ProControl 1KE Plus

In-Line Fluid Monitoring and Control Packages

The **Affordable** Way to Control Fluids, Reduce Waste & Improve Quality

The **ProControl 1KE Plus** is an **easy-to-use** fluid monitoring and control package that accurately measures and regulates single component fluid and gun atomizing air, improving your finishing process.

Reliable Information and Control

Choose the ProControl 1KE Plus to manage your fluids and atomizing air. Built to save you time and money, ProControl 1KE Plus packages are backed by Graco's proven reliability standards.

Easy-to-Read Display

Navigate easily using icons and number based screen

PIN Protected Versatility

Lock system settings or limit adjustable ranges

Maintenance Alert

Alerts you when equipment needs service

Comprehensive Information

Tracks and monitors fluid pressure, flow rates, atomizing air, material usage

Includes job logs and event logs with date and time stamps

Optimize operation, material savings and reporting with unique modes for filling, flushing and dispensing

Key Applications
- Manual spray finishing
- Automatic spray finishing
- Solvent metering
- Single fluid dispensing

Key Industries
- Auto feeder
- Truck and bus
- Automotive
- Farm and construction
- Aerospace
- Wood

ProControl 1KE Plus

Manage Fluids for Better Spray Performance

Actively manage fluid pressure or flow rate and air pressure to lock in precise spray parameters. The ProControl 1KE Plus not only monitors fluids, its closed loop controls manage fluids and improve spray performance for manual and automatic applications.

Precise Control

Liquid Material
Prevent overspray and material waste by managing pressure or flow rate

Atomizing Air
Maintain a high quality finish by managing fan or atomizing air

Easy Adjustment

Pressure & Flow Rate
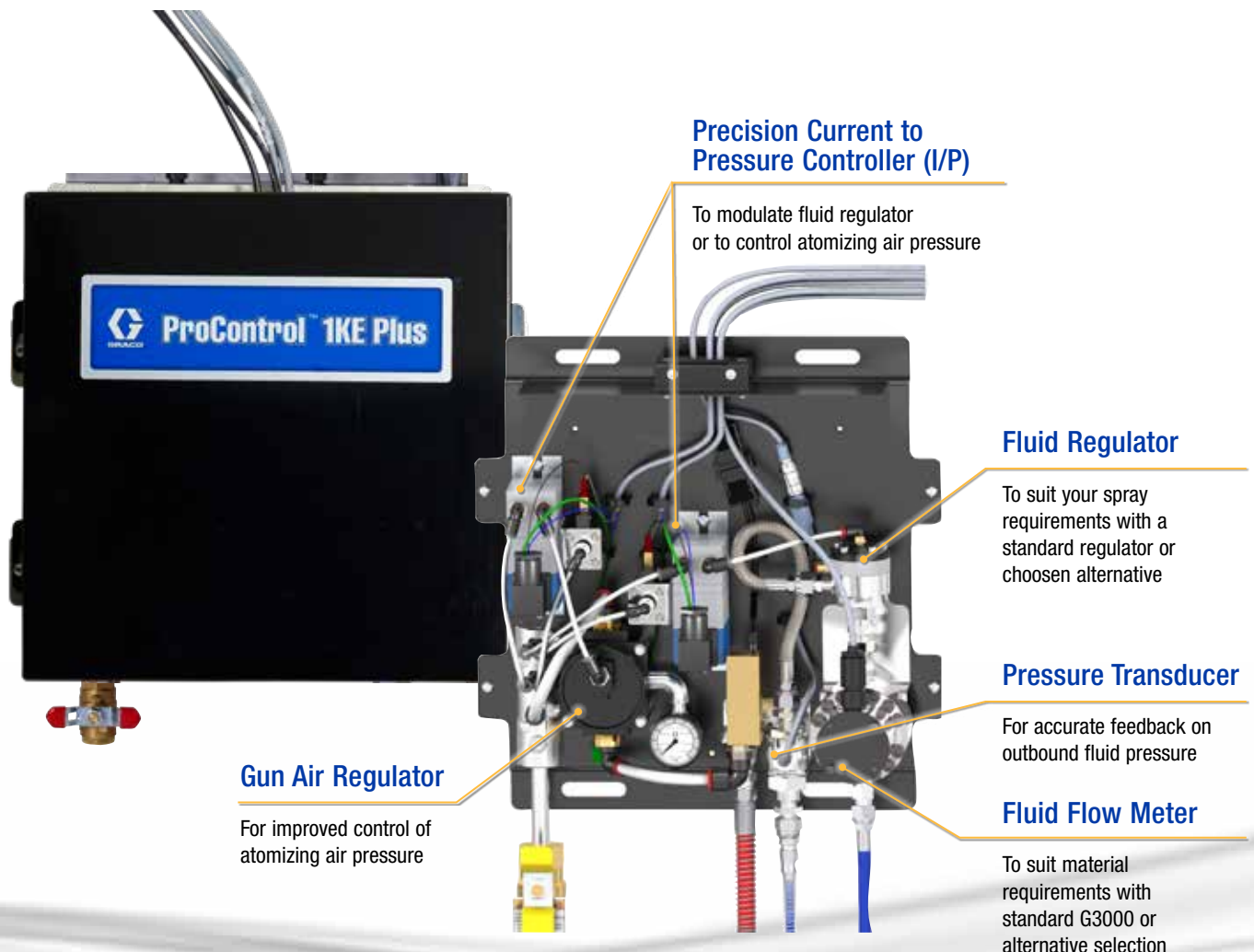Manage the spray pressure or flow rate with true close-loop control for manual or automatic applications

