



Diaphragm Pumps

1410 SERIES

JADE

MODELS

1410 V
1410 D
1410 VD



1410 DC Series



1410 BLDC Series



1410 LC Series

FEATURES

- Oil-less
- Low power consumption
- Low sound level
- Long lifetime
- Compact design
- Lightweight

TYPICAL APPLICATIONS

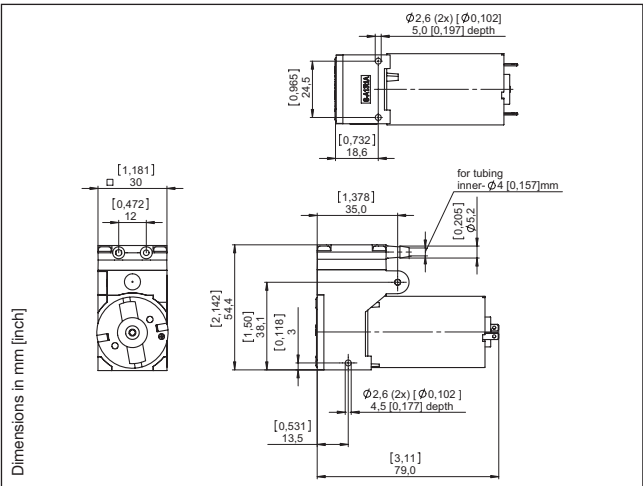
- Medical devices
- Gas detection
- Analysis
- Battery operated systems



THOMAS
A Gardner Denver Product

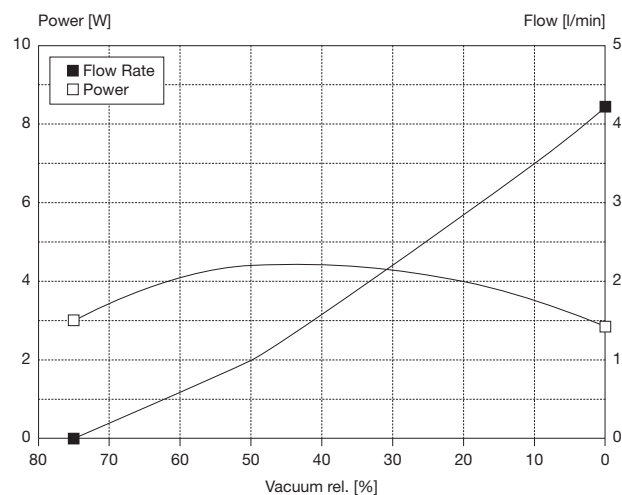
Diaphragm Pump 1410V DC

| | |
|--------------|-----------|
| Flow | 4,2 l/min |
| Final Vacuum | 75 % |



| Pneumatic Data | | |
|--------------------------|------|----------------|
| Description | | 1410V/2,2/E/DC |
| Part number | 12 V | 14100300 |
| | 24 V | 14100301 |
| Max. flow | | 4,2 l/min |
| Max. intermittent vacuum | | 75 % |
| Max. continuous vacuum | | 75 % |
| Max. restart vacuum | | 50 % |
| | | |
| Electrical Data | | |
| Motor type | | DC brush |
| Nominal speed | | 3000 rpm |
| Nominal voltage | | 12/24 V DC |
| Max. power consumption | | 4,4 W |
| Motor insulation class | | A |
| Protection class | | IP20 |
| | | |
| General Data | | |
| Ambient temperature | | 15 to 40 °C |
| Media temperature | | 15 to 40 °C |
| Weight | | 190 g |
| Port direction | | D |

Flow Curves



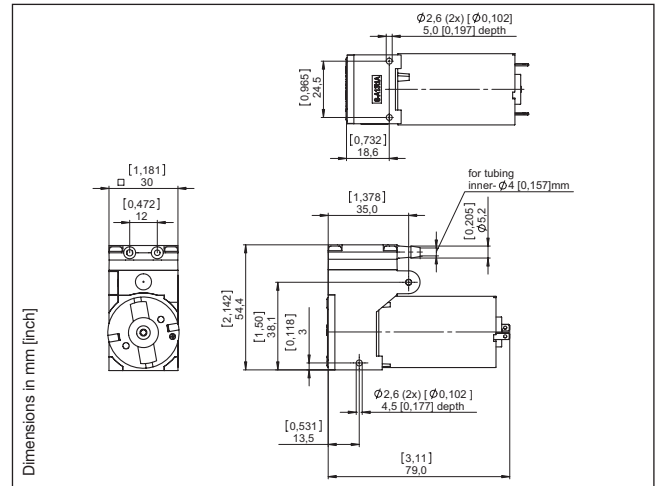
| Wetted Parts | | Options |
|--------------|------|---------|
| Pump head | PA | PPS |
| Diaphragm | EPDM | FKM |
| Valves | EPDM | FKM |

| | | |
|---------------------------|------------|-------------------------|
| Model key: | | 1410... Stock programme |
| Diaphragm, Valves, O-Ring | | |
| Vacuum | Motor type | |
| 1410 V / 2,2 / E / DC | | |
| Type | Eccentric | |

