

# Automatic Lubrication

## Single line parallel systems selection guide

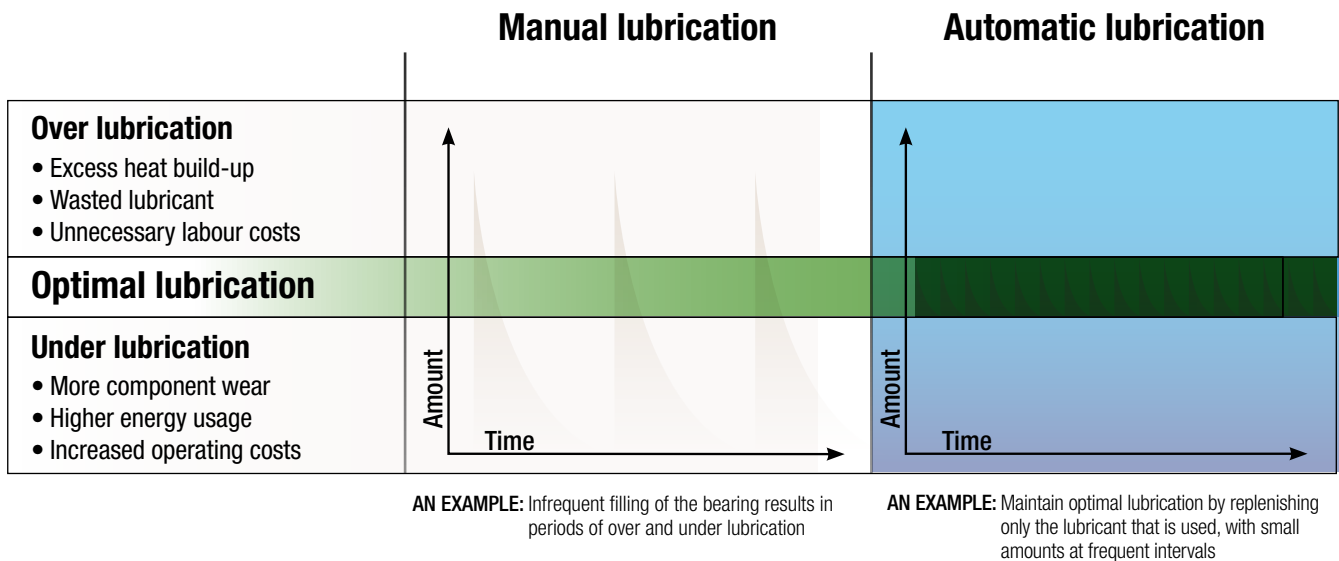


- Select and configure pumps, controllers, injectors and accessories for centralised lubrication
- Field-proven performance in a rugged environment; mining, infrastructure or heavy construction
- Dyna-Star™ lubrication pump
- GL-1™ injectors
- GLC™ X Smart and GLC™ 2200 controllers

# Centralised lubrication

Graco's automatic lubrication solutions ensure that your machinery is lubricated when it's needed most – while it is working. In order to avoid friction that cause severe wear and tear to your machine tool, production and press equipment, our line of centralised lubrication systems is delivering precise amounts of lubricants at frequent intervals to every lube point – even if they are hard to reach.

