



# Filter Applications

Equipment Solutions for Filter Manufacturing

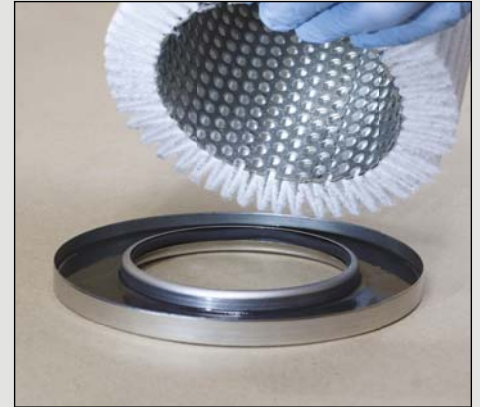
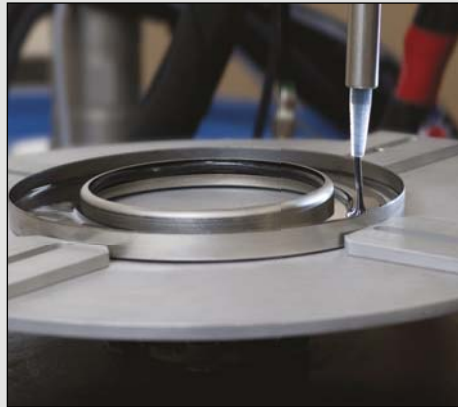
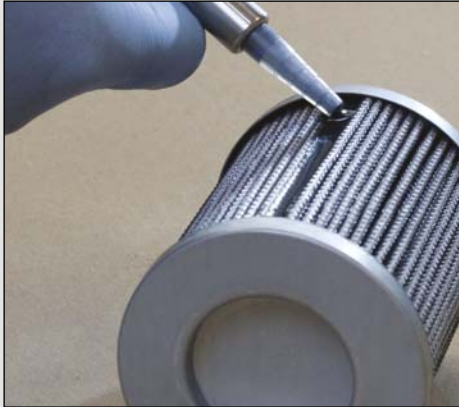


## On-ratio adhesive dispensing – for less waste and more uptime.

- Reliable dispensing equipment for end cap molding, sealing and media bonding
- Ratio assurance results in less material waste, higher yield, reduced scrap and more process confidence
- Easy to program and store multiple shot sizes and sequences
- Accurate, repeatable shot and bead dispensing
- Wide ratio range – 1:1 to 32:1 – lets you switch materials and maintain ratio
- USB interface lets you download process data onto a flash drive to verify the material was dispensed accurately and on-ratio

PROVEN QUALITY. LEADING TECHNOLOGY.

# Increase Process Confidence with On-Ratio Dispensing Solutions



## Reduce scrap and material waste

When you're using plural-component materials for bonding and sealing filters, ratio accuracy is a critical part of the manufacturing process. Without proper ratio assurance, you face the expense of wasted material, scrapped parts and re-work, increased operating costs and reduced profitability.

Graco equipment for filter bonding applications is designed for accurate, on-ratio dispensing. With a pressure transducer option, you have the assurance and peace of mind that your material is dispensed properly and on-ratio.

Digital controls continuously monitor the pressures on the "A" and "B" side and automatically shut down the equipment if off-ratio conditions occur.

By preventing improperly proportioned material from being dispensed, you benefit from:

- Reduced scrap and re-work cost
- Reduced material waste
- Improved yield
- Increased production uptime
- Better overall productivity
- More confidence in end results and quality

## Applications

- Bonding and molding cylindrical end caps for air and hydraulic filters
- Bonding filter elements to HEPA filter frames
- Bonding spiral wound membranes for reverse osmosis filters
- Hollow fiber potting for industrial and medical filters



## Intuitive, easy to use user interface

Both the Graco PR70™ and HFR™ Metering Systems feature intuitive user controls based on the Graco Control Architecture™.

## Less training time

Products using Graco Control Architecture provide similar functionality across your plant – which results in less training time for your operators. In other words, if you learn one system, you are already familiar with the other.

## Graco HFR Metering System

With the Graco HFR Metering System, you accurately hit a specific ratio and volume – first time, every time. Ideal for low- to high-viscosity compounds, this hydraulic, fixed ratio metering system is advanced and reliable, yet affordable.