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Diaphragm Pump 1410D DC

| | |
|----------------|-----------|
| Flow | 4,3 l/min |
| Final Pressure | 1,0 bar |



Pneumatic Data

| | | |
|----------------------------|----------------|----------|
| Description | 1410D/2,2/E/DC | |
| Part number | 12 V | 14100302 |
| | 24 V | 14100303 |
| Max. flow | 4,3 l/min | |
| Max. intermittent pressure | 1,0 bar | |
| Max. continuous pressure | 1,0 bar | |
| Max. restart pressure | 0,5 bar | |

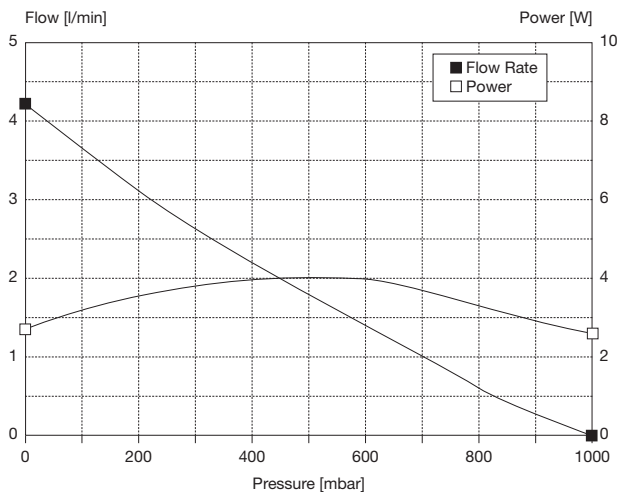
Electrical Data

| | |
|------------------------|------------|
| Motor type | DC brush |
| Nominal speed | 3000 rpm |
| Nominal voltage | 12/24 V DC |
| Max. power consumption | 4,0 W |
| Motor insulation class | A |
| Protection class | IP20 |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 190 g |
| Port direction | D |

Flow Curves



Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

Model key:

Diaphragm, Valves, O-Ring
Pressure Motor type
1410 D / 2,2 / E / DC
Type Eccentric

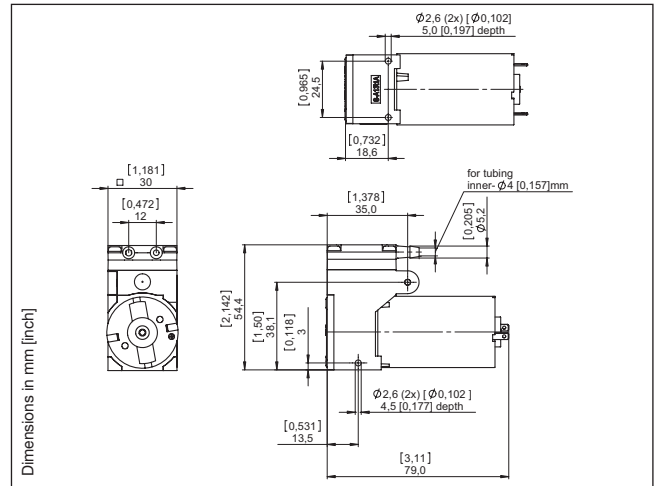
1410... Stock programme

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Diaphragm Pump 1410VD DC

| | |
|----------------|-----------|
| Flow | 3,2 l/min |
| Final Pressure | 1,9 bar |
| Final Vacuum | 73 % |



Pneumatic Data

| | | |
|----------------------------|-----------------|----------|
| Description | 1410VD/1,5/E/DC | |
| Part number | 12 V | 14100304 |
| | 24 V | 14100305 |
| Max. flow | 3,2 l/min | |
| Max. intermittent pressure | 1,9 bar | |
| Max. continuous pressure | 0,7 bar | |
| Max. restart pressure | 0,5 bar | |
| Max. intermittent vacuum | 73 % | |
| Max. continuous vacuum | 73 % | |
| Max. restart vacuum | 50 % | |