**Choose automatic lubrication and bid farewell to risks and other challenges related to manual lubrication:**

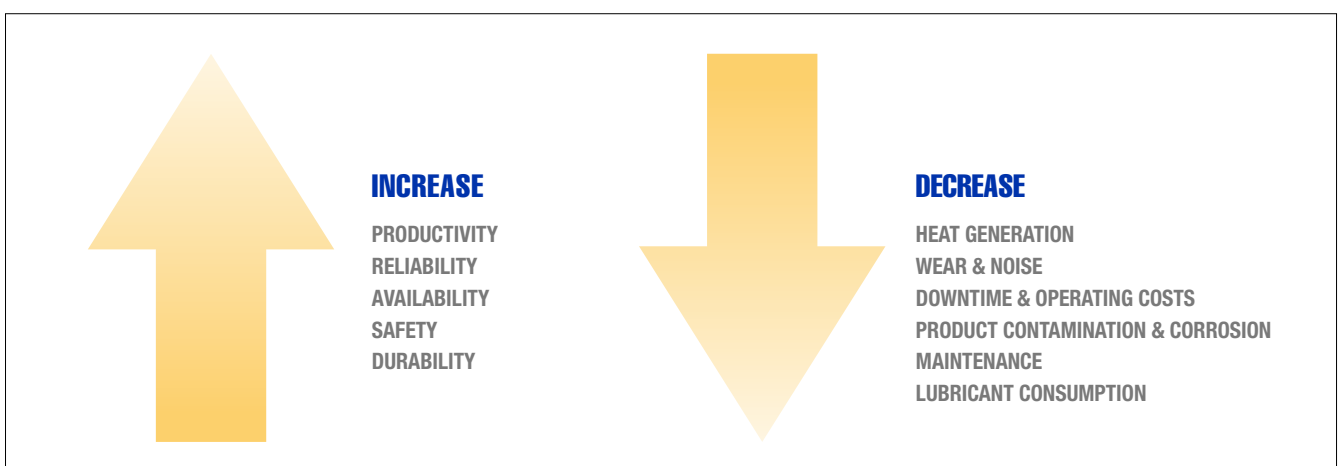


## Single line parallel automatic lubrication

Automatic lubrication systems lubricate multiple points from a single centralised system. There are many possible configurations, such as single line parallel, series progressive, dual line, multi-line, etc.

A **single line parallel system** is the simplest automatic lubrication system. A pump pressurises a main supply line and fills a number of individual piston distributors or injectors. Each injector serves one lubrication point and can be easily adjusted to deliver precise amounts of lubricant with a high degree of accuracy.

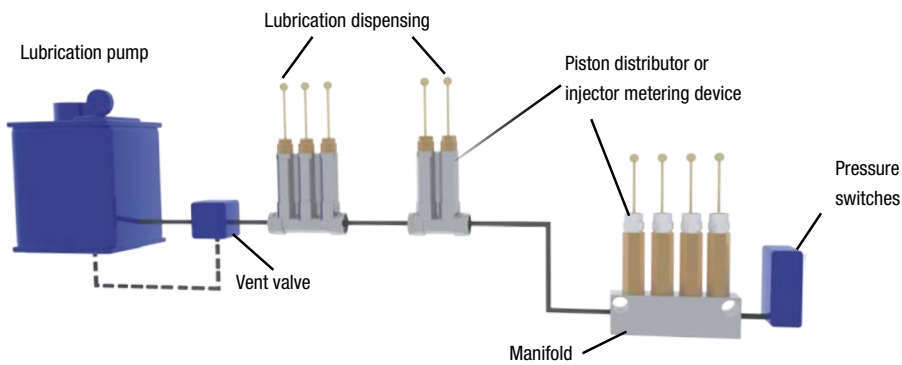
## Benefits



# Single line parallel automatic lubrication systems



## Components of a single line parallel automatic lubrication system



### **PUMPS & RESERVOIRS:**

store and provide the lubricant to the system

### **CONTROLLER:**

activates the system

### **INJECTOR:**

dispenses the right amount of lubricant to the lubrication point.

## How it works

In this configuration, the pump builds up pressure to trigger the metering device and to deliver the precise amount of lubricant to the lubrication point or bearing.

