

# AUTOCLAVE VACUUM PUMPS



N 936.3 ANE

## Advanced Technology

KNF-patented designs maximize diaphragm pump performance, providing superior alternatives to other pump technologies. KNF pumps generate deeper vacuums, higher pressures, optimized flow, and improved repeatability while minimizing system cost, size, weight, and power requirements.

Learn more about KNF diaphragm pump technology at [knfusa.com/technology](http://knfusa.com/technology)

## Features

### Uncontaminated flow

No contamination of the media due to oil-free operation

**Specially designed for fast tank evacuation, especially from 500 mbar abs. to 100 mbar abs.**

### Optimal flow characteristics

- Fast chamber evacuation
- Fast instrument drying
- Condensate tolerant wetted surfaces

### Compact and powerful

**Vacuum down to 35 mbar/28.9 inHg**

### Maintenance free

**Can operate in any installed position**

## Areas of use

The N 936, KNF's most advanced autoclave vacuum pump, is specifically engineered for steam sterilization, and vacuum drying. Both pump types (936.3, 936.1.2) are capable of transferring moisture-laden gases and vapors at high flow rates.

The N 936 autoclave vacuum pump heads are constructed from anodized aluminum with optimized flow paths - a unique feature which provides excellent condensate removal, and fast drying characteristics.

Ideal for Class B and C autoclaves with 17-25 liter chambers, the N 936.3 and N 936.1.2 vacuum pumps are designed to meet EN 13060-1 & -2, and EN 61010 and CB.

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PERFORMANCE DATA				
Type	Delivery L/min	Vacuum mbar absolute (in.Hg)	atm. pressure psig	Weight lbs
N 936.3 ANE, 50 Hz	36	35 (28.9)	7.25	11.5
N 936.3 ANE, 60 Hz	39	35 (28.9)	7.25	11.5
N 936.1.2 ANE, 50 Hz	60	200 (24.0)	7.25	11.5
N 936.1.2 ANE, 60 Hz	66	200 (24.0)	7.25	11.5

# N 936.3 ANE

## PERFORMANCE DATA

Type	Delivery at atm. pressure L/min <sup>1)</sup>	Max. operating pressure psig	Ultimate vacuum mbar abs. (in.Hg)
N 936.3 ANE US, 50 Hz	36±10%	7.25	35 (28.9)
N 936.3 ANE US, 60 Hz	39±10%	7.25	35 (28.9)

