

OIL-FREE VACUUM FOR CORROSIVE GASES AND VAPORS



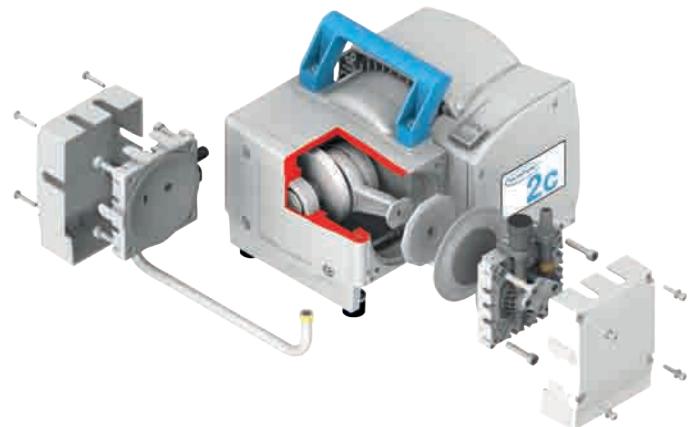
OIL-FREE VACUUM FOR CORROSIVE GASES AND VAPORS

CHEMISTRY DIAPHRAGM PUMPS

Typical applications for chemistry diaphragm pumps include evacuating chemically aggressive gases and vapors from such equipment as rotary evaporators, vacuum drying cabinets and centrifugal concentrators. Chemistry diaphragm pumps from VACUUBRAND feature uncompromising chemistry designs. Their construction with fluoropolymers makes them very resistant to chemical vapors from inlet to exhaust and very tolerant to condensates. Our two-, three- and four-stage pumps also have a gas ballast valve that provides continuous purge with minimal impact on ultimate vacuum when working with condensable vapors. Pumping chambers are hermetically separated from the drive system ensuring long lifetimes of mechanical parts. Most importantly, diaphragm pumps are oil-free, for vastly reduced service demands compared with oil-sealed pumps. They eliminate the cost of water and its contamination well-known from water-jet aspirators, and the waste-oil disposal of rotary vane pumps.

CHEMICALLY RESISTANT

- ◆ PTFE sandwich diaphragms and valves made of perfluoro elastomer (FFKM) or PTFE
- ◆ internal tubing and fittings made of PTFE/ETFE/ECTFE compounds
- ◆ exceptional diaphragm lifetimes with ultra-durable PTFE sandwich design



DURABLE

- ◆ head cover and clamping disc made of fluoro compounds with stability core for unsurpassed long-term performance
- ◆ very long service intervals for low lifetime cost-of-ownership
- ◆ patented drive system for extra quiet, ultra-low-vibration operation

PRACTICAL

- ◆ patented valve mounting system to simplify service access (NT)
- ◆ smooth surfaces for easy cleaning (NT)
- ◆ sealing system provides reduced leakage rates for improved ultimate vacuum (NT)

OIL-FREE VACUUM FOR CORROSIVE GASES AND VAPORS

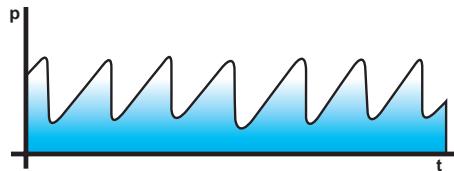
OPTIMIZED LABORATORY PROCESSES - VACUUM CONTROL

Vacuum applications in the laboratory and in industrial operations require versatile vacuum control to:

- ◆ prevent sample loss by foaming or boiling over
- ◆ reduce process times for distillation and evaporation processes
- ◆ reproducible results for drying and evaporation processes
- ◆ reduce time committed to process oversight through automation
- ◆ protect the environment by recovering waste solvent vapors

Two-point regulation by ON/OFF vacuum pump switching

- ◆ A two point-vacuum controller switches a pump on and off as required. The actual vacuum level inevitably fluctuates around the target pressure. This system is well suitable for vacuum networks.



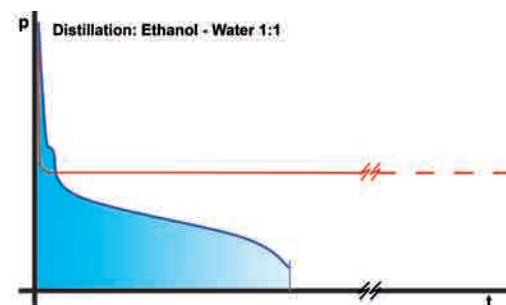
Two-point vacuum control via in-line solenoid valve

- ◆ For pumps without a variable speed motor, the CVC 3000 controller manages the vacuum with an in-line solenoid valve. The actual vacuum level fluctuates around the target pressure, too, but much less than with pump on/off-switching. This makes the system better suitable for process control.

VARIO® controller for fully automatic concentration without need for parameter input

VARIO®-diaphragm pumps and chemistry pumping units control the vacuum automatically and accurately by adjusting the speed of the diaphragm pump. The vacuum controller CVC 3000 in the VARIO®-pumping units detects the boiling pressure automatically and adjusts the vacuum continuously and optimally to the vapor pressure by an adaptive control algorithm.

- ◆ eliminates manual re-adjustment, which saves oversight time
- ◆ optimized pressures reduce foaming, avoiding sample loss
- ◆ waste vapor recovery rates near 100 % keep the lab air clean and protect the environment
- ◆ continuous optimization of boiling pressures results in shortest process times, even with complex solvent mixtures
- ◆ pump runs only as fast as needed - minimizing energy consumption, extending service intervals and reducing noise



- Competitive product in the automatic mode - First boiling pressure is determined, and then maintained. Evaporation stops because the vacuum is not continuously adapted to changing boiling pressures in mixtures
- VACUUBRAND VARIO® controlled vacuum adapts automatically to all boiling points in the mixture, continuously optimizing the process for fast run times without bumping.

OIL-FREE VACUUM FOR CORROSIVE GASES AND VAPORS

TECHNICAL HIGHLIGHTS

Nearly all VACUUBRAND diaphragm pumps and measuring instruments have been approved for ATEX equipment category 3 in the vapor path

Following a very intensive and comprehensive testing process – according to ATEX Directive 2014/34/EC – VACUUBRAND has now verified that most of its diaphragm pumps and pumping units do not have ignition sources in the internal, wetted parts area, and so meet the requirements of ATEX equipment category 3. This includes capacitive vacuum sensors, measuring devices and solenoid operated valves.

- ◆ applicable for pumping of Ex-mixtures “infrequently” or “for a short period”
- ◆ during normal operation there is no ignition source in the internal, wetted parts area
- ◆ at gas temperatures up to 40°C the maximum surface and gas temperatures in the internal, wetted parts area remain below the limits specified in ATEX temperature class T3
- ◆ for areas with hazardous atmosphere around the pump and for “occasional” pumping of Ex-mixtures the special ATEX pumps for category 2 (inside and around the pump, for example, for Zone 1) continue to be recommended

**The VACUUBRAND stability core principle: for unprecedented long-term performance**

VACUUBRAND chemistry diaphragm pumps provide optimum performance and unsurpassed service intervals even in harsh chemical applications. We achieve this unmatched reliability by manufacturing the most highly stressed components – the head cover and clamping disk – in a sophisticated multi-step process.

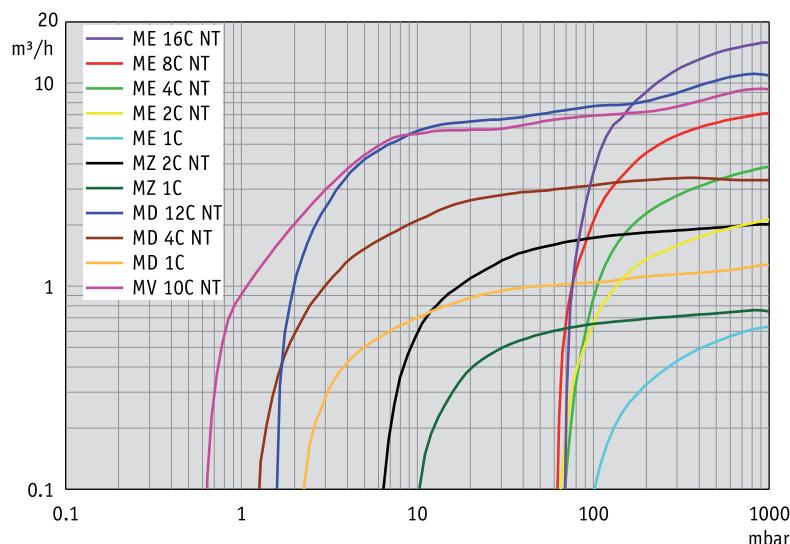
- ◆ high quality carbon-fiber-reinforced fluoroplastics provide long term chemical resistance
- ◆ this thick-walled, diffusion resistant, molded fluoroplastic is supported by a stable metallic core for durability
- ◆ mechanical precision finishing ensures reproducible VACUUBRAND quality
- ◆ 100 % quality control testing after "run-in" at destination-market electrical voltage



OIL-FREE VACUUM FOR CORROSIVE GASES AND VAPORS

CHEMISTRY DIAPHRAGM PUMPS, CHEMISTRY VACUUM SYSTEMS AND CHEMISTRY PUMPING UNITS

Our chemistry diaphragm pumps are available in a full range of volume flow rates and ultimate vacuum options. Single-stage models reach as much as 70 mbar (absolute) vacuum. Connecting pump heads in series as two-, three- or four-stage pumps improves an ultimate vacuum to as much as 0.6 mbar. Connecting heads in parallel provides higher flow rates. Our line offers combinations that satisfy virtually any laboratory need.



The pumping speed of all pumps is measured according to ISO 21360

Nomenclature for VACUUBRAND pumps is built from the following codes designating specific features or components:

M = diaphragm (membrane) pump

ing environment and lab air

E, Z, D, V = number of pump stages

TE = dry ice or water ice cooled emission condenser for solvent recovery

E = single stage, up to 70 mbar

PC = "Pumping Unit, Chemistry" - a chemistry pump with vacuum control and solvent recovery

Z = two stages, up to 7 mbar

Chemistry vacuum system = a chemistry pump with accessories like inlet catchpot and/or solvent recovery

D = three stages, up to 1.5 mbar

Chemistry pumping unit = a chemistry vacuum system with vacuum control and solvent recovery

V = four stage, up to 0.6 mbar

SYNCHRO = pumping unit for simultaneous operation of two independent vacuum applications by a single pump

C = chemistry design, with fluoropolymer flowpath

NT = labels the series of pumps comprising the New Technology

AK = separator catchpot for inlet or outlet condensates, collects particles and droplets, keeps condensate in vacuum line from flowing into the pump, protecting pump performance and providing additional noise reduction on the pressure side

EK = exhaust vapor (emission) condenser for nearly 100 % solvent recovery in compact design, protect-

SERIES OVERVIEW

								
Ultimate vacuum (abs.)	Chemistry diaphragm pumps	Chemistry vacuum systems		Chemistry pumping units				
	Basic pump	with solvent recovery		vacuum control and solvent recovery				
				with two vacuum ports to operate two applications simultaneously				
down to 70 mbar	ME 1C 0.7 m ³ /h ME 2C NT 2.1 m ³ /h ME 4C NT 3.9 m ³ /h ME 8C NT 7.1 m ³ /h ME 16C NT 16.3 m ³ /h ME 16C NT VARIO 19.3 m ³ /h	pg. 36 3.9 m ³ /h pg. 38 7.1 m ³ /h pg. 38 16.3 m ³ /h pg. 40 7.1 m ³ /h pg. 42 16.3 m ³ /h pg. 42 19.3 m ³ /h	ME 4C NT +2AK 3.9 m ³ /h ME 8C NT +2AK 7.1 m ³ /h ME 16C NT +EK 16.3 m ³ /h	pg. 38 19.3 m ³ /h pg. 44	PC 3016 NT VARIO 19.3 m ³ /h pg. 44			
down to 7 mbar	MZ 1C 0.75 m ³ /h MZ 2C NT 2.0 m ³ /h MZ 2C NT VARIO 2.8 m ³ /h	pg. 46 2.0 m ³ /h pg. 48 2.0 m ³ /h pg. 58 2.0 m ³ /h	MZ 2C NT +2AK 2.0 m ³ /h MZ 2C NT +AK+EK 2.0 m ³ /h MZ 2C NT +AK+M+D 2.0 m ³ /h	pg. 50 2.0 m ³ /h pg. 51 2.0 m ³ /h pg. 53 2.8 m ³ /h	PC 101 NT 2.0 m ³ /h PC 510 NT 2.0 m ³ /h PC 3002 VARIO 2.8 m ³ /h	pg. 54 2.0 m ³ /h pg. 55 2.0 m ³ /h pg. 58 2.0 m ³ /h	MZ 2C NT +AK+SYNCHRO+EK 2.0 m ³ /h PC 511 NT 2.0 m ³ /h PC 520 NT 2.0 m ³ /h	pg. 52 pg. 56 pg. 57
down to 1.5 mbar	MD 1C 1.3 m ³ /h MD 4C NT 3.4 m ³ /h MD 4CRL NT 3.4 m ³ /h MD 4C NT VARIO 4.6 m ³ /h MD 12C NT 11.1 m ³ /h MD 12C NT VARIO 12.9 m ³ /h	pg. 60 1.3 m ³ /h pg. 66 3.4 m ³ /h pg. 68 3.4 m ³ /h pg. 76 4.6 m ³ /h pg. 78 11.1 m ³ /h pg. 82 12.9 m ³ /h	MD 1C +AK+EK 1.3 m ³ /h PC 3001 basic 2.0 m ³ /h MD 4C NT +2AK 3.4 m ³ /h MD 4C NT +AK+EK 3.4 m ³ /h MD 12C NT +EK 11.1 m ³ /h MD 12C NT +AK+EK 11.1 m ³ /h	pg. 62 2.0 m ³ /h pg. 63 3.4 m ³ /h pg. 69 3.4 m ³ /h pg. 70 4.6 m ³ /h pg. 80 12.9 m ³ /h pg. 80 25 m ³ /h	PC 3001 VARIO^{PRO} 2.0 m ³ /h PC 201 NT 3.4 m ³ /h PC 610 NT 3.4 m ³ /h PC 3004 VARIO 4.6 m ³ /h PC 3012 NT VARIO 12.9 m ³ /h PC 3012 NT VARIO DUO 25 m ³ /h	pg. 64 2.0 m ³ /h pg. 72 3.4 m ³ /h pg. 73 3.4 m ³ /h pg. 76 4.6 m ³ /h pg. 82 pg. 84	MD 4C NT +AK+SYNCHRO+EK 3.4 m ³ /h PC 611 NT 3.4 m ³ /h PC 620 NT 3.4 m ³ /h	pg. 71 pg. 74 pg. 75
down to 0.6 mbar	MV 10C NT 9.5 m ³ /h MV 10C NT VARIO 11.6 m ³ /h	pg. 88 9.5 m ³ /h pg. 90 11.6 m ³ /h	MV 10C NT +EK 9.5 m ³ /h	pg. 88 9.5 m ³ /h pg. 80	PC 3003 VARIO 2.8 m ³ /h PC 3010 NT VARIO 11.6 m ³ /h	pg. 86 pg. 90		

