

## FEATURES

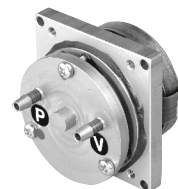
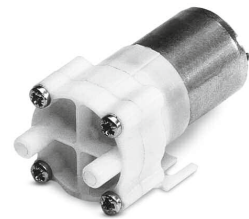
- > Maintenance free
- > Oil-less
- > Compact
- > Pulsation free
- > High flow
- > Low vibration
- > No valves
- > Reversible

## TYPICAL APPLICATIONS

- > Automotive
- > Medical
- > Analysis
- > Automation
- > Fuel Cell

## BASE MODEL

- G01
- G02
- BL-G 02
- G 04
- G 045
- G 07
- G 08
- BL-G 085
- G 09



Rotary

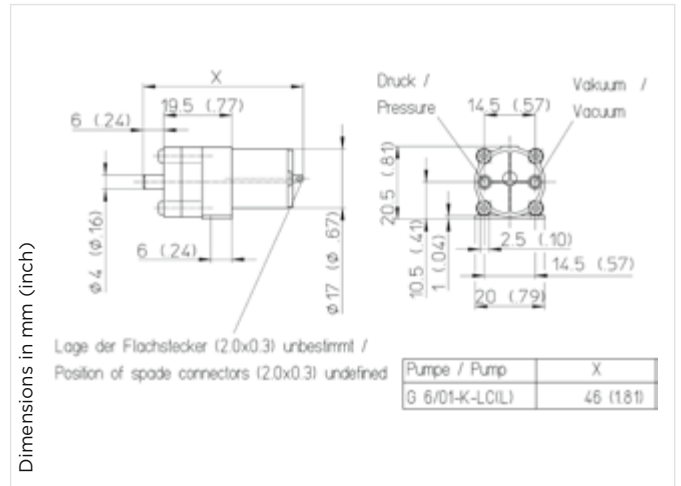
# Rotary Vane Vacuum and Pressure Pumps

## PRODUCT OVERVIEW

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

# Rotary Vane Pump G 01-K-LC

Flow	2.2 l/min
Max. pressure	80 mbar
Max. vacuum	7 %



## PNEUMATIC DATA

Description	G 6/01-K-LCL	G 6/01-K-LC
Part number	<b>50027</b>	<b>50017</b>
Max. flow	2.0 l/min	2.2 l/min
Max. intermittent pressure	60 mbar	80 mbar
Max. continuous pressure	25 mbar	25 mbar
Max. intermittent vacuum	6 %	7 %
Max. continuous vacuum	2.5 %	2.5 %

## ELECTRICAL DATA

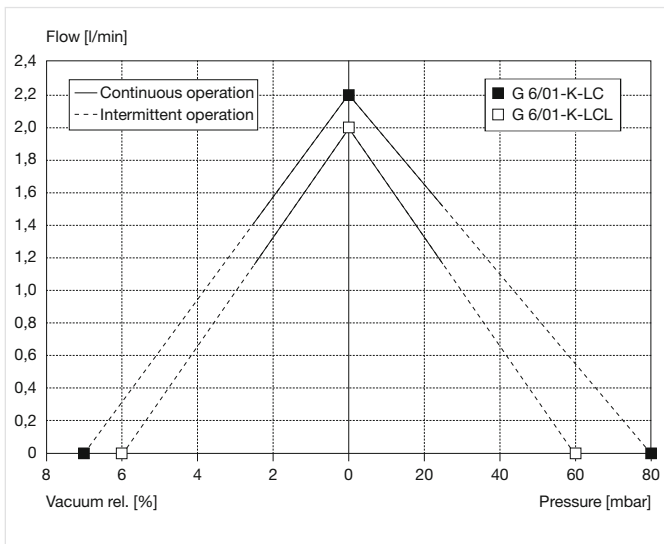
Motor type	Permanent magnet	Permanent magnet
Nominal voltage	6 V DC	6 V DC
Min. current consumption	0.17 A	0.18 A
Max. current consumption	0.23 A	0.27 A
Protection class	IP40	IP40
Motor bearing	Sleeve bearing	Sleeve bearing

## GENERAL DATA

Ambient temperature	0 to 40 °C	0 to 40 °C
Weight	0.03 kg	0.03 kg
Direction of rotation	cw/ccw	cw/ccw

All listed values are measured at standard atmospheric conditions.

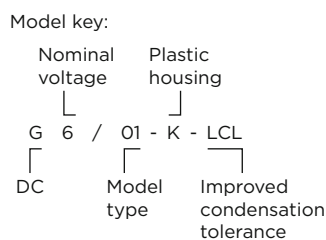
## FLOW CURVES



## CURRENT CONSUMPTION

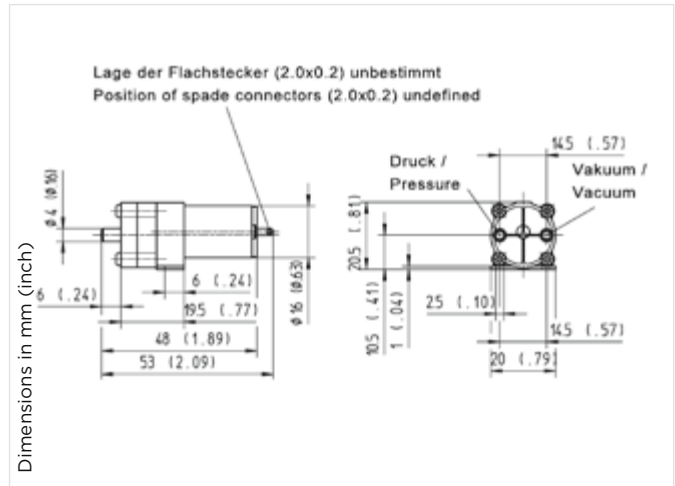
Min.: at open flow  
 Max.: at max. intermittent operation

**500...** Stock programme



# Rotary Vane Pump G 01-K-EB

<b>Flow</b>	<b>1.4 l/min</b>
<b>Max. pressure</b>	<b>40 mbar</b>
<b>Max. vacuum</b>	<b>4 %</b>



## 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	<b>50094</b>	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

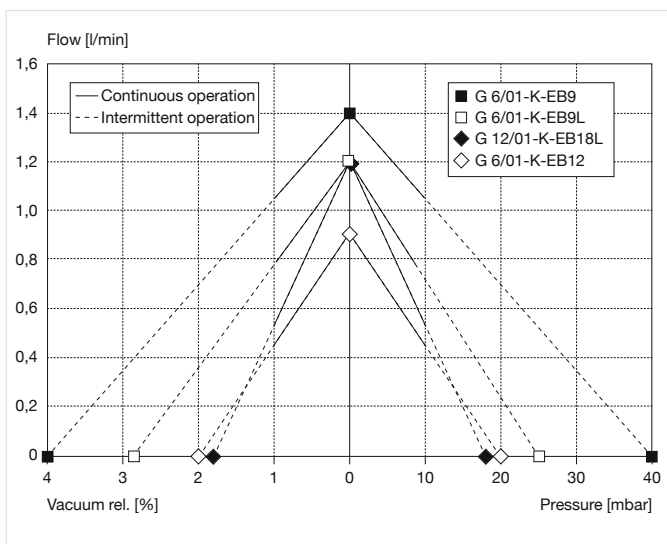
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	6 V DC	6 V DC	12 V DC
Min. current consumption	18 mA	36 mA	50 mA	25 mA
Max. current consumption	30 mA	65 mA	70 mA	48 mA
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing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

## GENERAL DATA

Ambient temperature	-20 to 40 °C	-20 to 40 °C	-20 to 40 °C	-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



## CURRENT CONSUMPTION

50... Stock programme

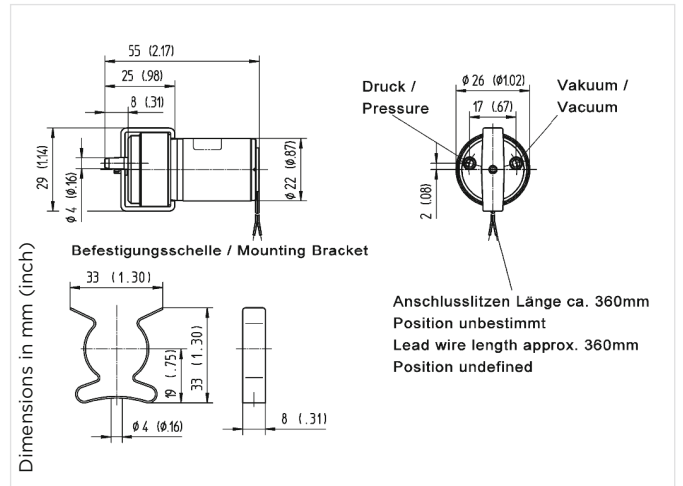
Min.: at open flow  
Max.: at max. intermittent operation

