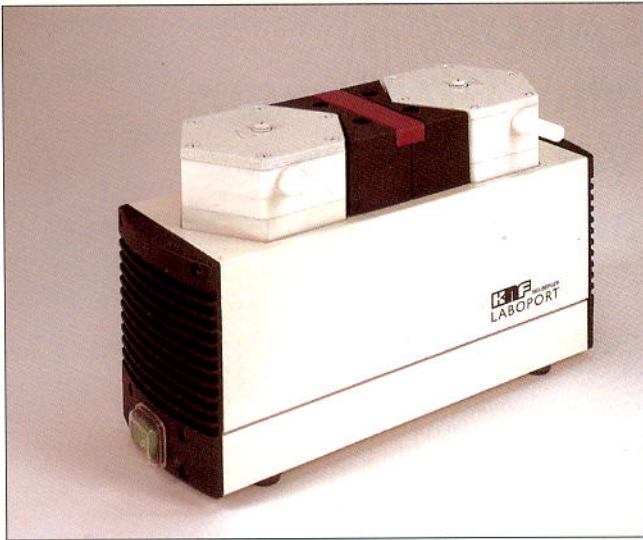


# Diaphragm Pumps for Air, Gases and Vapours

1



## Product Range: Chemically-resistant Vacuum Pumps for Air, Gases and Vapours

### Features of diaphragm pumps:

- Resistant against aggressive gases and vapours
- Maintenance-free
- Silent running
- Simple connection to the electric mains (mains plug) and the pneumatic system
- Environmentally friendly, as water is neither consumed nor contaminated.

Delivery (l/min) <sup>1)</sup>	Ultimate vacuum (mbar abs.)	Operating pressure (bar g)	Motor ~230V/50Hz operating current(A)/ power P <sub>1</sub> (W)	Protection class	Pneumatic connections for tube ID	Weight (kg)	Pump type Order-No.	Page
<b>Chemically-resistant vacuum pumps for air, gases and vapours</b>								
10	100	1	0.6/100	IP 44	10 mm	5.9	N 810 FT.18	1.30
10	8	1	0.6/90	IP 44	10 mm	6.9	N 810.3 FT.18	1.30
20	100	1	0.9/130	IP 44	10 mm	7.1	N 820 FT.18	1.32
20	8	1	0.7/120	IP 44	10 mm	9.3	N 820.3 FT.18	1.32
34	100	1	1.35/180	IP 44	10 mm	10.3	N 840 FT.18	1.34
34	8	1	1.8/245	IP 44	10 mm	12.6	N 840.3 FT.18	1.34
34	2	1	1.8/245	IP 44	10 mm	13.4	N 842.3 FT.18	1.36
60	90	1	1.9/270	IP 44	10 mm	12.6	N 840.1.2 FT.18	1.38

<sup>1)</sup> at atm. pressure

### Material in contact with the pumped media

Code	Pump head	Diaphragm	Valves
FT	PTFE	PTFE-coated	FFPM
KN	PPS	EPDM	FPM
KT	PPS	PTFE-coated	FFPM
AN	Aluminium	CR	NBR
AT	Aluminium	PTFE-coated	FFPM

### e.g. by order or request:

Pump type/Order No.: **N 810 FT.18** is a pump with a pump head made of PTFE, PTFE-coated diaphragm and valves made of FFPM.

# Diaphragm Pumps for Air, Gases and Vapours

1



## Series LABOPORT® N 86 K\_.18 Pumps

Series N 86 diaphragm pumps are single-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination. The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

The pumps are available in various versions differing in the materials which contact the media.

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 86 KN.18	PPS	EPDM	FPM
N 86 KT.18	PPS	PTFE-coated	FFPM

## LABOPORT® Mini Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

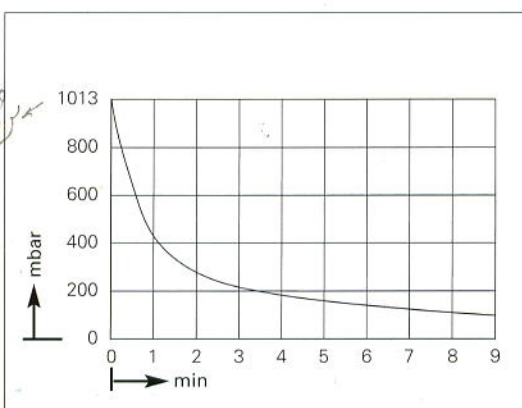
	N 86 KN.18	N 86 KT.18
Delivery (l/min) <sup>1)</sup>	6	5.5
Ultimate vacuum (mbar abs.)	100	160
Operating pressure (bar g)	2.4	2.5
Connectors for tube (mm)	ID 4	ID 4
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	65 W	65 W
Operating current	0.63 A	0.63 A
Weight	1.9 kg	1.9 kg
Dimensions LxHxW (mm)	164/141/90	164/141/90
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