All mentioned pumping speeds are for 50 Hz (if applicable)

CHEMISTRY DIAPHRAGM PUMPS

100 mbar - 0.7 m³/h

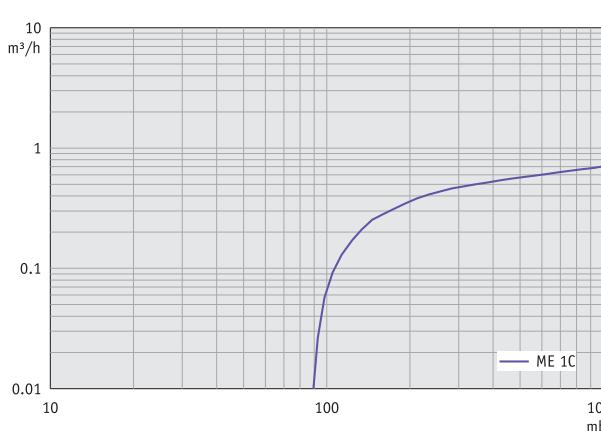
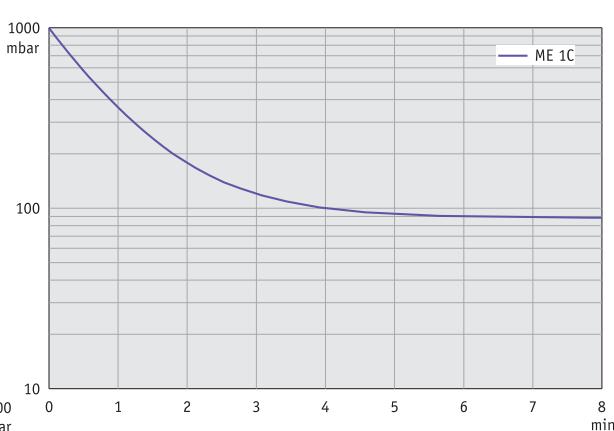
- ◆ convenient, quick and simple to use due to the new top-mounted power switch
- ◆ whisper quiet and very low vibration
- ◆ requires minimal benchtop space
- ◆ maintenance-free drive system and proven long diaphragm life
- ◆ high chemical resistance



ME 1C

Vacuum filtration is one of the most common applications used for sample preparation in chemistry, microbiology, waste water control and other analytical processes. The ME 1C diaphragm pump offers a compact, high performance and easy-to-use solution which is perfect for single filtrations. This development, based on the highly successful technology of the oil-free diaphragm pump MD 1C, provides a well-proven and extraordinarily long diaphragm life time. The functional, space saving and innovative design with easily accessible, top-mounted power switch ensures convenient and quick operation for day-to-day lab work. Robust PTFE diaphragms and valves provide optimal chemical resistance. A manual vacuum regulator valve with dial gauge for adjustment of pumping speed and ultimate vacuum is available as accessory.

Pumping speed graph at 50 Hz

Pump down graph at 50 Hz
(10 l volume)

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

ME 1C

Number of heads / stages	1 / 1
Max. pumping speed 50/60 Hz	0.7 / 0.85 m³/h
Ultimate vacuum (abs.)	100 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.04 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	247 x 121 x 145 mm
Weight, approx.	5.0 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)
 Chemistry vacuum regulator valve unit for ME/MZ 1C
 (696843)
 Silencer DN 8 - 10 mm (636588)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

ORDERING INFORMATION

ME 1C

230 V ~ 50-60 Hz	CEE	Ex*	721100
230 V ~ 50-60 Hz	CH, CN	Ex*	721101
230 V ~ 50-60 Hz	UK, IN	Ex*	721102
100-120 V ~ 50-60 Hz	US		721103
100-120 V ~ 50-60 Hz / 200-230 V ~ 50-60 Hz			
	Ex*	**721105	

With NRTL certification for Canada and the USA

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

**Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

70 mbar - 2.1 / 3.9 m³/h

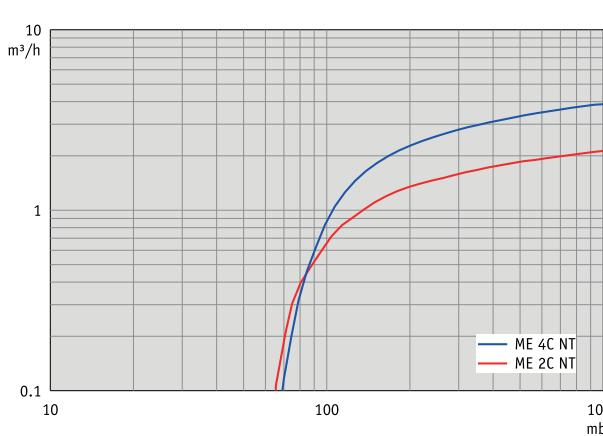
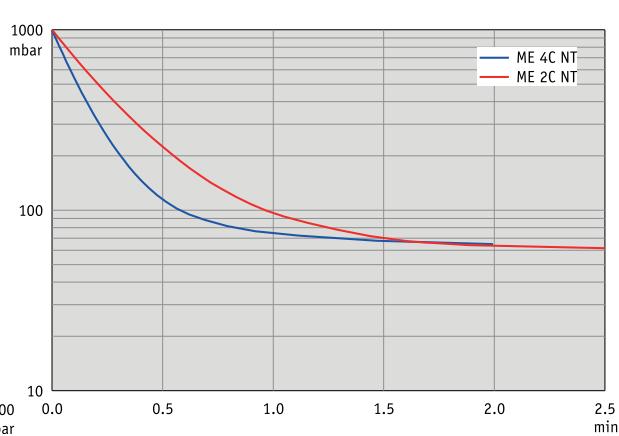
- ◆ outstanding chemical resistance
- ◆ high performance even at low vacuum levels
- ◆ whisper quiet
- ◆ low vibration
- ◆ long diaphragm life, maintenance-free drive system



ME 2C NT - ME 4C NT - ME 4C NT +2AK

Chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors. The one-stage construction provides the advantageous combination of high pumping speed and low ultimate vacuum down to 70 mbar. All major parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms increase reliability and extend operating life. The NT-series features further improved performance data, higher tolerance for condensates and simplified maintenance. The ME 4C NT is also available as chemistry vacuum system ME 4C NT +2AK with inlet separator to protect the pump against particles and liquid droplets, plus outlet separator to collect condensate.

Pumping speed graph at 50 Hz

Pump down graph at 50 Hz
(10 l volume)

Further information and diagrams for 60 Hz mains frequency at www.vacuubrand.com
Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

ME 2C NT

Number of heads / stages	1 / 1
Max. pumping speed 50/60 Hz	2.1 / 2.4 m³/h
Ultimate vacuum (abs.)	70 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.18 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	243 x 211 x 198 mm
Weight, approx.	10.2 kg

TECHNICAL DATA

ME 4C NT

Number of heads / stages	2 / 1
Max. pumping speed 50/60 Hz	3.9 / 4.3 m³/h
Ultimate vacuum (abs.)	70 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.18 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	254 x 243 x 198 mm
Weight, approx.	11.1 kg

ORDERING INFORMATION

ME 2C NT

230 V ~ 50-60 Hz	CEE	Ex*	730100
230 V ~ 50-60 Hz	UK, IN	Ex*	730102
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		730103
100-115 V ~ 50-60 Hz / 120 V ~ 60 Hz /			
200-230 V ~ 50-60 Hz		Ex*	**730105

ORDERING INFORMATION

ME 4C NT

230 V ~ 50-60 Hz	CEE	Ex*	731200
230 V ~ 50-60 Hz	CH, CN	Ex*	731201
230 V ~ 50-60 Hz	UK, IN	Ex*	731202
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		731203

ACCESSORIES

VACUU-LAN® Mini-Network (2614455)
Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

ORDERING INFORMATION

ME 4C NT +2AK

100-115 V ~ 50-60 Hz / 120 V ~ 60 Hz /			
200-230 V ~ 50-60 Hz		Ex*	**2614080

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only
**Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

70 mbar - 7.1 m³/h

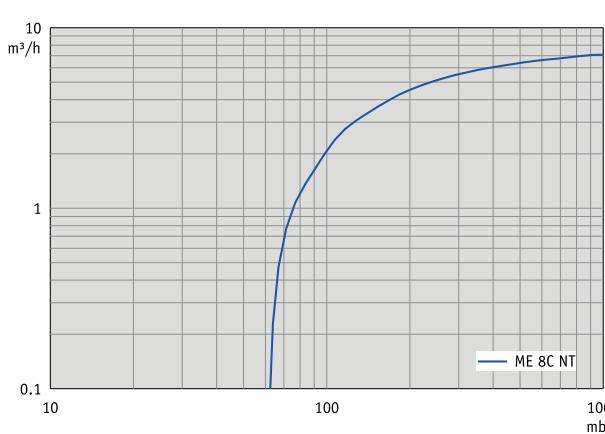
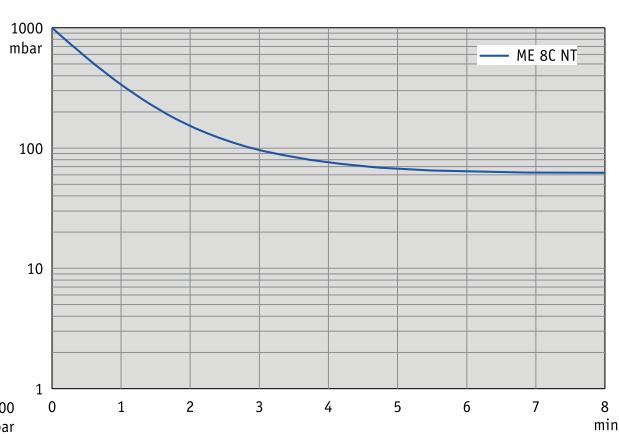
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ compact design
- ◆ whisper quiet and very low vibration
- ◆ long diaphragm life, maintenance-free drive system



ME 8C NT - ME 8C NT +2AK

Chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors. The one-stage construction provides the advantageous combination of high pumping speed and low ultimate vacuum down to 70 mbar. All major parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms for increased reliability and extended operating life. These large pumps have an exceptionally high pumping speed. The NT-series features further improved performance data and superior vapor tolerance. Version "+2 AK" with separator catchpots for inlet and outlet condensates.

Pumping speed graph at 50 Hz

Pump down graph at 50 Hz
(100 l volume)

Further information and diagrams for 60 Hz mains frequency at www.vacuubrand.com
Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

ME 8C NT

Number of heads / stages	4 / 1
Max. pumping speed 50/60 Hz	7.1 / 7.8 m³/h
Ultimate vacuum (abs.)	70 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.25 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	325 x 243 x 198 mm
Weight, approx.	14.3 kg

TECHNICAL DATA

ME 8C NT +2AK

Number of heads / stages	4 / 1
Max. pumping speed 50/60 Hz	7.1 / 7.8 m³/h
Ultimate vacuum (abs.)	70 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.25 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	319 x 243 x 374 mm
Weight, approx.	16.7 kg

ORDERING INFORMATION

ME 8C NT

230 V ~ 50-60 Hz	CEE	Ex*	734200
230 V ~ 50-60 Hz	CH, CN	Ex*	734201
230 V ~ 50-60 Hz	UK, IN	Ex*	734202
120 V ~ 60 Hz	US		734203
100 V ~ 50-60 Hz	US		734206

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

ORDERING INFORMATION

ME 8C NT +2AK

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

100-115 V ~ 50-60 Hz / 120 V ~ 60 Hz /

200-230 V ~ 50-60 Hz

Ex*

**734405

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

**Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

70 mbar - 16.3 m³/h

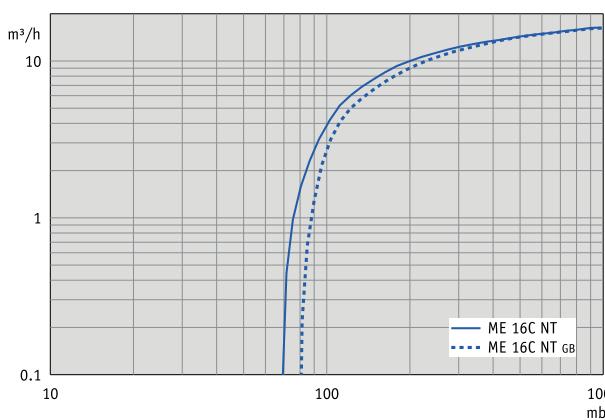
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ very high pumping speed even at low vacuum levels
- ◆ compact design
- ◆ whisper quiet and very low vibration
- ◆ excellent environmental friendliness due to efficient solvent recovery



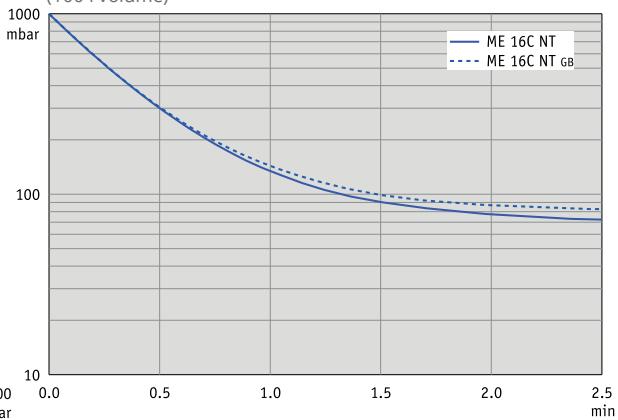
ME 16C NT - ME 16C NT +EK

Chemistry diaphragm pumps of the NT design are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors. The one-stage construction provides the advantageous combination of high pumping speed and low ultimate vacuum down to 70 mbar. All major parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms for increased reliability and extended operating life. The eight cylinders pump ME 16C NT provides a particularly high performance together with a compact design. Upgraded with an outlet exhaust vapor condenser (EK) the ME 16C NT +EK provides an environmental friendly system with efficient solvent recovery. Eight-cylinder NT pumps feature quiet operation, smooth and easy to clean surfaces.

