



# HFR™ Metering System

Two-Component Hydraulic Fixed Ratio Metering System  
for Sealants and Adhesives



Improve your throughput with advanced dispensing technology

- Consistent material flow
- Accurate, on-ratio dispensing
- Precision dispensing saves material waste, reducing scrap and rework in your plant

PROVEN QUALITY. LEADING TECHNOLOGY.

# Precision Dispensing Technology

Advanced dispensing that improves your output

## The rules have changed

The Graco HFR™ Metering System is a meter, mix and dispense system that processes multiple sealant and adhesive materials – from elastomers to epoxies. 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

This hydraulic, fixed ratio metering system consistently achieves accurate ratios and volumes. As the system dispenses material, it automatically fine-tunes and adjusts material flows and pressures to achieve a consistent bead. As a result, you waste less material, reducing scrap and rework.

## More technology for less capital investment

The Graco HFR offers advanced technology and functionality – at a lower price than basic shot meters or gear pumps. A low initial investment allows you to participate in industries 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

- Urethanes
- Polysulfides
- Epoxies
- Acrylics
- Methyl Methacrylate Adhesive (MMA)
- Silicones
- Filled and unfilled materials

## Applications

- Batch processing
- Potting
- Encapsulating
- Vacuum infusion
- Automated bead applications
- Pultrusion

## Industries

- Insulated glass
- Medical
- Solar
- Transportation
- Flexible packaging
- Composites
- General assembly



# Technology that Boosts Productivity

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

## 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 set-up, monitoring and system diagnostics
- USB drive for data reporting
- Stores 100 shot sizes and five sequences of 20 positions each
- Flow rate is settable through ADM or Communications Gateway



### Motor Control Module

- In constant communication with the Advanced Display Module, the Motor Control Module makes real-time adjustments to deliver a highly precise dispense
- Closed-loop technology provides pressure and flow control for a smooth dispense

### Graco Z-Series Horizontal Pumps

- Provide precision control to eliminate pressure spikes
- Positive displacement pumps include easy-to-replace cartridge packings, seals, elastomeric and pumps seats
- Small footprint saves valuable space in your plant
- 122 x 150 x 86 cm (48W x 34D x 59H in)

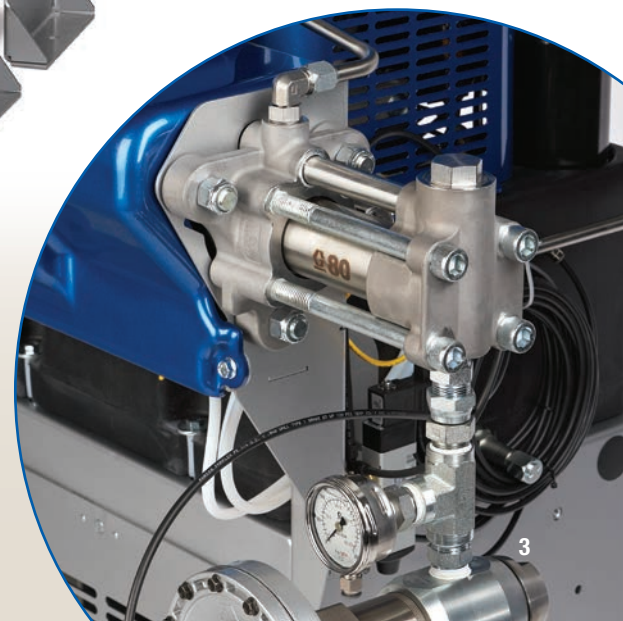
### Fluid Regulators

- Manage inbound pressures

### 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

### Z-Series Piston Pumps



# Selecting the Right System

## Ordering Information

### 1 Metering System

1. Select your system:

- Graco HFR Metering System for Sealants and Adhesives (with feed pumps)
- Graco HFR Metering System for Sealants and Adhesives (without feed pumps)



2 Supply Pumps

3 Material Hoses

4 Material Applicator

5 Fluid Regulator

## 1 Metering Systems

### Graco HFR Metering System for Sealants and Adhesives (without feed pumps)

All systems include proportioner, fluid regulator kit, material hoses, MD2 Valve (255179) with orifice blocks.