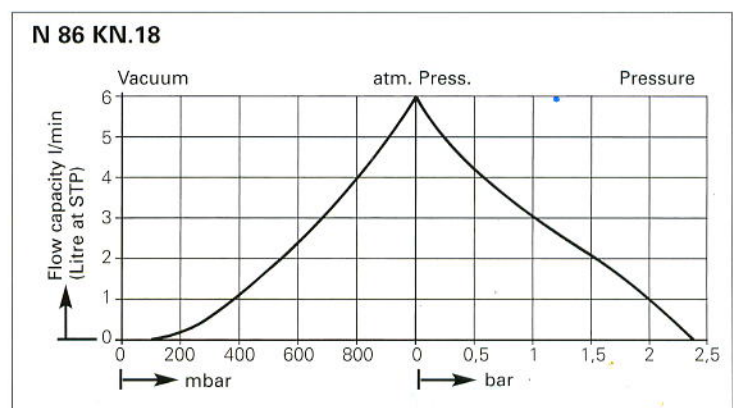
## Dimensions and performance characteristics

### Pump down time for 5 l receiver



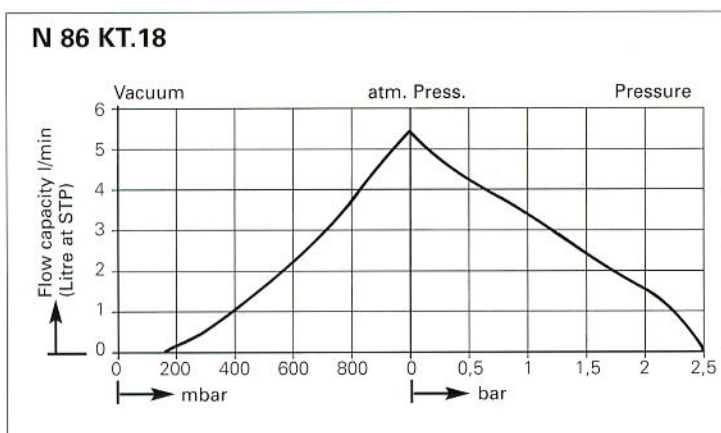
KNF reserves the right to make changes.

