ProMix® 2KS and 3KS
Two- and Three-Component Electronic Proportioning System
Increase Efficiency and Productivity!

Graco’s Electronic Proportioners

ProMix® 2KS offers precise and reliable electronic proportioning for a broad range of solventborne, waterborne and acid catalyzed materials.

From entry level to upgraded applications, the ProMix 2KS provides flexibility and increased efficiency – including optimized flushing sequences and an optional third purge valve to properly manage waterborne urethanes for manual and automatic operation.

Upgrade to ProMix 3KS

ProMix 3KS offers precision mixing of three component materials and accurately reduces your material to the correct spray viscosity as conditions change.

ProMix 2KS Features

- Manual and automatic configurations
- Intrinsically safe fluid panels allow for integration into hazardous areas*
- Single or multi-color and catalysts
- Accurate ratio assurance for superior finish quality
- Simple programming allows fast set up and efficient process control
- Advanced web interface provides consolidated system management and reporting

Key Materials

- Solventborne epoxies and polyurethanes
- Waterborne epoxies and polyurethanes
- Acid catalyzed materials

Why Electronic Proportioning?

- Offers the highest degree of ratio assurance
- Provides critical process variable feedback
- Built-in system safeguards
- Effective color change solution
- Efficient material tracking and reporting

*All accessories and installations need to meet local, state and national codes
ProMix 2KS is available in a variety of system level configurations. Each one includes an EasyKey™ display along with a Smart Fluid Panel. Color and catalyst change is easily integrated with a plug-and-play control module and valves.

1. **Manual Wall Panel**
   Manual systems benefit from an additional Remote Operator Station that allows fingertip control inside the spray booth.

2. **Automatic Wall Panel**
   Optional flow control is cleanly integrated without incorporating a mixed material line meter. Pressure and flow loops provide fast step changes with superior closed loop control.

3. **Automatic RoboMix Panel**
   This fluid panel can be easily integrated near the spray gun for a shorter mixed material line, faster color changes and less waste. Also available with flow control.
Graco’s EasyKey user interface offers simple navigation, multiple language capabilities and a high degree of reliability.

The large LCD display screen is easy to read and operate during machine set up and process monitoring.

The independent touch pad keeps contaminants off the screen while the large keys allow for clear data entry.

The remote operator station can be mounted inside the spray booth or near the operator for quicker response times.

The station offers easy-to-use controls for mixing, standby, purging, reading/clearing alarms, inputting job complete and recipe select functions.
Productive Panels

Intrinsically safe fluid panels offer increased proportioning and flushing functionality, resulting in improved process performance.

Versatile Dosing

Multiple sequential dose sizes allow the system to meet a broad range of applications without sacrificing performance and quality. Dynamic dosing provides additional proportioning technology to meet unique applications needs.

On-Ratio Performance

Volume based dosing provides exceptional ratio accuracy across varying flow rates or gun triggering conditions. On-the-fly monitoring and compensation enhance performance and finish quality.

Consistent Mix Quality

Optimized mix chamber hardware, along with high-speed processors and dispense valves, generate precise performance and consistent, high quality mixed material.

Fast Color Change with Reduced Waste

New fluid manifold design reduces material volume and streamlines fluid porting for cleaner flushing. Manifold dump valves allow simultaneous purging and loading – reducing color change time and providing better waste containment.

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Wall Panel
- Up to 50:1 mix ratio for a variety of applications
- Up to 4000 psi (275.6 bar) working pressure for single color and catalyst, supports all spray technologies
- Supports two manual spray guns and gun flush boxes

RoboMix
- Up to 50:1 mix ratio for a variety of applications
- Up to 250 psi (17.2 bar) working pressure
- Lightweight, compact design allows easier integration closer to the spray gun
- Can be interfaced with manual spray guns
**Fluid Manifold**

1. **Dispense Valves**
   Remove high speed cartridge style valves without disconnecting fluid lines for easier serviceability.

2. **Manifold Flush Valves**
   Flush mixed material without wasting premixed resin and catalyst. Add a third valve to the resin side for enhanced flushing, especially with waterborne materials.

3. **Shutoff and Sample Valves**
   Ensure accurate volume measurements for meter calibrations and ratio checks with positive shutoff and convenient sampling.

4. **Integration Chamber**
   (25 cc shown)
   Accommodate a wide range of hardware to support multiple dose size options. Optimizes fluid manifold for particular application needs.

5. **Fluid Porting**
   Compact, low volume design with no material dead spots, provide faster flushing time and less waste.
Complete Your System!

