ProMix™ 2KS

Two-Component Electronic Proportioning System

Introducing Graco's new line of 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. With outstanding performance in one easy-to-use design, let ProMix 2KS enhance your finishing operation today.

Features

• Manual and automatic configurations

• Intrinsically safe fluid panels allow for integration into hazardous areas

• Single- or multi-colour 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 colour change solution

• Efficient material tracking and reporting

Three Systems in One

ProMix 2KS is available in a variety of system level configurations. Each one includes an EasyKey™ display along with a Smart Fluid Panel.

Colour and catalyst change is easily integrated with a plug-and-play control module and valves.

Use up to 30 colours and 4 catalysts.
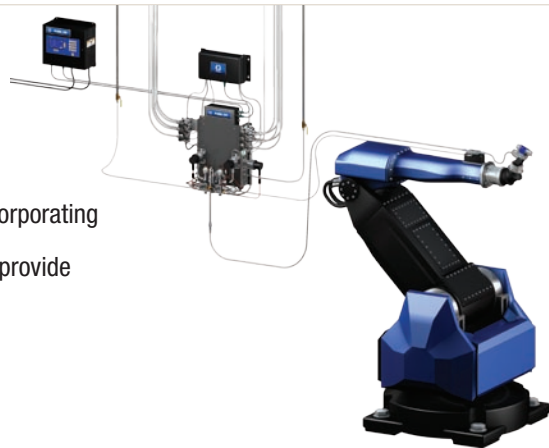
1 Manual Wall Panel

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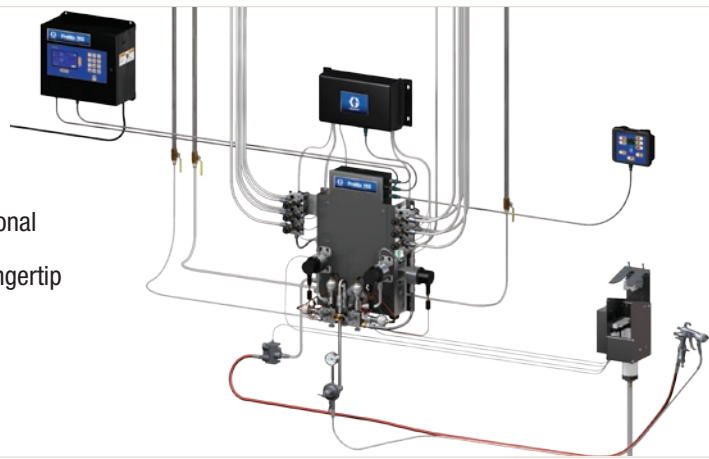
2 Automatic Wall Panel

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 colour changes and less waste. Also available with flow control.

EasyKey™ Display

Easy Operation

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

Graco's EasyKey user interface offers simple navigation, multiple language capabilities and a high degree of reliability. The large LCD display screen is simple to read and operate during machine set up and process monitoring.

