

RoadLazer HPS 135 and HPS 180 Hydraulic Pumping Systems

3A9247A

EN

Pump System for use with traffic paints. For professional use only. Not approved for use in explosive atmospheres or hazardous (classified) locations.

See page 2 for model information.

Maximum Fluid Working Pressure:

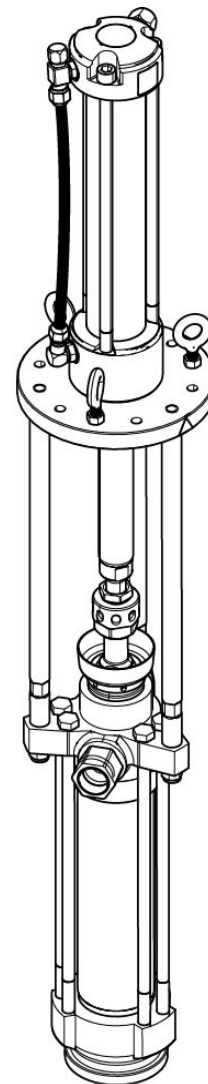
1000cc Pumps: 2500 psi (17 MPa, 172 bar)

1400cc Pumps: 2000 psi (14 MPa, 138 bar)



Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment. Be familiar with the proper control and usage of the equipment. Save these instructions.



ti42045a

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Related Manuals

Manual in English	Description
3A9259	Dura-Flo® Lowers Repair, Parts











Models

Part Number	Model	Hydraulic Motor	Paint Displacement Pump Lower
25U989	HPS 135 Severe Duty	Heavy-Duty 900	Dura-Flo® XL 1000cc Severe Duty
26D809	HPS 180 Severe Duty		Dura-Flo XL 1400cc Severe Duty
26D813	HPS 135 MaxLife		Dura-Flo XL 1000cc MaxLife®
26D814	HPS 180 MaxLife		Dura-Flo XL 1400cc MaxLife







Graco Date Code/ Serial Code	Month (First Character)	Year (2nd and 3rd Characters)	Series (4th Character)	Part Number (5th-10th)	Series (11th-16th)
Example Date Code: A16A	A = January	16 = 2016	A = serial control number		
Example Serial Code: L16A232749000102	L = December	16 = 2016	A = serial control number	6 digit alphanumeric part number	6 digit sequential serial number

Warnings

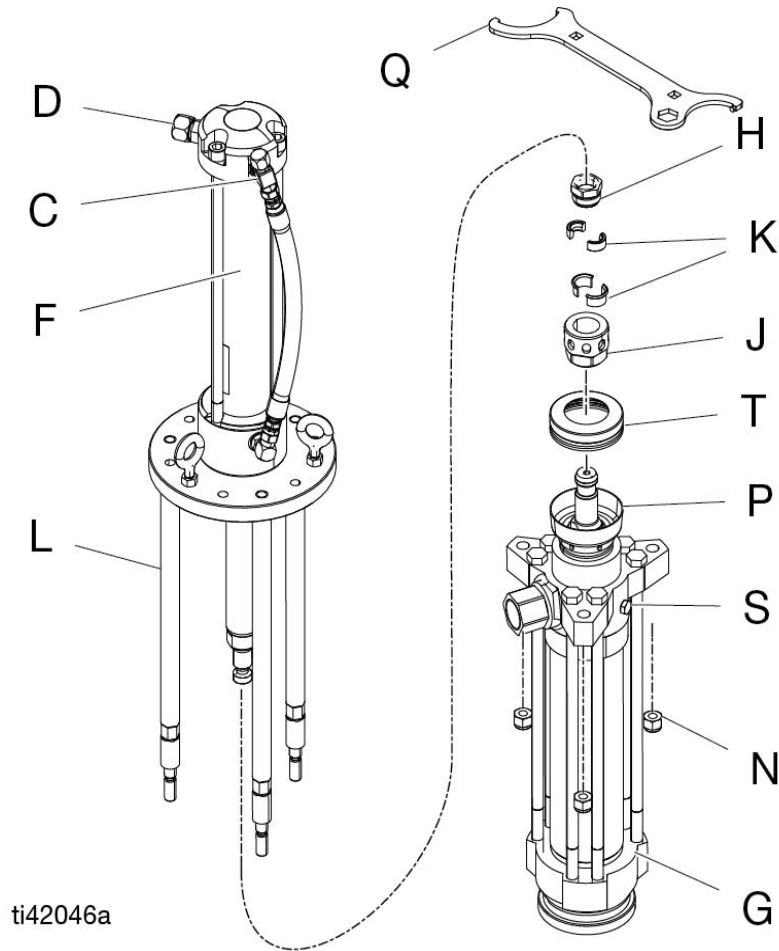
The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <h1 style="margin: 0;">WARNING</h1>	
   	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking). • Ground all equipment in the work area. See Grounding instructions. • Never spray or flush solvent at high pressure. • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
    	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Engage trigger lock when not dispensing. • Do not point dispensing device at anyone or at any part of the body. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.

