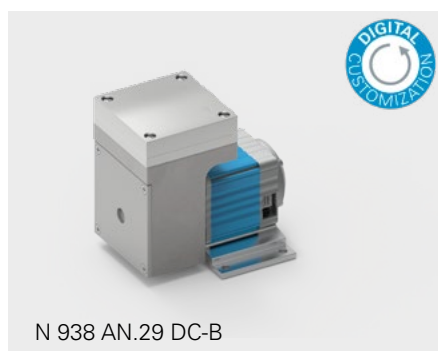


# N 938 SERIE VACUUM PUMPS



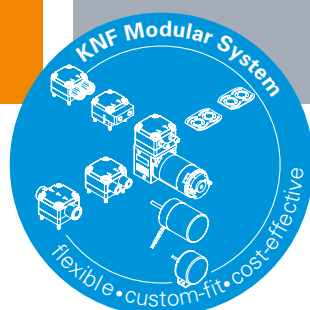
## ADVANTAGES

- Customized motor parameters
- Reliable
- High pumping speed over the entire pressure and vacuum range
- Robust and compact
- Analog or digital speed control
- Readout of pump parameters
- Safety functions

## POSSIBLE AREAS OF USE

- Fuel cells – recirculation of hydrogen
- Measurement technology – sampling pump for exhaust gases
- Medical technology – diagnostics and histology
- Vacuum technology – pick & place applications
- Laser technology – evacuation of the chamber

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PERFORMANCE DATA		
Series model	N 938	N 938.1.2
Material design	AN.29 DC-B	AN.29 DC-B
Pump head	Aluminum anodized (optional PPS, Stainless steel)	
Diaphragm	EPDM (optional EPDM/PTFE-coated)	
Valves	FPM (optional FFPM)	
Flow rate at atm. pressure (l/min) <sup>1)3)</sup>	9–35	13–53
Ultimate vacuum (mbar abs./inHg) <sup>1)</sup>	160/4.7	140/4.1
Max. operating pressure (bar rel./psig) <sup>1)2)</sup>	1.0/14.5	
Permissible ambient temperature (°C/°F) <sup>1)</sup>	+5 °C ... +40 °C / 41 °F ... 104 °F	
Permissible media temperature (°C/°F) <sup>1)</sup>	+5 °C ... +40 °C / 41 °F ... 104 °F	
Weight (kg/lbs)	2.1/4.6	3.4/7.5
ELECTRICAL DATA		
Voltage (V)	24	
Motor	Brushless DC motor	
Protection class motor	IP 20	
Power P <sub>1</sub> (W)	82	94
I <sub>max</sub> (A)	3.4	3.85

<sup>1)</sup> expanded performance available upon request

<sup>2)</sup> bar rel relative to 1013 hPa

<sup>3)</sup> Flow rate determined at 20 °C, 1000 mbar abs. (Pressure 0 to 1000 mbar abs. in accordance with ISO 21360/ISO 8778)