EasyKey with Display
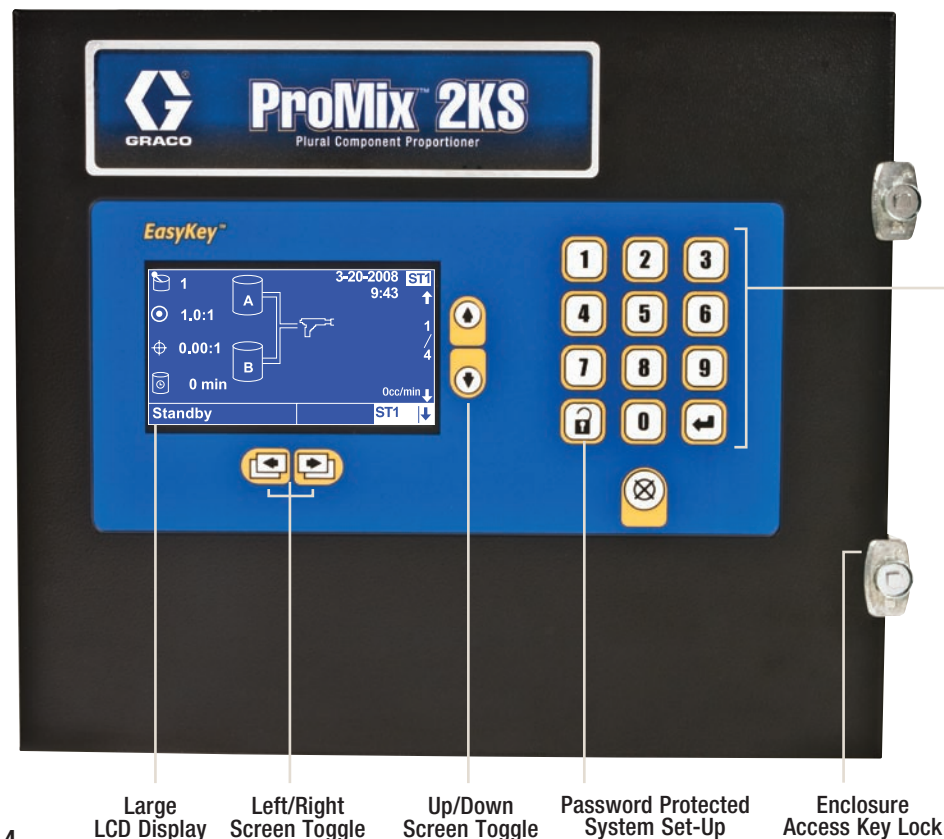
Independent Keypad

EasyKey without Display
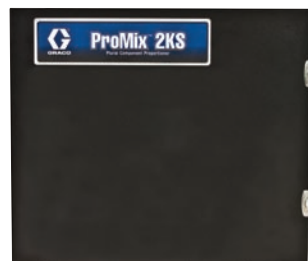
Network multiple ProMix 2KS systems to a single EasyKey with display

Large LCD Display Left/Right Screen Toggle Up/Down Screen Toggle Password Protected System Set-Up Enclosure Access Key Lock

Remote Operator Station

Convenient Control

Perform all proportioning functions without leaving the spray booth.

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.

Detachable Wall Bracket

Recipe and Alarm Code Indicator

Alarm Clear

Job Complete

Recipe Select

Enter

Mix   Standby   Purge
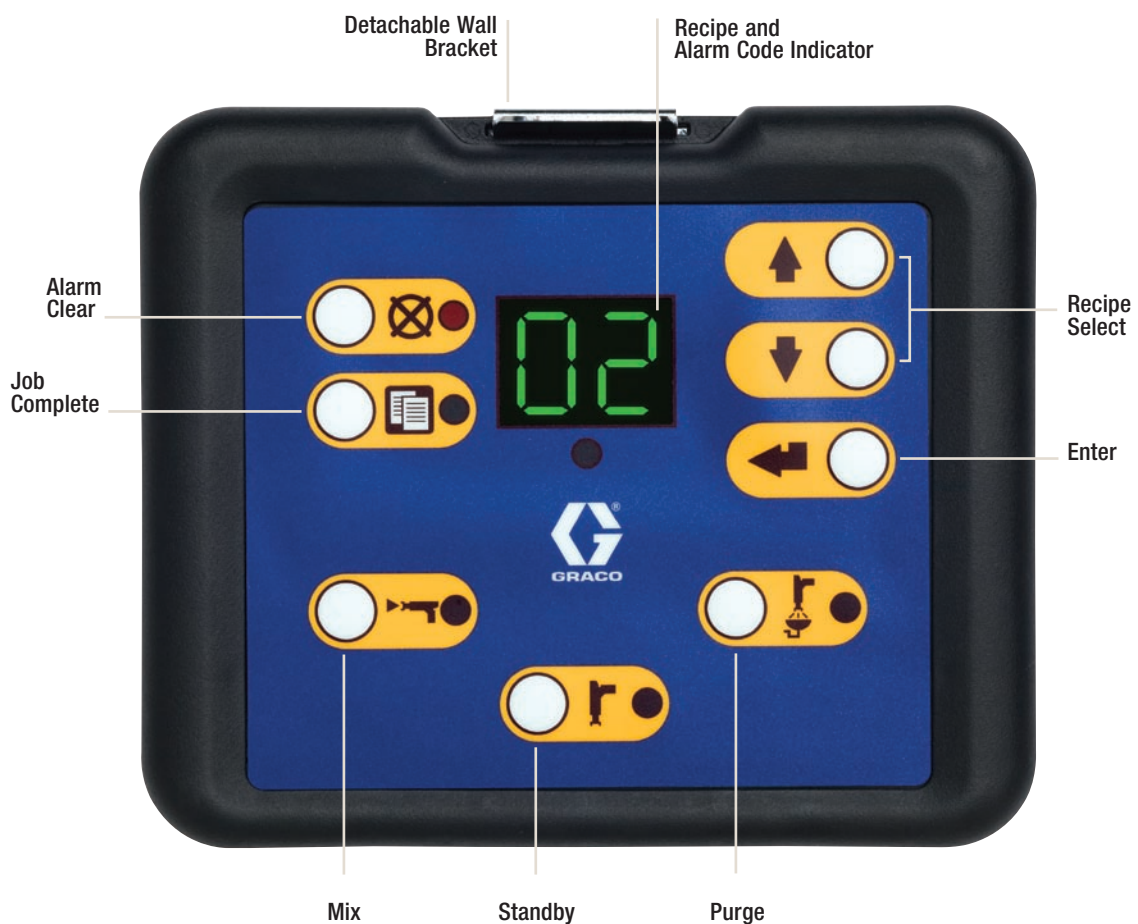
Simplicity with Unmatched Functionality