Model key:

Nominal voltage Plastic housing Nominal motor voltage  
 G 6 / 01 - K - EB9L  
 DC Model type Ironless motor Improved condensation tolerance

# 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	<b>50096</b>	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

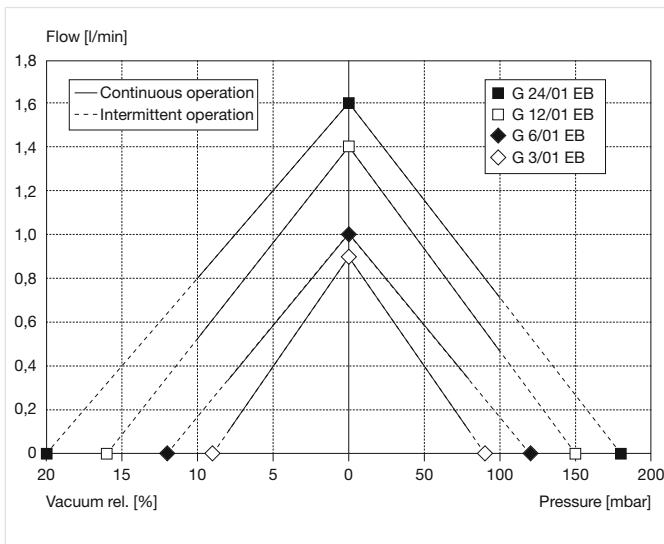
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	3 V DC	6 V DC	12 V DC	24 V DC
Min. current consumption	0.12 A	0.07 A	0.09 A	0.05 A
Max. current consumption	0.28 A	0.19 A	0.20 A	0.13 A
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

## GENERAL DATA

Ambient temperature	-30 to 50 °C	-30 to 50 °C	-30 to 50 °C	-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



## CURRENT CONSUMPTION

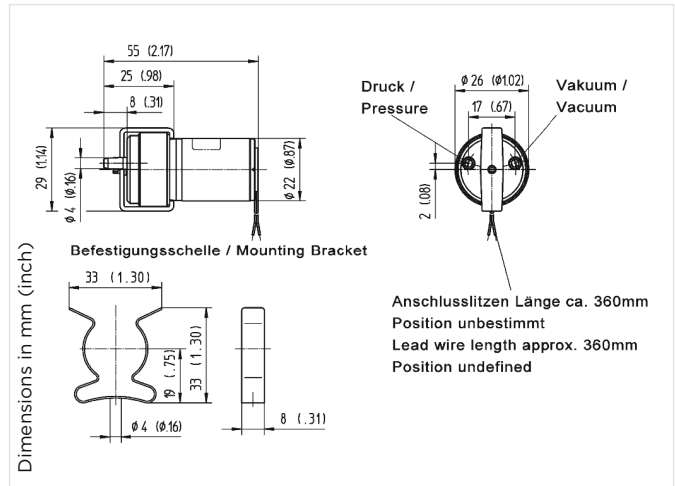
**500...** Stock programme

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

Model key:  
 Nominal voltage Ironless motor  
 G 6 / 01 - EB  
 DC Model type

# Rotary Vane Pump G 01-4-EB

<b>Flow</b>	<b>1.4 l/min</b>
<b>Max. pressure</b>	<b>280 mbar</b>
<b>Max. vacuum</b>	<b>29 %</b>



## PNEUMATIC DATA

Description	G 6/01-4 EB	G 12/01-4 EB	G 24/01-4 EB
Part number	50088	<b>50090</b>	<b>50092</b>
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

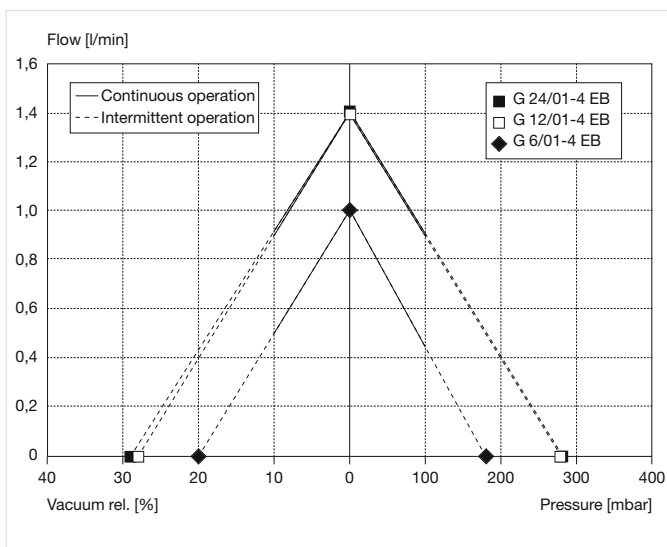
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC	24 V DC
Min. current consumption	0.10 A	0.11 A	0.06 A
Max. current consumption	0.32 A	0.31 A	0.17 A
Protection class	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

## 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

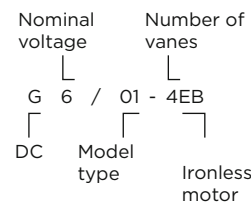


## CURRENT CONSUMPTION

**500...** Stock programme

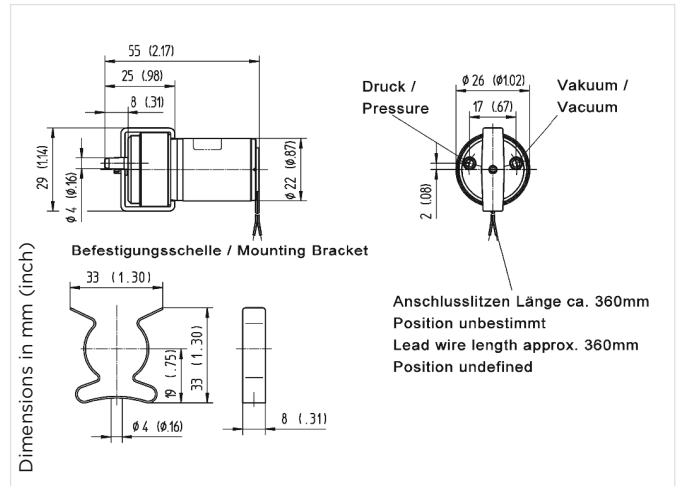
Min.: at open flow  
Max.: at max. intermittent operation

Model key:



# 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	<b>50084</b>	<b>50103</b>	<b>50095</b>	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

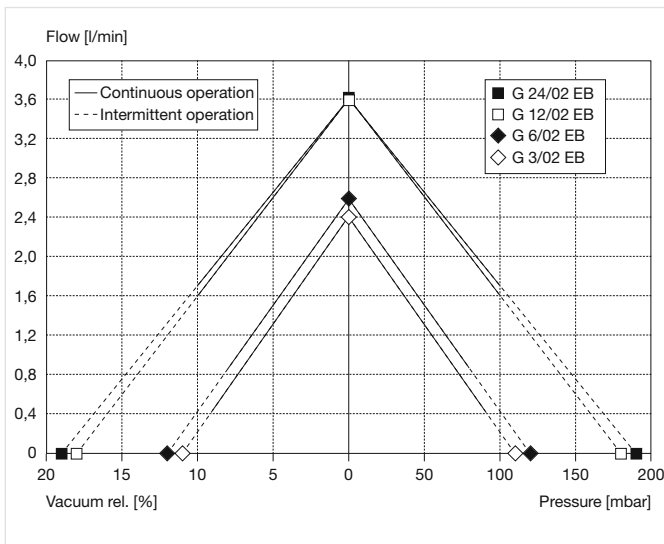
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	3 V DC	6 V DC	12 V DC	24 V DC
Min. current consumption	0.16 A	0.09 A	0.09 A	0.07 A
Max. current consumption	0.53 A	0.30 A	0.33 A	0.18 A
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

