N 1400 SERIES
PROCESS VACUUM PUMPS AND COMPRESSORS

N 1400.1.2 SP.9 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 6 bar rel./87 psig
- High level of gas tightness Following leakage rates are available:
  .9 ≙ < 6 x 10^{-3} mbar l/s
  SP.13 ≙ < 6 x 10^{-6} mbar l/s
  ST.13 ≙ < 1 x 10^{-5} mbar l/s
  SP.12 ≙ < 6 x 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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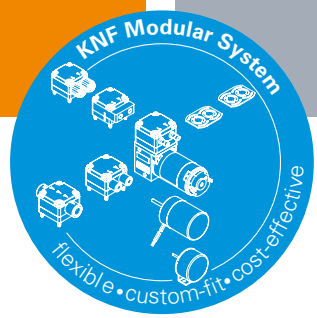


PERFORMANCE DATA					
Series model	**N 1400.1.2**				
Material design	**SP.9 E**	**SP.13 E**	**ST.9 E**	**ST.13 E**	**SP.12 E**
Pump head	Stainless steel				
Diaphragm	EPDM		PTFE-coated		EPDM
Reed valve	Stainless steel				
Flow rate at atm. pressure (l/min)	250.0 ± 10 %		240.0 ± 10 %		250.0 ± 10 %
Ultimate vacuum (mbar abs.)	150				
Max. operating pressure (bar rel./psig)	6.0/87.0				3.0/43.5
Permissible ambient temperature (°C)	+5 ... +40				
Permissible media temperature (°C)	+5 ... +40				
Weight (kg/lbs)	76.5/168.7				82.0/180.8
ELECTRICAL DATA					
Voltage (V)	230/400				
Motor	Three-phase motor				
Protection class motor	IP 55				
Frequenc (Hz)	50				
Power P_1 (W)	1850				1350
I_{max} (A)	8.50/4.90				6.75/3.90

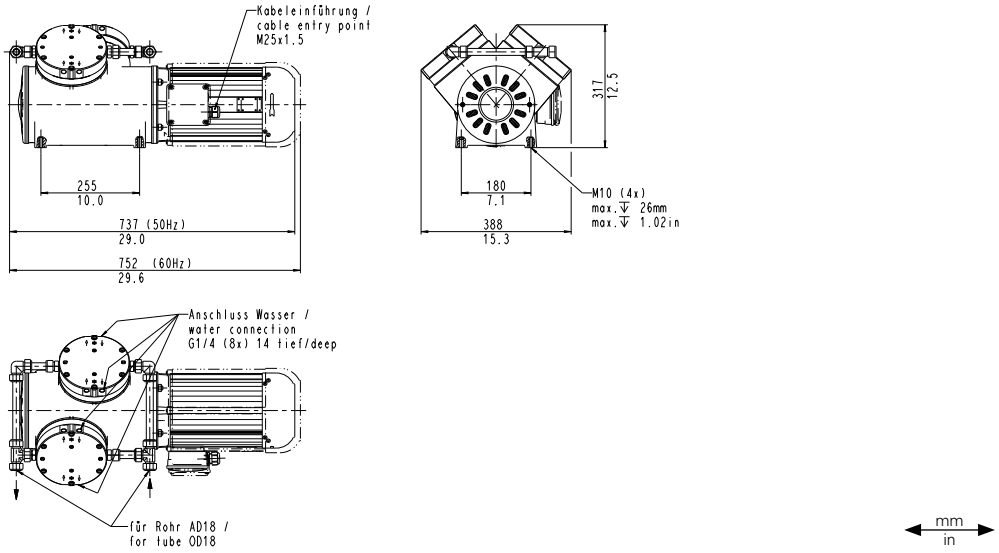
N 1400.1.2 SP.9 E | SP.13 E | ST.9 E | ST.13 E