## Applications

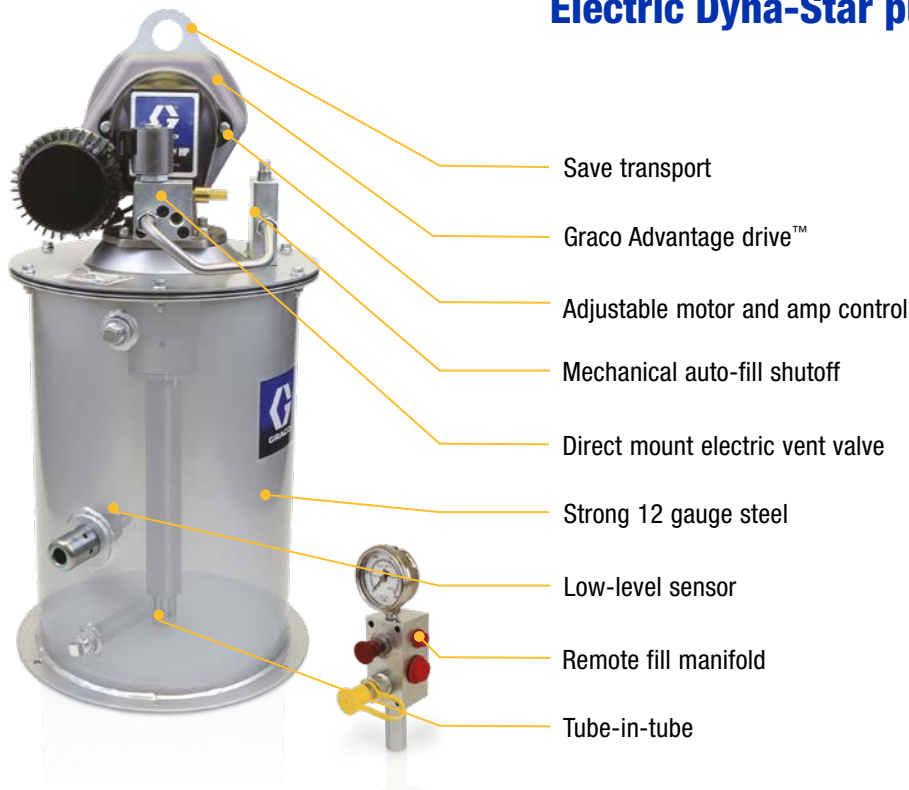
There are many industries that trust Graco's single line parallel automatic lubrication systems to function in the toughest and harshest heavy-duty environments like

- ▶ Mining
- ▶ Infrastructure and heavy construction

You can also consult our complimentary brochure **Automatic Lubrication - Series Progressive System selector guide (300765ENEU)** for a diverse range of industrial applications.

# Rugged equipment that works as hard as you do

## Electric Dyna-Star pump



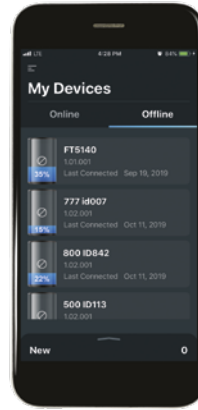
## Compact Dyna-Star®



## GLC™ X Smart controller and Auto Lube™ app



- Easy-to-read screen
- Real-time system reporting
- Smart device and mobile app



- Control lubrication profile configurations
- Manage devices
- Communicate in real time

## GLC2200 controller

Monitoring LEDs

Digital readout

Visual and audible alarms



## GL-1 series Injectors



Hex-head adjustment nut

Injector Covers

Unibody design

GL-1 manifold

Output spectrum sleeves

# System design selector for EDS & GL-1 injectors



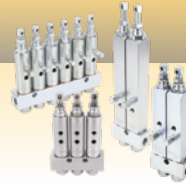
**Select the electric Dyna-Star pump model**  
which suits your requirements

1



Select the vent valve outlet fitting

2



Select the GL-1 series injectors & manifolds

3



Select the injector INLET fittings

4

1

## Select the compact or electric Dyna-Star pump model

For a complete list of available Dyna-Star pump models, please refer to the Industrial Lubrication Buyer's guide (Item no. 340821) on [www.graco.com](http://www.graco.com)

2

## Select the vent valve outlet fitting

117832

6 JIC x 3/8" NPT, straight

3

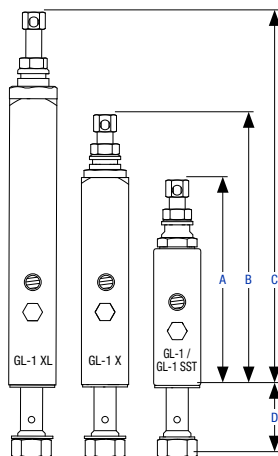
## Select the GL-1 series injectors & manifolds

### GL-1 injectors and manifold assemblies

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
One-point assembly	114901	–	24X801	24X811
Two-point assembly	114902	–	24X802	24X812
Three-point assembly	114903	–	24X803	24X813
Four-point assembly	114904	–	24X804	24X814
Five-point assembly	114905	–	24X805	24X815
Six-point assembly	117206	–	24X806	24X816
Single replacement injector, no manifold	114909	25N109	24X807	24X817

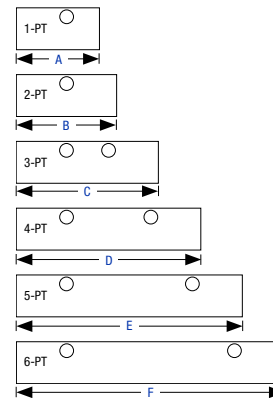
### GL-1 Bare injector manifolds (no injectors included)