Today’s demanding applications require more than just precise and reliable proportioning from a ProMix 2KS. Graco offers a variety of flow meter technologies and accessories that will enhance your finishing operation.

Flow Meters
- Complete line of spur gear, helical gear, and non-intrusive Coriolis meters
- Supports a broad range of material types and physical characteristics

Gun Flush Box
- Automated flushing system for manual spray guns
- Eliminates manual gun triggering for more accurate flushing and filling, and less waste

Intrinsically Safe Color and Catalyst Change Module
- Provides easy and flexible installation without running long pneumatic lines
- Accommodates future color and catalyst needs with upgradable module

Integrated Flow Control
- Eliminates a long pneumatic control line and associated lag with intrinsically safe control module
- Produces quick responses and superior process control with on-board electronics and control hardware
- Provides accurate and consistent flow control for increased material savings

Advanced Web Interface
- Perform quick and easy system configuration and recipe set up
- Offers convenient process monitoring and streamlines data gathering and reporting
- Manages operations more efficiently by networking multiple ProMix 2KS systems to a single PC

Communication Gateway
- Provides network integration for automatic systems
- Offers integration flexibility with multiple protocol capabilities
- Reduces installation time with quick plug-and-play set up

Advanced Web Interface screen shot
Upgrade to ProMix 3KS

Precision Mixing of Three-Component Materials

• Manual or automatic operation
• Up to 25 colors, 4 catalysts, and 4 reducers in modular color change system
• Intrinsically safe fluid panel for operation in hazardous areas*
• Optimized flushing sequences including third flush option

*All accessories and installations need to meet local, state and national codes

ProMix 3KS Example System

Step 1: Identify
Specify your base system.

Step 2: Upgrade!
Choose the ProMix 3KS Module to fit your system.

<table>
<thead>
<tr>
<th>T</th>
<th>K</th>
<th>X</th>
<th>X</th>
<th>O</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Component Meter Color Valves</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ProMix 3KS Technical Specifications

Mix Ratio Range*

Sequential Dosing 1st stage: 0.1:1 to 50:1
2nd stage: 0.1:1 to 50:1

Dynamic Dosing 1st stage: 0.1:1 to 30:1
2nd stage: 0.1:1 to 30:1

Ratio Accuracy up to ±1% minimum (user selectable)

External Power Supply Requirements 85-250Vac, 50/60 Hz. 2 amps max draw, 15 amp circuit breaker required, 8 to 14 AWG power supply wire gauge

Operating Temperature Range 41 to 122°F (5 to 50°C)

Noise Level
Sound pressure level below 70 dBA
Sound power level below 85 dBA

Wetted Parts 303 SST, 17-4 SST, PTFE, perfluoroelastomer, tungsten carbide with nickel binder

Weight
3KS Wall fluid panel 32.6 lb (14.8 kg)
Power/Barrier Assy 15.2 lb (6.9 kg)

ProMix 3KS Accessories

Cables
123277 6 ft Yellow Color Change/Booth Control
123280 50 ft Yellow Color Change/Booth Control
123273 10 ft Green CAN Cable
123274 25 ft Green CAN Cable
123271 50 ft Red Power Cable
123272 100 ft Red Power Cable

Miscellaneous Kits
16A732 3K Floor Stand Extension Extends 15V950 2KS floor stand for 3KS use

*Ratio ranges are dependent on flow rate, dose size and meter resolution
**ProMix 2KS**

**Technical Specifications**

Maximum working air pressure .................................................. 100 psig (7 bar)
Air supply ............................................................................... 75 to 100 psig (5 to 7 bar)

**Air filtration**

- Air logic (Graco supplied) .......................................................... 5 micron
- Air purge (user supplied) ............................................................. 30 micron clean/dry
- Air for atomizing (user supplied) ......................................... minimum of 30 micron clean/dry

Mix ratio range

- Sequential dosing ......................................................................... 0.1:1 to 50:1
- Dynamic dosing ............................................................................ 0.1:1 to 30:1

Ratio accuracy .............................................................................. up to ±1% minimum (user selectable)

**Fluids handled**

- one or two component: solvent and waterborne paints;
- polyurethanes; epoxies; acid catalyzed varnishes; moisture sensitive isocyanates

