

Reactor 2™ Ratio Assurance System



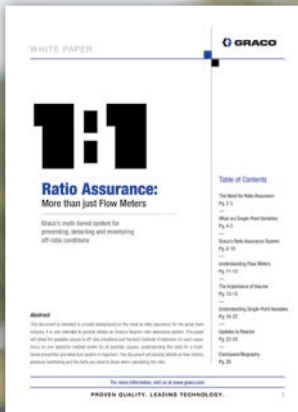
Prevent, Detect and Monitor
Off-Ratio Conditions



PROVEN QUALITY. LEADING TECHNOLOGY.

Knowledge is Power

Graco has engineered a multi-tiered system for ratio prevention and detection. As a contractor, having the confidence you are spraying on-ratio is critical. This system is designed to monitor and detect issues that may cause off-ratio spraying.



View the complete White Paper at www.graco.com/RAWP

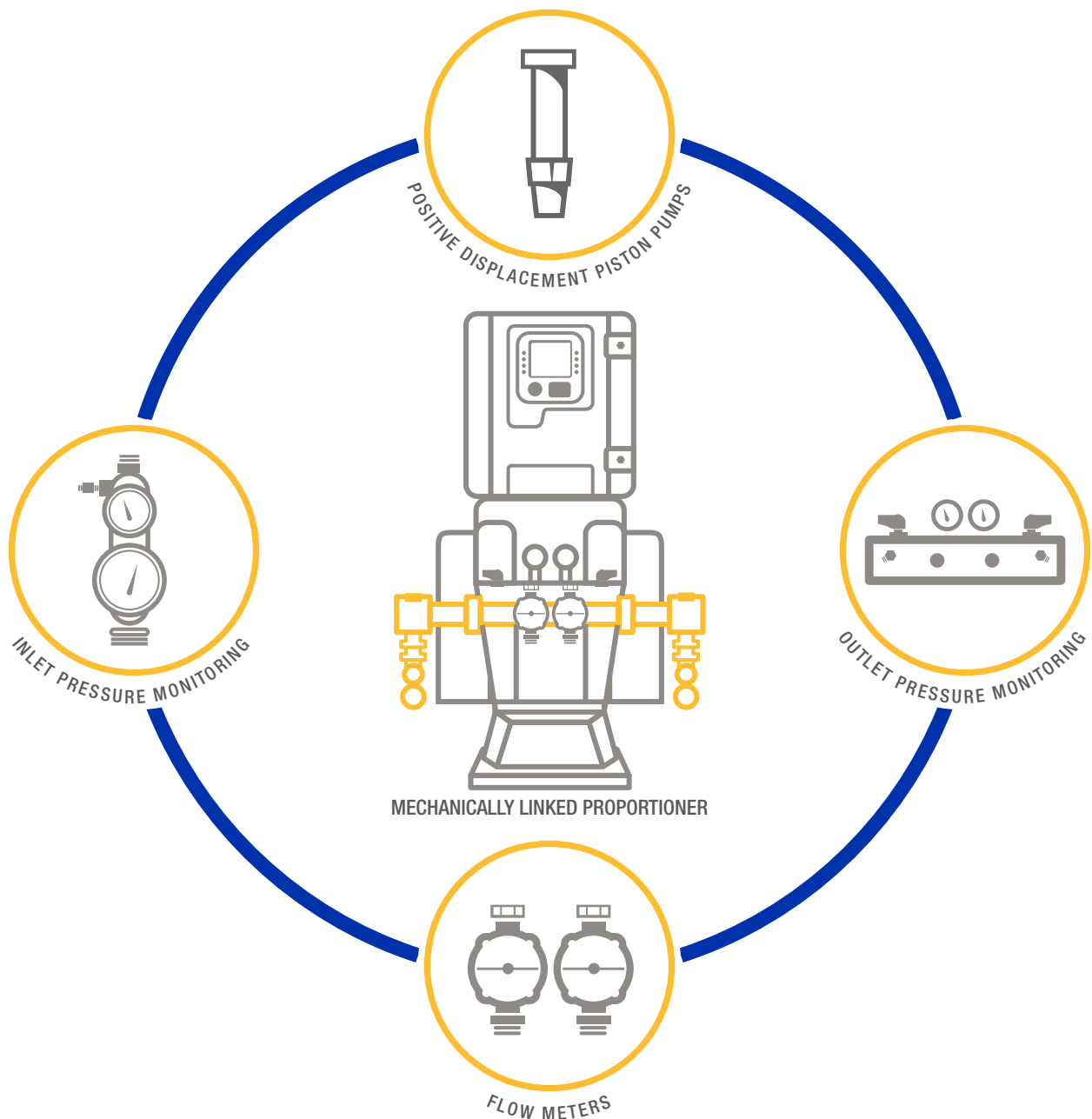
Take the next step in the spray foam & polyurea industry