Wall & RoboMix Fluid Panel Features

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 Colour 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 colour change time and providing better waste containment.

Wall Panel

- Up to 30:1 mix ratio for a variety of applications
- Up to 275.6 bar (4000 psi) working pressure for single colour and catalyst, supports all spray technologies
- Supports two manual spray guns and gun flush boxes

RoboMix

- Up to 30:1 mix ratio for a variety of applications
- Up to 17.2 bar (250 psi) working pressure
- Lightweight, compact design allows easier integration closer to the spray gun
- Can be interfaced with manual spray guns

Fluid Manifold
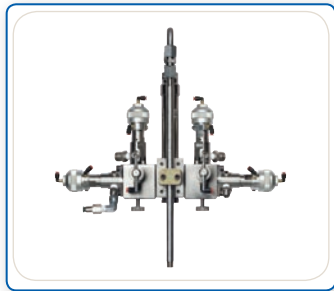
50 cc Integrator
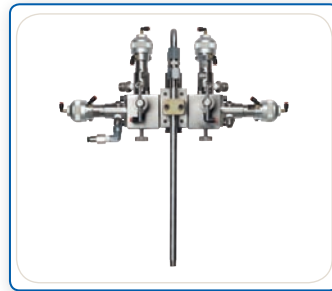
10 cc Integrator
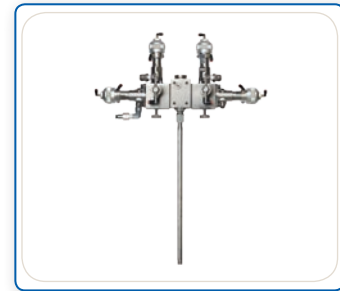
Dynamic Dosing
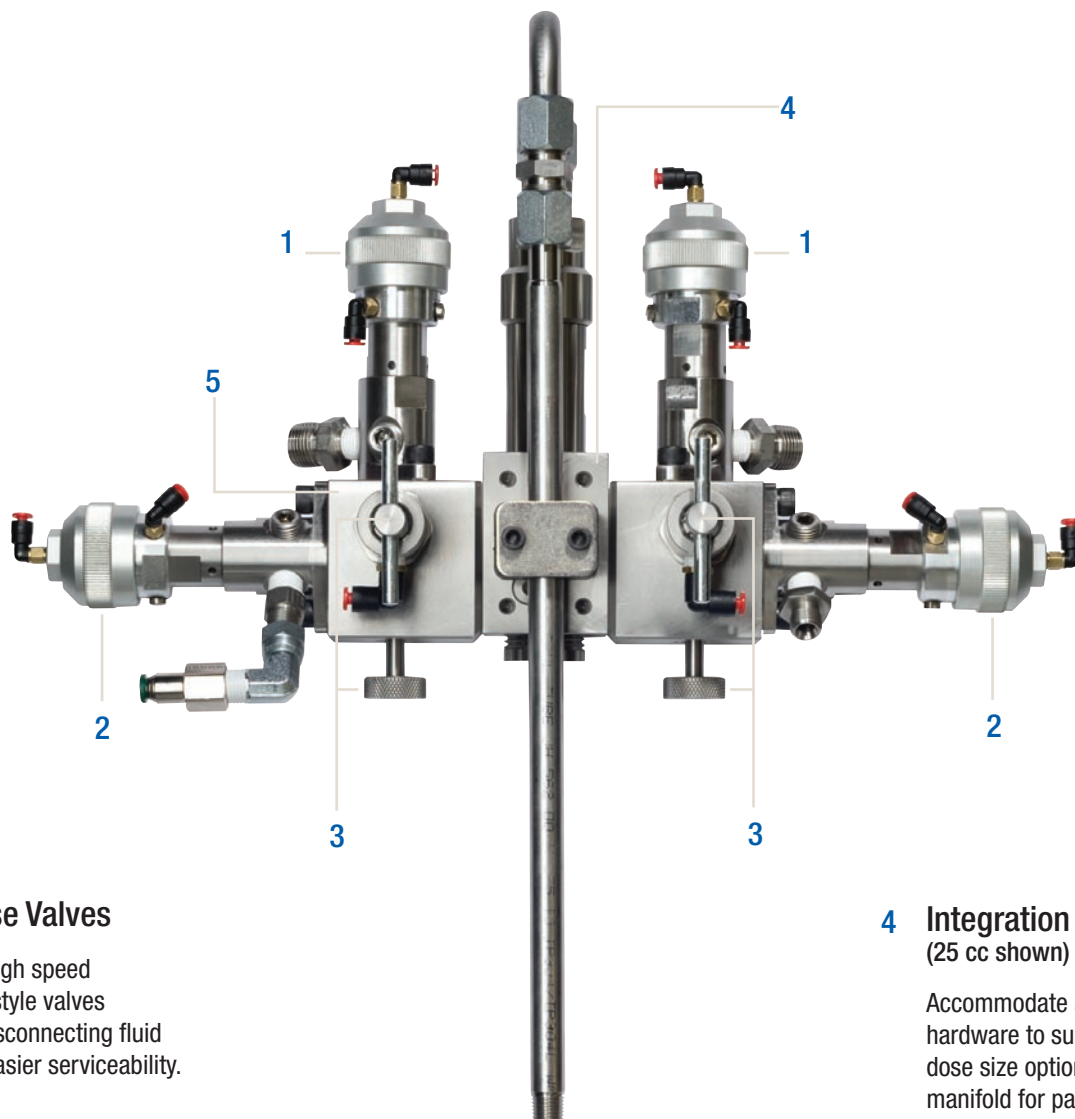
1 Dispense Valves

