

# N 143 SERIES

## PROCESS VACUUM PUMPS AND COMPRESSORS



N 143 SP.12 E

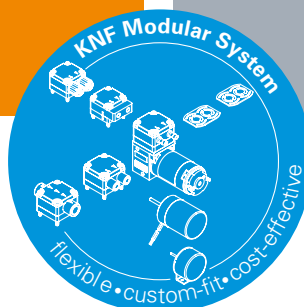
### ADVANTAGES

- Twofold safety: The combination of a working diaphragm and an additional safety diaphragm prevents gas from escaping in the event of a fracture (.12)
- The robust design will hold up to challenging operating conditions
- High pressure up to 7 bar rel./101.5 psig
- High level of gas tightness  
Following leakage rates are available:  
.9  $\triangleq$  <  $6 \times 10^{-3}$  mbar l/s  
SP.13  $\triangleq$  <  $6 \times 10^{-6}$  mbar l/s  
ST.13  $\triangleq$  <  $1 \times 10^{-5}$  mbar l/s  
SP.12  $\triangleq$  <  $6 \times 10^{-6}$  mbar l/s

### POSSIBLE AREAS OF USE

- Energy technology – especially in nuclear facilities
- Chemical industry
- Process industry
- Research and development

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### PERFORMANCE DATA

Series model	N 143											
Material design	AP.9 E		SP.9 E		SP.13 E		SP.12 E		ST.9 E		ST.13 E	
Pump head	Aluminum		Stainless steel									
Diaphragm	EPDM								PTFE-coated			
Valves	Stainless steel											
Flow rate at atm. pressure (l/min)	23 $\pm$ 10 %								21 $\pm$ 10 %			
Ultimate vacuum (mbar abs.)	120								130			
Max. operating pressure (bar rel./psig)	7.0/101.5						3.0/43.5		7.0/101.5			
Permissible ambient temperature (°C)	+5 ... +40											
Permissible media temperature (°C)	+5 ... +40											
Weight (kg/lbs)	20.5/45.1		23.0/50.6				24.0/52.8		23.0/50.6			

### ELECTRICAL DATA

Voltage (V)	230		230/400		230		230/400		230		230/400	
	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor
Motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor	Capacitor motor	Three-phase motor
Protection class motor	IP 55											
Frequency (Hz)	50											
Power P <sub>1</sub> (W)	480	500	480	500	480	500	450	350	480	500	480	500
I <sub>max</sub> (A)	4.60	3.30/1.90	4.60	3.30/1.90	4.60	3.30/1.90	4.40	3.20/1.90	4.60	3.30/1.90	4.60	3.30/1.90

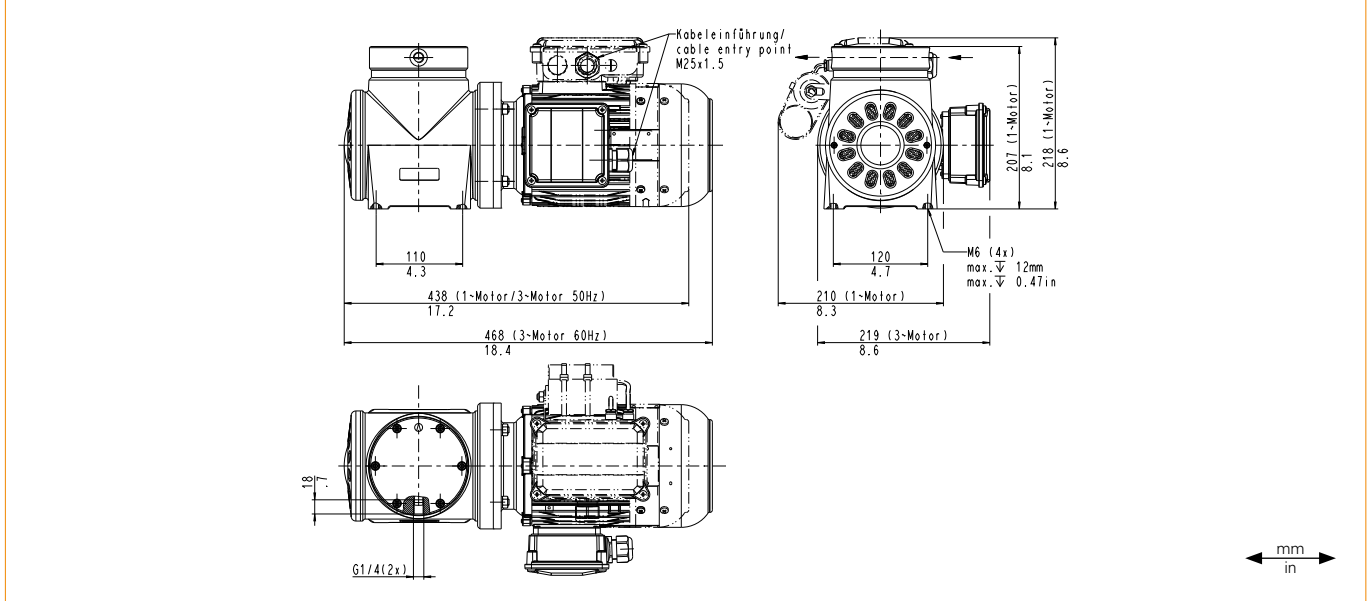
# N 143 AP.9 E | SP.9 E | SP.13 E | ST.9 E | ST.13 E

