

FEATURES

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

TYPICAL APPLICATIONS

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

BASE MODEL

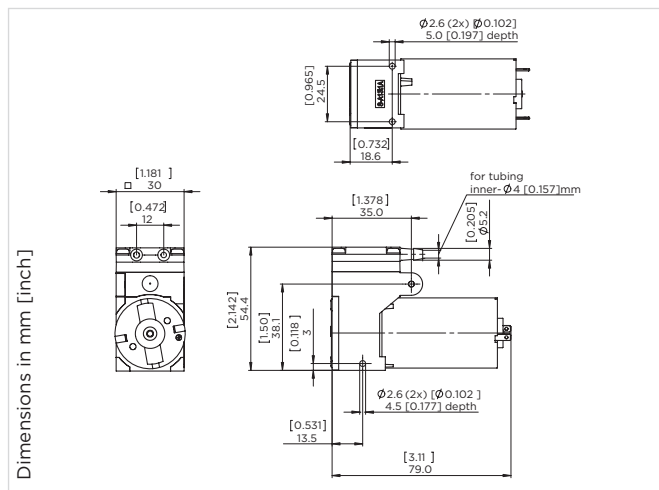
- 1410 LC
- 1410 DC
- 1410 BLDC



Diaphragm

Diaphragm Pump 1410V DC

Flow	4.2 l/min
Final Vacuum	75 %

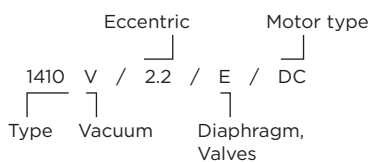


PNEUMATIC DATA

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 %	

1410... Stock programme

Model key:



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

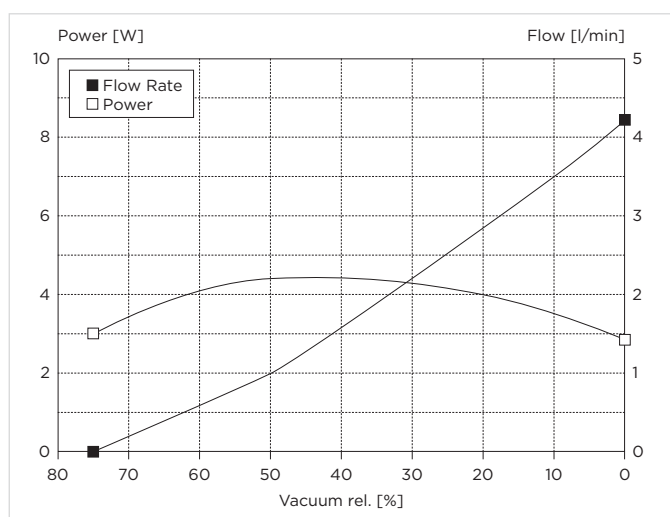
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