WARNING

 	<p>EQUIPMENT MISUSE HAZARD Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not operate the unit when fatigued or under the influence of drugs or alcohol. • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Specifications in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Specifications in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer. • Do not leave the work area while equipment is energized or under pressure. • Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards. • Make sure all equipment is rated and approved for the environment in which you are using it. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
 	<p>MOVING PARTS HAZARD Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.
	<p>TOXIC FLUID OR FUMES HAZARD Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<p>PERSONAL PROTECTIVE EQUIPMENT Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Component Identification



Ref.	Description
C	Hydraulic Inlet
D	Hydraulic Outlet
F	Motor, HPS
G	Displacement Pump, Dura-Flo
H	Coupling Adapter
J	Coupling Nut
K	Coupling Collars

Ref.	Description
L	Tie Rod with Extension
N	Hex Nuts
P	Packing Nut/Wet Cup
Q	Packing Nut Wrench
S	Plug
T	Cup Cover







Pump Assembly

NOTICE

Use the 3 lift rings (eyebolts), attached to the mounting plate, for lifting and moving the motor into place for installation. Moving the motor by any other means could damage the pump assembly.

1. Assemble Coupling Adapter (H) to the Motor (F).
2. Assemble Tie Rod with Extension (L) to the Motor (F).
3. Assemble Displacement Pump (G) to Tie Rod with Extension (L) and hand-tighten the Hex Nuts (N).
4. Assemble Coupling Collars (K) and Coupling Nut (J) to Coupling Adapter (H).
5. Assemble Hex Nuts (N) to Tie Rod with Extension (L).

Pressure Relief Procedure

This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

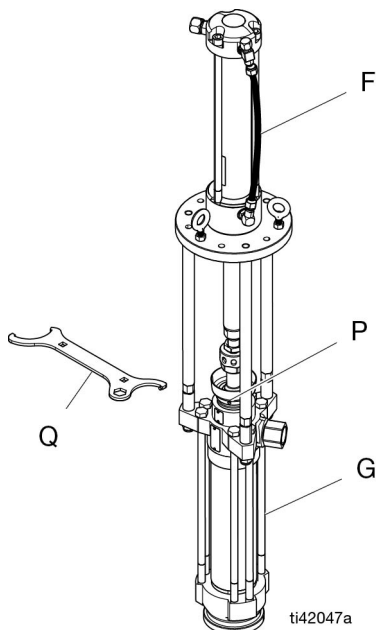
1. Shut off pump by turning off hydraulic line supply shutoff valve.
2. Open recirculation valve and trigger auto gun(s) to relieve pressure.
3. Trigger each auto gun for at least 3 seconds.

Maintenance

Packing Nut / Wet-Cup



1. Fill the Packing Nut/Wet Cup (P) 1/3 full with Graco Throat Seal Liquid (TSL).
2. Use the supplied Packing Nut Wrench (Q) to adjust the packing nut weekly so that it is just snug. Do NOT over-tighten.



Flush the Pumping System

The pump is tested with lightweight oil, which is left in to protect the pump parts. If the fluid you are using may be contaminated by the oil, flush it out with a compatible flush material before using the pump.

- Flush at the lowest pressure possible. Check connections for leaks and tighten as necessary.
- Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.

1. Perform the **Pressure Relief Procedure**, page 7.
2. Set pump to lowest possible fluid pressure, and then start the pump.
3. Dispense fluid into a grounded metal pail.