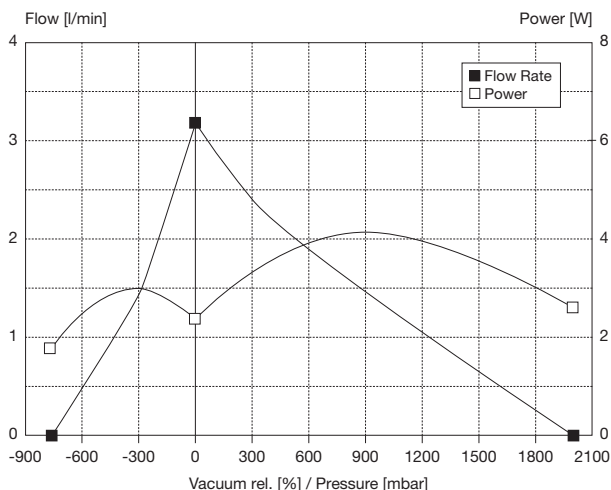
Electrical Data

| | |
|------------------------|------------|
| Motor type | DC brush |
| Nominal speed | 3000 rpm |
| Nominal voltage | 12/24 V DC |
| Max. power consumption | 4,3 W |
| Motor insulation class | A |
| Protection class | IP20 |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 190 g |
| Port direction | D |

Flow Curves



Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

Model key:

Diaphragm, Valves, O-Ring
 Vacuum Motor type
 1410 VD / 2,2 / E / DC
 Type Eccentric Pressure

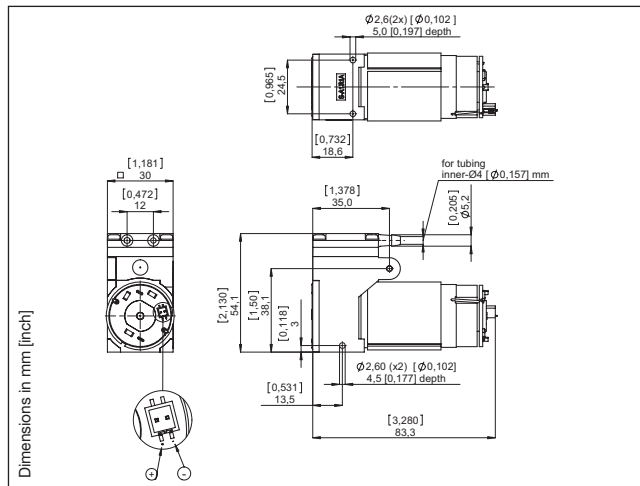
1410... Stock programme

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Diaphragm Pump 1410V LC

| | |
|---------------------|------------------|
| Flow | 3,7 l/min |
| Final Vacuum | 75 % |



Pneumatic Data

| | | |
|--------------------------|----------------|----------|
| Description | 1410V/2,2/E/LC | |
| Part number | 12 V | 14100103 |
| | 24 V | 14100106 |
| Max. flow | 3,7 l/min | |
| Max. intermittent vacuum | 75 % | |
| Max. continuous vacuum | 75 % | |
| Max. restart vacuum | 75 % | |

Electrical Data

| | |
|------------------------|------------|
| Motor type | DC brush |
| Nominal speed | 3000 rpm |
| Nominal voltage | 12/24 V DC |
| Max. power consumption | 5,0 W |
| Motor insulation class | F |
| Protection class | IP00 |

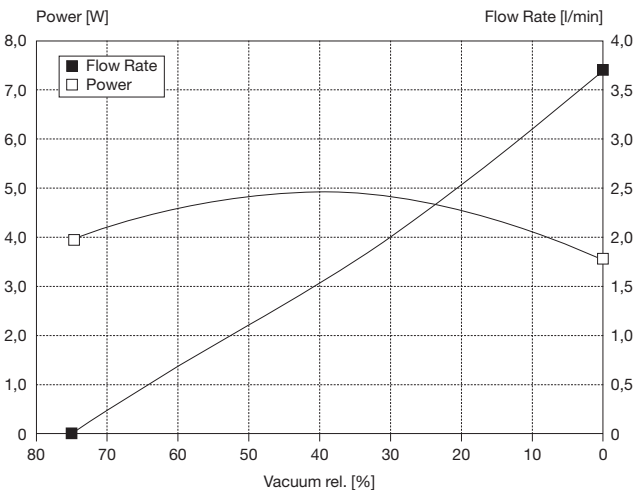
| | | |
|----------------------|-----------------------------------|-----------------------|
| * Suitable connector | Housing, receptacle, 1.5mm, pitch | Molex P/N: 87439-0200 |
| | 2x Crimp receptacle, 1.5mm, pitch | Molex P/N: 87421-0000 |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 180 g |
| Port direction | D |

radio interference suppression according to EN 55011-B

Flow Curves



Wetted Parts

| | |
|-----------|-------------|
| Pump head | PA |
| Diaphragm | <u>EPDM</u> |
| Valves | <u>EPDM</u> |

Options

PPS

Model key:

