

E-FIO[®] IQ Single Component Metering and Dispensing System



A new level of intelligence, control & performance

- Low cost of ownership
- Consistent control and accurate performance
- Simple system design and easy to integrate

PROVEN QUALITY. LEADING TECHNOLOGY.

A new level of intelligence, control & performance

E-FloiQ

00

MARY

The E-Flo iQ is a single component tank-to-tip solution that provides your automatic applications with an intelligent metering system. With its electric servo-driven motor, the E-Flo iQ will meter directly from the drum and keeps an optimal flow control with assured performance without the need of external metering systems.

凸

Increase your overall equipment effectiveness



Lower your cost of ownership

Metering directly from the drum reduces the number of system components and lets you eliminate external metering systems all together. With the simple setup of electric servo-driven pump, hose and valve, you will realise an immediate impact to your total cost of ownership.

Realise increased uptime at installation

- Easy installations: You will start realising the increased uptime of the installation. With the simplicity of E-Flo iQ, installations are done quickly and with ease.
- Low maintenance: By using parts that have been proven in industries to be long lasting and of high quality, maintenance needs are extremely low. Also with the easy to access and program diagnostics screens, you will be able to analyse the total work of the pump and determine preventive maintenance.
- Continuous dispensing without reloading

Lower sound levels

With current delivery systems, the sound levels often go well above 80 dBa. Because the E-Flo iQ is using an electric servo-driven motor, the sound level is often less then 70 dBa, making your working environment quieter.

Lower payloads for your robot

With only a hose and valve mounted on the robot you are able to select a smaller, less expensive robot with a smaller payload capacity.

Consistent control of the flow rate with assured performance

Having accurate dispensing from start to finish and during the complete dispensing is not an easy task. You have to be able to control the flow and pressure, take into consideration the speed of the robot and be able to handle a wide range of materials for heated or non-heated applications.



Controlling and dispensing at accurate flow rates

The core of Meter from Drum Technology[™] is the electric servo-driven motor. It is always aware of the position of the piston pump and its velocity, thus allowing the flow rate to be controlled and maintained at all times. Pressure sensors are placed at key locations to monitor and make sure the pressure is consistent from tank to tip.

Simple flow control changes

Changing flow rates can be done by simply changing the parameters in the control module. The E-Flo iQ will then automatically modify the pump controls and pressure to the requested new flow rate, without the need to make any mechanical changes.

Intelligent pump changeovers

Intelligent pump changeovers allow the pump to change direction between dispenses before the top and bottom end of the stroke, to ensure smooth and consistent flow at the valve.

Wide range of material compatibility

The E-Flo iQ can be configured to meet your dispense requirements for non-heated as well as heated applications up to 158°F (70°C). The reduced number of wetted parts makes the E-Flo iQ compatible with a wide range of adhesive viscosities and chemistries, including abrasive adhesives.



The right valve for every application

The choice of the valve plays a critical role for the quality of your dispense. While certain applications need a perfect start and stop, others need to apply the material in between tight spaces or need a vision system mounted onto them. With the E-Flo iQ valve range of tip seal, snuff-back or ballseat with heated or unheated options, there is a solution for each of these applications.





iQ-B = Ball-Seat

iQ-T = Tip Seal*

iQ-S = Snuff-Back**

*The iQ-T seal valve is shown with the heating option and a 200 mm nozzle length. **The iQ-S seal valve is shown with a 60 mm nozzle length.

An easy to use control module with simple integration options



An easy to use control module

With the Advanced Display Module (ADM) on the E-Flo iQ, setting up and programming a metering system has never been easier.

It's intuitive screens make setting up of a bead profile quick and easy and lets you save up to 16 different dispense styles.

Simple diagnostics

The ADM also incorporates simple diagnostic screens which allow you to quickly check all the process variables and define predictive maintenance parameters.





Integration with the PLC

The communication gateway module (CGM) has integrated mapping of all of the programming data. Simply connect the CGM to the PLC for complete integration. Currently available protocols include EtherNet I/P, PROFINET, DeviceNet, or PROFIBUS.

By using the CGM you will be able to program an unlimited number of dispensing styles.

Optional heating

The system can be configured with the heat control module to handle adhesives up to 70°C. Next to the pump and platen heat zones, there are 6 heat zones for single systems and 12 for tandem systems.

Communication gateway module

The communication gateway module allows complete integration over EtherNet/ IP, PROFINET, PROFIBUS, and DeviceNet or simple integration over discrete I/O.



Electric servo-driven motor

Ê

Graco hoses maintain the material temperature and improve material integrity. For heated systems, the hoses are insulated for an accurate and uniform material temperature.

Hoses



iQ Dispense Valves

A wide range of tip seal, snuff-back and ball-seat valves that are a compact and lightweight design. Available with different tip lengths for vision system compatibility.