## GENERAL DATA

Ambient temperature	-30 to 50 °C	-30 to 50 °C	-30 to 50 °C	-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



## CURRENT CONSUMPTION

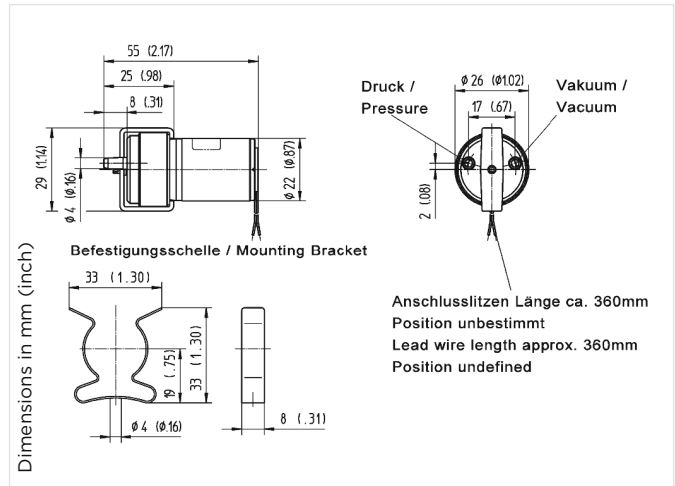
Min.: at open flow  
Max.: at max. intermittent operation

50... Stock programme

Model key:  
Nominal voltage    Ironless motor  
G 6 / 02 - EB  
DC    Model type

# Rotary Vane Pump G 02-4-EB

<b>Flow</b>	<b>3.7 l/min</b>
<b>Max. pressure</b>	<b>310 mbar</b>
<b>Max. vacuum</b>	<b>31 %</b>



## PNEUMATIC DATA

Description	G 6/02-4 EB	G 12/02-4 EB	G 24/02-4 EB
Part number	<b>50089</b>	<b>50091</b>	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

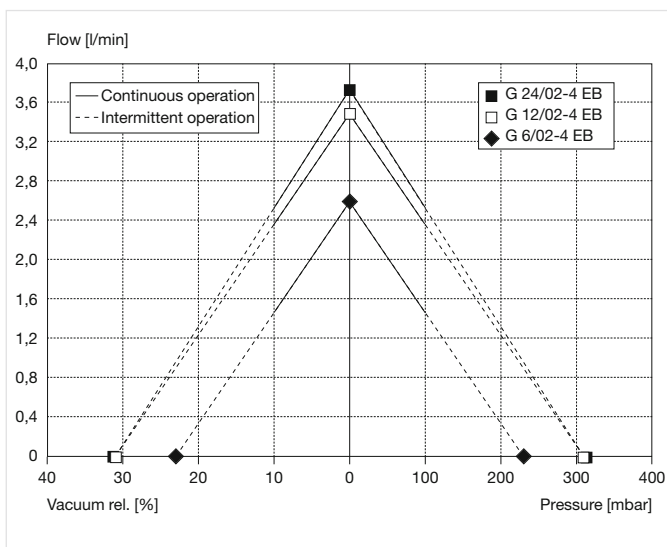
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC	24 V DC
Min. current consumption	0.13 A	0.15 A	0.09 A
Max. current consumption	0.53 A	0.51 A	0.27 A
Protection class	IP50	IP50	IP50
Motor bearing	Sleeve bearing	Sleeve bearing	Sleeve bearing

## 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.

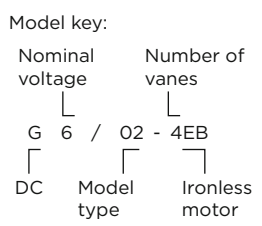
## FLOW CURVES



## CURRENT CONSUMPTION

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

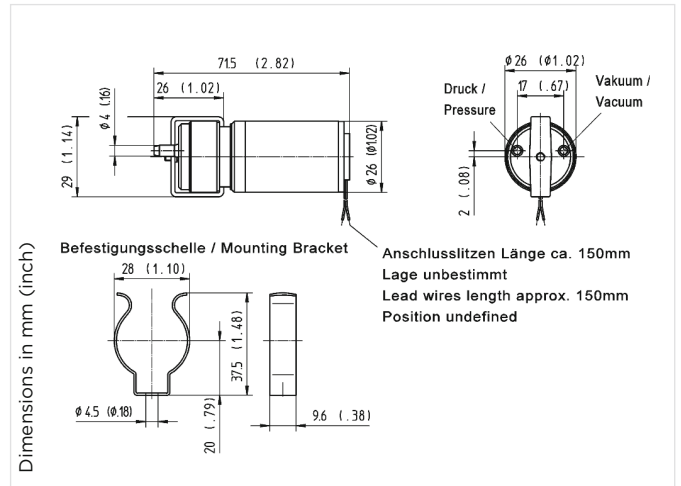
500... Stock programme





# 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	<b>50165</b>
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

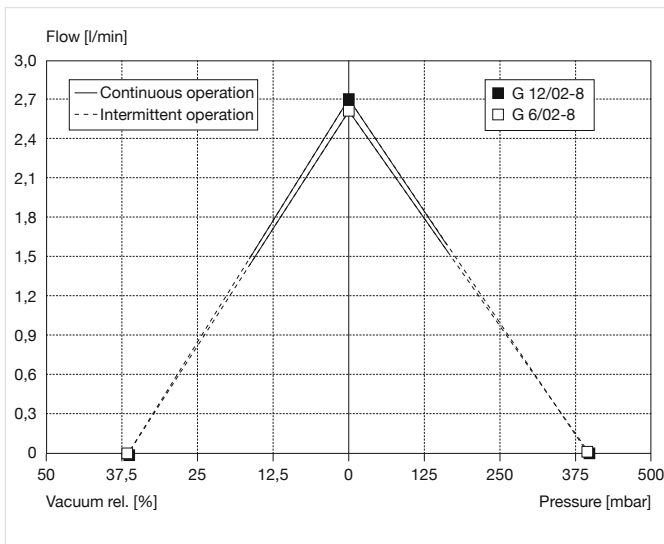
Motor type	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC
Min. current consumption	0.23 A	0.11 A
Max. current consumption	0.70 A	0.35 A
Protection class	IP50	IP50
Motor bearing	Ball bearing	Ball bearing

## 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



## CURRENT CONSUMPTION

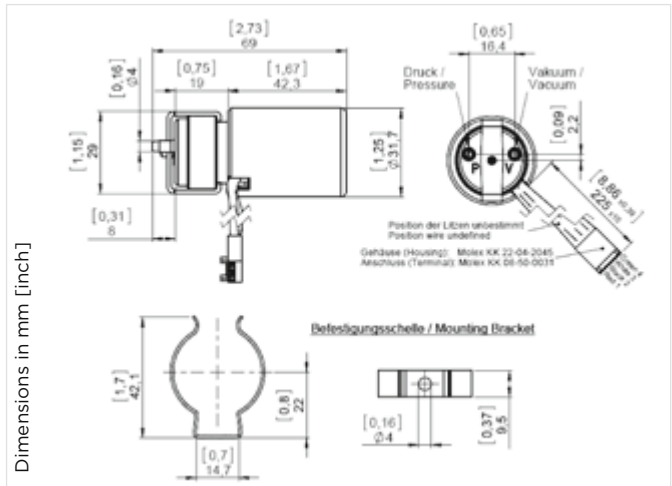
**501...** Stock programme

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

Model key:  
Nominal voltage: DC  
Number of vanes: 8  
Model type: G 6 / 02 - 8

# Rotary Vane Pump BL-G 02-4

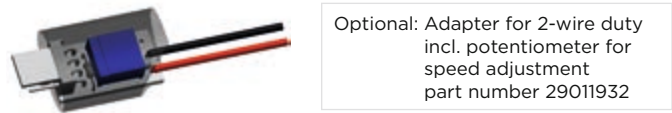
<b>Flow</b>	<b>2.4 l/min</b>
<b>Max. pressure</b>	<b>200 mbar</b>
<b>Max. vacuum</b>	<b>22 %</b>



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 %

WIRING DIAGRAM			
	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 V supply (PIN 1) and Speed Control (PIN 3)
Pin 3	Speed Control	White	analog: 0..5 V DC (max. 28V) PWM: 6..20 kHz - 14..96%
Pin 4	Tacho out	Green	Speed voltage input threshold: 0.2 V 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