**Fluid filtration** ............................................................................. 100 mesh min

**Flow meters**

<table>
<thead>
<tr>
<th>METER</th>
<th>TYPE</th>
<th>MAX PRESSURE</th>
<th>FLOW RANGE</th>
<th>VISCOSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>G250</td>
<td>Spur Gear</td>
<td>250 psi (17.2 bar)</td>
<td>75-3800 cc/min</td>
<td>20-3000 cps</td>
</tr>
<tr>
<td>G250HR</td>
<td>Spur Gear</td>
<td>250 psi (17.2 bar)</td>
<td>38-1900 cc/min</td>
<td>20-3000 cps</td>
</tr>
<tr>
<td>G3000</td>
<td>Spur Gear</td>
<td>4000 psi (275 bar)</td>
<td>75-3800 cc/min</td>
<td>20-3000 cps</td>
</tr>
<tr>
<td>G3000HR</td>
<td>Spur Gear</td>
<td>4000 psi (275 bar)</td>
<td>38-1900 cc/min</td>
<td>20-3000 cps</td>
</tr>
<tr>
<td>HG6000</td>
<td>Helical Gear</td>
<td>6000 psi (413 bar)</td>
<td>50-7500 cc/min</td>
<td>30-100,000 cps</td>
</tr>
<tr>
<td>1/4&quot; Coriolis</td>
<td>Single Tube</td>
<td>2300 psi (158 bar)</td>
<td>20-3800 cc/min*</td>
<td>0.1-3000 cps</td>
</tr>
<tr>
<td>3/8&quot; Coriolis</td>
<td>Single Tube</td>
<td>2300 psi (158 bar)</td>
<td>50-3800 cc/min*</td>
<td>0.1-3000 cps</td>
</tr>
<tr>
<td>S3000 (Solvent Meter)</td>
<td>Spur Gear</td>
<td>3000 psi (206 bar)</td>
<td>50-1600 cc/min</td>
<td>0.5-1000 cps**</td>
</tr>
</tbody>
</table>

*Ratio and K-factor dependent
**No filled materials

Component working pressure

- Wall fluid panel (no meters) .................................................. 4000 psig (275 bar)
- RoboMix fluid panel (G250 meters) ..................................... 250 psi (17.2 bar)
- Flow control regulator ......................................................... 200 psi (13 bar)
- Low pressure color change valves ....................................... 300 psi (20.6 bar)
- High pressure color change valves ....................................... 3000 psi (206.7 bar)

External power supply requirements ................................. 85-250 Vac, 50/60 Hz. 2 amps maximum draw, 15 amp maximum circuit breaker required, 8 to 14 AWG power supply wire gauge

Operating temperature range ................................................. 41 to 122°F (5 to 50°C)

Noise level

- Sound pressure level .............................................................. below 70 dBA
- Sound power level ................................................................. below 85 dBA

Wetted parts ............................................................................. 303 SST, 17-4 SST, PTFE, perfluoroelastomer, tungsten carbide with nickel binder

Weight

- EasyKey display ................................................................. 21.75 lb (9.8 kg)
- Remote operator station ....................................................... 0.95 lb (0.43 kg)
- Wall fluid panel (no meters) .................................................. 50 lb (22.7 kg)
- RoboMix fluid panel (G250 meters included) ...................... 31.6 lb (14.3 kg)
- Flow control regulator .......................................................... 4 lb (1.8 kg)

Approved for hazardous locations ................................. US and Canada - class 1 Div 1 Group D T3
Europe - Zone 0 Ex ia IIA T3/ATEX II2G T3

Environmental condition rating ........................................... indoor use, pollution degree (2), installation category II
## ProMix 2KS
### Ordering Information

#### Manual Wall Panel

<table>
<thead>
<tr>
<th>Interface</th>
<th>A &amp; B Meter</th>
<th>Color Valves*</th>
<th>Catalyst Valves</th>
<th>Applicator Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>D = EasyKey with LCD Display</td>
<td>0 = No Meter</td>
<td>0 = No Valves (Single Color)</td>
<td>0 = No Valves (Single Catalyst)</td>
</tr>
<tr>
<td></td>
<td>1 = G3000 A &amp; B</td>
<td>1 = 2 Colors LP</td>
<td>1 = 2 Catalysts LP</td>
<td>2 = 2 AFS</td>
</tr>
<tr>
<td></td>
<td>2 = G3000HR A &amp; B</td>
<td>2 = 4 Colors LP</td>
<td>2 = 4 Catalysts LP</td>
<td>3 = 1 AFS with 1 GFB</td>
</tr>
<tr>
<td></td>
<td>3 = 1/4&quot; Coriolis A &amp; G3000 B</td>
<td>3 = 7 Colors LP</td>
<td>3 = 2 Catalysts HP</td>
<td>4 = 2 AFS with 2 GFB</td>
</tr>
<tr>
<td></td>
<td>4 = G3000 A &amp; 1/4&quot; Coriolis B</td>
<td>4 = 12 Colors LP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 = 1/4&quot; Coriolis A &amp; G3000HR B</td>
<td>5 = 2 Colors HP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 = G3000HR A &amp; 1/4&quot; Coriolis B</td>
<td>6 = 4 Colors HP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 = 1/4&quot; Coriolis A &amp; 1/4&quot; Coriolis B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Order additional low pressure valves or other high pressure valve configurations as kits (see accessories). Manual systems only include dump valves when color and catalyst change are selected.

