



Rotary Vane Pumps

Miniature Series



OIL-LESS

PRODUCT FEATURES

- Maintenance free
- Oil-less
- Compact
- Pulsation free
- High flow
- Low vibration
- No valves
- Reversible

TYPICAL APPLICATIONS

- Automotive
- Medical
- Analysis
- Automation
- Fuel Cell



THOMAS
by Gardner Denver

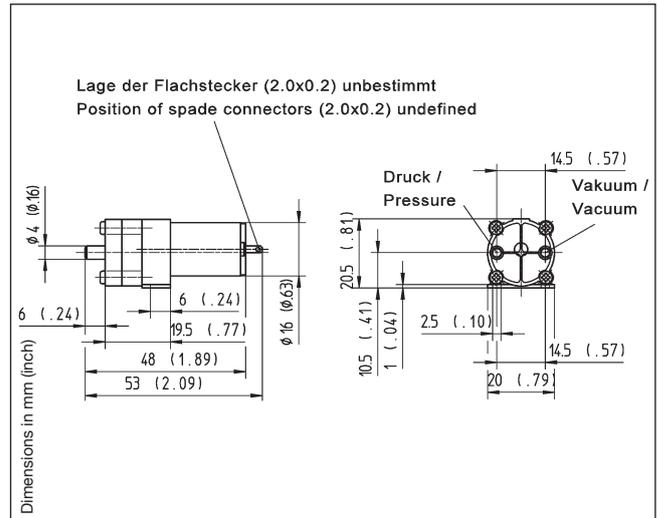
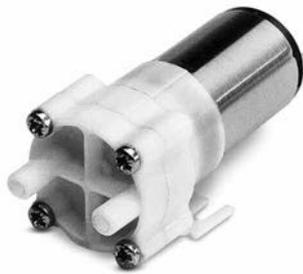
Rotary Vane Vacuum and Pressure Pumps

Product Overview

Model	Flow	Max. Pressure	Max. vaccum	Page
G 01-K-LC	2,2 l/min	80 mbar	7 %	3
G 01-K-EB	1,4 l/min	40 mbar	4 %	4
G 01 EB	1,6 l/min	180 mbar	20 %	5
G 01-4 EB	1,4 l/min	280 mbar	29 %	6
G 02 EB	3,6 l/min	190 mbar	19 %	7
G 02-4 EB	3,7 l/min	310 mbar	31 %	8
G 02-8	2,7 l/min	410 mbar	37 %	9
BL-G 02-4	2,1 l/min	200 mbar	19 %	10
G 04 EB	6,8 l/min	150 mbar	16 %	11
G 04-4 EB	5,1 l/min	240 mbar	26 %	12
G 04-8	4,4 l/min	260 mbar	25 %	13
G 045-LC	6,5 l/min	750 mbar	63 %	14
G 045	6,1 l/min	750 mbar	70 %	15
G 07	21 l/min	1400 mbar	77 %	16
G 07-N	20 l/min	900 mbar	72 %	17
G 08	15,5 l/min	1400 mbar	83 %	18
G 08-T	36 l/min	1400 mbar	93 %	19
BL-G 085 M	8,5 l/min	450 mbar	50 %	20
G 09	11 l/min	370 mbar	35 %	21

Rotary Vane Pump G 01-K-EB

Flow	1,4 l/min
Max. pressure	40 mbar
Max. vacuum	4 %



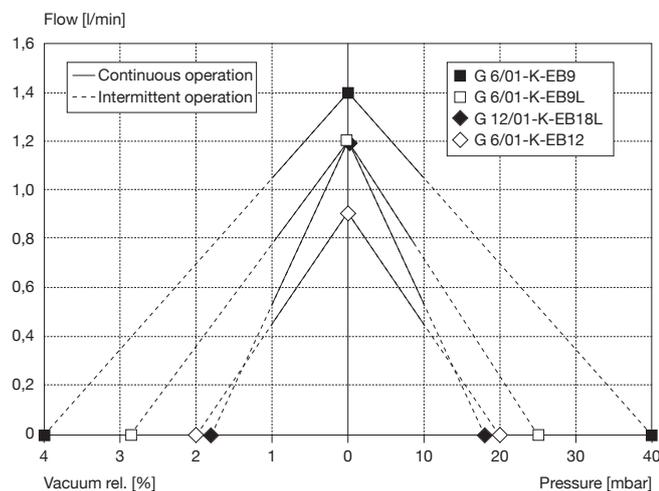
Pneumatic Data				
Description	G 6/01-K-EB12	G 6/01-K-EB9L	G 6/01-K-EB9	G 12/01-K-EB18L
Part number	50251	50094	50250	50080
Max. flow	0,9 l/min	1,2 l/min	1,4 l/min	1,2 l/min
Max. intermittent pressure	20 mbar	25 mbar	40 mbar	18 mbar
Max. continuous pressure	10 mbar	10 mbar	10 mbar	10 mbar
Max. intermittent vacuum	2 %	2,8 %	4 %	1,8 %
Max. continuous vacuum	1 %	1 %	1 %	1 %

Electrical Data				
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	6 V DC	6 V DC	12 V DC
Min. current consumption	18 mA	36 mA	50 mA	25 mA
Max. current consumption	30 mA	65 mA	70 mA	48 mA
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

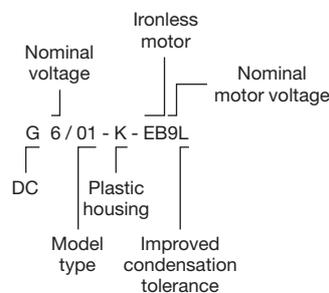
General Data				
Ambient temperature	-20 to 40° C			
Weight	0,04 kg	0,04 kg	0,04 kg	0,04 kg
Direction of rotation	cw/ccw	cw/ccw	cw/ccw	cw/ccw

All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



50... Stock programme

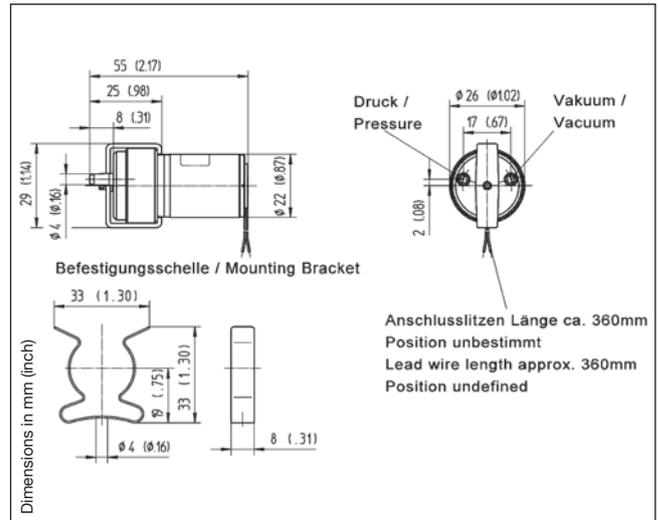
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 01 EB

Flow	1,6 l/min
Max. pressure	180 mbar
Max. vacuum	20 %



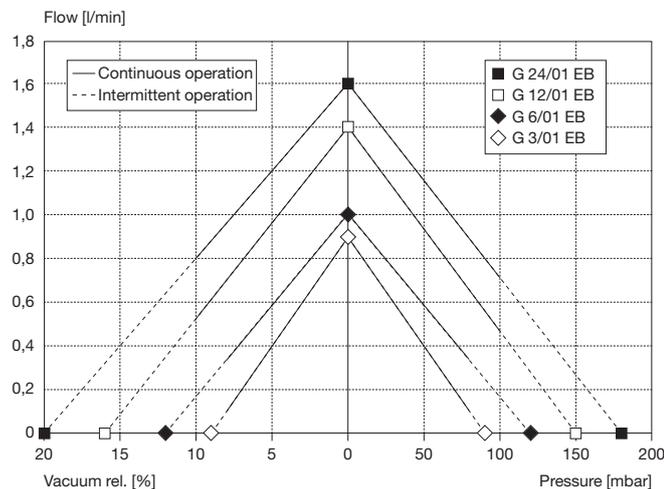
Pneumatic Data				
Description	G 3/01 EB	G 6/01 EB	G 12/01 EB	G 24/01 EB
Part number	50083	50081	50096	50099
Max. flow	0,9 l/min	1,0 l/min	1,4 l/min	1,6 l/min
Max. intermittent pressure	90 mbar	120 mbar	150 mbar	180 mbar
Max. continuous pressure	80 mbar	80 mbar	100 mbar	100 mbar
Max. intermittent vacuum	9 %	12 %	16 %	20 %
Max. continuous vacuum	8 %	8 %	10 %	10 %