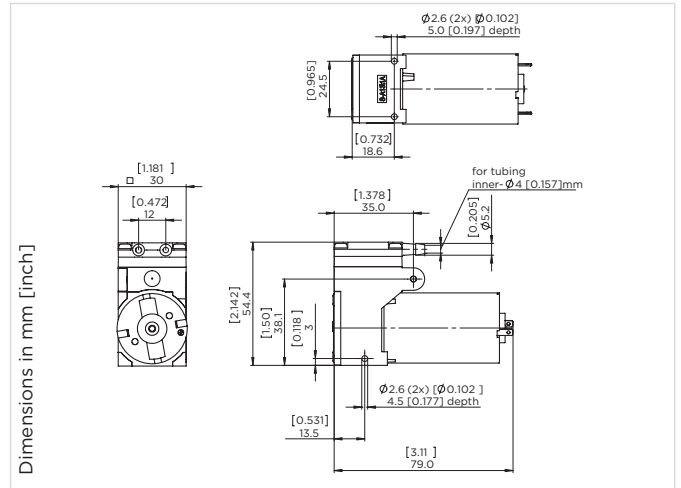
PPS
FKM
FKM

FLOW CURVES



Diaphragm Pump 1410D DC

Flow	4.3 l/min
Final Pressure	1.0 bar



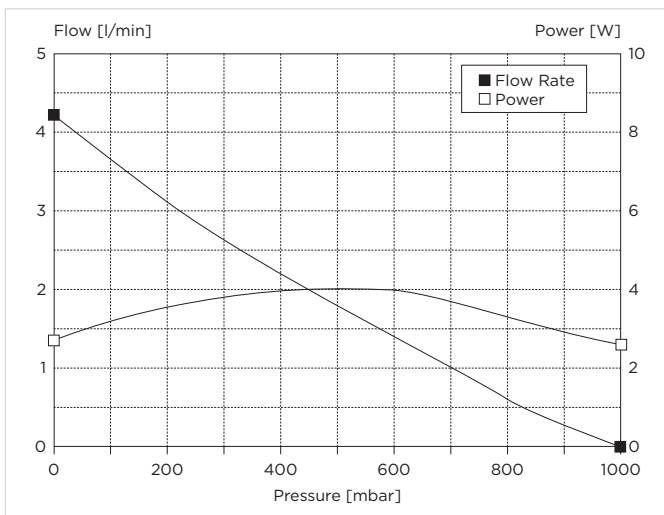
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Description	1410D/2.2/E/DC	
Part number	12 V	14100302
	24 V	14100303
Max. flow	4.3 l/min	
Max. intermittent pressure	1.0 bar	
Max. continuous pressure	1.0 bar	
Max. restart pressure	0.5 bar	

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

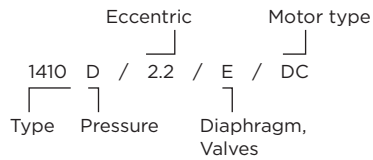
WETTED PARTS		OPTIONS	
Pump head	PA	PPS	
Diaphragm	EPDM	FKM	
Valves	EPDM	FKM	

FLOW CURVES



1410... Stock programme

Model key:



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

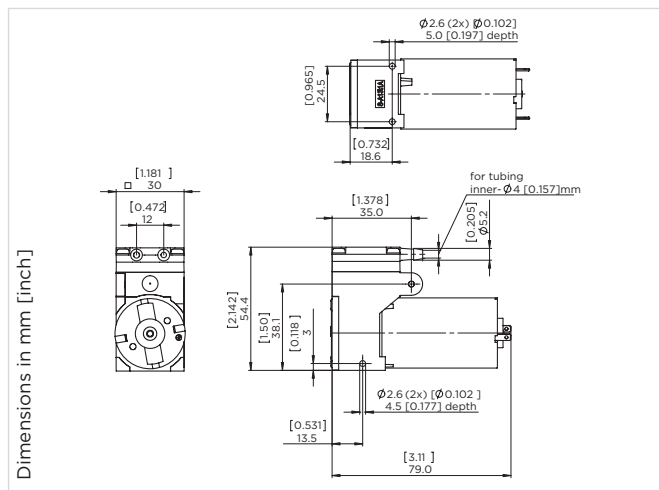
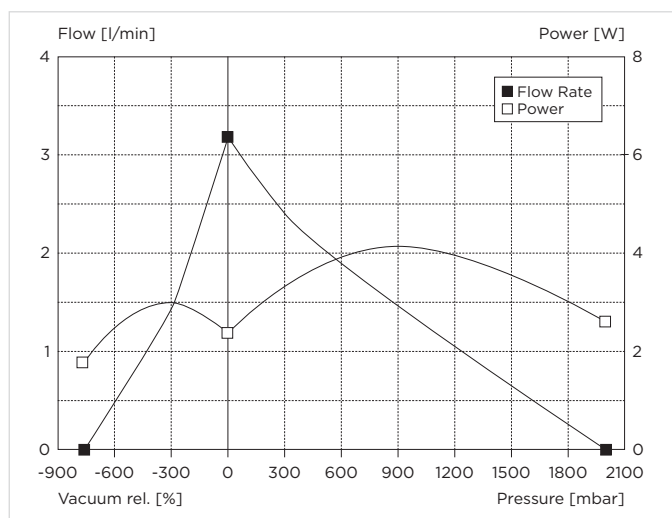
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

