1410 Series

THOMAS
by Gardner Denver

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







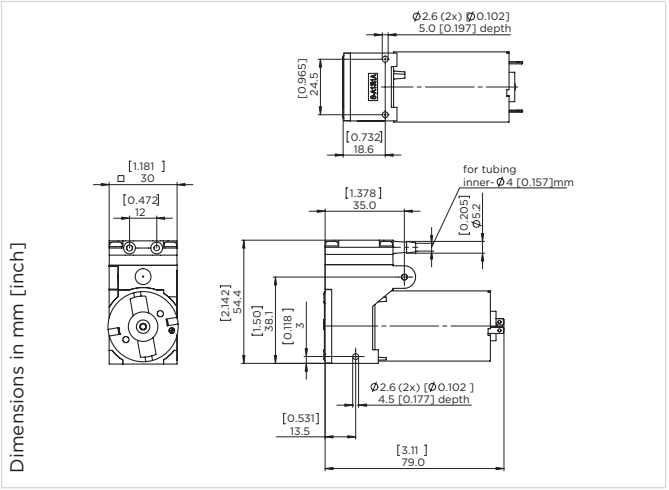


Diaphragm

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 %

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

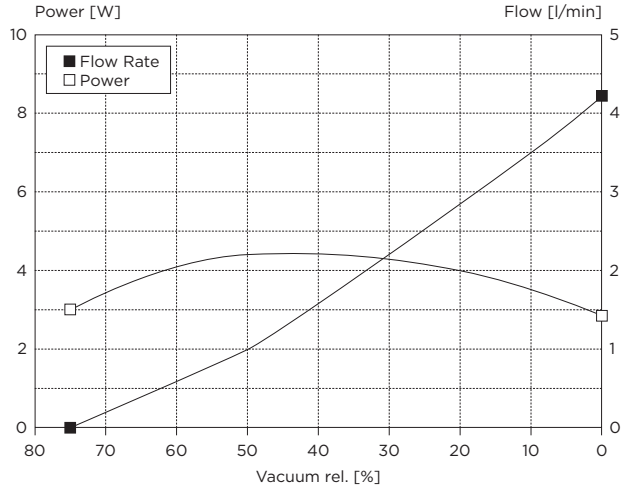
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

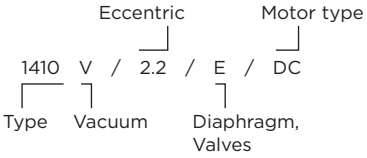
PPS
FKM
FKM

FLOW CURVES



1410... Stock programme

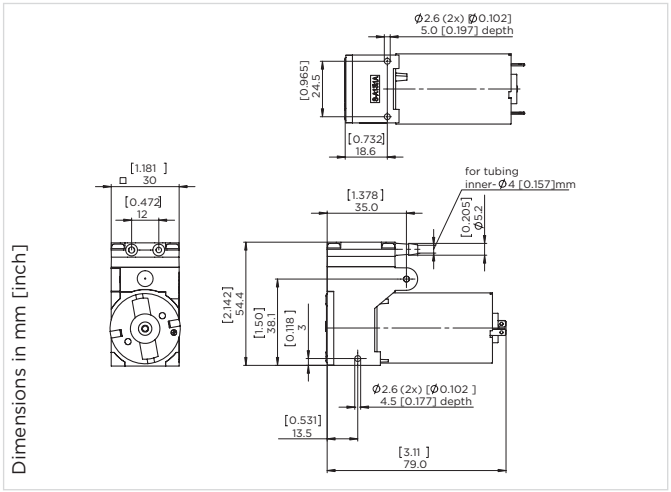
Model key:



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

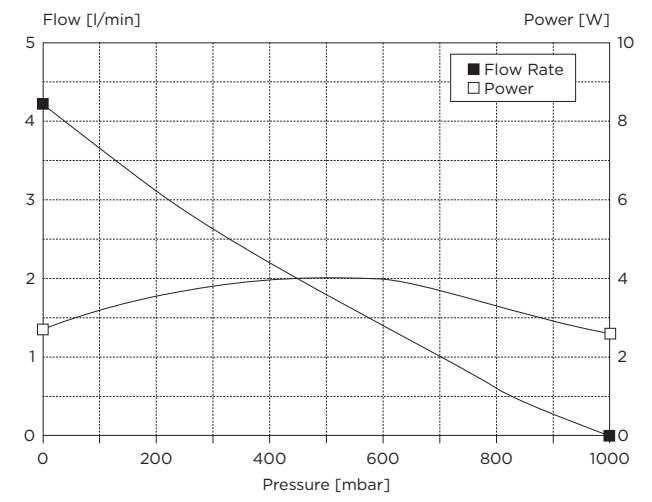
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

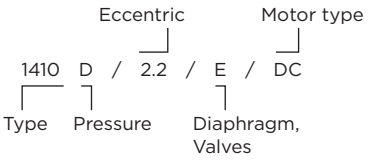
PPS
FKM
FKM

FLOW CURVES



1410... Stock programme

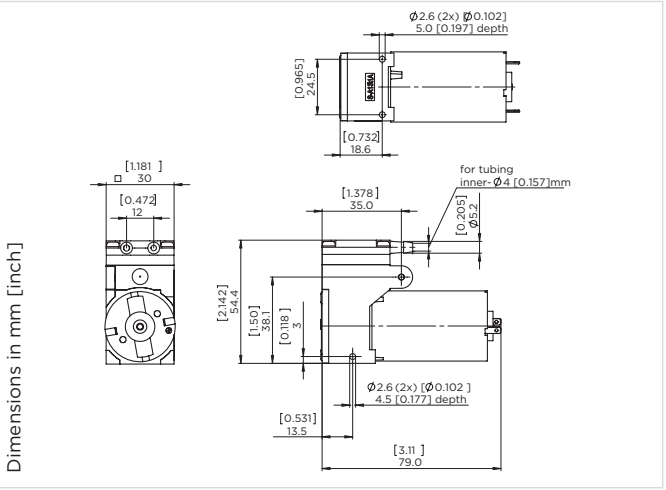
Model key:



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

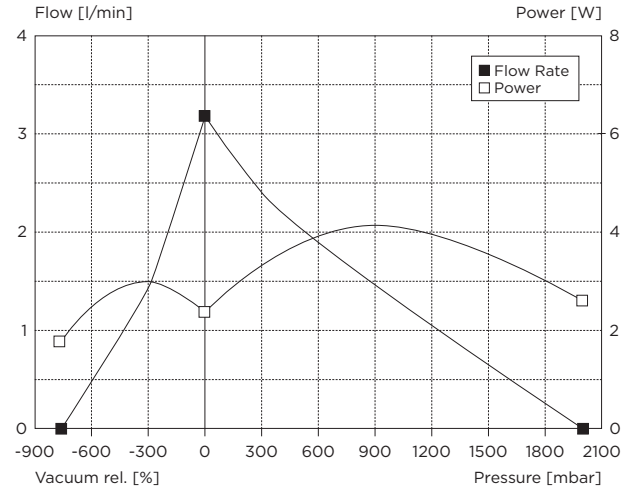
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

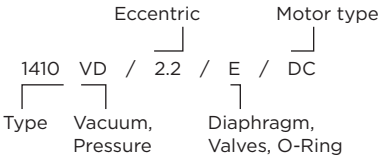
PPS

FLOW CURVES



1410... Stock programme

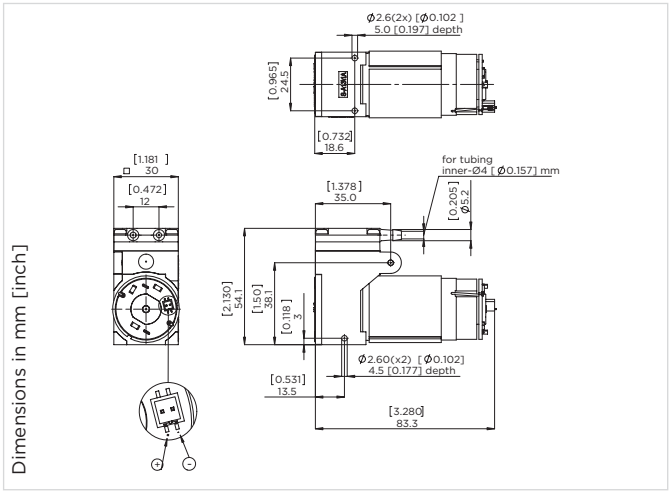
Model key:



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

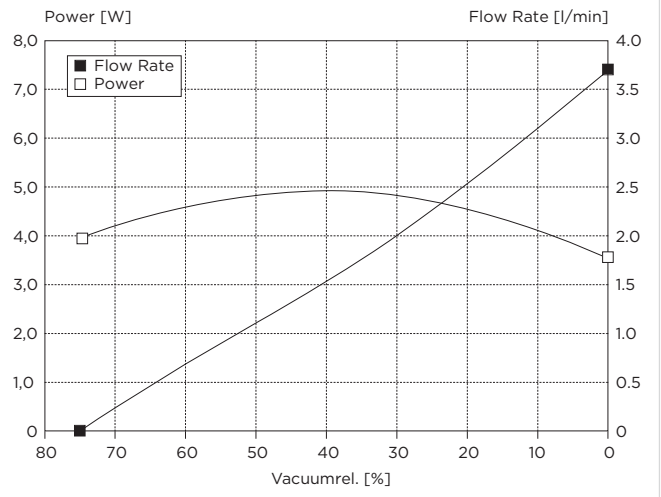
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

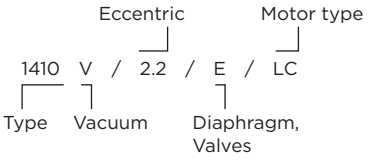
PPS

FLOW CURVES



1410... Stock programme

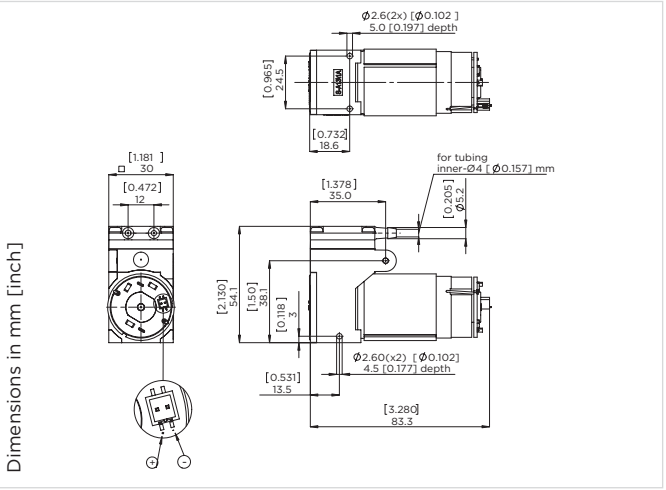
Model key:



Diaphragm Pump **1410D LC**

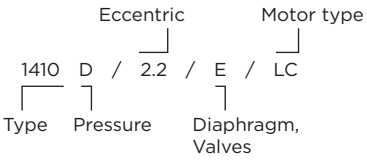
Flow	**3.7 l/min**
Final Pressure	**1.0 bar**





1410... Stock programme

Model key:



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

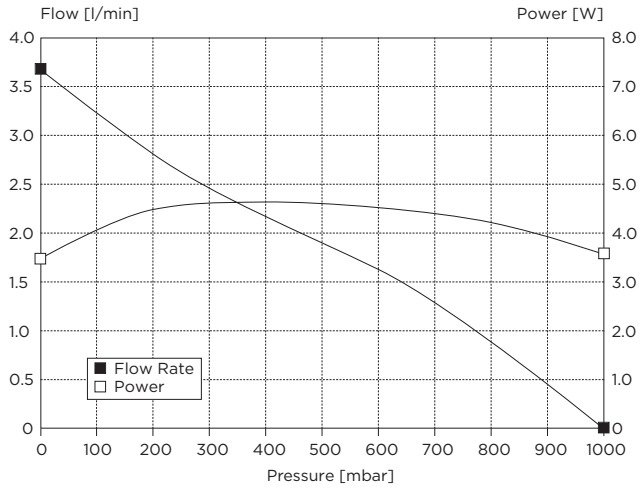
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