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(100 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

	ME 16C NT
Number of heads / stages	8 / 1
Max. pumping speed 50/60 Hz	16.3 / 18.4 m³/h
Ultimate vacuum (abs.)	70 mbar
Ultim. vac. (abs.) with gas ballast	100 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 15 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	533 x 260 x 359 mm
Weight, approx.	28.1 kg

TECHNICAL DATA

	ME 16C NT +EK
Number of heads / stages	8 / 1
Max. pumping speed 50/60 Hz	16.3 / 18.4 m³/h
Ultimate vacuum (abs.)	70 mbar
Ultim. vac. (abs.) with gas ballast	100 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	528 x 387 x 395 mm
Weight, approx.	29.1 kg

ACCESSORIES ME 16C NT

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)
 Emission condenser kit for eight cyl. NT pump models
 (699948)

ORDERING INFORMATION

	ME 16C NT
230 V ~ 50-60 Hz	CEE Ex* 741300
230 V ~ 50-60 Hz	UK, IN Ex* 741302
100-115 V ~ 50-60 Hz /	
120 V ~ 60 Hz	US 741303

ACCESSORIES ME 16 C NT +EK

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)

ORDERING INFORMATION

	ME 16C NT +EK
230 V ~ 50-60 Hz	CEE Ex* 741500
100-115 V ~ 50-60 Hz /	
120 V ~ 60 Hz	US 741503

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

CHEMISTRY DIAPHRAGM PUMPS

70 mbar - 19.3 m³/h

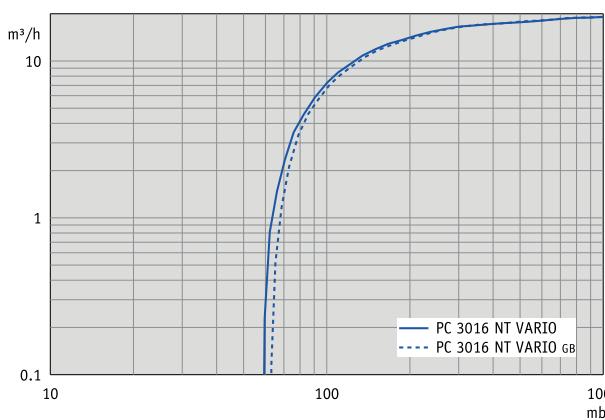
- ◆ VARIO®: Automatic adjustment of the vacuum level throughout the process for high process reproducibility and unattended operation
- ◆ VARIO®: short process times due to zero-fluctuation (hysteresis-free) vacuum control, even for large amounts of vapor
- ◆ VARIO®: easily operated CVC 3000 vacuum controller with clear text menus and integrated venting valve
- ◆ very high pumping speed even at low vacuum levels
- ◆ systems +EK and PC 3016 NT VARIO: excellent environmental friendliness due to efficient solvent recovery



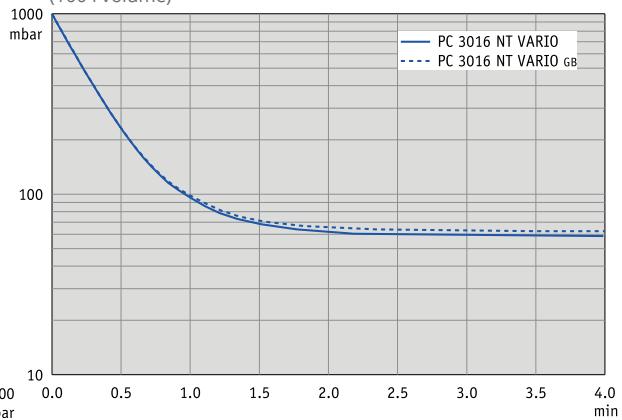
ME 16C NT VARIO - PC 3016 NT VARIO

These powerful pumps feature exceptionally high pumping speed. VARIO® pumping units provide precise vacuum control by adjusting the diaphragm pump's motor speed. They feature fully automatic evaporation control at the push of a button. The PC 3016 NT VARIO pumping unit is a proven concept for evaporation with large amounts of solvents. The inlet separator (AK) retains particles and liquid droplets, the waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling, and active protection of the environment. Eight-cylinder NT pumps feature quiet operation with smooth, easy-to-clean surfaces.

Pumping speed graph
with/without gas ballast



Pump down graph
with/without gas ballast
(100 l volume)



Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

	ME 16C NT VARIO
Vacuum controller	CVC 3000
Number of heads / stages	8 / 1
Max. pumping speed	19.3 m³/h
Ultimate vacuum (abs.)	70 mbar
Ultim. vac. (abs.) with gas ballast	100 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 15 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	533 x 260 x 420 mm
Weight, approx.	28.1 kg

TECHNICAL DATA

	PC 3016 NT VARIO
Vacuum controller	CVC 3000
Number of heads / stages	8 / 1
Max. pumping speed	19.3 m³/h
Ultimate vacuum (abs.)	70 mbar
Ultim. vac. (abs.) with gas ballast	100 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25 / hose nozzle DN 15 mm
Outlet connection	Hose nozzle DN 8-10 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	616 x 387 x 420 mm
Weight, approx.	29.7 kg

ITEMS SUPPLIED

ACCESSORIES ME 16C NT VARIO

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)
 Emission condenser kit for eight cyl. NT pump models (699948)
 Vent valve VBM-B (674217)

ORDERING INFORMATION

ME 16C NT VARIO
200-230 V ~ 50-60 Hz CEE Ex* 741700
100-120 V ~ 50-60 Hz US 741703

ACCESSORIES PC 3016 NT VARIO

PTFE tubing KF DN 25 (1000 mm: 686033)
 Vent valve VBM-B (674217)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)

ORDERING INFORMATION

PC 3016 NT VARIO
200-230 V ~ 50-60 Hz CEE Ex* 741800
100-120 V ~ 50-60 Hz US 741803

CHEMISTRY DIAPHRAGM PUMPS

12 mbar - 0.75 m³/h

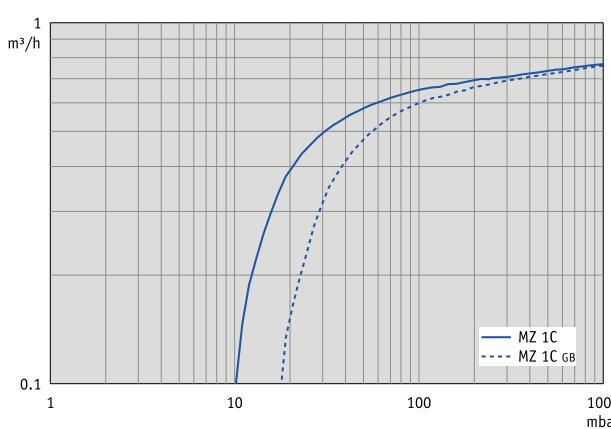
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ convenient, quick and simple to use due to the new top mounted power switch
- ◆ optimized vacuum even with gas ballast for continuous purge
- ◆ whisper quiet and very low vibration
- ◆ maintenance-free drive system and proven long diaphragm life



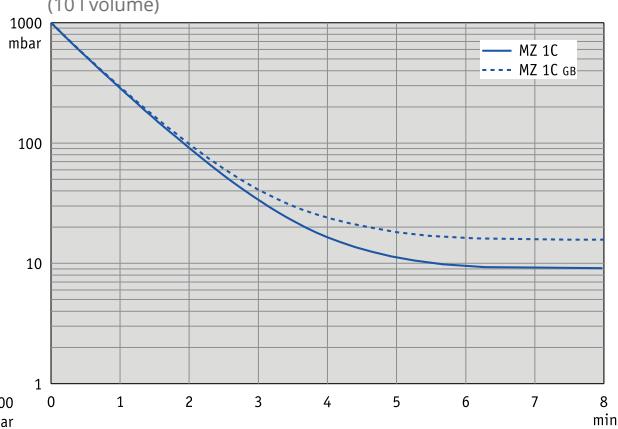
MZ 1C

Chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors. The two-stage construction provides the advantageous combination of high pumping speed and low ultimate vacuum. All major parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE-sandwich diaphragms increase reliability and extend operating life. The MZ 1C pump is equipped with a gas ballast valve for continuous condensate purge increasing the pumping capability of condensable vapors. It features slim design for space-saving installation and good vacuum performance. A manual vacuum regulator valve with dial gauge for adjustment of pumping speed and ultimate vacuum is available as accessory.

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(10 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MZ 1C

Number of heads / stages	2 / 2
Max. pumping speed 50/60 Hz	0.75 / 0.9 m³/h
Ultimate vacuum (abs.)	12 mbar
Ultim. vac. (abs.) with gas ballast	20 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.06 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	312 x 121 x 170 mm
Weight, approx.	6.7 kg

ACCESSORIES

Chemistry vacuum regulator valve unit for ME/MZ 1C (696843)
Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

ORDERING INFORMATION

MZ 1C

230 V ~ 50-60 Hz	CEE	Ex*	724100
230 V ~ 50-60 Hz	UK, IN	Ex*	724102
100-120 V ~ 50-60 Hz	US		724103
100-120 V ~ 50-60 Hz / 200-230 V ~ 50-60 Hz		EX*	**724105
230 V ~ 50-60 Hz	CN	Ex*	724106

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only
**Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

7 mbar - 2.0 m³/h

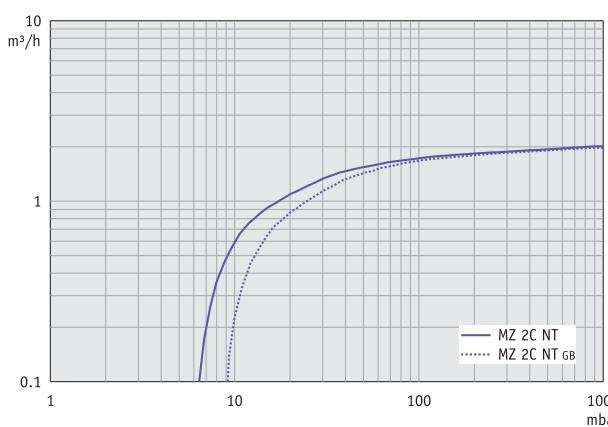
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high performance even at low vacuum levels
- ◆ optimized vacuum even with gas ballast for condensate purge
- ◆ whisper quiet and low vibration
- ◆ long diaphragm life, maintenance-free drive system



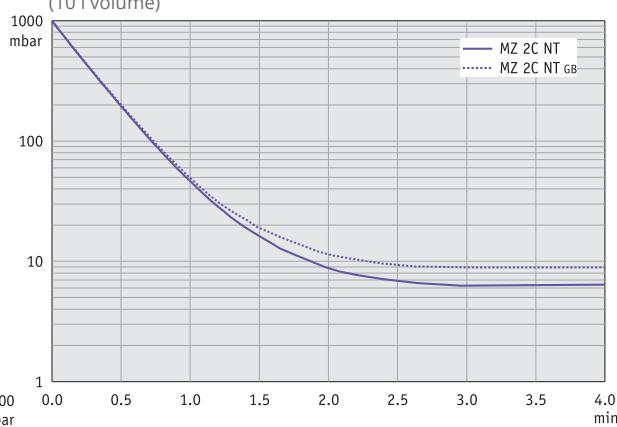
MZ 2C NT

Chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors. The two-stage construction provides the advantageous combination of high pumping speed and low ultimate vacuum. All parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms increase reliability and extend operating life. The MZ 2C NT pump is equipped with a gas ballast valve for continuous condensate purge increasing the pumping capability of condensable vapors. This pump is our most popular chemistry diaphragm pump, and is the heart of a family of VACUUBRAND pumping systems. The NT-series features further improved performance data and superior vapor tolerance.

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(10 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MZ 2C NT

Number of heads / stages	2 / 2
Max. pumping speed 50/60 Hz	2.0 / 2.3 m³/h
Ultimate vacuum (abs.)	7 mbar
Ultim. vac. (abs.) with gas ballast	12 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.18 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	243 x 243 x 198 mm
Weight, approx.	11.1 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

ORDERING INFORMATION

MZ 2C NT

230 V ~ 50-60 Hz	CEE	Ex*	732300
230 V ~ 50-60 Hz	CH	Ex*	732301
230 V ~ 50-60 Hz	UK, IN	Ex*	732302
230 V ~ 50-60 Hz	CEE/CN	Ex*	732307
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		732303
100-115 V ~ 50-60 Hz / 120 V ~ 60 Hz /			
200-230 V ~ 50-60 Hz			
Inlet: Small flange KF DN 16	Ex*	**732345	

With NRTL certification for Canada and the USA

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

**Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

7 mbar - 2.0 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high performance even at low vacuum levels
- ◆ optimized vacuum even with gas ballast for condensate purge
- ◆ whisper quiet and very low vibration
- ◆ separators at inlet and outlet to collect condensates



MZ 2C NT +2AK

MZ 2C NT chemistry diaphragm pump, with inlet separator and outlet catchpot

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories where there are no requirements for condensation of solvent vapors at the outlet. Typical applications are vacuum concentrators, gel dryers and filtration. The separator at the inlet (AK), made of glass with protective coating, retains particles and liquid droplets. The separator at the outlet collects condensate, avoids condensate backflow towards the pump, and reinforces the whisper-quiet operation of the pump.

TECHNICAL DATA same as MZ 2C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Dimensions (L x W x H), approx.	319 x 243 x 309 mm
Weight, approx.	13.6 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)
Upgrade kit manometer with valve (699906)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

230 V ~ 50-60 Hz	CEE	Ex*	732500
230 V ~ 50-60 Hz	CH, CN	Ex*	732501
230 V ~ 50-60 Hz	UK, IN	Ex*	732502
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		732503

7 mbar - 2.0 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high performance even at low vacuum levels
- ◆ optimized vacuum even with gas ballast for condensate purge
- ◆ whisper quiet and very low vibration
- ◆ excellent environmental friendliness due to efficient solvent recovery



MZ 2C NT +AK+EK

MZ 2C NT pump with pump protection and vapor capture components

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories. Typical applications are rotary evaporators, vacuum concentrators and vacuum drying ovens. The separator at the inlet (AK), made of glass with protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling, and active protection of the environment.

TECHNICAL DATA same as MZ 2C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	326 x 243 x 402 mm
Weight, approx.	14.2 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)
Upgrade kit manometer with valve (699906)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

230 V ~ 50-60 Hz	CEE	Ex*	732600
230 V ~ 50-60 Hz	CH	Ex*	732601
230 V ~ 50-60 Hz	UK, IN	Ex*	732602
230 V ~ 50-60 Hz	CN	Ex*	732607
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		732603

ORDERING INFORMATION

230 V ~ 50-60 Hz	***MZ 2C NT +AK+EK PELTRONIC
	Ex* ***2613944

With NRTL certification for Canada and the USA (Exception: 2613944)

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

**Please order power cable separately

***Further information Peltronic® pg. 92

CHEMISTRY DIAPHRAGM PUMPS

7 mbar - 2.0 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high performance even at low vacuum levels
- ◆ optimized vacuum even with gas ballast for condensate purge
- ◆ simultaneous operation of two independent vacuum applications, with reliable check valves to prevent interference between applications
- ◆ excellent environmental friendliness due to efficient solvent recovery



MZ 2C NT +AK SYNCHRO+EK

MZ 2C NT pump with full vapor capture and ports to operate two applications

This chemistry vacuum system provides the simultaneous operation of two processes with only one pump. Typical applications are rotary evaporators, vacuum concentrators and vacuum drying ovens. Each vacuum connection is provided with a manual flow control valve to regulate the effective pumping speed. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling and active protection of the environment.

