N 1200 SERIES
PROCESS VACUUM PUMPS AND COMPRESSORS

N 1200 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 ≙ < 6 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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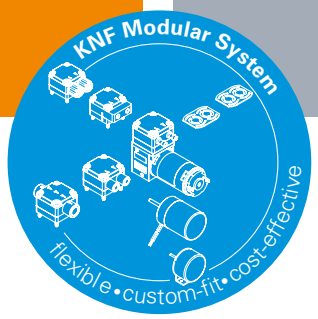


PERFORMANCE DATA					
Series model	**N 1200**				
Material design	**SP.9 E**	**SP.13 E**	**ST.13 E**	**ST.9 E**	**SP.12 E**
Pump head	Stainless steel				
Diaphragm	EPDM		PTFE-coated		EPDM
Valves	Stainless steel				
Flow rate at atm. pressure (l/min)	130.0 ± 10 %		120.0 ± 10 %		130.0 ± 10 %
Ultimate vacuum (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				
Level of gas tightness (mbar x l/s)	6 x 10^{-3}	6 x 10^{-6}	6 x 10^{-5}	6 x 10^{-3}	6 x 10^{-6}
Weight (kg/lbs)	57.0/125.7				60.0/132.3
ELECTRICAL DATA					
Voltage (V)	230/400	220/380			230/400
Motor	Three-phase motor				
Protection class motor	IP 55				
Protection class pump	IP 00				
Frequency (Hz)	50	60			50
Power P_1 (W)	900	1100			900
Operating current (A)	7.80/4.50	9.5/5.5			7.80/4.50

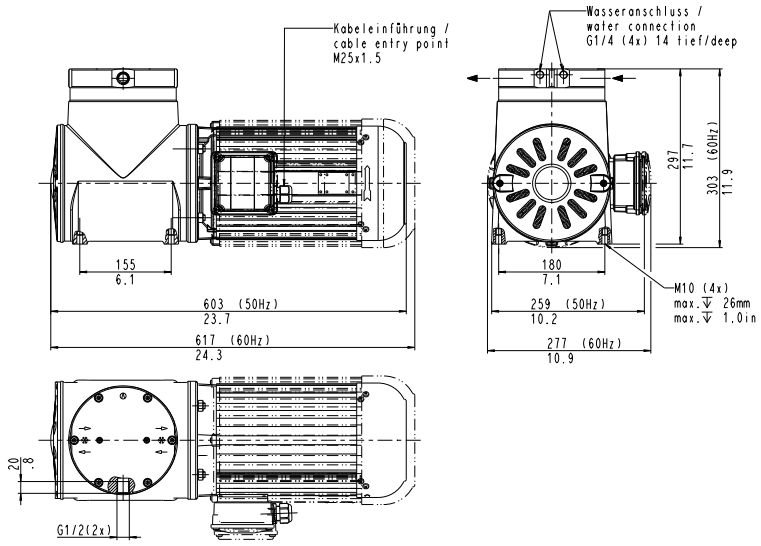
N 1200 SP.9 E | SP.13 E | ST.9 E | ST.13 E

PERFORMANCE DATA

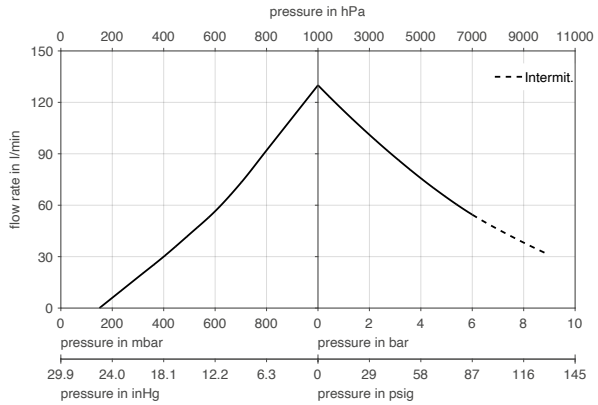
Series model	Flow rate at atm. pressure (l/min)	Max. operating pressure (bar rel./psig)	Ultimate vacuum (mbar abs.)
N 1200 SP.9 E	130.0 ± 10 %	6.0/87.0	150
N 1200 SP.13 E	130.0 ± 10 %	6.0/87.0	150
N 1200 ST.9 E	120.0 ± 10 %	6.0/87.0	150
N 1200 ST.13 E	120.0 ± 10 %	6.0/87.0	150