### Performance characteristics

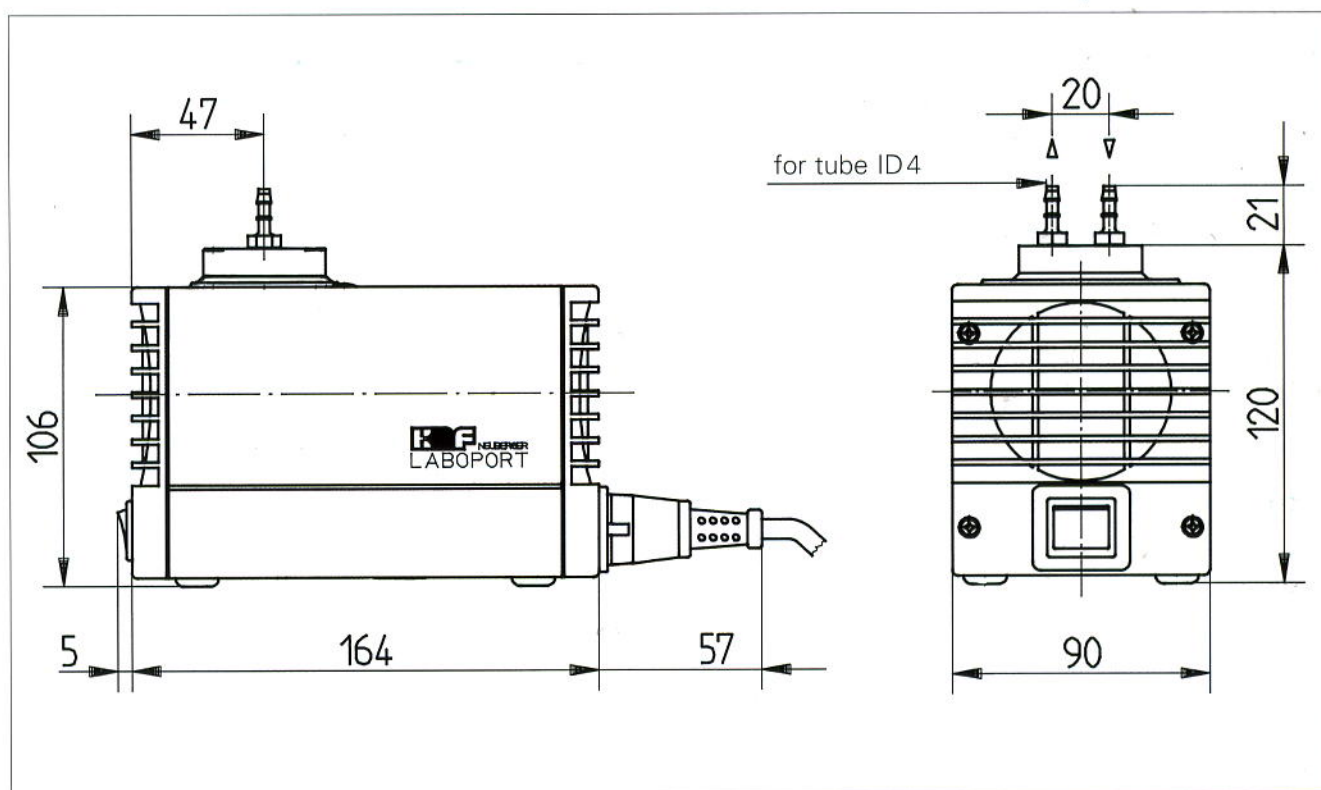


# Diaphragm Pumps for Air, Gases and Vapours

## Performance characteristics



## Dimensions (mm)



## Accessories

Description	Details	Order No.
Silencer	G 1/8	000345
Filter	G 1/8	000346
Hose connector	G 1/8, PVDF, AD 4 mm	025671
Fine control valve with pressure gauge	pressure side	on request
Fine control valve with vacuum gauge	suction side	on request

**KNF worldwide - Diaphragm Pumps and Systems**

# Diaphragm Pumps for Air, Gases and Vapours

1



## Series LABOPORT® N 811 K.18 Pumps

Series N 811 diaphragm pumps are single-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination. The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

The pumps are available in various versions differing in the materials which contact the media.

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 811 KN.18	PPS	EPDM	FPM
N 811 KT.18	PPS	PTFE-coated	FFPM

## LABOPORT® Mini Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

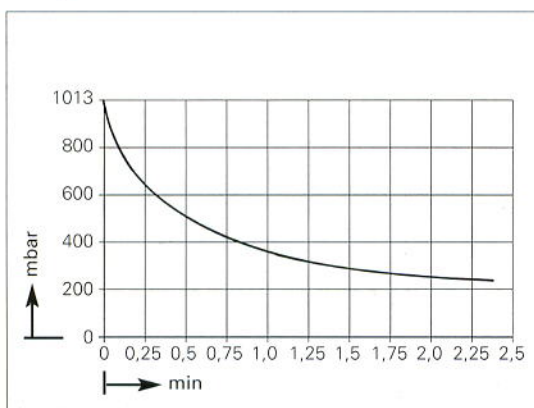
	N 811 KN.18	N 811 KT.18
Delivery (l/min) <sup>1</sup>	11.5	11.5
Ultimate vacuum (mbar abs.)	240	290
Operating pressure (bar g)	2	2
Connectors for tube (mm)	ID 6	ID 6
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	65 W	65 W
Operating current	0.8 A	0.8 A
Weight	2.5 kg	2.5 kg
Dimensions LxHxW (mm)	187/157/90	187/157/90
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