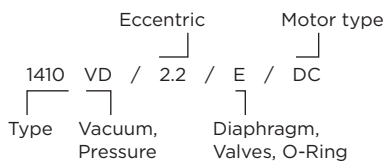
PPS

FLOW CURVES



1410... Stock programme

Model key:



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

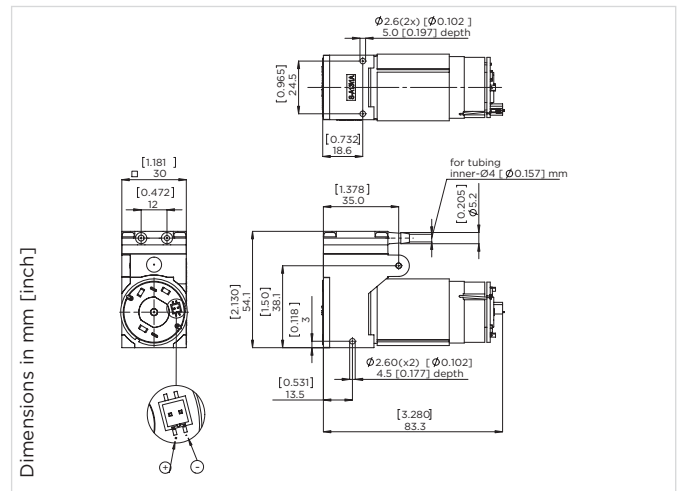
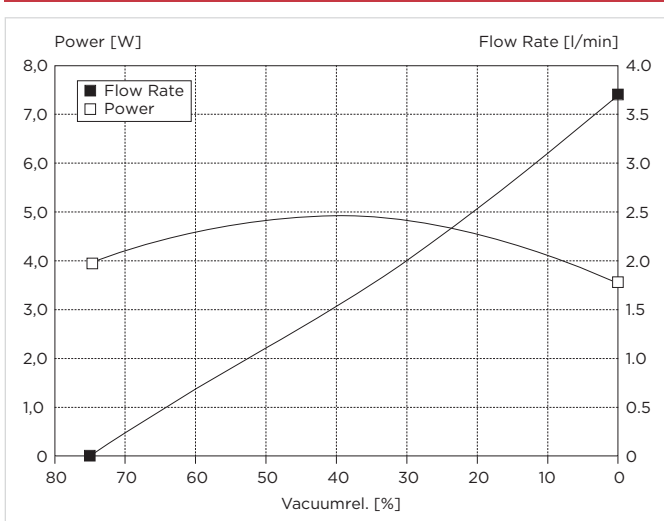
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

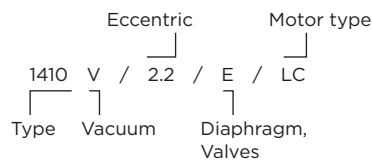
PPS

FLOW CURVES



1410... Stock programme

Model key:



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

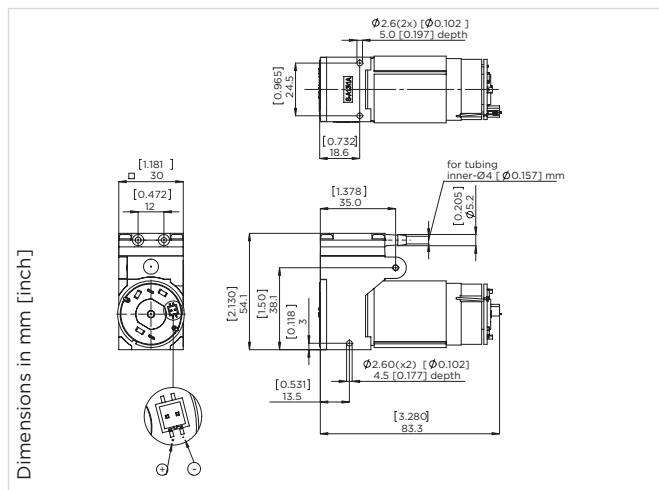
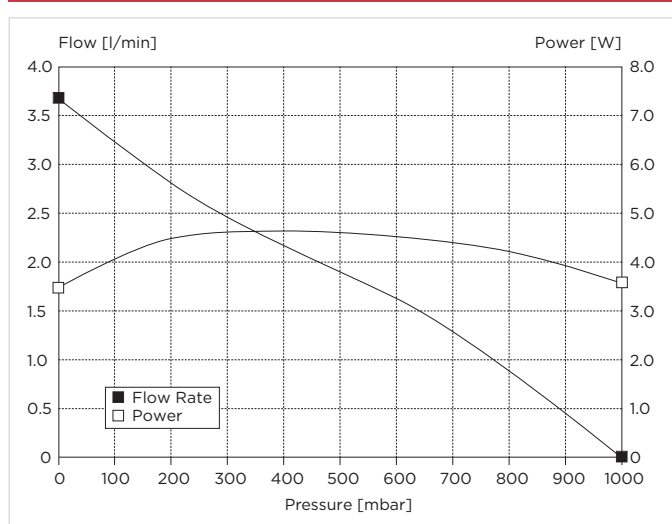
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

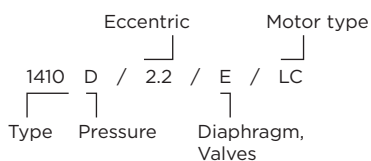
PPS

FLOW CURVES



1410... Stock programme

Model key:



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 %	

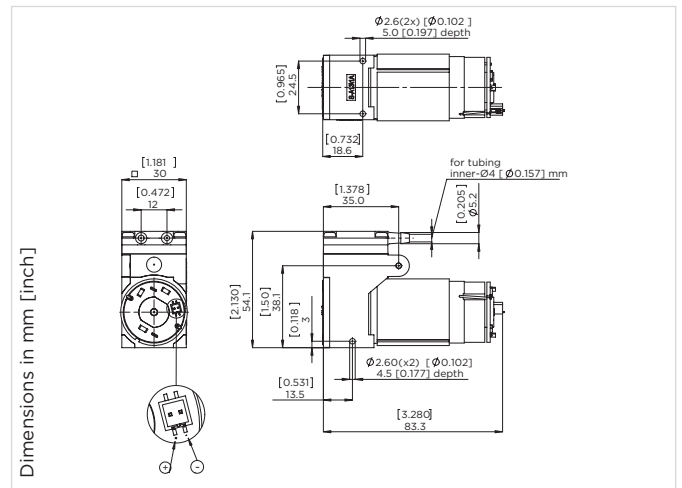
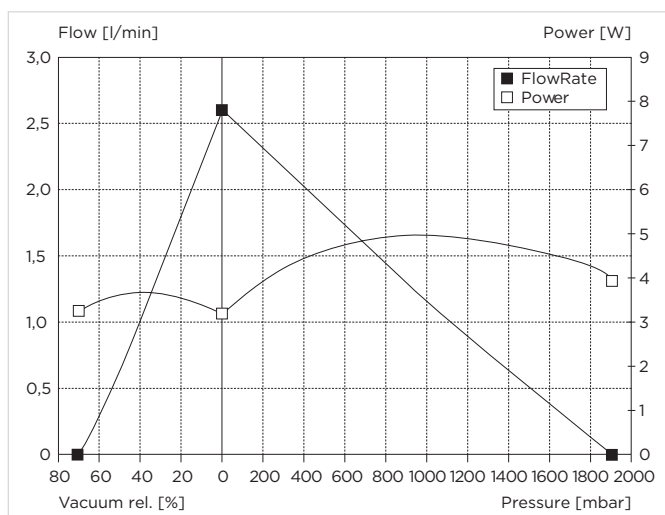
ELECTRICAL DATA

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

FLOW CURVES



WETTED PARTS

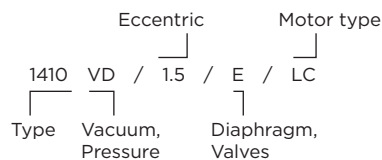
Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