#### Carbon Steel Packages

Part No.	Description	Ratio	Flow Rate*		Z Pumps (cc)		Power**
			Min	Max	Side	Side	
HFRS69	No supply pumps	1:1	1.0	6.7	10	10	230V, 1-ph
HFRS73		2:1	3.0	20.0	40	20	230V, 1-ph
HFRS77		4:1	2.5	16.7	40	10	230V, 1-ph
HFRS81		5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS85		6:1	3.5	23.3	60	10	230V, 1-ph
HFRS89		10:1	5.5	36.7	100	10	230V, 1-ph
HFRSA1		1:1	4.0	26.7	40	40	230V, 1-ph
HFRS70		1:1	1.0	6.7	10	10	400V, 3-ph
HFRS74		2:1	3.0	20.0	40	20	400V, 3-ph
HFRS78		4:1	2.5	16.7	40	10	400V, 3-ph
HFRS82		5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS86		6:1	3.5	23.3	60	10	400V, 3-ph
HFRS90		10:1	5.5	36.7	100	10	400V, 3-ph
HFRSA2		1:1	4.0	26.7	40	40	400V, 3-ph

#### Stainless Steel Packages

Part No.	Description	Ratio	Flow Rate*		Z Pumps (cc)		Power**
			Min	Max	Side	Side	
HFRS71	No supply pumps	1:1	1.0	6.7	10	10	230V, 1-ph
HFRS75		2:1	3.0	20.0	40	20	230V, 1-ph
HFRS79		4:1	2.5	16.7	40	10	230V, 1-ph
HFRS83		5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS87		6:1	3.5	23.3	60	10	230V, 1-ph
HFRS91		10:1	5.5	36.7	100	10	230V, 1-ph
HFRSA3		1:1	4.0	26.7	40	40	230V, 1-ph
HFRS72		1:1	1.0	6.7	10	10	400V, 3-ph
HFRS76		2:1	3.0	20.0	40	20	400V, 3-ph
HFRS80		4:1	2.5	16.7	40	10	400V, 3-ph
HFRS84		5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS88		6:1	3.5	23.3	60	10	400V, 3-ph
HFRS92		10:1	5.5	36.7	100	10	400V, 3-ph
HFRSA4		1:1	4.0	26.7	40	40	400V, 3-ph

# Selecting the Right System

## Ordering Information

### 1 Metering Systems

#### Graco HFR Metering System for Sealants and Adhesives (with feed pumps)

All systems include proportioner, supply pumps, supply hoses, fluid regulator kit, material hoses, MD2 Valve (255179) with orifice blocks.