<sup>1</sup>) at atm. pressure

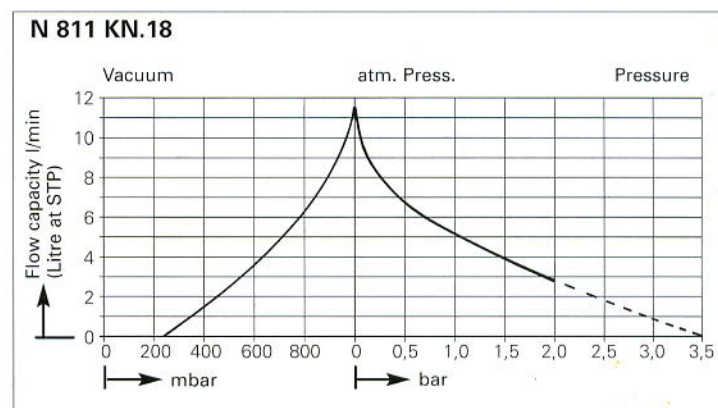
## Dimensions and performance characteristics

### Pump down time for 5 l receiver



KNF reserves the right to make changes.

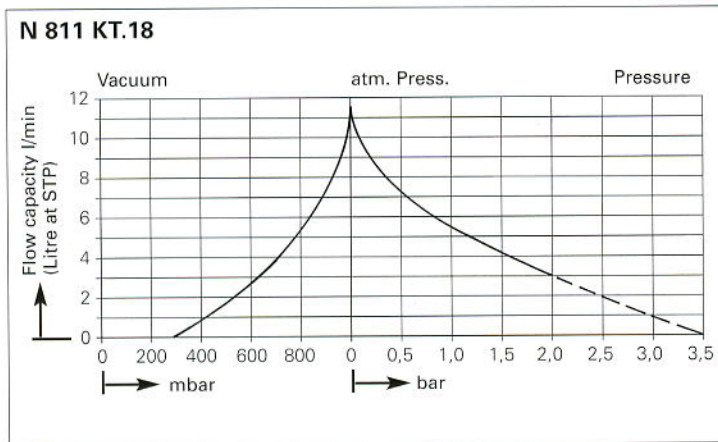
### Performance characteristics



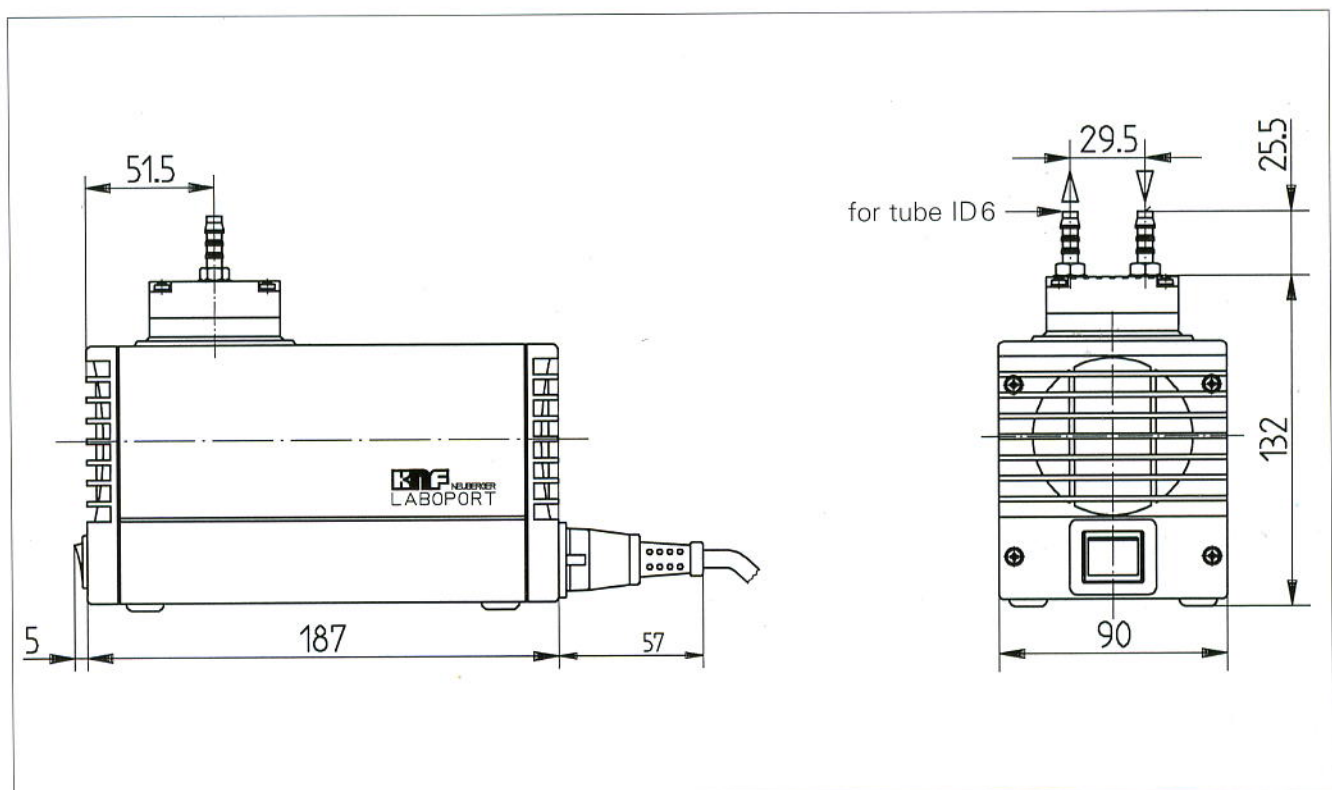
# Diaphragm Pumps for Air, Gases and Vapours