PERFORMANCE DATA

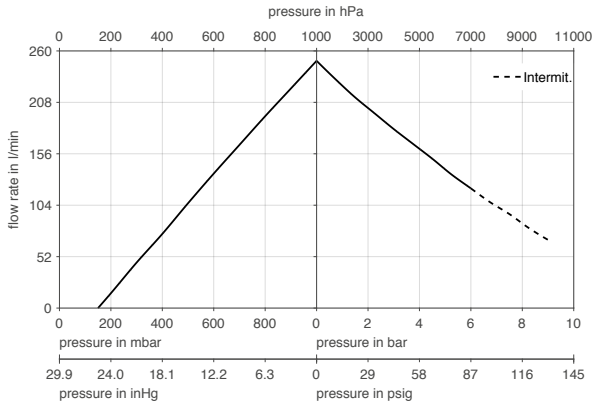
Series model	Flow rate at atm. pressure (l/min)	Max. operating pressure (bar rel./psig)	Ultimate vacuum (mbar abs.)
N 1400.1.2 SP.9 E	250.0 ± 10 %	6.0/87.0	150
N 1400.1.2 SP.13 E	250.0 ± 10 %	6.0/87.0	150
N 1400.1.2 ST.9 E	240.0 ± 10 %	6.0/87.0	150
N 1400.1.2 ST.13 E	240.0 ± 10 %	6.0/87.0	150

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

N 1400.1.2 S_.9 E | S_.13 E

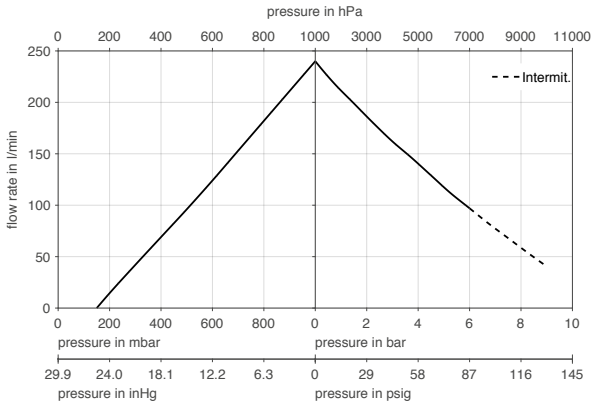


N 1400.1.2 SP.9 E | SP.13 E



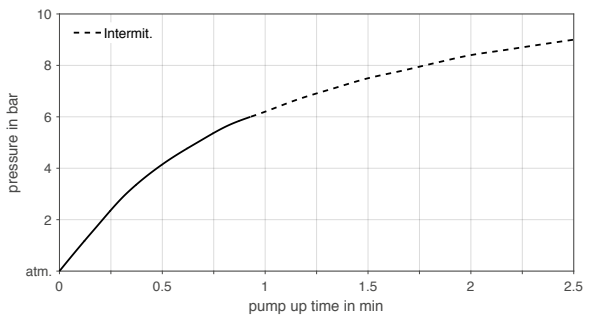
Flow rate determined at 20 °C, 1013 mbar abs.
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

N 1400.1.2 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 1400.1.2 S_.9 E | S_.13 E | PUMP UP TIME FOR 20 LITER VESSEL