PPS

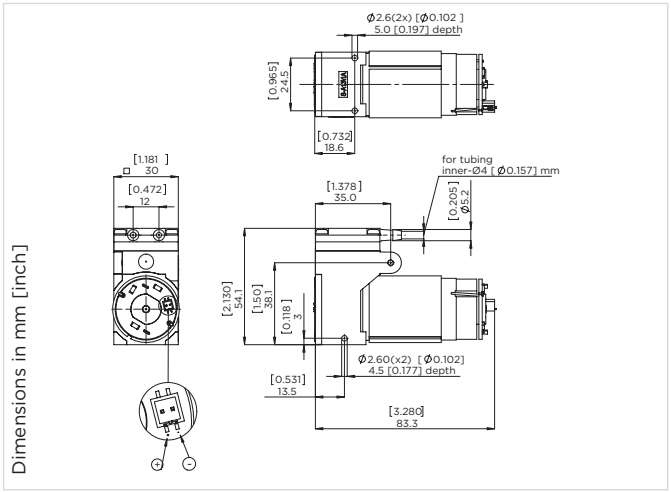
FLOW CURVES



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 %

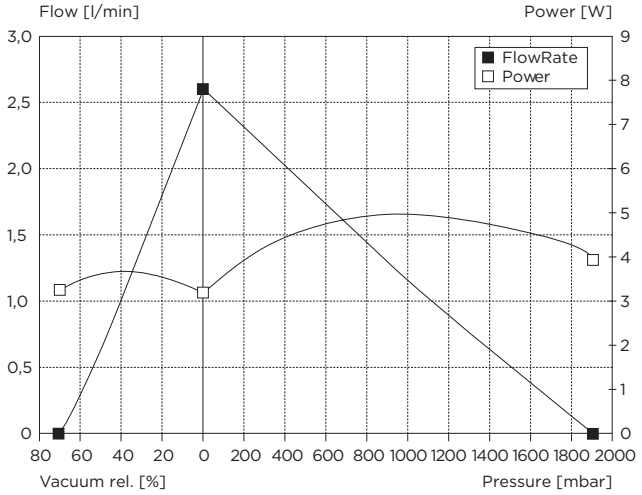
ELECTRICAL DATA

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

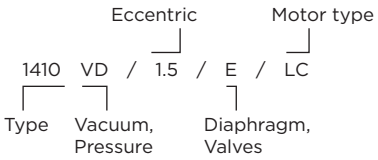
Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

PPS

1410... Stock programme

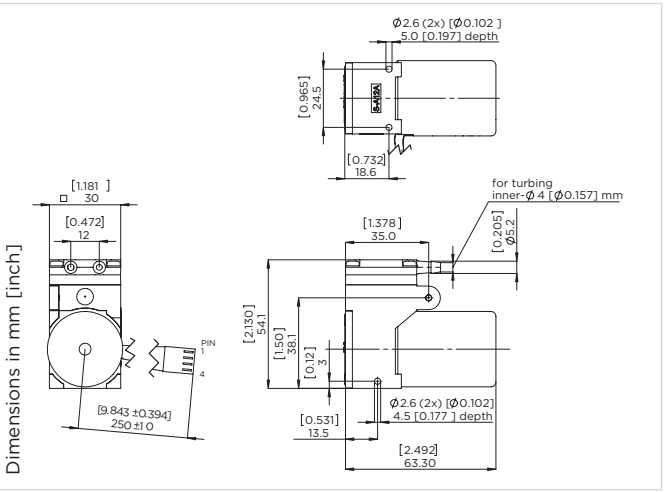
Model key:



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 %

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 22-01-3047
	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