1

## Performance characteristics



## Dimensions (mm)



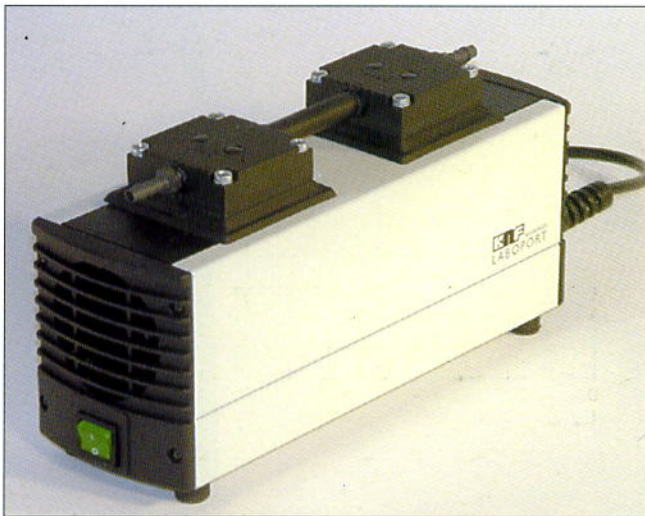
## Accessories

Description	Details	Order No.
Silencer	G 1/8	000345
Filter	G 1/8	000346
Hose connector	G 1/8, PVDF, AD 6 mm	014052
Fine control valve with pressure gauge	pressure side	on request
Fine control valve with vacuum gauge	suction side	on request

**KNF worldwide - Diaphragm Pumps and Systems**

# Diaphragm Pumps for Air, Gases and Vapours

1



## LABOPORT® Mini Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series LABOPORT® N 816.3 K\_.18 Pumps

Series N 816.3 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination.

The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

The pumps are available in various versions differing in the materials which contact the media.

Technical data:	N 816.3 KN.18	N 816.3 KT.18
Delivery (l/min) <sup>1)</sup>	16	16
Ultimate vacuum (mbar abs.)	15	20
Operating pressure (bar g)	0.5	0.5
Connectors for tube (mm)	ID 6	ID 6
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	100 W	100 W
Operating current	0.6 A	0.6 A
Weight	3.95 kg	3.95 kg
Dimensions LxHxW (mm)	361/141/90	361/141/90
	With thermal switch and power fuse	

### Material in contact with the pumped media

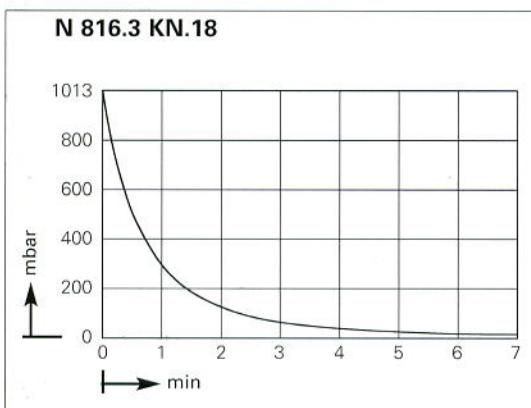
Type/OrderNo.	Pump head	Diaphragm	Valves
N 816.3 KN.18	PPS	EPDM	EPDM
N 816.3 KT.18	PPS	PTFE-coated	FFPM

