



# HFR Metering System

Hydraulic Fixed Ratio Metering System



PROVEN QUALITY. LEADING TECHNOLOGY.

# It's All About Control

High-performance precision metering

## The rules have changed

The versatility of the Graco HFR Metering System™ promises to re-define the market. That's because this hydraulic, fixed ratio metering system processes multiple materials – from rigid and flexible polyurethanes to elastomers and epoxies. And its modular design, combined with Graco technologies and precision dispensing capabilities give you a system that is advanced and reliable, yet affordable.

## Accurate, on-ratio dispense means less waste, more profits

With the Graco HFR Metering System, you accurately measure a specific ratio and volume – first time, every time. As the machine dispenses material, it automatically fine-tunes and adjusts to achieve a consistent material flow or pressure. With a  $\pm 1\%$  ratio accuracy, you reduce scrap and rework with accurate, on-ratio dispensing.

## More technology for less capital investment

The Graco HFR Metering System is a high-quality meter, mix and dispense system that offers more technology and functionality – at a lower price than traditional custom RIM systems. A low initial investment allows you to participate in the marketplace where it may not have been possible before.

## You benefit from a lower total cost of ownership

The system's horizontal pumps can be rebuilt at your facility, eliminating costly rebuilds and the need for backup pumps. Less downtime, reduced maintenance costs, and lower parts inventory mean more profits for your company.

## Materials

Handles multiple materials including:

- Polyurethane foams
- Polyurethane elastomers
- Epoxies
- Silicones
- Polyureas
- Soft filled materials

## Applications

- Polyurethane processing
- Coating

Low viscosity

application such as:

- Batch processing
- Potting
- Encapsulating
- Vacuum infusion



# Graco HFR Metering System

Fully configurable – simply select what you need for your material and application

## Modular design gives you exactly what you need

A modular design gives you the freedom and flexibility to configure the components that are essential for your specific application requirements – no more, no less. Standard configured equipment can be delivered to your door much faster than a custom solution. Plus it's easier to use and service than custom equipment because you use standard parts. And with Graco's established global distribution network, service is there when you need it.

### Advanced Display Module

- Provides easy setup, monitoring and system diagnostics
- USB drive for data reporting
- Stores 100 shot sizes and five sequences of 20 positions each

### IsoGuard Select System

- Prevents isocyanate crystallization – less maintenance, more uptime

### Motor Control Module

- In constant communication the Advanced Display and Motor Control Modules make real-time adjustments to deliver a highly precise dispense