PPS

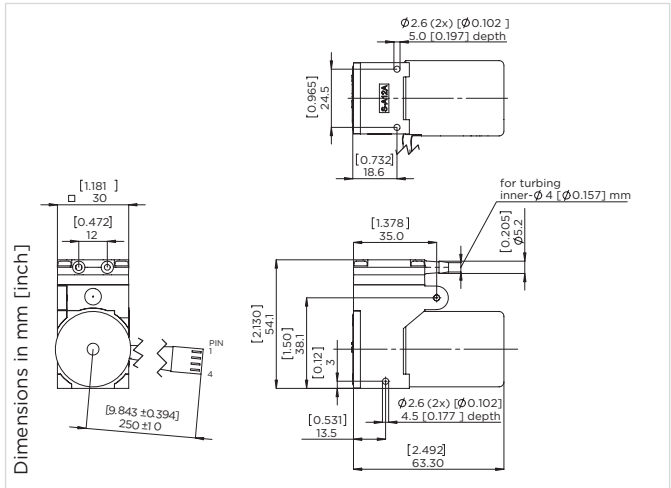
1410... Stock programme

Model key:



Diaphragm Pump 1410V BLDC

Flow	5.5 l/min
Final Vacuum	75 %



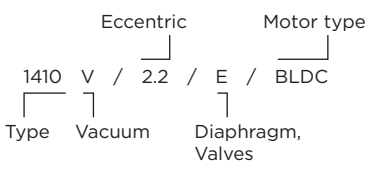
PNEUMATIC DATA		
Description	1410V/2.2/E/BLDC	
Part number	12 V	14100210
	24 V	14100211
Max. flow	5.5 l/min	
Max. intermittent vacuum	75 %	
Max. continuous vacuum	75 %	
Max. restart vacuum	75 %	

WIRING DIAGRAM			
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) analog: 0..5 V DC (max. 28V) PWM: 6..20kHz - 14..96% Speed voltage input threshold: 0.2 V
Pin 3	Speed Control	White	
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

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

Model key:

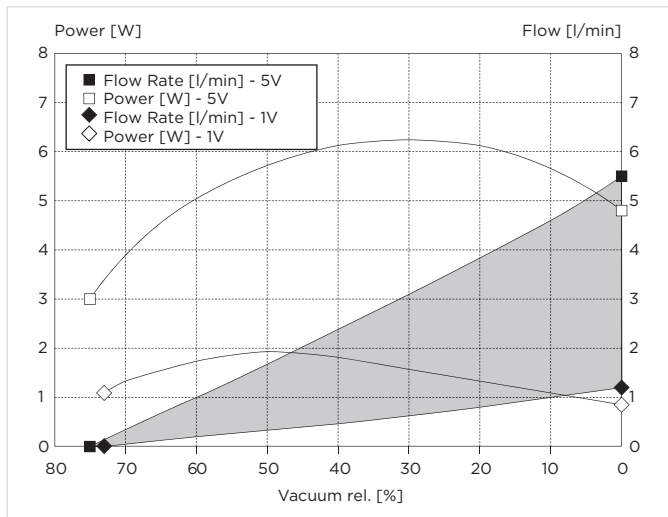


GENERAL DATA	
Ambient temperature	15 to 40 °C
Media temperature	15 to 40 °C
Weight	170 g
Port direction	D