Preset upper and lower limits, allowing operator to adjust the output within those limits or lock the setting entirely

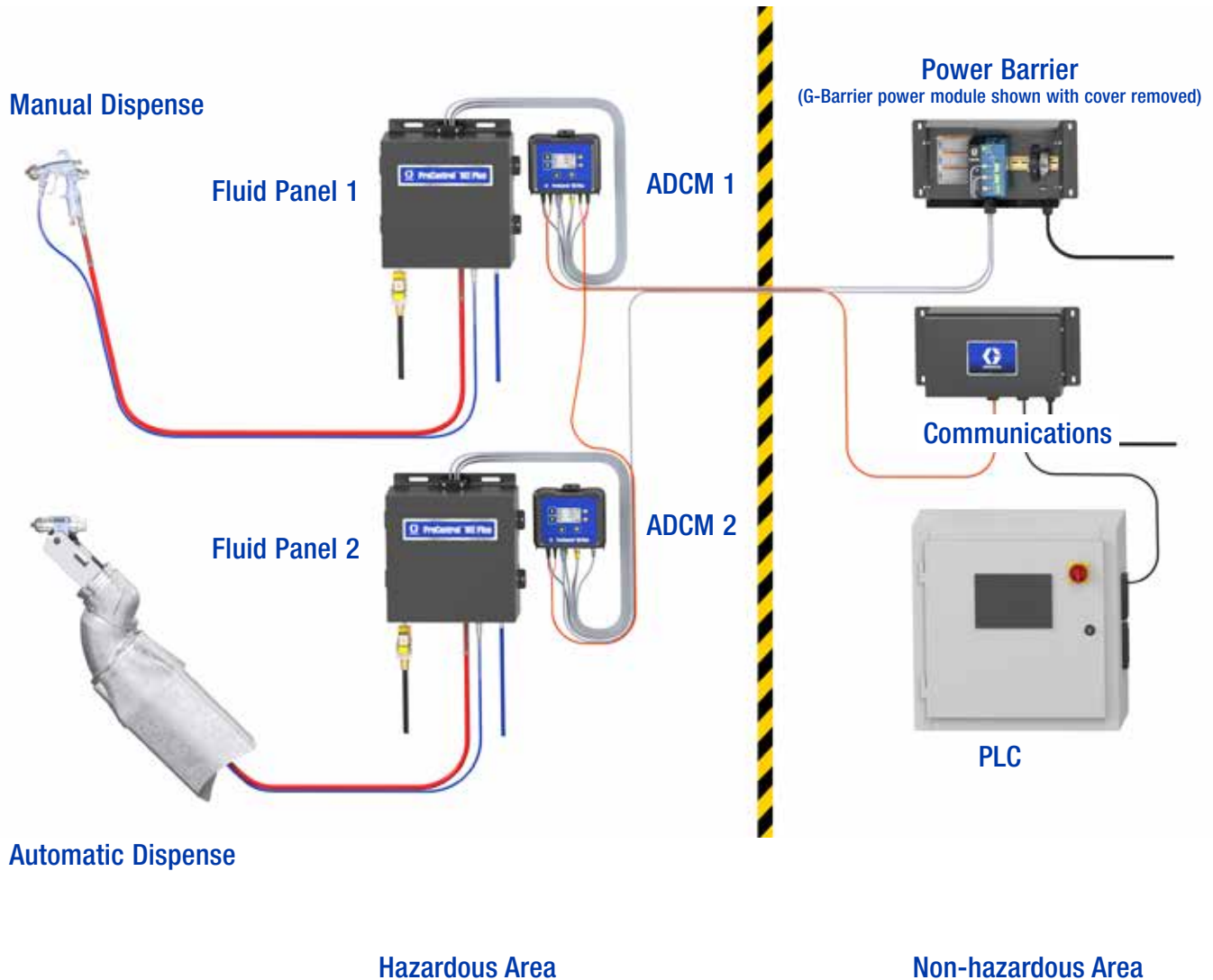## Accurate Reporting

Material Use
Easily collect material use data to:

- Track material usage for individual jobs, times and operators
- Improve operational efficiency and quality
- Report solvent and paint usage for environmental compliance

Precision Current to Pressure Controller (I/P)

To modulate fluid regulator or to control atomizing air pressure

Fluid Regulator

To suit your spray requirements with a standard regulator or choosen alternative

Pressure Transducer

For accurate feedback on outbound fluid pressure

Gun Air Regulator

For improved control of atomizing air pressure

Fluid Flow Meter

To suit material requirements with standard G3000 or alternative selection

System Installation and Integration

Integration and remote communication with Programmable Logic Controller (PLC)

Manual Dispense

Fluid Panel 1

ADCM 1

Power Barrier
(G-Barrier power module shown with cover removed)

Communications

Fluid Panel 2

ADCM 2

PLC

Automatic Dispense

Hazardous Area

Non-hazardous Area

✔ Flexible installation options for the operator interface or fluid panel. Can to be directly mounted in the spray booth hazardous locations or outside the hazardous area

✔ Communications with ProControl 1KE Plus display are achieved through fiber optical cable and converters connected to the PLC

✔ Multiple ProControl 1KE Plus systems can be linked to the PLC

✔ Many PLC communication protocols are available. Refer to Accessories for details

Ordering Information

Application Requirement	G3000 Meter	Standard 1:1 Fluid Regulator	Pressure Transducer	Qty I/P current to pressure transducers for managing fluid and atomizing air control	Air Regulator and Gauge	ProControl 1KE Plus Package Part Number
Advanced Display Control Module (ADCM) with software and bracket only	NA	NA	NA	NA	NA	25B283
Flow Monitor (ADCM w/G3000 and short cable, no fluid panel)	✓	NA	NA	NA	NA	25B284
Flow Monitor with open loop fluid pressure control (includes fluid panel & I/P to operate fluid pressure regulator)	✓	✓	NA	1	NA	25B285
	✓	—	NA	1	NA	25B286
	—	✓	NA	1	NA	25B287
	—	—	NA	1	NA	25B288
Gun Atomizing Air Control	NA	NA	NA	1	✓	25B289
Closed Loop Fluid Pressure Control	NA	✓	✓	1	NA	25B290
	NA	—	✓	1	NA	25B291
Closed Loop Fluid Pressure or Fluid Flow Control	✓	✓	✓	1	NA	25B292
	✓	—	✓	1	NA	25B293
	—	✓	✓	1	NA	25B294
	—	—	✓	1	NA	25B295
Closed Loop Fluid Pressure and Flow + Gun Atomizing Air Control	✓	✓	✓	2	✓	25B296
	✓	—	✓	2	✓	25B297
	—	✓	✓	2	✓	25B298
	—	—	✓	2	✓	25B299

STEP 1 — **Determine level of control** needed.

STEP 2 — **Determine flow meter** (if applicable for level of control chosen)
Gun Atomizing Air Control and Closed Loop Fluid Pressure Control units do not use a flow meter
   - ✓ G3000 meter is the standard recommended meter.
   - — Refer to replacement parts and accessories section for alternate Graco offerings.

NOTE: Not all meters are allowed in hazardous locations see meter brochure 336165 and instruction manuals for details.

STEP 3 — **Determine fluid pressure regulator** (if applicable for level of control chosen)
Gun Atomizing Air Control units do not use a fluid pressure regulator
   - ✓ 24C375 1:1 Low Flow Regulator is standard (see manual 3A0427)
   - — Refer to replacement parts and accessories section for alternate Graco offerings.

STEP 4 — **Select base model package** part number from table above

Ordering Information

STEP 5

Determine power supply and order separately

NON-HAZARDOUS LOCATIONS

For non-hazardous locations order power supply 16V680 AC/DC Converter and select a power cord below.

16V680 has an IEC-320-C13 female input power connection and 68 in. (1.7 m) output cord to connect to Port 3 of the ProControl 1KE Plus ADCM user interface.