Electrical Data				
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	3 V DC	6 V DC	12 V DC	24 V DC
Min. current consumption	0,12 A	0,07 A	0,09 A	0,05 A
Max. current consumption	0,28 A	0,19 A	0,20 A	0,13 A
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

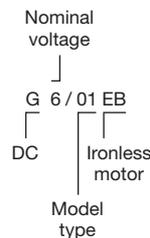
General Data				
Ambient temperature	-30 to 50 °C			
Weight	0,1 kg	0,1 kg	0,1 kg	0,1 kg
Direction of rotation	cw	cw	cw	cw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



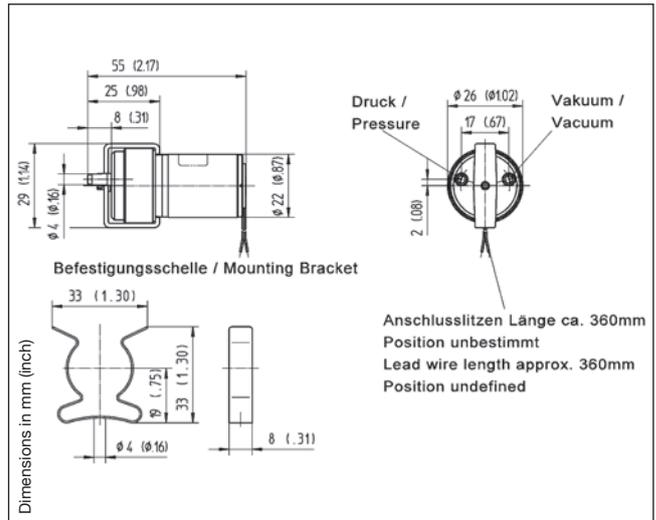
500... Stock programme

Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 01-4-EB

Flow	1,4 l/min
Max. pressure	280 mbar
Max. vacuum	29 %



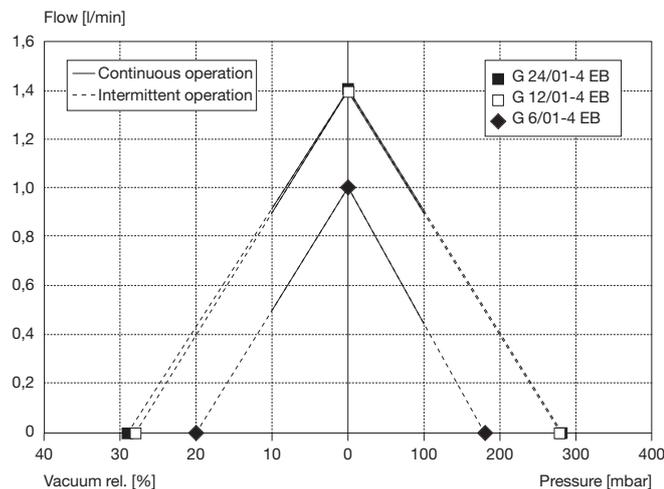
Pneumatic Data			
Description	G 6/01-4 EB	G 12/01-4 EB	G 24/01-4 EB
Part number	50088	50090	50092
Max. flow	1,0 l/min	1,4 l/min	1,4 l/min
Max. intermittent pressure	180 mbar	280 mbar	280 mbar
Max. continuous pressure	100 mbar	100 mbar	100 mbar
Max. intermittent vacuum	20 %	28 %	29 %
Max. continuous vacuum	10 %	10 %	10 %

Electrical Data			
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC	24 V DC
Min. current consumption	0,10 A	0,11 A	0,06 A
Max. current consumption	0,32 A	0,31 A	0,17 A
Protection class	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

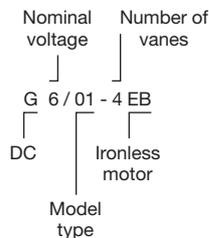
General Data			
Ambient temperature	-30 to 50 °C	-30 to 50 °C	-30 to 50 °C
Weight	0,1 kg	0,1 kg	0,1 kg
Direction of rotation	cw/ccw	cw/ccw	cw/ccw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



500... Stock programme

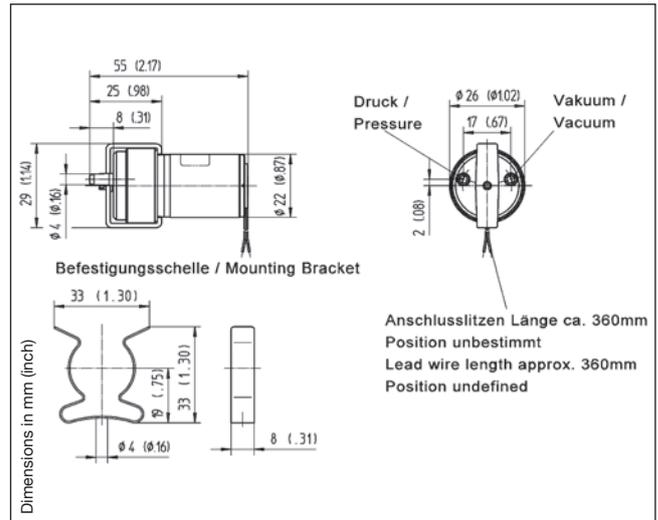
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 02 EB

Flow	3,6 l/min
Max. pressure	190 mbar
Max. vacuum	19 %



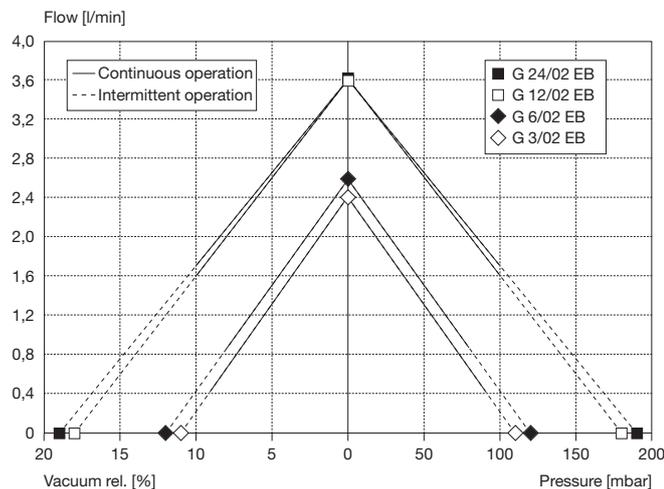
Pneumatic Data				
Description	G 3/02 EB	G 6/02 EB	G 12/02 EB	G 24/02 EB
Part number	50084	50103	50095	50098
Max. flow	2,4 l/min	2,6 l/min	3,6 l/min	3,6 l/min
Max. intermittent pressure	110 mbar	120 mbar	180 mbar	190 mbar
Max. continuous pressure	90 mbar	80 mbar	100 mbar	100 mbar
Max. intermittent vacuum	11 %	12 %	18 %	19 %
Max. continuous vacuum	9 %	8 %	10 %	10 %

Electrical Data				
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	3 V DC	6 V DC	12 V DC	24 V DC
Min. current consumption	0,16 A	0,09 A	0,09 A	0,07 A
Max. current consumption	0,53 A	0,30 A	0,33 A	0,18 A
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

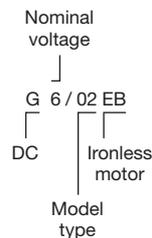
General Data				
Ambient temperature	-30 to 50 °C			
Weight	0,1 kg	0,1 kg	0,1 kg	0,1 kg
Direction of rotation	cw	cw	cw	cw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



50... Stock programme

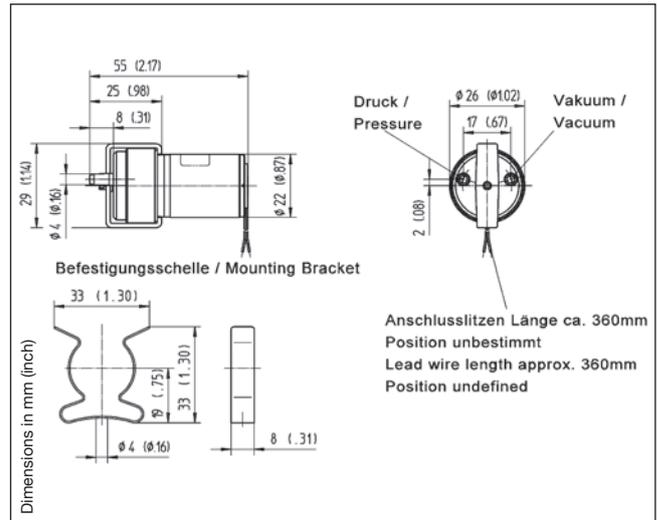
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 02-4 EB