1410... Stock programme

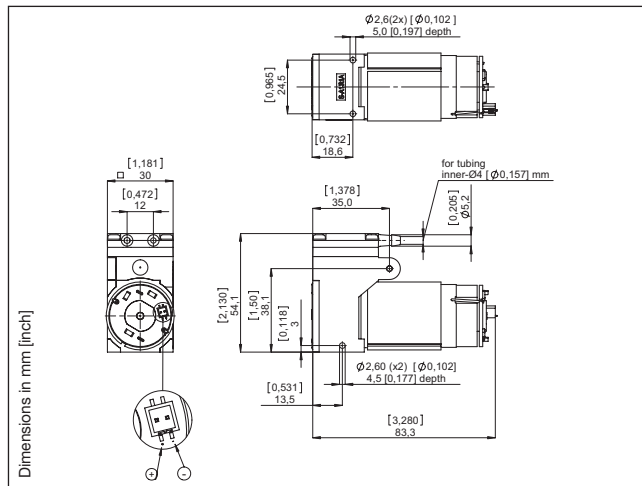
Diaphragm, Valves, O-Ring
Vacuum Motor type
1410 V/2,2/E/LC
Type Eccentric

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Diaphragm Pump 1410D LC

| | |
|-----------------------|------------------|
| Flow | 3,7 l/min |
| Final Pressure | 1,0 bar |



Pneumatic Data

| | | |
|----------------------------|----------------|----------|
| Description | 1410D/2,2/E/LC | |
| Part number | 12 V | 14100104 |
| | 24 V | 14100107 |
| Max. flow | 3,7 l/min | |
| Max. intermittent pressure | 1,0 bar | |
| Max. continuous pressure | 1,0 bar | |
| Max. restart pressure | 1,0 bar | |

Electrical Data

| | |
|------------------------|------------|
| Motor type | DC brush |
| Nominal speed | 3000 rpm |
| Nominal voltage | 12/24 V DC |
| Max. power consumption | 4,8 W |
| Motor insulation class | F |
| Protection class | IP00 |

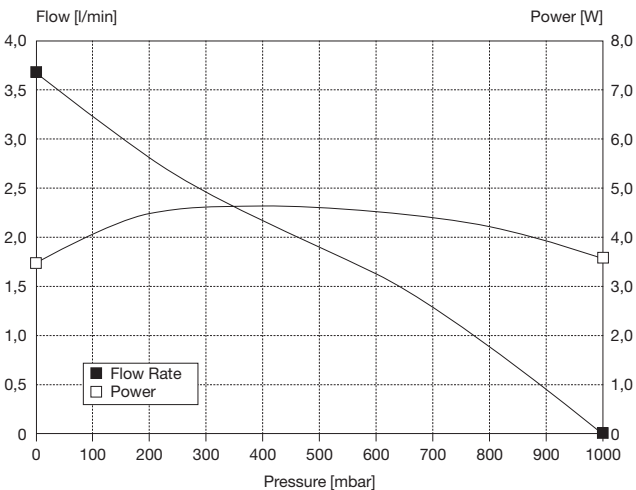
| | | |
|----------------------|-----------------------------------|-----------------------|
| * Suitable connector | Housing, receptacle, 1.5mm, pitch | Molex P/N: 87439-0200 |
| | 2x Crimp receptacle, 1.5mm, pitch | Molex P/N: 87421-0000 |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 180 g |
| Port direction | D |

radio interference suppression according to EN 55011-B

Flow Curves



Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

Model key:

1410... Stock programme

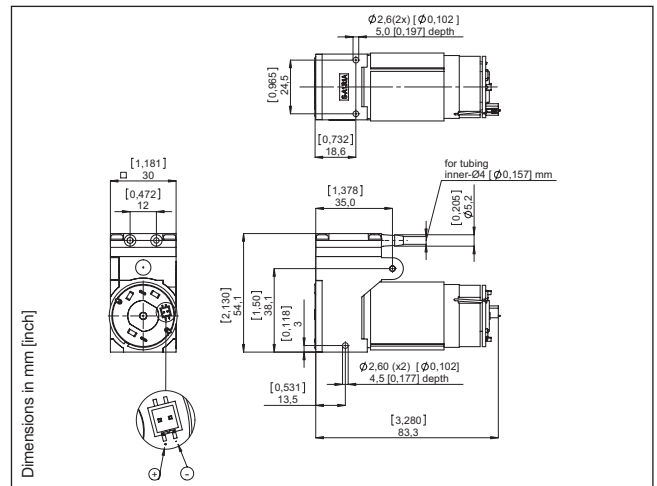
Diaphragm, Valves, O-Ring
Pressure Motor type
1410 D / 2,2 / E / LC
Type Eccentric

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Diaphragm Pump 1410VD LC

| | |
|----------------|-----------|
| Flow | 2,6 l/min |
| Final Pressure | 1,9 bar |
| Final Vacuum | 75 % |