TECHNICAL DATA same as MZ 2C NT, except

Inlet connection	2 x hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	326 x 248 x 402 mm
Weight, approx.	14.5 kg

ACCESSORIES

Kit analog gauge for NT SYNCHRO (699907)
Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION MZ 2C NT +AK SYNCHRO+EK

230 V ~ 50-60 Hz	CEE	Ex*	732800
230 V ~ 50-60 Hz	CH	Ex*	732801
230 V ~ 50-60 Hz	UK, IN	Ex*	732802
230 V ~ 50-60 Hz	CN	Ex*	732807
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		732803

7 mbar - 2.0 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high performance even at low vacuum levels
- ◆ optimized vacuum even with gas ballast for condensate purge
- ◆ whisper quiet and very low vibration
- ◆ manual vacuum control, analog vacuum display



MZ 2C NT +AK+M+D

MZ 2C NT chemistry-diaphragm pump with pump protection and manual control

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories where there are no requirements for condensation of solvent vapors at the outlet. The manual flow control valve regulates the effective pumping speed at the vacuum connection, the vacuum manometer offers an analog vacuum display. This system is well proven for filtration. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets.

TECHNICAL DATA same as MZ 2C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Dimensions (L x W x H), approx.	310 x 243 x 313 mm
Weight, approx.	13.4 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

MZ 2C NT +AK+M+D

230 V ~ 50-60 Hz	CEE	Ex*	732700
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		732703

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

7 mbar - 2.0 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high performance even at low vacuum levels
- ◆ optimized vacuum even with gas ballast for condensate purge
- ◆ excellent environmental friendliness due to efficient solvent recovery
- ◆ manual vacuum control, analog vacuum display



PC 101 NT

Chemistry pumping unit with vacuum dial gauge, manual flow control and vapor capture

This chemistry pumping unit has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories. Typical applications are rotary evaporators and vacuum drying ovens. The manual flow control valve regulates the effective pumping speed at the vacuum connection, the vacuum manometer offers an analog vacuum display. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling and active protection of the environment.

TECHNICAL DATA same as MZ 2C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	326 x 243 x 402 mm
Weight, approx.	14.5 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION**PC 101 NT**

230 V ~ 50-60 Hz	CEE	Ex*	733000
230 V ~ 50-60 Hz	UK, IN	Ex*	733002
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		733003

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

7 mbar - 2.0 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ easily operated vacuum controller CVC 3000 with clear text menus, with integrated venting valve
- ◆ chemistry design flow control valve with large cross section for unrestricted performance
- ◆ excellent environmental friendliness due to efficient solvent recovery
- ◆ whisper quiet and very low vibration
- ◆ optimized vacuum even with gas ballast



PC 510 NT

Chemistry pumping unit with electronic vacuum control

Chemistry pumping units of this series are well-proven for vacuum generation and control for many evaporation processes. The popular two-stage MZ 2C NT chemistry diaphragm pump is the heart of these pumping units, frequently used for medium-sized vacuum applications involving "common" solvents. The pumping units are equipped with a CVC 3000 vacuum controller with a solenoid valve for electronic vacuum control. The exhaust vapor condenser is outstandingly efficient and compact. It provides near-100-percent recovery of solvents, for economical recycling and environmental protection.

TECHNICAL DATA same as MZ 2C NT, except

Vacuum controller	CVC 3000
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	419 x 243 x 444 mm
Weight, approx.	16.7 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

PC 510 NT
230 V ~ 50-60 Hz CEE Ex* 733100
230 V ~ 50-60 Hz CH, CN Ex* 733101
230 V ~ 50-60 Hz UK, IN Ex* 733102
100-115 V ~ 50-60 Hz / US 733103
120 V ~ 60 Hz US

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

7 mbar - 2.0 m³/h

- ◆ easily operated vacuum controller CVC 3000 with clear text menus, with integrated venting valve
- ◆ chemistry design flow control valve with large cross section for unrestricted performance
- ◆ excellent environmental friendliness due to efficient solvent recovery
- ◆ PC 511 NT allows simultaneous operation of two independent vacuum applications, with reliable check valves to prevent interference between systems
- ◆ optimized vacuum even with gas ballast



PC 511 NT

Chemistry pumping unit with two inlet ports with vacuum control

Chemistry pumping units of this series are well-proven for vacuum generation and control for many evaporation processes. The popular two-stage MZ 2C NT chemistry diaphragm pump is the heart of these pumping units, frequently used for medium-sized vacuum applications involving "common" solvents. The pumping units are equipped with a CVC 3000 vacuum controller with a solenoid valve for electronic vacuum control. The exhaust vapor condenser is outstandingly efficient and compact. It provides near-100-percent recovery of solvents, for economical recycling and environmental protection. The PC 511 NT is equipped with an additional manually controlled vacuum port. Check valves help to protect against cross-contamination and interference, permitting simultaneous operation of two vacuum applications with one pump.

TECHNICAL DATA same as MZ 2C NT, except

Vacuum controller	CVC 3000
Inlet connection	2 x hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	435 x 243 x 444 mm
Weight, approx.	16.9 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION**PC 511 NT**

230 V ~ 50-60 Hz	CEE	Ex*	733200
230 V ~ 50-60 Hz	CH, CN	Ex*	733201
230 V ~ 50-60 Hz	UK, IN	Ex*	733202
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		733203

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

7 mbar - 2.0 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ two intuitive CVC 3000 vacuum controllers with clear text menus, with integrated venting valve
- ◆ two chemistry-design solenoid valves with large cross section for unrestricted performance
- ◆ excellent environmental friendliness due to efficient solvent recovery
- ◆ simultaneous operation of two independent vacuum applications
- ◆ optimized vacuum even with gas ballast



PC 520 NT

Chemistry pumping unit with two electronically controlled inlet ports

This chemistry vacuum pumping unit is an economic space-saving solution for simultaneous operation of two independent vacuum applications with one single pump. Each vacuum port is equipped with a CVC 3000 vacuum controller with solenoid valve for electronic vacuum control. Both vacuum ports have integrated check valves against cross contamination and interference. The popular MZ 2C NT two-stage chemistry diaphragm pump is the heart of this pumping unit. It is frequently used for medium-sized vacuum applications involving "common" solvents. The exhaust waste vapor condenser is outstandingly efficient and compact. It provides near-100-percent recovery of solvents, for economical recycling and environmental protection.

TECHNICAL DATA same as MZ 2C NT, except

Vacuum controller	2 x CVC 3000
Inlet connection	2 x hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	435 x 361 x 444 mm
Weight, approx.	17.7 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit largely mounted, ready for use, with manual.

ORDERING INFORMATION

	PC 520 NT
230 V ~ 50-60 Hz	CEE Ex* 733300
230 V ~ 50-60 Hz	CH, CN Ex* 733301
230 V ~ 50-60 Hz	UK, IN Ex* 733302
100-115 V ~ 50-60 Hz /	
120 V ~ 60 Hz	US 733303

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

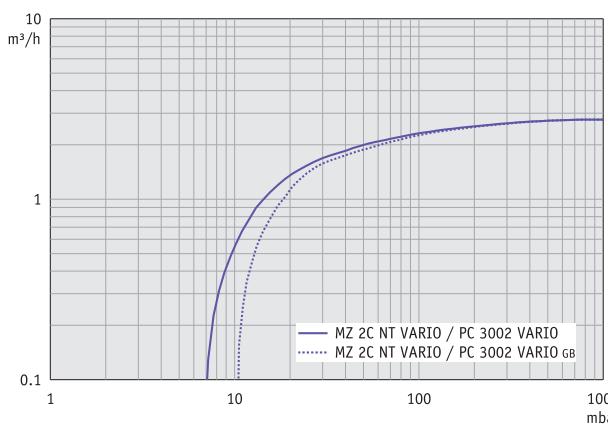
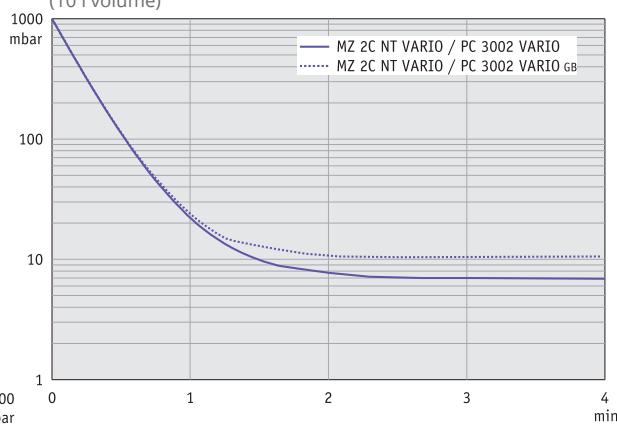
7 mbar - 2.8 m³/h

- ◆ VARIO®: automatic adaptation of the vacuum level throughout the process for high process reliability and unattended operation
- ◆ VARIO®: short process times due to zero-fluctuation (hysteresis-free) vacuum control
- ◆ VARIO®: easily operated CVC 3000 vacuum controller with clear text menus, with integrated venting valve
- ◆ extraordinary diaphragm life for minimum operational and servicing costs
- ◆ PC 3002 VARIO: excellent environmental friendliness due to efficient solvent recovery



MZ 2C NT VARIO AND PC 3002 VARIO

VARIO® pumps and pumping units provide precise vacuum control by adaptation of the diaphragm pump's motor speed. They feature fully automatic evaporation control on the push of a button. The basic pump is the MZ 2C NT VARIO two-stage chemistry diaphragm pump which meets medium vacuum requirements for most solvents. The pumping unit PC 3002 VARIO is a well proven choice for evaporation of large amounts of solvents. The separator at the inlet collects particles and liquid droplets. The waste vapor condenser at the outlet enables near-100-percent solvent recovery, efficient recycling and active environmental protection. The on-demand motor speed control results in unparalleled length of service intervals for wearing parts such as diaphragms.

Pumping speed graph
with/without gas ballastPump down graph
with/without gas ballast
(10 l volume)Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

	MZ 2C NT VARIO
Vacuum controller	CVC 3000
Max. pumping speed	2.8 m³/h
Ultimate vacuum (abs.)	7 mbar
Ultim. vac. (abs.) with gas ballast	12 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 20
Dimensions (L x W x H), approx.	243 x 243 x 245 mm
Weight, approx.	13.8 kg

TECHNICAL DATA

	PC 3002 VARIO
Vacuum controller	CVC 3000
Max. pumping speed	2.8 m³/h
Ultimate vacuum (abs.)	7 mbar
Ultim. vac. (abs.) with gas ballast	12 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Vacuum sensor connection	Internally connected
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	419 x 243 x 444 mm
Weight, approx.	17.4 kg

ORDERING INFORMATION

MZ 2C NT VARIO

200-230 V ~ 50-60 Hz	CEE	Ex*	732400
200-230 V ~ 50-60 Hz	CH, CN	Ex*	732401
100-120 V ~ 50-60 Hz	US		732403

ORDERING INFORMATION

PC 3002 VARIO

200-230 V ~ 50-60 Hz	CEE	Ex*	733500
200-230 V ~ 50-60 Hz	CH, CN	Ex*	733501
200-230 V ~ 50-60 Hz	UK, IN	Ex*	733502
100-120 V ~ 50-60 Hz	US		733503

**PC 3002 VARIO EK PELTRONIC

on request

ACCESSORIES

- Coolant valve VKW-B (674220)
- Vent valve VBM-B (674217)
- Liquid level sensor (699908)
- Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED MZ 2C NT VARIO, PC 3002 VARIO

Pumping unit completely mounted, ready for use, with manual.

ITEMS SUPPLIED PC 3002 VARIO EK PELTRONIC

Pumping unit completely mounted with Peltronic® emission condenser, with manual.

CHEMISTRY DIAPHRAGM PUMPS

2 mbar - 1.3 m³/h

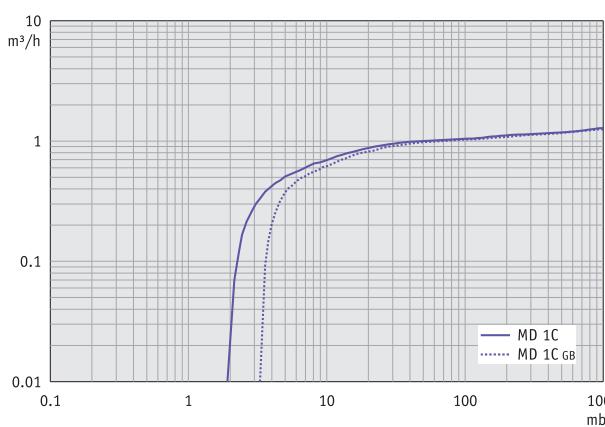
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ exceptionally high performance even at low vacuum
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ whisper quiet and ultra low vibration
- ◆ proven long diaphragm life, maintenance-free drive system



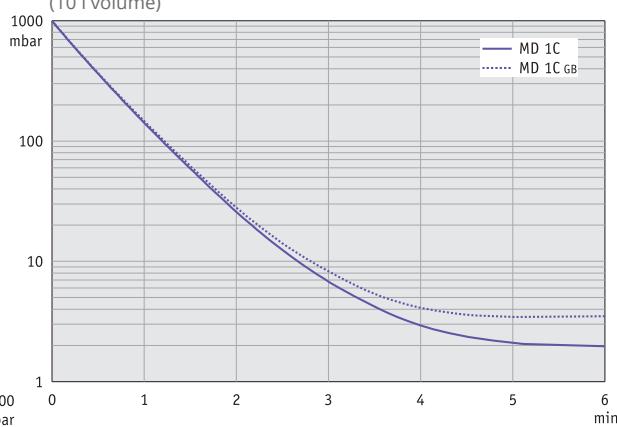
MD 1C

Three-stage chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors and meet high requirements regarding ultimate vacuum. The three-stage construction provides the advantageous combination of high pumping speed and deep ultimate vacuum in a pump with a very small footprint. All parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms increase reliability and extend operating life. The MD 1C with gas ballast valve is optimally prepared for pumping easily condensable vapors (high boiling solvents).