## PERFORMANCE DATA

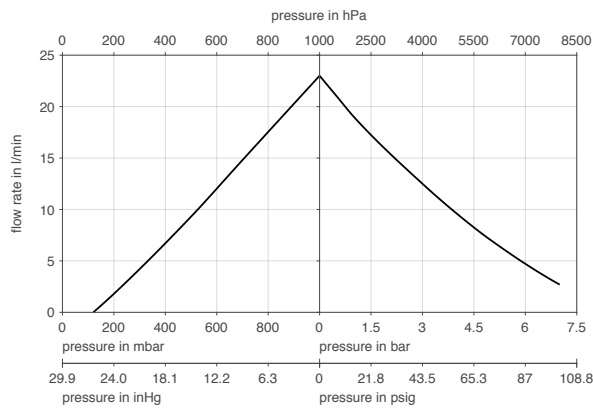
Series model	Flow rate at atm. pressure (l/min)	Max. operating pressure (bar rel./psig)	Ultimate vacuum (mbar abs.)
N 143 AP.9 E	23.0 ± 10 %	7.0/101.5	120
N 143 SP.9 E	23.0 ± 10 %	7.0/101.5	120
N 143 SP.13 E	23.0 ± 10 %	7.0/101.5	120
N 143 ST.9 E	21.0 ± 10 %	7.0/101.5	130
N 143 ST.13 E	21.0 ± 10 %	7.0/101.5	130

Flow rate determined at 20 °C, 1013 mbar abs.  
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

## N 143 \_\_.9 | S\_.13 E

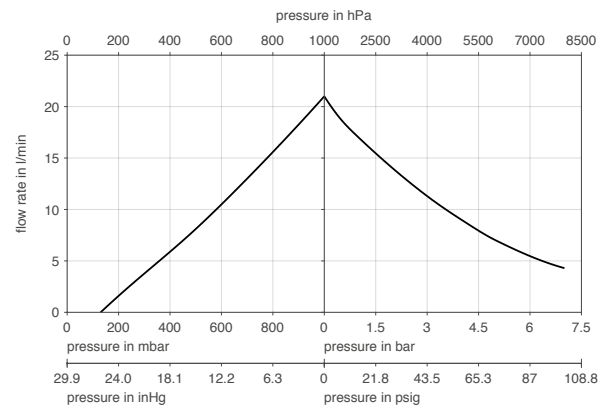


## N 143 \_P.9 E | SP.13 E



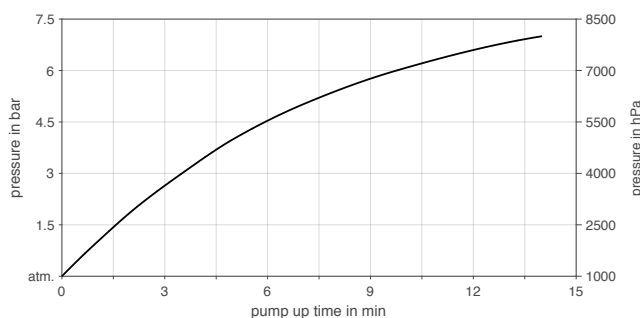
Flow rate determined at 20 °C, 1013 mbar abs.  
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

## N 143 ST.9 E | ST.13 E

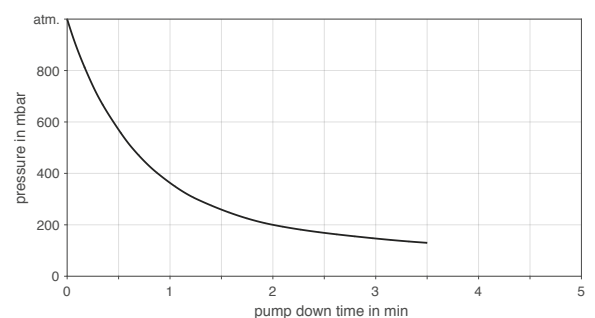


Flow rate determined at 20 °C, 1013 mbar abs.  
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