Cord Options

245202	120 in (3 m) North American 120 VAC power cord
116281	72 in (1.8 m) extension (Male x Female) IEC-320 cord
242001	Short, 8 in (0.2 m), IEC-320 Europe style power cord
242005	Short, 8 in (0.2 m), IEC-320 x ANZ style power cord

Power Cord

HAZARDOUS LOCATIONS

To determine the correct Power Module for your application, answer these questions:

Yes	No	
_____	_____	Will you be using 1KE Plus models 25B296-24B299 for fluid and atomizing air control?
_____	_____	Would you potentially want to upgrade a 1KE Plus model in the future for use with fluid and atomizing air control?
_____	_____	Do you need to power more than one 1KE Plus unit or want the ability to power up to three units from one power module in the future?
_____	_____	Will the application ever require greater than 50 psi (3.4 bar) of fluid pressure at the outlet of the 1KE Plus for units with the standard 1:1 24C375 fluid regulator **OR** for units using an alternate air operated fluid regulator, will the application ever require greater than 50 psi (3.4 bar) of air pilot pressure to the fluid regulator?

26C724 I.S. G-Barrier Power Module (shown with cover removed)

If you answered **YES** to **ANY** of these questions order the 26C724 I.S. G-Barrier Power Module
If you answered **NO** to **ALL** of these questions you may consider ordering the 16M167 Single I.S. Barrier Power Module*

** **Note:** The 16M167 Single I.S. Barrier Power Module has power limitations. It cannot be used on 1KE Plus units that require greater than 50 psi of fluid pressure (50 psi of pilot air pressue for alternate air-operated fluid regulator use) or on units that control fluid and atomizing air.*

Flow Meters

Highly accurate gear and mass flow meters are ideal for finishing applications using most solventborne and waterborne paints and resins.

G250, G3000 and S3000
- Positive displacement, spur gear flow meter
- Designed for low to medium viscosity materials
- Stainless steel compatible

HG6000/HG6000 HR
- Positive displacement, helical gear flow meter
- Designed for higher flow rates and higher viscosity materials
- Stainless steel, water-base compatible

Coriolis Mass Flow
- Non-intrusive mass flow meter
- Designed for all abrasive and filled materials
- Stainless steel, waterborne and acid compatible

G3000

S3000

HG6000

Coriolis Mass Flow

Ordering Information

Replacement Parts - Accessories

Power (See page 6 for important information on proper power selection)

16V680 — Non-Intrinsically Safe (Non-I.S.) Power Supply, 100-240 VAC input, 50/60 Hz, 15 VDC output

16M167 — Intrinsically Safe (I.S.) Power Supply Module, 100–240 VAC input. Includes 50 ft (15 m) I.S. power cable

26C724 — G-Barrier Intrinsically Safe (I.S.) Power Module, provides up to three I.S. power output circuits. 100-240 VAC, 50/60 Hz, input. Includes one I.S. 50 ft (15 m) I.S. Power Cable

Cables

Non-Intrinsically Safe Cables

18A987 — Meter Cable Extension, 50 ft (15 m), for meter cable, port #4

16V069 — Non-I.S. Power Cable, 50 ft (15 m)

16V070 — Non-I.S. Power Cable, 100 ft (30 m)

16V380 — Non-I.S. Sensor Cable, 50' (15 m), ports #7 and #10

16P791 — Non-I.S. Control Cable, 50' (15 m), ports #8 and #9

18A986 — Indicator Light Cable, 50' (15 m), fluid panel to light

Intrinsically Safe Cables

19Y499 — I.S. Power Cable, 50 ft (15 m), for power supply

19Y502 — I.S. Power Cable, 100 ft (30 m), for power supply

18B244 — I.S. Meter Cable Extension, 50 ft (15 m), meter cable, port #4

16V381 — I.S. Sensor Cable, 50' (15 m), ports #7 and #10

16V071 — I.S. Control Cable, 50' (15 m), ports #8 and #9

Fiber Optic Communication Cable

17T898 — 10 ft (3 m) Fiber Optic Cable

16M172 — 50 ft (15 m) Fiber Optic Cable

16M173 — 100 ft (30 m) Fiber Optic Cable

Hardware Upgrades

25B322 — Basic Upgrade Kit for converting a previous generation ProControl 1KE to the new 1KE Plus platform. Kit includes software token, fluid plate with basic hardware. User must provide ADCM display, fluid meter, I/P transducer, fluid regulator, pressure transducer, and power supply from original ProControl 1KE or purchase separately. Gun air control is not included, if needed order 25B323 separately for air control hardware. See manual 3A6948 for details

25B323 — Air Control Upgrade Kit adds air control to a ProControl 1KE Plus fluid plate

25B325 — Pressure Switch Conversion Kit converts ProControl 1KE Plus fluid plate gun air flow switch to a pressure switch for detection of gun trigger status

Indicators

25P594 — I.S. Indicator Light Tower, 2 color light with bracket and cables

Supply Air

570122 — Dual Unit Air Filter and Regulator Assembly with 5 µm filter, manual drain, and mounting bracket

Interfaces

24R086 — Fiber Optic to Serial Converter Module with 24V, 2 amp power supply and enclosure, commicates from ProControl 1KE Plus to a PLC See manual 332356 for details.

