Reels

## Hose Reels and Packages

### Dimensions



Model	Power Source	A	B1	B2	C	D	E	F	G	H	J	K	M	N	O	P
		(inches)														
XD6010	Pneumatic	10.45	22.25	na	11.8	24.0	26.1	2.8	10.9	20.4	1" npt	25.0	26.0	7.8	15.5	0.437
XD6010	Hydraulic	10.45	22.25	na	11.8	24.0	26.1	2.8	10.9	15.7	1" npt	25.0	26.0	7.8	15.5	0.437
XD6010	Electric	10.45	22.25	na	11.8	24.0	26.1	2.8	10.9	21.6	1" npt	25.0	26.0	7.8	15.5	0.437
XD7010	Pneumatic	12.95	22.25	na	14.3	24.0	26.1	2.8	10.9	22.9	1" npt	25.0	26.0	10.0	10.0	0.437
XD7010	Hydraulic	12.95	22.25	na	14.3	24.0	26.1	2.8	10.9	18.2	1" npt	25.0	26.0	10.0	10.0	0.437
XD7010	Electric	12.95	22.25	na	14.3	24.0	26.1	2.8	10.9	24.1	1" npt	25.0	26.0	10.0	10.0	0.437
XD7015	Pneumatic	12.95	22.25	na	14.3	24.0	26.1	3.6	10.9	23.7	1.5" npt	25.0	26.0	10.0	10.0	0.437
XD7015	Hydraulic	12.95	22.25	na	14.3	24.0	26.1	3.6	10.9	19.0	1.5" npt	25.0	26.0	10.0	10.0	0.437
XD7015	Electric	12.95	22.25	na	14.3	24.0	26.1	3.6	10.9	24.8	1.5" npt	25.0	26.0	10.0	10.0	0.437
XD7020	Pneumatic	12.95	22.25	na	14.3	24.0	26.1	4.0	10.2	24.1	2" npt	25.0	26.0	10.0	10.0	0.437
XD7020	Hydraulic	12.95	22.25	na	14.3	24.0	26.1	4.0	10.2	19.4	2" npt	25.0	26.0	10.0	10.0	0.437
XD7020	Electric	12.95	22.25	na	14.3	24.0	26.1	4.0	10.2	25.2	2" npt	25.0	26.0	10.0	10.0	0.437
XD8010	Pneumatic	20.68	22.25	26.73	22.1	28.5	30.1	2.8	13.4	30.7	1" npt	28.0	30.4	18.0	15.5	0.437
XD8010	Hydraulic	20.68	22.25	26.73	22.1	28.5	30.1	2.8	13.4	26.0	1" npt	28.0	30.4	18.0	15.5	0.437
XD8010	Electric	20.68	22.25	26.73	22.1	28.5	30.1	2.8	13.4	31.8	1" npt	28.0	30.4	18.0	15.5	0.437
XD8015	Pneumatic	20.68	22.25	26.73	22.1	28.5	30.1	3.6	13.4	31.4	1.5" npt	28.0	30.4	18.0	15.5	0.437
XD8015	Hydraulic	20.68	22.25	26.73	22.1	28.5	30.1	3.6	13.4	26.7	1.5" npt	28.0	30.4	18.0	15.5	0.437
XD8015	Electric	20.68	22.25	26.73	22.1	28.5	30.1	3.6	13.4	32.5	1.5" npt	28.0	30.4	18.0	15.5	0.437
XD8020	Pneumatic	20.68	22.25	26.73	22.1	28.5	30.1	4.0	12.7	31.9	2" npt	28.0	30.4	18.0	15.5	0.437
XD8020	Hydraulic	20.68	22.25	26.73	22.1	28.5	30.1	4.0	12.7	27.1	2" npt	28.0	30.4	18.0	15.5	0.437
XD8020	Electric	20.68	22.25	26.73	22.1	28.5	30.1	4.0	12.7	33.0	2" npt	28.0	30.4	18.0	15.5	0.437
		(mm)														
XD6010	Pneumatic	265	565	na	300	610	663	71	277	519	1" npt	635	660	198	394	11
XD6010	Hydraulic	265	565	na	300	610	663	71	277	400	1" npt	635	660	198	394	11
XD6010	Electric	265	565	na	300	610	663	71	277	547	1" npt	635	660	198	394	11
XD7010	Pneumatic	329	565	na	363	610	663	71	277	583	1" npt	635	660	254	254	11
XD7010	Hydraulic	329	565	na	363	610	663	71	277	463	1" npt	635	660	254	254	11
XD7010	Electric	329	565	na	363	610	663	71	277	611	1" npt	635	660	254	254	11
XD7015	Pneumatic	329	565	na	363	610	663	91	277	603	1.5" npt	635	660	254	254	11
XD7015	Hydraulic	329	565	na	363	610	663	91	277	483	1.5" npt	635	660	254	254	11
XD7015	Electric	329	565	na	363	610	663	91	277	631	1.5" npt	635	660	254	254	11
XD7020	Pneumatic	329	565	na	363	610	663	102	259	613	2" npt	635	660	254	254	11
XD7020	Hydraulic	329	565	na	363	610	663	102	259	493	2" npt	635	660	254	254	11
XD7020	Electric	329	565	na	363	610	663	102	259	641	2" npt	635	660	254	254	11
XD8010	Pneumatic	525	565	679	561	724	765	71	340	779	1" npt	711	772	457	394	11
XD8010	Hydraulic	525	565	679	561	724	765	71	340	659	1" npt	711	772	457	394	11
XD8010	Electric	525	565	679	561	724	765	71	340	807	1" npt	711	772	457	394	11
XD8015	Pneumatic	525	565	679	561	724	765	91	340	799	1.5" npt	711	772	457	394	11
XD8015	Hydraulic	525	565	679	561	724	765	91	340	679	1.5" npt	711	772	457	394	11
XD8015	Electric	525	565	679	561	724	765	91	340	827	1.5" npt	711	772	457	394	11
XD8020	Pneumatic	525	565	679	561	724	765	102	323	809	2" npt	711	772	457	394	11
XD8020	Hydraulic	525	565	679	561	724	765	102	323	689	2" npt	711	772	457	394	11
XD8020	Electric	525	565	679	561	724	765	102	323	837	2" npt	711	772	457	394	11



# XD60<sup>®</sup>, XD70<sup>®</sup> and XD80<sup>®</sup> Motor Driven Hose Reels

## Hose Reels and Packages

### Hose Reel Ordering Information

### Technical Specifications

Applications	Model numbers by color			Description	Weight lbs (kg)	Pressure psi (bar)	Recommended Hose Capacity			Inlet/Outlet Size npt (f)	
	Blue	Yellow	White				Hose Diameter	x Length ft (m)			
Air/Water/ Anti-Freeze	XD60	24R419	24R420	24R421	XD6010, Pneumatic Motor	123 (56)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	1 in/1 in
		24R414	24R415	24R416	XD6010, Hydraulic Motor	101 (45)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R404	24R405	24R406	XD6010, 12 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R407	24R408	24R409	XD6010, 24 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R410	24R412	24R413	XD6010, 115 VAC Electric Motor	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24T207	24T208	24T209	XD6010, 230 VAC Electric Motor	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
	XD70	24R449	24R450	24R451	XD7010, Pneumatic Motor	122 (55)	600 (41)	1"x75' (23)	1"x100' (30)		1 in/1 in
		24R446	24R447	24R448	XD7010, Hydraulic Motor	100 (45)	600 (41)	1"x75' (23)	1"x100' (30)		
		24R437	24R438	24R439	XD7010, 12 VDC Electric Motor, 1/2 HP	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
		24R440	24R441	24R442	XD7010, 24 VDC Electric Motor, 1/2 HP	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
		24R443	24R444	24R445	XD7010, 115 VAC Electric Motor	132 (60)	600 (41)	1"x75' (23)	1"x100' (50)		
		24T213	24T215	24T216	XD7010, 230 VAC Electric Motor	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
	XD80	24F531	24F532	24F533	XD8010, Pneumatic Motor	164 (74)	600 (41)	1"x150' (46)			1 in/1 in
		24F528	24F529	24F530	XD8010, Hydraulic Motor	142 (64)	600 (41)	1"x150' (46)			
		24F519	24F520	24F521	XD8010, 12 VDC Electric Motor, 1/2 HP	173 (78)	600 (41)	1"x150' (46)			
		24F522	24F523	24F524	XD8010, 24 VDC Electric Motor, 1/2 HP	173 (78)	600 (41)	1"x150' (46)			
		24F525	24F526	24F527	XD8010, 115 VAC Electric Motor	173 (78)	600 (41)	1"x150' (46)			
		24T227	24T228	24T229	XD8010, 230 VAC Electric Motor	173 (78)	600 (41)	1"x150' (46)			
Oil	XD60	24R434	24R435	24R436	XD6010, Pneumatic Motor	125 (56)	3000 (207)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	1 in/1 in
		24R431	24R432	24R433	XD6010, Hydraulic Motor	103 (47)	3000 (207)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R422	24R423	24R424	XD6010, 12 VDC Electric Motor, 1/2 HP	134 (61)	3000 (207)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R425	24R426	24R427	XD6010, 24 VDC Electric Motor, 1/2 HP	134 (61)	3000 (207)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R428	24R429	24R430	XD6010, 115 VAC Electric Motor	134 (61)	3000 (207)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24T210	24T211	24T212	XD6010, 230 VAC Electric Motor	134 (61)	3000 (207)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	

# XD60, XD70 and XD80 Motor Driven Hose Reels

## Hose Reels and Packages

### Hose Reel Ordering Information

### Technical Specifications

Applications	Model numbers by color			Description	Weight	Pressure psi (bar)	Recommended Hose Capacity Hose Diameter x Length ft (m)			Inlet/Outlet Size npt (f)	
	Blue	Yellow	White								
CI	XD70	24R464	24R465	24R466	XD7010, Pneumatic Motor	100 (56)	3000 (207)	1"x75" (23)	1"x100" (30)		1 in/1 in
		24R461	24R462	24R463	XD7010, Hydraulic Motor	102 (46)	3000 (207)	1"x75" (23)	1"x100" (30)		
		24R452	24R453	24R454	XD7010, 12 VDC Electric Motor, 1/2 HP	133 (60)	3000 (207)	1"x75" (23)	1"x100" (30)		
		24R455	24R456	24R457	XD7010, 24 VDC Electric Motor, 1/2 HP	133 (60)	3000 (207)	1"x75" (23)	1"x100" (30)		
		24R458	24R459	24R460	XD7010, 115 VAC Electric Motor	133 (60)	3000 (207)	1"x75" (23)	1"x100" (30)		
		24T218	24T219	24T220	XD7010, 230 VAC Electric Motor	133 (60)	3000 (207)	1"x75" (23)	1"x100" (30)		
	XD80	24F546	24F547	24F548	XD8010, Pneumatic Motor	165 (75)	3000 (207)	1"x150" (46)			1 in/1 in
		24F543	24F544	24F545	XD8010, Hydraulic Motor	143 (65)	3000 (207)	1"x150" (46)			
		24F534	24F535	24F536	XD8010, 12 VDC Electric Motor, 1/2 HP	175 (79)	3000 (207)	1"x150" (46)			
		24F537	24F538	24F539	XD8010, 24 VDC Electric Motor, 1/2 HP	175 (79)	3000 (207)	1"x150" (46)			
		24F540	24F541	24F542	XD8010, 115 VAC Electric Motor	175 (79)	3000 (207)	1"x150" (46)			
		24T230	24T231	24T232	XD8010, 230 VAC Electric Motor	175 (79)	3000 (207)	1"x150" (46)			
Waste Oil Evac.	XD60	24R419	24R420	24R421	XD6010, Pneumatic Motor	123 (56)	600 (41)	1"x50" (15)			1 in/1 in
		24R414	24R415	24R416	XD6010, Hydraulic Motor	101 (45)	600 (41)	1"x50" (15)			
		24R404	24R405	24R406	XD6010, 12 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1"x50" (15)			
		24R407	24R408	24R409	XD6010, 24 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1"x50" (15)			
		24R410	24R412	24R413	XD6010, 115 VAC Electric Motor	133 (60)	600 (41)	1"x50" (15)			
		24T207	24T208	24T209	XD6010, 230 VAC Electric Motor	133 (60)	600 (41)	1"x50" (15)			
	XD70	24F516	24F517	24F518	XD7015, Pneumatic Motor	100 (56)	600 (41)	1.25"x35" (10.5)	1.25"x50" (15)	1.5"x50" (15)	1.5 in/1.5 in
		24F512	24F513	24F515	XD7015, Hydraulic Motor	102 (46)	600 (41)	1.25"x35" (10.5)	1.25"x50" (15)	1.5"x50" (15)	
		24F503	24F504	24F505	XD7015, 12 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1.25"x35" (10.5)	1.25"x50" (15)	1.5"x50" (15)	
		24F506	24F507	24F508	XD7015, 24 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1.25"x35" (10.5)	1.25"x50" (15)	1.5"x50" (15)	
		24F509	24F510	24F511	XD7015, 115 VAC Electric Motor	133 (60)	600 (41)	1.25"x35" (10.5)	1.25"x50" (15)	1.5"x50" (15)	
		24T221	24T222	24T223	XD7015, 230 VAC Electric Motor	133 (60)	600 (41)	1.25"x35" (10.5)	1.25"x50" (15)	1.5"x50" (15)	

Reels and Packages

# XD60<sup>®</sup>, XD70<sup>®</sup> and XD80<sup>®</sup> Motor Driven Hose Reels

## Hose Reels and Packages

### Hose Reel Ordering Information

### Technical Specifications

Applications	Model numbers by color			Description	Weight	Pressure psi (bar)	Recommended Hose Capacity Hose Diameter x Length ft (m)			Inlet/Outlet Size npt (f)	
	Blue	Yellow	White								
Diesel Fuel	XD60	24R419	24R420	24R421	XD6010, Pneumatic Motor	123 (56)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	1 in/1 in
		24R414	24R415	24R416	XD6010, Hydraulic Motor	101 (45)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R404	24R405	24R406	XD6010, 12 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R407	24R408	24R409	XD6010, 24 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24R410	24R412	24R413	XD6010, 115 VAC Electric Motor	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
		24T207	24T208	24T209	XD6010, 230 VAC Electric Motor	133 (60)	600 (41)	1/2"x100' (30)	3/4"x100' (30)	1"x50" (15)	
	XD70	24R449	24R450	24R451	XD7010, Pneumatic Motor	122 (55)	600 (41)	1"x75' (23)	1"x100' (30)		1 in/1 in
		24R446	24R447	24R448	XD7010, Hydraulic Motor	100 (45)	600 (41)	1"x75' (23)	1"x100' (30)		
		24R437	24R438	24R439	XD7010, 12 VDC Electric Motor, 1/2 HP	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
		24R440	24R441	24R442	XD7010, 24 VDC Electric Motor, 1/2 HP	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
		24R443	24R444	24R445	XD7010, 115 VAC Electric Motor	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
		24T213	24T215	24T216	XD7010, 230 VAC Electric Motor	132 (60)	600 (41)	1"x75' (23)	1"x100' (30)		
	XD70	24F516	24F517	24F518	XD7015, Pneumatic Motor	100 (56)	600 (41)	1.25"x50' (15)	1.5"x50' (15)	1.5"x65' (20)	1.5 in/1.5 in
		24F512	24F513	24F515	XD7015, Hydraulic Motor	102 (46)	600 (41)	1.25"x50' (15)	1.5"x50' (15)	1.5"x65' (20)	
		24F503	24F504	24F505	XD7015, 12 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1.25"x50' (15)	1.5"x50' (15)	1.5"x65' (20)	
		24F506	24F507	24F508	XD7015, 24 VDC Electric Motor, 1/2 HP	133 (60)	600 (41)	1.25"x50' (15)	1.5"x50' (15)	1.5"x65' (20)	
		24F509	24F510	24F511	XD7015, 115 VAC Electric Motor	133 (60)	600 (41)	1.25"x50' (15)	1.5"x50' (15)	1.5"x65' (20)	
		24T221	24T222	24T223	XD7015, 230 VAC Electric Motor	133 (60)	600 (41)	1.25"x50' (15)	1.5"x50' (15)	1.5"x65' (20)	
XD70	24T023	24T024	24T025	XD7020, Pneumatic Motor	128 (58)	600 (41)	2"x33' (10)			2 in/2 in	
	24T020	24T021	24T022	XD7020, Hydraulic Motor	106 (48)	600 (41)	2"x33' (10)				
	24T011	24T012	24T013	XD7020, 12 VDC Electric Motor, 1/2 HP	137 (62)	600 (41)	2"x33' (10)				
	24T014	24T015	24T016	XD7020, 24 VDC Electric Motor, 1/2 HP	137 (62)	600 (41)	2"x33' (10)				
	24T017	24T018	24T019	XD7020, 115 VAC Electric Motor	137 (62)	600 (41)	2"x33' (10)				
	24T224	24T225	24T226	XD7020, 230 VAC Electric Motor	137 (62)	600 (41)	2"x33' (10)				
XD80	24F531	24F532	24F533	XD8010, Pneumatic Motor	164 (74)	600 (41)	1"x150' (46)			1 in/1 in	
	24F528	24F529	24F530	XD8010, Hydraulic Motor	142 (64)	600 (41)	1"x150' (46)				
	24F519	24F520	24F521	XD8010, 12 VDC Electric Motor, 1/2 HP	173 (78)	600 (41)	1"x150' (46)				
	24F522	24F523	24F524	XD8010, 24 VDC Electric Motor, 1/2 HP	173 (78)	600 (41)	1"x150' (46)				
	24F525	24F526	24F527	XD8010, 115 VAC Electric Motor	173 (78)	600 (41)	1"x150' (46)				
	24T227	24T228	24T229	XD8010, 230 VAC Electric Motor	173 (78)	600 (41)	1"x150' (46)				

# XD60, XD70 and XD80 Motor Driven Hbse Reels

## Hbse Reels and Packages

### Hbse Reel Ordering Information

### Technical Specifications

Applications	Model numbers by color			Description	Weight	Pressure psi (bar)	Recommended Hbse Capacity		Inlet/Outlet Size npt (f)				
	Blue	Yellow	White				Hbse Diameter	x Length ft (m)					
Diesel Fuel/ Anti-Freeze	XD80	24F561	24F562	24F563	XD8015, Pneumatic Motor	165 (75)	600 (41)	1.5"x75 (23)	1.5"x100 (50)	1.5 in/1.5 in			
		24F558	24F559	24F560	XD8015, Hydraulic Motor	143 (65)	600 (41)	1.5"x75 (23)	1.5"x100 (50)				
		24F549	24F550	24F551	XD8015, 12 VAC Electric Motor, 1/2 HP	175 (79)	600 (41)	1.5"x75 (23)	1.5"x100 (50)				
		24F552	24F553	24F554	XD8015, 24 VAC Electric Motor, 1/2 HP	175 (79)	600 (41)	1.5"x75 (23)	1.5"x100 (50)				
		24F555	24F556	24F557	XD8015, 115 VAC Electric Motor	175 (79)	600 (41)	1.5"x75 (23)	1.5"x100 (50)				
		24T233	24T234	24T235	XD8015, 230 VAC Electric Motor	175 (79)	600 (41)	1.5"x75 (23)	1.5"x100 (50)				
	XD80	24F576	24F577	24F578	XD8020, Pneumatic Motor	169 (76)	600 (41)	2"x50 (15)		2 in/2 in			
		24F573	24F574	24F575	XD8020, Hydraulic Motor	147 (67)	600 (41)	2"x50 (15)					
		24F564	24F565	24F566	XD8020, 12 VDC Electric Motor, 1/2 HP	179 (81)	600 (41)	2"x50 (15)					
		24F567	24F568	24F569	XD8020, 24 VDC Electric Motor, 1/2 HP	179 (81)	600 (41)	2"x50 (15)					
		24F570	24F571	24F572	XD8020, 115 VAC Electric Motor	179 (81)	600 (41)	2"x50 (15)					
		24T236	24T237	24T238	XD8020, 230 VAC Electric Motor	179 (81)	600 (41)	2"x50 (15)					
		Grease Bulk Transfer	XD80	24R434	24R435	24R436	XD6010, Pneumatic Motor	125 (75)	3000 (207)		1"x50" (15)		1 in/1 in
			24R431	24R432	24R433	XD6010, Hydraulic Motor	103 (47)	3000 (207)	1"x50" (15)				
24R422	24R423		24R424	XD6010, 12 VDC Electric Motor, 1/2 HP	134 (61)	3000 (207)	1"x50" (15)						
24R425	24R426		24R427	XD6010, 24 VDC Electric Motor, 1/2 HP	134 (61)	3000 (207)	1"x50" (15)						
24R428	24R429		24R430	XD6010, 115 VAC Electric Motor	134 (61)	3000 (207)	1"x50" (15)						
24T210	24T211		24T212	XD6010, 230 VAC Electric Motor	134 (61)	3000 (207)	1"x50" (15)						

Operating temperature for grease reels is 0° F to 180° F (-18° to 82° C), all others are -40° F to 180° F (-40° to 82° C)