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(10 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MD 1C

Number of heads / stages	4 / 3
Max. pumping speed 50/60 Hz	1.3 / 1.5 m ³ /h
Ultimate vacuum (abs.)	2 mbar
Ultim. vac. (abs.) with gas ballast	4 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8 mm
Rated motor power	0.08 kW
Degree of protection	IP 42
Dimensions (L x W x H), approx.	316 x 143 x 175 mm
Weight, approx.	6.9 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

ORDERING INFORMATION

MD 1C

200-230 V ~ 50-60 Hz	CEE	Ex*	696600
200-230 V ~ 50-60 Hz	CH	Ex*	696601
200-230 V ~ 50-60 Hz	UK, IN	Ex*	696602
200-230 V ~ 50-60 Hz	CN	Ex*	696606
100-120 V ~ 50-60 Hz	US		696603
120 V ~ 60 Hz	US		**696613

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

** With NRTL certification for Canada and the USA

CHEMISTRY DIAPHRAGM PUMPS

2 mbar - 1.3 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ whisper quiet and ultra low vibration
- ◆ excellent environmental friendliness due to efficient solvent recovery



MD 1C +AK+EK

MD 1C chemistry diaphragm pump with separator at the inlet and exhaust vapor condenser

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors. This system is usable for increased vacuum requirements with high boiling solvents and often replaces rotary vane pumps. Typical applications are rotary evaporators and vacuum drying ovens. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling and active protection of the environment.

TECHNICAL DATA same as MD 1C, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	316 x 239 x 405 mm
Weight, approx.	10.2 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)
Flow control valve (677137)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

200-230 V ~ 50-60 Hz	CEE	Ex*	696620
200-230 V ~ 50-60 Hz	CH, CN	Ex*	696621
200-230 V ~ 50-60 Hz	UK, IN	Ex*	696622
100-120 V ~ 50-60 Hz	US		696623
120 V ~ 60 Hz	US		**696633

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

**With NRTL certification for Canada and the USA

2 mbar - 2.0 m³/h

Chemistry diaphragm pumps

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ high flow rate even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ continuously adjustable manual adaptation of pumping speed via jog wheel
- ◆ upgradable to PC 3001 VARIO^{pro} system with two accessory packages: Kit 1, with CVC 3000 and inlet separator; Kit 2, with emission condenser and catchpot



PC 3001 BASIC

Chemistry pumping unit with manual speed control

This very compact chemistry pumping unit is an excellent solution when working with high boiling solvents. Typical applications are vacuum generation for rotary evaporators, vacuum concentrators and filtrations. With the continuously variable jog wheel, the pumping speed is manually adjustable to the process requirements. There are two optional kits available to easily upgrade the PC 3001 basic to the fully functional PC 3001 VARIO^{pro} complete with CVC 3000 vacuum controller, inlet separator and vapor condenser at the outlet.

TECHNICAL DATA same as PC 3001 VARIO^{pro}, without CVC 3000, EK, AK

Inlet connection	Hose nozzle DN 6-10 mm
Outlet connection	Hose nozzle DN 8-10 mm / silencer
Dimensions (L x W x H), approx.	251 x 256 x 400 mm
Weight, approx.	6.4 kg

ACCESSORIES

Rubber vacuum tubing DN 6 mm (686000)
 Rubber vacuum tubing DN 8 mm (686001)
 Upgrade kit CVC 3000 with inlet separator (699921)
 Upgrade kit emission condenser (699922)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

PC 3001 BASIC

100-120 V /				
200-230 V ~ 50-60 Hz	CEE	Ex*		696720
100-120 V /				
200-230 V ~ 50-60 Hz	UK, IN	Ex*		696722
100-120 V /				
200-230 V ~ 50-60 Hz	US	Ex*		696723

With NRTL certification for Canada and the USA
 Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

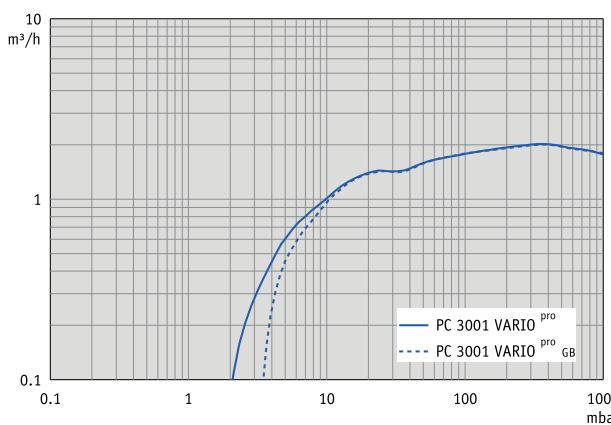
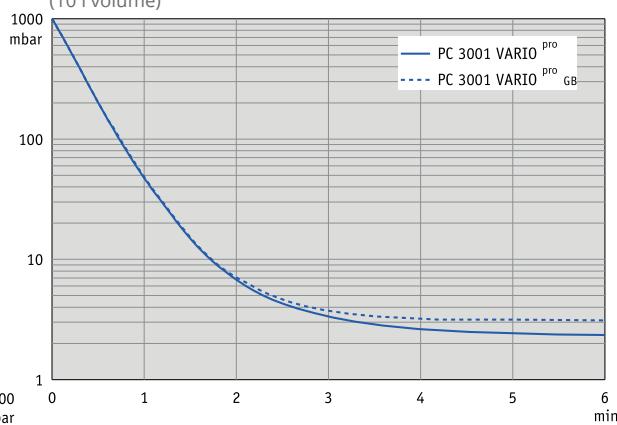
CHEMISTRY DIAPHRAGM PUMPS

2 mbar - 2.0 m³/h

- VARIO®: easily operated CVC 3000 vacuum controller with clear text menus and integrated venting valve
- VARIO®: automatic optimization of the vacuum level throughout the process for high process reproducibility and unattended operation, short process times due to zero-fluctuation (hysteresis-free) vacuum control - even for large amounts of vapor
- compact and powerful; excellent ultimate vacuum, even with continuous condensate purge
- whisper quiet and ultra low vibration
- excellent environmental friendliness due to low power consumption and efficient solvent recovery

PC 3001 VARIO^{PRO}

This VARIO® chemistry pumping unit optimizes vacuum conditions automatically by precisely and continuously adjusting the diaphragm pump's motor speed. Thanks to the motor speed control the pump operates only when vacuum is needed, saving energy and reducing maintenance. The integrated vacuum controller enables fully automatic evaporation at a push of a button. Low space requirements, light weight and low operational noise contribute further to this unit's flexibility and popularity for laboratory use. The PC 3001 VARIO^{PRO} is ideal for vacuum applications with high boiling point solvents. The inlet separator, made of glass with a protective coating, prevents droplets and particles from entering the pump. The highly efficient insulated exhaust vapor condenser has a very compact design and provides near-100-percent recovery of solvents. The 'TE' version of the PC 3001 VARIO^{PRO} uses a dry ice condenser to provide a cooling-water-free option for vapor capture if no cooling water connection is available or water conservation is critical. The PC 3001 VARIO^{PRO} with the Peltronic® emission condenser works without any cooling media. For exceptionally large amounts of vapor - like from parallel evaporators without condenser - the PC 3001 VARIO^{PRO} +IK with its condenser on the vacuum side is an excellent choice.

Pumping speed graph
with/without gas ballastPump down graph
with/without gas ballast
(10 l volume)Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

PC 3001 VARIO^{PRO}

Vacuum controller	CVC 3000
Number of heads / stages	4 / 3
Max. pumping speed	2.0 m ³ /h
Ultimate vacuum (abs.)	2 mbar
Ultim. vac. (abs.) with gas ballast	4 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 6-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Max. power	0.16 kW
Degree of protection	IP 20
Dimensions (L x W x H), approx.	300 x 306 x 400 mm
Weight, approx.	7.7 kg

TECHNICAL DATA

PC 3001 VARIO^{PRO TE}

Vacuum controller	CVC 3000
Number of heads / stages	4 / 3
Max. pumping speed	2.0 m ³ /h
Ultimate vacuum (abs.)	2 mbar
Ultim. vac. (abs.) with gas ballast	4 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 6-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Max. power	0.16 kW
Degree of protection	IP 20
Dimensions (L x W x H), approx.	300 x 341 x 493 mm
Weight, approx.	8.2 kg

ORDERING INFORMATION

PC 3001 VARIO^{PRO}

100-120 V /			
200-230 V ~ 50-60 Hz	CEE	Ex*	696700
100-120 V /			
200-230 V ~ 50-60 Hz	CH	Ex*	696701
100-120 V /			
200-230 V ~ 50-60 Hz	UK, IN	Ex*	696702
100-120 V /			
200-230 V ~ 50-60 Hz	US	Ex*	696703
100-120 V /			
200-230 V ~ 50-60 Hz	CN	Ex*	696706

ORDERING INFORMATION

PC 3001 VARIO^{PRO +IK}

100-120 V / 200-230 V ~ 50-60 Hz	Ex*	**696745
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ORDERING INFORMATION

PC 3001 VARIO^{PRO TE}

100-120 V / 200-230 V ~ 50-60 Hz	Ex*	**696715
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ORDERING INFORMATION

PC 3001 VARIO^{PRO EK PELTRONIC}

100-120 V / 200-230 V ~ 50-60 Hz	Ex*	**696735
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ACCESSORIES

Rubber vacuum tubing DN 6 mm (686000)
 Rubber vacuum tubing DN 8 mm (686001)
 Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

With NRTL certification for Canada and the USA (Exception: 696735)

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

** Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

1.5 mbar - 3.4 m³/h

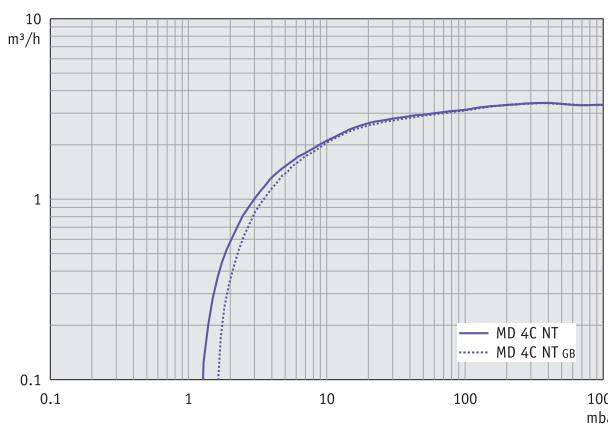
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ whisper quiet and very low vibration
- ◆ long diaphragm life, maintenance-free drive system



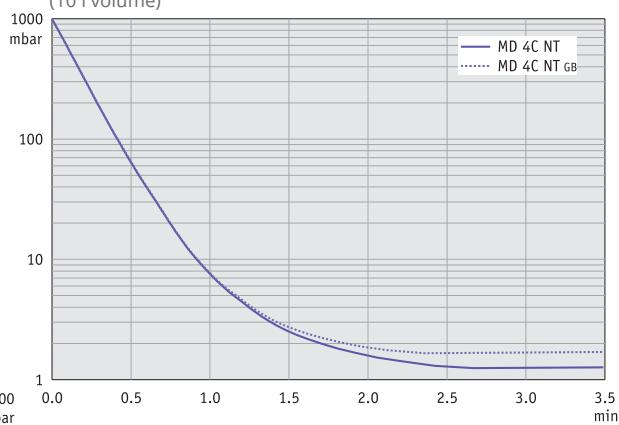
MD 4C NT

Three-stage chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors and meet even challenging requirements. The three-stage design provides the advantageous combination of high pumping speed and very low ultimate vacuum. All parts of the MD 4C NT in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms provide increased reliability and extended operating life. Due to the gas ballast valve and its very good ultimate vacuum (even with gas ballast) the MD 4C NT is also suitable for pumping condensable vapors of high-boiling solvents. The NT-series features further improved performance data, easy service and superior vapor tolerance.

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(10 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MD 4C NT

Number of heads / stages	4 / 3
Max. pumping speed 50/60 Hz	3.4 / 3.8 m³/h
Ultimate vacuum (abs.)	1.5 mbar
Ultim. vac. (abs.) with gas ballast	3 mbar
Integral leakage rate	typ. 0.02 mbar l/s
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Rated motor power	0.25 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	325 x 243 x 198 mm
Weight, approx.	14.3 kg

ORDERING INFORMATION

MD 4C NT

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

230 V ~ 50-60 Hz	CEE	Ex*	736400
230 V ~ 50-60 Hz	CH	Ex*	736401
230 V ~ 50-60 Hz	UK, IN	Ex*	736402
230 V ~ 50-60 Hz	CN	Ex*	736406
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		736403

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

With NRTL certification for Canada and the USA
 Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

1.5 mbar - 3.4 m³/h

- ◆ outstanding chemical resistance
- ◆ exceptionally high performance even close to the very low ultimate vacuum
- ◆ integral leakage rate 0.001 mbar l/s verified at every single pump
- ◆ whisper quiet and very low vibration
- ◆ long diaphragm life, maintenance-free drive system



MD 4CRL NT

For applications requiring an especially high leak tightness of the pump, we recommend the MD 4CRL NT. The three-stage construction provides the advantageous combination of high pumping speed and very low ultimate vacuum. All major parts of the MD 4CRL NT in contact with pumped media are made of chemically resistant fluoroplastics or a special, highly corrosion-resistant stainless steel. Well-proven PTFE sandwich diaphragms provide increased reliability and extended operating life. Every single pump is tested for an integral leakage rate of 0.001 mbar l/s.

TECHNICAL DATA

MD 4CRL NT

Number of heads / stages	4 / 3
Max. pumping speed 50/60 Hz	3.4 / 3.8 m ³ /h
Ultimate vacuum (abs.)	1.5 mbar
Integral leakage rate	0.001 mbar l/s
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 16
Outlet connection	Small flange KF DN 16
Rated motor power	0.25 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	325 x 243 x 198 mm
Weight, approx.	19.8 kg

ACCESSORIES

PTFE tubing KF DN 16 (1000 mm: 686031)
Stainless steel tubing KF DN 16 (1000 mm: 673336)

ORDERING INFORMATION

MD 4CRL NT

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

100-115 V ~ 50-60 Hz / 120 V ~ 50-60 Hz /

200-230 V ~ 50-60 Hz

Ex*

**736445

With NRTL certification for Canada and the USA

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

** Please order power cable separately

1.5 mbar - 3.4 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ whisper quiet and very low vibration
- ◆ separators at inlet and outlet to collect condensates



MD 4C NT +2AK

MD 4C NT chemistry diaphragm pump with inlet separator and outlet catchpot

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories that do not require condensation of solvent vapors at the outlet. This system is well proven for high vacuum requirements with high boiling solvents. Typical applications are vacuum concentrators, rotary evaporators and drying ovens. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets. The catchpot at the outlet collects condensate, avoids condensate backflow towards the pump and reinforces the whisper-quiet operation of the pump.

TECHNICAL DATA same as MD 4C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Dimensions (L x W x H), approx.	319 x 243 x 374 mm
Weight, approx.	16.7 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)
Upgrade kit manometer with valve (699906)

ORDERING INFORMATION

MD 4C NT +2AK

230 V ~ 50-60 Hz	CEE	Ex*	736600
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		736603

ITEMS SUPPLIED
Pumping unit completely mounted, ready for use, with manual.