Disconnect the Displacement Pump

1. Flush the pump, see **Flush the Pumping System**, page 8.
2. Stop the pump at the bottom of its stroke.
3. Perform the **Pressure Relief Procedure**, page 7.
4. Disconnect the hydraulic hose. Plug all hydraulic hoses immediately to prevent the contamination of the hydraulic system. Hold the fluid outlet fitting with a wrench to keep it from being loosened while you disconnect the fluid hose.
5. Disconnect the Displacement Pump (G) from the Motor (F) as follows. Make sure to note the relative position of the pump fluid outlet to the hydraulic inlet of the motor due to orientation restrictions on the system. If the motor does not require servicing, leave it attached to its mounting.



Use at least two people when lifting, moving, or disconnecting the pump. If disconnecting the displacement pump from a motor which is still mounted (for example, on a wall bracket), be sure to support the displacement pump while it is being disconnected. Failure to do so may result in the pump falling and causing injury or damage to property.

6. Using adjustable wrenches to unscrew the Coupling Nut (J) from the Coupling Adapter (H). Remove the Coupling Collars (K). Take care not to lose or drop the collars. See page 5.
7. Hold the Tie Rod (L) flats with a wrench to keep the rods from turning. Unscrew the Hex Nuts (N) from the Tie Rods extensions (L). Carefully remove the Displacement Pump (G) from the Motor (F). See page 5.

Storage Maintenance

Replace leather packings every five years.

Lifetime Service Maintenance

Replace leather packings every five years or less based on use.

Recycling and Disposal

End of Product Life

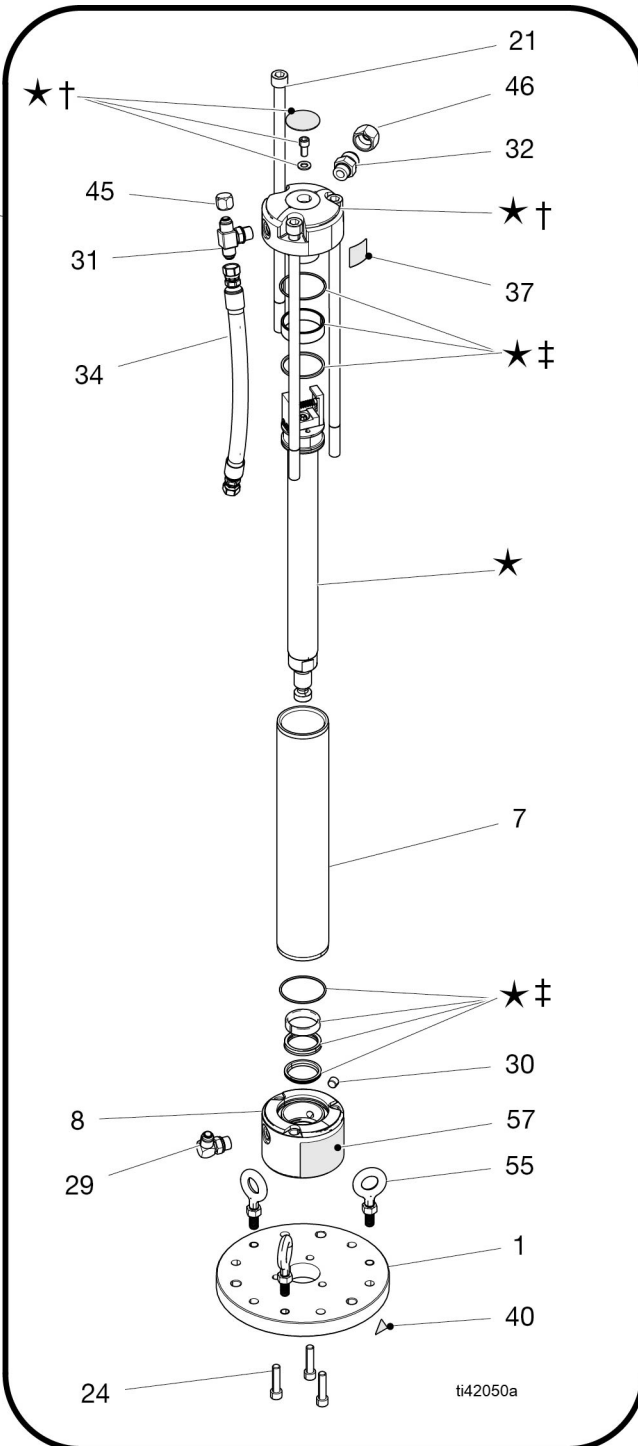
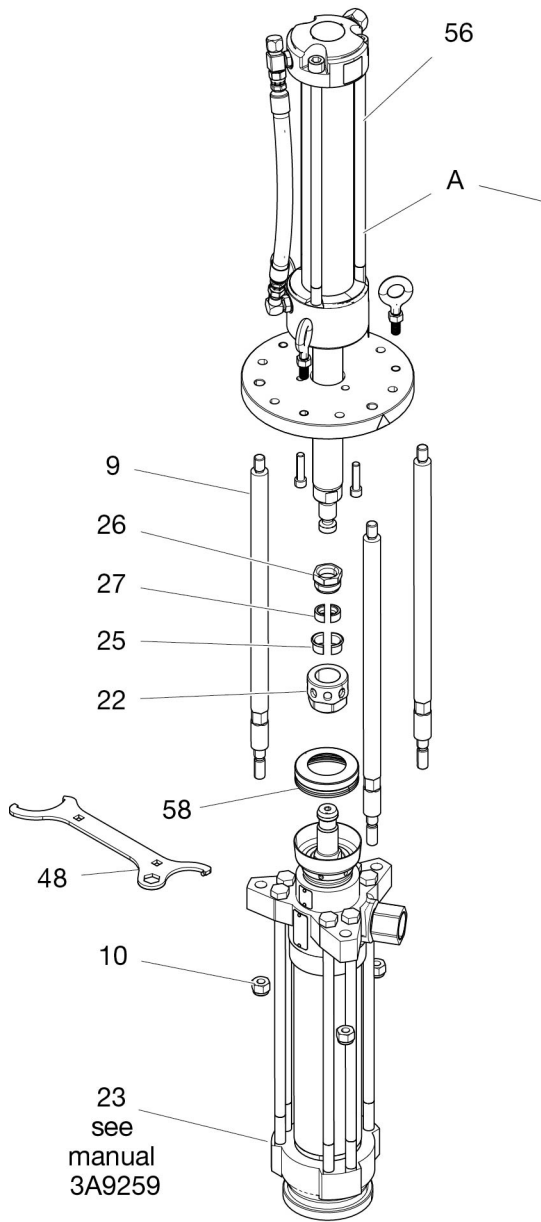
At the end of the product's useful life, dismantle and recycle it in a responsible manner.