- Flexible shot size range – well suited for larger shot sizes (10 cc's and above)
- Offers continuous flow bead dispensing (manual or automated)
- Provides a fixed ratio range of 1:1 to 32:1



## Graco PR70 Meter, Mix and Dispense System

The Graco PR70 is a pneumatic system that accurately meters, mixes and dispenses two-component low- to high-viscosity materials for bonding, sealing, molding and potting applications.

- Economical solution for smaller shot sizes (2 to 70 cc's) or bead dispensing
- Offers manual bead dispensing in the operator control mode
- Available in fixed or variable ratio models

## Both the Graco PR70 and HFR offer:

- On-ratio mixing with accuracies of +/- 1%
- Positive displacement piston pumps for shot accuracy
- Heat options to condition high-viscosity materials
- Optional flow meter package for additional ratio detection and data collection
- Multiple feed option variations for tanks and drums, including agitation
- Accurate dispensing — the MD2 valve offers a snuff-back feature for a clean, non-drip shut-off (Hand-held or fixed mount)
- Local service and support through trained distributors

## Features

- Immediate access to error/event history
- Material usage and pump cycle counter
- Simple interface for machine calibration
- Easy configuration of integrated temperature controls
- Programmable shot sizes and sequencing – store up to 50 different shot sizes with the PR70 and 100 for the HFR Metering System



# Technical Specifications

Everything you need to make an informed decision

	PR70	HFR
<b>Materials for filter applications</b>	Polyurethanes, epoxies and silicones	Polyurethanes, epoxies and silicones
<b>Dimensions</b>	PR70 with 7.5 L on-board tanks: 39 (W) x 97(H) x 78(D) cm (15.5 x 38.2 x 30.6 in) PR70 with 60 L off-board tanks: 39 (W) x 97(H) x 78(D) cm (32.1 x 64.9 x 29.3 in)	122 (W) x 150 (H) x 86 (D) cm (48 x 59 x 34 in)
<b>Weight</b>	168 to 54 kg (120 to 370 lb)	287.6 kg to 393.7 kg (634 to 868 lb)
<b>Ratio range</b>	Fixed: 1:1 to 12:1 Variable: 1:1 to 24:1	Fixed: 1:1 to 32:1
<b>Ratio tolerance range</b>	Up to +/- 1%	Up to +/- 1%
<b>Max flow rate – viscosity dependent</b>	Up to 2100 cc's per min at 1:1	Up to 22.6 kg (50 lb) per min
<b>Shot size range</b>	2 to 70 cc's with 1:1 material	10 cc's and above, continuous flow
<b>Maximum fluid working pressure</b>	207 bar (20.7 MPa, 3000 psi)	207 bar (20.7 MPa, 3000 psi)
<b>Fluid viscosity range</b>	Up to 1 million centipoise	Up to 1 million centipoise
<b>Compressed air</b>	< 10 SCFM typical (varies with cycle time)	< 1 SCFM of air to cycle MD2 Valve
<b>Wetted parts</b>	303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant O-rings, PTFE, nylon, UHMWPE	Stainless steel with Chromex™ finish, tungsten carbide seats, UHMWPE pistons
<b>Electrical power</b>	100-240V, 50/60 HZ, 1-ph for machine 100-240V, 50/60 HZ, 1-ph for on board agitators 208-240V, 50/60 HZ, 1-ph for heat	230V, 1-ph -> 116 A / 26680 W 230V, 3-ph -> 73 A / 28600 W 400V, 3-ph -> 41 A / 28600 W
<b>Gateway communications options</b>		Discrete I/O, DeviceNet™, EtherNet I/P™, PROFIBUS™, PROFINET™ Manual 3A1139
<b>Options</b>	<ul style="list-style-type: none"> <li>– Heat options for high-viscosity materials</li> <li>– Feed package options available for agitation, heat and degassing applications (See 338863 for complete list of options)</li> <li>– Transducer package for ratio assurance</li> <li>– Flow meter package for ratio assurance</li> </ul>	<ul style="list-style-type: none"> <li>– Heat options for high-viscosity materials</li> <li>– Multiple feed option variations for tanks and drums, including agitation and level sensing</li> <li>– Flow meter package for ratio assurance</li> <li>– Transducer package for ratio assurance is standard</li> </ul>
<b>Manual</b>	312393 / 312759 / 312760	313997 / 313998



*Optional flow meter package monitors the flow of "A" and "B" materials, detects out-of-ratio conditions and records data for further analysis. For Graco PR70 or HFR Metering System.*

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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