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

N 1200 S_.9 E | S_.13 E

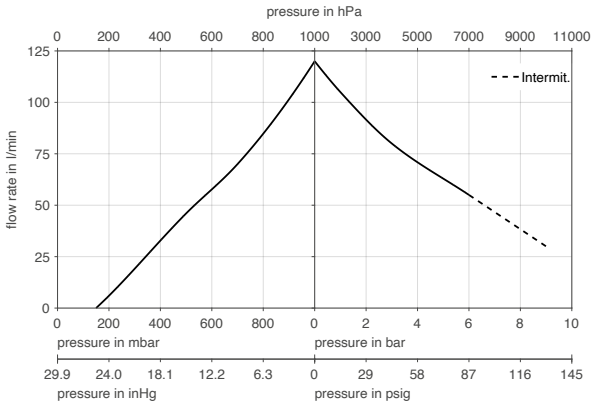


N 1200 SP.9 E | SP.13 E



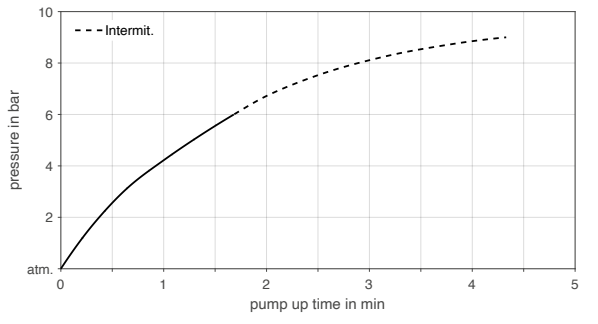
Flow rate determined at 20 °C, 1013 mbar abs.
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

N 1200 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 1200 S_.9 E | S_.13 E | PUMP UP TIME FOR 20 LITER VESSEL