# N 938 AN.29 DC-B

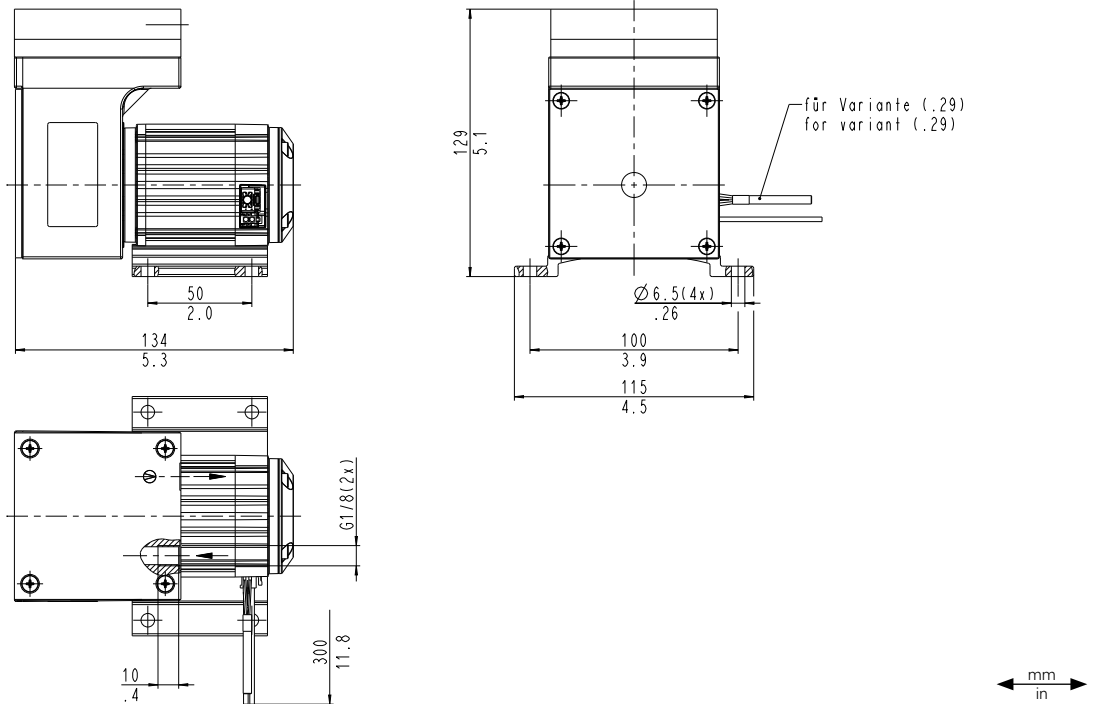
## PERFORMANCE DATA

Series model	Flow rate at atm. pressure (l/min) <sup>3)</sup>	Max. operating pressure (bar rel./psig) <sup>2)</sup>	Ultimate vacuum (mbar abs./inHg)
N 938 AN.29 DC-B	9–35	1.0/14.5	160/4.7

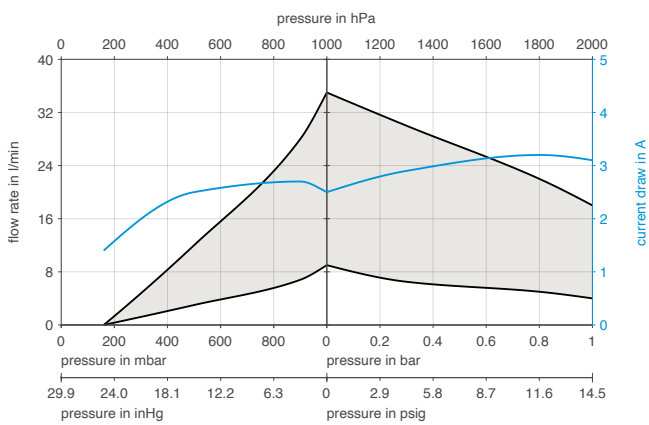
<sup>2)</sup> bar rel relative to 1013 hPa

<sup>3)</sup> Flow rate determined at 20 °C, 1000 mbar abs. (Pressure 0 to 1000 mbar abs. in accordance with ISO 21360/ISO 8778)