Flow	3,7 l/min
Max. pressure	310 mbar
Max. vacuum	31 %



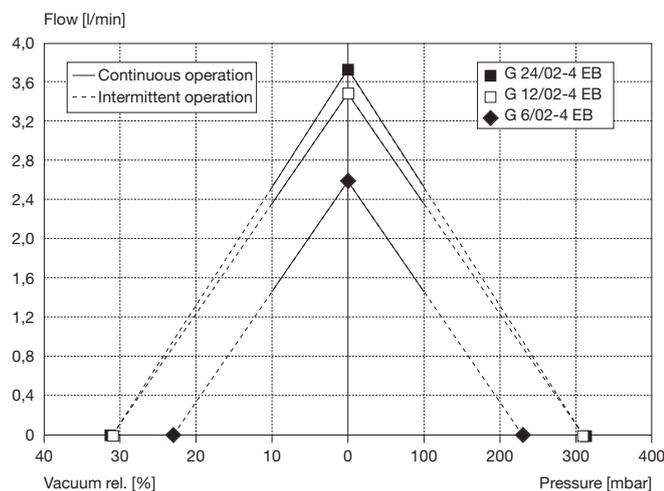
Pneumatic Data			
Description	G 6/02-4 EB	G 12/02-4 EB	G 24/02-4 EB
Part number	50089	50091	50093
Max. flow	2,6 l/min	3,5 l/min	3,7 l/min
Max. intermittent pressure	230 mbar	310 mbar	310 mbar
Max. continuous pressure	100 mbar	100 mbar	100 mbar
Max. intermittent vacuum	23 %	31 %	31 %
Max. continuous vacuum	10 %	10 %	10 %

Electrical Data			
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC	24 V DC
Min. current consumption	0,13 A	0,15 A	0,09 A
Max. current consumption	0,53 A	0,51 A	0,27 A
Protection class	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

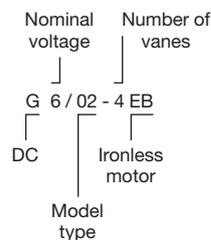
General Data			
Ambient temperature	-30 to 50 °C	-30 to 50 °C	-30 to 50 °C
Weight	0,1 kg	0,1 kg	0,1 kg
Direction of rotation	cw/ccw	cw/ccw	cw/ccw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



500... Stock programme

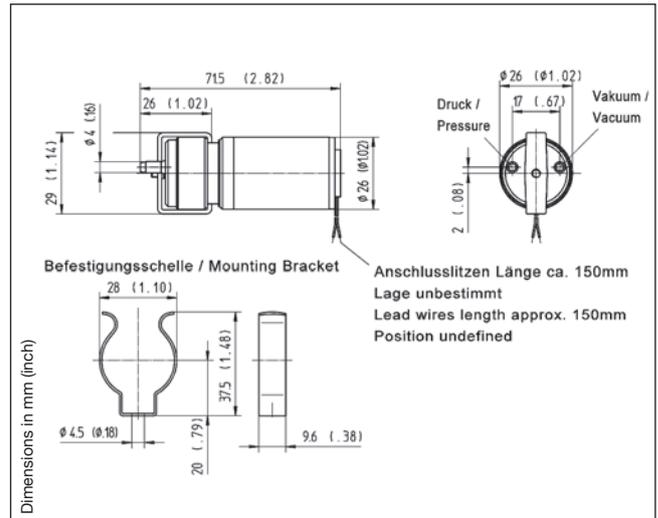
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 02-8

Flow	2,7 l/min
Max. pressure	410 mbar
Max. vacuum	37 %



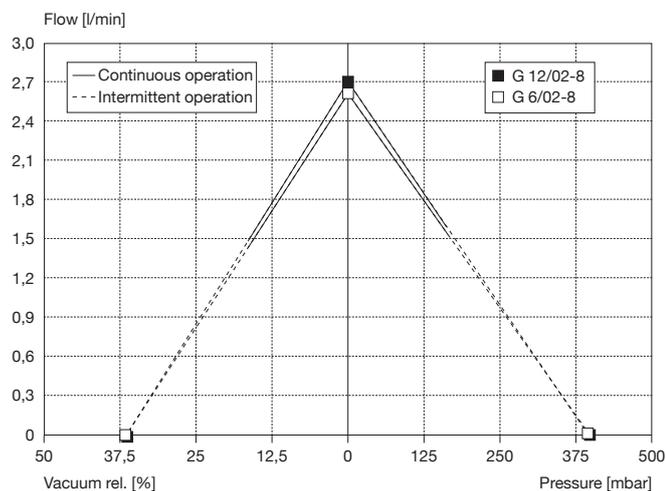
Pneumatic Data		
Description	G 6/02-8	G 12/02-8
Part number	50163	50165
Max. flow	2,6 l/min	2,7 l/min
Max. intermittent pressure	410 mbar	410 mbar
Max. continuous pressure	200 mbar	200 mbar
Max. intermittent vacuum	37 %	37 %
Max. continuous vacuum	20 %	20 %

Electrical Data		
Motor type	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC
Min. current consumption	0,23 A	0,11 A
Max. current consumption	0,70 A	0,35 A
Protection class	IP50	IP50
Motor bearing	Ball bearing	Ball bearing

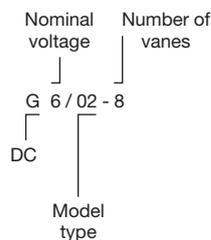
General Data		
Ambient temperature	-30 to 50 °C	-30 to 50 °C
Weight	0,13 kg	0,13 kg
Direction of rotation	cw/ccw	cw/ccw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



501... Stock programme

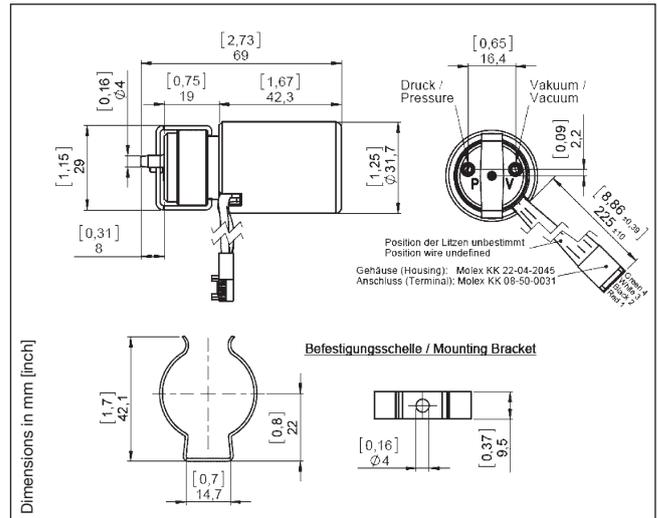
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump BL-G 02-4

Flow	2,4 l/min
Max. pressure	200 mbar
Max. vacuum	22 %



Pneumatic Data

Description	BL-G 12/02-4
Part number	50180
Max. flow	2,1 l/min
Max. intermittent pressure	200 mbar
Max. continuous pressure	150 mbar
Max. intermittent vacuum	19 %
Max. continuous vacuum	15 %

Electrical Data

Motor type	Brushless DC
Nominal voltage	12 V DC
Drive electronics	integrated with reverse supply voltage protection
Min. current consumption	0,16 A
Max. current consumption	0,33 A
Protection class	IP00
Motor bearing	Ball bearing
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 part number 29011932

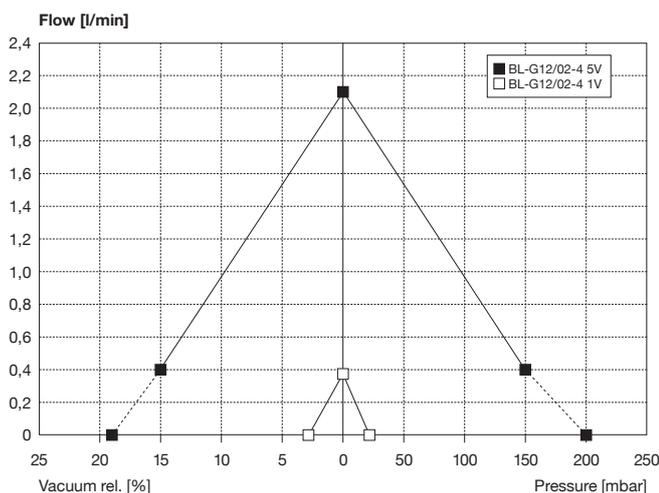


Pin	Function	Colour	Control
Pin 1	V Supply	Red	12 VDC (max. voltage range: 10..18 VDC) 24 VDC (max. voltage range: 10..28 VDC)
Pin 2	Ground	Black	Ground for Vsupply (PIN 1) and Speed Control (PIN3)
Pin 3	Speed control	White	analog: 0..5 VDC (max. 28V) PWM: 6..20 kHz - 14..96% Speed voltage input threshold: 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

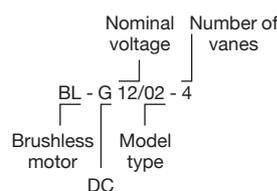
Ambient temperature	0 to 50 °C
Weight	0,13 kg
Direction of rotation	cw

Flow Curves



Pumps include mounting bracket
Above performance values are based on max. control voltage 5V
All listed values are measured at standard atmospheric conditions and at 50Hz.