### Modular Component Ordering Information

Reel Frames Only (Pair with Motor Assemblies)											
Air/Water, Diesel Fuel	XD 60	24T104	24T105	24T106	XD6010, Bare Reel, No Motor	87 (39)	600 (41)	1/2"x100 (30)	3/4"x100 (30)	1"x50" (15)	1 in/1 in
	XD 70	24T110	24T111	24T112	XD7010, Bare Reel, No Motor	86 (39)	600 (41)	1"x75 (23)	1"x100 (30)		
	XD 80	24T122	24T123	24T124	XD8010, Bare Reel, No Motor	127 (58)	600 (41)	1"x150 (46)			
Diesel Fuel	XD 70	24T116	24T117	24T118	XD7015, Bare Reel, No Motor	87 (39)	600 (41)	1.25"x50 (15)	1.5"x50 (15)	1.5"x65 (20)	1.5 in/1.5 in
	XD 70	24T119	24T120	24T121	XD7020, Bare Reel, No Motor	91 (41)	600 (41)	2"x33 (10)			2 in/2 in
	XD 80	24T128	24T129	24T130	XD8015, Bare Reel, No Motor	129 (58)	600 (41)	1.5"x75 (23)	1.5"x100 (30)		1.5 in/1.5 in
	XD 80	24T131	24T132	24T133	XD8020, Bare Reel, No Motor	133 (60)	600 (41)	2"x50 (15)			2 in/2 in
Waste Oil Evac	XD 60	24T104	24T105	24T106	XD6010, Bare Reel, No Motor	87 (39)	600 (41)	1"x50" (15)			1 in/1 in
	XD 70	24T116	24T117	24T118	XD7015, Bare Reel, No Motor	87 (39)	600 (41)	1.25"x50 (15)	1.5"x50 (15)		1.5 in/1.5 in
Oil	XD 60	24T107	24T108	24T109	XD6010, Bare Reel, No Motor	88 (40)	3000 (207)	1/2"x100 (30)	3/4"x100 (30)	1"x50" (15)	1 in/1 in
	XD 70	24T113	24T114	24T115	XD7010, Bare Reel, No Motor	87 (39)	3000 (207)	1"x75 (23)	1"x100 (30)		
	XD 80	24T125	24T126	24T127	XD8010, Bare Reel, No Motor	129 (58)	3000 (207)	1"x150 (46)			

Motor Assemblies (Pair with Frame Only Models)	
24T889	115 VAC, 0.40 HP, motor assembly, reversible type. For installing motor to bare XD frame
24T886	12 VDC, 1/2 HP motor assembly, reversible type. For installing motor to bare XD frame
24T910	12 VDC, 2/3 HP motor assembly, reversible type. For installing motor to bare XD frame
24T888	24 VDC, 1/2 HP motor assembly, reversible type. For installing motor to bare XD frame
24T911	24 VDC, 2/3 HP motor assembly, reversible type. For installing motor to bare XD frame
24T891	Hydraulic motor assembly, reversible type. For installing motor to bare XD reel
24T892	Pneumatic motor assembly, reversible type. For installing motor to bare XD reel
24T890	230 VAC, 1/2 HP, motor assembly, reversible type. For installing motor to bare XD frame



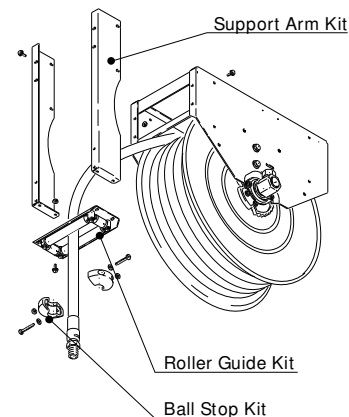
Reels and Packages

# XD60<sup>®</sup>, XD70<sup>®</sup> and XD80<sup>®</sup> Motor Driven Hbse Reels

## Hbse Reels and Packages

### Accessories

Inlet Hbse Kits		Pressure psi (bar)	Hbse I.D. in (mm)	Length in (mm)	Hbse Inlet
24R11	Inlet kit for air/water and oil	1275 (88)	1 (25)	28 (711)	1 in npt(m)
24R12	Inlet kit for waste oil evacuation	250 (17)	1 (25)	28 (711)	1 in npt(m)
24R15	Inlet kit for diesel fuel	250 (17)	1 (25)	28 (711)	1 in npt(m)
24R17	Inlet kit for diesel fuel	150 (10)	1.5 (38)	28 (711)	1.5 in npt(m)
24R18	Inlet kit for diesel fuel	150 (10)	2 (51)	28 (711)	2 in npt(m)
Ball Stop Kits					
237873	Ball stop kit used for 3/4 in (19.1 mm) hose				
237874	Ball stop kit used for 1 in (25.4 mm) hose				
24F060	Ball stop kit used for 1.25 in (31.75 mm) hose				
24F061	Ball stop kit used for 1.5 in (38.1 mm) hose				
Arm Kits and Hbse Guides					
24T327	Stainless Steel Hbse Guide for XD60				
24T328	Stainless Steel Hbse Guide for XD70				
24T329	Stainless Steel Hbse Guide for XD80				
24F072	Roller Guide Kit with Bracket for XD40 and XD60				
24T330	Roller Guide Kit with Bracket for XD70				
24T331	Roller Guide Kit with Bracket for XD80				
24T332	Arm Kit with Stainless Steel Hbse Guide for XD60				
24T333	Arm Kit with Stainless Steel Hbse Guide for XD70				
24T334	Arm Kit with Stainless Steel Hbse Guide for XD80				
24T335	Arm Kit with Roller Guide for XD60				
24T336	Arm Kit with Roller Guide for XD70				
24T337	Arm Kit with Roller Guide for XD80				
Controls					
24T875	Hydraulic control module for electric over hydraulic control of XD60/70/80 hydraulic powered hose reels, 12 VDC. Three position, four-way valve				
24T876	Hydraulic control module for electric over hydraulic control of XD60/70/80 hydraulic powered hose reels, 24 VDC. Three position, four-way valve				
127224	Hydraulic control module for electric over hydraulic control of XD60/70/80 hydraulic powered hose reels, 12V/ includes switch. Three position, four-way valve				
127225	Hydraulic control module for electric over hydraulic control of XD60/70/80 hydraulic powered hose reels, 24V/ includes switch. Three position, four-way valve				
127271	Pneumatic valve to control XD60/70/80 pneumatic powered hose reels. Two position, three-way valve				
127214	Momentary Push-Button On/Off switch with red rubber cap. Use for 12 or 24 VDC				
127217	Hazardous location push button On/Off switch. Use for 12 and 24 VDC				
127223	Hazardous location push button On/Off switch. Use for 115 and 220 VAC				
127218	Hazardous location junction box				
127219	12 VDC intermittent duty solenoid recommended for activating rewind on 12 VDC motor				
127220	24 VDC intermittent duty solenoid recommended for activating rewind on 24 VDC motor				
127221	Manual reset push button circuit breaker, 50 amp rating				
127222	Manual reset push button circuit breaker, 25 amp rating				



# XD60<sup>®</sup>, XD70<sup>®</sup> and XD80<sup>®</sup> Motor Driven Hose Reels

## Hose Reels and Packages

Hoses		Pressure	Hose I.D. in (mm)	
Diesel Fuel	24R102	1" x 50 ft (15 m) coupled fuel hose	250 psi (17)	1 (25)
	24R103	1" x 75 ft (23 m) coupled fuel hose	250 psi (17)	1 (25)
	24R106	1" x 100 ft (30 m) coupled fuel hose	250 psi (17)	1 (25)
	24T252	1" x 150 ft (46 m) coupled fuel hose	250 psi (17)	1 (25)
	24R108	1.25" x 35 ft (10.5 m) coupled fuel hose	250 psi (17)	1.25 (31.75)
	24R110	1.25" x 50 ft (15 m) coupled fuel hose	250 psi (17)	1.25 (31.75)
	24R114	1.5" x 50 ft (15 m) coupled fuel hose	150 psi (11)	1.5 (38)
	24T253	1.5" x 100 ft (30 m) coupled fuel hose	150 psi (11)	1.5 (38)
	127167	2" x 33 ft (10 m) coupled fuel hose	150 psi (11)	2 (50.8)
	24T254	2" x 50 ft (15 m) coupled fuel hose	150 psi (11)	2 (50.8)
Air/Water/Anti-Freeze	126359	1/2" x 100 ft (30 m) coupled air/water hose	300 psi (20.6)	1/2 (12.7)
	126360	3/4" x 75 ft (23 m) coupled air/water hose	300 psi (20.6)	3/4 (19)
	126361	3/4" x 100 ft (30 m) coupled air/water hose	300 psi (20.6)	3/4 (19)
	126362	1" x 50 ft (15 m) coupled air/water hose	300 psi (20.6)	1 (25)
	126363	1" x 75 ft (23 m) coupled air/water hose	300 psi (20.6)	1 (25)
	126364	1" x 100 ft (30 m) coupled air/water hose	300 psi (20.6)	1 (25)
Oil	126375	1/2" x 100 ft (30 m) coupled oil hose	2000 psi (138)	1/2 (12.7)
	126376	3/4" x 75 ft (23 m) coupled oil hose	1500 psi (138)	3/4 (19)
	126377	3/4" x 100 ft (30 m) coupled oil hose	1500 psi (103)	3/4 (19)
	126503	1" x 50 ft (15 m) coupled oil hose	1275 psi (88)	1 (25)
	126504	1" x 75 ft (23 m) coupled oil hose	1275 psi (88)	1 (25)
	126505	1" x 100 ft (30 m) coupled oil hose	1275 psi (88)	1 (25)
Waste Oil Evac.	126379	1" x 50 ft (15 m) coupled waste oil evac hose	250 psi (17)	1 (25)
	126688	1.25" x 50 ft (15 m) coupled waste oil evac hose	200 psi (13.8)	1.25 (31.75)
	126380	1.25" x 35 ft (10.5 m) coupled waste oil evac hose	200 psi (13.8)	1.25 (31.75)
	127173	1.5" x 50 ft (15 m) coupled waste oil evac hose	200 psi (13.8)	1 (25)
<b>BSPP/BSPT Conversion Kits</b>				
24T359	BSPP Conversion Kit. To convert a 1" XD 60 or XD 80 reel from NPT to BSPP			
24T361	BSPP Conversion Kit. To convert a 1" XD 70 reel from NPT to BSPP			
24T365	BSPP Conversion Kit. To convert a 1.5" XD 70 from NPT to BSPP			
24T363	BSPP Conversion Kit. To convert a 1.5" XD 80 from NPT to BSPP			
24T360	BSPT Conversion Kit. To convert a 1" XD 60 or XD 80 reel from NPT to BSPT			
24T362	BSPT Conversion Kit. To convert a 1" XD 70 reel from NPT to BSPT			
24T366	BSPT Conversion Kit. To convert a 1.5" XD 70 from NPT to BSPT			
24T364	BSPT Conversion Kit. To convert a 1.5" XD 80 from NPT to BSPT			
24T368	BSPT Conversion Kit. To convert a 2" XD 70 from NPT to BSPT			
24T367	BSPT Conversion Kit. To convert a 2" XD 80 from NPT to BSPT			



# Dispense Consoles

## Multi-Station Consoles and Accessories

### Multi-Station Consoles\*

Six-Station Console	
222629	Includes upper and lower floor plates with roller guides and brackets (1-110236; 3-196471) to hold one water bib and five Graco LDM dispense valves. Console dimensions (without brackets): 27 in high x 54 in long x 12 in wide (68.58 cm high x 139.7 cm long x 25.4 cm wide). Console requires a floor opening of 6 in x 51 in (15.2 cm x 122.4 cm)
Four-Station Console	
223448	Includes upper and lower floor plates, roller guides and brackets (1-110236; 3-196471) to hold one water bib and three Graco LDM dispense valves. Console dimensions (without brackets): 27 in high x 36 in long x 12 in wide (68.58 cm high x 139.7 cm long x 25.4 cm wide). Console requires floor opening of 6 in x 33 in (15.2 cm x 83.8 cm)
Single Add-On Fluid Module	
222645	For adding-on to four- or six-station consoles. Includes add-on module, floor plates with roller guides to fit module and one 196471. Console requires floor opening of 6 in x 8-1/2 in (15.2 cm x 21.6 cm). Add-on fluid module dimensions 27 in high x 9 in long x 10 in wide (68.5 cm high x 22.86 cm long x 25.4 cm wide)

\*Hoses not included

Lubricant Dispense Consoles Accessories	
110236	Water bib bracket
110237	Em6 mounting bracket
110285	Pistol-grip dispense valve bracket
196471	Universal dispense valve bracket for EM5 and FM5
249440	Matrix dispense valve bracket
222641	Console roller repair kit (upper)
218591	Floor plate roller repair kit (lower)
178670	Roller only
234423	End panel replacement comes with 8 screws

### Oil Dispense Bar

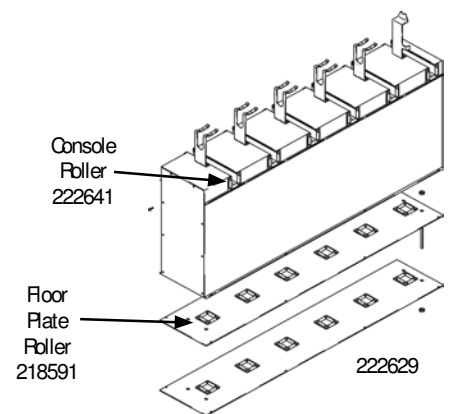
220107	Tough metal cabinet with baked-on enamel finish. Constructed with single-dispense tap and waste pan with plated, perforated metal service area and drain connection. Modular convenient design allows up to 2 oil dispense taps or 3 meters to be added at the time of installation, or later if required. Instruction manual 307742. Maximum working pressure 900 psi (62 bar). 22.6 in Hx 13.25 in Dx 18.3 in W (57.4 cm Hx 33.7 cm Dx 46.5 cm W)
Tap Kit	
220112	Add to oil dispense bar to convert into two or three taps, as needed. Kit also includes non-drip dispense valve, manifold and all necessary mounting hardware
Meter Kit	
239706	Any individual tap on the oil dispense bar can be fitted with a fluid meter. Kit includes meter 239824 and all necessary mounting hardware. Maximum working pressure 500 psi (34 bar)
220110	Spigot valve replacement



222629



220107



234423

222645

# LD Series Electronic Meters

## Dispense Meters and Control Valves

### Features and Benefits

- Manual and Preset Dispense
- Dispenses in gallons, quarts, pints and liters
- Easy to read LCD display with durable switches for long life
- Rugged engineered material for superior impact resistance and long life
- Ergonomically-designed handle for optimum comfort
- Standard rigid extension kit and automatic thermal compensating nozzle
- Optional extensions available

### Typical Applications

- Metered oil dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- For indoor use only
- In-plant

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Anti-freeze

### Technical Specifications

Flow Range <sup>(1)</sup> .....	0.1 - 5 gpm (0.4 - 19 lpm)
Maximum Working Pressure.....	1000 psi (69 bar)
Units of measure.....	Quarts, pints, gallons, liters (factory set to quarts)
Weight.....	3 lb (1.36 kg)
Inlet.....	1/2 in npt
Outlet.....	1/2 in npt
Operating Temperature Range.....	32 - 120 °F (0 - 48.8 °C)
Storage Temperature Range.....	-30 - 120 °F (-34.4 - 48.8 °C)
Battery.....	9 volt alkaline
Battery Life.....	one year
Wetted Parts.....	st, nitrile rubber, zinc, cs, lcp
Meter Pressure Loss <sup>(1)</sup> .....	90 psi (6.2 bar) @ 5 gpm (19 lpm)
Accuracy <sup>(2)</sup> .....	±0.5%
Dimensions (without extension).....	11 in L x 3.25 in W x 3.25 in H (28 cm L x 8.3 cm W x 8.3 cm H)
Maximum Totalizer.....	999,999 gallons or liters
Maximum Recorded Dispense.....	999.9 Units (LDP5 only)
Warranty.....	Two Years
Instruction Manual.....	312668

(1) Tested in 10W oil at 70°F. Flow rates vary with fluid pressure, temperature, viscosity, inlet fitting and nozzle type.

(2) @ 2.5 gpm (9.5 lpm) @ 70°F (21°C) with 10 wt. oil and 1 gal (3.8 l) dispensed.

May require re-calibration. Out-of-box accuracy ±1.25%. Not recommended for in-line installation.

### Ordering Information

LDM5 Manual Dispense Meters	
255751	1/2 in npt(f) swivel, flexible extension and automatic nozzle for oil and anti-freeze
256215	1/2 in npt(f) swivel, rigid extension, trigger guard/boot and automatic nozzle for oil and anti-freeze
258693	1/2 in npt(f) swivel, flexible extension, trigger guard/boot and automatic nozzle for oil and anti-freeze
LDP5 Preset Dispense Meters	
255277	1/2 in npt(f) swivel, flexible extension and automatic nozzle for oil and anti-freeze
256216	1/2 in npt(f) swivel, rigid extension, trigger guard/boot and automatic nozzle for oil and anti-freeze
258694	1/2 in npt(f) swivel, flexible extension, trigger guard/boot and automatic nozzle for oil and anti-freeze



# SD Series Electronic Meters

## Dispense Meters and Control Valves

### Features and Benefits

- Fluid inlet options ( in and  in npt) meets standard and high-flow requirements
- Large LCD display and simple operator controls
- Locking trigger (LDP5/LDP15 models) and durable cast guard prevents accidental triggering
- Flush-mount nozzle valve design prevents leaks and contamination

### Typical Applications

- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Lube trucks
- Fleet service facilities
- Service shops
- In-plant
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Anti-freeze

### Technical Specifications

Flow Range <sup>(1)</sup> .....	0.1-14 gpm (0.4 - 53 lpm)
Maximum Working Pressure.....	1500 psi (103.4 bar)
Weight.....	5 lbs (2.3 kg)
Inlet.....	3/4 in-14 npt or 1/2 in-14 npt
Outlet.....	3/4 in-16 straight thread O-ring Boss
Maximum Totalizer.....	999,999 gallons or liters
Maximum Recorded Dispense.....	999.9 Units
Maximum Pre-Set Volume.....	999.9 Units
Storage Temperature Range.....	-40-158 F (-40-70 C)
Operating Temperature Range.....	-4-158 F (-20-70 C)
Battery.....	4 AA alkaline or 4 AA lithium
Battery Life <sup>(2)</sup> . . . Preset Models	<input type="checkbox"/> six months w/alkaline, manual models <input type="checkbox"/> one year w/alkaline 4 AA alkaline/lithium
Wetted Parts.....	Aluminum, sst, pbtpc, nitrile rubber, cs
Meter Pressure Loss <sup>(1)</sup> .....	180 psi (12 bar) @ 14 gpm (53 lpm)
Accuracy <sup>(2)</sup> .....	+/- 0.5%
Dimensions (without extension).....	13 in L x 3.75 in W x 5.75 in H (33cm x 9.5cm x 14.6cm)
Warranty.....	Five years overall, three years electronics
Instruction Manual.....	312865

<sup>(1)</sup>Tested in 10W oil at 70 F. Flow rates vary with fluid pressure, temperature, viscosity, inlet and nozzle type.

<sup>(2)</sup>At 2.5 gpm (9.5 lpm) @ 70 F (21 C) with 10 wt. oil and 1 gal (3.8 l) dispensed. May require re-calibration. Out-of-box accuracy 1.25%.

<sup>(3)</sup>Average shop use with alkaline batteries (included); 30-35% longer life with lithium AA.



### Ordering Information

SDM5 MANUAL DISPENSE ELECTRONIC METER, 5 GPM OR LESS	
255350	1/2 in npt(f) swivel, rigid extension with standard automatic non-drip quick-close nozzle for oil
255348	1/2 in npt(f) swivel, flexible extension with standard automatic non-drip quick-close nozzle for oil
255349	1/2 in npt(f) swivel, extension with standard quick-close nozzle for gear lube
255802	1/2 in npt(f) swivel, rigid extension with standard quick-close nozzle for anti-freeze
255803	1/2 in npt(f) swivel, flexible extension with standard quick-close nozzle for anti-freeze
SDM15 MANUAL DISPENSE ELECTRONIC METER, 14 GPM OR LESS	
256836	1/2 in npt(f) swivel, rigid extension with high flow, quick-close nozzle for oil and anti-freeze
256837	1/2 in npt(f) swivel, flexible extension with high flow, quick-close nozzle for oil and anti-freeze
255800	3/4 in npt(f) swivel, rigid extension with high flow, quick-close nozzle for oil and anti-freeze
255801	3/4 in npt(f) swivel, flexible extension with high flow, quick-close nozzle for oil and anti-freeze
SDP5 PRESET DISPENSE ELECTRONIC METER, 5 GPM OR LESS	
255200	1/2 in npt(f) swivel, rigid extension with standard automatic non-drip quick-close nozzle for oil
255351	1/2 in npt(f) swivel, flexible extension with standard automatic non-drip quick-close nozzle for oil
255352	1/2 in npt(f) swivel, extension with standard quick-close nozzle for gear lube
255355	1/2 in npt(f) swivel, rigid extension with standard quick-close nozzle for anti-freeze
255356	1/2 in npt(f) swivel, flexible extension with standard quick-close nozzle for anti-freeze
SDP15 PRESET DISPENSE ELECTRONIC METER, 14 GPM OR LESS	
256838	1/2 in npt(f) swivel, rigid extension with high flow, quick-close nozzle for oil and anti-freeze
256839	1/2 in npt(f) swivel, flexible extension with high flow, quick-close nozzle for oil and anti-freeze
255353	3/4 in npt(f) swivel, rigid extension with high flow, quick-close nozzle for oil and anti-freeze
255354	3/4 in npt(f) swivel, flexible extension with high flow, quick-close nozzle for oil and anti-freeze

# EM6 Electronic Meter

## Dispense Meters and Control Valves

### Features and Benefits

- Screw-tight nozzle for positive shut off
- Ball bearing swivel for ease of use
- Durable design ideal for use in harsh environments
- Reset capable for periodic dispense history information

### Typical Applications

- Metered oil dispense in demanding environments
- Heavy-duty dealerships
- In-plant
- Service and fast lube centers
- Lube trucks
- Automotive dealerships
- Fleet service facilities
- Mining

### Typical Fluids Handled\*

- Petroleum- and synthetic-based oils
- \* Not recommended for use with anti-freeze or windshield washer fluid

### Technical Specifications

Maximum Operating Pressure.....	1500 psi (105 bar, 10.5)
Operating Temperature Range.....	-40-180 °F (-40-82 °C)
Storage Temperature Range.....	-40-140 °F (-40-60 °C)
Inlet .....	1/2 npt
Outlet.....	1/2 npt
Wetted Parts.....	aluminum, SST, CS, acetal, nitrile rubber, Geolast
Instruction Manual .....	308642
Accuracy/Repeatability .....	+/- 0.6%

Geolast is a registered trademark of Advanced Elastomer Systems.