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

1.5 mbar - 3.4 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ whisper quiet and very low vibration
- ◆ excellent environmental friendliness due to efficient solvent recovery



MD 4C NT +AK+EK

MD 4C NT pump with separator at the inlet and exhaust vapor condenser

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories. This system is ideal for high vacuum requirements with high boiling solvents. Typical applications are rotary evaporators and drying ovens. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling of solvents and active protection of the environment.

TECHNICAL DATA same as MD 4C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	326 x 243 x 402 mm
Weight, approx.	17.3 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)
Upgrade kit manometer with valve (699906)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

230 V ~ 50-60 Hz	CEE	Ex*	736700
230 V ~ 50-60 Hz	CH, CN	Ex*	736701
230 V ~ 50-60 Hz	UK, IN	Ex*	736702
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz			736703

ORDERING INFORMATION

230 V ~ 50-60 Hz	Ex*	**2613972
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*****MD 4C NT +AK+EK PELTRONIC**

1.5 mbar - 3.4 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ simultaneous operation of two independent vacuum applications, with reliable check valves to prevent interference between systems
- ◆ excellent environmental friendliness due to efficient solvent recovery



MD 4C NT +AK SYNCHRO+EK

MD 4C NT pump with full vapor capture and ports to operate two applications

This chemistry vacuum system provides the simultaneous operation of two processes with only one pump. Typical applications are rotary evaporators, vacuum concentrators and vacuum drying ovens. Each vacuum connection is provided with a manual valve to regulate the effective flow at each port. The MD 4C NT pump offers more than sufficient pumping speed also for the parallel operation of two challenging applications. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling and active protection of the environment.

TECHNICAL DATA same as MD 4C NT, except

Inlet connection	2 x hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	326 x 248 x 402 mm
Weight, approx.	17.6 kg

ACCESSORIES

Kit analog gauge for NT SYNCHRO (699907)
Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION MD 4C NT +AK SYNCHRO+EK

230 V ~ 50-60 Hz	CEE	Ex*	736800
230 V ~ 50-60 Hz	CH, CN	Ex*	736801
230 V ~ 50-60 Hz	UK, IN	Ex*	736802
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		736803

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

1.5 mbar - 3.4 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ manual vacuum control, analog vacuum display
- ◆ excellent environmental friendliness due to efficient solvent recovery



PC 201 NT

Chemistry pumping unit with vacuum dial gauge, manual flow control and vapor capture

This chemistry pumping unit has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories. Typical applications are rotary evaporators, vacuum concentrators and vacuum drying ovens with high boiling solvents. The manual flow control valve regulates the effective pumping speed at the vacuum connection; the vacuum manometer offers an analog vacuum display. The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets. The exhaust waste vapor condenser enables near-100-percent solvent recovery.

TECHNICAL DATA same as MD 4C NT, except

Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	326 x 243 x 402 mm
Weight, approx.	17.5 kg

ACCESSORIES

Rubber vacuum tubing DN 8 mm (686001)

ORDERING INFORMATION**PC 201 NT**

230 V ~ 50-60 Hz	CEE	Ex*	737000
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		737003

With NRTL certification for Canada and the USA
Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

1.5 mbar - 3.4 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ easily operated vacuum controller CVC 3000 with clear text menus, with integrated venting valve
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ chemistry design flow control valve with large cross section for unrestricted performance
- ◆ excellent environmental friendliness due to efficient solvent recovery



PC 610 NT

Chemistry pumping unit with electronic vacuum control

Chemistry pumping units of the PC 600 series are well-proven for vacuum generation and control for many evaporation processes. The basic pump is the three-stage chemistry diaphragm pump MD 4C NT which meets high vacuum requirements for most high boiling solvents. Typical applications are rotary evaporators and vacuum drying ovens. The pumping unit is equipped with a vacuum controller CVC 3000 with solenoid valve for electronic vacuum control. The exhaust vapor condenser is outstandingly efficient and compact. It provides near-100-percent recovery of solvents, for economical recycling and environmental protection.

TECHNICAL DATA same as MD 4C NT, except

Vacuum controller	CVC 3000
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	419 x 243 x 444 mm
Weight, approx.	19.9 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

	PC 610 NT		
230 V ~ 50-60 Hz	CEE	Ex*	737100
230 V ~ 50-60 Hz	CH, CN	Ex*	737101
230 V ~ 50-60 Hz	UK	Ex*	737102
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		737103

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

1.5 mbar - 3.4 m³/h

- ◆ easily operated vacuum controller CVC 3000 with clear text menus, with integrated venting valve
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ high pumping speed for unrestricted simultaneous operation of two independent vacuum applications; check valves against cross contamination
- ◆ excellent environmental friendliness due to efficient solvent recovery



PC 611 NT

Chemistry pumping unit with two ports - one electronic and one manual - for high boiling solvents

Chemistry pumping units of these series are well-proven for vacuum generation and control for many evaporation processes. This pumping unit makes it possible to operate two vacuum systems simultaneously with just one pump. The basic pump is the three-stage MD 4C NT chemistry diaphragm pump which meets high vacuum requirements for most high boiling solvents. This pump offers more than sufficient pumping speed also for the parallel operation of two challenging applications. The pumping unit is equipped with a CVC 3000 vacuum controller with solenoid valve for electronic vacuum control. At the second vacuum connection a manual flow control valve allows to regulate the effective pumping speed at this port. Both vacuum ports have integrated check valves to protect against cross contamination.

TECHNICAL DATA same as MD 4C NT, except

Vacuum controller	CVC 3000
Inlet connection	2 x hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	435 x 243 x 444 mm
Weight, approx.	20.1 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION**PC 611 NT**

230 V ~ 50-60 Hz	CEE	Ex*	737200
230 V ~ 50-60 Hz	CH, CN	Ex*	737201
230 V ~ 50-60 Hz	UK, IN	Ex*	737202
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		737203

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

1.5 mbar - 3.4 m³/h

CHEMISTRY DIAPHRAGM PUMPS

- ◆ easily operated vacuum controller CVC 3000 with clear text menus, with integrated venting valve
- ◆ exceptionally high performance even at low vacuum
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ high pumping speed for unrestricted simultaneous operation of two independent vacuum applications; check valves against cross contamination
- ◆ excellent environmental friendliness due to efficient solvent recovery



PC 620 NT

Chemistry pumping unit with two electronically controlled inlet ports for high boiling solvents

This chemistry vacuum pumping unit is an economic space-saving solution for simultaneous operation of two independent vacuum applications with one single pump. Each vacuum port is equipped with a vacuum controller CVC 3000 with a solenoid valve for electronic vacuum control. The basic pump is the three-stage MD 4C NT chemistry diaphragm pump which meets high vacuum requirements for most high boiling solvents. This pump offers more than sufficient pumping speed also for the parallel operation of two challenging applications. Both vacuum ports have integrated check valves against cross contamination and interference. The exhaust vapor condenser is outstandingly efficient and compact. It provides near-100-percent recovery of solvents, for economical recycling and environmental protection.

TECHNICAL DATA same as MD 4C NT, except

Vacuum controller	2 x CVC 3000
Inlet connection	2 x hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Dimensions (L x W x H), approx.	435 x 361 x 444 mm
Weight, approx.	20.9 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit largely mounted, ready for use, with manual.

ORDERING INFORMATION

	PC 620 NT		
230 V ~ 50-60 Hz	CEE	Ex*	737300
230 V ~ 50-60 Hz	CH, CN	Ex*	737301
230 V ~ 50-60 Hz	UK, IN	Ex*	737302
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		737303

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

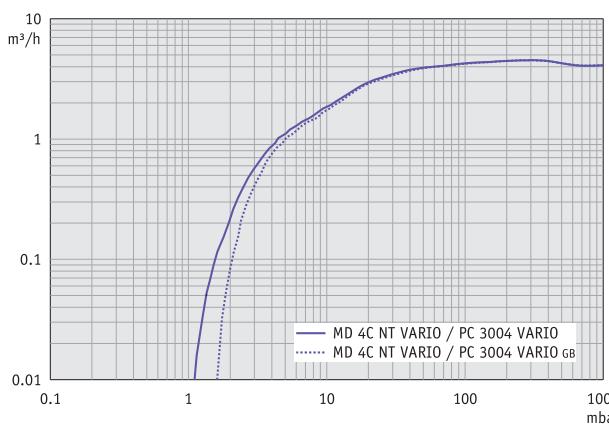
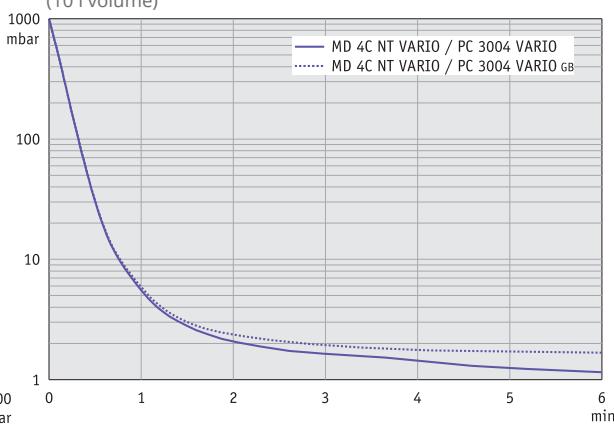
1.5 mbar - 4.6 m³/h

- ◆ VARIO®: automatic adaptation of the vacuum level throughout the process for high process reliability and unattended operation
- ◆ VARIO®: short process times due to high pumping speed and zero-fluctuation (hysteresis-free) vacuum control
- ◆ VARIO®: easily operated CVC 3000 vacuum controller with clear text menus, with integrated venting valve
- ◆ extraordinary diaphragm life, therefore minimum operational and servicing costs
- ◆ PC 3004 VARIO: Excellent environmental friendliness due to efficient solvent recovery



MD 4C NT VARIO - PC 3004 VARIO

VARIO® pumps and pumping units provide precise vacuum control by adaptation of the diaphragm pump's motor speed. They feature fully automatic evaporation control on the push of a button. The basic pump is the three-stage MD 4C NT VARIO chemistry diaphragm pump which meets high vacuum requirements for most high boiling solvents. The PC 3004 VARIO offers a well proven choice for evaporation of large amounts of solvents. The separator at the inlet, made of glass with protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet enables near-100-percent solvent recovery, efficient recycling and active environmental protection. The on-demand motor speed control results in unsurpassed lifetimes of service parts, such as diaphragms. If no cooling water connection is available or water conservation is critical, the PC 3004 VARIO with the Peltronic® emission condenser works without any cooling media.

Pumping speed graph
with/without gas ballastPump down graph
with/without gas ballast
(10 l volume)Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MD 4C NT VARIO

Vacuum controller	CVC 3000
Number of heads / stages	4 / 3
Max. pumping speed	4.6 m³/h
Ultimate vacuum (abs.)	1.5 mbar
Ultim. vac. (abs.) with gas ballast	3 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 20
Dimensions (L x W x H), approx.	325 x 243 x 245 mm
Weight, approx.	16.3 kg

TECHNICAL DATA

PC 3004 VARIO

Vacuum controller	CVC 3000
Number of heads / stages	4 / 3
Max. pumping speed	4.6 m³/h
Ultimate vacuum (abs.)	1.5 mbar
Ultim. vac. (abs.) with gas ballast	3 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Vacuum sensor connection	Internally connected
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	419 x 243 x 444 mm
Weight, approx.	20.6 kg

ORDERING INFORMATION

MD 4C NT VARIO

200-230 V ~ 50-60 Hz	CEE	Ex*	736500
200-230 V ~ 50-60 Hz	CH	Ex*	736501
100-120 V ~ 50-60 Hz	US		736503
200-230 V ~ 50-60 Hz	CN	Ex*	736506

ORDERING INFORMATION

PC 3004 VARIO

200-230 V ~ 50-60 Hz	CEE	Ex*	737500
200-230 V ~ 50-60 Hz	CH, CN	Ex*	737501
200-230 V ~ 50-60 Hz	UK, IN	Ex*	737502
100-120 V ~ 50-60 Hz	US		737503

ORDERING INFORMATION

PC 3004 VARIO EK PELTRONIC

200-230 V ~ 50-60 Hz	Ex*	**2614327
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ACCESSORIES

- Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only
 **Please order power cable separately

CHEMISTRY DIAPHRAGM PUMPS

2 mbar - 11.1 m³/h

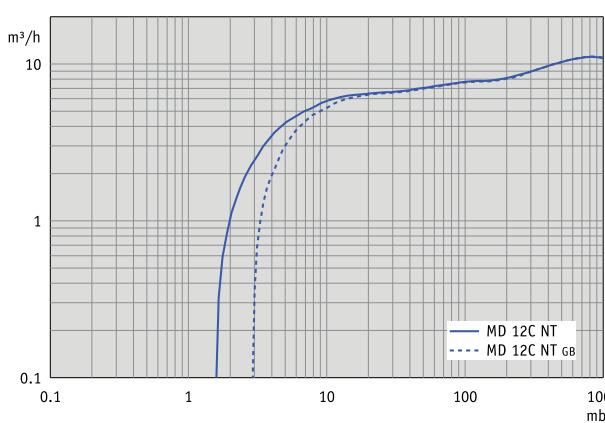
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ reduced process time due to particularly high pumping speed even near ultimate vacuum
- ◆ whisper quiet and very low vibration
- ◆ very good ultimate vacuum even with open gas ballast valve for condensate purge
- ◆ long diaphragm lifetime, maintenance-free drive system



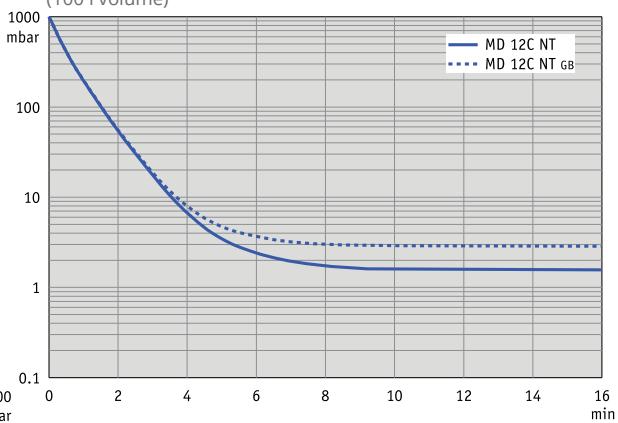
MD 12C NT

Three-stage chemistry diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors and meet the highest requirements. The three-stage design of the eight-cylinder MD 12C NT pump provides the advantageous combination of high pumping speed and very low ultimate vacuum. All internal parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms provide increased reliability and extended operating life. With its gas ballast valve the MD 12C NT is optimally prepared for pumping easily condensable vapors, thanks to the very good ultimate vacuum even with open gas ballast valve also for high boiling solvents. Upgrade kits such as inlet separator (AK) and exhaust vapor condenser (EK) enable a later adaptation to changed process requirements. Eight-cylinder NT pumps features quiet operation with smooth, easy-to-clean surfaces.