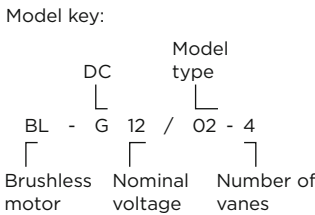
ELECTRICAL DATA		
Motor type	Brushless DC	
Nominal voltage	12 V DC	
Drive electronics	integrated with reverse supply voltage protection	
Min. current consumption	0.16 A	
Max. current consumption	0.33 A	
Protection class	IPO0	
Motor bearing	Ball bearing	
Connector	Housing:	Molex KK 22-01-2045
	Terminal:	Molex KK 08-50-0031



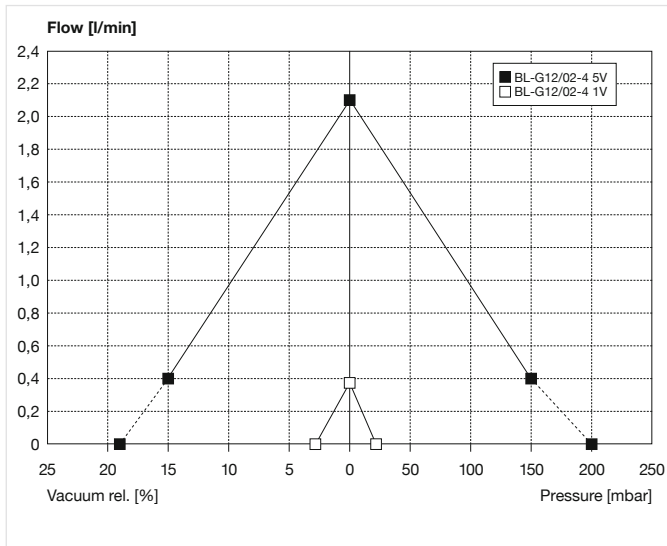
GENERAL DATA	
Ambient temperature	0 to 50 °C
Weight	0.13 kg
Direction of rotation	cw

CURRENT CONSUMPTION	
Min.:	at open flow
Max.:	at max. intermittent operation

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.

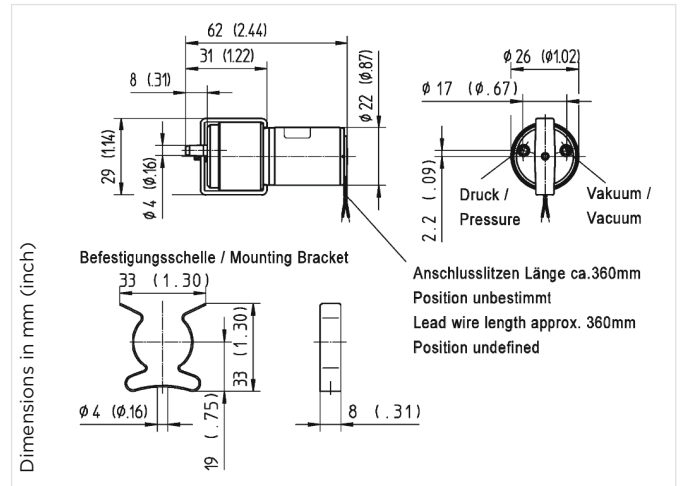


## FLOW CURVES



# 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	<b>50102</b>	<b>50097</b>	<b>50104</b>
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

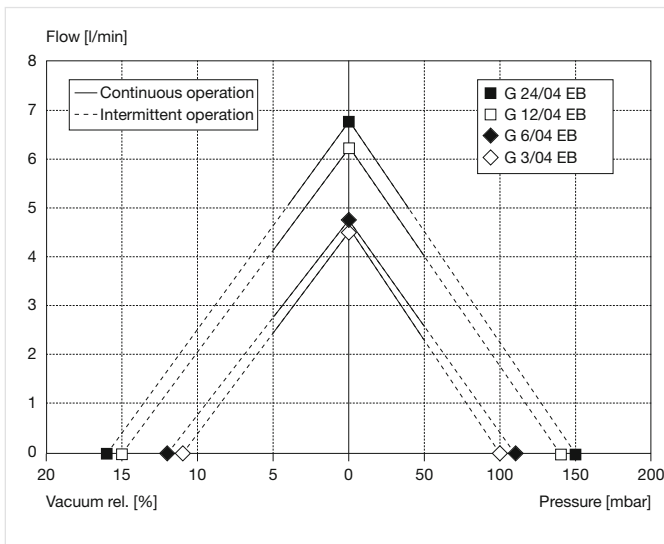
Motor type	Ironless Core DC	Ironless Core DC	Ironless Core DC	Ironless Core DC
Nominal voltage	3 V DC	6 V DC	12 V DC	24 V DC
Min. current consumption	0.26 A	0.16 A	0.18 A	0.11 A
Max. current consumption	0.80 A	0.48 A	0.47 A	0.26 A
Protection class	IP50	IP50	IP50	IP50
Motor bearing	Ball bearing/ Sleeve bearing	Ball bearing/ Sleeve bearing	Ball bearing/ Sleeve bearing	Ball bearing/ Sleeve bearing

## GENERAL DATA

Ambient temperature	-30 to 50 °C	-30 to 50 °C	-30 to 50 °C	-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



## CURRENT CONSUMPTION

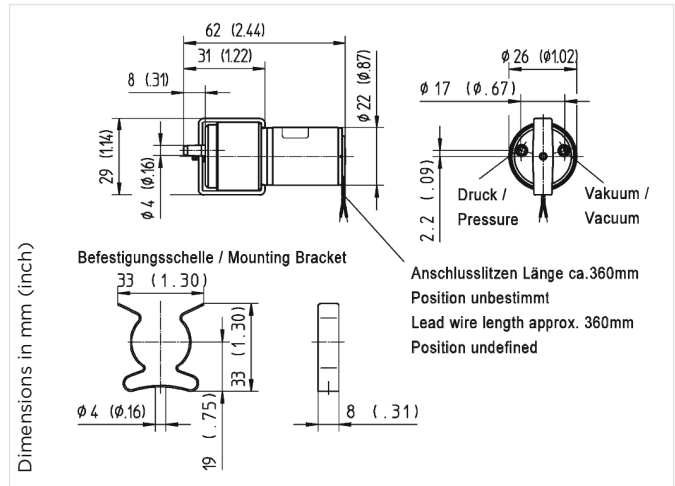
Min.: at open flow  
Max.: at max. intermittent operation

50... Stock programme

Model key:  
Nominal voltage: DC  
Ironless motor: EB  
Model type: G 6 / 04 - EB

# Rotary Vane Pump G 04-4-EB

<b>Flow</b>	<b>5.1 l/min</b>
<b>Max. pressure</b>	<b>240 mbar</b>
<b>Max. vacuum</b>	<b>26 %</b>



## PNEUMATIC DATA

Description	G 6/04-4 EB	G 12/04-4 EB
Part number	<b>50101</b>	<b>50100</b>
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

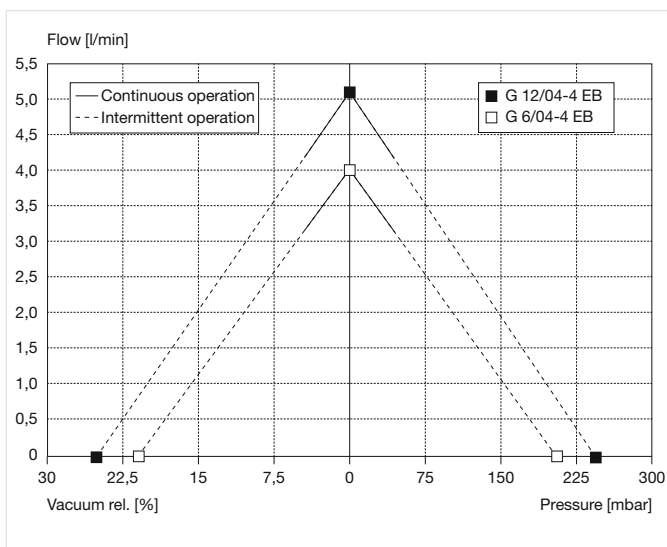
Motor type	Ironless Core DC	Ironless Core DC
Nominal voltage	6 V DC	12 V DC
Min. current consumption	0.30 A	0.29 A
Max. current consumption	0.85 A	0.70 A
Protection class	IP50	IP50
Motor bearing	Ball bearing/Sleeve bearing	Ball bearing/Sleeve bearing