Model key:



501... Stock programme

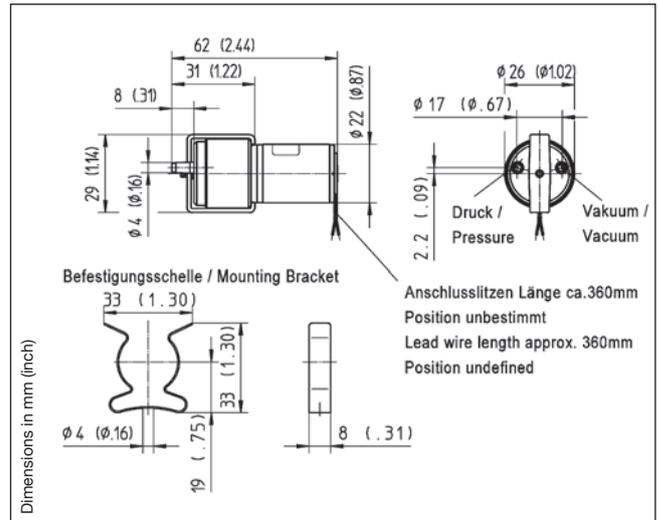
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 04 EB

Flow	6,8 l/min
Max. pressure	150 mbar
Max. vacuum	16 %



Pneumatic Data

Description	G 3/04 EB	G 6/04 EB	G 12/04 EB	G 24/04 EB
Part number	50085	50102	50097	50104
Max. flow	4,5 l/min	4,7 l/min	6,2 l/min	6,8 l/min
Max. intermittent pressure	100 mbar	110 mbar	140 mbar	150 mbar
Max. continuous pressure	50 mbar	50 mbar	50 mbar	40 mbar
Max. intermittent vacuum	11 %	12 %	15 %	16 %
Max. continuous vacuum	5 %	5 %	5 %	4 %

Electrical Data

Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	3 V DC	6 V DC	12 V DC	24 V DC
Min. current consumption	0,26 A	0,16 A	0,18 A	0,11 A
Max. current consumption	0,80 A	0,48 A	0,47 A	0,26 A
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Ball bearing/Sleeve bearing	Ball bearing/Sleeve bearing	Ball bearing/Sleeve bearing	Ball bearing/Sleeve bearing

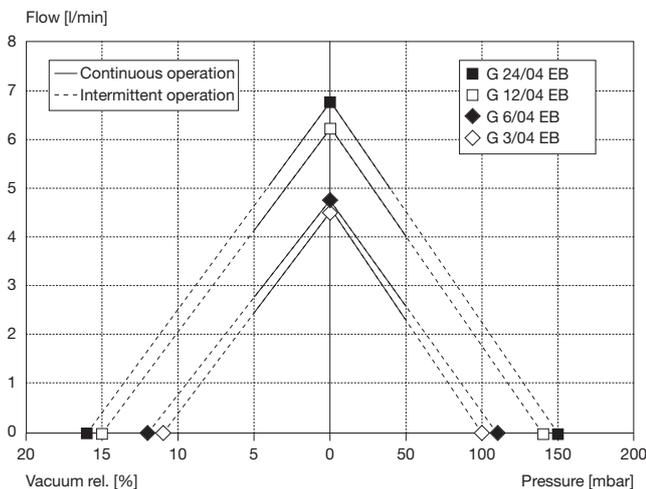
General Data

Ambient temperature	-30 to 50 °C			
Weight	0,1 kg	0,1 kg	0,1 kg	0,1 kg
Direction of rotation	cw	cw	cw	cw

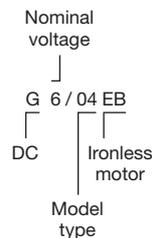
Pumps include mounting bracket.

All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



50... Stock programme

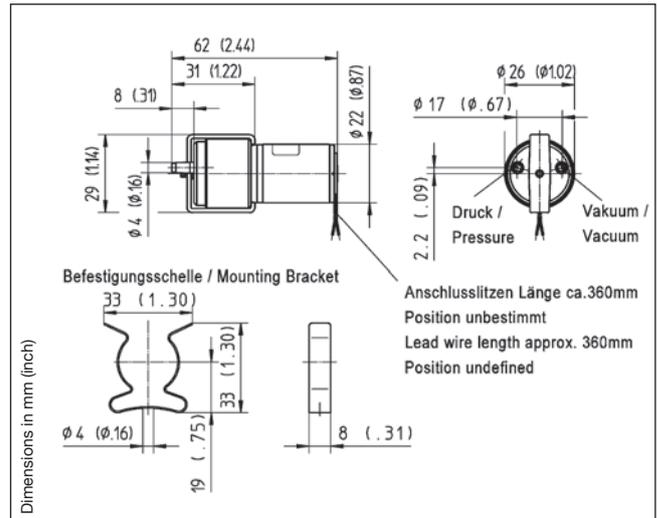
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 04-4-EB

Flow	5,1 l/min
Max. pressure	240 mbar
Max. vacuum	26 %



Pneumatic Data

Description	G 6/04-4 EB	G 12/04-4 EB
Part number	50101	50100
Max. flow	4,0 l/min	5,1 l/min
Max. intermittent pressure	200 mbar	240 mbar
Max. continuous pressure	50 mbar	50 mbar
Max. intermittent vacuum	21 %	26 %
Max. continuous vacuum	5 %	5 %

Electrical Data

Motor type	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC
Min. current consumption	0,30 A	0,29 A
Max. current consumption	0,85 A	0,70 A
Protection class	IP50	IP50
Motor bearing	Ball bearing/Sleeve bearing	Ball bearing/Sleeve bearing

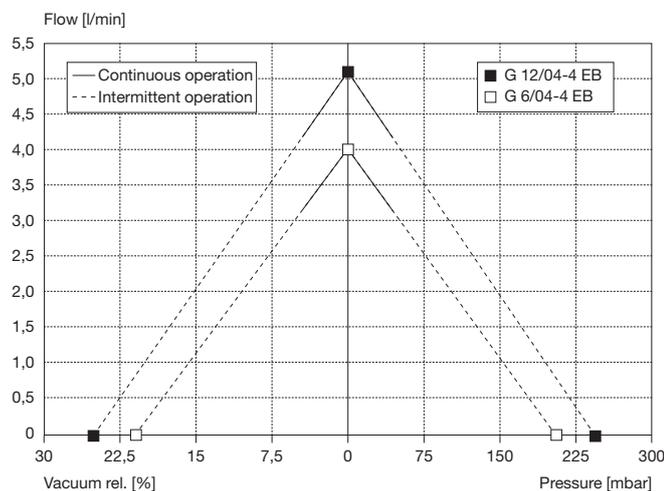
General Data

Ambient temperature	-30 to 50 °C	-30 to 50 °C
Weight	0,1 kg	0,1 kg
Direction of rotation	cw/ccw	cw/ccw

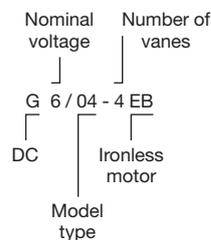
Pumps include mounting bracket.