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(100 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MD 12C NT

Number of heads / stages	8 / 3
Max. pumping speed 50/60 Hz	11.1 / 12.3 m³/h
Ultimate vacuum (abs.)	2 mbar
Ultim. vac. (abs.) with gas ballast	4 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 15 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	533 x 260 x 359 mm
Weight, approx.	28.1 kg

ACCESSORIES

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)
 Emission condenser kit for eight cyl. NT pump models
 (699948)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with manual.

ORDERING INFORMATION

MD 12C NT

230 V ~ 50-60 Hz	CEE	Ex*	743300
230 V ~ 50-60 Hz	CH, CN	Ex*	743301
230 V ~ 50-60 Hz	UK, IN	Ex*	743302
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		743303

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

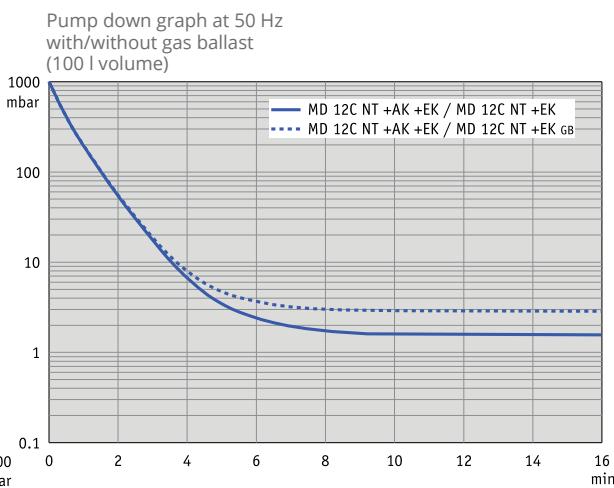
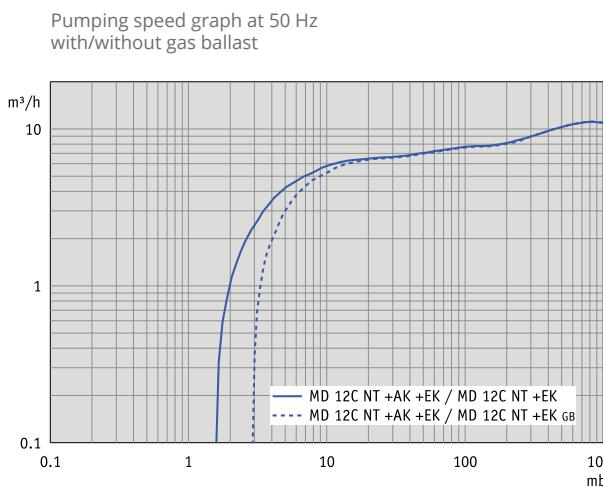
2 mbar - 11.1 m³/h

- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ reduced process time due to particularly high pumping speed even near ultimate vacuum
- ◆ whisper quiet and very low vibration
- ◆ very good ultimate vacuum even with open gas ballast valve for condensate purge
- ◆ efficient solvent recovery and inlet separator equip the MD 12C NT +AK+EK system for rough operating conditions



MD 12C NT +EK - MD 12C NT +AK+EK

These chemistry vacuum systems have a wide range of applications like evacuation, evaporation and pumping of gases and vapors. They provide particularly high pumping speed and are ideal for higher vacuum requirements, e.g., with high boiling solvents. The base MD 12C NT pump obtains a very good ultimate vacuum even with open gas ballast valve for condensate purge and delivers high pumping speed in a compact design. The pump design offers exceptionally high chemical resistance supporting almost universal usage in chemistry and pharmaceuticals. The inlet separator (AK) retains particles and liquid droplets, the waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling, and active protection of the environment.



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MD 12C NT +EK

Number of heads / stages	8 / 3
Max. pumping speed 50/60 Hz	11.1 / 12.3 m ³ /h
Ultimate vacuum (abs.)	2 mbar
Ultim. vac. (abs.) with gas ballast	4 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	528 x 387 x 395 mm
Weight, approx.	29.1 kg

TECHNICAL DATA

MD 12C NT +AK+EK

Number of heads / stages	8 / 3
Max. pumping speed 50/60 Hz	11.1 / 12.3 m ³ /h
Ultimate vacuum (abs.)	2 mbar
Ultim. vac. (abs.) with gas ballast	4 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25 / hose nozzle DN 15 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	616 x 387 x 395 mm
Weight, approx.	29.7 kg

ORDERING INFORMATION

MD 12C NT +EK

230 V ~ 50-60 Hz	CEE	Ex*	743500
230 V ~ 50-60 Hz	CH, CN	Ex*	743501
230 V ~ 50-60 Hz	UK, IN	Ex*	743502
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		743503

ACCESSORIES MD 12C NT +EK

PTFE tubing KF DN 25 (1000 mm: 686033)
Inlet separator KF DN 25 (699979)
Centering and sealing ring KF DN 25 C Al/FEP (635722)

ORDERING INFORMATION

MD 12C NT +AK+EK

230 V ~ 50-60 Hz	CEE	Ex*	743600
230 V ~ 50-60 Hz	CH, CN	Ex*	743601
230 V ~ 50-60 Hz	UK, IN	Ex*	743602
100-115 V ~ 50-60 Hz /			
120 V ~ 60 Hz	US		743603

ACCESSORIES MD 12C NT +AK +EK

PTFE tubing KF DN 25 (1000 mm: 686033)
Centering and sealing ring KF DN 25 C Al/FEP (635722)

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

**MD 12C NT +AK+EK PELTRONIC

on request

CHEMISTRY DIAPHRAGM PUMPS

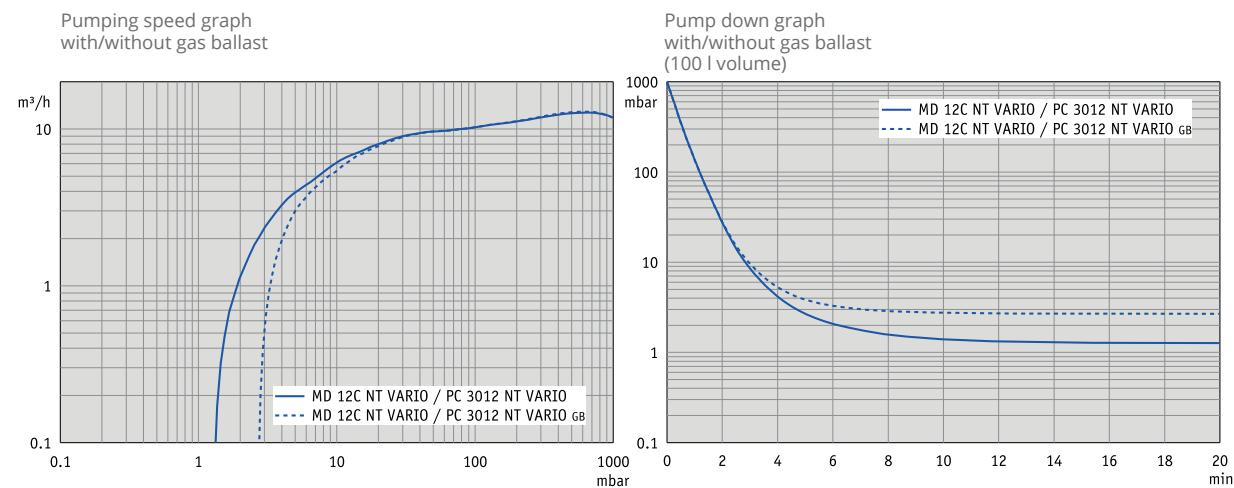
1.5 mbar - 12.9 m³/h

- ◆ VARIO®: automatic adjustment of the vacuum level throughout the process for high process reproducibility and unattended operation
- ◆ VARIO®: short process times due to zero-fluctuation (hysteresis-free) vacuum control, even for large amounts of vapor
- ◆ VARIO®: removable CVC 3000 vacuum controller, can be arranged flexibly, easily operated with clear text menus
- ◆ extraordinary diaphragm life for minimum operational and servicing costs
- ◆ PC 3012 NT VARIO: excellent environmental friendliness due to efficient solvent recovery, inlet separator for demanding applications



MD 12C NT VARIO - PC 3012 NT VARIO

These VARIO® pumping units feature a very high pumping speed even close to the outstanding ultimate vacuum and are ideal for high vacuum requirements with most high boiling solvents. They provide precise vacuum control by continuously adjusting the pump's motor speed. The controller provides fully automatic evaporations without any need for parameter input. The pump design offers exceptionally high chemical resistance supporting almost universal usage in chemistry and pharmaceutics. The PC 3012 NT VARIO pumping unit relies on a well-proven operating concept for evaporations with large amounts of solvents. The inlet separator (AK) retains particles and liquid droplets, the waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling, and active protection of the environment. The MD 12C NT VARIO can be equipped with these accessories later.



Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

	MD 12C NT VARIO
Vacuum controller	CVC 3000
Number of heads / stages	8 / 3
Max. pumping speed	12.9 m³/h
Ultimate vacuum (abs.)	1.5 mbar
Ultim. vac. (abs.) with gas ballast	3 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 15 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	533 x 260 x 420 mm
Weight, approx.	28.1 kg

TECHNICAL DATA

	PC 3012 NT VARIO
Vacuum controller	CVC 3000
Number of heads / stages	8 / 3
Max. pumping speed	12.9 m³/h
Ultimate vacuum (abs.)	1.5 mbar
Ultim. vac. (abs.) with gas ballast	3 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25 / hose nozzle DN 15 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	616 x 387 x 420 mm
Weight, approx.	29.7 kg

ACCESSORIES MD 12C NT VARIO

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)
 Emission condenser kit for eight cyl. NT pump models
 (699948)

ORDERING INFORMATION

200-230 V ~ 50-60 Hz	CEE	Ex*	743700
200-230 V ~ 50-60 Hz	UK, IN	Ex*	743702
100-120 V ~ 50-60 Hz	US		743703

MD 12C NT VARIO

ACCESSORIES PC 3012 NT VARIO,
PC 3012 NT VARIO EK PELTRONIC

PTFE tubing KF DN 25 (1000 mm: 686033)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)

ORDERING INFORMATION

200-230 V ~ 50-60 Hz	CEE	Ex*	743800
200-230 V ~ 50-60 Hz	CH, CN	Ex*	743801
200-230 V ~ 50-60 Hz	UK, IN	Ex*	743802
100-120 V ~ 50-60 Hz	US		743803

PC 3012 NT VARIO

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

ORDERING INFORMATION

200-230 V ~ 50-60 Hz	***PC 3012 NT VARIO EK PELTRONIC	Ex*	**743814
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Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

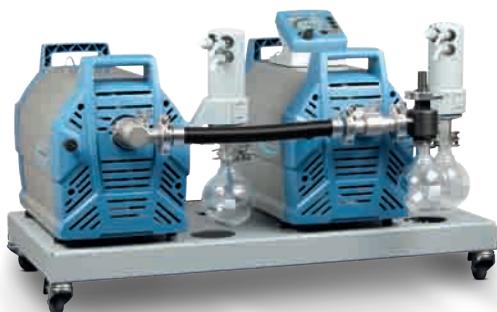
**Please order power cable separately

***Further information Peltronic® pg. 92

CHEMISTRY DIAPHRAGM PUMPS

1.5 mbar - 25 m³/h

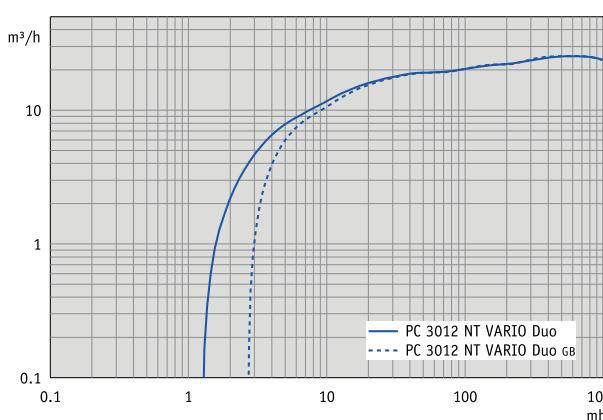
- ◆ VARIO®: automatic adaptation of the vacuum level throughout the process for high process reliability and unattended operation
- ◆ VARIO®: short process times due to powerful vacuum pump and accurate (hysteresis-free) vacuum control, even for large amounts of steam
- ◆ VARIO®: removable vacuum controller CVC 3000, variable to arrange, easy to use with multilingual full-text menus, simply integratable by digital or analog interfaces
- ◆ unmatched diaphragm life with minimal operating and maintenance costs
- ◆ excellent environmental friendliness due to minimized energy consumption, no operating fluid needs (oil, water) and efficient solvent recovery



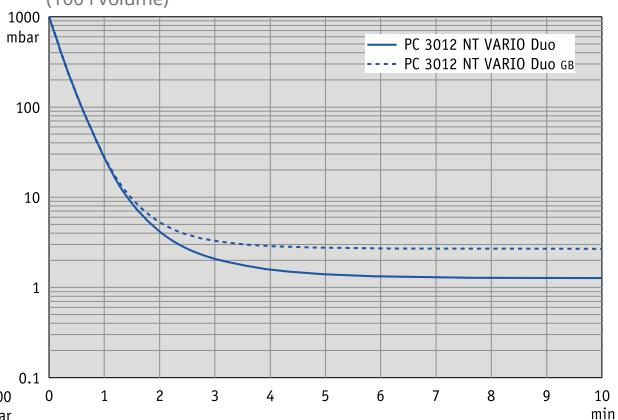
PC 3012 NT VARIO DUO

The VARIO® DUO pumping units are consisting of a combination of two individual VARIO® pumping units, connected in parallel on the suction side and driven synchronously by one vacuum controller CVC 3000. The vacuum is controlled accurately. The speed of the two individual pumps is exactly adjusted to the vacuum needs. The controller allows both fully automatic distillations without any user pre-settings as well as specific and reproducible program sequences. The integration into existing control systems via digital and analog interfaces is also possible. The consequent design to highest chemical resistance provides the ideal prerequisite for universal use in chemistry and pharmacy - without any operating fluid such as water or oil.