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

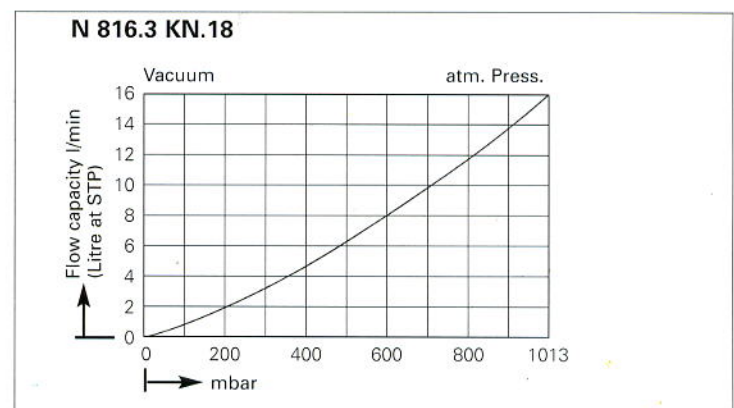
## Dimensions and performance characteristics

### Pump down time for 10 l receiver



KNF reserves the right to make changes.

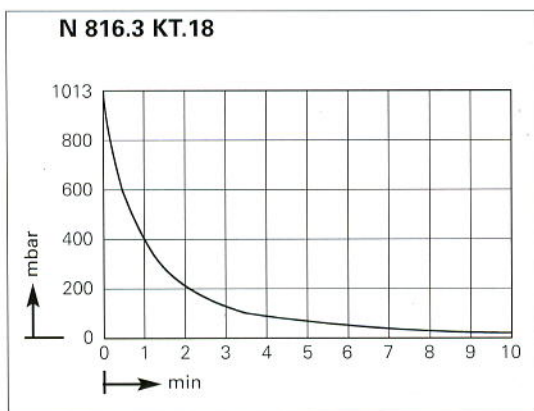
### Performance characteristics



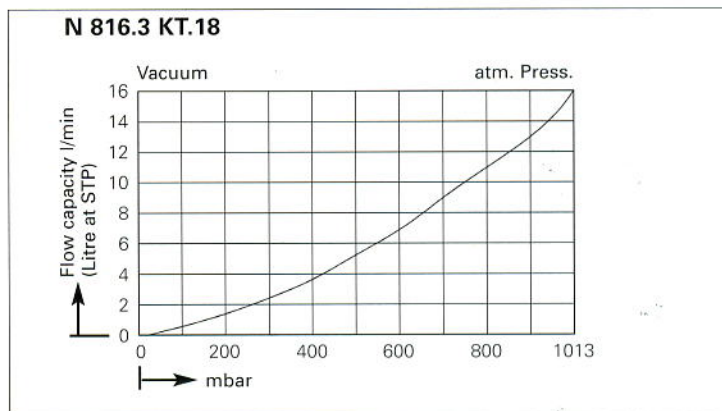
# Diaphragm Pumps for Air, Gases and Vapours