All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



50... Stock programme

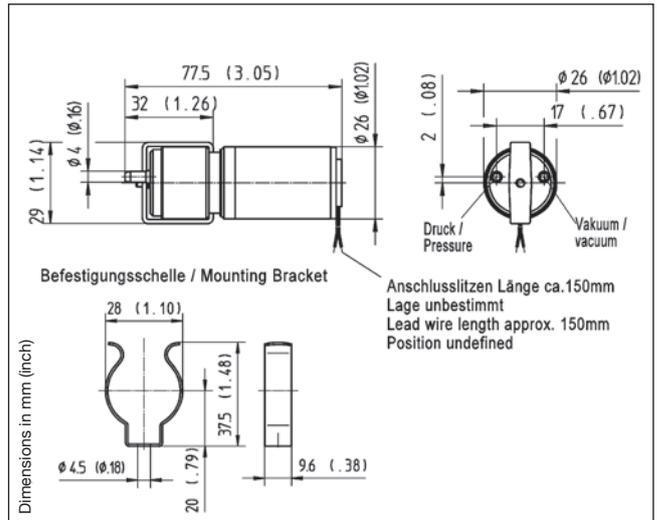
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 04-8

Flow	4,4 l/min
Max. pressure	260 mbar
Max. vacuum	25 %



Pneumatic Data

Description	G 12/04-8
Part number	50119
Max. flow	4,4 l/min
Max. intermittent pressure	260 mbar
Max. continuous pressure	100 mbar
Max. intermittent vacuum	25 %
Max. continuous vacuum	10 %

Electrical Data

Motor type	Ironless Core DC
Nominal voltage	12 V DC
Min. current consumption	0,21 A
Max. current consumption	0,51 A
Protection class	IP50
Motor bearing	Ball bearing

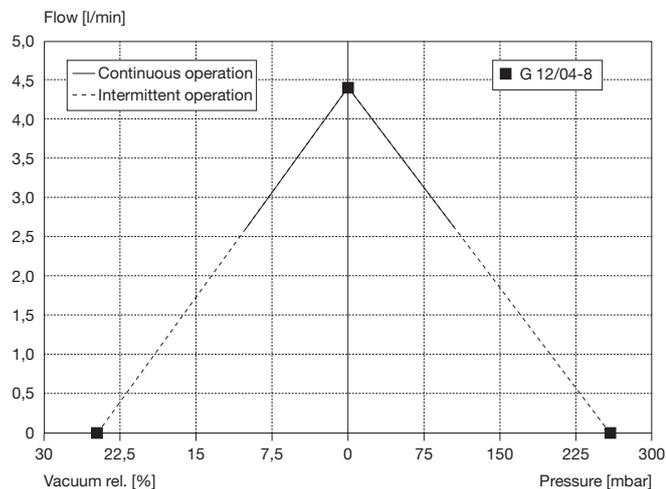
General Data

Ambient temperature	-30 to 50 °C
Weight	0,14 kg
Direction of rotation	cw/ccw

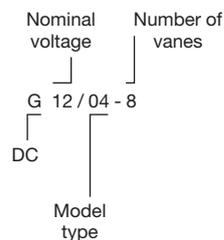
Pumps include mounting bracket.

All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:

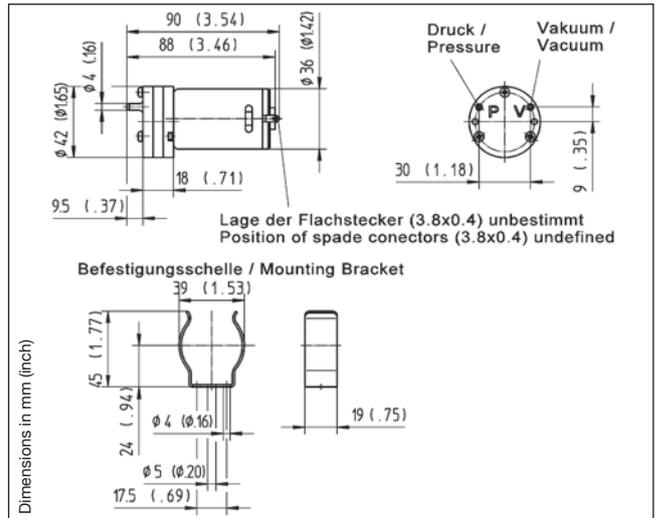


Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 045-LC

Flow	7,5 l/min
Max. pressure	900 mbar
Max. vacuum	63 %



Pneumatic Data

Description	G 12/045-LC
Part number	50213
Max. flow	6,5 l/min
Max. intermittent pressure	750 mbar
Max. continuous pressure	100 mbar
Max. intermittent vacuum	63 %
Max. continuous vacuum	10 %

Electrical Data

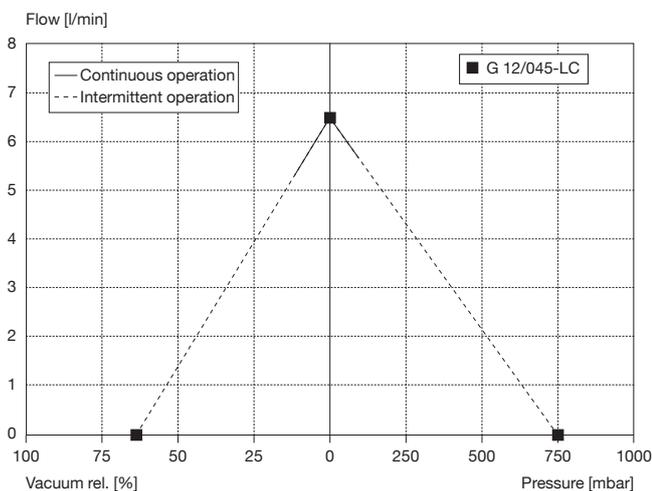
Motor type	Permanent magnet
Nominal voltage	12 V DC
Min. current consumption	1,8 A
Max. current consumption	3,5 A
Protection class	IP20
Motor bearing	Ball bearing/Sleeve bearing

General Data

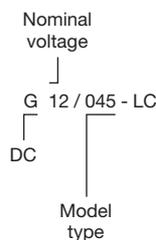
Ambient temperature	-10 to 40 °C
Weight	0,25 kg
Direction of rotation	cw/ccw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



502... Stock programme

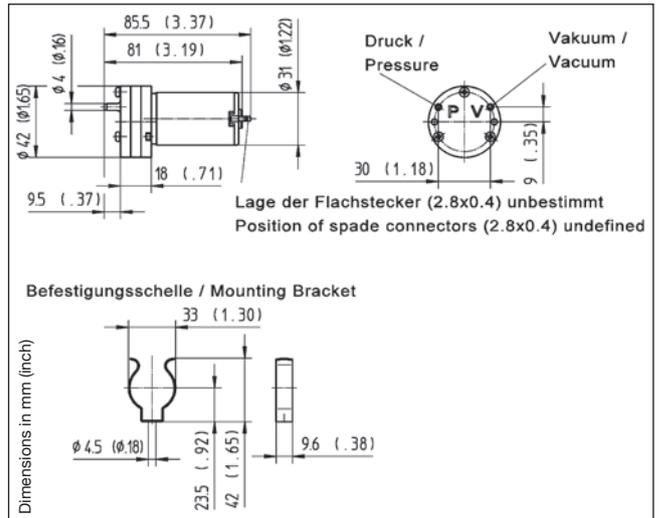
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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THOMAS
by Gardner Denver

Rotary Vane Pump G 045

Flow	6,1 l/min
Max. pressure	750 mbar
Max. vacuum	70 %



Pneumatic Data

Description	G 12/045	G 24/045
Part number	50200	50201
Max. flow	5,5 l/min	6,1 l/min
Max. intermittent pressure	650 mbar	750 mbar
Max. continuous pressure	150 mbar	150 mbar
Max. intermittent vacuum	58 %	70 %
Max. continuous vacuum	15 %	15 %

Electrical Data

Motor type	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC
Min. current consumption	0,64 A	0,33 A
Max. current consumption	1,36 A	0,77 A
Protection class	IP30	IP30
Motor bearing	Ball bearing	Ball bearing

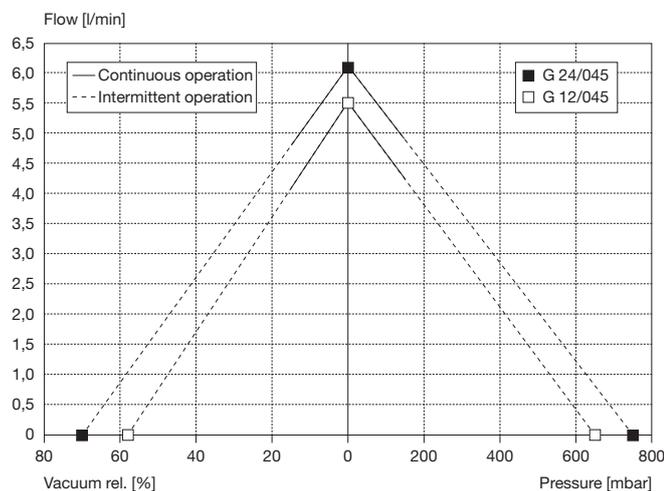
General Data

Ambient temperature	10 to 40 °C	10 to 40 °C
Weight	0,25 kg	0,25 kg
Direction of rotation	cw/ccw	cw/ccw

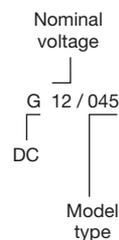
Pumps include mounting bracket.