- Perform the **Pressure Relief Procedure**, page 7.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.
- Deliver remaining product to a recycling facility.

End of Life Disposal

If the pumping system is in a condition that it can no longer operate, the pump should be taken out of service and dismantled. Individual parts should be sorted by material and disposed of properly. Key construction materials can be found in the Materials of Construction Section.

Hydraulic Motor Parts



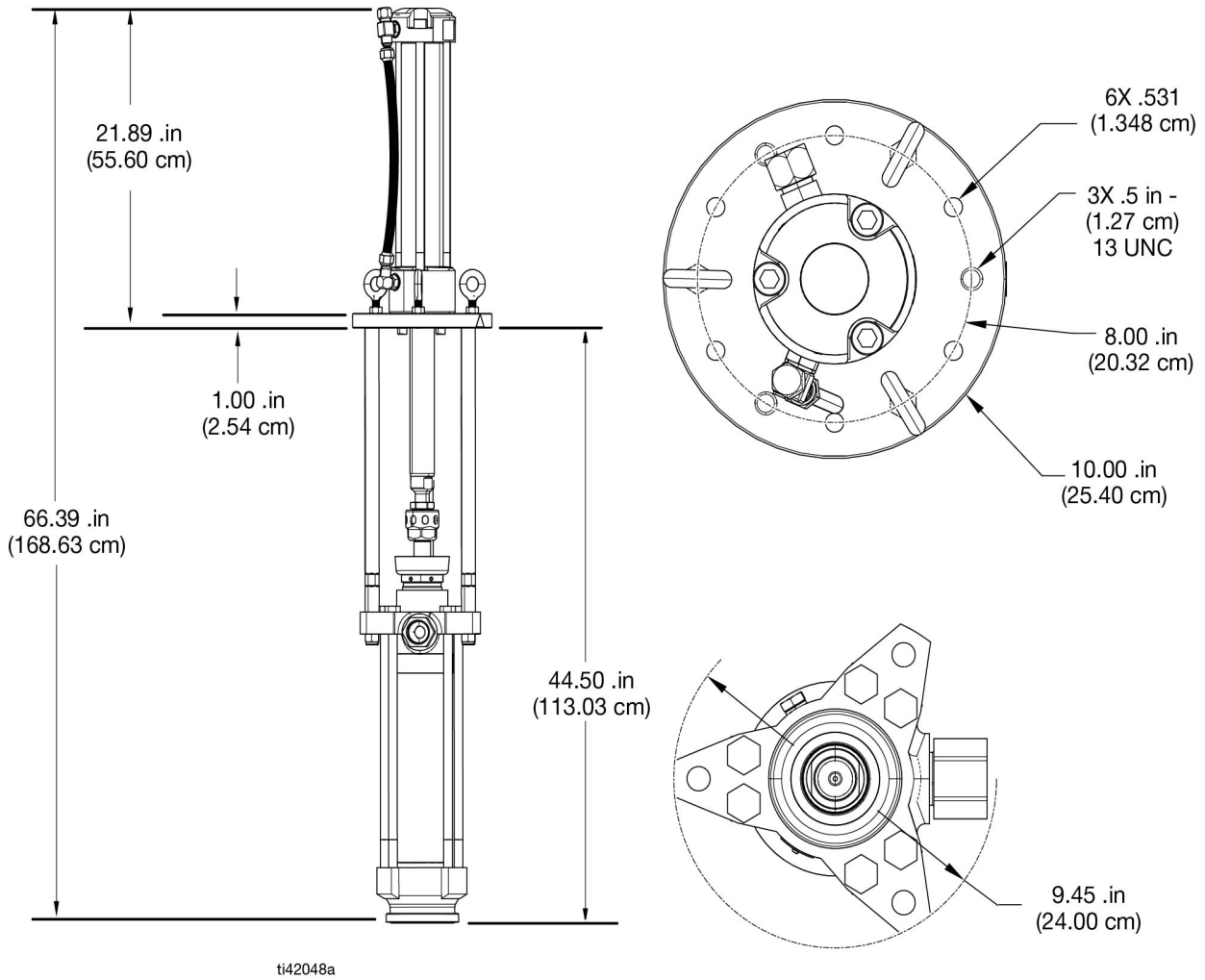
- † Included in Repair Kit 288061
- ★ Included in Repair Kit 25V515
- ‡ Included in Repair Kit 287870

Hydraulic Motor Parts List

Ref. Part	Description	Qty.	Ref. Part	Description	Qty.
1	26D800 PLATE, mount, pump	1	27	16U421 COLLAR, coupling, rod, pump	2
7	26D987 CYLINDER, hydraulic, motor	1	29	117607 FITTING, elbow	1
8	15G559 HOUSING, hydraulic, motor	1	30	101970 PLUG, pipe	1
9	26D808 ROD, tie	3	31	117609 FITTING, tee	1
10	101712 NUT, lock	3	32	120065 FITTING, hydraulic	1
21	26D761 BOLT, socket head cap, tie rod	3	34	26D972 HOSE, hydraulic	1
22	184096 NUT, coupling	1	37	15G878 LABEL, graco logo	1
23	PUMP, Dura-Flo	1	40▲	15H108 LABEL, warning, pinch	1
	25V502 1000cc Lower, Severe Duty (model 25U989)		45	120112 FITTING, cap, nut	1
	25V505 1400cc Lower, Severe Duty (model 26D809)		46	120170 FITTING, cap, nut	1
	25V506 1000cc Lower, MaxLife (model 26D813)		48	184278 WRENCH	1
	25V507 1400cc Lower, MaxLife (model 26D814)		54▲	222385 CARD, medical alert (not shown)	1
24	120202 SCREW, cap	3	55	26D873 FASTENER, eyebolt, 1/2-13x1.88	3
25	184130 COLLAR, coupling	2	56	26D810 KIT, motor, hydraulic complete	1
26	16U420 COUPLER, rod, pump	1	57	26D986 LABEL, HPS	1
			58	25V498 COVER, cup	1

▲ Replacement safety labels, tags, and cards are available at no cost.