Graco's Ratio Assurance System is an industry leading solution:

- Assurance that foam/polyurea was sprayed correctly
- Peace of mind to homeowners and sprayers
- Eliminate costly repairs and call-backs
- Quick detection of equipment issues and off-ratio foam
- Confidence for sprayers new to the industry
- Avoid misapplied foam/polyurea

Ratio Assurance System includes pressure and flow meter monitoring







The Reactor 2 Ratio Assurance System is designed to provide ratio detection so your job is being applied on-ratio and within tolerance. Since no single detection method is best at detecting all possible issues it is important to have a robust multi-tiered detection system. The Graco system uses a combination of mechanically linked positive displacement piston pumps, pressure monitoring and flow meters to create a robust system that will provide unsurpassed results in maintaining on-ratio spraying.



Detection Methods to eliminate off-ratio conditions.

Graco has identified the best method of detection for issues that may cause off-ratio foam to be sprayed. These issues are called single-point variables. Utilising inlet and outlet pressure monitoring and flow meters, the Reactor 2 can monitor for these issues and shut the proportioner down if required. The operator can then make the necessary updates in order to eliminate the off-ratio condition.

 **BEST**  **BETTER**  **GOOD**

| Category Type | Single-Point Variables | Reactor Detection Method | | |
|---|--|--------------------------|------------------------|-------------|
| | | Inlet Pressure Sensor * | Outlet Pressure Sensor | Flow Meters |
|  Air in fluid stream | Run away feed pump/ Running out of chemical | NA | Better | Better |
| | Trapped air in the feed line and/or proportioner | NA | Good | Best |
|  Undersized feed pump | Too large of a mix chamber being used | Best | Good | Better |
| | Too high of proportioner pressure setting | Best | Good | Better |
| | Too long of a trigger pull | Best | Good | Better |
|  Poor material feed to proportioner | Cold material(s) | Best | Better | Good |
| | Feed pump pressure set too low | Best | Good | Better |
| | Damaged feed pump (seals, check ball, air motor) | Best | Good | Better |
| | No feed pump pressure | Best | Good | Better |
| | Plugging inlet filter | Best | Good | Better |
|  Proportioner pump issue | Damaged proportioner pump foot valve ball/seat | Best | Good | Better |
| | Damaged proportioner pump piston ball/seat | NA | Better | Best |
| | Damaged proportioner pump seal | NA | Better | Best |
|  Fluid leaks | Leak between proportioner pump and flow meter | NA | Better | Best |
| | Leak in heated hose | NA | Best | NA |
|  Restriction after flow meter | Blockage in heated hose, build-up on ID of hose(s) ** | NA | Best | NA |
| | Plugged gun filter ** | NA | Best | NA |
| | Gun impingement port plugging ** | NA | Best | NA |

* Requires updated Reactor software (version 3.02 or newer) to properly detect the issue.

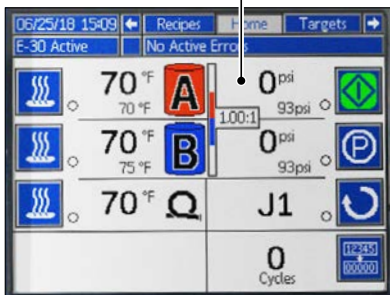
** May not cause off-ratio dispensing but may cause impingement mix issues.

Ratio Assurance System is standard on Reactor 2 elite models

Reactor 2 elite models E-30, H-30, H-40, H-50, E-XP2, H-XP2 and H-XP3 now include factory installed flow meters. All Reactor 2 models include updated software to allow for flow meters to be added and configured and for refinements to optimise inlet pressure detection and add Reactor Smart Control to electric models.