### Ordering Information

EM6 Electronic Meters	
243599	U.S. measure (rigid extension)
243600	U.S. measure (gear lube extension)
243601	U.S. measure (flexible extension)
243602	Metric measure (rigid extension)
243603	Metric measure (gear lube extension)
243604	Metric measure (flexible extension)
243992	1/2 in (12.7 mm) bare valve (without locking trigger)
Accessories	
235878	U.S. Electronic Control Replacement
235901	Metric Electronic Control Replacement
203655	Twist Lock Nozzle Replacement 1/4 npt(m)
203687	Flex Extension, hose with 203655 tip
201701	Gear Lube Extension with tip
203265	Rigid Extension with tip
Color-coded Impact Guards for Electronic Meters	
Color-code various fluids dispensed to reduce errors, match store colors, or create a customized appearance. For electronic meters only	
191782	Black
191783	Red
191784	Blue



Dispense Meters and Control Valves

# EM12 Electronic Meter

## Dispense Meters and Control Valves

### Features and Benefits

- Reset capable for periodic dispense history information and locking trigger for hands-free operation
- High-flow capability provides up to 12 gpm (45 lpm)
- Rugged design withstands demanding environments

### Typical Applications

- Automotive and heavy-duty dealerships
- Service and fast lube centers
- In-plant
- Mining
- Fleet service facilities
- Lube trucks

### Typical Fluids Handled\*

- Petroleum- and synthetic-based oils
- \* Not recommended for use with anti-freeze or windshield washer fluid

### Technical Specifications

Maximum Recommended Flow Rate .....	12 gpm (45.4 lpm)
Maximum Operating Pressure.....	1500 psi (105 bar)
Operating Temperature Range.....	-4-130°F (-20-55°C)
Storage Temperature Range.....	-40-140°F (-40-60°C)
Inlet .....	1/2 npt and 3/4 npt
Outlet.....	1/2 npt
Wetted Parts.....	aluminum, SST, CS, acetal, nitrile rubber, Geolast
Instruction Manual .....	308642

### Ordering Information

EM12 Electronic Meters with 3/4 in npt(f) swivel inlet	
238636	US measure, rigid extension
238637	US measure, flexible extension
238638	Metric measure, rigid extension
238639	Metric measure, flexible extension
EM12 Electronic Meters with 1/2 in npt(f) swivel inlet	
238640	US measure, rigid extension
238641	US measure, flexible extension
238642	Metric measure, rigid extension
238643	Metric measure, flexible extension
Bare Valves with Locking Trigger (no meter or extension)	
238647	Inline flow through with 1/2 npt(f) swivel inlet and outlet
238646	Inline flow through 3/4 npt(f) swivel inlet; 1/2 npt(f) outlet
Accessories	
235878	US Electronic control replacement
235901	Metric electronic control replacement
223920	High flow twist lock nozzle, 1/2 npt(f) with 1 in diameter tip
238400	Automatic nozzle 1/2 npt(f) with 1 in diameter tip
185416	Filter 40 mesh stainless steel
Color-coded Impact Guards for Electronic Meters	
For color-coding fluids dispensed to reduce errors, match store colors, or to protect vehicle's finish. For electronic meters only.	
191782	Black
191783	Red
191784	Blue



238641



238647



191782



223920

Dispense Meters and Control Valves



# In-Line Electronic Meters

## Dispense Meters and Control Valves

### IM5 Low Pressure Meter

- Heavy-duty construction for outdoor use
- Easy-to-use meter dispenses pints, quarts, liters or gallons
- Compatible with windshield wash solvent or anti-freeze

### Typical Applications

- Automotive dealerships
- Fast lube centers
- Service shops
- In-plant

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Anti-freeze
- Windshield wash fluid

247453



### IM6 and SDI15 Medium/High Pressure Meters

- Reset capable for periodic dispense history information
- Shock-resistant durable design ideal for rugged environments
- Easy-to-use meter dispenses pints, quarts, liters or gallons

### Typical Applications

- Automotive and large truck dealerships
- Fleet service facilities
- Fast lubes and service shops
- Lube trucks (IM6 only)
- Mining
- In-plant

### Typical Fluids Handled\*

- Petroleum- and synthetic-based oils

\* Not recommended with anti-freeze or windshield wash

244075



239824



### Technical Specifications

	IM5 In-Line Meter	IM6 In-Line Meter	SDI15 In-Line Meter
Flow Range*	0.5 to 5 gpm (1.9 to 19 lpm)	0.12 to 12.0 gpm (0.46 to 45.6 lpm)	0.1 to 14 gpm (0.4 to 53 lpm)
Max. Working Pressure	500 psi (34 bar)	1500 psi (103 bar)	1500 psi (103 bar)
Weight	1.8 lb (0.8 kg)	1.9 lb (0.95 kg)	1.8 lb (0.82 kg)
Units of Measurement	Quarts, pints, gallons, liters (factory-set to quarts)**		
Accuracy	<input type="checkbox"/> 0.5%	<input type="checkbox"/> 1.0%	<input type="checkbox"/> 0.5%
Inlet/Outlet	1/2 npt*	1/2 npt*	1/2 npt*
Operating Temperature Range	-4 - 122 F (-20 - 50 C)	-4 - 130 F (-20 - 55 C)	-4 - 122 F (-20 - 50 C)
Storage Temperature Range	-13 - 122 F (-25 - 50 C)	-40 - 140 F (-40 - 60 C)	-13 - 122 F (-25 - 50 C)
Outdoor	yes	yes	no
Max Totalizer	99,999	19,999	99,999
Max Recorded Dispense	999.99	199.99	999.99
Meter Pressure Loss*	15 psi (1 bar) @ 5 gpm (19 lpm)	120 psi (8.3 bar) @ 6 gpm (23 lpm)	22 psi (1.5 bar) @ 14 gpm (53 lpm)
Battery	9-volt, alkaline	Lithium	2AA alkaline
Wetted Parts	nickel, zinc, zenite, nitrile rubber	aluminum, carbon steel, nitrile rubber, nickel, bronze, SST #304, cast ALNICO8	aluminum, carbon steel, nitrile rubber, nickel, bronze, SST, Geolast
Instruction Manual	308687	307965	313048

\* Tested with number 10 motor oil. Flow rates vary with fluid pressure and viscosity. \*\* Display shows quantity in 0.01 increments up to 999.99 gallons, quarts, pints, or liters. Totalizes in gallons or liters up to 99,999 units (IM5 only).

### Ordering Information

IM5 In-Line Meter	
239824	IM5 In-Line Meter
IM6 In-Line Electronic Meter	
244075	In-Line Meter (U.S.)
244076	In-Line Meter (Metric)
235878	Replacement Electronics (U.S.)
235901	Replacement Electronics (Metric)
SDI15 In-Line Electronic Meter	
247453	In-Line Meter (U.S.)



# Mechanical Meters

## Dispense Meters and Control Valves

### Features and Benefits

- Balanced, lightweight, rugged construction, and comfortable grip
- Non-resettable totalizing register helps manage material usage
- Handles a variety of petroleum- and synthetic-based oils and anti-freeze
- Ideal for indoor and outdoor use

### Typical Applications

- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Petroleum- and synthetic-based oils

### Technical Specifications

Maximum Flow*	4 gpm (15.1 lpm)
Minimum Flow*	0.4 gpm (1.5 lpm)
Maximum Operating Pressure	1000 psi (68.9 bar)
Operating Temperature Range	-40-140 °F (-40-60 °C)
Accuracy	□ 0.65%
Weight	6.0 lb (2.7 kg)
Inlet and outlet connections	1/2 npt(f)

For use with petroleum-based fluids only.

\*Tested with Mobil DTE-25 motor oil. Minimum/maximum flow rates will vary with fluid viscosity.

### Ordering Information

Manual Meters	
256556	16 Quart Meter with flexible extension and twist lock nozzle
253601	10 Liter Meter with flexible extension and twist lock nozzle
256786	16 Quart Meter with rigid extension and twist lock nozzle
256788	10 Liter Meter with rigid extension and twist lock nozzle
256787	16 Quart Meter with gear lube extension and automatic nozzle
256789	10 Liter Meter with gear lube extension and automatic nozzle
Preset Meters	
207738	60 Quart Meter valve with rigid extension and automatic nozzle
207739	60 Gallon Meter valve with rigid extension and automatic nozzle
207742	60 Liter Meter valve with rigid extension and automatic nozzle
Nozzles	
255459	Quick-close nozzle only for oil
255460	Quick-close nozzle only for anti-freeze
255470	Quick-close nozzle only for gear lube



256556



256787



256786



207738

# Accessories

## Dispense Meters and Control Valves

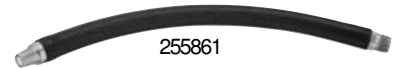
### LDM and LDP Accessories

Nozzle Extension Kits			
255861	Automatic nozzle with flexible extension for oil and anti-freeze*		
239949	Automatic thermal compensating nozzle with rigid extension for oil and anti-freeze		
239951	Automatic thermal compensating nozzle with flexible extension for oil and anti-freeze		
239950	Automatic thermal compensating nozzle with rigid extension for gear lube		
239829	Automatic thermal compensating nozzle for oil and anti-freeze without extension		
238371	Automatic thermal compensating gear lube nozzle without extension		
*Economical extension used on model 255751			
Additional LDM5 Accessories			
240416	Inlet Swivel		
114017	Inlet Filter, 80 mesh		
196471	Valve Bracket for Dispense Console		
240453	Valve Repair Kit		
Swivel Covers	Protective Boots with Trigger Guard		
191294*	Black	247759*	Black
191287	Red	243835	Red
191288	Blue	243836	Blue
191289	Green	243837	Green
191295	Yellow	247760	Yellow

\*Included on meter 256215, 256216, 258693 and 258694

### SDM and SDP Accessories

Nozzle Extension Replacement Kits For SD Series Meters	
255852	Automatic non-drip quick-close nozzle with rigid extension for oil
255853	Automatic non-drip quick-close nozzle with flexible extension for oil
255854	Non-drip quick-close nozzle with rigid extension for gear lube
255855	Non-drip quick-close nozzle with rigid extension for anti-freeze
255856	Non-drip quick-close nozzle with flexible extension for anti-freeze
255459	Automatic non-drip quick-close nozzle only for oil
255460	Quick-close nozzle only for anti-freeze
255470	Quick-close nozzle only for gear oil
255857	Non-drip quick-close high-flow nozzle with rigid extension for oil and anti-freeze
255858	Non-drip quick-close high-flow nozzle with flexible extension for oil and anti-freeze
255461	Quick-close high-flow nozzle only for oil and anti-freeze
Swivel Covers	
15T366	Black swivel cover (standard color with meter)
15T367	Red swivel cover
15T368	Blue swivel cover
15T369	Green swivel cover
15T370	Yellow swivel cover
Filter Kits for SD Series Meters	
255885	Filter kit includes (10) filters/strainers, (10) spacers and (10) O-rings (155332)



255861



239949



239951



239950



191294

247759



255852



255853



255854



255857



15T366

# SDV15 Control Valve

## Dispense Meters and Control Valves

### Features and Benefits

- Moves fluid up to 15 gpm (56.8 lpm) (15 gpm obtained with high-flow nozzle; purchased separately)
- Sturdy cast body designed for use in tough environments
- Lock-on trigger
- 1/2 in npt(f) inlet with built-in ball bearing swivel allows for ergonomic operation
- Inlet screen aids in keeping fluids clean

### Typical Applications

- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- Service shops
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Motor oils
- Transmission fluid
- Anti-freeze

### Technical Specifications

Maximum Recommended Flow Rate .....	15 gpm (56.8 lpm)
Maximum Operating Pressure.....	1500 psi (103 bar)
Weight .....	0.4 lb (0.18 kg)
Operating Temperature Range.....	-40 to 180 F (-40 to 82 C)
Inlet .....	1/2 npt
Outlet.....	3/4 in, 16 straight thread O-ring boss
Wetted Parts.....	Aluminum, sst, cs, acetal, nitrile rubber, tpe
Warranty .....	Five years
Instruction Manual .....	312789

1. Tested in 10W oil at 70 F. Flow rates vary with fluid pressure, temperature, viscosity, inlet fitting and nozzle type.



247712

### Ordering Information

SDV15 Control Valves	
247712	1/2 in npt(f) swivel, locking open trigger, rigid extension and standard automatic non-drip quick-close nozzle for oil products
247713	1/2 in npt(f) swivel, locking open trigger, flexible extension and standard automatic non-drip quick-close nozzle for oil products
247714	1/2 in npt(f) swivel locking open trigger, gear lube extension and standard quick-close nozzle
247715	1/2 in npt(f) swivel locking open trigger, rigid extension and standard quick-close nozzle for anti-freeze
247716	1/2 in npt(f) swivel locking open trigger, flexible extension and standard quick-close nozzle for anti-freeze
Bare Valve (no extension)	
247717	1/2 in npt(f) swivel locking open trigger, 3/4 in - 16(f) straight thread O-ring boss outlet, and trigger lock, no extension
Accessories	
256164	Filter kit includes (10) filters/strainers (185416)
255459	Quick-close nozzle only for oil
255460	Quick-close nozzle only for anti-freeze
255470	Quick-close nozzle only for gear lube
255857	Non-drip quick-close high-flow nozzle with rigid extension for oil and anti-freeze
255858	Non-drip quick-close high-flow nozzle with flexible extension for oil and anti-freeze
255461	Quick-close high-flow nozzle only for oil and anti-freeze

# XDV20 Control Valve

## Dispense Meters and Control Valves

### Features and Benefits

- Moves fluid up to 20 gpm (76 lpm)
- Lock-on/lock-off trigger for hands-free operation
- Rugged cast-body design withstands harsh environments
- Built-in ball bearing swivel allows for ergonomic operation
- Inlet screen aids in keeping fluids clean
- Quick close high flow nozzle for high volume dispensing—moves fluids fast!

### Typical Applications

- High-flow, non-metered oil dispense
- Automotive dealerships
- Heavy-duty dealerships
- Fast lube centers
- Fleet service facilities
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Motor oils
- Transmission fluid
- Anti-freeze

### Technical Specifications

Maximum Recommended Flow Rate .....	20 gpm (76 lpm)
Maximum Operating Pressure .....	1500 psi (105 bar)
Assembly Weight (no meter) .....	0.4 lb (0.18 kg)
Operating Temperature Range .....	-40 to 180 °F (-40 to 82 °C)
Inlet .....	1/2 npt and 3/4 npt
Outlet .....	7/8-14 straight thread o-ring boss
Wetted Parts .....	aluminum, SST, CS, acetal, nitrile rubber, Geolast
Instruction Manual .....	308642

### Ordering Information

XDV20 Control Valves	
247718	1/2 npt(f) swivel inlet, 1/2 in (12.7 mm); rigid extension, high flow, quick-close nozzle
247721	1/2 npt(f) swivel inlet, 1/2 in (12.7 mm); flexible extension, high flow, quick-close nozzle
247722	3/4 npt(f) swivel inlet, 1/2 in (12.7 mm); rigid extension, high flow, quick-close nozzle
247723	3/4 npt(f) swivel inlet, 1/2 in (12.7 mm); flexible extension, high flow, quick-close nozzle
Bare Valves (no extension)	
247724	Has locking trigger and in-line flow through 1/2 npt(f) swivel inlet; 7/8-14 straight thread O-ring boss outlet
247725	Has locking trigger and in-line flow through 3/4 npt(f) swivel inlet; 7/8-14 straight thread O-ring boss outlet
Accessories	
255793	Quick-close high flow nozzle for oil, ATF and anti-freeze; 7/8-14 straight thread O-ring boss inlet (XDV20 only)
255859	Flex extension with quick-close nozzle (255793) for XDV20
255921	Rigid extension with quick-close nozzle (255793) for XDV20



247722



247724

Dispense Meters and Control Valves

# Grease Dispense Valves

## Dispense Meters and Control Valves

### Pro Shot<sup>®</sup> Non-Metered Grease Valves

- Rugged design for harsh environments
- Pressure-assisted trigger for ease of operation
- Easy top adjustment with locking nut
- Pro-Shot adjustment nut protected by rigid guard

### Typical Applications

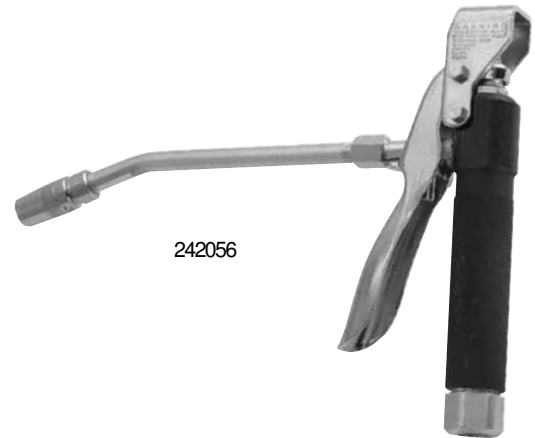
- Service shops
- Heavy-duty dealerships
- Fast lube centers
- Automotive dealerships
- In-plant
- Lube trucks
- Mining

### Typical Fluids Handled

- Grease up to NLG #2

### Ordering Information

Pro-Shot Grease Dispense Valve	
242056	1/4 npt(f) inlet with coupler and extension 200389
242055	1/4 npt(f) inlet without coupler or extension
242058	3/8 npt(f) inlet with coupler and extension 200389
242057	3/8 npt(f) inlet without coupler or extension
224872	Includes 30 in (76.2 cm) whip hose (109148), Z-Swivel (202577) and grease valve (242056)



### Accu-Shot<sup>®</sup> Metered Grease Valves

- Accurate grease metering within  $\pm 3\%$
- Easy-to-read LCD display
- Handles pressure up to 5000 psi (345 bar) and flow up to 36 oz/min (1 kg/min)

### Typical Applications

- Lube trucks
- Heavy-duty dealerships
- In-plant
- Fleet service facilities
- Mining

### Typical Fluids Handled

- Grease up to NLG #2

### Ordering Information

Accu-Shot Electronic Metered Grease Valve	
233807	U.S. Measurement, includes extension and hydraulic coupler
233933	Metric Measurement, includes extension and hydraulic coupler



# Matrix<sup>®</sup> Fluid Management Systems

## Features and Benefits

- Wireless transmission and reception of meter and tank level information make it simple to track your entire facility's activities
- Customize to fit your business □ three product platforms (Basic, Professional, and Premier) to fit any size facility
- Multi-level security to protect your assets
- Precise measurement and control of fluids ensures profits and eliminates out of stock issues for critical inventory
- ADP and Reynolds & Reynolds interfaces provide secure, reliable, data transfer between the Matrix database and the dealership management software



Premier software  
256634

## Typical Applications

- Auto dealerships
- Heavy-duty fleet service
- Off-road maintenance shops
- Industrial in-plant lubrication

## Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Anti-freeze



Transceiver  
257464



Matrix Meter  
256282

## Matrix Application Features

Feature	Basic	Professional	Premier
Maximum Number of Transceivers	1	2	8
Maximum Number of Meters	30	100	300
Maximum Number of Tank Monitors	0	12	50
Client PC Networking	0	6	300
Number of users	250	500	1000
Track Dispense by Work Order	X	X	X
Track Dispense by Technician			X
Track Dispense by Vehicle Number			X
Tank Level Email		X	X
Third Party Interface Capable		X	X
ADP Certified Interface			X
Reynolds Certified Interface			X



Tank Level Monitor  
256285



Pump Air Control  
247436

No fluid limitations with any Matrix Platform



# Matrix<sup>®</sup>

## Fluid Management Systems

### Software System Operating Requirements

Matrix software can be configured as a stand-alone PC or networked to multiple PCs. This software is not compatible with Apple<sup>®</sup> Computers, and is not available for the Apple<sup>®</sup> Operating system. The PC requirements for the Matrix Server and Matrix Client or shop PCs are noted below.