### Power Distribution Box

- Modular assembly replaces complex wiring

### Graco Z-Series Horizontal Pumps

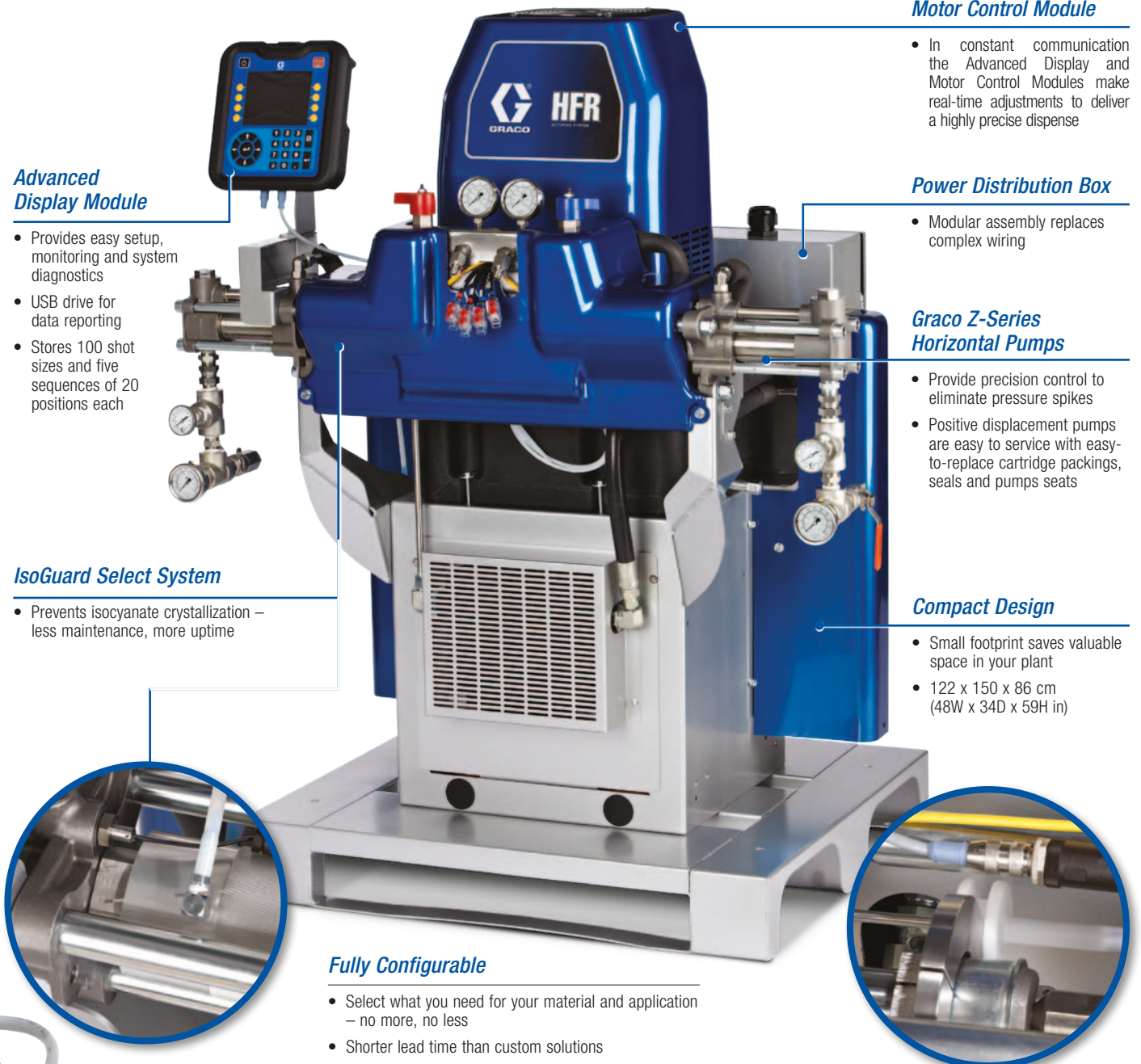
- Provide precision control to eliminate pressure spikes
- Positive displacement pumps are easy to service with easy-to-replace cartridge packings, seals and pumps seats

### Compact Design

- Small footprint saves valuable space in your plant
- 122 x 150 x 86 cm (48W x 34D x 59H in)

### Fully Configurable

- Select what you need for your material and application – no more, no less
- Shorter lead time than custom solutions
- Standard wear parts are quickly available



# Technology that Boosts Productivity

Easy set-up, material monitoring capabilities and advanced dispensing technology



## Intuitive, easy-to-use controls

The Graco HFR Metering System features intuitive user interfaces based on the Graco Control Architecture™, a modular system of processing and control components. Products using Graco Control Architecture provide similar interface functionality across your plant and simplify training. Maintenance and service is easier too, thanks to built-in troubleshooting tools and simple, modular part replacement.