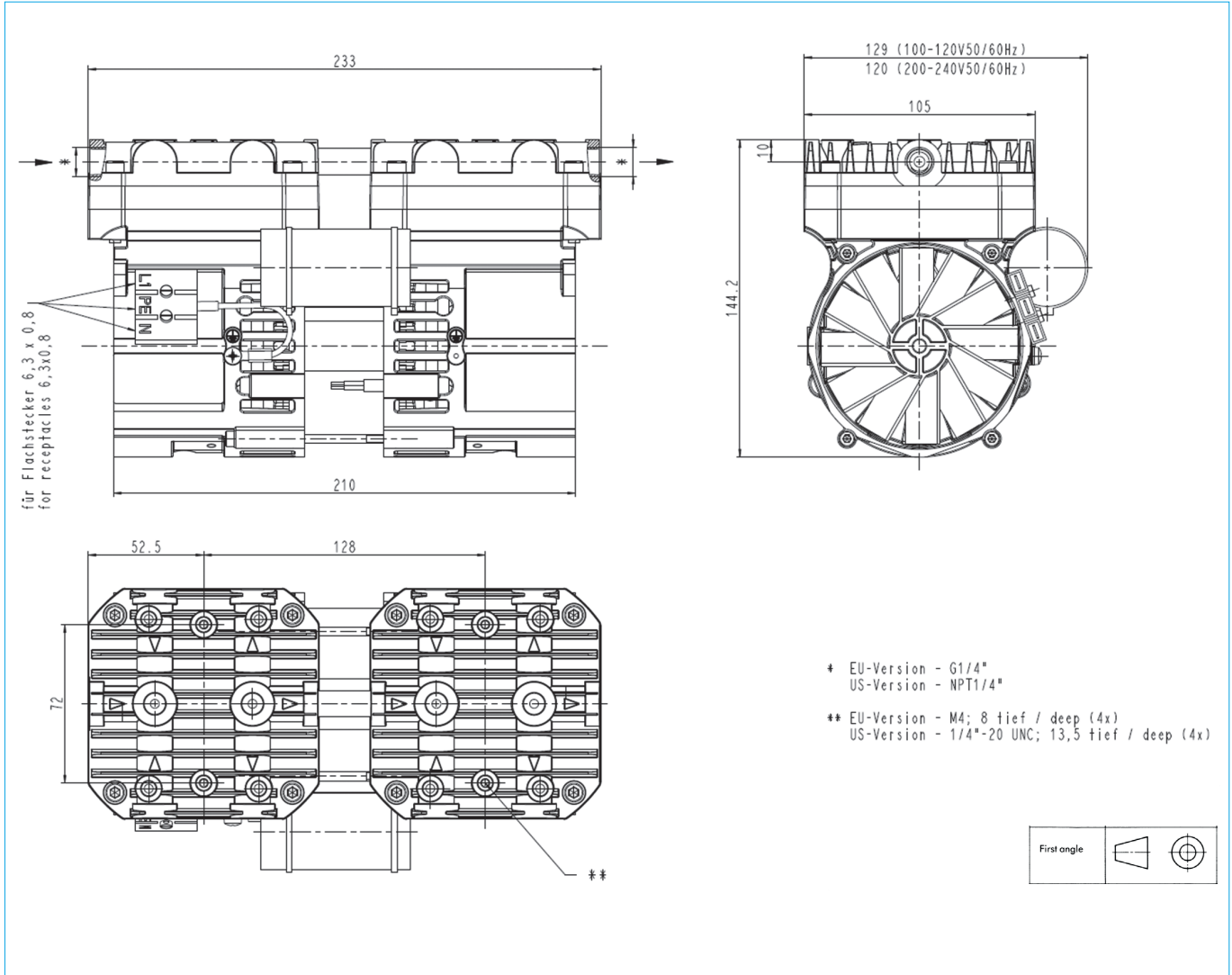
<sup>1)</sup> Liter at STP

## MOTOR DATA

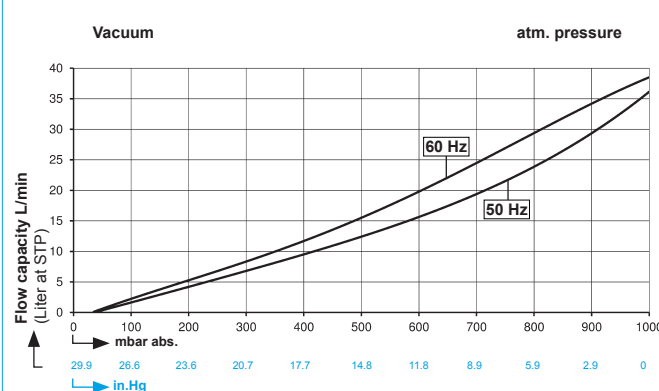
Protection class	IP 00	IP 00
Voltage (V)	180 - 264	90 - 132
Frequencies (Hz)	50/60	50/60
Power P <sub>1</sub> (W)	190	190
I <sub>max</sub> (A), 50/60 Hz	1.3/1.0	2.3/1.8

## PUMP MATERIAL

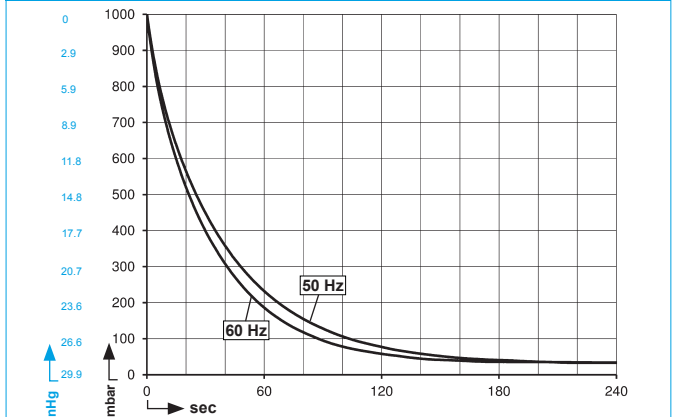
Type	Pump head	Diaphragm	Valves
N 936.3 ANE	Anodized Aluminum	HNBR/stainless steel	HNBR