Pneumatic Data

| | | |
|----------------------------|-----------------|----------|
| Description | 1410VD/1,5/E/LC | |
| Part number | 12 V | 14100105 |
| | 24 V | 14100108 |
| Max. flow | 2,6 l/min | |
| Max. intermittent pressure | 1,9 bar | |
| Max. continuous pressure | 0,7 bar | |
| Max. restart pressure | 1,9 bar | |
| Max. intermittent vacuum | 75 % | |
| Max. continuous vacuum | 75 % | |
| Max. restart vacuum | 75 % | |

Electrical Data

| | | |
|------------------------|------------|--|
| Motor type | DC brush | |
| Nominal speed | 3000 rpm | |
| Nominal voltage | 12/24 V DC | |
| Max. power consumption | 5,0 W | |
| Motor insulation class | F | |
| Protection class | IP00 | |

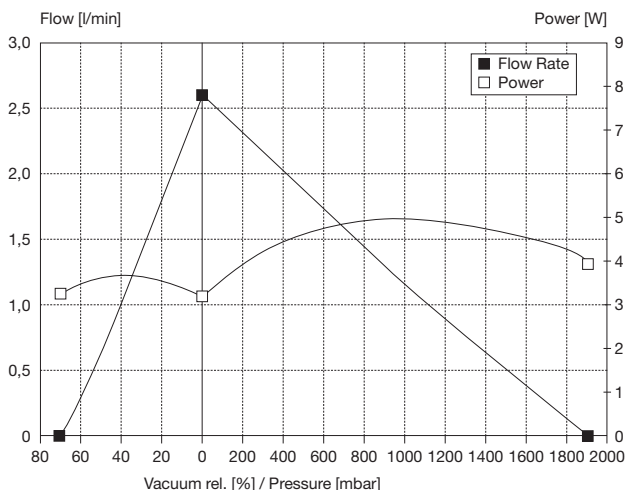
| | | |
|----------------------|-----------------------------------|-----------------------|
| * Suitable connector | Housing, receptacle, 1.5mm, pitch | Molex P/N: 87439-0200 |
| | 2x Crimp receptacle, 1.5mm, pitch | Molex P/N: 87421-0000 |

General Data

| | | |
|---------------------|-------------|--|
| Ambient temperature | 15 to 40 °C | |
| Media temperature | 15 to 40 °C | |
| Weight | 180 g | |
| Port direction | D | |

radio interference suppression according to EN 55011-B

Flow Curves



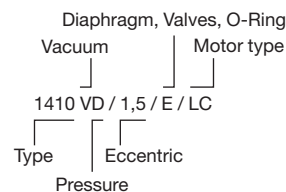
Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

Model key:



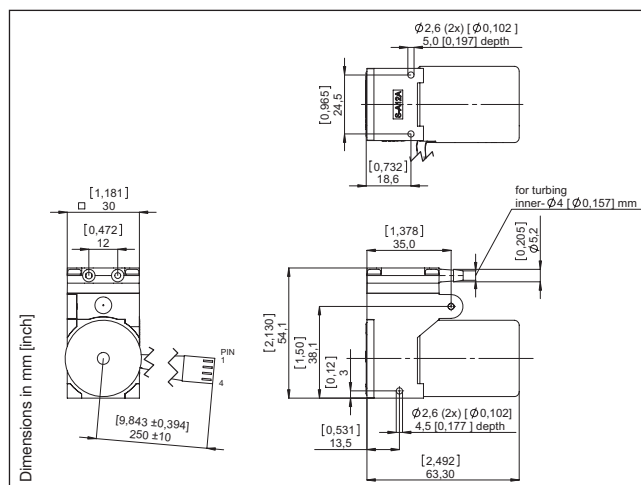
1410... Stock programme

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Diaphragm Pump 1410V BLDC

| | |
|--------------|-----------|
| Flow | 5,5 l/min |
| Final Vacuum | 75 % |



Pneumatic Data

| | |
|--------------------------|------------------|
| Description | 1410V/2,2/E/BLDC |
| Part number | 12 V 14100210 |
| | 24 V 14100211 |
| Max. flow | 5,5 l/min |
| Max. intermittent vacuum | 75 % |
| Max. continuous vacuum | 75 % |
| Max. restart vacuum | 75 % |

Electrical Data

| | |
|------------------------|---|
| Motor type | Brushless DC |
| Nominal speed | 0 – 4600 rpm |
| Nominal voltage | 12/24 V DC |
| Drive electronics | integrated with reverse supply voltage protection |
| Max. power consumption | 6,3 W |
| Motor insulation class | B |
| Protection class | IP20 |
| Connector | Housing: Molex KK 22-01-2045 |
| | Terminal: Molex KK 08-50-0031 |