The Advanced Display Module is easy to understand and operate. Because it's easy to use, you spend less time on training and reduce operator error as well. The Advanced Display Module provides:

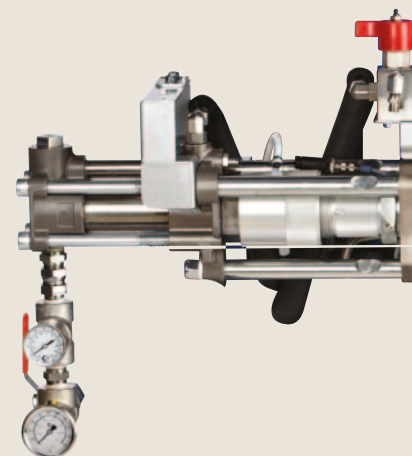
- Programmable shot sizes and sequencing – up to 100 different shot sizes and five sequences of 20 positions each
- Easy configuration of integrated temperature controls
- Immediate access to error/event history
- Material usage and pump cycle counter
- Simple interface for machine calibration

## Integrated USB interface for easy data downloads

- Lets you download process data and error/event logs onto a flash drive for further analysis
- Allows you to archive valuable setup parameters

## Improved process performance

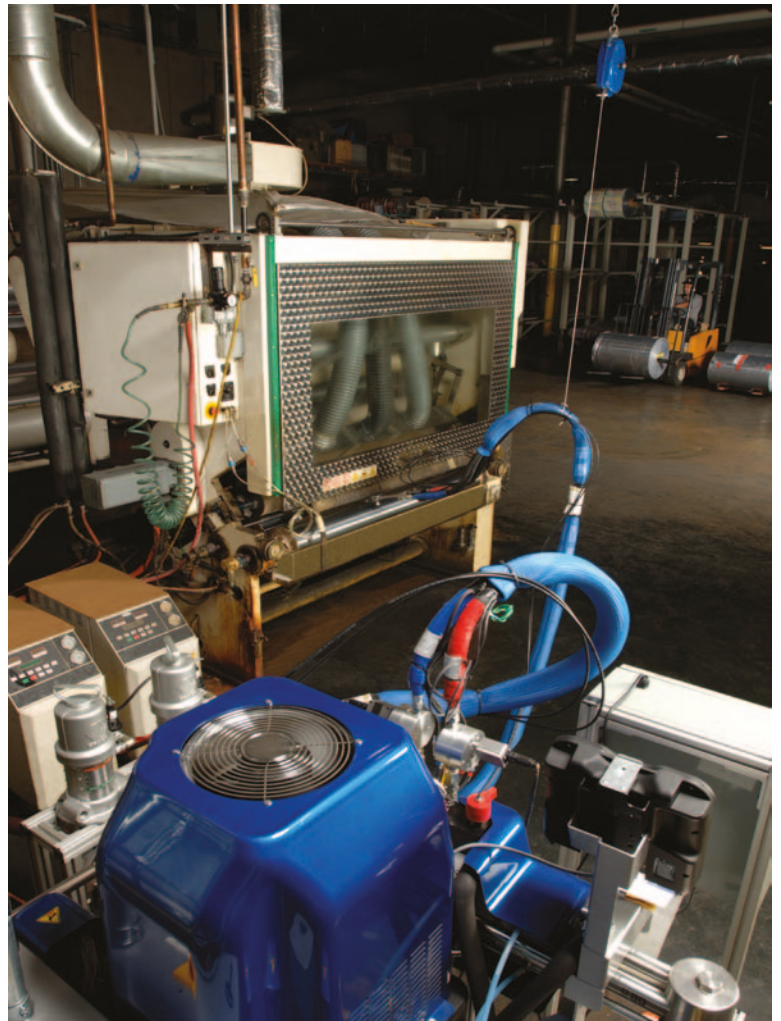
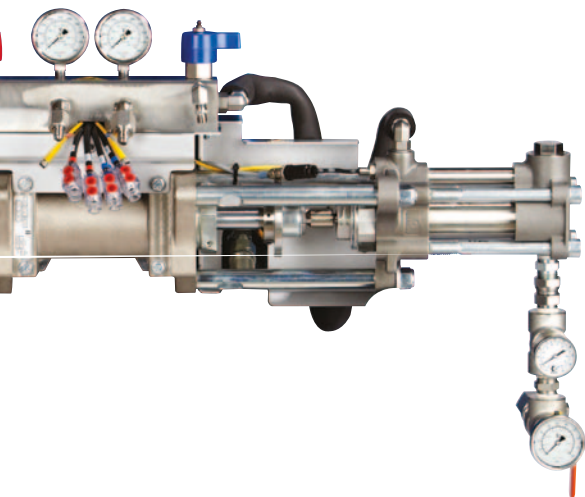
Material dispensing reaches a new level of precision due to proprietary algorithms and adaptive technology. The Graco Metering System uses advanced controls to monitor the system and control the dispensing and material conditioning processes. The system is capable of producing either a constant pressure material output or a constant flow rate material output.