### Server PC Hardware Requirements

- Windows<sup>®</sup> XP Professional or Vista<sup>®</sup> operating system
- Pentium<sup>®</sup> 4 or better processor
- Processor speed of 3.0 GHz or better
- RAM memory of 1 GB or better
- CD-RW or DVD/RW drive
- Serial port configuration for (1) RS422 and (1) USB connection

### PC Clients

- Windows<sup>®</sup> XP Professional or Vista<sup>®</sup> operating system
- Pentium<sup>®</sup> 4 or better processor with a processor speed of 2.0 GHz or better
- RAM memory of 1 GB or better



### Software Instruction Manuals

Basic	Professional	Premier	ADP	Reynolds & Reynolds
313104	313106	313108	313112	313114

### RF Communication (Meters, Transceivers, Tank Level Monitors, Pump Air Control)

Description	Performance
RF Communication	2.4 GHz Direct Sequence Spread Spectrum
RF Communication Range	Unobstructed: 300 to 500 ft (91 to 152 m); Obstructed: 250 to 300 ft (76 to 91 m)
RF Temperature Range	-40°F to 185°F (-40°C to 85°C)
Approvals	FCC, Industry Canada (IC), C-Tick, CE

### Ordering Information

System Software	
256634	Premier Software CD (includes 3rd party interface)
256635	Professional Software CD
256636	Basic Software CD
256637	Premier Software with ADP Interface
256638	Premier Software with Reynolds & Reynolds Interface
Transceiver and Connection Hardware	
257464	Transceiver with Universal Power Adapter
255731	USB/RS422 Converter
15T999	15 ft USB Cable
15T998	3 ft USB Cable
119572	RS422 Bulk Wire (1000 ft roll)



### Transceiver and Connection Hardware Technical Specifications

Weight	1.0 lb (454 grams)
Power Supply	100 □ 240 V, 50/60 Hz to 12 VDC plug-in transformer
Instruction Manual	313008

# Matrix<sup>®</sup>

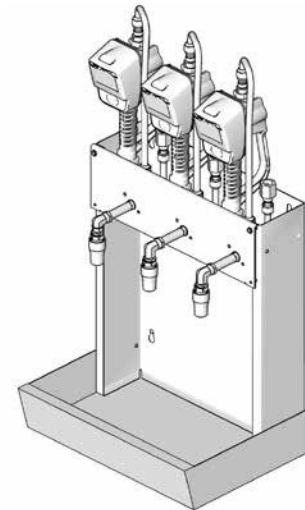
## Fluid Management Systems

### Matrix Meter and Accessories

Matrix Electronic Meter with Extension, 5 gpm or Less		
256282	1/2 in npt(f) swivel, rigid extension and standard automatic non-drip quick-close nozzle for oil	
256482	1/2 in npt(f) swivel, flexible extension and standard automatic non-drip quick-close nozzle for oil	
256483	1/2 in npt(f) swivel, gear lube extension and standard quick-close nozzle	
256484	1/2 in npt(f) swivel, rigid extension and standard quick-close nozzle for anti-freeze	
256485	1/2 in npt(f) swivel, flexible extension and standard quick-close nozzle for anti-freeze	
Matrix Electronic Meter with Extension, 14 gpm or Less		
256486	1/2 in npt(f) swivel, rigid extension, high flow, quick-close nozzle for oil	
256487	1/2 in npt(f) swivel, flexible extension, high flow, quick-close nozzle for oil	
256488	3/4 in npt(f) swivel, rigid extension, high flow, quick-close nozzle for oil	
257120	3/4 in npt(f) swivel, flexible extension, high flow, quick-close nozzle for oil	
Swivel Covers		
15T366	Black swivel cover (standard color with meter)	
15T367	Red swivel cover	
15T368	Blue swivel cover	
15T369	Green swivel cover	
15T370	Yellow swivel cover	
Accessories		
15E750	16 gallon and 55 gallon meter mounting bracket	
249440	Console bracket	
257539	Matrix meter for oil bar (swivel and extension removed)	Instruction Manual 313013
256719	Oil bar console complete cabinet without piping and meters	
255370	Oil bar kit ( fittings, nozzles, and piping)	
257556	Petro kit mount Matrix meter in 222107 console	
Filter Kits for Matrix Meters		
255885	Filter kit includes (10) filters/strainers (15M308), (10) spacers (15M309) and (10) O-rings (155332)	



Matrix Meter  
256282



Oil Bar  
Components ordered separately. For complete unit, order oil bar 256719, kit 255370 (one per meter) and Matrix meters (257539) as needed

### Technical Specifications

Flow Range <sup>(1)</sup>	0.1 to 14 gpm (0.4 to 53 lpm)
Maximum Working Pressure	1500 psi (103.4 bar)
Operating Fluid Pressure Range	100 to 1500 psi (7 to 103 bar, 0.7 to 10.3)
Weight (with battery and rigid nozzle extension)	6.07 lbs (2.75 kg)
Units of Measurement	Programmable in pints, quarts, gallons, or liters
Inlet	3/4 in to 1 1/4 npt or 1/2 in to 1 1/4 npt
Outlet	3/4 in to 1 1/2 straight thread O-ring Boss
Maximum Totalizer	999,999 gallons or liters
Maximum Recorded Dispense	999.9 Units
Maximum Pre-Set Volume	999.9 Units
Battery	4 AA alkaline or 4 AA lithium
Battery Life <sup>(2)</sup>	Preset Models: six months, manual models: one year
Wetted Parts	Aluminum, sst, pbt/pc, nitrile rubber, cs
Fluid Compatibility	Petroleum- and synthetic-based oils and anti-freeze mixtures (not compatible with fuel and windshield washer fluid)
Meter Pressure Loss <sup>(1)</sup>	0.5%
Accuracy <sup>(2)</sup>	0.5%
Repeatability <sup>(2)</sup>	0.15%
Dimension w/o Extension	13 in L x 3.75 in W x 5.75 in H (33 cm x 9.5 cm x 14.6 cm)
Instruction Manual	313046

1. Tested in 10W oil at 70 °F. Flow rates vary with fluid pressure, temperature, viscosity, inlet fitting and nozzle type.  
 2. At 2.5 gpm (9.5 lpm) @ 70 °F (21 °C) with 10 wt. oil and 1 gal (3.8 l) dispensed. May require re-calibration. Out-of-box accuracy to 1.25%.  
 3. Average shop use with alkaline batteries (included); 30-35% longer life with lithium AA

# Matrix<sup>®</sup>

## Fluid Management Systems

### Tank Level Monitor

Choose one TLM for each bulk fluid tank. Tank readings are automatic for used or new oil and anti-freeze products.

Tank Level Monitor	
256285	Tank Level Monitor

### Technical Specifications

Ultrasonic Tank Depth Measurement Range . . . . . 0 to 30 ft. (0-9 m) (Not recommended for use with pressurized tanks)  
 Fluid Level Measurement Accuracy\* . . . . . ± 0.5%  
 Weight . . . . . 2.34lb (1.06 kg)  
 Operating Temperature Range . . . . . -22°F - 122°F (-30°C - 50°C)  
 FF Operating Temperature Range . . . . . -40°F - 185°F (-40°C - 85°C)  
 Storage Temperature Range . . . . . -40°F - 185°F (-40°C - 85°C)  
 Ambient temperature range\*\* . . . . . -22°F - 122°F (-30°C - 50°C)  
 Batteries . . . . . (2) 9 VDC Alkaline only  
 Vertical Tanks . . . . . Maximum volume: 999,999 gallons or liters, maximum height: 30 ft (360 in.)  
 Cylindrical Tanks . . . . . Maximum volume: 999,999 gallons or liters, maximum diameter: 30 ft (360 in.)  
 Approvals . . . . . FCC, Industry Canada (IC), C-Tick, CE  
 Instruction Manual . . . . . 312964

Note: Do NOT use the Matrix Tank Level Monitor with gasoline, diesel fuel, or other flammable liquids, and materials with an auto ignition temperature below 419°F (215°C)

\* The difference in air temperature between the inside and outside of the tank may affect the accuracy of fluid levels

\*\* Display will not function below 32°F (0°C)



Tank Level Monitor  
256285

### Pump Air Control

One PAC required for each air pump. For safety and increased security, the PAC is a must have to maximize your fluid management system. Designed to supply air to the pump only when Matrix authorizes the dispense.

Pump Air Control (PAC)	
247436	93 scfm valve

### Technical Specifications

Operating Pressure Range . . . . . 23-145 psi (1.7 - 10 bar)  
 Maximum Air Flow . . . . . 247436 - 93 SCFM (2.6m<sup>3</sup>/min)  
 Power Supply . . . . . 120-240 VAC line voltage, 24VDC solenoid  
 Output Power . . . . . 10mW - 100mW  
 AMPS . . . . . 1A  
 Frequency . . . . . 50/60 Hz  
 Operating Temperature Range\* . . . . . 32°F - 122°F (0°C - 50°C)  
 Enclosure Type . . . . . NEMA Type 3  
 Weight . . . . . 247436 - 3.4 lbs (1.5 kg)  
 Instruction Manual . . . . . 312417

Note: Do NOT use the Matrix Tank Level Monitor with gasoline, diesel fuel, or other flammable liquids, and materials with an auto ignition temperature below 419°F (215°C)

\* The difference in air temperature between the inside and outside of the tank may affect the accuracy of fluid levels. Display will not function below 32°F (0°C).



Pump Air Control  
247436

### Tank Accessories

CleanLine Filter Assemblies	
248421	900 psi tank mount CleanLine filter assembly (includes thermal relief)
248418	900 psi wall mount CleanLine filter assembly (includes thermal relief)
248419	1800 psi tank mount CleanLine filter assembly
248417	1800 psi wall mount CleanLine filter assembly
Replacement Filters	
15D702	900 psi CleanLine screw-on type filter
119278	1800 psi CleanLine filter element

# Horizon<sup>®</sup>

## Fluid Management Systems

### Features and Benefits

- Allows multiple technicians to dispense simultaneously
- Easily configured and expandable for any facility
- Increases technician productivity
- Password-protected to prevent unauthorized dispensing
- Tracks inventory levels and alerts operators to low inventory conditions to minimize out-of-stock situations

### Typical Applications

- Bulk-dispensing to multiple service bays
- Automotive dealerships
- Heavy-duty dealerships
- Fleet service facilities

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Anti-freeze



### Technical Specifications

#### System Specifications

Control Modules on a System (1 Master only, plus 39 Slaves).....	40 maximum
Keypads on a System (1 keypad per Control Module).....	40 maximum
Solenoids on a System (40 Control Modules, 6 ports each).....	240 maximum
Meters on a System (40 Control Modules, 6 ports each).....	240 maximum
Fluids on a System.....	10 maximum
Dispense Areas (reel banks).....	99 maximum
Operator Names / PIN Numbers.....	100 maximum
Dispense Records Stored.....	668 maximum
Simultaneous Dispenses (same and/or different fluids):.....	12 maximum
Jobs Waiting in Queue.....	12 maximum
Printer per System OR Attached Computer per System.....	1 maximum (either must be connected to Master Control Module)
Accuracy of System.....	±0.6%
<b>Control Module Ports</b>	
Solenoid Ports (air or fluid) per Control Module.....	6
Pulse Meter Ports per Control Module.....	6
Port for Keypad per Control Module.....	1
Port for Printer or Computer per Master Control Module.....	1
<b>Voltage Input</b>	
90-120 Volts AC, 50/60 Hz, single phase, 2 amps maximum draw	
208-240 Volts AC, 50/60 Hz, single phase, 1 amp maximum draw	
Operating Temperature Range.....	40 - 140 °F (4 - 60 °C) ambient
<b>Pre-set or Free-Flow Options</b>	
Maximum Preset or Free-Flow Dispense.....	999.9 units
Minimum Preset Dispense.....	0.5 units
<b>Units of Measure</b>	
Dispense.....	liters, quarts, gallons or pints (configurable for each fluid)
Inventory.....	liters or gallons (dependent upon dispense units chosen)
<b>Maximum Cable Lengths</b>	
From Keypad to Control Module.....	50 ft (15.3 m)
From Solenoid to Control Module.....	50 ft (15.3 m)
From Pulse Meter to Control Module.....	50 ft (15.3 m)
From Printer/Computer to Master Control Module.....	50 ft (15.3 m)
From one end of the Control Module Network to the other end (daisy-chained).....	2000 ft (610 m)
<b>Reference Data</b>	
Instruction Manual.....	308607



Fluid Management Systems

# Horizon<sup>®</sup>

## Fluid Management Systems

### Ordering Information

Control Module drives air and fluid solenoids, and counts pulses from meters. On-board memory contains a map of available system resources, and a power supply that supports both 120 and 240 Volt AC operation. Combine one Master Control Module with up to 39 Slave Control Modules per system

238624 Master Control Module (one per system)

238625 Slave Control Module (up to 39 per system)

Keypads: Basic, Enhanced and Administrative

113551 Basic Keypad for navigating through the Horizon's menus

113553 Administrative Keypad is needed to set up and make changes to the system parameters

191368 Keypad Wall-Mounting Bracket

Air Solenoids open and close the air supply to the fluid pump air motor. Each solenoid can be up to 50 ft (15.3 m) from a Control Module. Up to 6 solenoids (air or fluid) can be connected to each Control Module

215407 For pumps requiring normal air flow (Mini Fire-Ball 225, 3:1 and Fire-Ball 300, 5:1)

512926 For pumps requiring higher air flow (Fire-Ball 425, 6:1 and 3:1)

Fluid Solenoids start and stop the fluid dispense cycles. These must be placed at each dispense point for each fluid being dispensed. Each fluid solenoid can be up to 50 ft (15.3 m) from a control module. Up to 6 solenoids (either air or fluid) can be connected to each control module. The low-flow model is available in a kit with a ready light which alerts the operator when the job is ready to dispense

215487 Low-Flow: supports 3 gpm (11.4 lpm)

512927 Higher-Flow: supports up to 6 gpm (22.7 lpm)

514150 Anti-Freeze Solenoid

218588 Low-Flow Solenoid with Ready Light Kit

238996 Ready Light Kit (only; less the solenoid)

Pulse Meters measure fluid flow to dispense points and send a train of pulses back to the Control Modules which are counted to determine how much fluid has been dispensed. If there are multiple meters for a single fluid, check valves (111620) should be placed in series with each meter to prevent cross talk and oscillations. Pulse Meters can be used for either U.S. or metric units

238618 For oils, gear lube, automatic transmission fluid

215474 For anti-freeze

111620 Check Valve, 1/2 in

Thermal Relief Kits

235998 600 psi (41 bar)

102527 Thermal Relief Valve, 900 psi (62 bar)

237893 900 psi (62 bar)

240429 1600 psi (110 bar)

System Printer prints job tickets after each dispense is complete, plus has save function for later analysis

113774 Printer

514037 Printer paper, 1 roll

Keypad or Printer Cables

191393 25 ft (7.6 m) cable with connectors

191394 Cable with connectors. 50 ft (15.3 m)

Control Module Network

113559 500 ft (152.5 m) bulk cable

113560 1000 ft (305 m) bulk cable

Pulse Meter Cable

113555 Length: 500 ft (152.5 m)

113556 Length: 1000 ft (305 m)

Solenoids Cable

113557 Length: 500 ft (152.5 m)

113558 Length: 1000 ft (305 m)

Computer Cable with Connectors

192873 Computer I/O 25 ft (7.6 m)

192874 Computer I/O 50 ft (15.3 m)

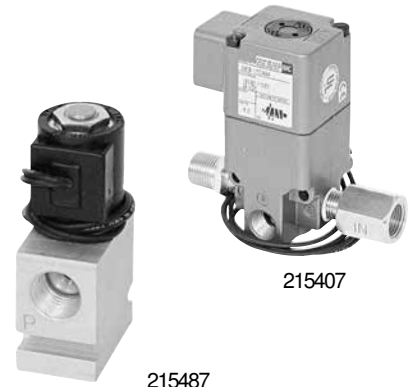


238624



113553

113551



215487

215407



113774



238618



# Fluid Commander

## Fluid Management Systems

### Features and Benefits

- Provides increased accuracy over mechanical counters
- PIN code prevents unauthorized dispensing
- Dispense totals tracked by location
- Easy to read display
- Accurate controlled dispense with parts room authorization

### Typical Applications

- Parts room authorized dispensing for inventory control
- Automotive dealerships
- Heavy-duty dealerships
- Fleet service facilities

### Typical Fluids Handled

- Petroleum- and synthetic-based oils
- Anti-freeze

### Easy to Use

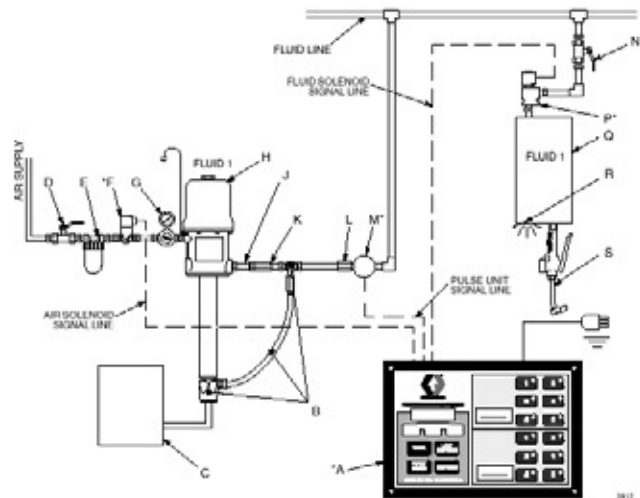
1. Service technician enters the service bay number, type of product, and amount to be dispensed, then activates the dispense button.
2. A ready light (located on the hose reel or dispense bar of the target service bay) signals when dispensing can begin.
3. As fluid is dispensed, the Fluid Commander tallies the amount dispensed and shuts-off when the pre-set amount is reached. No further dispensing takes place until new dispensing data is entered.

### Technical Specifications

Maximum Number of Fluids.....	1 or 2
Dispense Stations/Bays.....	6 or 12
Air Solenoids Required.....	1 (per pump)
Fluid Solenoids Required.....	1 (per fluid dispense station)
Electrical Requirements.....	120 V, 60 Hz, .25 amps
Weight.....	4 lb, 5 oz. (8.0 kg)
Wiring Requirements.....	90V, 2-wire
Distance/Gauge.....	200 ft (61 m) = 18 gauge, 201 to 500 ft (61 m to 152 m) = 16 gauge, 501 ft (152 m) or more = 14 gauge
Instruction Manual.....	308238



Typical Fluid Commander System Layout



#### KEY

- A Control\*
- B. Pressure Relief Kit, 237893, 1 1/2 npt (m x f)
- C. Supply Tank
- D. Air Shutoff Valve, bleed-type
- E Air Filter
- F. Air Solenoid Valve\*, 215407
- G Air Regulator, 202156
- H Pump
- J. Flexible Hbse, 3 1/6 ft (0.9 1/8 m) long
- K Check Valve\*, 111620 (required)
- L. Fluid Filter, 223179
- M. Pulse Meter\*, 236763 or 236764
- N. Fluid Shutoff Valve, 108458, 1/2"
- P. Fluid Solenoid Valve\*, 215487
- Q Hbse Peel
- R Ready Light, 238996
- S. Dispense Valve

\* These parts are included with Model 232076, 240448, or 241905.