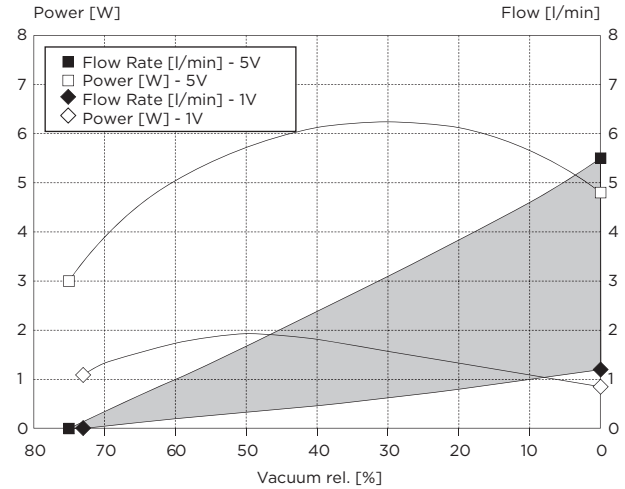
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

PPS

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

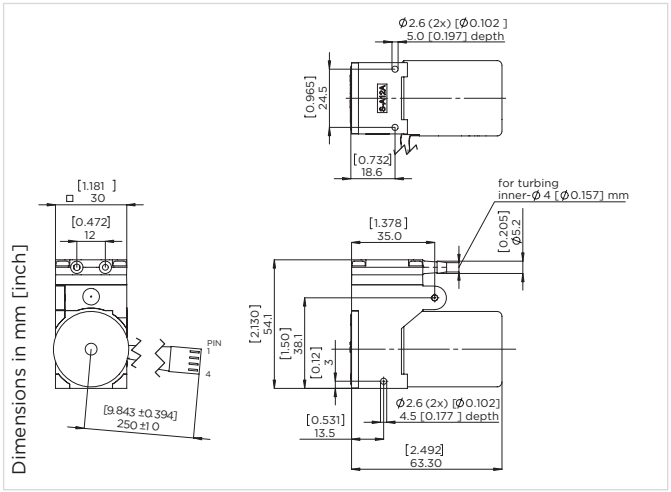
Model key:

1410	V	/	2.2	/	E	/	BLDC
Type	Vacuum		Eccentric		Diaphragm, Valves		Motor type

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 22-01-3047
	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

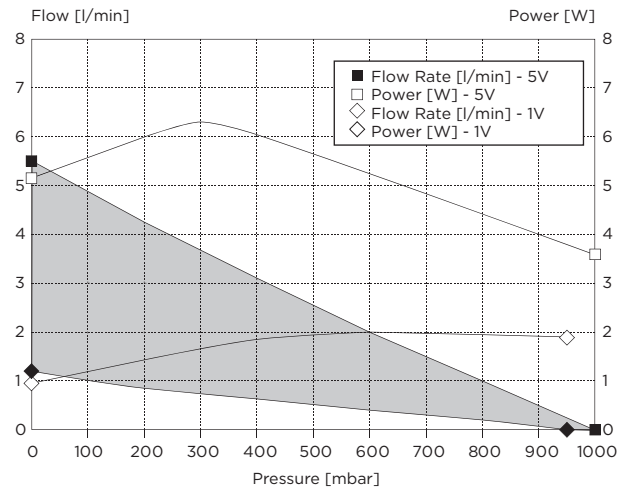
WETTED PARTS

Pump head	PA
Diaphragm	EPDM
Valves	EPDM

OPTIONS

PPS

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

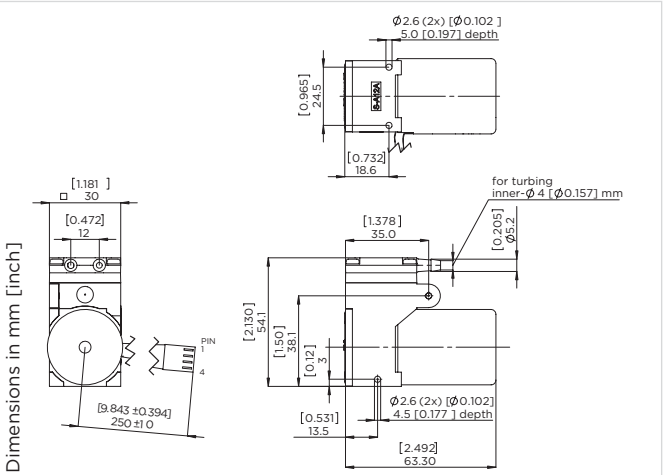
Model key:

1410	D	/	2.2	/	E	/	BLDC
Type	Pressure		Eccentric		Diaphragm, Valves		Motor type

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 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 22-01-3047
	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
Diaphragm	EPDM
Valves	EPDM

OPTIONS

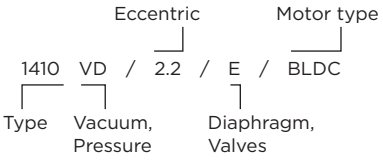
PPS

WIRING DIAGRAM

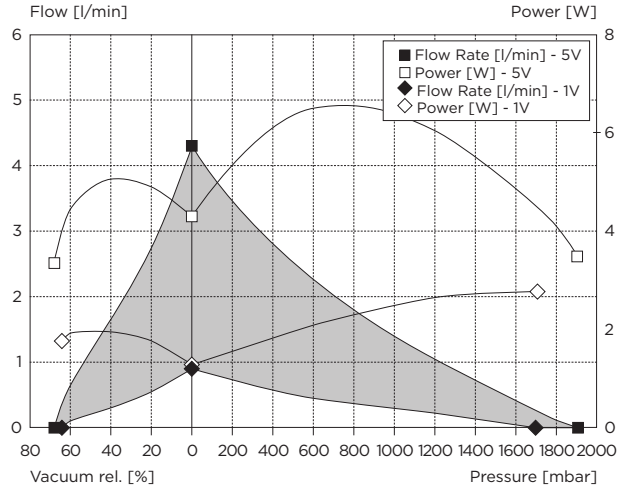
Pin 1	V Supply	Red	12 V DC (max. voltage range: 10..18 V DC) 24 V DC (max. voltage range: 10..28 V DC)
Pin 2	Ground	Black	Ground for Vsupply (PIN 1) and Speed Control (PIN 3)
Pin 3	Speed Control	White	analog: 0..5 V DC (max. 28V) PWM: 6..20kHz - 14..96% Speed voltage input threshold: 0.2 V
Pin 4	Tacho 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:



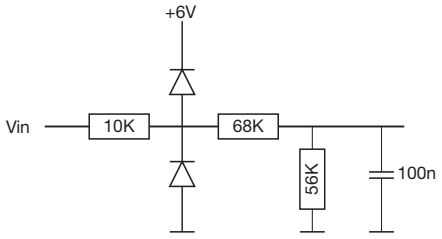
FLOW CURVES



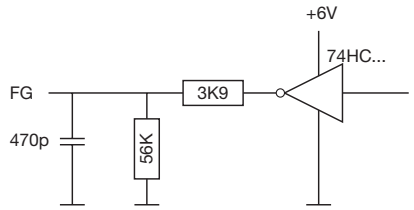
Wiring diagram (Brushless DC motor)

	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

Speed Input

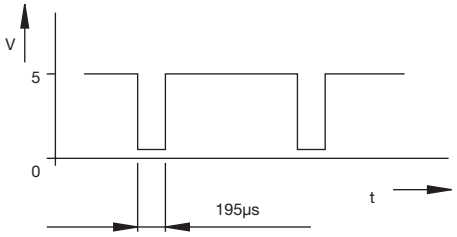


Speed Output



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

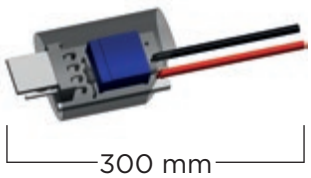
Speed Output signal



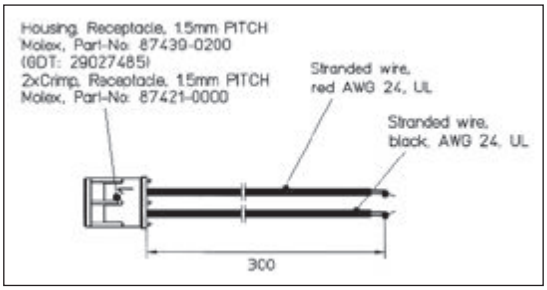
Options / Accessories

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

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