Wiring diagram

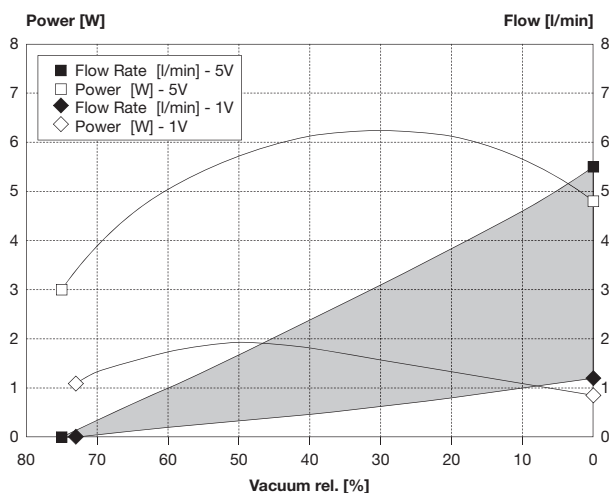
Optional: Adapter for 2-wire duty incl. potentiometer for speed adjustment

| Pin | Function | Colour | Control |
|-------|---------------|--------|--|
| Pin 1 | V Supply | Red | 12 V DC (max. voltage range: 10..18 V DC) 24 V DC (max. voltage range: 10..28 V DC) |
| Pin 2 | Ground | Black | Ground for Vsupply (PIN 1) and Speed Control (PIN 3) |
| Pin 3 | Speed Control | White | analog: 0..5 V DC (max. 28V) PWM: 6..20kHz - 14..96% Speed voltage input threshold: 0,2 V |
| Pin 4 | Tacho out | Green | 18 pulses per revolution Pulse time „LOW“: 195 µs Output level „LOW“: 0 / max. 0,5 V Output level „HIGH“: min. 4 V / max. 5 V |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 170 g |
| Port direction | D |

Flow Curves vs. Speed Control Input



Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

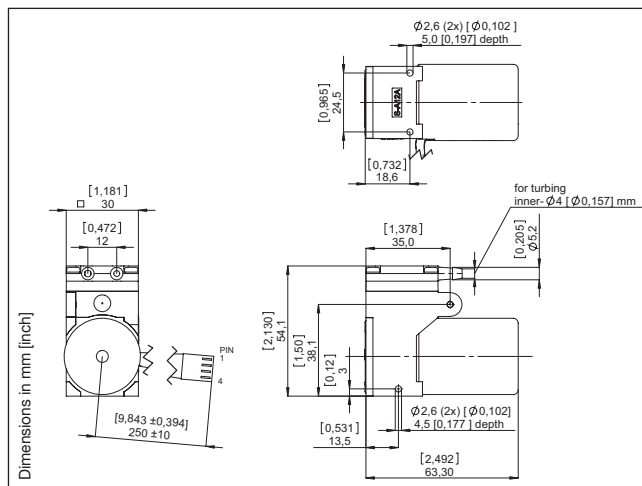
Model key:

Diaphragm, Valves, O-Ring
Vacuum Motor type
1410 V / 2,2 / E / BLDC
Type Eccentric

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Diaphragm Pump 1410D BLDC

| | |
|-----------------------|------------------|
| Flow | 5,5 l/min |
| Final Pressure | 1,0 bar |



Pneumatic Data

| | |
|----------------------------|------------------|
| Description | 1410D/2,2/E/BLDC |
| Part number | 12 V 14100212 |
| | 24 V 14100215 |
| Max. flow | 5,5 l/min |
| Max. intermittent pressure | 1,0 bar |
| Max. continuous pressure | 1,0 bar |
| Max. restart pressure | 1,0 bar |

Electrical Data

| | | |
|------------------------|---|---------------------|
| Motor type | Brushless DC | |
| Nominal speed | 0 – 4600 rpm | |
| Nominal voltage | 12/24 V DC | |
| Drive electronics | integrated with reverse supply voltage protection | |
| Max. power consumption | 6,3 W | |
| Motor insulation class | B | |
| Protection class | IP20 | |
| Connector | Housing: | Molex KK 22-01-2045 |
| | Terminal: | Molex KK 08-50-0031 |