All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



50... Stock programme

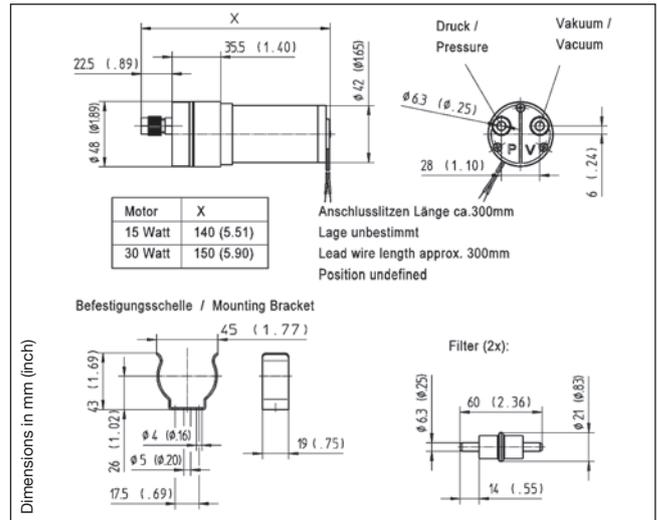
Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 07

Flow	21 l/min
Max. pressure	1,4 bar
Max. vacuum	77 %



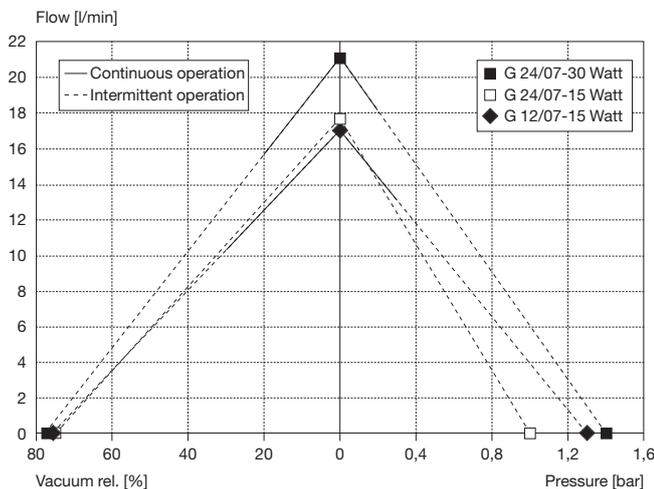
Pneumatic Data			
Description	G 12/07-15 Watt	G 24/07-15 Watt	G 24/07-30 Watt
Part number	50336	50218	50221
Max. flow	17,0 l/min	17,5 l/min	21,0 l/min
Max. intermittent pressure	1,3 bar	1,0 bar	1,4 bar
Max. continuous pressure	0,3 bar		0,2 bar
Max. intermittent vacuum	76 %	75 %	77 %
Max. continuous vacuum	30 %		20 %

Electrical Data			
Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC	24 V DC
Min. current consumption	1,9 A	1,1 A	1,9 A
Max. current consumption	3,2 A	1,6 A	2,5 A
Protection class	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing

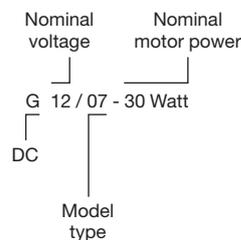
General Data			
Ambient temperature	-10 to 40 °C	-10 to 40 °C	-10 to 40 °C
Weight	0,6 kg	0,6 kg	0,7 kg
Direction of rotation	cw	cw	cw

Pumps include tube connector (2x) G 1/8 to tube I.D. 6 mm, mounting bracket and filter (2x).
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



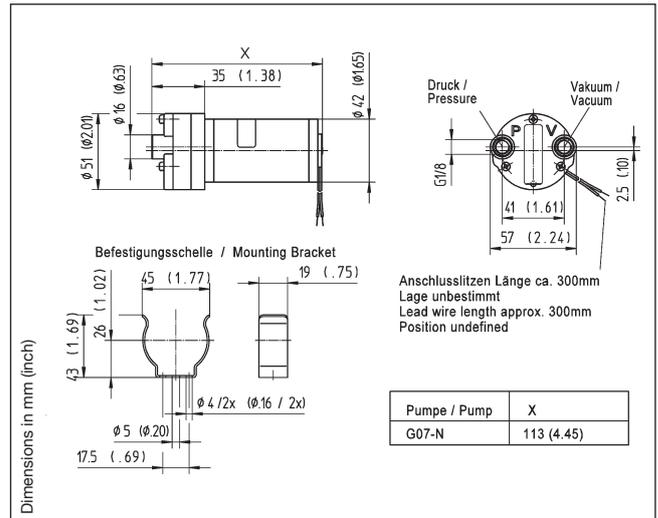
50... Stock programme

Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 07-N

Flow	20 l/min
Max. pressure	0,9 bar
Max. vacuum	72 %



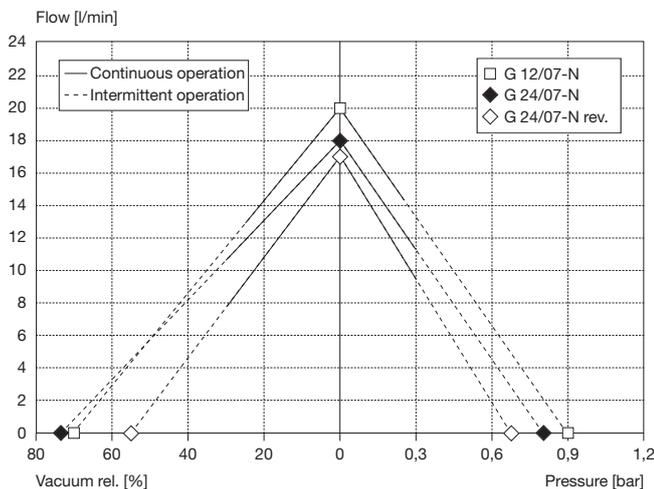
Pneumatic Data			
Description	G 12/07-N	G 24/07-N	G 24/07-N rev.
Part number	50316	50311	50220
Max. flow	20 l/min	18 l/min	17 l/min
Max. intermittent pressure	0,90 bar	0,80 bar	0,7 bar
Max. continuous pressure	0,25 bar	0,30 bar	0,3 bar
Max. intermittent vacuum	70 %	72 %	55 %
Max. continuous vacuum	25 %	30 %	30 %

Electrical Data			
Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC	24 V DC
Min. current consumption	2,6 A	0,8 A	0,9 A
Max. current consumption	4,6 A	1,6 A	2,0 A
Protection class	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing

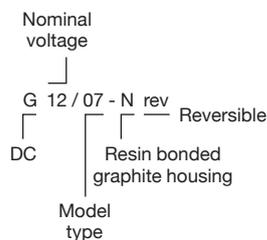
General Data			
Ambient temperature	-10 to 40 °C	-10 to 40 °C	-10 to 40 °C
Weight	0,5 kg	0,5 kg	0,5 kg
Direction of rotation	cw	cw	cw/ccw

Pumps include mounting bracket.
All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