## FLOW CAPACITY



## PUMP DOWN TIME FOR 20 LITER VESSEL



# N 936.1.2 ANE

## PERFORMANCE DATA

Type	Delivery at atm. pressure L/min <sup>1)</sup>	Max. operating pressure psig	Ultimate vacuum mbar abs. (in.Hg)
N 936.1.2 ANE US, 50 Hz	60±10%	7.25	200 (24.0)
N 936.1.2 ANE US, 60 Hz	66±10%	7.25	200 (24.0)

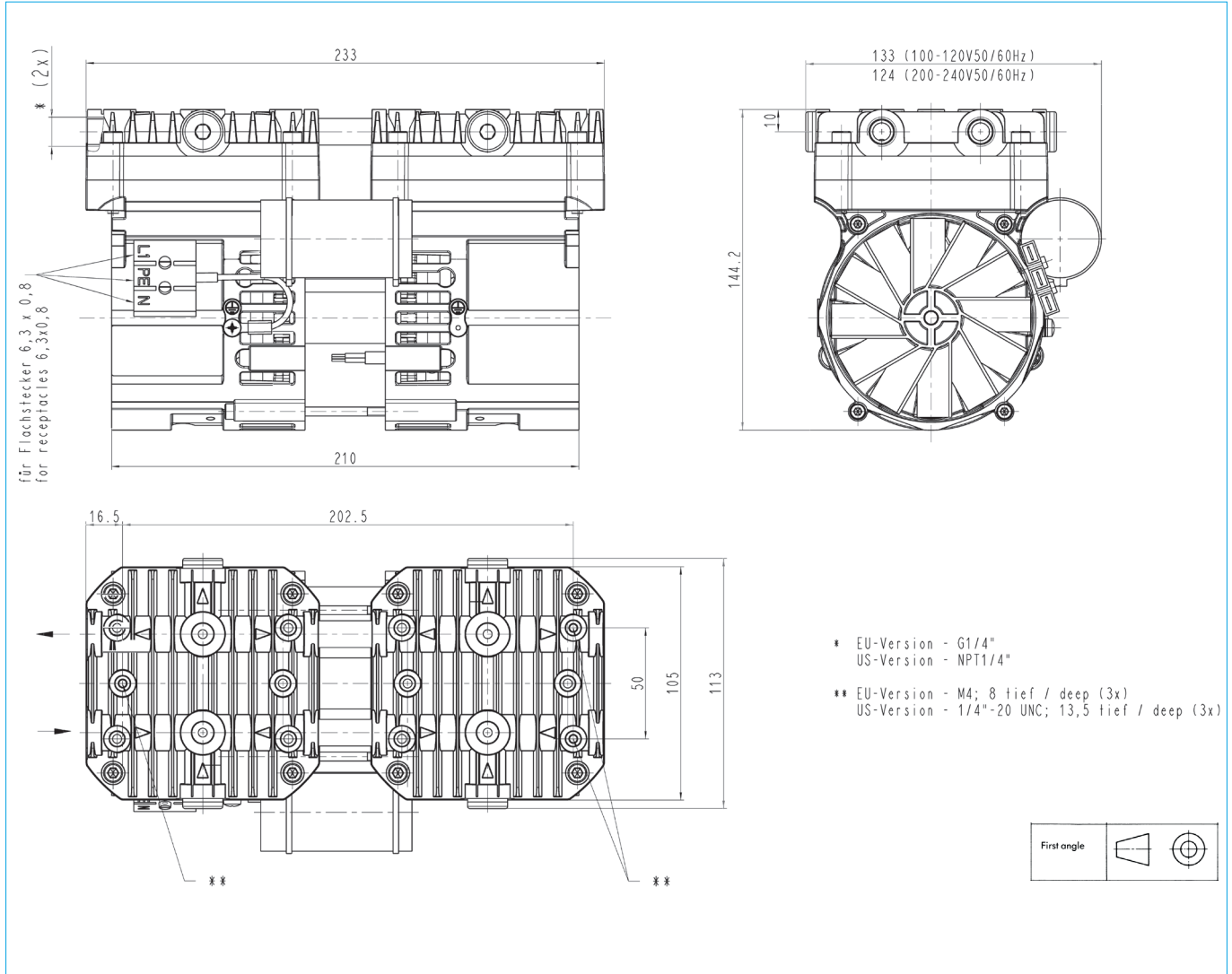
<sup>1)</sup> Liter at STP

## MOTOR DATA

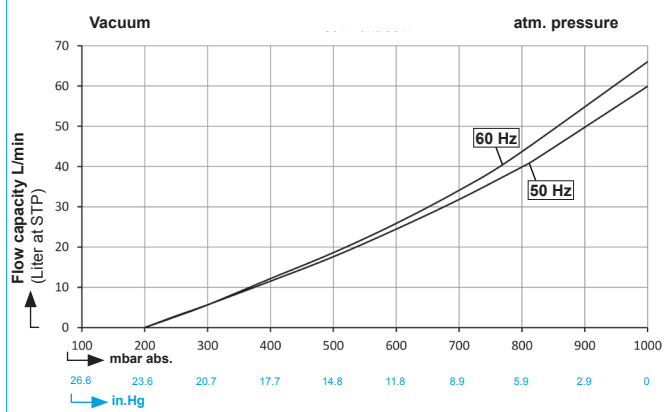
Protection class	IP 00	IP 00
Voltage (V)	180 - 264	90 - 132
Frequencies (Hz)	50/60	50/60
Power P <sub>1</sub> (W)	190	190
I <sub>max</sub> (A), 50/60 Hz	1.2/1.1	2.1/1.9

## PUMP MATERIAL

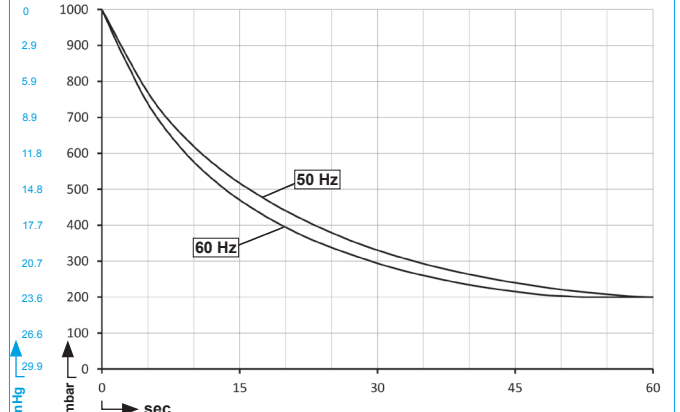
Type	Pump head	Diaphragm	Valves
N 936.1.2 ANE	Anodized Aluminum	HNBR/stainless steel	HNBR



## FLOW CAPACITY



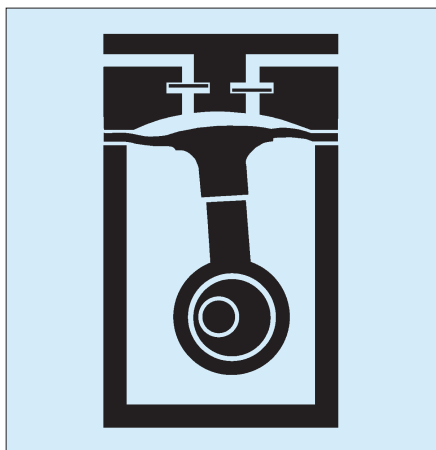
## PUMP DOWN TIME FOR 20 LITER VESSEL



## HINTS ON FUNCTION, INSTALLATION AND TECHNIQUE

### Function of KNF diaphragm vacuum pumps and compressors

An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.



### Hints on installation and operation

- Range of use: Transferring air, gases and vapors at temperatures between +5 °C and +70 °C, intermittent 100 °C.
- Permissible ambient temperature: +15 °C and +50 °C, intermittent 70 °C.
- Please check that the medium will be compatible with the material from which the pump head, diaphragm and valves are constructed.
- The KNF product line includes pumps suitable for the transfer of aggressive gases and vapors – please contact us.
- The standard pumps are not suitable for use in areas where there is a risk of explosion. Please contact a KNF applications specialist to learn more about pumps for hazardous locations.
- The pumps are not designed to start against pressure or vacuum; when a pump is switched on the pressure in the suction and pressure lines must be atmospheric. Pumps that start against pressure or vacuum are available on request.
- To prevent the maximum operating pressure being exceeded, restriction or regulation of the air flow should only be carried out in the suction line.
- Components connected to the pump must be designed to withstand the pneumatic performance of the pump.
- Install the pump so that the fan can draw in sufficient cooling air.