WETTED PARTS	
Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS
PPS

FLOW CURVES



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

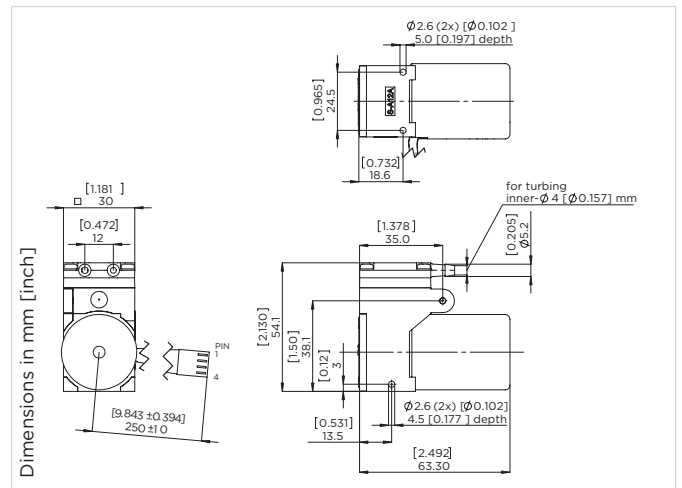
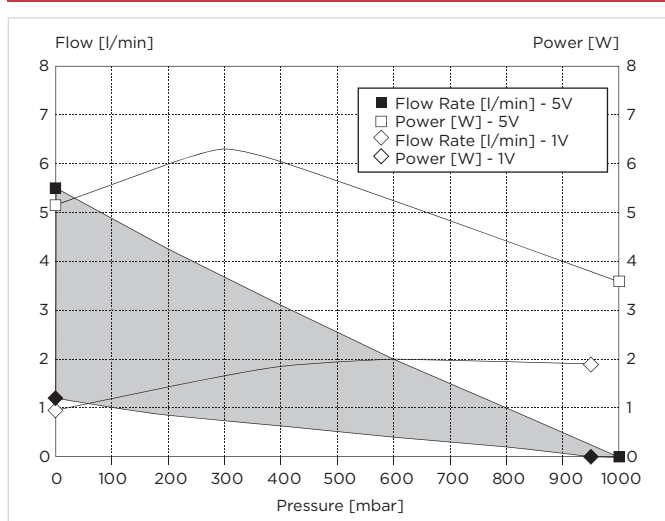
GENERAL DATA

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

WETTED PARTS

Pump head	PA	PPS
Diaphragm	EPDM	
Valves	EPDM	

FLOW CURVES

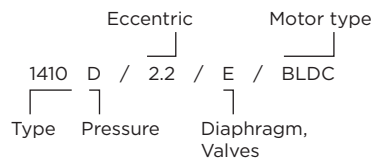


WIRING DIAGRAM

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

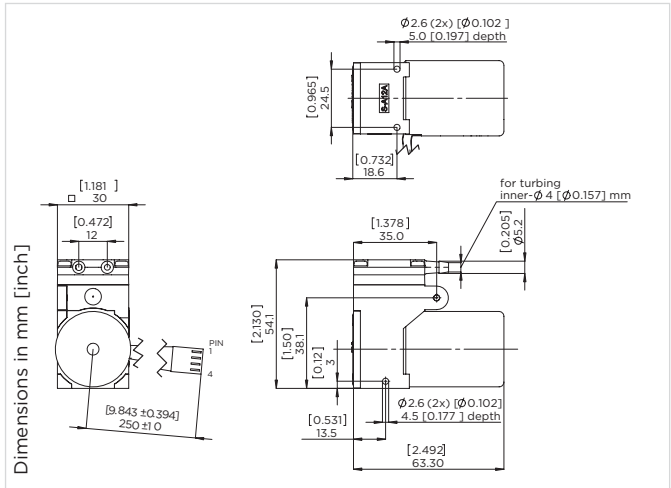
Optional: Adapter for 2-wire duty incl. potentiometer for speed adjustment

Model key:



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. intermittent vacuum	1.9 bar	
Max. intermittent vacuum	73 %	
Max. continuous vacuum	73 %	
Max. restart vacuum	73 %	