## 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.

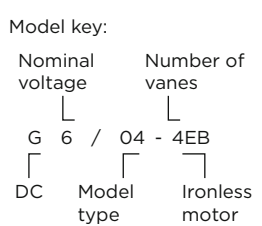
## FLOW CURVES



## CURRENT CONSUMPTION

50... Stock programme

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



# 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 %

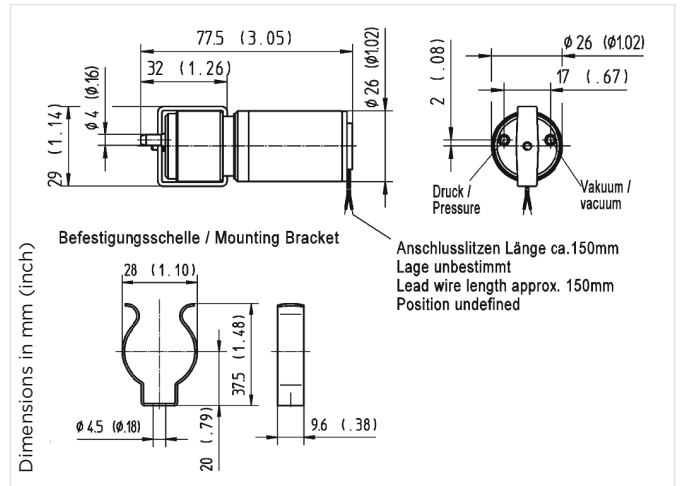
## ELECTRICAL DATA

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

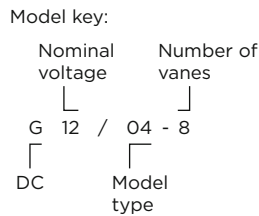
Ambient temperature	-30 to 50 °C
Weight	0.14 kg
Direction of rotation	cw/ccw

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

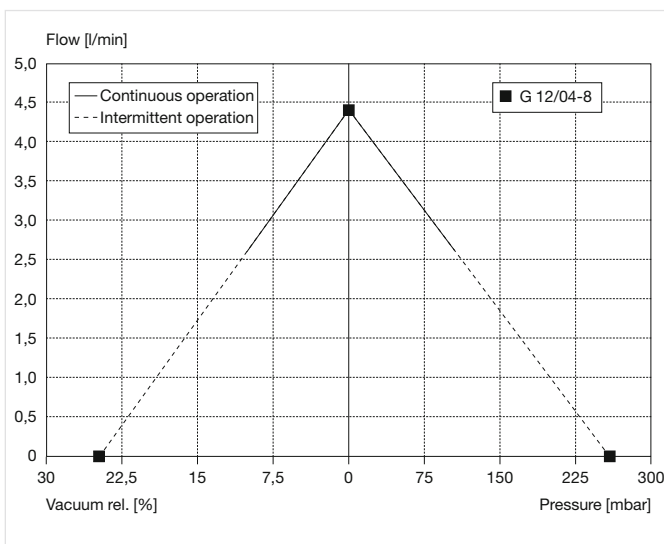


## CURRENT CONSUMPTION

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

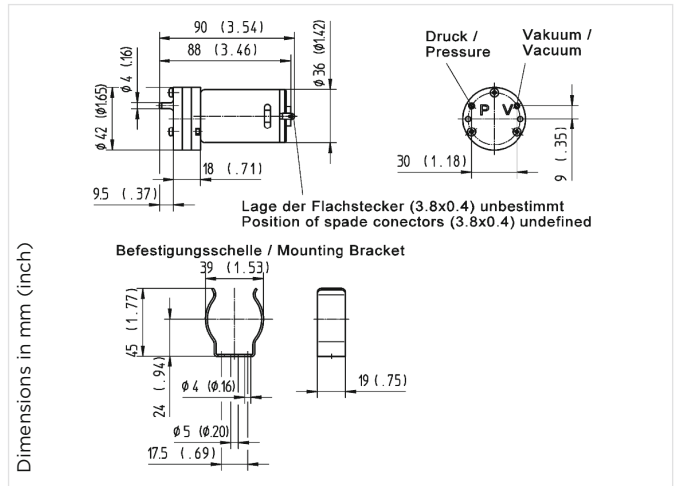


## FLOW CURVES



# Rotary Vane Pump G 045-LC

<b>Flow</b>	<b>7.5 l/min</b>
<b>Max. pressure</b>	<b>900 mbar</b>
<b>Max. vacuum</b>	<b>63 %</b>



## PNEUMATIC DATA

Description	G 12/045-LC
Part number	<b>50213</b>
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

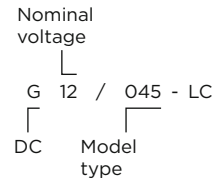
Pumps include mounting bracket.  
All listed values are measured at standard atmospheric conditions.

## CURRENT CONSUMPTION

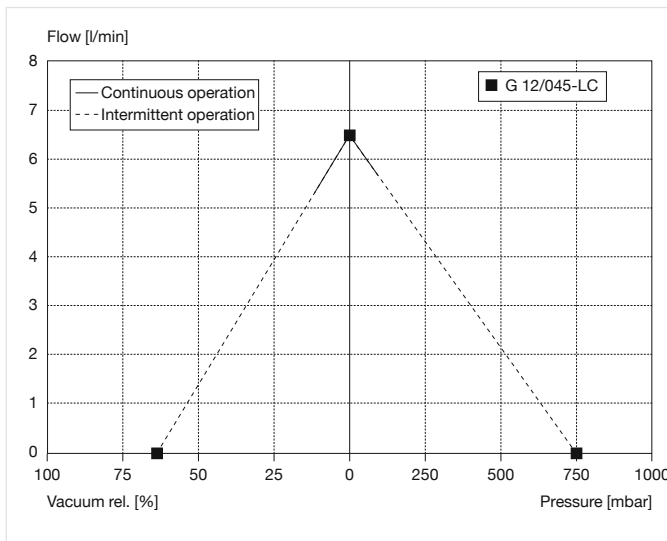
**502...** Stock programme

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

Model key:

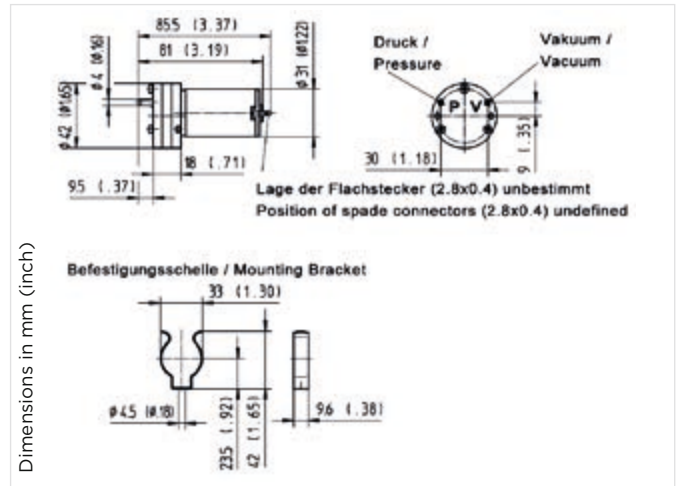


## FLOW CURVES



# 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	<b>50200</b>	<b>50201</b>
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

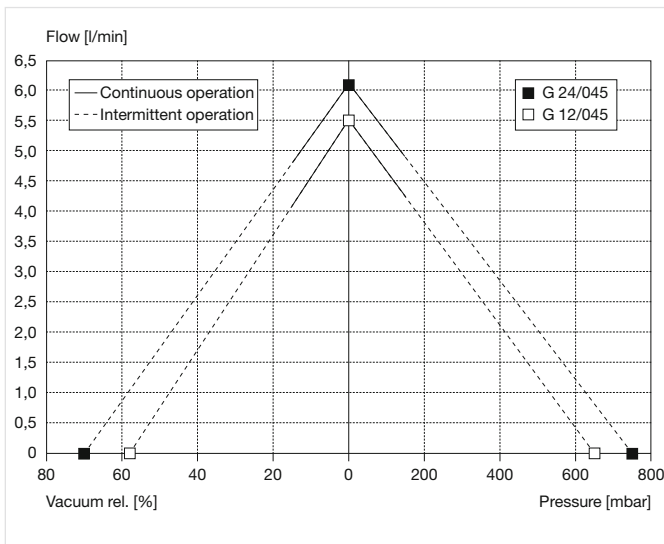
Motor type	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC
Min. current consumption	0.64 A	0.33 A
Max. current consumption	1.36 A	0.77 A
Protection class	IP30	IP30
Motor bearing	Ball bearing	Ball bearing