#### Automatic Wall Panel

<table>
<thead>
<tr>
<th>Interface</th>
<th>A &amp; B Meter</th>
<th>Color Valves*</th>
<th>Catalyst Valves</th>
<th>Flow Control**</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>D = EasyKey with LCD Display</td>
<td>0 = No Meter</td>
<td>0 = No Valves (Single Color)</td>
<td>N = No***</td>
</tr>
<tr>
<td></td>
<td>1 = G3000 A &amp; B</td>
<td>1 = 2 Colors LP</td>
<td>1 = 2 Catalysts LP</td>
<td>Y = Yes</td>
</tr>
<tr>
<td></td>
<td>2 = G3000HR A &amp; B</td>
<td>2 = 4 Colors LP</td>
<td>2 = 4 Catalysts LP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = 1/4&quot; Coriolis A &amp; G3000 B</td>
<td>3 = 7 Colors LP</td>
<td>3 = 2 Catalysts HP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = G3000 A &amp; 1/4&quot; Coriolis B</td>
<td>4 = 12 Colors LP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 = 1/4&quot; Coriolis A &amp; G3000HR B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 = G3000HR A &amp; 1/4&quot; Coriolis B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 = 1/4&quot; Coriolis A &amp; 1/4&quot; Coriolis B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Order additional low pressure valves or other high pressure valve configurations as kits (see accessories). **Automatic systems with flow control include the integrated fluid regulator module. ***If an external regulator module is desired, order N = No for flow control and order control module, cable and fluid regulator separately.

#### Automatic RoboMix Panel

<table>
<thead>
<tr>
<th>Interface</th>
<th>A &amp; B Meter</th>
<th>Color Valves*</th>
<th>Catalyst Valves</th>
<th>Flow Control**</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>D = EasyKey with LCD Display</td>
<td>0 = No Meter</td>
<td>0 = No Valves (Single Color)</td>
<td>N = No***</td>
</tr>
<tr>
<td></td>
<td>1 = G250 A &amp; B</td>
<td>1 = 2 Colors LP</td>
<td>1 = 2 Catalysts LP</td>
<td>Y = Yes</td>
</tr>
<tr>
<td></td>
<td>2 = G250HR A &amp; B</td>
<td>2 = 4 Colors LP</td>
<td>2 = 4 Catalysts LP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = 7 Colors LP</td>
<td>3 = 7 Colors LP</td>
<td>3 = 2 Catalysts HP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = 12 Colors LP</td>
<td>4 = 12 Colors LP</td>
<td>4 = 2 Catalysts HP</td>
<td></td>
</tr>
</tbody>
</table>

*Order additional low pressure valves as kits (see accessories). **Automatic systems with flow control include the integrated fluid regulator module. ***If an external regulator module is desired, order N = No for flow control and order control module, cable and fluid regulator separately.

LP = low pressure; HP = high pressure; AFS = air flow switch; GFB = gun flush box
Meter Kits
Contains one flow meter, cable and hardware
15V804 G3000 Flow Meter
15V827 G3000HR Flow Meter
15V820 HG6000 Flow Meter
24M261 1/4” Coriolis Flow Meter
258151 3/8” Coriolis Flow Meter
16D329 S3000 (Solvent) Flow Meter

Low Pressure Color Change Kits
Contains color valves and solenoid control module. Order dump valves separately.
256609 2 Color
256608 4 Color
256606 7 Color
256605 12 Color
256602 2 Color and 2 Catalyst
256601 4 Color and 2 Catalyst
256600 4 Color and 4 Catalyst
256604 7 Color and 2 Catalyst
256602 7 Color and 4 Catalyst
256601 12 Color and 2 Catalyst
256600 12 Color and 4 Catalyst
256598 13-18 Colors
256596 13-24 Colors
256594 13-30 Colors
256595 0 Colors and 2 Catalysts

High Pressure Color Change Kits
Contains color valves and solenoid control module. Order dump valves separately.
256596 2 Color
256597 4 Color
256598 7 Color
256599 12 Color
256600 2 Color and 2 Catalyst
256601 4 Color and 2 Catalyst
256602 4 Color and 4 Catalyst
256603 7 Color and 2 Catalyst
256604 7 Color and 4 Catalyst
256605 12 Color and 2 Catalyst
256606 12 Color and 4 Catalyst
256607 13-18 Colors
256608 13-24 Colors
256609 13-30 Colors
256610 0 Colors and 2 Catalysts