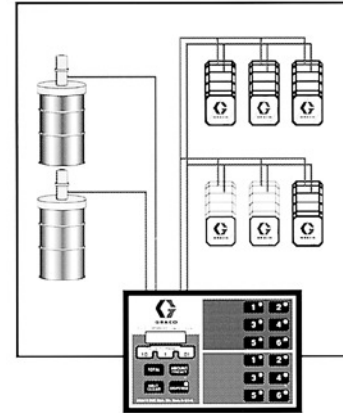


# Fluid Management Systems

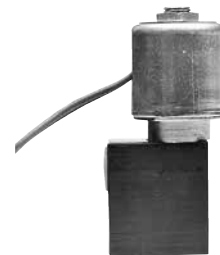
## Fluid Commander<sup>®</sup>

### Ordering Information

Fluid Commander Systems	
232076	U.S. Measure Fluid Commander System for 2 products and 6 stations. Includes: One 2-product/6-station Fluid Commander (235532), oil meter (236763), Fluid solenoid valve (215487), air solenoid valve (215407), check valve (111620)
241905	U.S. Measure Fluid Commander System for 1 product and 12 stations. Includes: One 1-product/12-station Fluid Commander (235531), Oil Meter (236763), Fluid Solenoid valve (215487), Air Solenoid valve (215407), check valve (111620).
240448	Metric Measure Fluid Commander System for 2 products and 6 stations. Includes: One 2-product/6-station Fluid Commander (232077), oil meter (236764), Fluid Solenoid valve (215487), Air Solenoid valve (215407), check valve (111620)
Accessories	
111620	Check valve
236763	Electronic Pulse Meter (quarts)
236764	Electronic Pulse Meter (liters)
215474	Mechanical Pulse Meter (quarts)
215745	Mechanical Pulse Meter (liters)
244342	Meter Pulse Converter, used when upgrading old-style modular Fluid commander to electronic allows use of 215474/215475 with the EFC. Instruction manual 309276
Air Solenoid Valves	
215407	Air Solenoid Valve, 150 psi (10 bar) (1/2 npsm(f) conduit ports for wiring; 1/4 npt(f) air ports, adapted to 3/8(f) IN, 3/8(m) OUT) operates on 24V DC and 110 VAC. Automatically shuts-off air inlet to pump when pre-set dispensed amount is reached. Materials of construction: brass, SST, Buna
105474	Air Solenoid Valve (bare) 150 psi (10 bar), same as 215407 but without wire connectors or adapters. 1/2 npsm(f) conduit ports for wiring; 1/4 npt(f) air ports. 150 psi (10.3 bar) max. working pressure
Fluid Solenoid Valves	
215487	Fluid Solenoid Valve, 1/2 npt(f) 3000 psi (207 bar) operates on 24V DC. Automatically shuts-off Fluid when pre-set dispensed amount is reached. Includes tube, valve, pin connector, wire plug connector and adapter
514150	Fluid Solenoid Valve for anti-freeze, 150 psi max. (10 bar), 1/2 npt(f), same as features as 215487
110025	Bare Fluid Solenoid Valve, 1/2 npt(f) 3000 psi, same features as 215487 above, but without wiring connectors or adapters
Ready-Light Kits	
218588	Ready-Light Kit, signals operator when dispensing can begin. Includes "ready to dispense" Indicator Light (239019), Strainer (240417), Fluid Solenoid Valve (215487) and hardware. Manual 307696
238996	Ready-Light with Junction Box (no solenoid or strainer)
239019	Ready-to-Dispense Indicator Light only
113859	Lamp for Indicator Only
Installation Components	
223179	Fluid Filter Kit (for bare electronic meter)
186472	Wall-Mounting Bracket
108458	Fluid Shut-Off Valve
237893	Thermal Relief Kit for 900 psi (62 bar), relieves excess heat-induced pressure from dispense system. Male and female ends allow for simple installation. Instruction manual 308403
Connecting Cables for Connecting Solenoids and Consoles, 90-volt, 2-wire, 18-gauge	
215481	100 ft (30.5 m) pre-connected at both ends



215407



215487



215481

# Manually Operated Grease Guns

## Grease Guns, Accessories and Fittings

### Ordering Information

Grease Guns	
202600	1/8 npt(f) Power-Shot Booster Gun boosts incoming pressure up to 18,000 psi (1,242 bar). Use with any high-pressure lubricator. Maximum inlet pressure: 5000 psi (345 bar). Includes nozzle (200389). (Hose swivel 202579 must be ordered separately). Instruction Manual: 306271
110218	Standard Lever-Action Grease Gun: Develops up to 6000 psi (400 bar) working pressure and pumps 1.8 oz (51 g) per 40 strokes. Can be loaded via cartridge or bulk fill. Optional loader fitting available. Equipped with rigid extension and hydraulic coupler
110216	Heavy-Duty Lever-Action Grease Gun with high-pressure variable low-volume. Three-way loading: bulk fill, loader fitting or 14 oz cartridge. Pumps 1.24 oz per 40 strokes. Includes air bleeder valve. Equipped with rigid extension and hydraulic coupler (MIL-G-3859). Can develop up to 10,000 psi (690 bar). Comes with 236171, easy fill valve
110203	Pistol-Matic Grease Gun with three-way loading: bulk fill, loader fitting or cartridge. Pumps .72 oz (28.4 g) per 40 strokes. Includes air bleeder valve. Equipped with rigid extension and hydraulic coupler. Can develop up to 3500 psi (241 bar)
203697	1/8 npt(f) Hot-Shot Portable Booster Gun for portable operation without continuous connection to grease supply. Has 4 oz (113 g) grease reservoir in handle capable of servicing up to 100 fittings before needing a re-fill. Has grease fitting for recharging from either manual or air-powered luber. Single-hand operation squeeze handle develops up to 10,000 psi (690 bar). Includes grease extension and nozzle 200389. Instruction Manual: 306460
110202	Pistol-Matic Grease Gun is the same as 110203 but with 12 in (30.4 cm) flexible rubber hose and hydraulic coupler
112196	1/4 npt Pistol-Style Air-Operated Grease Gun is a spring-primed, single-shot gun. Three-way loading: bulk fill, loader fitting or 14 oz (400 g) cartridge. Air input range of 75 to 100 psi (5 to 7 bar); working pressure of 6000 psi (414 bar). Pumps 1.2 oz (34 g) per 40 pulls at 100 psi (7 bar). Includes standard gun coupler and bleeder valve, 1/8 in-27 NPT rigid extension. (1/4 npt air input connection)
110201	Suction Gun for evacuating and filling fluids into gear housings, differentials, transmissions and related applications. Holds 1 pint (16 oz/473 cc), comes with red clear plastic 12 in (30.4 cm) hose
Z-Swivels	
202579	1/8 npt(m) x 1/4 npt(f) free-ball bearing
202577	1/4 npt(m) x 1/4 npt(f) free-ball bearing use with dispense valve 242055 and 242056
224569	3/8 npt(m) x 3/8 npt(f) free-ball bearing use with dispense valve 242057 and 242058
207948	1/2 npt(m) x 1/2 npt(f) free-ball bearing
Straight Swivels	
204082	1/8 npt(m) x 1/8 npt(f) 8000 psi (550 bar) free-ball bearing
204083	1/4 npt(m) x 1/8 npt(f) 8000 psi (550 bar) free-ball bearing
204084	1/4 npt(m) x 1/4 npt(f) 8000 psi (550 bar) free-ball bearing
214925	3/8 npt(f) x 1/4 npsm(f-union) 5000 psi (345 bar)
214926	3/8 npt(f) x 1/2 npsm(f-union) 5000 psi (345 bar)
207946	3/8 npt(f) x 1/2 npsm(f-union) 5000 psi (345 bar)
207947	1/2 npt(m) x 1/2 npt(f) 6000 psi (414 bar)
360° Swivels	
Swivels and locks into full 360° angle. Use for maximum coupler adaptability and reach	
203597	360° Grease Swivel with tapered-nose coupler (200325)
203198	360° Grease Swivel, 8,000 psi (552 bar) maximum working pressure (without coupler)



Manually Operated Grease Guns

# Manually Operated Grease Guns

## Grease Guns, Accessories and Fittings

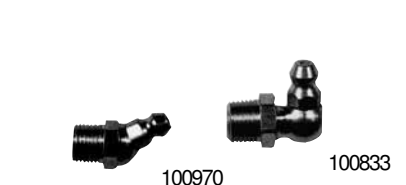
Grease Nozzles	
200389	Standard nozzle. Includes straight 6 in (15.2 cm), 1/8 npt(m) extension tube (197471) and tapered nose coupler (200325)
204072	Swivel nozzle. Includes straight 6 in (15.2 cm), 1/8 npt(m) extension tube (197471) and tapered nose coupler (200325). Coupler has 360° swivel adapter (203198) for added convenience
204897	Swivel nozzle. Includes straight 12 in (30.4 cm), 1/8 npt(m) extension tube (155836) and tapered nose coupler (200325). Coupler has 360° swivel adapter (203198) for added convenience
204204*	Flexible 12 in (30.4 cm) hose nozzle. 1/8 npt(m) includes tapered-nose coupler (200325)
203504*	Flexible 12 in (30.4 cm) hose nozzle. 1/8 npt(m) includes tapered-nose coupler (200325) and lock sleeve connector (203497) for quick connection to any grease nozzle having tapered-nose coupler
109145	12 In (30.4 cm) hose nozzle without coupler
112255	18 In (45.8 cm) hose nozzle without coupler
109148*	30 In (76.2 cm) hose nozzle without coupler, has 1/8 npt(m) both ends. Use as alternate for rigid nozzle with tapered-nose coupler 200325

\*Warning: potential injection hazard. Not for use above 5000 psi (345 bar).

Grease Couplers	
200325	1/8 npt(f) inlet standard tapered-nose coupler. Hardened jaws grip grease fittings through wide-sealing angle, but release easily. Maximum working pressure 8000 psi (551 bar)
202650	1/8 npt(f) inlet standard straight nose grease coupler for manual operated grease guns only. Maximum working pressure 3000 psi (206 bar)
200020	1/8 npt(f) inlet standard button-head coupler. Gives fast, positive seal on button-head fittings
200021	1/8 npt(f) inlet giant button-head coupler. Gives fast, positive seal on larger button-head fittings
Adapters have lock-sleeve quick-connector, works with any grease nozzle with a tapered-nose coupler	
201881	Hydraulic-to-push adapter. Used for U-joints and low-pressure service
205532	Hydraulic-to-steel needle adapter. Used for push fittings. 250 psi (17 bar) max, not for air grease applications or guns
205582	Hydraulic-to-nylon needle adapter. Used for removable plugs. 250 psi (17 bar) max, not for air grease applications or guns
223187	90° hydraulic-to-push adapter (K-car). Refer to instruction manual 306708
203497	Lock sleeve connector. 1/8 npt(f) outlet. Allows for quick connection to tapered-nose coupler. Inlet is standard grease fitting with sleeve to lock connector in place
236171	Easy-fill valve. For faster loading of graco hand grease guns with gun loaders. Replaces hydraulic fittings on all grease guns with 1/8 npt(f)
204929	Grease loader valve. For use with lever-operated, high-volume grease pumps. Permits quick bulk-filling of hand-operated grease lever guns equipped with easy-fill valve 236171
205592	Hydraulic adapter assortment package. Contains needle adapter (205568), plug adapter (205554), push adapter (201881), nylon needle adapter (205582), hydraulic-to-steel needle adapter (205532) and whip hose nozzle connector (203504)

### Grease Gun Fittings

1/8 npt Threaded Grease Fittings (steel; ball-check)				
Part No.	Shank	Description	Pressure Rating	
100054	9/32	1/8 npt straight	10,000 psi (690 bar)	
101277	1-9/32	1/8 npt straight		
100970	9/32	1/8 npt 30° angle		
100834	9/32	1/8 npt 45° angle		
100971	9/32	1/8 npt 65° angle		
100833	9/32	1/8 npt 90° angle		



# Manually Operated Grease Guns

## Grease Guns, Accessories and Fittings

1/4 npt Threaded Grease Fittings (steel; ball-check)			
100848	3/8	1/4 npt 67° angle	10,000 psi (690 bar)
100846	3/16	1/4-28 straight	
100847	13/64	1/4-28 45° angle	
101283	3/16	1/4-28 90° angle	
101281	11/32	1/4-28 straight	
110702	19/64	1/4-28 65° angle	
100835	12/32	1/4-28 straight	
1/4 npt Thread-Forming Grease Fittings (steel; ball-check)			
110703	13/64	1/4-28 straight	10,000 psi (690 bar)
110705	13/64	1/4-28 90° angle	
3/16 npt Thread-Forming Grease Fittings (steel; ball-check)			
110706	3/32	3/16 npt straight	10,000 psi (690 bar)
110709	7/32	3/16 npt 65° angle	
Drive-Type Grease Fittings (steel; no check)			
110713	1/4	3/16 npt straight	
101312	1/4	3/16 npt straight	
110710	1/4	5/16 npt straight	
101287	17/64	1/4 npt straight	
Standard Button-Head Grease Fitting (steel)			
100837	7/16	1/4 npt straight	
101297	33/64	3/8 npt straight	
110711	35/64	1/2 npt straight	
Giant Button-Head Grease Fitting (steel)			
110712	9/16	3/8 npt straight	
100854	1/2	1/4 npt straight	
Grease Accessory Packages			
202654	Convenient Storage Box Contains the following threaded fittings in the quantity listed:		
Shank	Description	Grease Fitting No.	Quantity
9/32	1/8 npt straight	100054	30
9/32	1/8 npt 30° angle	100970	10
9/32	1/8 npt 90° angle	100833	10
3/16	1/4-28 straight	100846	20
13/64	1/4-28 45° angle	100847	10
Easy-Outs			
101604	1/8 npt		
101605	1/4-28 unif		



101287



100834



101297



110712



202654



101605



101604

Manually Operated Grease Guns

# Oil King, Coolant King and Oil Ace

## Fluid Reclaim Packages and Accessories

### Oil King and Coolant King

- Large 25 gallon capacity with sight gauge
- Convenient tool trays and filter areas
- Large offset collection pan with screen
- Oversized tires to get over hose and rough floors
- Color specific receiver for easy identification

### Typical Applications

- Used fluid receiver
- Fast lube centers
- Automotive dealerships
- Fleet service facilities
- Heavy-duty dealerships
- Service shops

### Typical Fluids Handled

- Used oil □ Oil King
- Used antifreeze □ Coolant King

### Ordering Information

Oil King Oil Receiver	
238866	25 gal (95 l) Polyethylene tank with used-filter tray, tool holders and sight gauge. Includes all hardware for topside evacuation or bottom drain*. Instruction manual 308667
Coolant King Anti-Freeze Receiver	
248632	25 gal (95 l) Polyethylene tank with used-filter tray, tool holders and sight gauge. Includes all hardware for topside evacuation or bottom drain*

\* Must use 224873 for topside evacuation. Must ship via truck.

### Oil Ace

- Easy to drain using shop air pressure
- Large 24 gallon capacity
- Large offset collection pan with screen

### Typical Applications

- Pressurized used oil receiver
- Service shops
- Automotive dealerships
- Fast lube centers
- Heavy-duty dealerships
- Fleet service facilities

### Typical Fluids Handled

- Used oil

### Ordering Information

Oil Ace	
119577	24 gal (90 l) Steel-tank Pressurized Oil Drain





# Oil Receivers and Drains

## Fluid Reclaim Packages and Accessories

### Ordering Information

16 gal (60 l) Used-Oil Receiver with drum	
239301	Use with evacuation kit 240832. Instruction manual 306449
16 gal (60 l) Used-Oil Receiver without drum	
239302	Instruction manual 306449
Funnel Kit	
243650	Use with 238866, 239301, 239302 and 248632. Includes tray and pipe
Wall-Mounted Funnel Drain	
154616	Use with Pedestal Receiver 225272 to open automatic check-valve and drain used oil through wall to waste tank. Drain has 1-1/4 npt(f) outlet
Drum-Mounted Funnel Drain	
156789	Use with Pedestal Receiver (225272) to open automatic check-valve and drain used oil into standard drum. Funnel drain has 2 npt bung fitting for use with 55 gal (210 l) or 16 gal (60 l) drums, or 275 gallon (1,100 l) tanks
ATF Drain Funnel	
208009	Use with Pedestal Receiver (225272) to extend funnel reach. Use for draining transmissions. (Not equipped with drain plug.) 16 in x 24 1/2 in
Rolling Used-Oil Receiver	
218969	Specially designed for car and truck fast-lube facilities where speed and mobility are important. Adjustable steel rollers fit track widths of 39 in (99 cm) to 46 inches (117 cm), with a minimum running width of 2-1/2 in (63.5 mm). Front and rear drain fittings allow use of two drains on a single track, permitting two receivers to be drained simultaneously. Instruction manual 307727. Unit includes 30 gal (114 l) steel tank, 1-1/2 npt drain valve (108204), 1-1/2 npt quick coupler (108202) and 1-1/2 npt coupler cap. Dimensions: 24 in (61 cm) wide; 33 in (84 cm) long; 11 in (28 cm) deep; 3 in (7.6 cm) diameter wheels. 1-1/2 in drain hose. see manual provided
Narrow Rolling Used-Oil Receiver	
235346	Same as 218969 above, except track width range is from 34.2 in (87 cm) to 42.2 in (108 cm). 27 gal (102 l) capacity. Instruction manual 307727. See accessories on page 101
Big Hauler Truck Drain	
244055	Specially-designed for truck maintenance facilities, the Big Hauler Truck Drain boasts a large capacity and easy maneuverability. Dimensions: 42 in (106.7 cm) long; 30 in (76.2 cm) wide; 9 in (22.9 cm) deep. Capacity: 26 gallons (98 l). Instruction manual 309194. Gravity drain valve at bottom of unit allows for easy drain access. 3/4 in npt outlet can also be used with 224873 for diaphragm evacuation. 240832 can be ordered separately for existing diaphragm pump evacuation systems. Instruction manual 308719



239301



244055



208009



218969

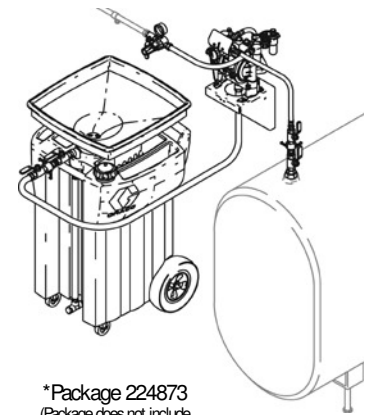


# Oil Evacuation

## Fluid Reclaim Packages and Accessories

### Packages for Used-Oil Evacuation with Air-Operated Diaphragm Pumps

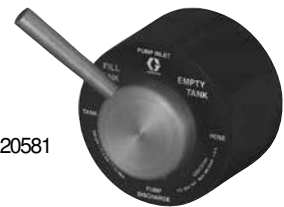
Wall-Mounted Packages	
24E166	Includes: 1050A (1 in) diaphragm pump (647016), wall bracket (240637), air installation kits (240684), fluid installation kits (240685), drum style adapter kits (240832) NOTE: Used-oil receivers are not included and must be ordered separately. See instruction manual 313597 for more information.
224873	Includes: 716 (3/4 in) diaphragm pump (241906), wall bracket (224835), air installation kits, fluid installation kits (240685), drum style adapter kits (240832) NOTE: Used-oil receivers are not included and must be ordered separately.
Stationary Gear-Oil Evacuation Systems with 716 or 1050 Diaphragm Pump	
System evacuates lube from differential case using suction generated by a diaphragm pump. Nylon tubes ranging in size from 3/16 in CD to 1/2 in CD are included to fit through sight plug to completely drain the case. Evacuated gear lube is then pumped to waste tank. Piping and waste tank not included. Systems are fully-groundable and bondable for safe transfer of used oil	
224955	Includes: 716 diaphragm pump (241906), air control kit (110149), mounting kit (224759), swivel union (157785), hose coupler (111474), suction hose/wand** (221146) and control valve** (220969) **Order additional suction hose/wand (221146) and additional control valve (220969) for each additional suction point. Note: Order grounding clamp (222011) or use locally-supplied grounding wires and clamps in accordance with applicable codes.
24E167	Includes: UL-listed 1050A diaphragm pump (647016), air control kit, hose and fitting kit (222149), evacuation, suction hose/wand** (221146) and wall bracket (240637) **Order additional suction hose/wand 221146 and additional control valve 220969 for each additional suction point. Note: Order grounding clamp 222011 or use locally-supplied grounding wires and clamps in accordance with applicable codes. See instruction manual 313597 for more information.
Port-Evacuation Pump	
223695	Port-Evacuation allows fast, clean withdrawal of gear lube, ATF, anti-freeze, and related fluids. Includes: 716 diaphragm pump (241906), mounting kit with 10 ft (3 m) suction hose (223697) which attaches to wands of four different diameters (suction wand kit, 223696): 1/2 in (12.7 mm); 3/8 in (9.5 mm); 1/4 in (6.4 mm), and 3/16 in (4.7 mm). Instruction manual 308035
Suction Wand Kits	
223696	15 in (38.1 cm)
224762	48 in (121.9 cm)
Used-Oil Handling Accessories	
4-Way Evacuation Valve	
120581	1 inpt (f) 4-way evacuation valve
120601	1.5" npt (f) 4-way evacuation valve
Tandem Drain Kit	
218970	Tandem drain kit connects two rolling receivers for low-through draining operation. Kit includes connector hose, shut-off valve, pipe nipple, and quick-connect nipple. Instruction manual 307727
108491	Drain hose kit allows rolling used-oil receiver to be drained directly into the used-oil line. Kit is 24 in (0.6 m) in length with camlock coupler on one end
Swing-Arm Drain Kit	
221007	Used for servicing single rolling used-oil receiver (218969). When used with tandem drain kit (218970) it can service two receivers on a single track. Kit includes swivel elbow (108867), connector hose, dust cap (108203) and male adapter (108202)
Oil Tank Monitor	
116229	Shuts off air to the pump when tank is full. Mounted at either end of fast lube service pit, swing-arm drain stores against pit wall and is rotated into position for use
Accessories for Port-Evac Pump (223695)	
223888	6 ft (1.8 m) suction hose for ATF and anti-freeze. Includes filter screen



\*Package 224873  
(Package does not include 238866 receiver or tank)



223695



120581



218970



116229



223888

# Oil Evacuation

## Fluid Reclaim Packages and Accessories

### Fluid Reclaim Accessories

243167	U-tube for used-oil drain cart evacuation system. 1/2 npt (mbe)
222011	Grounding clamp for all used-oil handling systems includes 25 ft (7.6 m) grounding wire
<b>Fas-Vac Evacuation Systems</b>	
224667*	Fas-vac evacuation system (without drum) basic system includes 716 diaphragm pump and mounting hardware. Instruction manual 308154
224700*	16 gallon (60 l) system includes pump (224667), dolly (224665), wand storage kit (224666), evacuation hose (224669) and 16 gallon (60 l) drum (111468). Instruction manual 308154
224701*	55 gallon (200 l) system (without drum) includes pump (224667), 55 gallon (200 l) drum truck (111470), wand storage kit (224666) and evacuation hose (224702). Instruction manual 308154
187359	4-way valve 1/2 npt(f) ports

\*224759 FLR mounting kit and 110149 FFL must be ordered separately. See instruction manual 308163.