# Graco Z-series horizontal pumps

## Proven piston pump technology

- Provides precision control to eliminate pressure spikes
- Positive displacement pumps are easy to service with easy-to-replace cartridge packings, seals and pump seats
- “Real” positive displacement pump
- Elastomeric seals and positive ball checks
- Wide variety of materials – Fillers, high viscosity, abrasive fluids
- Supported worldwide by Graco distribution – Easy service and repair
- Flow control – linear encoder – linear sensor accurate within 0.1 mm
- Close loop control on pressure and flow.



# Technical Specifications

Everything you need to make an informed decision

## Technical Specifications

Dimensions.....	122 x 150 x 86 cm (48W x 59H x 34D in )
Mix ratio range .....	Fixed ratio, 1:1 to 16:1, shot to continuous flow
Ratio tolerance range.....	Up to $\pm 1\%$
Fluid filtration .....	20 mesh standard
Flow rates	
Minimum .....	7.5 cc/s (0.12 gpm)
Maximum.....	316 cc/s (5.0 gpm)
Fluid inlets without feed kits .....	3/4 npt
Max. mixed fluid working pressure .....	207 bar, 20.7 MPa (3000 psi)
Min. pump inlet fluid pressure .....	0.3 bar, 0.03 MPa (50 psig)
Max. ambient temperature .....	49°C (120°F )
Weight	
Base machine .....	287.6 kg (634 lb)
Fully configured .....	393.7 kg (868 lb)
Fluid viscosity range .....	up to 30,000 cps
Wetted parts	
Pumps (A and B) .....	Stainless steel, PTFE, UHMWPE, tungsten carbide
Manifold.....	Aluminum or stainless steel
Applicator .....	Varies based on applicator chosen; see applicator manual
Primary heaters .....	Aluminum, carbon steel



# Graco EP Pour Gun

Economy and performance

EP

The Graco EP Pour Gun is sure to change the way the industry thinks about mixheads. That's because it's engineered to be reliable, light and versatile with features and technology that reduce your cost of ownership in the long run.

## Low initial investment

Designed to perform like a hydraulic mixing head, without the power pack, therefore lowering your initial investment

## Easy, do-it-yourself mixhead rebuilds save money

- Lower capital outlay and rebuild costs
- Updated technology allows for on-site rebuilds
- Reduces downtime
- Eliminates expense of backup mixheads

## Flexible – handles multiple materials

- Processes both rigid and flexible polyurethanes
- Handles filled materials

## Accurate, on-ratio dispensing

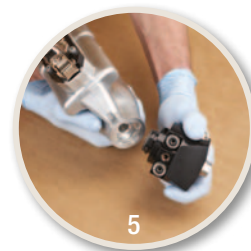
- Maintains accurate mix ratio – without the need for circulation in the head of the gun

## Lightweight, great performance

- Responsive trigger delivers quick shots
- Weighs 2.9 to 3.4 kg (6.4 to 7.4 lb)
- Manual, automatic and robotic capabilities



## Easy Mixhead Rebuilds





## 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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Graco is certified ISO 9001.

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