## 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



## CURRENT CONSUMPTION

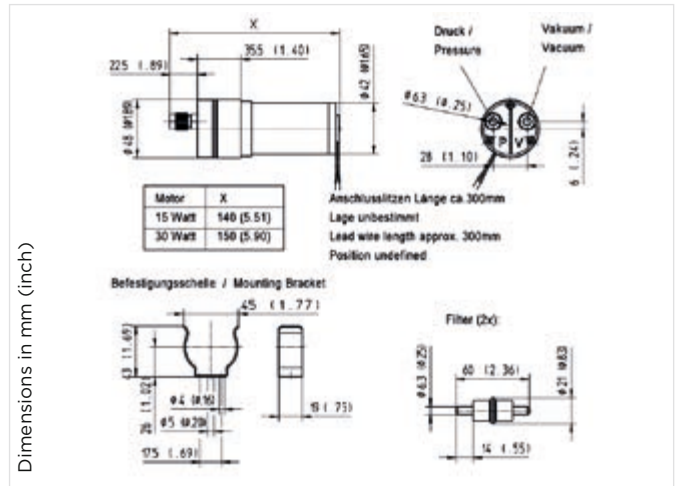
50... Stock programme

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

Model key:  
Nominal voltage  
G 12 / 045  
DC Model type

# 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	<b>50218</b>	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

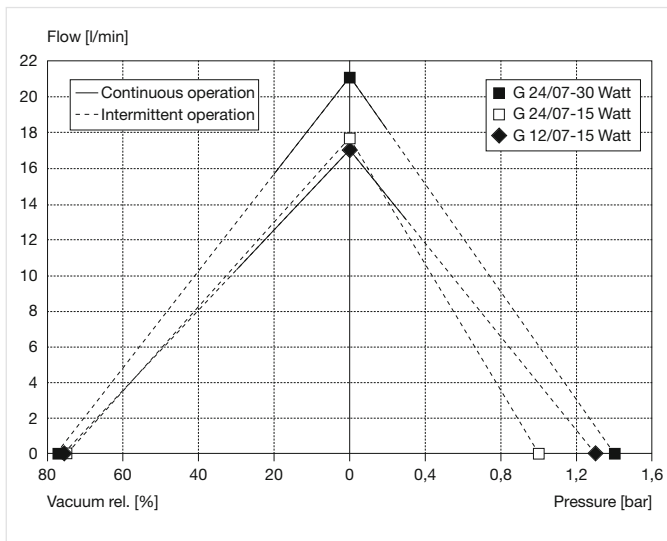
Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC	24 V DC
Min. current consumption	1.9 A	1.1 A	1.9 A
Max. current consumption	3.2 A	1.6 A	2.5 A
Protection class	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing

## 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



## CURRENT CONSUMPTION

50... Stock programme

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

Model key:

Nominal voltage      Nominal motor power

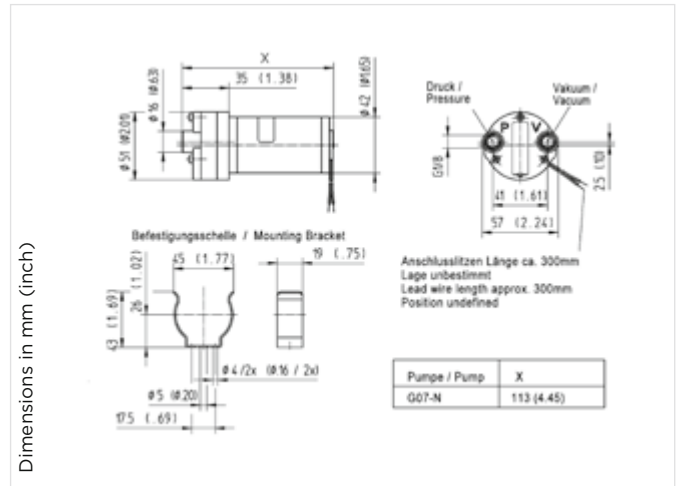
G 12 / 07 - 30 Watt

DC      Model type



# 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	<b>50316</b>	50311	<b>50220</b>
Max. flow	20.0 l/min	18.0 l/min	17.0 l/min
Max. intermittent pressure	0.9 bar	0.8 bar	0.7 bar
Max. continuous pressure	0.25 bar	0.3 bar	0.3 bar
Max. intermittent vacuum	70 %	72 %	55 %
Max. continuous vacuum	25 %	30 %	30 %

## ELECTRICAL DATA

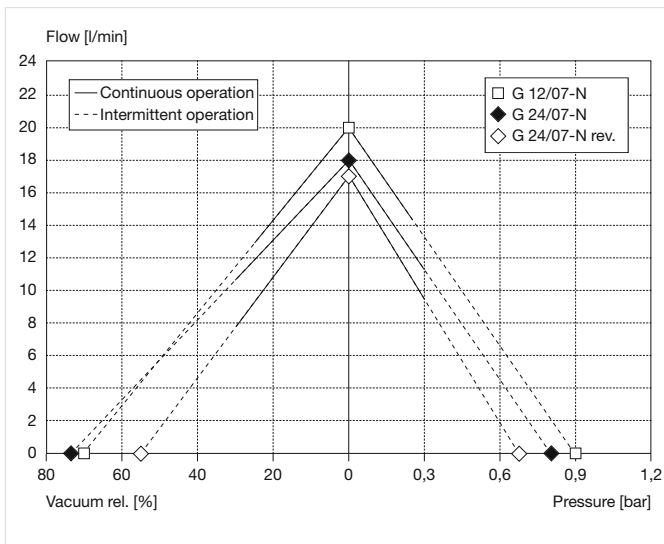
Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC	24 V DC
Min. current consumption	2.6 A	0.8 A	0.9 A
Max. current consumption	4.6 A	1.6 A	2.0 A
Protection class	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing

## 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



## CURRENT CONSUMPTION

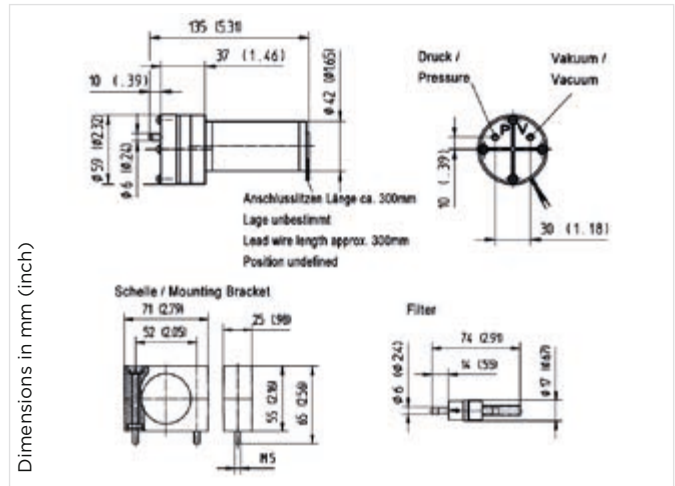
Min.: at open flow  
Max.: at max. intermittent operation

Model key:  
Nominal voltage: DC  
Resin bonded graphite housing  
G 12 / 07 - N rev  
Model type  
Reversible

50... Stock programme

# Rotary Vane Pump G 08

<b>Flow</b>	<b>15.5 l/min</b>
<b>Max. pressure</b>	<b>1.4 bar</b>
<b>Max. vacuum</b>	<b>83 %</b>



## PNEUMATIC DATA

Description	G 12/08-30 Watt	G 24/08-30 Watt	G 24/08-30 Watt rev.
Part number	<b>50325</b>	<b>50358</b>	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