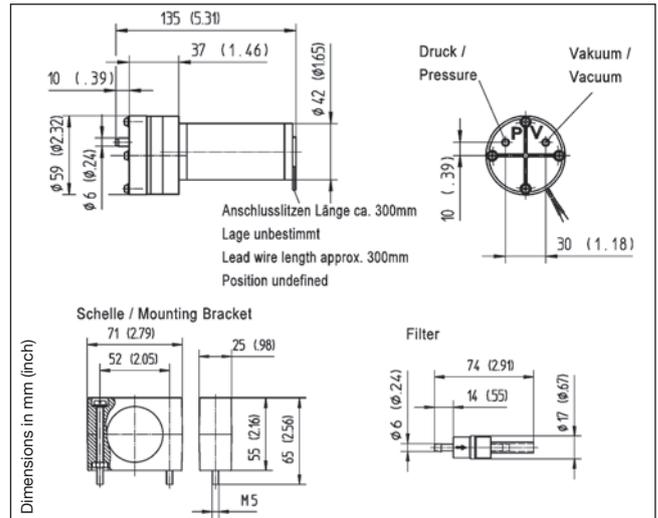
50... Stock programme

Current consumption:
Min.: at open flow
Max.: at max. intermittent operation

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Rotary Vane Pump G 08

Flow	15,5 l/min
Max. pressure	1,4 bar
Max. vacuum	83 %



Pneumatic Data

Description	G 12/08-30 Watt	G 24/08-30 Watt	G 24/08-30 Watt rev.
Part number	50325	50358	50360
Max. flow	15,5 l/min	15,5 l/min	15,5 l/min
Max. intermittent pressure	1,2 bar	1,4 bar	1,2 bar
Max. continuous pressure	0,3 bar	0,3 bar	0,3 bar
Max. intermittent vacuum	80 %	83 %	74 %
Max. continuous vacuum	30 %	30 %	30 %

Electrical Data

Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC	24 V DC
Min. current consumption	1,5 A	0,8 A	0,6 A
Max. current consumption	3,2 A	1,6 A	1,8 A
Protection class	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing

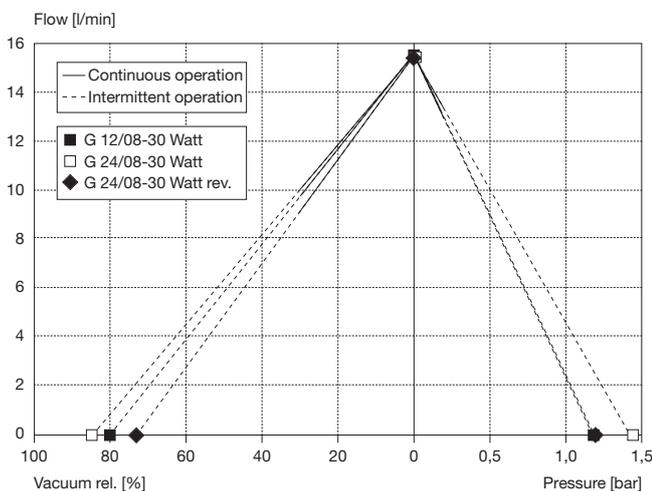
General Data

Ambient temperature	-10 to 40 °C	-10 to 40 °C	-10 to 40 °C
Weight	0,75 kg	0,75 kg	0,75 kg
Direction of rotation	cw	cw	cw/ccw

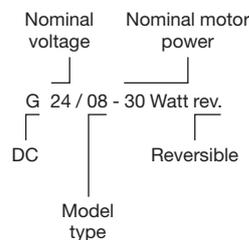
Pumps include mounting bracket and filter.

All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



503... Stock programme

Current consumption:

Min.: at open flow

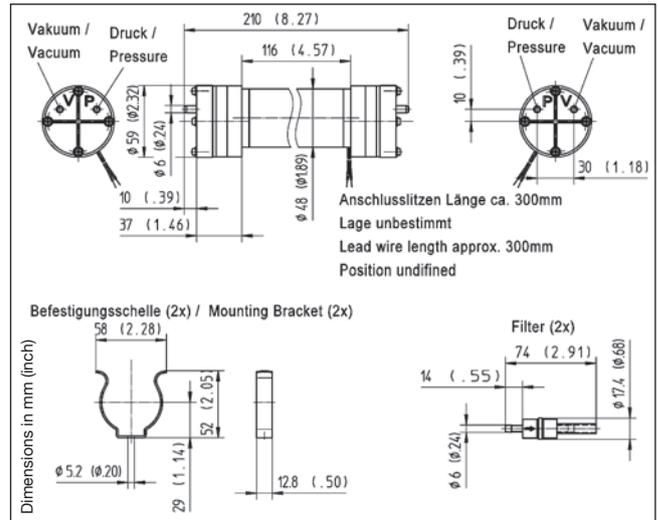
Max.: at max. intermittent operation

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Rotary Vane Pump G 08-T

Flow	36 l/min
Max. pressure	1,4 bar
Max. vacuum	93 %



Pneumatic Data

Description	G 12/08-T	G 12/08-T	G 24/08-T	G 24/08-T
Part number	50241	50241	50238	50238
	connected in series	connected in parallel	connected in series	connected in parallel
Max. flow	17 l/min	33 l/min	19 l/min	36 l/min
Max. intermittent pressure		1,4 bar		1,4 bar
Max. intermittent vacuum	93 %	84 %	93 %	84 %

Electrical Data

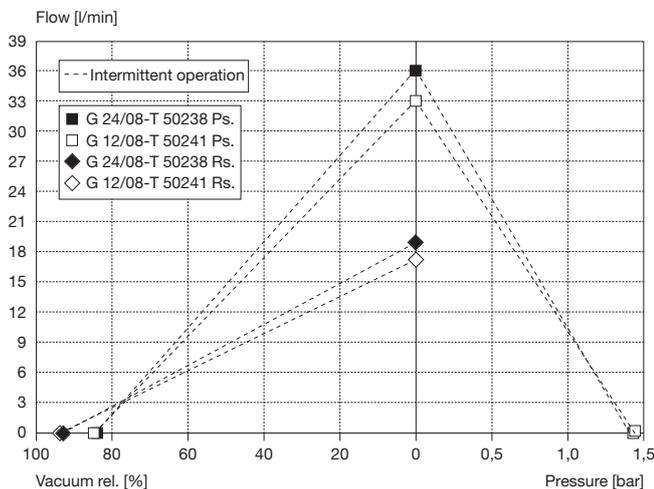
Motor type	Permanent magnet	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	12 V DC	24 V DC	24 V DC
Min. current consumption	4,0 A	4,0 A	2,0 A	2,0 A
Max. current consumption	5,0 A	8,0 A	2,5 A	4,0 A
Protection class	IP40	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing	Ball bearing

General Data

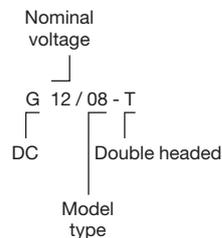
Ambient temperature	-10 to 40 °C			
Weight	1,3 kg	1,3 kg	1,3 kg	1,3 kg
Direction of rotation	cw	cw	cw	cw

Pumps include mounting bracket (2x) and filter (2x).
 These pumps are **not** suitable for continuous operation.
 All listed values are measured at standard atmospheric conditions.

Flow Curves



Model key:



50... Stock programme

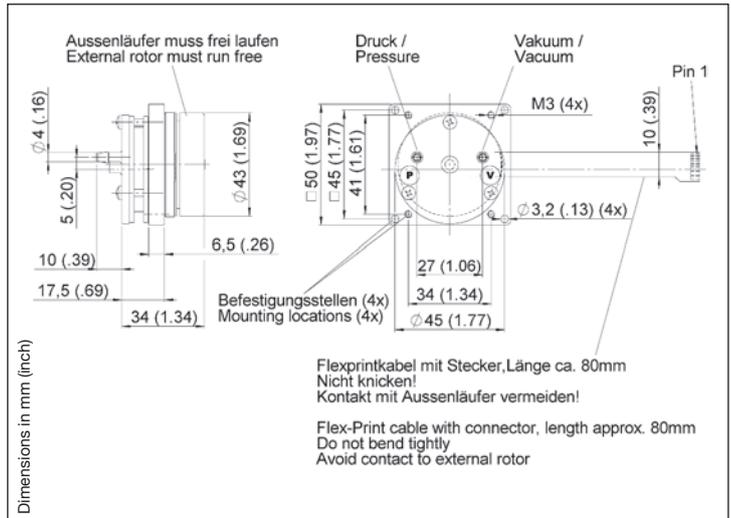
Current consumption:
 Min.: at open flow
 Max.: at max. intermittent operation

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Rotary Vane Pump BL-G 085 M

Flow	8,5 l/min
Max. pressure	450 mbar
Max. vacuum	50 %



Pneumatic Data

Description	BL-G 12/085 M
Part number	50209
Max. flow	8,5 l/min
Max. intermittent pressure	450 mbar
Max. continuous pressure	150 mbar
Max. intermittent vacuum	50 %
Max. continuous vacuum	15 %

Electrical Data

Motor type*	Brushless DC
Nominal voltage	12 V DC
Min. current consumption	0,7 A
Max. current consumption	2,0 A
Protection class	IP00
Motor bearing	Ball bearing
Electrical connection	Flex-Print connector, 11 poles, pitch 1,0 mm, top contact style