Wiring diagram

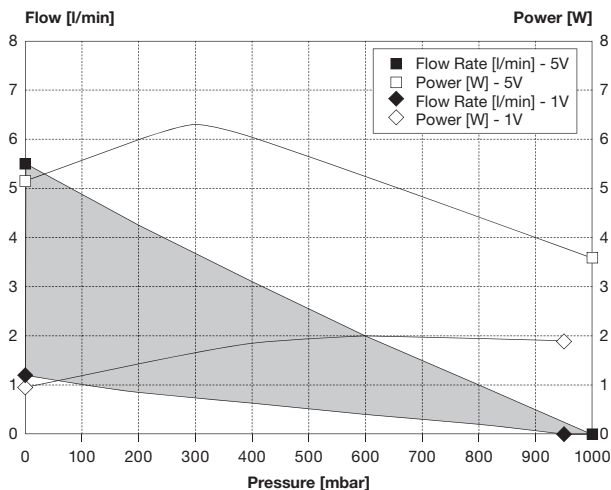
Optional: Adapter for 2-wire duty
incl. potentiometer for
speed adjustment

| | Function | Colour | Control |
|-------|---------------|--------|--|
| Pin 1 | V Supply | Red | 12 V DC (max. voltage range: 10..18 V DC) 24 V DC (max. voltage range: 10..28 V DC) |
| Pin 2 | Ground | Black | Ground for Vsupply (PIN 1) and Speed Control (PIN 3) |
| Pin 3 | Speed Control | White | analog: 0..5 V DC (max. 28V) PWM: 6..20kHz - 14..96% Speed voltage input threshold: 0,2 V |
| Pin 4 | Tacho out | Green | 18 pulses per revolution Pulse time „LOW“: 195 µs Output level „LOW“: 0 / max. 0,5 V Output level „HIGH“: min. 4 V / max. 5 V |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 170 g |
| Port direction | D |

Flow Curves vs. Speed Control Input



Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

Model key:

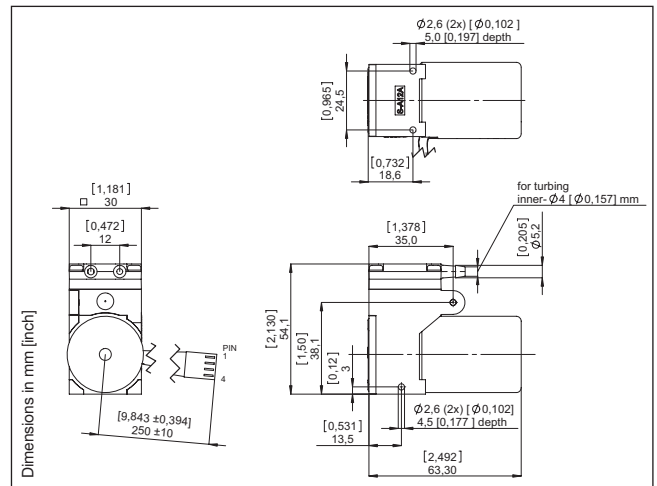
Diaphragm, Valves, O-Ring
Pressure Motor type
1410 D / 2,2 / E / BLDC
Type Eccentric

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Diaphragm Pump 1410VD BLDC

| | |
|----------------|-----------|
| Flow | 4,3 l/min |
| Final Pressure | 1,9 bar |
| Final Vacuum | 73 % |



Pneumatic Data

| | |
|----------------------------|-------------------|
| Description | 1410VD/1,5/E/BLDC |
| Part number | 12 V 14100216 |
| | 24 V 14100217 |
| Max. flow | 4,3 l/min |
| Max. intermittent pressure | 1,9 bar |
| Max. continuous pressure | 0,7 bar |
| Max. restart pressure | 1,9 bar |
| Max. intermittent vacuum | 73 % |
| Max. continuous vacuum | 73 % |
| Max. restart vacuum | 73 % |

Electrical Data

| | |
|------------------------|---|
| Motor type | Brushless DC |
| Nominal speed | 0 – 4600 rpm |
| Nominal voltage | 12/24 V DC |
| Drive electronics | integrated with reverse supply voltage protection |
| Max. power consumption | 7,0 W |
| Motor insulation class | B |
| Protection class | IP20 |
| Connector | Housing: Molex KK 22-01-2045 |
| | Terminal: Molex KK 08-50-0031 |

Wiring diagram

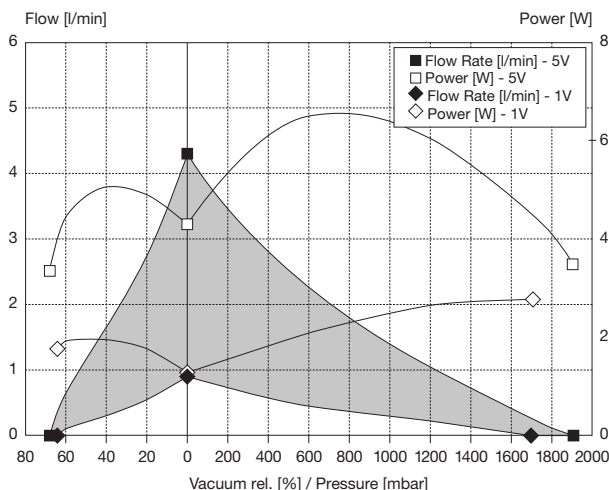
Optional: Adapter for 2-wire duty
incl. potentiometer for
speed adjustment

