## 2002 Series

## FEATURES

- >Oil-less
- >Low vibration
- >Low sound level
- >Compact design
- >Lightweight

### TYPICAL APPLICATIONS

- > Patient monitoring
- >Anaesthetic control
- >Gas detection
- > Flue gas measurement
- > Pipetting



## BASE MODEL

2002 DC 2002 LC 2002 BLDC









Diaphragm

## Diaphragm Pump 2002 VD DC

| Flow          | 380 ml/min   |
|---------------|--------------|
| Max. pressure | 400 mbar     |
| Max. vacuum   | 40 %         |
|               | Cil-<br>less |



#### PNEUMATIC DATA

| Description         |          | 2002VD/0.5/E/DC       |
|---------------------|----------|-----------------------|
| Part number         | 3.5 V    | 20020301 (2 to 3.8 V) |
|                     | 4.5 V    | 20020304 (3.5 to 7 V) |
|                     | 6.0 V    | 20020307 (5 to 10 V)  |
| Max. flow           |          | 380 ml/min            |
| Max. intermittent   | t duty   | 380 to 400 mbar       |
| Max. continuous     | pressure | 150 mbar              |
| Max. restart pres   | sure     | 150 mbar              |
| Max. vacuum         |          | 36 to 40 %            |
| Max. restart vacuum |          | 15 %                  |

## WETTED PARTS OPTIONS Pump head PF Diaphragm, valves EPDM FKM, Silicone OPTIONS Bearing type: Ball bearing

Model key:



Type Pressure Eccentric Motor type

#### ELECTRICAL DATA

| Motor type        | Ironless core DC         |
|-------------------|--------------------------|
| Power consumption | 2 to 3.8 V/96 to 200 mW  |
|                   | 3.5 to 7 V/112 to 259 mW |
|                   | 5 to 10 V/115 to 250 mW  |
| Protection class  | IPOO                     |
| Bearing type      | Sleeve bearing           |
|                   |                          |

#### GENERAL DATA

| Ambient temperature | 10 to 50 °C |
|---------------------|-------------|
| Media temperature   | 10 to 50 °C |
| Weight              | 32 g        |
| Port direction      | D           |

Noise suppression for the purpose of guideline  $89/336 \ {\rm EWG}$  electromagnetic tolerance.

#### FLOW CURVES



## Diaphragm Pump 2002 VD LC

Flow 500 ml/min Max. pressure 400 mbar Max. vacuum 40 % Oil-less

#### 5 (10) <u>2.1 (.08)</u> 2x 3(.12) a 081 6 (.24) 03 (.12) 7 (.28) 5 (.20) 17(.67) ₽• • E (1.00) 23 (.91) Dimensions in mm (inch) .30) 17 (.67) 33.5 (1.32)

#### PNEUMATIC DATA

| Description       |          | 2002VD/0.5/E/LC       |
|-------------------|----------|-----------------------|
| Part number       | 3.5 V    | 20020215 (3.5 to 5 V) |
| Max. flow         |          | 500 ml/min            |
| Max. intermitten  | it duty  | 380 to 400 mbar       |
| Max. continuous   | pressure | 150 mbar              |
| Max. restart pres | ssure    | 150 mbar              |
| Max. vacuum       |          | 36 to 40 %            |
| Max. restart vac  | uum      | 15 %                  |
|                   |          |                       |

| WETTED PARTS |    |  |
|--------------|----|--|
|              |    |  |
| Pump head    | PF |  |

Diaphragm,

Ε / LC

valves L

| Pump head         | PF   |               |
|-------------------|------|---------------|
| Diaphragm, valves | EPDM | FKM, Silicone |
|                   |      |               |

Model key:

Vacuum

2002VD / 2002... Stock programme

OPTIONS

0.5 / Γ Type Pressure Eccentric Motor type

## GENERAL DATA

ELECTRICAL DATA

Power consumption Protection class

Motor type

Bearing type

| Ambient temperature | 10 to 50 °C |
|---------------------|-------------|
| Media temperature   | 10 to 50 °C |
| Weight              | 17 g        |
| Port direction      | D           |

IP00

Permanent magnet 3.5 to 5 V/305 to 460 mW

Sleeve bearing

#### FLOW CURVES



## Diaphragm Pump 2002 VD BLDC

| Flow          | 800 ml/min   |
|---------------|--|
| Max. pressure | 600 mbar   |
| Max. vacuum   | 52 %   |
|               | Provide statements of the stat |



#### PNEUMATIC DATA

| 2002VD/0.7/E/BLDC |
|-------------------|
| 20020434          |
| 800 ml/min        |
| 550 to 600 mbar   |
| 150 mbar          |
| 600 mbar          |
| 50 to 52 %        |
| 52 %              |
|                   |

# Pump head PF Diaphragm, valves EPDM FKM, Silicone WIRING DIAGRAM Pin 1 Vp red Electronics supply 5...18VDC Pin 2 Vmot black Motor supply 5...18VDC (min. 4VDC higher than input voltage on PIN 4) Pin 3 GND black Ground Pin 4 Pin 4 Vnsoll black Speed control 1...4VDC

OPTIONS

u < 3VDC: CW/ground: CCW

#### ELECTRICAL DATA

| Motor type               | Brushless DC                           |
|--------------------------|--|
| Power consumption        | 0.8 W                                  |
| Protection class (Motor) | IP40                                   |
| Drive electronic         | integrated                             |
| Bearing type             | Ball bearing                           |
| Connector type:          | Molex 51021-0600 / Terminal 50058-8100 |

| Model key: |                          |
|------------|--------------------------|
| Vacuum<br> | Diaphragm,<br>valves<br> |
| 2002VD /   | 0.7 / E / BLDC           |

black Signal / 3 impulses per rotation

Pin 5 DIR black Direction of rotation:

WETTED PARTS

Pin 6 FG

Type Pressure Eccentric Motor type

#### GENERAL DATA

| Ambient temperature | 10 to 50 °C |
|---------------------|-------------|
| Media temperature   | 10 to 50 °C |
| Weight              | 22 g        |
| Weight              | 22 g        |

#### FLOW CURVES



| Notes |  |
|-------|--|
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#### PUMP AND COMPRESSOR SOLUTIONS FOR OEMS WORLDWIDE

#### gd-thomas.com



Gardner Denver Thomas GmbH Livry-Gargan-Str. 10 82256 Fürstenfeldbruck Germany T +49 8141 2280 0 F +49 8141 8892136 thomas.de@gardnerdenver.com td.usa@gardnerdenver.com

1419 Illinois Avenue Sheboygan. WI 53081 USA T +1 920 4574891 F +1 920 4514276

Gardner Denver Thomas. Inc. Gardner Denver Thomas Pneumatic Systems (Wuxi) Co., Ltd. No. 1 New Dong An Road, Shuofang Town, Wuxi, Xinwu District Jiangsu 214142 China

T +86 510 6878 2258 F +86 510 6878 2200 thomas.cn@gardnerdenver.com

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