General Data

Ambient temperature	-40 to 60 °C
Weight	0,15 kg
Direction of rotation	cw/ccw

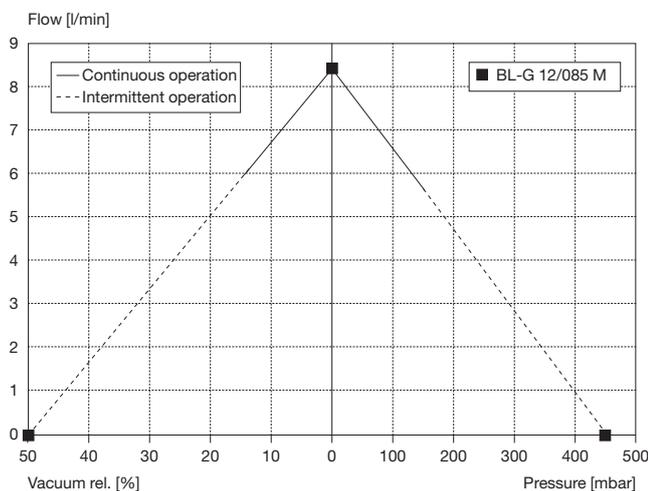
* without electronics

All listed values are measured at standard atmospheric conditions.

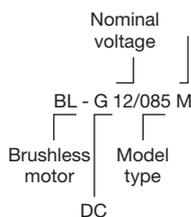
Please contact Thomas if further information regarding electrical connection and electronics is required.

Use provided mounting locations only. Do not allow force on either motor or pump head. Motor bearing can be damaged.

Flow Curves



Model key:



Pin allocation:

- Pin 1 4,5 - 18 VDC
- Pin 2 Hall sensor 3
- Pin 3 Hall sensor 1
- Pin 4 Hall sensor 2
- Pin 5 GND
- Pin 6 Motor winding 3
- Pin 7 Motor winding 2
- Pin 8 Motor winding 1

Option:

Adaptor for Flex-Print connector to terminal board, part number 63003

BL-G 12/085 M 50210 including external electronics (63002) + adaptor (63003) for Flex-Print connector

50210 Stock programme

Current consumption:

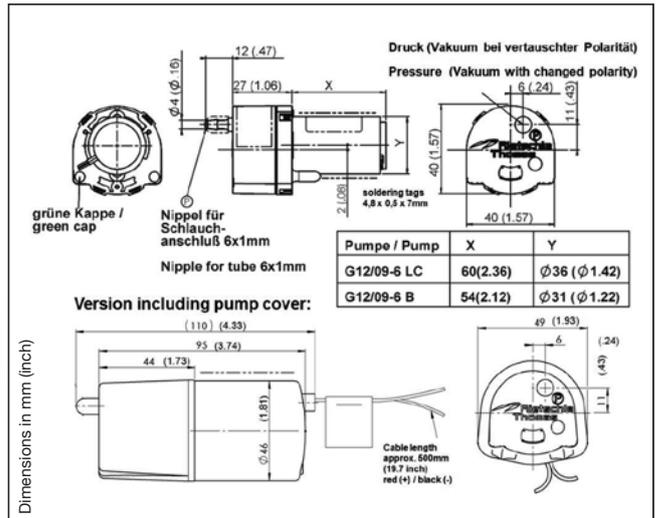
Min.: at open flow

Max.: at max. intermittent operation

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Rotary Vane Pump G 09

Flow	11 l/min
Max. pressure	370 mbar
Max. vacuum	35 %



Pneumatic Data			
Description	G 12/09-6 B	G 12/09-6 LC	G 24/09-6 LC
Part number	50330	50555 / 50556 ¹⁾	50554 / 50552 ¹⁾
Max. flow	11,0 l/min	9,0 l/min	9,0 l/min
Max. intermittent pressure	370 mbar	350 mbar	350 mbar
Max. continuous pressure	200 mbar	150 mbar	150 mbar
Max. intermittent vacuum	32 %	35 %	35 %
Max. continuous vacuum	20 %	15 %	15 %

Electrical Data			
Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	12 V DC	24 V DC
Min. current consumption	0,7 A	0,7 A	0,4 A
Max. current consumption	1,8 A	2,2 A	1,3 A
Protection class	IP30	IP20	IP20
Motor bearing	Ball bearing	Ball bearing / Sleeve bearing	Ball bearing / Sleeve bearing

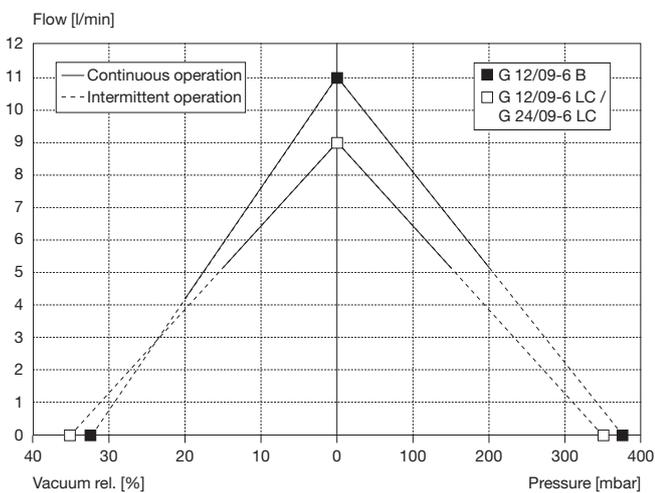
General Data			
Ambient temperature	-20 to 50 °C	-20 to 50 °C	-20 to 50 °C
Weight	0,24 kg	0,30 kg	0,30 kg
Direction of rotation	cw / ccw	cw / ccw	cw / ccw
Mounting bracket (Option)	31947	31911 / 31914	31911 / 31914

All listed values are measured at standard atmospheric conditions.

¹⁾ Pump including EPDM-cover for sound reduction.

For vacuum operation: change electrical polarity.
 For noise reduction: do not remove green cap. To optimise flow: remove green cap.
 Mounting on motor body only. Do not allow force on pump head.

Flow Curves



Model key:

50... Stock programme

Current consumption:
 Min.: at open flow
 Max.: at max. intermittent operation

Nominal voltage | Number of vanes

G 12 / 09 - 6 LC

DC | LC = Low-cost motor
 B = Standard motor

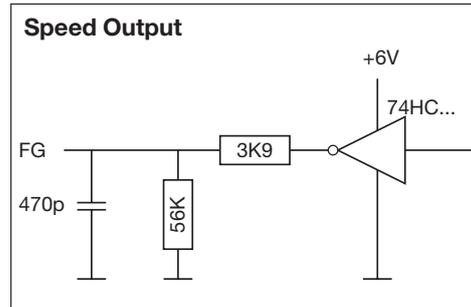
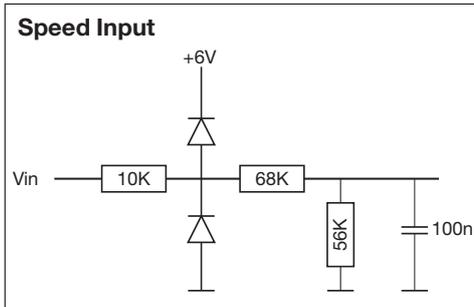
Model type

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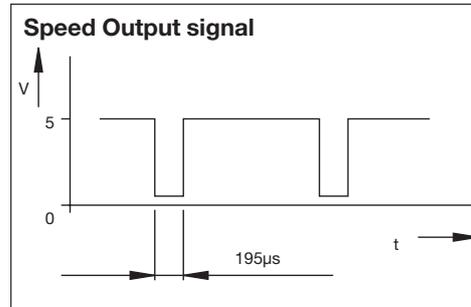


Wiring diagram (Brushless DC motor)

Pin	Function	Colour	Control
Pin 1	V Supply	Red	12 VDC (max. voltage range: 10..18 VDC) 24 VDC (max. voltage range: 10..28 VDC)
Pin 2	Ground	Black	Ground for Vsupply (PIN 1) and Speed Control (PIN3)
Pin 3	Speed control	White	analog: 0..5 VDC (max. 28V) PWM: 6..20 kHz - 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



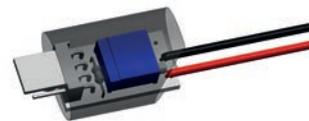
Optional: Adapter for 2-wire duty incl. potentiometer for speed adjustment



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"



Notes



ClimatePartner^o
climate neutral

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