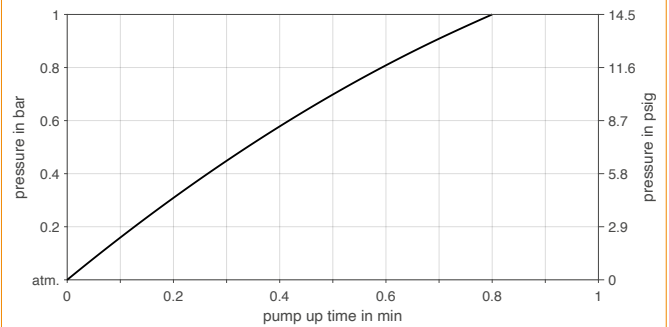
## N 938 AN.29 DC-B



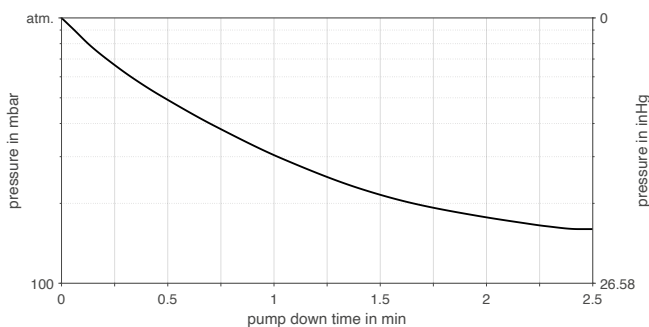
## N 938 AN.29 DC-B



## N 938 AN.29 DC-B | PUMP UP TIME FOR 20 LITER VESSEL



## N 938 AN.29 DC-B | PUMP DOWN TIME FOR 20 LITER VESSEL



# N 938.1.2 AN.29 DC-B

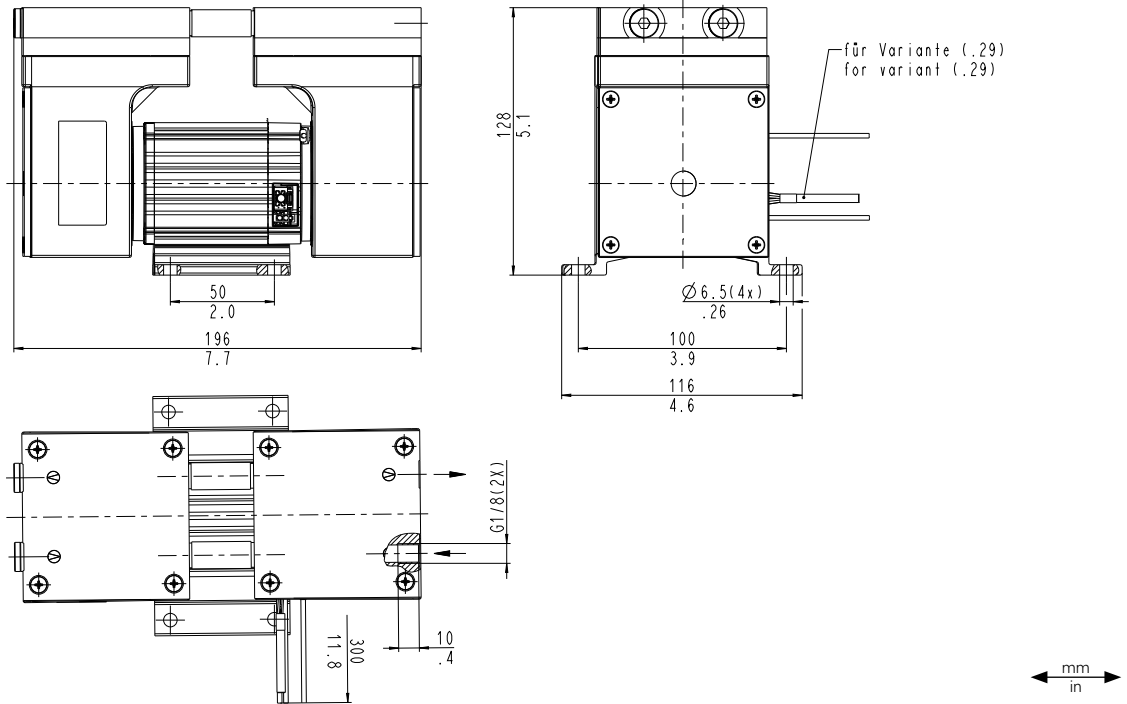
## PERFORMANCE DATA

Series model	Flow rate at atm. pressure (l/min) <sup>3)</sup>	Max. operating pressure (bar rel./psig) <sup>2)</sup>	Ultimate vacuum (mbar abs./inHg)
N 938.1.2 AN.29 DC-B	13–53	1.0/14.5	140/4.1