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
One-point assembly	114911	25N101	114911	114911
Two-point assembly	114912	25N101	114912	114912
Three-point assembly	114913	25N101	114913	114913
Four-point assembly	114914	25N101	114914	114914
Five-point assembly	114915	25N101	114915	114915
Six-point assembly	118206	25N101	118206	118206



#### GL-1 INJECTOR DIMENSIONS

A	134.6 mm (5.3 in)
B	175.3 mm (6.9 in)
C	241.3 mm (9.5 in)
D	43.2 mm (1.7 in)



#### GL-1 MANIFOLD DIMENSIONS

A	63.5 mm (2.5 in)
B	76.2 mm (3.0 in)
C	106.7 mm (4.2 in)
D	139.7 mm (5.5 in)
E	170.2 mm (6.7 in)
F	203.2 mm (8.0 in)

# SYSTEM DESIGN SELECTOR FOR EDS & GL-1 INJECTORS



Select the main line  
HP hose



Select the injector  
OUTLET fittings



Select the secondary line  
HP hose



Select the  
LUBE POINT fittings

5

6

7

8

4

## Select the injector INLET fittings and branch tee

117832	6 JIC x 3/8" NPT, straight
120064	6 JIC x 3/8" NPT, elbow
128567	3/8" NPT branch tee - to split main line and to connect 2 injector banks

### Inlet accessories

156849	Hex reducing nipple to combine 2 injector manifolds - 500 bar, 3/8" NPT (m) x 3/8" NPT (m)
100040	Injector manifold end plug - 3/8" NPT square head

5

## Select the main line (from pump to injector)

Hose end fitting	+	HP hose	+	Hose end fitting
17P337 6 JIC F x 3/8" Hose ID swivel F		17P336 Hose 3/8" ID, 30m		17P337 6 JIC F x 3/8" Hose ID swivel F

6

## Select the injector OUTLET fittings

Compression	17T780 6 mm, straight
	OR
	17T781 6 mm, elbow

7

## Select the secondary line (from injector to lube point)

HIGH PRESSURE HOSE										
Hose studs	+	Hose Sleeve	+	HP hose (8.6mm OD)	+	Hose wrap	+	Hose Sleeve	+	Hose studs
17R565 6 mm, straight		17L648		17S552 25 m		123147 10 m		17L648		17R565 6 mm, straight
OR			OR	OR			OR			
17R566 6 mm, elbow			17S553 50 m		OR				17R566 6 mm, elbow	
			130938 50 m pre-filled		OR					

8

## Select the LUBE POINT fittings

Thread size	COMPRESSION	
	Straight	Elbow
6 mm X M6	17R573	17R574
6 mm X M8	17R575	17R576
6 mm X M10	17R577	17R578
6 mm X 1/4" BSP	17R571	17R572
6 mm X 1/8" BSP	17L548	17L546

# Technical information

## Dyna-Star pumps



### ELECTRIC modules

	77X960	77X990
EDS HP pump with Autofill shut-off and low level monitor	<b>77X202</b> 60 pound / 27 kg reservoir	<b>77X203</b> 90 pound / 41 kg reservoir
GLC2200 controller	<b>24N468</b>	
GLC2200 wiring harness	<b>24P314</b>	
Low level sensor cable	<b>129072</b>	
EDS pump power cable	<b>77X546</b>	
Pressure switch	<b>24N181</b>	
Remote fill manifold	<b>77X542</b>	



### PNEUMATIC module

	241573
Fire-ball 300 pump, 50:1, 55 kg	<b>239887</b>
Dyna-Star pump, 10:1, 27 kg	–
Dyna-Star pump, 10:1, 55 kg	–
Reservoir assembly	<b>241486</b>
Hydraulic control assembly	–
Vent valve assembly	<b>241572</b>



### HYDRAULIC modules

	247574	247444	24Y407	24Y408
Fire-ball 300 pump, 50:1, 55 kg	–	–	–	–
Dyna-Star pump, 10:1, 27 kg	<b>247540</b>	–	–	–
Dyna-Star pump, 10:1, 55 kg	–	<b>247443</b>	–	–
Reservoir assembly	<b>247575</b>	<b>241486</b>	–	–
Hydraulic control assembly	<b>247538</b>	<b>247538</b>	–	–
Vent valve assembly	<b>243170</b>	<b>243170</b>	–	–
Dyna-Star 10:1, 90# - with mechanical AFSO	–	–	<b>X</b>	–
Dyna-Star 10:1, 60# - with mechanical AFSO	–	–	–	<b>X</b>

Please refer to the ILE buyer's guide (Item no. 340821) on [www.graco.com](http://www.graco.com) to check the complete product offering.