Valve Kits
Contains valve, solenoid and hardware
15V821 Wall Panel Dump Valve
15V824 Wall Panel 3rd Flush Valve
15V822 RoboMix Panel Dump Valve
15V202 RoboMix Panel 3rd Flush Valve
15V877 Stainless Steel Needle
High pressure valve
15V737 Lubrication Cup
High and low pressure valve - supplies lubrication to the valve needle and seal
15U932 Carbide Seat
High pressure valve

Dosing Kits
Contains fluid manifold hardware
15V034 10 cc Sequential Dosing
15V033 25 cc Sequential Dosing
15V021 50 cc Sequential Dosing
24B618 100 cc Sequential Dosing
15U955 0 cc Dynamic Dosing

RoboMix Panel Kits
Used to interface up to two air flow switches and two gun flush boxes to a RoboMix Panel. Order air flow switch or gun flush box kits separately.
15V267 RoboMix Panel Ratio Check Kit
15V534 Manual Gun Interface Kit

Communication Kits
15V825 Discrete I/O Integration Board Kit
Contains inputs and outputs for controlling automatic integration and special output functionality. Included in automatic kits.
15W023 Communication + I/O Harness Kit
Cable and terminal strip for alarm monitoring, remote stop input and flow control inputs. Included in automatic kits.
15V331 Ethernet IP Gateway Assembly
15V963 DeviceNet Gateway Assembly
15V964 Probus Gateway Assembly
Network communication assembly for automatic integration. Contains gateway module, power supply, and enclosure.
15V337 Advanced Web Interface with Eight Port Hub
Contains web server module, power supply, eight port hub and enclosure
15V336 Eight Port Ethernet Hub
Contains eight port hub, power supply and enclosure
121998 25 ft CAT V Cable
121999 50 ft CAT V Cable
15V642 100 ft CAT V Cable
15V643 200 ft CAT V Cable

Cables
15V213 100 ft Power Cable
15G710 100 ft Fiber Optic Cable
15U977 40 ft Flow Control Extension Cable
15U532 3 ft CAN Cable
15V205 6 ft CAN Cable
15V206 10 ft CAN Cable
15V207 15 ft CAN Cable
15V208 25 ft CAN Cable
15U533 50 ft CAN Cable

Miscellaneous Kits
15V826 Gun Flush Box Kit
Contains guns flush box and control hardware
570123 Gun Flush Box Wall Mount Kit
15V823 Gun Air Shut off Kit
Used to automatically shut off gun atomizing air during flush and fill sequences without a gun flush box
15T632 Air Flow Switch Kit
15V250 Remote Operator Station Kit
15V256 Manual to Automatic Conversion Kit
15X247 Auto Dump Kit
Used to incorporate an auto dump feature without a gun flush box. Contains a dump valve, solenoid and hardware
949122 Clear Plastic Static Mixer
15V536 Solvent Flow Switch
Used to detect solvent flow during flush sequences
15W034 Alarm Light for Manual Systems
122193 Alarm Light for Automatic Systems
15V950 Floor Stand
Contains provisions for mounting a wall fluid panel, EasyKey display and color change module.
197902 EasyKey Paint Shields
Includes 10 disposable clear plastic shields to cover the EasyKey display and shield it from paint overspray
15M483 Remote Operator Station Paint Shields
Includes 10 disposable clear plastic shields to cover the remote operator station display and shield it from paint overspray
15W600 Wall Panel Fluid Manifold Cover

Gun Flush Box Gun Holders
198787 Graco Pro Xs2
198405 Graco Pro Xs3, Pro Xs4
196768 Graco PRO 3500, 3500hc, 4500
15T646 Graco AirPro Air Spray
196769 Graco Delta Air Spray
196770 Graco Alpha
196771 Graco Alpha Plus, Alpha Plus RAC
15G093 Graco G15
15G346 Graco G40, G40 RAC
15G345 Graco Pro Xs3, Pro Xs4
24N528 Graco Pro Xp60 and Pro Xp80
24N529 Graco Pro Xp40

Flow Control Parts & Accessories
249849 Flow Control module, integrated fluid regulator
249899 Flow Control module, external fluid regulator (fluid regulator not included)
15U977 Cable, flow control
Required for 24H989. Included with integrated flow control (24H849) when ordered with a ProMix 2KS system.
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.

Call today for product information or to request a demonstration.

877-84GRACO (1-877-844-7226) or visit us at www.graco.com.

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