#### Carbon Steel Packages

Part No.	Description	Ratio	Flow Rate*		Z Pumps (cc)		Power**
			(cc/sec)		A	B	
			Min	Max	Side	Side	
HFRS01	Supply: 55/55	1:1	1.0	6.7	10	10	230V, 1-ph
HFRS02	Supply: 5/5	1:1	1.0	6.7	10	10	230V, 1-ph
HFRS09	Supply: 55/55	4:1	2.5	16.7	40	10	230V, 1-ph
HFRS10	Supply: 55/5	4:1	2.5	16.7	40	10	230V, 1-ph
HFRS11	Supply: 5/5	4:1	2.5	16.7	40	10	230V, 1-ph
HFRS21	Supply: 55/55	5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS22	Supply: 55/5	5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS23	Supply: 5/5	5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS33	Supply: 55/55	6:1	3.5	23.3	60	10	230V, 1-ph
HFRS34	Supply: 55/5	6:1	3.5	23.3	60	10	230V, 1-ph
HFRS35	Supply: 5/5	6:1	3.5	23.3	60	10	230V, 1-ph
HFRS45	Supply: 55/55	10:1	5.5	36.7	100	10	230V, 1-ph
HFRS46	Supply: 55/5	10:1	5.5	36.7	100	10	230V, 1-ph
HFRS47	Supply: 5/5	10:1	5.5	36.7	100	10	230V, 1-ph
HFRS57	Supply: 55/55	2:1	3.0	20.0	40	20	230V, 1-ph
HFRS58	Supply: 55/5	2:1	3.0	20.0	40	20	230V, 1-ph
HFRS59	Supply: 5/5	2:1	3.0	20.0	40	20	230V, 1-ph
HFRS93	Supply: 55/55	1:1	4.0	26.7	40	40	230V, 1-ph
HFRS94	Supply: 5/5	1:1	4.0	26.7	40	40	230V, 1-ph
HFRS03	Supply: 55/55	1:1	1.0	6.7	10	10	400V, 3-ph
HFRS04	Supply: 5/5	1:1	1.0	6.7	10	10	400V, 3-ph
HFRS12	Supply: 55/55	4:1	2.5	16.7	40	10	400V, 3-ph
HFRS13	Supply: 55/5	4:1	2.5	16.7	40	10	400V, 3-ph
HFRS14	Supply: 5/5	4:1	2.5	16.7	40	10	400V, 3-ph
HFRS24	Supply: 55/55	5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS25	Supply: 55/5	5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS26	Supply: 5/5	5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS36	Supply: 55/55	6:1	3.5	23.3	60	10	400V, 3-ph
HFRS37	Supply: 55/5	6:1	3.5	23.3	60	10	400V, 3-ph
HFRS38	Supply: 5/5	6:1	3.5	23.3	60	10	400V, 3-ph
HFRS48	Supply: 55/55	10:1	5.5	36.7	100	10	400V, 3-ph
HFRS49	Supply: 55/5	10:1	5.5	36.7	100	10	400V, 3-ph
HFRS50	Supply: 5/5	10:1	5.5	36.7	100	10	400V, 3-ph
HFRS60	Supply: 55/55	2:1	3.0	20.0	40	20	400V, 3-ph
HFRS61	Supply: 55/5	2:1	3.0	20.0	40	20	400V, 3-ph
HFRS62	Supply: 5/5	2:1	3.0	20.0	40	20	400V, 3-ph
HFRS95	Supply: 55/55	1:1	4.0	26.7	40	40	400V, 3-ph
HFRS96	Supply: 5/5	1:1	4.0	26.7	40	40	400V, 3-ph