### COMPACT modules

	PART NUMBER
CDS pump, 12L, vent valve, pressure, low level switch	<b>CD1211</b>
CDS pump, 12L, vent valve, pressure, Autofill shut-off and low level switch	<b>CD1213</b>
CDS pump, 12L, vent valve, pressure, Transducer, low level transducer	<b>CD1312</b>
CDS pump, 12L, vent valve, pressure, transducer, Autofill shut-off, low level transducer	<b>CD1314</b>
CDS pump, 20L, vent valve, pressure, low level switch	<b>CD2221</b>
CDS pump, 20L, vent valve, pressure, Autofill shut-off and low level switch	<b>CD2223</b>
CDS pump, 20L, vent valve, pressure, transducer, low level transducer	<b>CD2322</b>
CDS pump, 20L, vent valve, pressure, transducer, Autofill shut-off, low level transducer	<b>CD2324</b>





# Technical information and accessories

## GLC™ X Smart controller

### CONTROLLERS

	Part number
GLC X controller with 20-ft (6-m) cable	26A855
GLC X controller	26A814

## GL-1 series

### GL-1 SERIES INJECTORS

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
Maximum operating pressure	241bar (3,500psi)	241bar (3,500psi)	414 bar (6,000psi)	414 bar (6,000psi)
Minimum operating pressure	128 bar (1,850psi)	128 bar (1,850psi)	128 bar (1,850psi)	128 bar (1,850psi)
Reset pressure	41 bar (600psi)	41 bar (600psi)	69 bar (1,000psi)	69 bar (1,000psi)
Output volume per cycle	0.13 – 1.31 cm <sup>3</sup> (0.008 – 0.08 in <sup>3</sup> )	0.13 – 1.31 cm <sup>3</sup> (0.008 – 0.08 in <sup>3</sup> )	0.25 – 1.31 cm <sup>3</sup> (0.015 – 0.08 in <sup>3</sup> )	0.57 – 5.0 cm <sup>3</sup> (0.035 – 0.305 in <sup>3</sup> )
Materials	Zinc-plated carbon steel	316 stainless steel	Zinc-plated carbon steel	Zinc-plated carbon steel

## Accessories

### GLX X SMART CONTROLLER

	PART NUMBER
GLC X pump simulator	26A853
GLC X 6 m (20 ft) cable	26A882
GLC X to compact Dyna-Star® 1-m (3-ft) cable	26A883
14-pin mating connector kit	26A888

### INJECTOR

	GL-1	GL-1 SST	GL-1 X	GL-1 XL
Injector cover kit, polycarbonate	17L754	17L754	17L754*	17L755*
Injector crossport kit	115120	–	115120	115120
Zerk and cap kit (5 pack)	17Y511	17Y498	17Y511	17Y511
Adjustment screw and lock nut (5 pack)	17Y510	17Y498	–	–
Seal repair kit	241234	241234	25A081	25A080

\* Included with every GL-1 X and GL-1 XL injector.

### COMPACT modules

	PART NUMBER	DESCRIPTION	PART NUMBER
Reservoir, CDS, 12L, low level, transducer, plug	25E166	Kit, Autofill shut-off	25P686
Reservoir, CDS, 12L, low level, transducer, overfill, no follower plate	25R122	Cartridge, Autofill shut-off	25E341
Reservoir, CDS, 12L, low level, switch, overfill, no follower plate	25R124	Packing O-ring	132302
Reservoir, CDS, 12L, low level, switch, overfill	25R120	Manual, instructions	3A6998
Reservoir, CDS, 12L, low level, transducer, overfill	25R118	Kit, 35# drum cover	25R314
Reservoir, CDS, 12L, low level, switch, plug	25E323	Plate, follower, assembly	25P496
Reservoir, CDS, 12L, low level, transducer, overfill	25R118	Cap, plug	404157
Reservoir, CDS, 20L, low level, switch, overfill	25R121	Kit, repair, handle	287072
Reservoir, CDS, 20L, low level, transducer, overfill	25R119	Cable, 6ft, vent valve	24N402
Reservoir, CDS, 20L, low level, switch, plug	25E324	Kit, switch, pressure, 3000PSI	25R333
Packing, O-ring	132302	Kit, follower plate	25P693
Cable, 6ft, vent valve, 2 pin	24N402	Kit, cable, CDS	25P947
Harness, wiring, M12(F) to bare wire	126331	Kit, transducer, pressducer	25R332
Cable, CDS vent valve, motor, level, 12 pin	25R560	-	-