Dimensions and Mounting Hole Layouts



Technical Specifications

Hydraulic Motor		
	U.S.	Metric
Hydraulic Inlet Pressure Range	50-3000 psi	0.3-20.7 MPa, 3.4-206.8bar
Hydraulic Flow required at 45 cpm	10 gpm	38 lpm
Stroke Length	11.25 in.	286 mm
Hydraulic Motor Size	55 cu in.	900 cc
Hydraulic Inlet	JIC - 8	
Hydraulic Outlet	JIC - 12	
Weight	120 lb	54.4 kg
Storage Time	Indefinite as long as parts/components are replaced according to Storage Maintenance schedule and storage procedures specified in manual are followed.	
Lifetime	Lifetime varies with use, materials sprayed, storage methods, and maintenance. Life minimum is 25 years.	

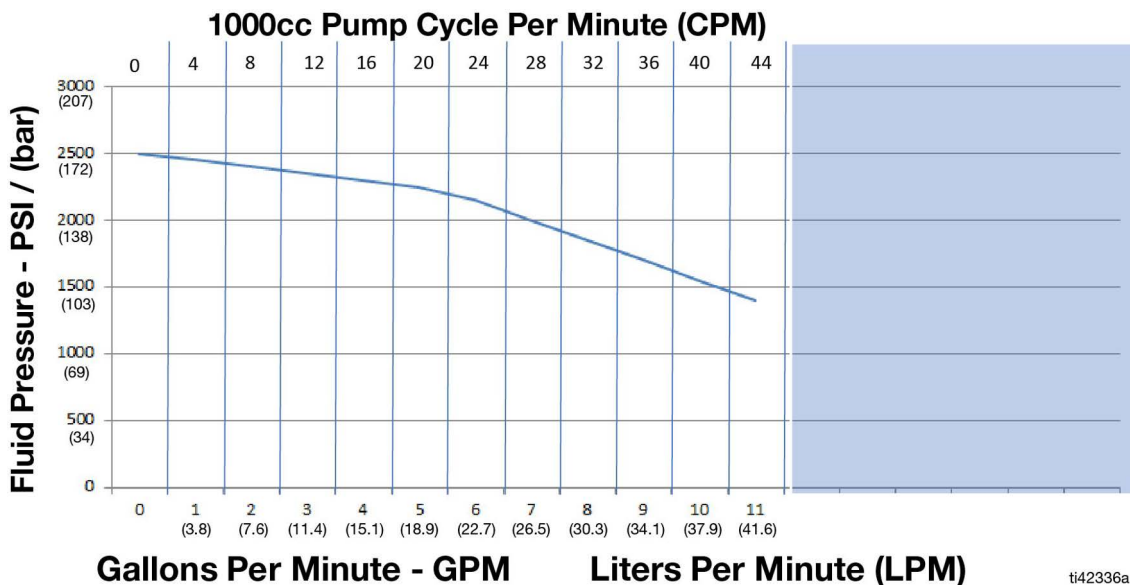
California Proposition 65

CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

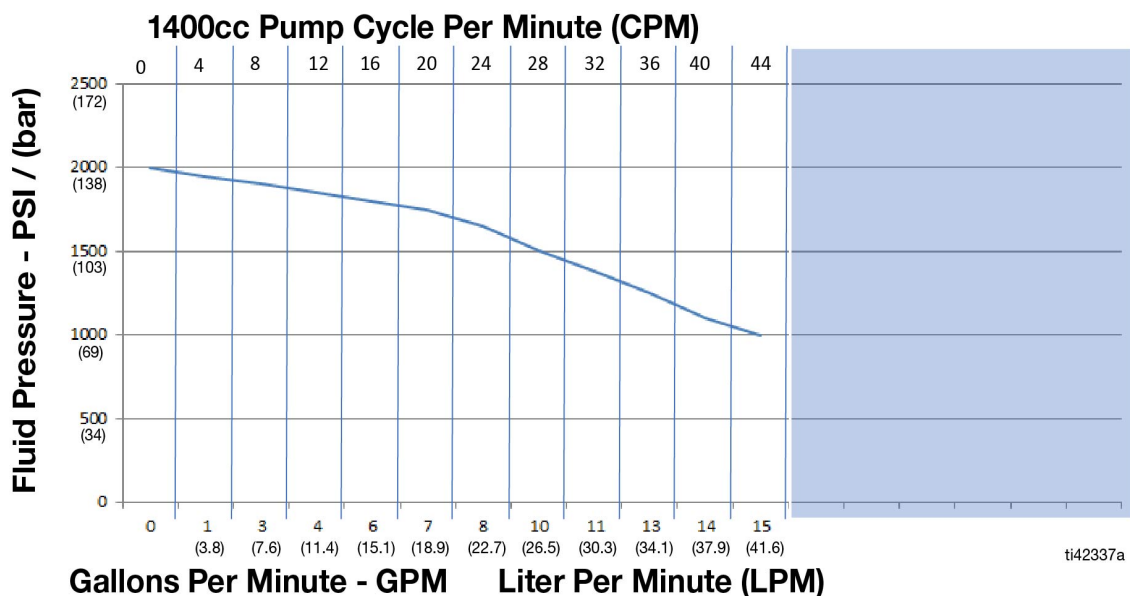
Dura-Flo XL 1000cc Pumps Models 25U989, 26D813		
	U.S.	Metric
Ratio	0.9:1	
Maximum Fluid Working Pressure	2500 psi	17 MPa, 172 bar
Maximum Hydraulic Inlet Pressure	3000 psi	21 MPa, 207bar
Displacement Per Cycle	0.264 gallons	1000cc
Maximum Speed	45 cpm	
Maximum Pump Operating Temperature	100° F	37.8° C
Stroke Length	11.25 in.	286 mm
Displacement Pump Effective Area	2.79 in. ²	18 cm ²
Fluid Inlet Size	2 in. npt(f)	
Fluid Outlet Size	1-1/4 in. npt(f)	
Flow at 50 cycles/min	13.5 gpm	51 lpm
Weight	<i>Motor:</i> 120 lb <i>Lower:</i> 98 lb	<i>Motor:</i> 54.4 kg <i>Lower:</i> 44.5 kg
Wetted parts	<i>Carbon steel lowers:</i> Carbon steel; chrome, zinc and electric nickel plating; 304, 404, and 17-4 PH grades of stainless steel; silicone nitride; tungsten carbide; ductile iron; acetal; PTFE; carbon-filled PTFE; UHMWPE; leather	
Storage Time	Indefinite as long as parts/components are replaced according to Storage Maintenance schedule and storage procedures specified in manual are followed.	
Lifetime	Lifetime varies with use, materials sprayed, storage methods, and maintenance. Life minimum is 25 years.	

Recommended Operating Range