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.

Expanded Functionality

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 further 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

Intrinsically Safe Colour and Catalyst Change Module

- Provides easy and flexible installation without running long pneumatic lines
- Accommodates future colour and catalyst needs with upgradable module

Gun Flush Box

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

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
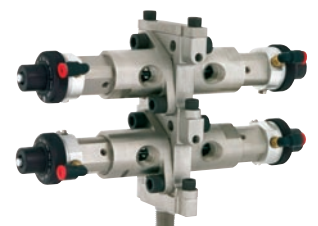- Reduces installation time with quick plug-and-play set up
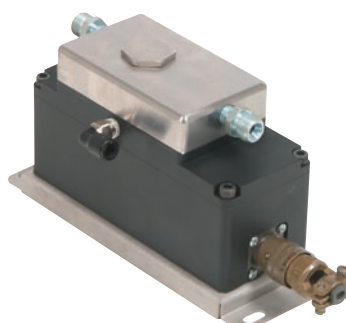
G3000 meter

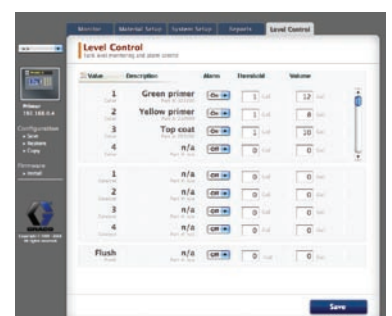Coriolis meter

Colour Change Module

Low Pressure Colour Stack

Gun Flush Box

Regulator Module

Advanced Web Interface screen shot

Technical Specifications

Maximum working air pressure .... 7 bar (100 psi)

Air supply .... 5.2 to 7 bar (75 to 100 psi)

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:

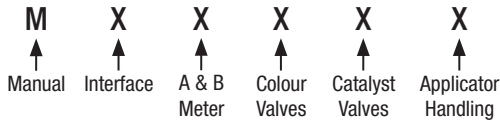| METER	TYPE	MAX PRESSURE	FLOW RANGE	VISCOSITY
G250	Spur Gear	17.2 bar (250 psi)	75-3800 cc/min	20-3000 cps
G250HR	Spur Gear	17.2 bar (250 psi)	38-1900 cc/min	20-3000 cps
G3000	Spur Gear	275 bar (4000 psi)	75-3800 cc/min	20-3000 cps
G3000HR	Spur Gear	275 bar (4000 psi)	38-1900 cc/min	20-3000 cps
HG6000	Helical Gear	413 bar (6000 psi)	50-7500 cc/min	30-100,000 cps
1/8" Coriolis	Single Tube	158 bar (2300 psi)	20-3800 cc/min*	0.1-3000 cps
3/8" Coriolis	Single Tube	158 bar (2300 psi)	50-3800 cc/min*	0.1-3000 cps
S3000 (Solvent Meter)	Oval Gear	275 bar (4000 psi)	100-3000 cc/min	0.5-1000 cps**

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

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

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... 5 to 50°C (41 to 122°F)

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

Wetted parts .... 303 SST, 304 SST, PTFE, perfluoroelastomer, tungsten carbide with nickle binder

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

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

Related Instruction Manuals

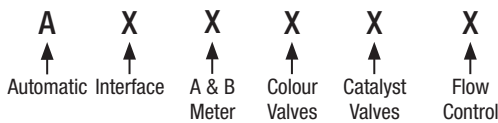|					
312775	ProMix 2KS Manual System Installation	312781	Fluid Mix Manifold	312786	Dump Valve and Third Purge Valve Kits
312776	ProMix 2KS Manual System Operation	312782	Dispense Valve	312785	Network Communication Kits
312777	ProMix 2KS Manual System Repair-Parts	312783	Colour Change Valve Stacks	308778	G3000/G3000HR/G250/G250HR Flow Meter
312778	ProMix 2KS Automatic System Installation	312787	Colour Change Module Kit	310696	Coriolis Flow Meter
312779	ProMix 2KS Automatic System Operation	312784	Gun Flush Box Kits	313212	Gun Flush Box Integration Kit
312780	ProMix 2KS Automatic System Repair-Parts	310745	Gun Air Shutoff Kit	313290	Floor Stand Kit

Ordering Information

Manual Wall Panel

M	X	X	X	X	X
Manual	Interface	A & B Meter	Colour Valves	Catalyst Valves	Applicator Handling

	Interface	A & B Meter	Colour Valves*	Catalyst Valves	Applicator Handling
M	D = EasyKey with LCD Display E = Multi Fluid Station Control Box, No LCD Display	0 = No Meter 1 = G3000 A & B 2 = G3000HR A & B 3 = 1/8" Coriolis A & G3000 B 4 = G3000 A & 1/8" Coriolis B 5 = 1/8" Coriolis A & G3000HR B 6 = G3000HR A & 1/8" Coriolis B 7 = 1/8" Coriolis A & 1/8" Coriolis B	0 = No Valves (Single Color) 1 = 2 Colours LP 2 = 4 Colours LP 3 = 7 Colours LP 4 = 12 Colours LP 5 = 2 Colours HP 6 = 4 Colours HP	0 = No Valves (Single Catalyst) 1 = 2 Catalysts LP 2 = 4 Catalysts LP 3 = 2 Catalysts HP	1 = 1 AFS 2 = 2 AFS 3 = 1 AFS with 1 GFB 4 = 2 AFS with 2 GFB

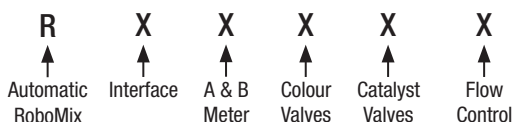*Order additional low pressure valves or other high pressure valve configurations as kits (see accessories)

Automatic Wall Panel

A	X	X	X	X	X
Automatic	Interface	A & B Meter	Colour Valves	Catalyst Valves	Flow Control

	Interface	A & B Meter	Color Valves*	Catalyst Valves	Flow Control
A	D = EasyKey with LCD Display E = Multi Fluid Station Control Box, No LCD Display	0 = No Meter 1 = G3000 A & B 2 = G3000HR A & B 3 = 1/8" Coriolis A & G3000 B 4 = G3000 A & 1/8" Coriolis B 5 = 1/8" Coriolis A & G3000HR B 6 = G3000HR A & 1/8" Coriolis B 7 = 1/8" Coriolis A & 1/8" Coriolis B	0 = No Valves (Single Colour) 1 = 2 Colours LP 2 = 4 Colours LP 3 = 7 Colours LP 4 = 12 Colours LP	0 = No Valves (Single Catalyst) 1 = 2 Catalysts LP 2 = 4 Catalysts LP	N = No Y = Yes