24N978 — Fiber Optic to Serial Converter, communicates from the ProControl 1KE Plus to a PLC. See manual 332356 for details

Meters & Transducers

289813 — G3000 Meter
Positive displacement, gear flow meter, 0.02 to 1.0 gpm (75 to 3800 cc/min), for low to medium viscosity materials

280560 — HG6000 Meter
Positive displacement, helical gear flow meter, 0.013 to 6.0 gpm (50 to 22,712 cc/min), for high flow, high viscosity materials

258718 — S3000 Solvent Meter
Positive displacement, gear flow meter, 0.01 to 0.5 gpm (38 to 1900 cc/min), for light viscosity materials

25P592 — Pressure Transducer Kit, 100 psi (7 bar, 0.7 MPa)
Used to measure fluid pressure

25P593 — High Pressure Sensor Kit, 4500 psi (310 bar, 31.0 MPa)
Used to convert to higher pressure operation
See manual 3A6948 component pressure ratings

25B359 — Medium Pressure Sensor Kit, 2000 psi (138 bar, 13.8 MPa)
Used to convert to higher pressure operation
See manual 3A6948 component pressure ratings

Coriolis Meter Kit

Non-intrusive Mass Flow Meter, for abrasive and filled materials and a range of flow rates

24N525 — 1/4 in Coriolis Flow Meter Kit

Fluid Regulators

24C375 — 1:1 Low Flow Regulator (5-90 psi, 0.3-6.3 bar, 35-620 KPa)

24E471 — 1:2 Low Flow Regulator (5-50 psi, 0.3-3.5 bar, 35-350 KPa)

24E472 — 1:3 Low Flow Regulator (5-30 psi, 0.3-2.1 bar, 35-201 KPa)

234272 — Low Pressure Fluid Regulator (6-145 psi, 0.4-10.0 bar, 40-1000 KPa), 7 gpm

234266 — High Pressure Fluid Regulator (70-900 psi, 5.0-60.0 bar, 0.5-6 MPa), 11.3 gpm

ABOUT GRACO

PROVEN QUALITY. LEADING TECHNOLOGY.

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

MAILING ADDRESS
P.O. Box 1441
Minneapolis, MN 55440-1441
Tel: 612-623-6000
Fax: 612-623-6777

AMERICAS

MINNESOTA
Worldwide Headquarters
Graco Inc.
88-11th Avenue N.E.
Minneapolis, MN 55413

EUROPE

BELGIUM
European Headquarters
Graco N.V.
Industrieterrein-Oude Bunders
Slakweidestraat 31
3630 Maasmechelen,
Belgium
Tel: 32 89 770 700
Fax: 32 89 770 777

ASIA PACIFIC

AUSTRALIA
Graco Australia Pty Ltd.
Suite 17, 2 Enterprise Drive
Bundoora, Victoria 3083
Australia
Tel: 61 3 9468 8500
Fax: 61 3 9468 8599

CHINA
Graco Hong Kong Ltd.
Shanghai Representative Office
Building 7, No.1-2,
Wenshui Road 299,
Jing'an District,
Shanghai 200436,
The People's Republic of China
Tel: 86 21 649 50088
Fax: 86 21 649 50077

INDIA
Graco India Pvt Ltd
Plot No 295, Udyog Vihar Phase-IV
Gurugram - 122015 (Haryana)
India
Tel: 91 124 661 0200
Fax: 91 124 661 0201

JAPAN
Graco K.K.
1-27-12 Hayabuchi
Tsuzuki-ku
Yokohama City, Japan 2240025
Tel: 81 45 593 7300
Fax: 81 45 593 7301

KOREA
Graco Korea Inc.
38, Samsung 1-ro 1-gil
Hwaseong-si, Gyeonggi-do,
18449
Republic of Korea
Tel: 82 31 8015 0961
Fax: 82 31 613 9801

SALES/ DISTRIBUTION/ SERVICE

Call today for product information or to request a demonstration.
877-84GRACO (1-877-844-7226) or visit us at www.graco.com/procontrol1keplus

Graco Inc. is registered to I.S. EN ISO 9001

North America
Customer Service
800-328-0211
Fax 877-340-6427