#### Stainless Steel Packages

Part No.	Description	Ratio	Flow Rate*		Z Pumps (cc)		Power**
			(cc/sec)		A	B	
			Min	Max	Side	Side	
HFRS05	Supply: 55/55	1:1	1.0	6.7	10	10	230V, 1-ph
HFRS06	Supply: 5/5	1:1	1.0	6.7	10	10	230V, 1-ph
HFRS15	Supply: 55/55	4:1	2.5	16.7	40	10	230V, 1-ph
HFRS16	Supply: 55/5	4:1	2.5	16.7	40	10	230V, 1-ph
HFRS17	Supply: 5/5	4:1	2.5	16.7	40	10	230V, 1-ph
HFRS27	Supply: 55/55	5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS28	Supply: 55/5	5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS29	Supply: 5/5	5.33:1	4.8	31.7	80	15	230V, 1-ph
HFRS39	Supply: 55/55	6:1	3.5	23.3	60	10	230V, 1-ph
HFRS40	Supply: 55/5	6:1	3.5	23.3	60	10	230V, 1-ph
HFRS41	Supply: 5/5	6:1	3.5	23.3	60	10	230V, 1-ph
HFRS51	Supply: 55/55	10:1	5.5	36.7	100	10	230V, 1-ph
HFRS52	Supply: 55/5	10:1	5.5	36.7	100	10	230V, 1-ph
HFRS53	Supply: 5/5	10:1	5.5	36.7	100	10	230V, 1-ph
HFRS63	Supply: 55/55	2:1	3.0	20.0	40	20	230V, 1-ph
HFRS64	Supply: 55/5	2:1	3.0	20.0	40	20	230V, 1-ph
HFRS65	Supply: 5/5	2:1	3.0	20.0	40	20	230V, 1-ph
HFRS97	Supply: 55/55	1:1	4.0	26.7	40	40	230V, 1-ph
HFRS98	Supply: 5/5	1:1	4.0	26.7	40	40	230V, 1-ph
HFRS07	Supply: 55/55	1:1	1.0	6.7	10	10	400V, 3-ph
HFRS08	Supply: 5/5	1:1	1.0	6.7	10	10	400V, 3-ph
HFRS18	Supply: 55/55	4:1	2.5	16.7	40	10	400V, 3-ph
HFRS19	Supply: 55/5	4:1	2.5	16.7	40	10	400V, 3-ph
HFRS20	Supply: 5/5	4:1	2.5	16.7	40	10	400V, 3-ph
HFRS30	Supply: 55/55	5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS31	Supply: 55/5	5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS32	Supply: 5/5	5.33:1	4.8	31.7	80	15	400V, 3-ph
HFRS42	Supply: 55/55	6:1	3.5	23.3	60	10	400V, 3-ph
HFRS43	Supply: 55/5	6:1	3.5	23.3	60	10	400V, 3-ph
HFRS44	Supply: 5/5	6:1	3.5	23.3	60	10	400V, 3-ph
HFRS54	Supply: 55/55	10:1	5.5	36.7	100	10	400V, 3-ph
HFRS55	Supply: 55/5	10:1	5.5	36.7	100	10	400V, 3-ph
HFRS56	Supply: 5/5	10:1	5.5	36.7	100	10	400V, 3-ph
HFRS66	Supply: 55/55	2:1	3.0	20.0	40	20	400V, 3-ph
HFRS67	Supply: 55/5	2:1	3.0	20.0	40	20	400V, 3-ph
HFRS68	Supply: 5/5	2:1	3.0	20.0	40	20	400V, 3-ph
HFRS99	Supply: 55/55	1:1	4.0	26.7	40	40	400V, 3-ph
HFRSA0	Supply: 5/5	1:1	4.0	26.7	40	40	400V, 3-ph

\*Maximum flow rate is an estimate and will vary depending on material viscosity and applicator/static mixer. Max cycle rate is 20 CPM

\*\* All the 230V -1ph are not CE-marked. All the 400V-3ph are CE-marked.

# Selecting the Right System

## Ordering Information

### 2 Supply Pumps

Supply pumps are included with some models.

CM7A59	D200 Supply System, CS, (200 l /55 gal), 20:1
CM7C58	D200 Supply System, SST, (200 l /55 gal), 20:1
CM7A3C	D20 Supply System, CS, (20 l /5 gal), 20:1
CM7C3F	D20 Supply System, SST, (20 l /5 gal), 20:1
24M181	Supply Hose 3/4 in x 4.6m (15 ft) CS
24M182	Supply Hose 3/4 in x 4.6m (15 ft) SST

### 3 Hoses

Hoses are included in base part number.

24M100	Hose kit, 12.7 mm x 3 m (1/2 in x 10 ft), CS, B
24M103	Hose kit, 12.7 mm x 3 m (1/2 in x 10 ft), SST, B
24M105	Hose kit, 12.7 mm x 3 m (1/2 in x 10 ft), CS, A
24M107	Hose kit, 6.3 mm x 3 m (1/4 in x 10 ft), CS, A
24M108	Hose kit, 12.7 mm x 3 m (1/2 in x 10 ft), SST, A
24M109	Hose kit, 6.3 mm x 3 m (1/4 in x 10 ft), SST, A
24M110	Hose kit, 4.8 mm x 3 m (3/16 in x 10 ft), SST, A

### 4 Applicators

255179	1:1 soft seat, adjustable snuff-back (included)
24E250	Orifice kit (included)