Dura-Flo XL 1400cc Pumps Models 26D809, 26D814		
	U.S.	Metric
Ratio	0.7:1	
Maximum Fluid Working Pressure	2000 psi	14 MPa, 138 bar
Maximum Hydraulic Inlet Pressure	3000 psi	21 MPa, 207 bar
Displacement Per Cycle	0.370 gallons	1400cc
Maximum Speed	45 cpm	
Maximum Pump Operating Temperature	100° F	37.8° C
Stroke Length	11.25 in.	286 mm
Displacement Pump Effective Area	3.72 in. ²	24 cm ²
Fluid Inlet Size	2 in. npt(f)	
Fluid Outlet Size	1-1/4 in. npt(f)	
Flow at 50 cycles/min	18 gpm	68 lpm
Weight	<i>Motor:</i> 120 lb <i>Lower:</i> 98 lb	<i>Motor:</i> 54.4 kg <i>Lower:</i> 44.5 kg
Wetted parts	<i>Carbon steel lowers:</i> Carbon steel; chrome, zinc and electric nickel plating; 304, 404, and 17-4 PH grades of stainless steel; silicone nitride; tungsten carbide; ductile iron; acetal; PTFE; carbon-filled PTFE; UHMWPE; leather	
Storage Time	Indefinite as long as parts/components are replaced according to Storage Maintenance schedule and storage procedures specified in manual are followed.	
Lifetime	Lifetime varies with use, materials sprayed, storage methods, and maintenance. Life minimum is 25 years.	

Recommended Operating Range



Graco Standard Warranty

Graco warrants all equipment referenced in this document which 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. 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.

FOR GRACO CANADA CUSTOMERS

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés, à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Information

For the latest information about Graco products, visit www.graco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER, contact your Graco distributor or call 1-800-690-2894 to identify the nearest distributor.

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.*

Original instructions. This manual contains English. MM

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

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www.graco.com
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