224701

### Hoses, Fittings and Accessories

#### Air Filters

Centrifugal action 1/4, 3/8 and 1/2 npt. (with 20 micron filters); 3/4 npt having 40 micron filters to remove water and foreign particles from air supply

110146	1/4 npt(fbe)	106148	3/8 npt(fbe)
106149	1/2 npt(fbe)	106150	3/4 npt(fbe)

#### Automatic Filter Drain

106151	Float-type drain for automatic emptying of accumulated fluid in a filter assembly. 1/4 npt(m) (does not fit air filter 110146)
--------	--

#### Air Regulators

Provides precision control of outlet air pressure. Feedback principle provides constant pressure to pump regardless of air demand rate and fluctuations in supply pressure. (Additional fittings required except air regulators with installation kits.)

110318	1/4 npt(fbe)
110147	1/4 npt(fbe) with gauge
110234	3/8 npt(fbe)
109075	3/8 npt(fbe) with gauge
202858	3/8 npt(m) x 1/2 npsm(f) with gauge
104266	1/2 npt(fbe)
244844	1/2 npt(fbe) with gauge
207755	3/4 npt(fbe)
244845	3/4 npt(fbe) with gauge

#### Installation Kits

Installation kits include: shut-off valve, regulators, gauges and fittings as necessary for normal installation

218316	Installation kits for Fast-Flo, Fire-Ball, or Husky 307 and 716 diaphragm pumps
224512	Installation kits for Mini Fire-Ball 225 and Fire-Ball

#### Air Lubricators

Extends pump life and smooths pump movement by applying measured lubricant to all moving parts within the pump air motor. Control knob and sight window allow adjustment of dispensed lubricant

214848	1/2 npt(fbe)
110148	1/4 npt(fbe)
214847	3/8 npt(fbe)
214849	3/4 npt(fbe)



106148



106151



109075



224512



214847

# Accessories

## Hoses and Fittings

### FRL Combination Units

Each includes filter, regulator, pressure gauge, lubricator and connection fittings

110149	1/4 npt (fbe)
110150	3/8 npt (fbe)
217072	1/2 npt (fbe)
217073	3/4 npt (fbe)



110150

### Bleed-type Air Shut-off Valves

Closes air inlet to pump and relieves trapped air pressure down line from valve. Recommended for each pump drop line. Note: Be certain to install correctly; if installed backwards air will constantly escape from the valve

110223	1/4 npt(fbe)
110224	3/8 npt(fbe)
110225	1/2 npt(fbe)
110226	3/4 npt(fbe)
107142	1/2 npt(mxf)
107141	3/4 npt(mxf)



106151



110223



107142

### Air Line Shut-off Valves Ball valve-type air line shut-off valve; non-pressure relieving

208390	1/4 npt(mbe)
208393	3/8 npt(mbe)
208630	1/2 npt(m) x 3/8 npt(f)
109077	3/4 npt(fbe)
118464	1 npt(fbe)

### Quick-Connect Coupler

Permits quick, convenient attachment of air supply hoses

208536	1/4 npt(fbe)
110198	3/8 npt(f)
110199	1/2 npt(f)
110200	3/4 npt(f)



208536

### Quick-Connect Nipple

Allows quick attachment of air supply hoses to pump motor

169970	1/4 npt(m)
169967	1/4 npt(f)
169971	3/8 npt(m)
110196	1/2 npt(m)
110197	3/4 npt(m)



169970

### Air Needle Valve

Controls pump speed by restricting air flow to pump or other air-operated equipment

205090	1/4 npt(f) outlet port; 1/4 npt(m) inlet port
206264	1/8 npt(f) outlet port; 1/4 npt(m) inlet port



205090

### Air Pressure Relief Valve

Prevents pump from operating beyond recommended working pressure by opening at a pre-set maximum air pressure

103347	90 psi (6 bar)
110065	60 psi (4 bar)

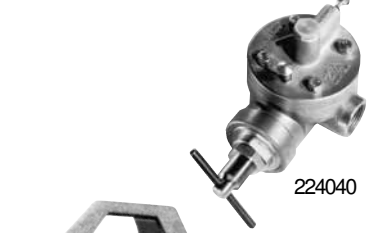


110065

# Accessories

## Hoses and Fittings

Air Pressure Gauge	
Allows visual check of air pressure being supplied to the pump. Rated to 200 psi (14 bar)	
110319	1/8 npt(m) bottom inlet; black
100960	1/4 npt(m) bottom inlet; black
101180	1/4 npt(m) bottom inlet; chrome
Air manifold	
Supply several pumps from one supply line. Larger port delivery ensures adequate air flow to all pumps	
158990	Four outlet ports; 3/8 npt(f)
601950	Three outlet ports; 1/2 npt(f)
Runaway Valve	
Prevents pump damage by automatically closing the air line to stop the pump when a runaway pump condition occurs due to an empty barrel or hose leak	
224040	3/4 npt(f) (b)
Blow Guns	
208627	Air Blow Gun, 1/4 npt(f), use with coupler 208536
236211	Safety Blow Gun tip swivels freely and cannot be removed. Tip pressure will not exceed 30 psi (2 bar), adequate for cleaning. Maximum working pressure 150 psi (10 bar). Use with coupler 208536
Tire Inletors	
236205	Heavy-duty Tire Inletor includes 12 in (30 cm) hose with swivel dual-foot chuck and pop-out gauge. Tapered chuck nut fits wheel-cover holes on cars and light trucks. Gauge ranges from 0-120 psi in 2 psi increments. Maximum working pressure 250 psi (18 bar), 1/4 npt(f) inlet
236206	Passenger Car Tire Inletor includes 12 in (30 cm) hose with straight-on chuck and pop-out gauge. Tapered chuck nut fits wheel cover holes on cars and light trucks. Ideal for use on reels. Gauge ranges from 0-90 psi in 2 psi increments. Maximum working pressure 250 psi (18 bar), 1/4 npt(f) inlet
218545	1/4 npt(f) Tire Chuck, durable, full-volume tool for adding/relieving air pressure
Water Valve	
180685	Water/Anti-Freeze Bib is a durable, full-volume dispense nozzle for water, anti-freeze and windshield washer fluid. Nitrile rubber seals with 1/4 npt(f) inlet. Maximum pressure is 100 psi (7 bar)



### Heavy-Duty Reinforced Hoses

Heavy-duty reinforced hose for use with grease, oil and undercoating material. Hoses are black, male at both ends. Lubrication hoses listed are grounded for static electrical discharge.

1/4 in ID hoses with maximum pressure rating of 5000 psi (345 bar)		
Part No.	Length	Fittings
109145	12 in (0.3 m)	1/8 in x 1/8 in (4.8 mm x 4.8 mm) with bend restrictor
109146	15 in (0.4 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109147	24 in (0.6 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109148	30 in (0.8 m)	1/8 in x 1/8 in (4.8 mm x 4.8 mm) with bend restrictor
109149	48 in (1.2 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109150	72 in (1.8 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109151	12 ft (3.6 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109152	15 ft (4.6 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109153	20 ft (6.1 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)
109154	25 ft (7.6 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109156	35 ft (10.6 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)
109157	40 ft (12.2 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)
109158	50 ft (15.3 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)

Hoses and Fittings

# Lubrication Hoses

## Hoses and Fittings

3/8 in ID hoses with maximum pressure rating of 4000 psi (276 bar)		
Part No.	Length	Fittings
109160	12 in (0.3 m)	1/4 in x 1/2 in (6.4 mm x 12.7 mm)
109161	24 in (.62 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109162	48 in (1.2 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109163	72 in (1.8 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109165	15 ft (4.6 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109170	50 ft (15.3 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)
109169	40 ft (12.2 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)
109170	50 ft (15.3 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)

### Lubrication Hoses (Oil)

1/2 in ID hoses with maximum pressure rating of 3000 psi (207 bar)		
Part No.	Length	Fittings
110069	15 in (0.4 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220598	18 in (0.5 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220600	54 in (1.4 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220591	72 in (1.8 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220590	10 ft (3.1 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220592	16 ft (4.9 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220593	20 ft (6.1 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
220608	25 ft (7.6 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
221092	40 ft (12.2 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
221093	50 ft (15.3 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
237861	75 ft (22.9 m)	1/2 in x 3/4 in (12.7 mm x 19.1 mm)
109108	18 in (0.4 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
109105	72 in (1.8 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
111010	10 ft (3.0 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
237865	75 ft (22.9 m)	1/2 in x 1 in (12.7 mm x 25.4 mm)
237866	50 ft (15.2 m)	1/2 in x 1 in (12.7 mm x 25.4 mm)

1 in ID hose rated to maximum pressure of 125 psi (8.7 bar)		
Part No.	Length	Fittings
249058	50 ft (15.2)	1 in x 1 in (25.4 mm x 25.4 mm)

1 in ID hose rated to maximum pressure of 212 psi (14.6 bar)		
Part No.	Length	Fittings
241908	50 ft (15.2 m)	1 in x 1 in (25.4 mm x 25.4 mm)

### Air/Water Hoses

Hoses for air, water, anti-freeze and windshield washer fluid. Hoses are red with male fittings at both ends.

Coiled 1/4 in ID hose with maximum pressure rating of 180 psi (12 bar)		
Part No.	Length	Fittings
205600	50 ft (15.3 m)	1/4 in x 50 ft (6.4 mm x 15.3 m)

# Air/Water Hoses

## Hoses and Fittings

### Fabric-Reinforced 1/4 in ID hoses with maximum pressure rating of 180 psi (12 bar)

Part No.	Length	Fittings
109123	18 in (0.5 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109124	4 ft (1.2 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109125	6 ft (1.8 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109126	10 ft (3.1 m)	1/4 in x 1/4 in (6.4 mm x 6.4 mm)
109127	25 ft (7.6 m)	1/4 in x 1/2 in (6.4 mm x 12.7 mm)
109128	40 ft (12.2 m)	1/4 in x 1/2 in (6.4 mm x 12.7 mm)
218491	40 ft (12.2 m)	3/8 in x 1/4 in (9.5 mm x 6.4 mm)

### 3/8 in ID hoses with maximum pressure rating of 180 psi (12 bar)

Part No.	Length	Fittings
204560	18 in (0.5 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109130	4 ft (1.2 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
203320	6 ft (1.8 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
109131	10 ft (3.1 m)	3/8 in x 3/8 in (9.5 mm x 9.5 mm)
110326	16 ft (4.9 m)	1/4 in x 3/8 in (6.4 mm x 9.5 mm)
109132	25 ft (7.6 m)	3/8 in x 1/2 in (9.5 mm x 12.7 mm)
109133	30 ft (9.2 m)	3/8 in x 1/2 in (9.5 mm x 12.7 mm)
109134	40 ft (12.2 m)	3/8 in x 1/2 in (9.5 mm x 12.7 mm)
109135	60 ft (18.3 m)	3/8 in x 1/2 in (9.5 mm x 12.7 mm)

### 1/2 in ID hose with maximum pressure rating of 180 psi (12 bar)

Part No.	Length	Fittings
218093	22 in (0.56 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
110046	4 ft (1.2 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
205418	6 ft (1.8 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
214656	10 ft (3.1 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
248312	25 ft (7.6 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)
248313	50 ft (15.2 m)	1/2 in x 1/2 in (12.7 mm x 12.7 mm)

### 3/4 in ID hoses with maximum pressure rating of 180 psi (12 bar)

Part No.	Length	Fittings
110047	18 in (0.5 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
110048	4 ft (1.2 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
208610	6 ft (1.8 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
214955	10 ft (3.1 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)
208611	25 ft (7.6 m)	3/4 in x 3/4 in (19.1 mm x 19.1 mm)



# Pipe Fittings and Swivels

## Hoses and Fittings

Bushing <input type="checkbox"/> reducing, standard and expanding					
Part No.	Thread Size (m x f)	Part No.	Thread Size (m x f)	Part No.	Thread Size (m x f)
100030	1/4 in x 1/8 in	159841	3/8 in x 1/4 in	100206	1/2 in x 1/4 in
100081	1/2 in x 3/4 in	100615	3/4 in x 1/4 in	100505	3/4 in x 3/8 in
100896	3/4 in x 1/2 in	100380	1 in x 1/2 in	158586	1 in x 3/4 in
Pipe Adapters					
Part No.	Thread Size (m x f)	Part No.	Thread Size (m x f)	Part No.	Thread Size (m x f)
150171	1/8 in x 1/8 in	159840	1/8 in x 1/4 in	156580	1/8 in x 3/8 in
150287	1/4 in x 3/8 in	159842	1/4 in x 1/2 in	150286	3/8 in x 3/8 in
156022	3/8 in x 1/2 in	168595	1/2 in x 3/4 in		
Street Elbows					
Part No.	Thread Size (m x f)	Part No.	Thread Size (m x f)	Part No.	Thread Size (m x f)
100840	1/4 in x 1/4 in	156699	3/8 in x 3/8 in	158683	1/2 in x 1/2 in
176393	3/4 in x 3/4 in				
Coupling (standard)					
Part No.	Thread Size	Part No.	Thread Size	Part No.	Thread Size
100451	1/8 in	113093	1/4 in	162024	3/8 in
158581	1/2 in	100385	3/4 in	100474	1 in
Hex Nipple (standard and reducing)					
Part No.	Thread Size	Part No.	Thread Size	Part No.	Thread Size
151519	1/4 in x 1/8 in	156971	1/4 in x 1/4 in	156296	3/8 in x 1/8 in
165198	3/8 in x 1/4 in	156849	3/8 in x 3/8 in	162449	1/2 in x 1/4 in
159239	1/2 in x 3/8 in	158491	1/2 in x 1/2 in	194048	3/4 in x 3/8 in
157191	3/4 in x 1/2 in	175013	3/4 in X 3/4 in	158555	1 in x 3/4 in
Square-Head Plug					
Part No.	Thread Size	Part No.	Thread Size	Part No.	Thread Size
111697	1/4 in	100040	3/8 in	100737	1/2 in
104663	3/4 in				
Straight Swivel Adapter*					
Part No.	Rigid (m) x Swivel (f)	Part No.	Rigid (m) x Swivel (f)	Part No.	Rigid (m) x Swivel (f)
208434	1/8 in x 1/4 in	156823	1/4 in x 1/4 in	157705	1/4 in x 3/8 in
155665	3/8 in x 3/8 in	162505	3/8 in x 1/2 in	156684	1/2 in x 1/2 in
158256	1/2 in x 3/8 in	157785	3/4 in x 3/4 in	202965	1 in x 3/4 in
160022	1 in x 1 in				
90° Swivel Adapter*					
Part No.	Rigid (f) x Swivel (f)	Part No.	Rigid (f) x Swivel (f)	Part No.	Rigid (f) x Swivel (f)
157676	1/4 in x 1/4 in	155677	3/8 in x 3/8 in	159801	3/8 in x 1/2 in
157416	1/2 in x 1/2 in	156589	3/4 in x 3/4 in		
Straight Swivel Adapter*					
Part No.	Rigid (f) x Swivel (f)	Part No.	Rigid (f) x Swivel (f)	Part No.	Rigid (f) x Swivel (f)
155570	1/4 in x 1/4 in	159153	3/8 in x 1/4 in	156173	3/8 in x 3/8 in
155653	1/2 in x 1/4 in	161077	1/2 in x 3/8 in	155865	1/2 in x 1/2 in
156172	3/5 in x 3/4 in	158383	1 in x 1 in		
90° Swivel*					
Part No.	Rigid (M) x Swivel (F)	Part No.	Rigid (M) x Swivel (F)	Part No.	Rigid (M) x Swivel (F)
155541	1/4 in x 1/4 in	155495	3/8 in x 1/4 in	155494	3/8 in x 3/8 in
217430	3/8 in x 1/2 in	161037	1/2 in x 3/8 in	155470	1/2 in x 1/2 in
160327	3/4 in x 3/4 in				
45° Swivel Adapter*					
Part No.	Rigid (M) x Swivel (F)	Part No.	Rigid (M) x Swivel (F)	Part No.	Rigid (M) x Swivel (F)
161889	3/8 in x 3/8 in	105281	3/4 in x 3/4 in		

\*Not a live swivel, position is stationary after tightened



# Tube and Fittings

## Hoses and Fittings

Tube Fittings			
Maximum pressure rating of 3000 psi (207 bar) with appropriate tubing wall thickness			
Tube Union Flow 90° Elbow			
Part No.	Tube CD		-
101012	5/8 in		-
101376	7/8 in		-
Tube Union □ Straight			
Part No.	Tube CD		-
101009	5/8 in		-
101340	7/8 in		-
Male Connector			
Part No.	Tube CD		Thread
101339	7/8 in		3/4 npt
Female Connector □ Straight			
Part No.	Tube CD		Thread
101008	5/8 in		1/2 npt
Tube Tee with Female Branch			
Part No.	Tube CD		Thread
101013	5/8 in		5/8 npt

NOTE: Consult your local distributor for additional tube-fitting requirements (ie: high-pressure, low-pressure, etc.) and fitting recommendations: Parker; Aeroquip; Weatherhead; Lenz; Crawford; or Imperial Eastmand.



### Technical Information

Always use a qualified installer and ensure the installer follows the detailed instructions included with every Graco product.

1. Always use new pipe. Make certain that pipes are clean and free of rust and scale.
2. When cutting pipe remove burrs and chips that may damage dispense valves and meters.
3. Always flush the system with oil before attaching dispense valves and meters.

### Air Lines

Main Line	Branch Line	Pump Model
3/4 in or 1 in ID pipe	3/8 in or 1/2 in ID pipe	Fast-Ball; Mini Fire-Ball 225
3/4 in or 1 in ID pipe	1/2 in ID pipe	Fire-Ball

### Fluid Lines

This information applies to typical automotive low rate service requirements

Chassis Grease Lubricant Supply Lines (based upon 5000 psi (345 bar) maximum working pressure)		
Supply Line Length	Supply Pump	Hydraulic Supply Line Tubing
Up to 50 feet	50:1 Fire-Ball 300, 425	5/8" CD x .109" Wall Tube
50 to 100 feet	50:1 Fire-Ball 300, 425	5/8" CD x .109" Wall Tube
100 to 200 feet	50:1 Fire-Ball 300	N/A
100 to 200 feet	50:1 Fire-Ball 425	N/A
200 feet and up	50:1 Fire-Ball 300, 425	N/A
Motor Oil, Gear Lube, or ATF Lubricant Supply Lines (based upon 1000 psi maximum working pressure)		
Supply Line Length	Supply Pump	Hydraulic Supply Line Tubing
Up to 50 feet	5:1 Fire-Ball 300	5/8" CD x .049" Wall Tube
Up to 50 feet	10:1 Fire-Ball 425	3/4" CD x .049" Wall Tube
50 to 100 feet	5:1 Fire-Ball 300	3/4" CD x .049" Wall Tube
50 to 100 feet	10:1 Fire-Ball 425	1" CD x .049" Wall Tube
100 to 200 feet	5:1 Fire-Ball 300	1" CD x .049" Wall Tube
100 to 200 feet	10:1 Fire-Ball 425	1-1/2" CD x .095" Wall Tube
200 feet and up	5:1 Fire-Ball 300	1-1/2" CD x .095" Wall Tube
200 feet and up	10:1 Fire-Ball 425	1-1/2" CD x .095" Wall Tube

# Petroleum Management Group

## Ordering and Warranty Information

---

This Price List supersedes all previous price lists dated prior to January 2, 2011.

Prices, discount codes, and family codes subject to change without notice.

\$50.00 U.S. net minimum billing, exclusive of application taxes and transportation.

The goods are sold to Distributor EXWorks (Incoterms 2000) Graco's premises or the premises of Graco's Supplier. All freight charges, handling, insurance, duty, taxes and other charges are at Distributor's expense, with the following exception: for single orders and/or shipments to USD \$2,500 net value or more, Graco will prepay surface freight charges to the U.S. port of exit or the U.S. freight forwarder of Distributor's choice.

All prices are F.O.B. shipping point.

Returns will not be accepted on configured or low demand products built to special customer order. These orders are subject to a cancellation fee.

Graco strives to ship all orders within 48 hours. If you have need for an emergency shipment and your order is received before 2:30 p.m. Central Time, you may request same day shipment.

Graco Inc. reserves the right to correct any typographical errors in this price list.

Possession of this list does not permit any party to purchase any or all of the items listed herein.

Prices, as shown herein, do not include any sales tax, excise tax, or other similar tax which must be added when, as, and if applicable.

This price list does not list parts that are obsolete or discontinued. Always refer to the most recent lists and instruction forms.

### GED<sup>®</sup> Website

GED stands for Graco Extranet for Distributor Information and is for use exclusively by authorized Graco distributors. This online tool features up-to-the-minute list price, net price, order/product information, product availability and shipping information. Access to this portion of the [www.graco.com](http://www.graco.com) website requires your Graco account number and the assignment of a GED password.

If you would like to access GED, visit [www.graco.com](http://www.graco.com) for easy online instructions.