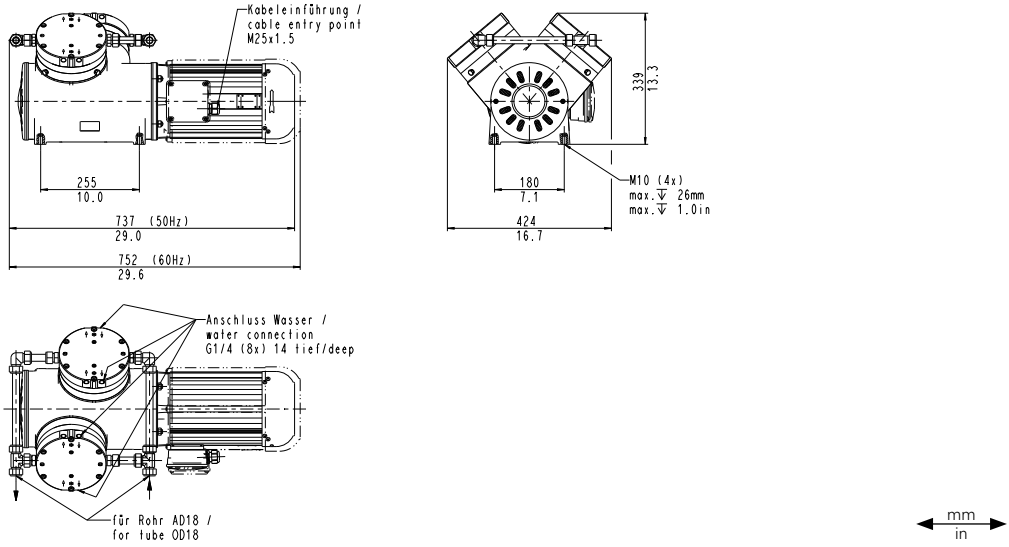
N 1400.1.2 SP.12 E

PERFORMANCE DATA

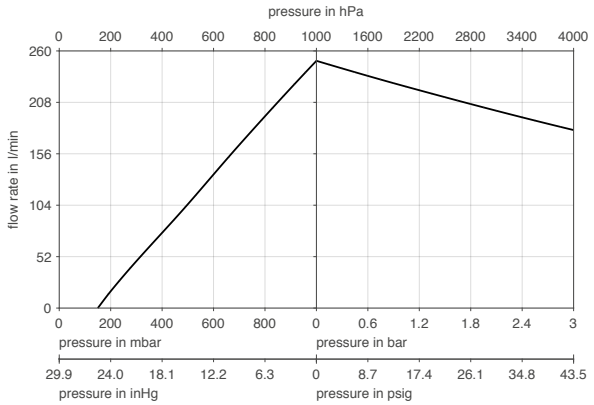
Series model	Flow rate at atm. pressure (l/min)	Max. operating pressure (bar rel./psig)	Ultimate vacuum (mbar abs.)
N 1400.1.2 SP.12 E	250.0 ± 10 %	3.0/43.5	150

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

N 1400.1.2 SP.12 E

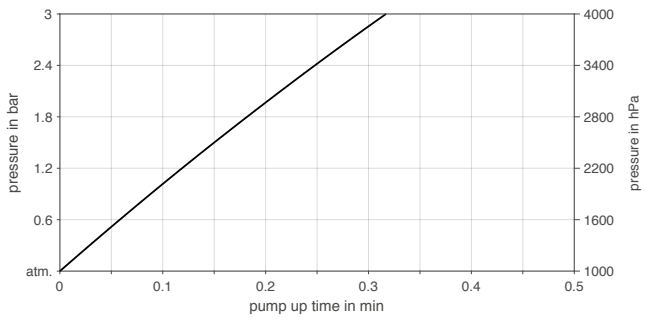


N 1400.1.2 SP.12 E



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

N 1400.1.2 SP.12 E | PUMP UP TIME FOR 20 LITER VESSEL



ACCESSORIES

Description	Part No.
Base plate with rubber-bonded metals	304476
Connection water cooling S_.9 | S_.13	305444
Connection water cooling SP.12	305445
Wrench for retainer plate	018816

SPARE PARTS

Description	Part No.
N 1400.1.2 SP.9 E | SP.13E	
Diaphragm	027252
Reed valve	003475
O-ring D55x3.0 EPDM	047016
O-ring (.13 only) D150x3.0 EPDM	047372
O-ring (.13 only) D34x3.0 EPDM	047373
N 1400.1.2 ST.9 E | ST.13 E	
Diaphragm	118095
Reed valve	003475
O-ring D55x3.0 FPM	002458
O-ring (.13 only) D150x3.0 FPM	002461
O-ring (.13 only) D34x3.0 FPM	045499
N 1400.1.2 SP.12 E	
Working diaphragm	027252
Safety diaphragm	047379
Reed valve	003475
O-ring D55x3.0 EPDM	047016
O-ring D150x3.0 EPDM	047372
O-ring D34x3.0 EPDM	047373

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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