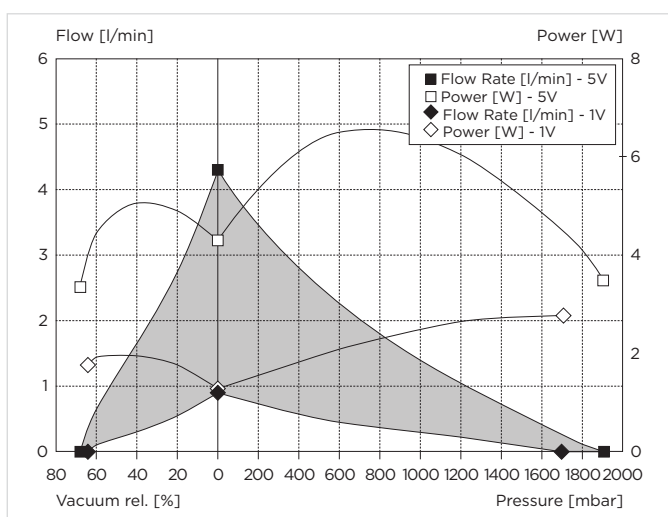
ELECTRICAL DATA

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

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

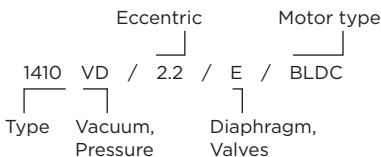
PPS

WIRING DIAGRAM

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

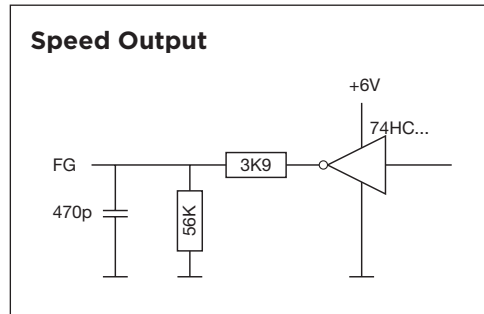
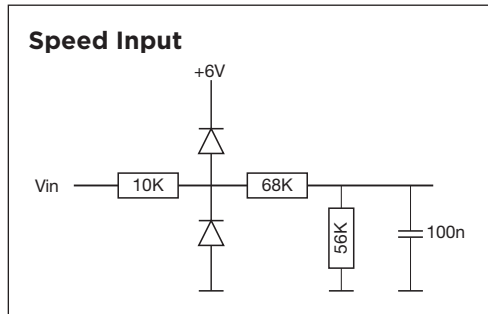
Optional: Adapter for 2-wire duty incl. potentiometer for speed adjustment

Model key:

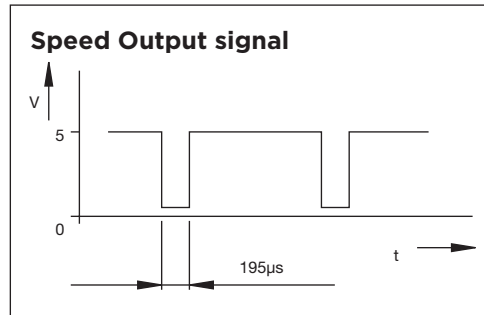


Wiring diagram (Brushless DC motor)

	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 μ s Output level „LOW“: 0 / max. 0.5 V Output level „HIGH“: min. 4 V / max. 5 V



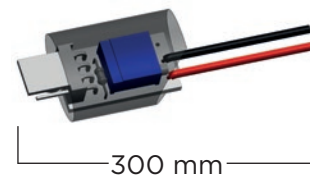
Optional: Adapter for 2-wire duty incl. potentiometer for speed adjustment



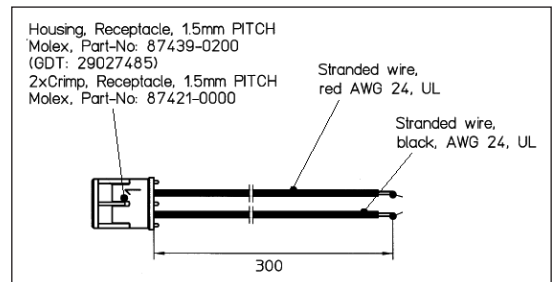
Options / Accessories

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**



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

Gardner Denver Hong Kong, Limited

Unit 1317-1318 Delta House, 3 On Yiu Street
Siu Lek Yuen, Shatin, New Territories
Hong Kong
T +852 26903502
F +852 27924598
thomas.hk@gardnerdenver.com

Gardner Denver Thomas, Inc.

1419 Illinois Avenue
Sheboygan, WI 53081
USA
T +1 920 4574891
F +1 920 4514276
td.usa@gardnerdenver.com

THOMAS
by Gardner Denver

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