*Order additional low pressure valves or other high pressure valve configurations as kits (see accessories)

Automatic RoboMix Panel

R	X	X	X	X	X
Automatic RoboMix	Interface	A & B Meter	Colour Valves	Catalyst Valves	Flow Control

	Interface	A & B Meter	Color Valves*	Catalyst Valves	Flow Control
R	D = EasyKey with LCD Display E = Multi Fluid Station Control Box, No LCD Display	0 = No Meter 1 = G250 A & B 2 = G250HR A & B	0 = No Valves (Single Color) 1 = 2 Colours LP 2 = 4 Colours LP 3 = 7 Colours LP 4 = 12 Colours LP	0 = No Valves (Single Catalyst) 1 = 2 Catalysts LP 2 = 4 Catalysts LP	N = No Y = Yes

*Order additional low pressure valves as kits (see accessories)

LP = low pressure; HP = high pressure; AFS = air flow switch; GFB = gun flush box

Accessories

Meter Kits
Contains one flow meter, cable, and hardware
15V804	G3000 Flow Meter
15V827	G3000HR Flow Meter
15V820	HG6000 Flow Meter
15V806	1/8" Coriolis Flow Meter
258151	3/8" Coriolis Flow Meter
15V807	S3000 (Solvent) Flow Meter

Low Pressure Colour Change Kits
Contains colour valves and solenoid control module
256581	2 Colour
256582	4 Colour
256583	7 Colour
256584	12 Colour
256585	2 Colour and 2 Catalyst
256586	4 Colour and 2 Catalyst
256587	4 Colour and 4 Catalyst
256588	7 Colour and 2 Catalyst
256589	7 Colour and 4 Catalyst
256590	12 Colour and 2 Catalyst
256591	12 Colour and 4 Catalyst
256592	13-18 Colours
256593	13-24 Colours
256594	13-30 Colours
256595	0 Colours and 2 Catalysts

High Pressure Colour Change Kits
Contains colour valves and solenoid control module
256596	2 Colour
256597	4 Colour
256598	7 Colour
256599	12 Colour
256600	2 Colour and 2 Catalyst
256601	4 Colour and 2 Catalyst
256602	4 Colour and 4 Catalyst
256603	7 Colour and 2 Catalyst
256604	7 Colour and 4 Catalyst
256605	12 Colour and 2 Catalyst
256606	12 Colour and 4 Catalyst
256607	13-18 Colours
256608	13-24 Colours
256609	13-30 Colours
256610	0 Colours and 2 Catalysts

Valve Kits
Contains valve, solenoid, and hardware
15V821	Wall Panel Dump Valve
15V354	Wall Panel 3rd Flush Valve
15V822	RoboMix Panel Dump Valve
15V202	RoboMix Panel 3rd Flush Valve
15V077	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
	Contains inputs and outputs for controlling automatic integration and special output functionality
15V331	Ethernet IP Gateway Assembly
15V963	DeviceNet Gateway Assembly
15V964	Profibus Gateway Assembly
	Network communication assembly for automatic integration. Contains gateway module, power supply, and enclosure.
15X492	Ethernet IP Gateway Module
15V966	DeviceNet Gateway Module
15V965	Profibus Gateway Module
	Network communication module for automatic integration. Contains gateway module only.
15W023	Communication + I/O Harness Kit
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	7.5 m (25 ft) CAT V Cable
121999	15 m (50 ft) CAT V Cable
15V842	30 m (100 ft) CAT V Cable
15V843	60 m (200 ft) CAT V Cable

Cables
15V213	30 m (100 ft) Power Cable
15G710	30 m (100 ft) Fiber Optic Cable
15U977	12 m (40 ft) Flow Control Extension Cable
15U532	0.9 m (3 ft) CAN Cable
15V205	1.8 m (6 ft) CAN Cable
15V206	3 m (10 ft) CAN Cable
15V207	4.5 m (15 ft) CAN Cable
15V208	7.5 m (25 ft) CAN Cable
15U533	15 m (50 ft) CAN Cable

Miscellaneous Kits
15V826	Gun Flush Box Kit
	Contains gun flush box and control hardware
570123	Gun Flush Box Wall Mount Kit
15V823	Gun Air Shutoff Kit
	Used to automatically shut off gun atomizing air during flush and fill sequences without a gun flush box
15T632	Air Flow Switch Kit
15V350	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 colour 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

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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