#### Graco MD2 Dispense Valve

255180	1:1 hard seat, non-adjustable snuff-back
255181	10:1 soft seat, adjustable snuff-back
255182	10:1 hard seat, adjustable snuff-back

For hand-held applications:

255208	MD2 Electric switch handle
123660	Extension cable

#### Nose piece accessories for MD2 Valve

15K652	1:1 Nightcap (included)
15V628	10:1 Nightcap
255247	1:1 Ratio check nozzle (included)
256794	10:1 Ratio check nozzle
258687	Wide ratio nozzle kit
256793	Assembly tool
15K688	7/8-9 Retaining nut (included)

#### Mixers and shrouds for MD2 Valve

60/0111/50	Mixer 1/2 in x 24
60/0116/50	Mixer 1/2 in x 30
60/0117/50	Mixer 1/2 in x 36
16T001	Shroud 1/2 in x 24
16T002	Shroud 1/2 in x 30
16T003	Shroud 1/2 in x 36

### 5 Fluid Regulator Kits

Set of two regulators included in base part number.

24M132	Fluid regulator kit (includes one 961635) CS
24M133	Fluid regulator kit (includes one C58318) SST

### 6 Accessories

24M154	HFR ISO lubricator kit
24M225	Coupled hose, 180L, 3/4 ID, M, F
24M226	Tandem crossover kit, 20:1, 200 l (55 gal), CS
24M227	Tandem crossover kit, 20:1, 200 l (55 gal), SST
24M228	Tandem crossover kit, 20:1, 20 l (5 gal), CS
24M229	Tandem crossover kit, 20:1, 20 l (5 gal), SST

CS = Carbon Steel

SST = Stainless Steel



# Technology that Boosts Productivity

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

## Intuitive, easy to use controls

The Advanced Display Module provides:

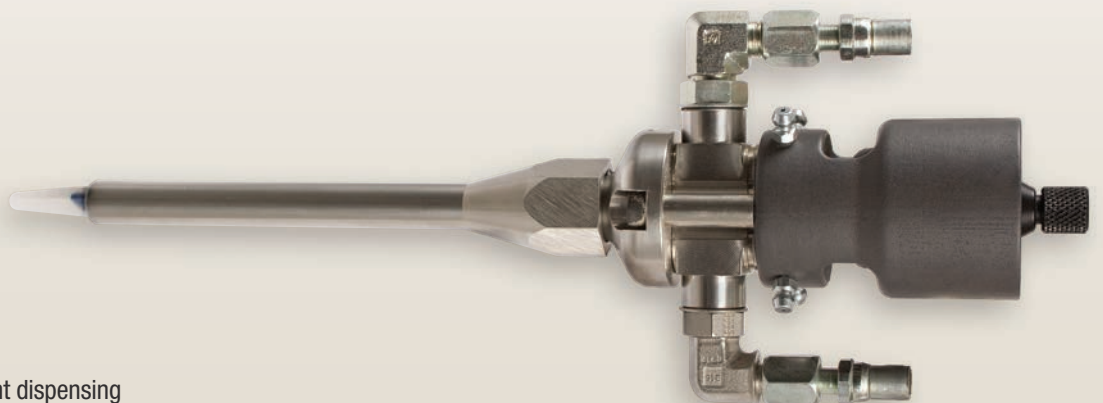
- Programmable shot sizes and sequencing – up to 100 different shot sizes and five sequences of 20 positions each
- Easy configuration of integrated temperature controls
- Immediate access to error/event history
- Material usage and pump cycle counter

## Communications interface for easy data downloads

- USB 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.



## MD2 Dispense Valve

- For accurate two-component dispensing
- Designed with fewer parts
- Easy to clean, minimizes maintenance time and costs
- Complete modular design adapts to different installation needs
- No unique tools needed
- Handles a range of materials
- Lever-actuated dispense valve or manual dispense gun options available



## 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.

## GRACO LOCATIONS

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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.

Graco is certified ISO 9001.



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