Pumping speed graph
with/without gas ballast



Pump down graph
with/without gas ballast
(100 l volume)



Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

PC 3012 NT VARIO DUO

Vacuum controller	CVC 3000
Number of heads / stages	16 / 3
Max. pumping speed	25 m³/h
Ultimate vacuum (abs.)	1.5 mbar
Ultim. vac. (abs.) with gas ballast	3 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25 / hose nozzle DN 15 mm
Outlet connection	2 x hose nozzle DN 10 mm
Coolant connection	4 x hose nozzle DN 6-8 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	1.06 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	611 x 925 x 560 mm
Weight, approx.	65 kg

ACCESSORIES

PTFE tubing KF DN 25 (1000 mm: 686033)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)

ITEMS SUPPLIED

Pumping unit consisting of two PC 3012 NT VARIO pumps mounted in parallel on common base plate, controlled by one CVC 3000 vacuum controller, ready for use, with manual.

ORDERING INFORMATION

PC 3012 NT VARIO DUO

200-230 V ~ 50-60 Hz Ex* **2614930

CHEMISTRY DIAPHRAGM PUMPS

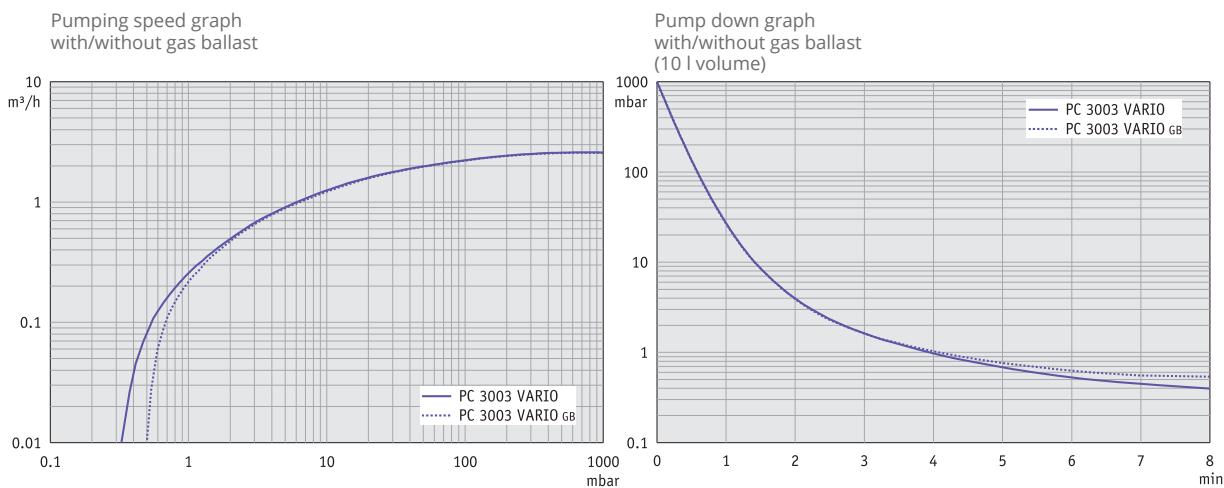
0.6 mbar - 2.8 m³/h

- ◆ VARIO®: automatic optimization of vacuum levels throughout the process for high process reliability and unattended operation
- ◆ VARIO®: short process times due to powerful pump and zero-fluctuation (hysteresis-free) vacuum control
- ◆ VARIO®: easily operated CVC 3000 vacuum controller with clear text menus and integrated venting valve
- ◆ ideal for high-boiling solvents and evaporation at low temperatures
- ◆ excellent environmental friendliness due to efficient solvent recovery



PC 3003 VARIO

This VARIO® pumping unit provides precise vacuum control by adjusting the diaphragm pump's motor speed. It features fully automatic evaporation control at the push of a button. The PC 3003 VARIO provides an excellent ultimate vacuum and is therefore the best solution for evaporation of high boiling solvents even at low temperatures. It combines extraordinary performance with a compact design and very low noise. The separator at the inlet, made of glass with protective coating, retains particles and liquid droplets to protect pump performance. The exhaust vapor condenser at the outlet enables near-100-percent solvent recovery. The on-demand motor speed control results in unsurpassed lifetimes for service parts, such as diaphragms.



Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

PC 3003 VARIO

Vacuum controller	CVC 3000
Number of heads / stages	4 / 4
Max. pumping speed	2.8 m³/h
Ultimate vacuum (abs.)	0.6 mbar
Ultim. vac. (abs.) with gas ballast	1.5 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	419 x 243 x 444 mm
Weight, approx.	20.6 kg

ACCESSORIES

Coolant valve VKW-B (674220)
 Vent valve VBM-B (674217)
 Liquid level sensor (699908)
 Rubber vacuum tubing DN 8 mm (686001)

ORDERING INFORMATION

PC 3003 VARIO

200-230 V ~ 50-60 Hz	CEE	Ex*	738400
200-230 V ~ 50-60 Hz	CH, CN	Ex*	738401
200-230 V ~ 50-60 Hz	UK, IN	Ex*	738402
100-120 V ~ 50-60 Hz	US		738403

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

**PC 3003 VARIO EK PELTRONIC

on request

CHEMISTRY DIAPHRAGM PUMPS

0.9 mbar - 9.5 m³/h

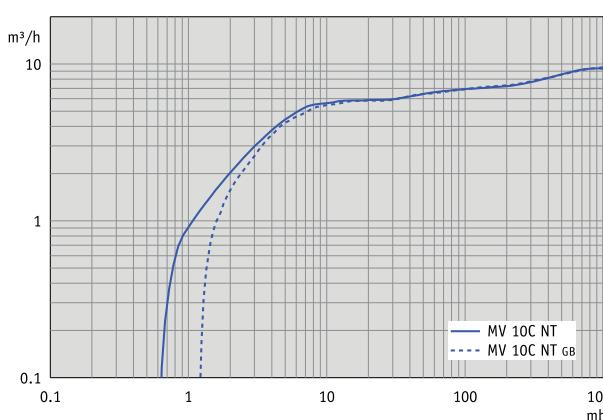
- ◆ outstanding chemical resistance and superior vapor tolerance
- ◆ reduced process time due to very high flow rates even close to ultimate vacuum
- ◆ very low vibration and quiet
- ◆ excellent ultimate vacuum even with gas ballast
- ◆ on models with EK: excellent environmental friendliness due to efficient solvent recovery



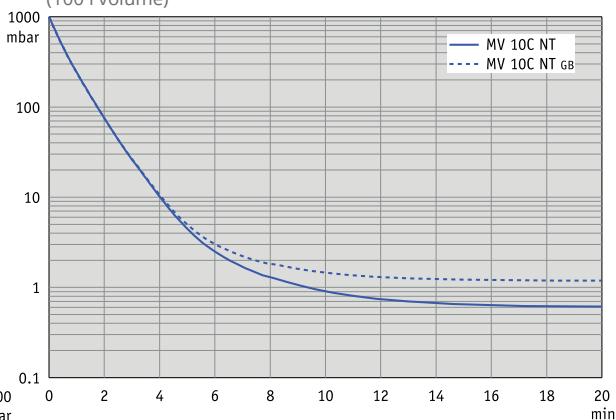
MV 10C NT - MV 10C NT +EK

Four-stage chemistry-design diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors and meet highest requirements. The four-stage design of the eight-cylinder pump MV 10C NT provides the advantageous combination of high pumping speed and very low ultimate vacuum of 0.9 mbar in a very compact design. All internal parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE sandwich diaphragms increase reliability and extend operating life. Upgraded with an exhaust waste vapor condenser (EK) the MV 10C NT +EK provides an excellent, environmentally friendly system with efficient solvent recovery. A separator for the inlet (AK) made of glass (with protective coating) against particles and liquid droplets is available as an optional accessory.

Pumping speed graph at 50 Hz
with/without gas ballast



Pump down graph at 50 Hz
with/without gas ballast
(100 l volume)



CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

MV 10C NT

Number of heads / stages	8 / 4
Max. pumping speed 50/60 Hz	9.5 / 10.7 m³/h
Ultimate vacuum (abs.)	0.9 mbar
Ultim. vac. (abs.) with gas ballast	1.5 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 15 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	533 x 260 x 359 mm
Weight, approx.	28.1 kg

TECHNICAL DATA

MV 10C NT +EK

Number of heads / stages	8 / 4
Max. pumping speed 50/60 Hz	9.5 / 10.7 m³/h
Ultimate vacuum (abs.)	0.9 mbar
Ultim. vac. (abs.) with gas ballast	1.5 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Rated motor power	0.44 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	528 x 387 x 395 mm
Weight, approx.	29.1 kg

ACCESSORIES MV 10C NT

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)
 Emission condenser kit for eight cyl. NT pump models
 (699948)

ORDERING INFORMATION

MV 10C NT

230 V ~ 50-60 Hz	CEE	Ex*	744300
230 V ~ 50-60 Hz	UK, IN	Ex*	744302
100-115 V ~ 50-60 Hz /			
120 V ~ 50-60 Hz	US		744303

ACCESSORIES MV 10C NT +EK

PTFE tubing KF DN 25 (1000 mm: 686033)
 Inlet separator KF DN 25 (699979)
 Centering and sealing ring KF DN 25 C Al/FEP (635722)

ORDERING INFORMATION

MV 10C NT +EK

230 V ~ 50-60 Hz	CEE	Ex*	744500
100-115 V ~ 50-60 Hz /			
120 V ~ 50-60 Hz	US		744503

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only

CHEMISTRY DIAPHRAGM PUMPS

0.6 mbar - 11.6 m³/h

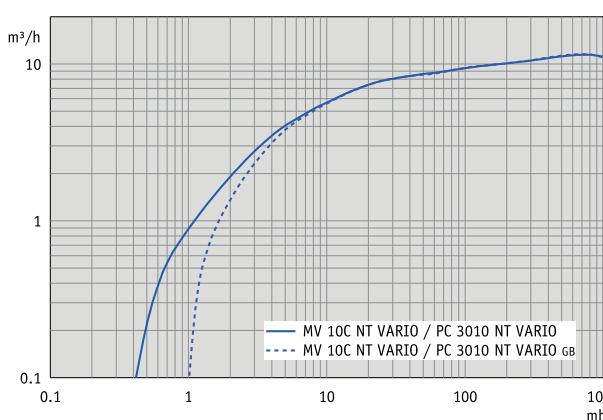
- ◆ VARIO®: automatic optimization of the vacuum level throughout the process for high process reproducibility and unattended operation
- ◆ VARIO®: short process times due to zero-fluctuation (hysteresis-free) vacuum control, even for large amounts of vapor
- ◆ VARIO®: removable CVC 3000 vacuum controller, can be arranged flexibly, easily operated with clear text menus
- ◆ extraordinary diaphragm life for minimum operational and servicing costs
- ◆ PC 3010 NT VARIO: excellent environmental friendliness due to efficient solvent recovery



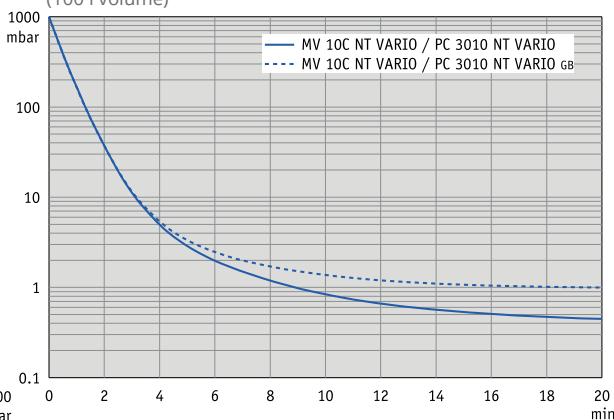
MV 10C NT VARIO - PC 3010 NT VARIO

These VARIO® pumps and pumping units feature a very high pumping speed and attain an outstanding ultimate vacuum. They are ideal for high vacuum requirements, e.g., for evaporation of most high boiling solvents even at low temperatures. They provide precise vacuum control by adjusting the diaphragm pump's motor speed. The controller provides fully automatic evaporation without any need of parameter input. The pump design offers exceptionally high chemical resistance supporting almost universal usage in chemistry and pharmaceuticals. The PC 3010 NT VARIO pumping unit relies on a well-proven operating concept for example for evaporation of large amounts of solvents. The inlet separator (AK) retains particles and liquid droplets, the waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling, and active protection of the environment. For the MV 10C NT VARIO these accessories are optionally available and can be mounted later.

Pumping speed graph
with/without gas ballast



Pump down graph
with/without gas ballast
(100 l volume)



Further information at www.vacuubrand.com

Pumping speeds and pump down times are only for information. Ultimate vacuum specification: See "Technical Data"

CHEMISTRY DIAPHRAGM PUMPS

TECHNICAL DATA

	MV 10C NT VARIO
Vacuum controller	CVC 3000
Number of heads / stages	8 / 4
Max. pumping speed	11.6 m³/h
Ultimate vacuum (abs.)	0.6 mbar
Ultim. vac. (abs.) with gas ballast	1.2 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25
Outlet connection	Hose nozzle DN 15 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	533 x 260 x 420 mm
Weight, approx.	28.1 kg

TECHNICAL DATA

	PC 3010 NT VARIO
Vacuum controller	CVC 3000
Number of heads / stages	8 / 4
Max. pumping speed	11.6 m³/h
Ultimate vacuum (abs.)	0.6 mbar
Ultim. vac. (abs.) with gas ballast	1.2 mbar
Max. back pressure (abs.)	1.1 bar
Inlet connection	Small flange KF DN 25 / hose nozzle DN 15 mm
Outlet connection	Hose nozzle DN 8-10 mm
Coolant connection	2 x hose nozzle DN 6-8 mm
Vacuum sensor connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Rated motor power	0.53 kW
Degree of protection	IP 40
Dimensions (L x W x H), approx.	616 x 387 x 420 mm
Weight, approx.	29.7 kg

ACCESSORIES MV 10C NT VARIO

- PTFE tubing KF DN 25 (1000 mm: 686033)
- Inlet separator KF DN 25 (699979)
- Centering and sealing ring KF DN 25 C Al/FEP (635722)
- Emission condenser kit for eight cyl. NT pump models (699948)

ORDERING INFORMATION		MV 10C NT VARIO	
200-230 V ~ 50-60 Hz	CEE	Ex*	744700
200-230 V ~ 50-60 Hz	UK, IN	Ex*	744702
100-120 V ~ 50-60 Hz	US		744703

ACCESSORIES PC 3010 NT VARIO

- PTFE tubing KF DN 25 (1000 mm: 686033)
- Centering and sealing ring KF DN 25 C Al/FEP (635722)

ORDERING INFORMATION		PC 3010 NT VARIO	
200-230 V ~ 50-60 Hz	CEE	Ex*	744800
200-230 V ~ 50-60 Hz	CH, CN	Ex*	744801
200-230 V ~ 50-60 Hz	UK, IN	Ex*	744802
100-120 V ~ 50-60 Hz	US		744803

ITEMS SUPPLIED

Pumping unit completely mounted, ready for use, with manual.

Ex*: ATEX: II 3G IIC T3 X, Internal Atm. only