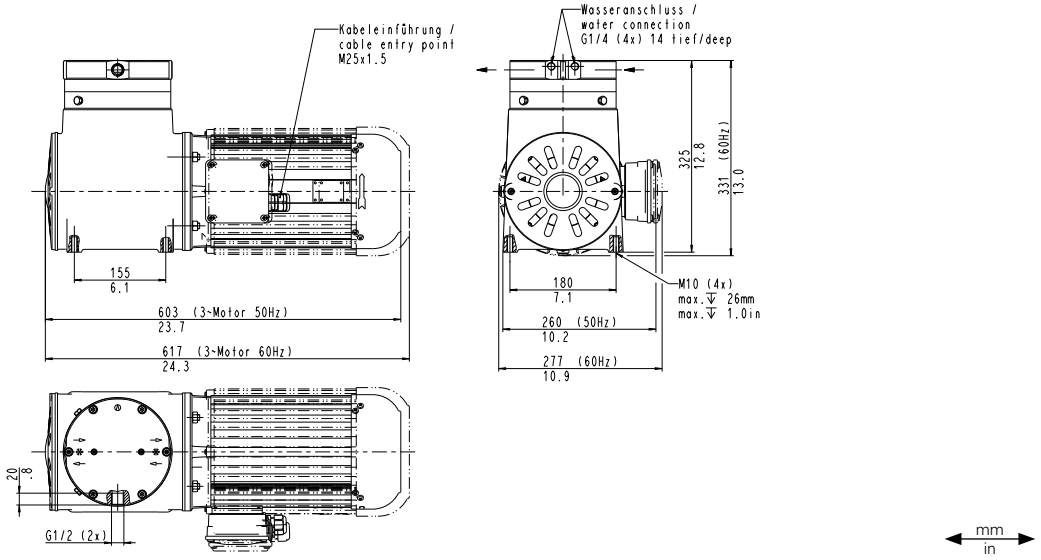
N 1200 SP.12 E

PERFORMANCE DATA

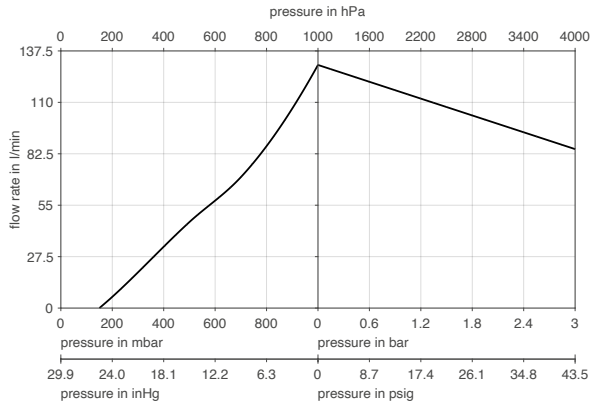
Series model	Flow rate at atm. pressure (l/min)	Max. operating pressure (bar rel./psig)	Ultimate vacuum (mbar abs.)
N 1200 SP.12 E	130.0 ± 10 %	3.0/43.5	150

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

N 1200 SP.12 E

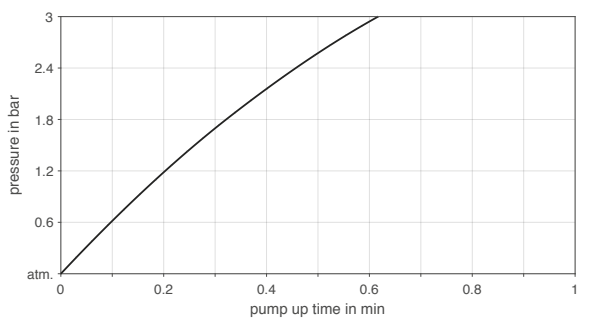


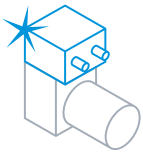
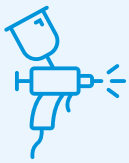
N 1200 SP.12 E



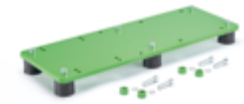
Flow rate determined at 20 °C, 1013 mbar abs.
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

N 1200 SP.12 E | PUMP UP TIME FOR 20 LITER VESSEL

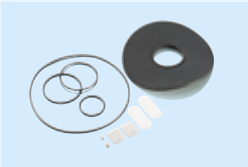


OPTIONS		
Description	**Illustration**	**Details**
Mechanical adjustment of pumping capacity		The pumping capacity can be adjusted at the factory to accommodate inlet pressure and for accurate alignment with the customer's system.
Versions for special gases		Adjustment of the pump head for use with highly corrosive gases. Options include Hastelloy pump head components or a coating.
Cleaned contact material parts		For the use of the pump with gases with high oxygen concentrations the parts that come into contact with the medium can be cleaned using a certified process.
Special coating		Special coatings for high corrosion protection (C4) for use in industrial areas and coastal areas with moderate salinity, such as maritime applications.
Certified head components		The components that come into contact with the medium are available with material certificates.
Ex-proof pumps		Pumps for explosion-proof areas are available with the following certificates on request: IEC Ex, NEC Ex, KOSHA, PESO, NEPSI, JIS.

ACCESSORIES

Description	Illustration	Part No.
Base plate with rubber-bonded metals		304440
Connection water cooling S_.9 | S_.13 | SP.12		305998
O-ring for screw plug		026056
Wrench for retainer plate		128753
Inlet filter G1/2		316662

SPARE PARTS

Description	Illustration	Part No.	Details
Spare parts kit N 1200 SP.9 E		308371	Spare parts kit consists of: 1x diaphragm, 2x reed valve, 2x valve stopper, 2x O-rings, 2x screws. This set is required to maintain the pump.
Spare parts kit N 1200 SP.13 E		315478	Spare parts kit consists of: 1x diaphragm, 2x reed valve, 2x valve stopper, 4x O-rings, 2x screws. This set is required to maintain the pump.
Spare parts kit N 1200 ST.9 E		315480	Spare parts kit consists of: 1x diaphragm, 2x reed valve, 2x valve stopper, 2x O-rings, 2x screws. This set is required to maintain the pump.
Spare parts kit N 1200 ST.13 E		315481	Spare parts kit consists of: 1x diaphragm, 2x reed valve, 2x valve stopper, 4x O-rings, 2x screws. This set is required to maintain the pump.
Spare parts kit N 1200 SP.12 E		315479	Spare parts kit consists of: 2x diaphragm, 2x reed valve, 2x valve stopper, 8x O-rings, 3x screws, 1x serrated washer. 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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