E-Flo iQ Metering and Dispensing System

| | US | Metric | |
|---|--|-----------------|--|
| Maximum fluid operating temperature | 158°F | 70°C | |
| Maximum working pressure | 4000 psi | 28 MPa, 276 bar | |
| Maximum driver cycle rate | 25 cycles per minute | | |
| Air inlet size (supply system) | 3/4 npt (f) | | |
| Ambient operating temperature range (supply system) | 32-120°F | 0-49°C | |
| Flow rate | 10 cc/min - 4500 cc/ min (max. flow rate is dependent on the material specifications) | | |
| Gateway | EtherNet/IP, DeviceNet, PROFINET, PROFIBUS | | |

| Electrical requirements | | | |
|-----------------------------------|--|--|--|
| Ambient system electrical ratings | 200-240 VAC, 1 phase, 50/60 Hz, 20 A | | |
| | 200-240 VAC, 1 phase, 50/60 Hz, 20 A | | |
| Heated system electrical ratings | 200-240 VAC, 3 phase (Δ), 50/60 Hz, 38 A | | |
| | 380-420 VAC, 3 phase (Y), 50/60 Hz, 38 A | | |

| Fluid outlet size | |
|-------------------|------------|
| Check-Mate 200 | 1" npt (f) |

| Maximum air input pressure (supply system) | | | | |
|--|---------|-----------------|--|--|
| D60 - 3 in. dual post, 20 L (5 gal.) | 150 psi | 10 bar, 1.0 MPa | | |
| D200 - 3 in. dual post, 200 L (55 gal.) | 150 psi | 10 bar, 1.0 MPa | | |
| D200s - 6.5 in. dual post, 200 L (55 gal.) | 125 psi | 9 bar, 0.9 MPa | | |

iQ-T, iQ-S and iQ B Dispensing Valves

| | US | Metric |
|-------------------------------------|----------|------------------|
| Maximum fluid working pressure | 4000 psi | 276 bar, 28 MPa |
| Maximum cylinder air pressure | 120 psi | 8.0 bar, 0.8 MPa |
| Maximum fluid operating temperature | 158°F | 70°C |

| Inlet/Outlet Sizes | | | |
|-----------------------|---|--|--|
| Air inlet size | 1/8 in. npt(f) (Remote solenoid options only) | | |
| Air exhaust port size | 1/8 in. npt (f) | | |
| Fluid inlet size | 1/4 in. npt (f) | | |
| Fluid outlet size | Depends on the model selected | | |

| Weight | : 0.8kg - | 1.6 kg | depending | on the | model selected |
|--------|-----------|--------|-----------|--------|----------------|
|--------|-----------|--------|-----------|--------|----------------|

| Electrical Specifications | | | | | |
|---------------------------|---------|--------------------------|--------------------------|--|--|
| Nozzle length | Voltage | RTD sensor resistance | Heater sensor resistance | | |
| 0 mm | | | 576 Ohms | | |
| 60 mm | 240 V | 108.2 Ohms @ 20°C (70°F) | 786 Ohms | | |
| 200 mm | | | 384 Ohms | | |

Selection of the E-Flo iQ system

The E-Flo iQ System provides the flexibility to configure a system to meet your specific needs. This includes offering multiple combinations of supply systems, dispensing valves, hoses and accessories.



(See table: Selection of the valves)

Selection of the hoses

| | Part No. | Connection | Length | Heat |
|----|----------|------------|--------|--------|
| 04 | 19M404 | 10 | 6 ft | Heated |
| 05 | 19M405 | 10 | 10 ft | Heated |
| 06 | 19M406 | 10 | 15 ft | Heated |
| 07 | 19M407 | 10 | 20 ft | Heated |
| 08 | 19M408 | 10 | 25 ft | Heated |
| 11 | 19M411 | 12 | 6 ft | Heated |
| 12 | 19M412 | 12 | 10 ft | Heated |
| 13 | 19M413 | 12 | 15 ft | Heated |
| 14 | 19M414 | 12 | 20 ft | Heated |
| 15 | 19M415 | 12 | 25 ft | Heated |
| 16 | 19M416 | 16 | 6 ft | Heated |
| 17 | 19M417 | 16 | 10 ft | Heated |
| 18 | 19M418 | 16 | 15 ft | Heated |
| 19 | 19M419 | 16 | 20 ft | Heated |
| 20 | 19M420 | 16 | 25 ft | Heated |

| | Part No. | Connection | Length | Heat |
|----|----------|------------|--------|---------|
| 65 | 17K265 | 10 | 6 ft | Ambient |
| 66 | 17K266 | 10 | 10 ft | Ambient |
| 67 | 17K267 | 10 | 15 ft | Ambient |
| 68 | 17K268 | 10 | 20 ft | Ambient |
| 69 | 17K269 | 10 | 25 ft | Ambient |
| 72 | 17K272 | 12 | 6 ft | Ambient |
| 73 | 17K273 | 12 | 10 ft | Ambient |
| 74 | 17K274 | 12 | 15 ft | Ambient |
| 75 | 17K275 | 12 | 20 ft | Ambient |
| 76 | 17K276 | 12 | 25 ft | Ambient |
| 77 | 17K277 | 16 | 6 ft | Ambient |
| 78 | 17K278 | 16 | 10 ft | Ambient |
| 79 | 17K279 | 16 | 15 ft | Ambient |
| 80 | 17K280 | 16 | 20 ft | Ambient |
| 81 | 17K281 | 16 | 25 ft | Ambient |
| 00 | N/A | N/A | N/A | N/A |

Selection of the valves

Check the identification plate for the ten-digit part number of the valve. Use the following matrix to define the construction of the valve, based on the ten digits.





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

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 Distribution Center Graco Distribution BV 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 Fluid Equipment (Shanghai) CO., LTD Building 7, No. 1-2, Wenshui Road 299, Jing'an District, Shanghai 200436 The People's Republic of China Tel: 86 21 6495 0088 Fax: 86 21 6495 0077

INDIA

Graco India Pvt Ltd. Plot No 295, Udyog Vihar Phase-IV Guragram, Haryana India 122015 Tel: 91 124 6610200 Fax: 91 124 6610201

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. 800-746-1334 or visit us at www.graco.com. Graco Inc. is registered to LS. EN ISO 9001

©2021 Graco Inc. 300789 Rev. B 04/21 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. All other brand names or marks are used for identification purposes and are trademarks of their respective owners.