## N 143 | PUMP UP TIME FOR 20 LITER VESSEL



## N 143 | PUMP DOWN TIME FOR 20 LITER VESSEL



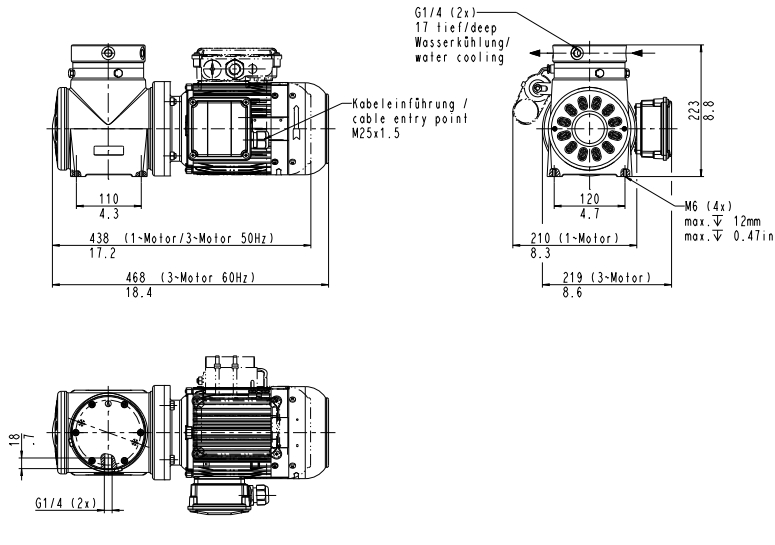
# N 143 SP.12 E

## PERFORMANCE DATA

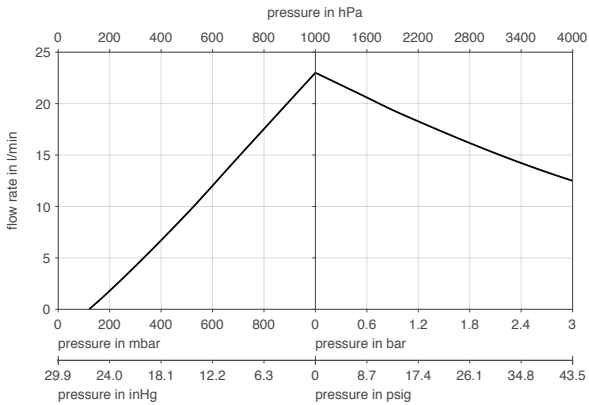
Series model	Flow rate at atm. pressure (l/min)	Max. operating pressure (bar rel./psig)	Ultimate vacuum (mbar abs.)
N 143 SP.12 E	23.0 ± 10 %	3.0/43.5	120

Flow rate determined at 20 °C, 1013 mbar abs.  
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

## N 143 SP.12 E

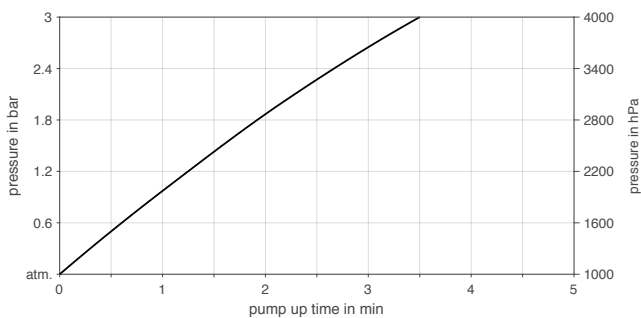


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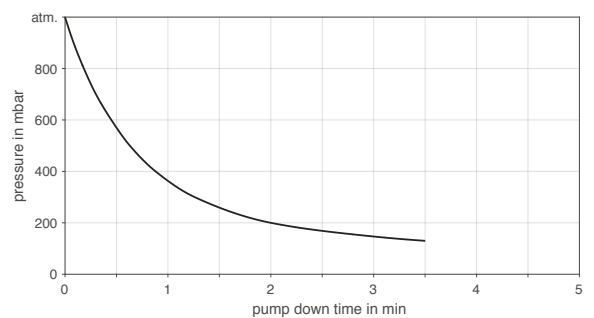


Flow rate determined at 20 °C, 1013 mbar abs.  
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

## N 143 SP.12 E | PUMP UP TIME FOR 20 LITER VESSEL



## N 143 SP.12 E | PUMP DOWN TIME FOR 20 LITER VESSEL



## ACCESSORIES

Description	Part No.
Base plate with rubber-bonded metals	310102
Water cooling S_.9   S_.13   SP.12	310064
Wrench for retainer plate	018816
Inlet filter G 1/4	316661
O-ring for screw plug	026056

## SPARE PARTS

Description	Part No.
Spare parts kit N 143 _P.9 E	315455
Spare parts kit N 143 SP.13 E	314456
Spare parts kit N 143 SP.12 E	315457
Spare parts kit N 143 ST.9 E	315458
Spare parts kit N 143 ST.13 E	315459

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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