| Pin | Function | Colour | Control |
|-------|---------------|--------|--|
| Pin 1 | V Supply | Red | 12 V DC (max. voltage range: 10..18 V DC) 24 V DC (max. voltage range: 10..28 V DC) |
| Pin 2 | Ground | Black | Ground for Vsupply (PIN 1) and Speed Control (PIN 3) |
| Pin 3 | Speed Control | White | analog: 0..5 V DC (max. 28V) PWM: 6..20kHz - 14..96% Speed voltage input threshold: 0,2 V |
| Pin 4 | Tacho out | Green | 18 pulses per revolution Pulse time „LOW“: 195 µs Output level „LOW“: 0 / max. 0,5 V Output level „HIGH“: min. 4 V / max. 5 V |

General Data

| | |
|---------------------|-------------|
| Ambient temperature | 15 to 40 °C |
| Media temperature | 15 to 40 °C |
| Weight | 170 g |
| Port direction | D |

Flow Curves



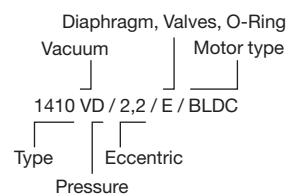
Wetted Parts

| | |
|-----------|------|
| Pump head | PA |
| Diaphragm | EPDM |
| Valves | EPDM |

Options

PPS

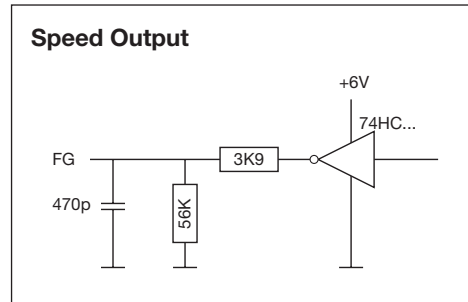
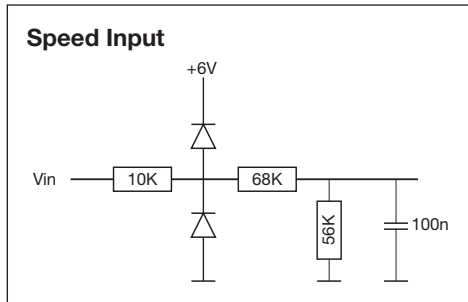
Model key:



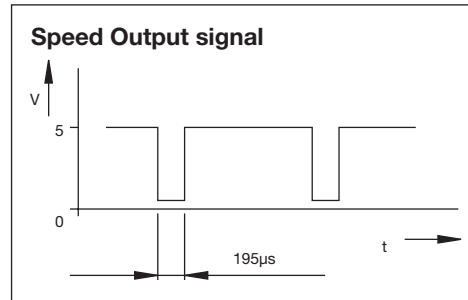
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Wiring diagram (Brushless DC motor)

| Function | Colour | Control |
|---------------------|--------|--|
| Pin 1 V Supply | Red | 12 V DC (max. voltage range: 10..18 V DC) 24 V DC (max. voltage range: 10..28 V DC) |
| Pin 2 Ground | Black | Ground for Vsupply (PIN 1) and Speed Control (PIN 3) |
| Pin 3 Speed Control | White | analog: 0..5 V DC (max. 28V) PWM: 6..20kHz - 14..96% Speed voltage input threshold: 0,2 V |
| Pin 4 Tacho out | Green | 18 pulses per revolution Pulse time „LOW“: 195 µs Output level „LOW“: 0 / max. 0,5 V Output level „HIGH“: min. 4 V / max. 5 V |



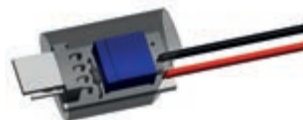
Optional: Adapter for 2-wire duty
incl. potentiometer for
speed adjustment



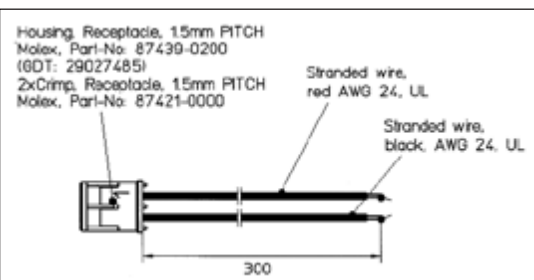
Options / Accessories

P/N 29011932 **Adapter for BLDC motor**
4-2 wire w/ manual speed control
12 V DC "red"

P/N 29011933 **Adapter for BLDC motor**
4-2 wire w/ manual speed control
24 V DC "black"



P/N 29027486 **Cable harness for LC motor version**





ClimatePartner^o
climate neutral

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