# Accessories

## Output spectrum sleeves

GL-1 output target cc (in <sup>3</sup> )	Output target ratio		Colour	10-pack part number
	From minimum	From maximum		
<b>GL-1 / GL-1 SST INJECTORS</b>				
0.1 (0.01)	1.0	0.10	N/A	<b>N/A</b>
0.5 (0.03)	2.0	0.50	Red	<b>17K601</b>
0.8 (0.05)	3.0	0.60	Silver	<b>17K602</b>
1.0 (0.06)	4.0	0.80	Gold	<b>17K603</b>
1.3 (0.08)	5.0	1.00	Green	<b>17K604</b>
<b>GL-1 X INJECTORS</b>				
0.3 (0.01)	1.0	0.20	N/A	<b>N/A</b>
0.5 (0.03)	2.0	0.40	Red	<b>17K601</b>
0.7 (0.04)	3.0	0.50	Silver	<b>17K602</b>
0.8 (0.06)	3.3	0.60	Gold	<b>17K603</b>
1.2 (0.07)	5.0	0.75	Green	<b>17K604</b>
<b>GL-1 X INJECTORS</b>				
0.6 (0.04)	1.0	0.10	N/A	<b>N/A</b>
0.8 (0.05)	1.5	0.15	Red	<b>17K601</b>
1.0 (0.06)	2.1	0.25	Silver	<b>17K602</b>
1.5 (0.09)	2.8	0.30	Gold	<b>17K603</b>
2.0 (0.12)	3.4	0.40	Green	<b>17K604</b>
2.0 (0.13)	3.9	0.45	Black	<b>17N453</b>
2.5 (0.15)	4.3	0.50	Purple	<b>17N454</b>
3.0 (0.18)	5.4	0.60	Blue	<b>17N455</b>
3.5 (0.21)	6.4	0.75	Orange	<b>17N456</b>
4.0 (0.24)	7.5	0.90	Brown	<b>17N457</b>
5.0 (0.30)	8.6	1.00	Yellow	<b>17N458</b>

17N455



## Red alert filter

- 380µm, 36 in<sup>2</sup> steel mesh
- Visual alert for filter service

17L366



## Inline filter

- 400µm steel mesh
- 344 bar (5,000 PSI) max pressure

77X523



# MORE INFORMATION IS AVAILABLE AT

## Additional automatic lubrication solutions tools and brochures to compliment your activities:

### Selector tool

Online tool to easily find out which automatic lubrication set is compatible with different heavy-duty equipment. Select equipment specifications in the menu and the tool will return an all-inclusive kit with a pump and a valve package part number along with a downloadable manual.



[www.graco.com/gb/en/products/ad/yellow-iron-kit-selector.html](http://www.graco.com/gb/en/products/ad/yellow-iron-kit-selector.html)

### Literature



#### Lubrication solutions

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▶ 300742ENEU



#### Automatic Lubrication

Series progressive systems selection guide

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▶ 300765ENEU



#### ILE buyers guide

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▶ 340821ENEU



## ABOUT GRACO

Founded in 1926, Graco is a world leader in fluid handling systems and components. Graco products move, measure, control, dispense and apply a wide range of fluids and viscous materials used in vehicle lubrication, commercial and industrial settings.

The company's success is based on its unwavering commitment to technical excellence, world-class manufacturing and unparalleled customer service. Working closely with qualified distributors, Graco offers systems, products and technology that set the quality standard in a wide range of fluid handling solutions. Graco provides equipment for spray finishing, protective coating, paint circulation, lubrication, and dispensing sealants and adhesives, along with power application equipment for the contractor industry. Graco's ongoing investment in fluid management and control will continue to provide innovative solutions to a diverse global market.

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