Updated ADM

- Home screen update to include the real-time ratio value and ratio gauge



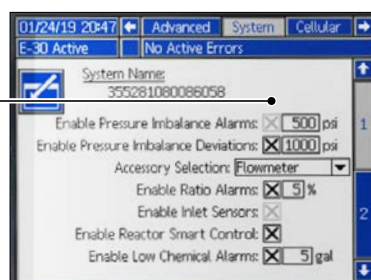
Reactor Smart Control

- RSC will automatically make adjustments to the Reactor to attempt to prevent off-ratio dispensing.

*only available for E-30 & E-XP2 models

ADM Set-up: System Screen

- Updated ADM set-up screen to allow easy configuration of flow meters and enabling alarms



Oval Gear Flow Meters

- Simple and robust design
- Ideally suited for high flow rate measurements
- Accuracy of $\pm 1\%$ once factory calibrated

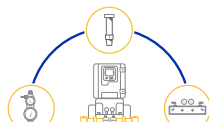


Data Analysis & Reporting

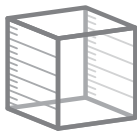
includes pressure and flow meter monitoring

The Reactor App provides access to summary and detail ratio reports and graphs. Reports can be viewed, emailed, shared and printed using the app. The data can be downloaded in an Excel or PDF format.

Reports for Each Reactor



Ratio data showing average ratio, ratio range across a specific timeframe and ratio alarm count



Volume of material usage



Temperature data including A, B and hose set points and averages



Pressure data including A and B set point and average

Ordering Information

Graco's Ratio Assurance System can be added to any Reactor 2 (E-30, E-30i, H-30, H-40, H-50, E-XP2, E-XP2i, H-XP2 and H-XP3). Retrofit kits are available for existing units in the field. These kits include: flow meters, a software update token, cables and the necessary hardware.

REACTOR 2 FLOW METER HARDWARE KITS



| | | |
|--|---------------|---|
| For Reactor E-30 non-elite models (2018 and older) | 25N749 | Flow Meter kit – includes flow meters, Y-strainers with inlet sensors, Motor Control Module (MCM), all cables and mounting hardware |
| For Reactor E-30 non-elite models (2019 and newer) | 25N786 | Flow Meter kit – includes flow meters, inlet sensors, all cables and mounting hardware |
| For Reactor E-30 elite models | 25N913 | Flow Meter kit – includes flow meters, Y-strainers with inlet sensors, all cables and mounting hardware |
| For Reactor E-30i (generation 2) | 25N926 | Flow Meter kit – includes flow meters, Y-strainers with inlet sensors, all cables and mounting hardware |
| For Reactor H-30, H-40 and H-50 non-elite models | 25N786 | Flow Meter kit – includes flow meters, inlet sensors, all cables and mounting hardware |
| For Reactor H-30, H-40 and H-50 elite models | 25N748 | Flow Meter kit – includes flow meters, all cables and mounting hardware |

REACTOR 2 HIGH-PRESSURE FLOW METER HARDWARE KITS



| | | |
|---|---------------|---|
| For Reactor E-XP2 non-elite models (2018 and older) | 25P384 | Flow Meter kit – includes flow meters, Y-strainers with inlet sensors, Motor Control Module (MCM), all cables and mounting hardware |
| For Reactor E-XP2 non-elite models (2019 and newer) | 25P385 | Flow Meter kit – includes flow meters, inlet sensors, all cables and mounting hardware |
| For Reactor E-XP2 elite models (2018 and older) | 25P386 | Flow Meter kit – includes flow meters, all cables and mounting hardware |
| For Reactor E-XP2 elite models (2019 and newer) | 25P383 | Flow Meter kit – includes flow meters, all cables and mounting hardware |
| For Reactor E-XP2i (generation 2) | 25P387 | Flow Meter kit – includes flow meters, Y-strainers with inlet sensors, all cables and mounting hardware |
| For Reactor H-XP2 and H-XP3 non-elite models | 25P385 | Flow Meter kit – includes flow meters, inlet sensors, all cables and mounting hardware |
| For Reactor H-XP2 and H-XP3 elite models | 25P383 | Flow Meter kit – includes flow meters, all cables and mounting hardware |



REACTOR 2 APP HARDWARE KITS

Worldwide Kits (3G Cell Module)

- 25D612** Reactor 2 Retrofit kit – for Electric and Hydraulic systems
- 25D614** Reactor 2 Retrofit kit – for Integrated Systems (E-30i, E-XP2i)



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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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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