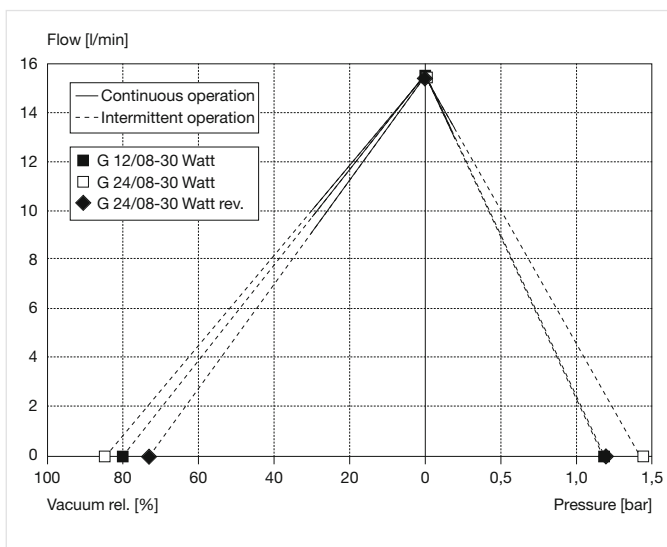
Motor type	Permanent magnet	Permanent magnet	Permanent magnet
Nominal voltage	12 V DC	24 V DC	24 V DC
Min. current consumption	1.5 A	0.8 A	0.6 A
Max. current consumption	3.2 A	1.6 A	1.8 A
Protection class	IP40	IP40	IP40
Motor bearing	Ball bearing	Ball bearing	Ball bearing

## 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.

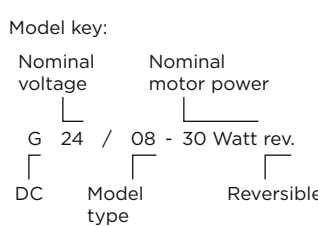
## FLOW CURVES



## CURRENT CONSUMPTION

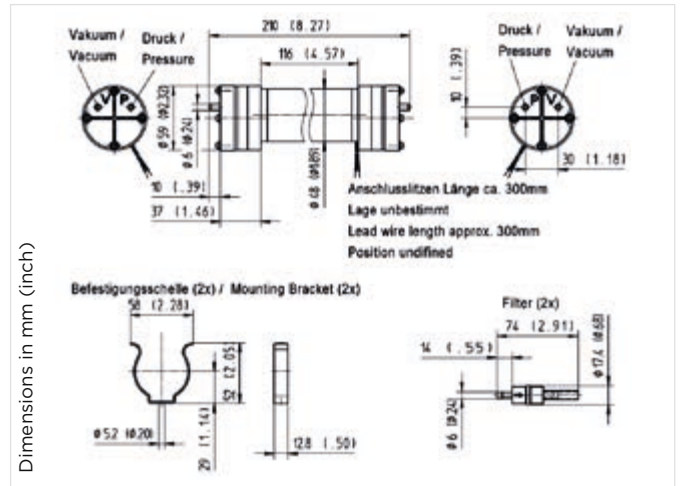
Min.: at open flow  
Max.: at max. intermittent operation

503... Stock programme



# Rotary Vane Pump G 08-T

Flow	36 l/min
Max. pressure	1.4 bar
Max. vacuum	93 %

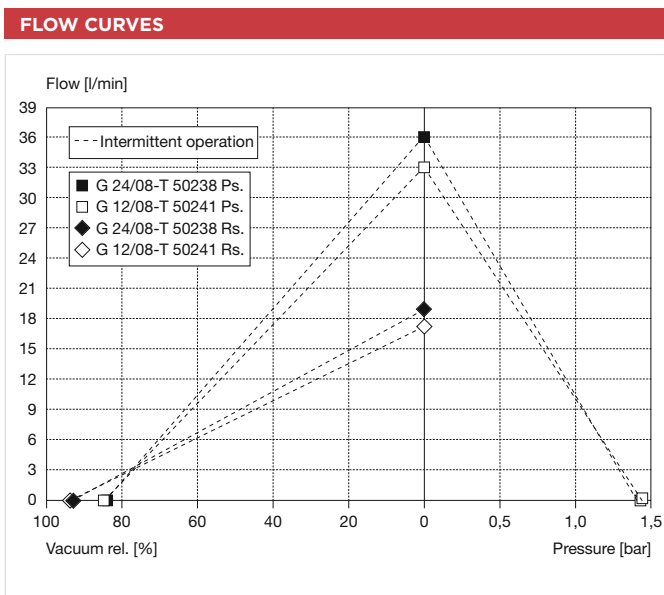


PNEUMATIC DATA				
Description	G 12/08-T	G 12/08-T	G 24/08-T	G 24/08-T
Part number	50241	50241	<b>50238</b>	<b>50238</b>
	connected in series	connected in parallel	connected in series	connected in parallel
Max. flow	17 l/min	33 l/min	19 l/min	36 l/min
Max. intermittent pressure		1.4 bar		1.4 bar
Max. 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	-10 to 40 °C	-10 to 40 °C	-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.



### CURRENT CONSUMPTION

**50...** Stock programme

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

Model key:

Nominal voltage      Double headed

G 12 / 08 - T

DC      Model type

# Rotary Vane Pump BL-G 085 M

<b>Flow</b>	<b>8.5 l/min</b>
<b>Max. pressure</b>	<b>450 mbar</b>
<b>Max. vacuum</b>	<b>50 %</b>



## PNEUMATIC DATA

Description	BL-G 12/085 M
Part number	50210
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

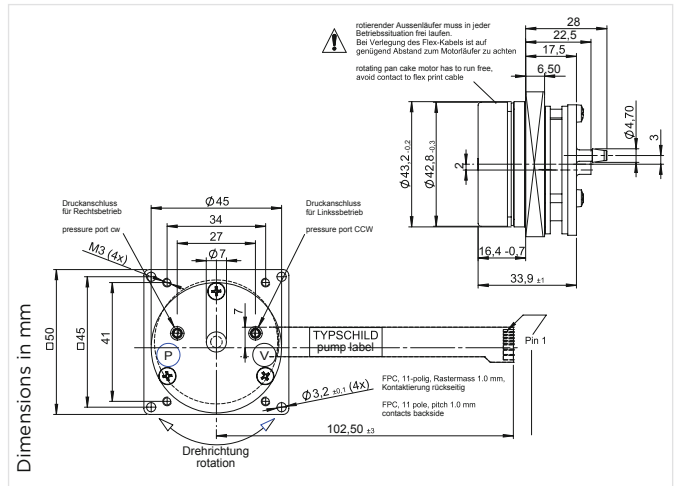
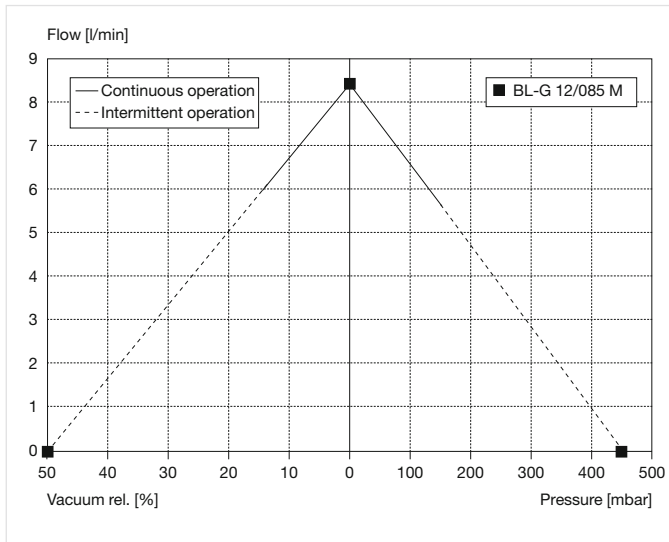
Motor type*	Brushless DC
Nominal voltage	24 V DC
Min. current consumption	0.7 A
Max. current consumption	2.0 A
Protection class	IP00
Motor bearing	Ball bearing
Electrical connection	Flex-Print connector, 11 poles pitch 1.0 mm, top contact style

## GENERAL DATA

Ambient temperature	-40 to 60 °C
Weight	0.15 kg
Direction of rotation	cw/ccw

\* with electronics  
 All listed values are measured at standard atmospheric conditions.  
 Please contact Thomas if further information regarding electrical connection.  
 Use provided mounting locations only. Do not allow force on either motor or pump head. Motor bearing can be damaged.