### Product Orders and Inquiries

- Order entry
- Product availability
- List and net prices
- Literature orders
- Order status
- Shipping charges
- Tracking information
- Same day shipping\*

\*All orders entered and credit approved by noon qualify for same day shipping

### Fax Order Line (orders only please)

Toll Free: 800-533-9656

(In Minnesota Twin Cities Metro Area, dial 612-378-3590)

Free-up phone lines. Fax your orders day or night. You will receive a fax conformation of your order, which includes:

- Shipping location
- Graco sales release number
- Total net order entry value
- Line item pricing
- Quantity available by line item
- Part description

### Customer Service and Technical Assistance

Toll Free: 800-533-9655

(In Minnesota Twin Cities Metro Area, dial 612-623-6928)

- Product information
- Product application questions
- Delivery date changes
- Product availability dates
- Maintenance and repair advice
- Correct order and invoice errors
- Product pre-return authorization (FGA)
- Resolves shipping and traffic questions

### For additional information visit [www.graco.com](http://www.graco.com)

- Product search
- Product photos
- Product listing
- Literature information  
(service manuals, catalogs, etc.)
- Sales rep location
- GED access

### EZFax\* Document Ordering System

Get the documents you need 24-hours-a-day

- Service Manual
- Data Sheets
- Literature Index

# Petroleum Management Group

## Ordering and Warranty Information

### Standard Graco Warranty

#### 1 Year Warranty Policy

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective.

This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations. This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment

does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

### Graco Petroleum Management Group Equipment Extended Warranty

Graco warrants all equipment referenced in this document that is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. Graco will, for a period as defined in the table below from the date of sale, repair or replace equipment covered by this warranty and determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

	5 Year Warranty	7 Year Warranty	10 Year Warranty
Oil/Grease Pumps and Packages	LD Pumps	Mini-Fireball 225	Fireball 425
	Fastball / Fast-Flo	Fireball 300	NXT Pumps
	ACDD		
Electronic Meters and Valves LD Meter Electronics (2 years) All other meter series electronics (3 years)	LD Meters	Matrix Meters	
		SD Electronic Meters	
		EM6/EM12 Electronic Meters	
		IM5/IM6 Electronic Meters	
		SD15 Electronic Meters	
		SDV15 Valve XDV20 Valve	
Hose Reels and Packages All reel series wear parts, including but not limited to: hose, swivel seats, roller guides (12 months). All bare hose reels, all components (12 months).	LD Series Reels and Packages	SD Series Reels and Packages	
		XD Series Reels and Packages	
Accessories	Oil King		
	Coolant King		
	Oil Ace		

Equipment or components not identified are not covered by this warranty. Complete part number list available by request.

# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
15B750	92	24D592	24	24F901	12, 28, 36	24H865	11
15C502	13, 18, 21	24D593	24	24F902	28, 35, 36	24H867	11
15D702	93	24D594	23	24F903	28, 35	24HJ495	11
15M308	92	24D595	24	24F904	12, 28	24J030	28
15M309	92	24D596	23	24F905	12, 28	24J036	28
15T366	86, 92	24D597	23	24F906	12, 28	24J042	28
15T367	86, 92	24D598	24	24F910	10, 11, 12	24J048	28
15T368	86, 92	24D599	24	24F914	10, 11, 12	24J054	28
15T369	86, 92	24D600	23	24F915	10, 11, 12, 28	24J060	28
15T370	86, 92	24D601	24	24F918	8, 9, 12	24J066	28
15T998	91	24D602	23	24F920	10, 11, 12	24J495	10, 11
15T999	91	24D603	23	24F930	10, 11, 12	24J501	28
15Y478	67	24D604	24	24F931	10, 11, 12	24J733	10
16F886	12	24D605	24	24F932	10, 11, 12	24J734	10
16N883	59	24D606	23	24F935	10, 11, 12	24J735	11
16P999	59	24D607	23	24F947	48	24J736	11
23F914	11	24D608	24	24G576	8, 10	24J776	10
24A217	59, 63	24D989	63	24G579	8, 10	24J777	11
24A218	63	24D990	63	24G582	8, 10	24K285	12
24A219	66	24D991	63	24G585	8, 10	24K777	10
24A220	63, 66	24D992	63	24G588	9, 11	24K796	11
24A221	66	24D993	63	24G591	9, 11	24K797	10
24A224	63, 66	24D994	63	24G594	9, 11	24K798	11
24A934	58, 63	24D995	63	24G597	9, 11	24K799	10
24A935	58, 63	24D996	63	24G600	27, 28	24K800	11
24A936	63	24D997	63	24G603	27, 28	24K832	10
24A937	63	24D998	63	24G606	27, 28	24K833	11
24A938	63	24D999	63	24G636	48	24K834	10
24A939	63	24E001	63	24G738	49	24K835	11
24A940	59, 63	24E002	63	24G745	48	24K836	10
24A941	59, 63	24E006	41	24G865	61	24K837	11
24A942	59, 63	24E007	41	24G866	61	24K838	10
24A943	59, 63	24E008	41	24H193	59	24K839	11
24A944	59, 63	24E009	41	24H293	48, 49	24K840	10
24A945	63	24E010	41	24H420	10, 11, 12, 28	24K841	11
24A946	63	24E011	41	24H422	12, 28	24K842	10
24A947	63	24E166	103	24H655	60, 61	24K843	11
24A948	63	24E167	103	24H656	60, 61	24K855	42
24A949	63	24F524	49	24H657	60, 61	24K901	42
24A950	59, 63, 66	24F529	48, 49	24H658	60, 61	24K932	42
24A951	63, 66	24F531	48	24H659	60, 61	24K937	42
24B624	42	24F532	48, 49	24H660	60, 61	24M510	58
24B634	42	24F679	48, 49	24H661	60, 61	24M511	58
24B639	42	24F735	61	24H662	10, 11, 60, 61	24M512	58
24B766	42	24F736	61	24H663	28, 60, 61	24M513	58
24C100	63, 66	24F737	61	24H666	10, 11, 12	24M517	58
24C245	67	24F738	61	24H669	10, 11, 12	24M518	58
24C246	67	24F739	61	24H689	10	24M521	57, 58
24C247	67	24F740	61	24H695	10	24M522	58
24C248	67	24F741	61	24H702	10	24M524	58
24C249	67	24F742	61	24H704	10	24M525	58
24C250	67	24F743	61	24H726	10	24M526	58
24C251	67	24F753	61	24H728	10	24M527	58
24C252	67	24F754	61	24H751	10	24M528	58
24C253	67	24F755	61	24H753	10, 11	24M529	58
24C254	67	24F756	61	24H775	10	24M530	58
24C255	67	24F757	61	24H777	10	24M531	58
24C256	67	24F758	61	24H800	10	24M532	58
24C443	60, 61	24F759	61	24H802	10	24M533	58
24C444	60, 61	24F760	61	24H836	11	24M534	58
24C445	60	24F761	61	24H842	11	24M535	58
24C537	60, 61	24F771	61	24H859	10, 11, 12	24M536	58
24C538	10, 11, 60, 61	24F772	61	24H862	28	24M537	58
24C539	60, 61	24F773	61	24H865	10, 11, 12	24M538	58
24C637	42, 52, 103	24F774	61	24H868	11	24N823	66
24C772	10, 11, 61	24F775	61	24H870	11	24N825	66
24C793	61	24F776	61	24H892	11	24N827	66
24D132	63, 66	24F777	61	24H894	11	24N828	63, 66
24D133	63, 66	24F778	61	24H916	11	24N831	66
24D205	42, 52	24F779	61	24H918	11	24N832	66
24D590	23	24F870	48, 49	24H941	11	24N833	66
24D591	23	24F878	48	24H943	11	24N834	66

# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
24N335	66	24P465	70	24R427	73, 76	24F538	74
24N336	63, 66	24P466	70	24R428	73, 76	24F539	74
24N337	66	24P467	70	24R429	73, 76	24F540	74
24N339	66	24P468	70	24R430	73, 76	24F541	74
24N340	66	24P469	70	24R431	73, 76	24F542	74
24N341	66	24P470	69	24R432	73, 76	24F543	74
24N342	66	24P471	69	24R433	73, 76	24F544	74
24N343	66	24P472	69	24R434	73, 76	24F545	74
24N444	59	24P473	69	24R435	73, 76	24F546	74
24N674	58	24P474	69	24R436	73, 76	24F547	74
24N675	58	24P475	69	24R437	73, 75	24F548	74
24N682	59	24P476	69	24R438	73, 75	24F549	76
24N683	59	24P477	69	24R439	73, 75	24F550	76
24N684	59	24P478	69	24R440	73, 75	24F551	76
24N685	59	24P479	69	24R441	73, 75	24F552	76
24N686	59	24P480	69	24R442	73, 75	24F553	76
24N688	59	24P481	69	24R443	73, 75	24F554	76
24N689	59	24P482	69	24R444	73, 75	24F555	76
24N690	59	24P483	69	24R445	73, 75	24F556	76
24N691	59	24P484	69	24R446	73, 75	24F557	76
24N814	59	24P485	69	24R447	73, 75	24F558	76
24P164	59	24P486	69	24R448	73, 75	24F559	76
24P313	70	24P487	69	24R449	73, 75	24F560	76
24P315	70	24P488	69	24R450	73, 75	24F561	76
24P316	70	24P489	69	24R451	73, 75	24F562	76
24P317	70	24P490	69	24R452	74	24F563	76
24P318	70	24P491	69	24R453	74	24F564	76
24P319	70	24P492	69	24R454	74	24F565	76
24P320	70	24P493	69	24R455	74	24F566	76
24P322	70	24P494	69	24R456	74	24F567	76
24P323	70	24P495	69	24R457	74	24F568	76
24P324	70	24P496	69	24R458	74	24F569	76
24P325	70	24P497	69	24R459	74	24F570	76
24P326	70	24P498	69	24R460	74	24F571	76
24P327	69	24P499	69	24R461	74	24F572	76
24P328	69	24P880	59	24R462	74	24F573	76
24P329	69	24P881	59	24R463	74	24F574	76
24P330	69	24F060	69, 70, 77	24R464	74	24F575	76
24P331	69	24F061	69, 70, 77	24R465	74	24F576	76
24P332	69	24F072	69, 70, 77	24R466	74	24F577	76
24P333	69	24F074	69, 70	24F503	74, 75	24F578	76
24P334	69	24F076	69, 70	24F504	74, 75	24F854	70
24P335	69	24F077	69, 70	24F505	74, 75	24F855	70
24P336	69	24R102	78	24F506	74, 75	24F856	70
24P337	69	24R103	78	24F507	74, 75	24F857	69
24P338	69	24R106	78	24F508	74, 75	24F859	69
24P339	69	24R108	78	24F509	74, 75	24F860	69
24P340	69	24R110	78	24F510	74, 75	24F861	69
24P341	69	24R111	69, 70, 77	24F511	74, 75	24F862	69
24P342	69	24R114	78	24F512	74, 75	24F863	69
24P343	69	24R115	69	24F513	74, 75	24F902	36
24P344	69	24R117	69, 70, 77	24F515	74, 75	24T011	75
24P345	69	24R118	77	24F516	74, 75	24T012	75
24P346	69	24F850	35, 36	24F517	74, 75	24T013	75
24P347	69	24R404	73, 74, 75	24F518	74, 75	24T014	75
24P348	69	24R405	73, 74, 75	24F519	73, 75	24T015	75
24P349	69	24R406	73, 74, 75	24F520	73, 75	24T016	75
24P350	69	24R407	73, 74, 75	24F521	73, 75	24T017	75
24P351	69	24R408	73, 74, 75	24F522	73, 75	24T018	75
24P352	69	24R409	73, 74, 75	24F523	73, 75	24T019	75
24P353	69	24R410	73, 74, 75	24F524	73, 75	24T020	75
24P354	69	24R412	73, 74, 75	24F525	73, 75	24T021	75
24P355	69	24R413	73, 74, 75	24F526	73, 75	24T022	75
24P356	69	24R414	73, 74, 75	24F527	73, 75	24T023	75
24P455	70	24R415	73, 74, 75	24F528	73, 75	24T024	75
24P456	70	24R416	73, 74, 75	24F529	73, 75	24T025	75
24P457	70	24R419	73, 74, 75	24F530	73, 75	24T104	76
24P458	70	24R420	73, 74, 75	24F531	73, 75	24T105	76
24P459	70	24R421	73, 74, 75	24F532	73, 75	24T106	76
24P460	70	24R422	73, 76	24F533	73, 75	24T107	76
24P461	70	24R423	73, 76	24F534	74	24T108	76
24P462	70	24R424	73, 76	24F535	74	24T109	76
24P463	70	24R425	73, 76	24F536	74	24T110	76
24P464	70	24R426	73, 76	24F537	74	24T111	76



# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
24T112.....	76	24T367.....	78	108491.....	103	110326.....	108
24T113.....	76	24T368.....	78	108537.....	18, 22	110702.....	100
24T114.....	76	24T875.....	77	108867.....	103	110703.....	100
24T115.....	76	24T876.....	77	109054.....	39	110705.....	100
24T116.....	76	24T886.....	76	109075.....	18, 19, 22, 35, 36, 37, 50, 52, 104	110706.....	100
24T117.....	76	24T888.....	76	109077.....	105	110709.....	100
24T118.....	76	24T889.....	76	109105.....	20, 44, 52, 107	110710.....	100
24T119.....	76	24T890.....	76	109108.....	20, 44, 107	110711.....	100
24T120.....	76	24T891.....	76	109123.....	44, 108	110712.....	100
24T121.....	76	24T892.....	76	109124.....	108	110713.....	100
24T122.....	76	24T910.....	76	109125.....	7, 44, 52, 108	110877.....	22
24T123.....	76	24T911.....	76	109126.....	108	110878.....	22
24T124.....	76	38439.....	51	109127.....	108	110906.....	22
24T125.....	76	100030.....	109	109128.....	108	110907.....	22
24T126.....	76	100040.....	109	109130.....	108	111010.....	107
24T127.....	76	100054.....	99, 100	109131.....	108	111468.....	104
24T128.....	76	100081.....	109	109132.....	108	111470.....	20, 40, 104
24T129.....	76	100206.....	109	109133.....	108	111474.....	103
24T130.....	76	100220.....	21	109134.....	108	111511.....	52
24T131.....	76	100380.....	109	109135.....	108	111620.....	95, 96, 97
24T132.....	76	100385.....	109	109145.....	99, 106	111697.....	109
24T133.....	76	100451.....	109	109146.....	106	112119.....	42
24T207.....	73, 74, 75	100474.....	109	109147.....	106	112196.....	98
24T208.....	73, 74, 75	100505.....	109	109148.....	89, 99, 106	112197.....	56
24T209.....	73, 74, 75	100611.....	52	109149.....	106	112198.....	56
24T210.....	73, 76	100615.....	109	109150.....	39, 106	112202.....	56
24T211.....	73, 76	100737.....	109	109151.....	39, 106	112255.....	99
24T212.....	73, 76	100833.....	99, 100	109152.....	106	112353.....	21
24T213.....	73, 75	100834.....	99, 100	109153.....	106	113093.....	109
24T215.....	73, 75	100835.....	100	109154.....	106	113497.....	42, 52
24T216.....	73, 75	100837.....	100	109156.....	106	113551.....	95
24T218.....	74	100840.....	109	109157.....	106	113553.....	95
24T219.....	74	100846.....	100	109158.....	106	113555.....	95
24T220.....	74	100847.....	100	109160.....	107	113556.....	95
24T221.....	74, 75	100848.....	100	109161.....	107	113557.....	95
24T222.....	74, 75	100854.....	100	109162.....	107	113558.....	95
24T223.....	74, 75	100896.....	109	109163.....	39, 107	113559.....	95
24T224.....	75	100960.....	18, 22, 37, 38, 50, 106	109165.....	39, 107	113560.....	95
24T225.....	75	100970.....	99, 100	109167.....	39	113774.....	95
24T226.....	75	100971.....	99	109169.....	107	113859.....	97
24T227.....	73, 75	101008.....	110	109170.....	107	114017.....	86
24T228.....	73, 75	101009.....	110	110025.....	97	114829.....	56
24T229.....	73, 75	101012.....	110	110046.....	108	115042.....	23, 24, 41, 52
24T230.....	74	101013.....	110	110047.....	108	116229.....	103
24T231.....	74	101078.....	22	110048.....	23, 24, 108	118464.....	105
24T232.....	74	101180.....	106	110065.....	105	119278.....	93
24T233.....	76	101277.....	99	110069.....	107	119572.....	91
24T234.....	76	101281.....	100	110127.....	21	119577.....	101
24T235.....	76	101283.....	100	110146.....	22, 42, 52, 104	120581.....	103
24T236.....	76	101287.....	100	110147.....	22, 42, 48, 52, 104	124398.....	49
24T237.....	76	101297.....	100	110148.....	22, 104	124541.....	49
24T238.....	76	101312.....	100	110149.....	22, 103, 104, 105	124548.....	49
24T252.....	78	101339.....	110	110150.....	22, 105	124549.....	49
24T253.....	78	101340.....	110	110196.....	42, 105	124550.....	49
24T254.....	78	101376.....	110	110197.....	105	124581.....	48, 49, 66
24T327.....	77	101604.....	100	110198.....	39, 105	124603.....	48, 49
24T328.....	77	101605.....	100	110199.....	42, 105	124671.....	49
24T329.....	77	102527.....	95	110200.....	105	124875.....	48, 49, 66
24T330.....	77	103347.....	105	110201.....	98	124963.....	48, 49
24T331.....	77	104266.....	18, 22, 37, 38, 50, 104	110202.....	98	125014.....	49
24T332.....	77	104663.....	109	110203.....	98	125074.....	49
24T333.....	77	105281.....	109	110216.....	98	125078.....	48, 49
24T334.....	77	105474.....	97	110218.....	98	125079.....	48, 49
24T335.....	77	106148.....	19, 22, 42, 104	110223.....	22, 40, 42, 48, 52, 105	125242.....	49
24T336.....	77	106149.....	22, 42, 104	110224.....	22, 40, 42, 52, 105	125478.....	49
24T337.....	77	106150.....	42, 104	110225.....	18, 22, 40, 42, 105	125479.....	49
24T359.....	78	106151.....	19, 104, 105	110226.....	22, 40, 42, 105	126359.....	78
24T360.....	78	107141.....	105	110234.....	39, 104	126360.....	78
24T361.....	78	107142.....	105	110236.....	79	126361.....	78
24T362.....	78	108190.....	52	110237.....	79	126362.....	78
24T363.....	78	108202.....	102, 103	110285.....	79	126363.....	78
24T364.....	78	108203.....	103	110314.....	22	126364.....	78
24T365.....	78	108204.....	102	110318.....	52, 104	126375.....	78
24T366.....	78	108458.....	22, 96, 97	110319.....	106	126376.....	78

# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
126377	78	161889	109	203650	20, 35, 36, 40, 55	207579	20
126379	78	162024	109	203655	82	207651	37, 38, 42
126380	78	162225	37, 38	203664	36	207738	85
126503	78	162449	109	203687	82	207739	85
126504	78	162505	109	203688	18, 20, 21, 22	207742	85
126505	78	165198	109	203697	56, 98	207755	104
126688	78	168085	20	203701	56	207946	98
127167	78	168595	109	203702	56	207947	98
127173	78	169967	105	203703	56	207948	98
127214	77	169970	42, 105	203716	38	208009	102
127217	77	169971	39, 105	203857	14, 18, 50	208390	105
127218	77	171818	20	203872	14, 18, 50	208393	105
127219	77	172405	21	203876	14, 18, 19	208434	109
127220	77	175013	109	203976	36	208536	39, 42, 105, 106
127221	77	176393	109	203987	20, 22	208610	37, 38, 41, 108
127222	77	176684	21	203992	21	208611	108
127223	77	178670	79	204072	99	208627	106
127224	77	180199	22	204076	21, 50	208630	105
127225	77	180685	63, 106	204082	98	210880	20
127271	77	180698	66	204083	98	213012	44
150171	109	185416	83, 87	204084	98	213013	44
150286	109	186472	97	204095	50	214570	51
150287	63, 109	187359	104	204121	36	214583	21, 44
150622	99	187479	52	204130	39	214584	44
151519	109	187754	21	204134	35, 36	214656	108
154616	102	190125	52	204144	21, 40, 51	214658	55
155332	86, 92	191126	21	204204	99	214847	22, 104
155470	20, 39, 109	191128	21	204254	14, 18, 50	214848	22, 104
155494	20, 21, 39, 109	191130	21	204264	50	214849	104
155495	109	191131	21	204351	36	214925	98
155541	39, 44, 109	191287	86	204353	37	214926	98
155570	51, 109	191288	86	204385	21, 37, 38, 40	214955	108
155653	109	191289	86	204461	37, 38	215407	95, 96, 97
155665	109	191294	86	204467	37	215474	95, 97
155677	109	191295	86	204560	20, 108	215475	97
155699	109	191368	95	204574	18, 20, 35, 36, 37, 38, 39, 51, 54, 55	215481	97
155836	99	191393	95	204741	59, 63, 66	215487	95, 96, 97
155865	109	191394	95	204867	55	215745	97
156022	52, 109	191782	82, 83	204897	99	215964	44
156172	109	191783	82, 83	204929	99	217072	18, 22, 105
156173	109	191784	82, 83	205054	21, 40	217073	105
156296	109	192873	95	205090	105	217359	21, 44
156580	109	192874	95	205102	37, 38	217430	109
156589	109	194048	109	205148	37, 38	218093	20, 108
156684	12, 109	196471	79, 86	205337	39	218112	44
156789	102	200020	99	205339	37, 38	218115	7
156823	109	200021	99	205394	33, 37, 50	218316	7, 44, 104
156849	19, 39, 109	200325	98, 99	205395	33, 37, 38, 50	218340	63, 66
156971	52, 109	200326	18, 20, 32, 35, 37, 38, 39, 51, 54	205418	20, 39, 52, 108	218341	63, 66
157191	109	200389	89, 98, 99	205532	99	218491	108
157416	19, 109	201701	82	205554	99	218545	63, 106
157676	109	201881	99	205568	99	218549	10, 11, 19, 63, 66
157705	12, 109	202156	96	205582	99	218550	63, 66, 69, 70, 77
157785	103, 109	202577	28, 39, 51, 89, 98	205592	99	218588	95, 97
158256	109	202579	98	205600	107	218591	79
158383	109	202600	98	205626	17, 18	218670	66
158491	109	202650	99	205699	37, 38	218671	66
158555	109	202654	100	206199	42	218672	66
158581	109	202858	42, 104	206264	105	218673	66
158586	109	202869	40	206405	30, 35, 51	218674	66
158683	109	202965	109	206496	51	218675	66
158990	106	203156	20	206502	51	218676	66
159153	109	203198	98, 99	206537	38	218677	66
159239	109	203265	82	206655	50	218678	66
159801	109	203320	20, 39, 108	206656	50	218969	102, 103
159840	109	203497	99	206699	30, 35, 51	218970	103
159841	109	203504	99	206700	30, 35, 51	220107	79
159842	63, 109	203521	58, 63	207279	38	220110	79
159952	20, 40	203522	58, 63	207361	50, 54	220112	79
160022	12, 109	203523	63	207366	50, 54	220168	44
160327	20, 44, 109	203524	63, 66	207367	50	220170	35
160754	20, 39	203525	63	207468	38	220171	35
161037	109	203597	98	207561	21, 40	220590	107
161077	109	203622	18, 21, 35, 36, 40, 55	207562	21, 40	220591	20, 107

# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
220592	107	223846	37, 38, 39, 50	226943	44	238438	51
220593	107	223888	52, 103	226944	44	238440	51
220596	52	223920	83	226945	44	238592	21
220598	19, 20, 107	223952	41	226947	43, 44	238593	21
220600	107	223965	103	226948	43, 44	238595	21
220608	107	224023	51	226951	43, 44	238596	21
220653	35, 36, 38, 39	224040	106	226952	44	238618	95
220654	35, 36, 39, 50	224266	37, 38	226953	44	238624	95
220969	103	224267	38	232076	96, 97	238625	95
221007	103	224444	66	232077	97	238636	83
221092	107	224458	51	233807	36, 89	238637	83
221093	107	224512	18, 104	233933	89	238638	83
221146	103	224534	19	234237	51	238639	83
222011	42, 103, 104	224541	19	234423	79	238640	83
222051	7	224569	98	235346	102	238641	83
222058	20, 35, 51	224579	21, 50	235531	97	238642	83
222059	35, 36, 39	224665	104	235532	97	238643	83
222060	36, 50, 54	224666	104	235878	82, 83, 84	238646	83
222061	20, 36, 50, 54	224667	104	235901	82, 83, 84	238647	83
222062	18, 20, 22	224669	104	235998	21, 22, 54, 95	238866	101, 102, 103
222063	18, 19, 20, 22, 50	224700	104	236054	20, 21, 22, 42, 44, 52	238899	21, 42
222065	17, 18, 50	224701	104	236058	35, 39	238996	95, 96, 97
222066	18, 20, 22, 50	224702	104	236171	98, 99	239019	97
222067	50	224741	53, 54	236205	106	239301	102
222068	18, 20, 22	224742	53	236206	106	239302	102
222069	36	224751	54	236211	106	239663	51
222070	36, 39	224752	54	236265	103	239702	7
222071	50	224759	103, 104	236267	42	239703	7
222072	35, 36, 37, 39, 50	224762	103	236273	42	239705	55
222073	36	224825	51	236753	53	239706	79
222074	36	224826	51	236754	53, 54	239707	55
222075	50	224829	38	236763	96, 97	239729	34, 38, 50
222076	37, 38, 39, 50	224835	42, 52, 103	236764	96, 97	239730	34, 38, 50
222077	51	224872	89	236778	20	239731	34, 38
222078	35	224873	102, 103	236864	54	239824	79, 84
222079	51	224912	54	236865	54	239829	86
222080	35, 39	224915	54	237075	18, 20	239877	31, 36
222081	35, 39	224916	54	237129	44	239887	31, 36, 50
222082	51	224955	103	237130	44	239888	31, 37, 38, 50
222085	50	225006	36	237131	44	239949	86
222086	50	225014	36	237132	44	239950	86
222087	14, 18	225016	37	237133	44	239951	86
222090	101	225026	36	237134	44	239952	42
222095	17, 18, 50	225094	18	237160	52	239965	39
222103	7	225272	102	237161	52	239966	39, 51
222104	7	225376	55	237526	15, 18	240416	86
222118	22, 44	225378	55	237601	21, 22	240417	22, 97
222119	22, 44	225380	55	237653	53	240429	21, 22, 95
222149	103	225384	55	237861	107	240448	96, 97
222225	63, 66	225640	18	237865	107	240453	86
222243	20, 36, 40	225642	18	237866	107	240684	103
222245	36	225728	18	237872	63, 66	240685	103
222308	7, 13, 18, 19, 20, 21, 22	225773	36	237873	63, 66, 69, 70, 77	240832	102, 103
222383	36, 39	225781	37	237874	63, 66, 69, 70, 77	241246	39
222404	37	225782	18	237893	19, 21, 22, 95, 96, 97	241633	19
222417	63, 66, 69, 70, 77	225786	18	237904	54	241657	42
222602	7	225827	36	237932	69, 70	241663	21, 40
222629	79	225844	56	238108	16, 18	241905	96, 97
222641	79	225852	18	238125	21	241906	42, 52, 103
222645	79	225853	18	238245	18, 20, 22	241908	107
222902	54	225880	55	238246	20, 22	242055	89, 98
223107	50	225914	56	238247	20	242056	28, 36, 39, 89, 98
223108	37	225931	18	238370	21	242057	89, 98
223179	96, 97	226012	36	238371	86	242058	89, 98
223187	99	226013	37	238400	83	243161	51
223344	37, 38, 39, 50	226018	37	238428	42, 52	243167	104
223448	79	226269	51	238429	22	243392	82
223695	103	226289	55	238431	22	243599	82
223696	103	226290	56	238432	22	243600	82
223697	103	226342	51	238433	22	243601	82
223700	39, 54	226940	44	238434	22	243602	82
223701	39, 54	226941	44	238436	51	243603	82
223845	37, 39, 50	226942	44	238437	51	243604	82

# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
243650.....	102	247892.....	23	256485.....	92	647016.....	42, 52, 103
243669.....	42, 52	247893.....	23	256486.....	92	647648.....	42
243817.....	50	247894.....	24	256487.....	92	647666.....	42
243818.....	50	247895.....	24	256488.....	92	652002.....	42
243835.....	86	247969.....	23	256556.....	85	948392.....	39
243836.....	86	247973.....	41	256634.....	90, 91	948393.....	39
243837.....	86	247974.....	41	256635.....	91	965124.....	32, 37
243992.....	82	247975.....	41	256636.....	91	965129.....	32, 37, 38
244038.....	19	247976.....	41	256637.....	91	DOB005.....	42
244055.....	102	247977.....	41	256638.....	91	DOB525.....	42
244075.....	84	247978.....	41	256719.....	92	DOF005.....	42
244076.....	84	247979.....	41	256786.....	85	DOF525.....	42
244342.....	97	247980.....	41	256787.....	85	DOK525.....	42
244628.....	18	247981.....	41	256788.....	85	D03005.....	42
244635.....	38	248097.....	13, 18, 19	256789.....	85	D03255.....	42
244636.....	38	248230.....	18	256836.....	81	D05007.....	42
244637.....	38	248296.....	21	256837.....	81	D05277.....	42
244641.....	38	248312.....	108	256838.....	81	D31255.....	42, 52
244657.....	41	248313.....	108	256839.....	81	DE3525.....	42
244679.....	52	248324.....	21	257120.....	92	DF3525.....	42
244680.....	52	248417.....	93	257435.....	37, 38	HN55A.....	67
244681.....	52	248418.....	93	257539.....	92	HN55B.....	67
244682.....	52	248419.....	93	257556.....	92	HN55F.....	67
244844.....	38, 42, 104	248421.....	93	258693.....	10, 11, 80	HN57A.....	67
244845.....	104	248622.....	19	258694.....	80	HN57B.....	67
244846.....	18	248623.....	19	260000.....	47	HN57F.....	67
244847.....	18	248632.....	101, 102	260020.....	47	HN5A.....	67
244905.....	37, 38	249058.....	107	260022.....	47	HN5B.....	67
244906.....	38	249440.....	79, 92	260025.....	47	HN5CF.....	67
245694.....	36	253601.....	85	260078.....	47	HN5DA.....	67
245695.....	36	255143.....	24	260079.....	47	HN5DB.....	67
245696.....	36	255200.....	19, 81, 90, 92	260082.....	47	HN5DF.....	67
246775.....	13, 14, 18	255231.....	90, 91	260083.....	47	HN5FFA.....	67
246780.....	29, 35	255277.....	80	260100.....	45, 46	HN5FB.....	67
246781.....	29, 35	255348.....	63, 81	260101.....	45, 46	HN5FF.....	67
246903.....	18	255349.....	81	260102.....	45, 46	HN56A.....	67
246904.....	18	255350.....	19, 63, 81	260104.....	45, 46	HN56B.....	67
246906.....	18	255351.....	81	260105.....	45, 46	HN56F.....	67
246907.....	18	255352.....	81	260106.....	45, 46	HN56A.....	67
246909.....	29, 35	255353.....	81	260108.....	45, 46	HN56B.....	67
246910.....	35	255354.....	81	260109.....	45, 46	HN56F.....	67
246911.....	35	255355.....	81	260110.....	46	HN56A.....	67
246913.....	35	255356.....	81	260111.....	46	HN56B.....	67
246914.....	35	255370.....	92	260112.....	46	HN56F.....	67
246915.....	35	255459.....	85, 86, 87	260113.....	46	HN56A.....	67
246916.....	35	255460.....	85, 86, 87	260114.....	46	HN56B.....	67
246917.....	35	255461.....	86, 87	260124.....	46	HN56F.....	67
247335.....	38	255470.....	85, 86, 87	260145.....	46	HN56A.....	67
247336.....	38	255731.....	91	260238.....	46	HN56B.....	67
247337.....	38	255751.....	80, 86	260306.....	45, 46	HN56F.....	67
247435.....	93	255793.....	88	260521.....	47	HN56A.....	67
247436.....	90, 93	255800.....	81	260523.....	47	HN56B.....	67
247443.....	54	255801.....	81	263265.....	42	HN56F.....	67
247450.....	54	255802.....	81	286211.....	51	HN56A.....	67
247453.....	84	255803.....	81	286517.....	51	HN56B.....	67
247540.....	54	255852.....	86	286621.....	51	HN56F.....	67
247712.....	87	255853.....	86	308403.....	21	HN56A.....	67
247713.....	87	255854.....	86	309345.....	37	HN56B.....	67
247714.....	87	255855.....	86	312417.....	93	HN56F.....	67
247715.....	87	255856.....	86	312964.....	93	HN56A.....	67
247716.....	87	255857.....	86, 87	313008.....	91	HN56B.....	67
247717.....	87	255858.....	86, 87	313013.....	92	HN56F.....	67
247718.....	88	255859.....	88	313046.....	92	HN56A.....	67
247721.....	88	255861.....	86	313104.....	91	HN56B.....	67
247722.....	88	255885.....	86, 92	313106.....	91	HN56F.....	67
247723.....	88	255921.....	88	313108.....	91	HN56A.....	67
247724.....	88	256164.....	87	313112.....	91	HN56B.....	67
247725.....	88	256215.....	10, 11, 19, 80, 86	313114.....	91	HN56F.....	67
247759.....	86	256216.....	10, 11, 80	512874.....	39	HFH1DA.....	62
247760.....	86	256282.....	92	512926.....	95	HFH1DB.....	62
247888.....	23	256285.....	90, 93	512927.....	95	HFH1DC.....	62
247889.....	23	256482.....	92	514037.....	95	HFH1DD.....	62
247890.....	24	256483.....	92	514150.....	95, 97	HFH1DE.....	62
247891.....	24	256484.....	92	601950.....	106	HFH1DF.....	62

# Index

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
HPH5DA	62	HPM65D	62	HSM3BB	65		
HPH5DB	62	HPM65E	62	HSM3BF	65		
HPH5DC	62	HPM65F	62	HSM3BG	65		
HPH5DD	62	HPL56B	63	HSM6DA	65		
HPH5DE	62	HPM33D	62	HSM6DB	65		
HPH5DF	62	HPM33E	62	HSM6DF	65		
HPH15A	62	HSD05A	48, 65	HSM6DG	65		
HPH15B	62	HSD05B	48, 65	HSM33A	65		
HPH15C	62	HSD05F	48, 65	HSM33B	65		
HPH15D	62	HSD0DA	48, 65	HSM33F	65		
HPH15E	62	HSD0DB	48, 65	HSM33G	65		
HPH15F	62	HSD0DF	48, 65	HSM65A	65		
HPH23A	62	HSH1DA	65	HSM65B	65		
HPH23B	62	HSH1DB	65	HSM65F	65		
HPH23C	62	HSH1DF	65	HSM65G	65		
HPH23D	62	HSH1DG	65	HSM03A	65		
HPH23E	62	HSH5DA	65	HSM03B	65		
HPH23F	62	HSH5DB	65	HSM03F	65		
HPH55A	62	HSH5DF	65	HSM03G	65		
HPH55B	62	HSH5DG	65	HSM0FA	65		
HPH55C	62	HSH15A	65	HSM0FB	65		
HPH55D	62	HSH15B	65	HSM0FF	65		
HPH55E	62	HSH15F	65	HSM0FG	65		
HPH55F	62	HSH15G	65	HSM05A	65		
HPL23A	62	HSH55A	65	HSM05B	65		
HPL23B	62	HSH55B	65	HSM05F	65		
HPL23C	62	HSH55F	65	HSM05G	65		
HPL23D	62	HSH55G	65	HSMDDA	65		
HPL23E	62	HSHB7A	65	HSM0DB	65		
HPL23F	62	HSHB7B	65	HSM0DF	65		
HPL25A	62	HSHB7F	65	HSM0DG	65		
HPL25B	62	HSHB7G	65	HSPB8A	65		
HPL25C	62	HSHC5A	65	HSPB8B	65		
HPL25D	62	HSHC5B	65	HSPB8F	65		
HPL25E	62	HSHC5F	65	HSPB8G	65		
HPL25F	62	HSHC5G	65	HSPC5A	65		
HPL33A	62	HSHCDA	65	HSPC5B	65		
HPL33B	62	HSHCDB	65	HSPC5F	65		
HPL33C	62	HSHCDF	65	HSPC5G	65		
HPL33D	62	HSHCDG	65	P14DCS	41		
HPL33E	62	HSHFFA	65	P14MCS	41		
HPL33F	62	HSHFFB	65	P26DCS	41		
HPL33G	62	HSHFFF	65	P26MCS	41		
HPL56A	62	HSHFFG	65	P29DCS	41		
HPL56B	62	HSL25A	65	P29MCS	41		
HPL56C	62	HSL25B	65	P55DCS	41		
HPL56D	62	HSL25F	65	P55MCS	41		
HPL56E	62	HSL25G	65	P63DCS	41		
HPL56F	62	HSL33A	65	P63MCS	41		
HPL56G	62	HSL33B	65	P68DCS	41		
HPL65A	62	HSL33F	65	P68MCS	41		
HPL65B	62	HSL33G	65				
HPL65C	62	HSL56A	65				
HPL65D	62	HSL56B	65				
HPL65E	62	HSL56F	65				
HPL65F	62	HSL56G	65				
HPM33A	62	HSL65A	65				
HPM33B	10, 11, 19, 62	HSL65B	65				
HPM33C	62	HSL65F	65				
HPM33E	62	HSL65G	65				
HPM33F	62	HSLC8A	65				
HPM65A	62	HSLC8B	65				
HPM65B	10, 11, 19, 62	HSLC8F	65				
HPM65C	62	HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A	65				
		HSLD5B	65				
		HSLD5F	65				
		HSLD5G	65				
		HSL65A	65				
		HSL65B	65				
		HSL65F	65				
		HSL65G	65				
		HSLC8A	65				
		HSLC8B	65				
		HSLC8F	65				
		HSLC8G	65				
		HSLD5A</					

## AMERICAS

MINNESOTA  
Worldwide Headquarters  
Graco Inc.  
88-11th Avenue N.E.  
Minneapolis, MN 55413

MAILING ADDRESS  
P.O. Box 1441  
Minneapolis, MN 55440-1441  
Tel: 612-623-6000 Fax: 612-623-6777

## EUROPE

BELGIUM  
Graco BVBA  
Industrieterrein-Oude Bunders  
Slakweidestraat 31  
B-3630 Maasmechelen,  
Belgium  
Tel: 32 89 770 700 Fax: 32 89 770 777

## ASIA PACIFIC

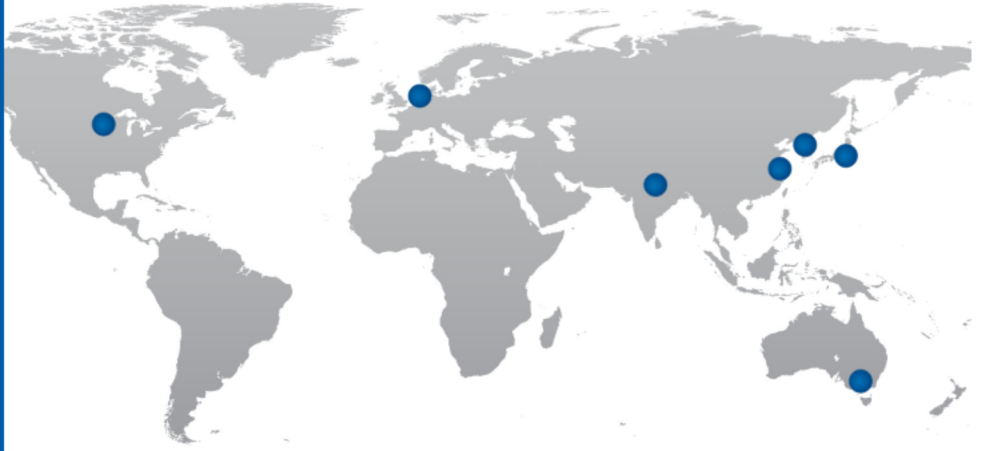
AUSTRALIA  
Graco Australia Pty Ltd.  
Suite 17, 2 Enterprise Drive  
Bundoora, Victoria 3083  
Australia  
Tel: 61 3 9468 8500 Fax: 61 3 9468 8599

CHINA  
Graco Hong Kong Ltd.  
Shanghai Representative Office  
Building 7  
1029 Zhongshan Road South,  
Huangpu District  
Shanghai, 200011  
The People's Republic of China  
Tel: 86 21 649 50088 Fax: 86 21 649 50077

INDIA  
Graco Hong Kong Ltd.  
India Liaison Office  
Room 443, Level 4  
Augusta Point, Golf Course Road  
Gurgaon, Haryana, India 122001  
Tel: 91 124 435 4208 Fax: 91 124 435 4001

JAPAN  
Graco K.K.  
1-27-12 Hayabuchi  
Tsuzuki-ku  
Yokohama City, Japan 2240025  
Tel: 81 45 593 7300 Fax: 81 45 593 7301

KOREA  
Graco Korea Inc.  
Shinhan Bank Building  
4th Floor #1599  
Gwangyang-Dong, Dongan-Ku,  
Anyang-si, Korea 431-060  
Tel: 82 31 476 9400 Fax: 82 31 476 9801



# Graco's got you covered

Facilities Worldwide for Global Support



## Quality First

At Graco we pride ourselves on providing best-in-class products. Engineered solutions are manufactured in our own facilities, with the highest standards in the industry. We provide you with world-class customer support and expertise to help solve your lubrication challenges.



## Global Reach

Graco has facilities across the globe to provide you with the products and service you need, where you live. Plus, Graco has dedicated field experts in all areas of the world to support the products we sell.



## Product Capabilities

Graco has a broad range of products to provide solutions that meet your needs. Our products are engineered and tested to perform in the harshest environments so you can be certain your equipment is protected and working at peak performance.

© 2014 Graco Inc. 303245 Rev. V3/14 All other brand names or marks are used for identification purposes and are trademarks of their respective owners. All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

Contact us today!

Call 800-533-9655 to speak with a Graco representative,  
or visit [www.graco.com](http://www.graco.com) for more information.