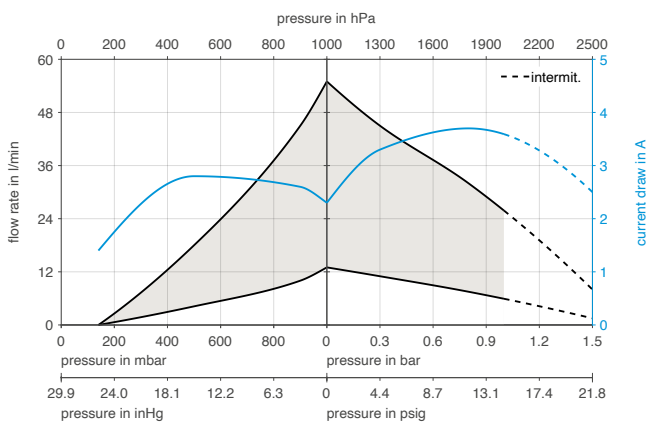
<sup>2)</sup> bar rel relative to 1013 hPa

<sup>3)</sup> Flow rate determined at 20 °C, 1000 mbar abs. (Pressure 0 to 1000 mbar abs. in accordance with ISO 21360/ISO 8778)

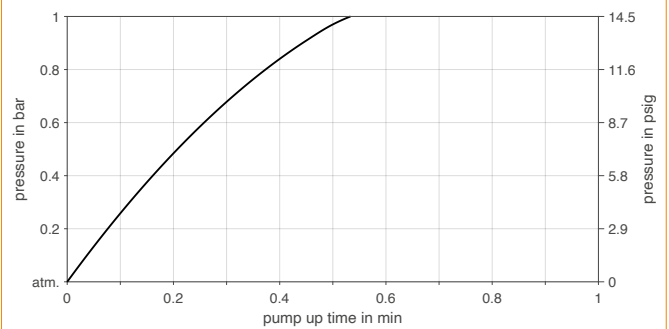
## N 938.1.2 AN.29 DC-B



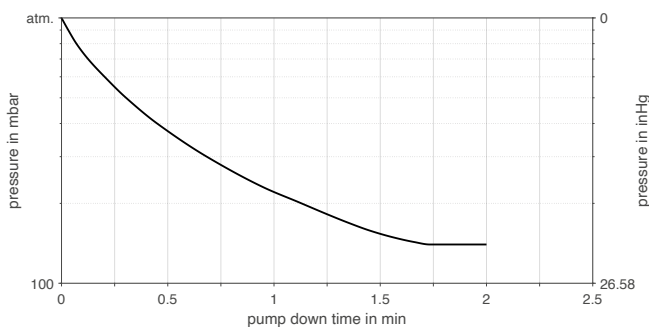
## N 938.1.2 AN.29 DC-B



## N 938.1.2 AN.29 DC-B | PUMP UP TIME FOR 20 LITER VESSEL



## N 938.1.2 AN.29 DC-B | PUMP DOWN TIME FOR 20 LITER VESSEL







## DIGITAL CUSTOMIZATION

Thanks to digital technology, this pump can be quickly adapted to the customer's system. This is done by parametrizing the firmware of the motor at KNF.

ACCESSORIES			
Description	Illustration	Part No.	Details
Silencer/Inlet filter		007006	G 1/8
Hose connector (straight)		004975	G 1/8, PA, inner diameter 8 mm
Vibration damping (4 pieces necessary per pump, for use with motor mounting plate)		014114	D 20x15mm, 2x M6x10mm outside thread
Vibration damping for N 938.1.2 (4 pieces necessary per pump, use for direct mounting without mounting plate)		124782	D 15x15mm, M4x6mm outside thread/M4x6mm inside thread

SPARE PARTS			
Description	Illustration	Part No.	Details
Spare parts kit N 938		342833	Spare parts kit consists of: 1x zone diaphragm, 2x valve plate. This set is required to maintain the pump.
Spare parts kit N 938.1.2		342834	Spare parts kit consists of: 2x zone diaphragm, 4x valve plate. This set is required to maintain the pump.

The performance values for the series models shown on this data sheet were determined under test conditions. The actual performance values may differ and depend in particular on the usage conditions and therefore on the specific application, on the parameters of the components involved in the user's system and on any technical modifications carried out which deviate from the standard configuration or the as delivered condition.

If individual designs have been created for specific customers on the basis of series models, other technical performance data may apply. Before operation begins, the relevant operating instructions and/or assembly or installation instructions should be read and the safety information contained in these instructions should be noted. KNF reserves the right to make changes to the product and the associated documentation without prior notice to the customer.



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