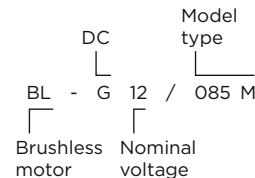
## FLOW CURVES



## CURRENT CONSUMPTION

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

Model key:



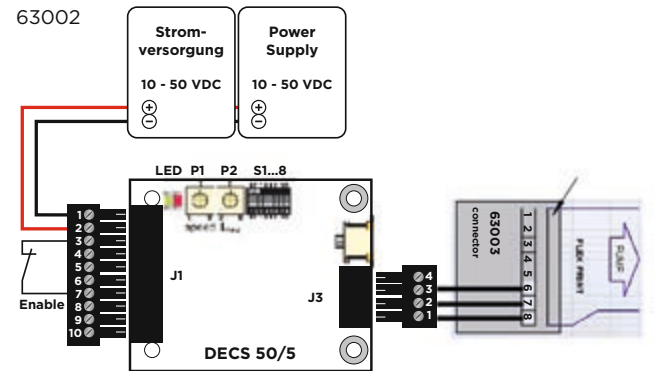
## PIN ALLOCATION

- 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

## SCOPE OF DELIVERY

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

Anschluss Vorschlag, weiterführende Informationen siehe 63002.08 und 63003.09 connection diagram (proposal), further information: 63002.08 and 63003.09



## Pin assignment J1:

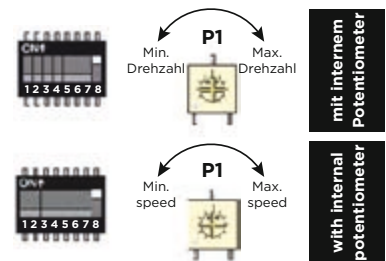
- Power GND
- +Vcc 10...50 VDC
- Enable
- Direction
- Brake
- Set value speed
- +5 VDC OUT
- Gnd
- Monitor n
- Ready

## Steckerbelegung J3:

- Abschirmung
- Motorwicklung 3
- Motorwicklung 2
- Motorwicklung 1

## Pin assignment J3:

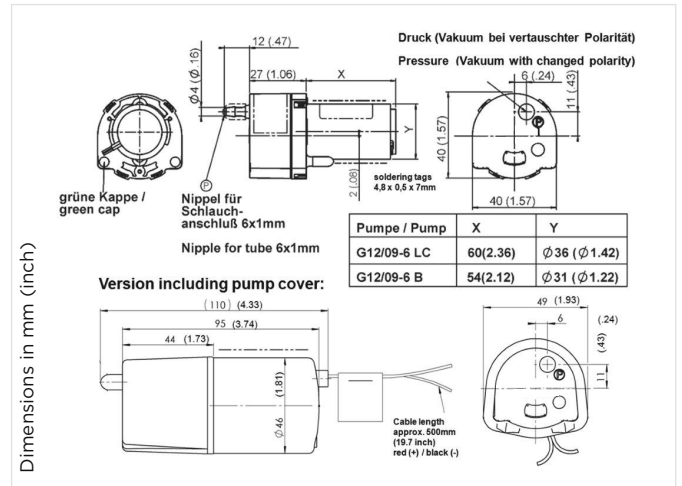
- Cable shield
- Motor winding 3
- Motor winding 2
- Motor winding 1



**Achtung: Leistungswerte Pumpe mit folgender Konfiguration geprüft:**  
 Elektronik: 1-Q-EC Verstärker DECS 50/5  
 Betriebsspannung: 24VDC  
 Motordrehzahl bei Free Flow (P1): 4200 U/min  
 DIP-Schalter Einstellung: S1-1; S2-0; S3-1; S4-0; S5-1; S6-0; S7-1; S8-1  
**Attention: pump performance with following configuration tested:**  
 Electronic: 1-Q-EC Amplifier DECS 50/5  
 Connected voltage: 24VDC  
 Motor speed at Free Flow (P1): 4200 rpm  
 DIP-switch setting: S1-1; S2-0; S3-1; S4-0; S5-1; S6-0; S7-1; S8-1  
**Achtung max. Motordrehzahl 4500 U/min**  
**Attention max motor speed 4500 rpm**

# 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	<b>50555/50556</b> <sup>1)</sup>	<b>50554/50552</b> <sup>1)</sup>
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

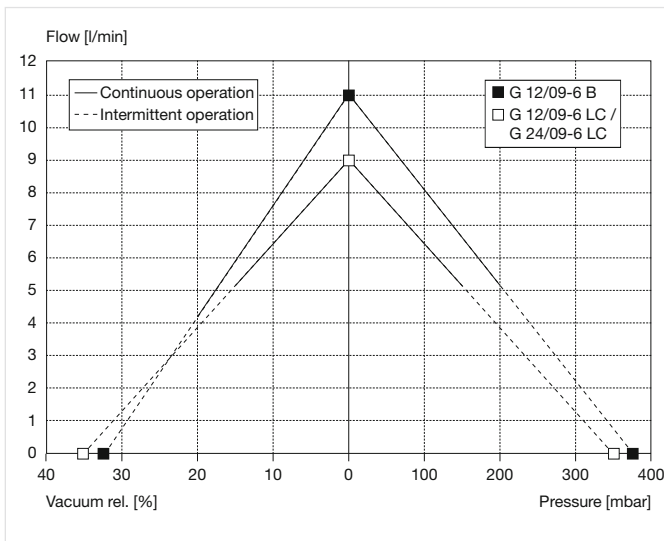
Ambient temperature	-20 to 50 °C	-20 to 50 °C	-20 to 50 °C
Weight	0.24 kg	0.30 kg	0.30 kg
Direction of rotation	cw/ccw	cw/ccw	cw/ccw

## ACCESSORIES

Optional mounting bracket (part number)	31947	31911/31914	31911/31914
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<sup>1)</sup> Pump including EPDM-cover for sound reduction.  
 All listed values are measured at standard atmospheric conditions.  
 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



## CURRENT CONSUMPTION

**50...** Stock programme

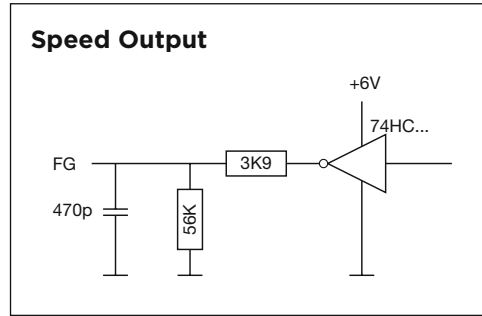
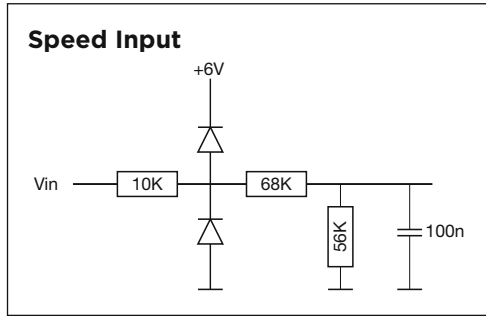
Min.: at open flow  
 Max.: at max. intermittent operation

Model key:

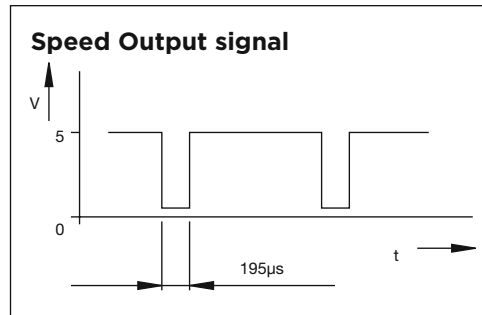
Nominal voltage: G 12 / DC  
 Number of vanes: 09 - 6 LC  
 Model type: LC = Low-cost motor, B = Standard motor

# 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 V supply (PIN 1) and Speed Control (PIN 3)
Pin 3	Speed Control	White	analog: 0..5 V DC (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 $\mu$ s Output level „LOW“: 0 / max. 0.5 V Output level „HIGH“: min. 4 V / max. 5 V



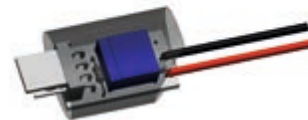
Optional: Adapter for 2-wire duty incl. potentiometer for speed adjustment



## 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”





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