1

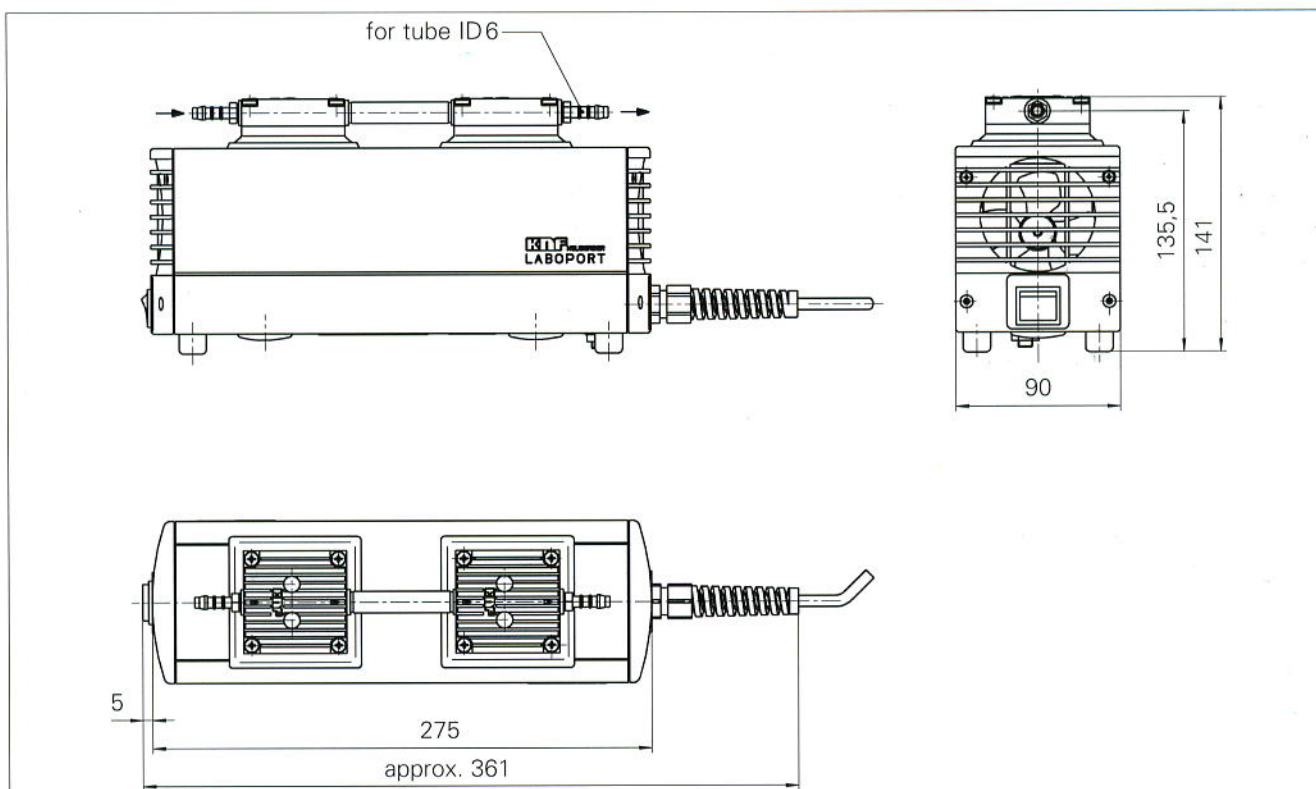
## Pump down time for 10 l receiver



## Performance characteristics



## Dimensions (mm)

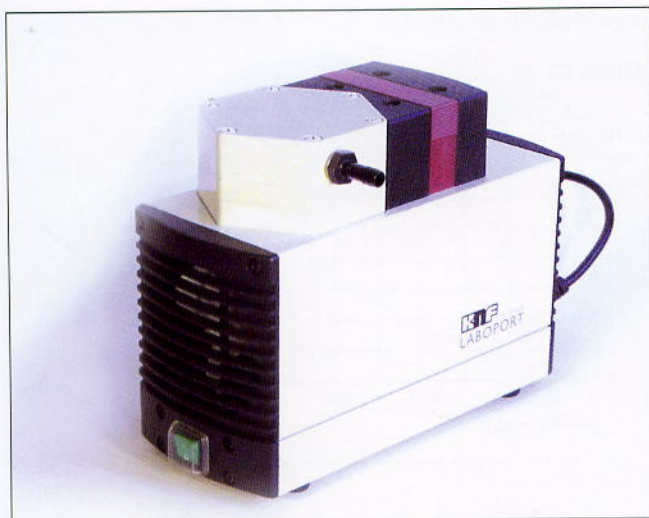


## Accessories

Description	Details	Order No.
Silencer	G 1/8	000345
Hose connector	G 1/8, PVDF, AD 6 mm	014052

# Diaphragm Pumps for Air, Gases and Vapours

1



## Series LABOPORT® N 820 A\_.18 Pumps

Series N 820 diaphragm pumps are single-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination.

The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

The pumps are available in various versions differing in the materials which contact the media.

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 820 AN.18	Aluminium	CR	NBR
N 820 AT.18	Aluminium	PTFE-coated	FFPM

## LABOPORT® Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapors and condensation
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

	N 820 AN.18	N 820 AT.18
Delivery (l/min) <sup>1)</sup>	22	20
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	1	1
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	130 W	130 W
Operating current	0.9 A	0.9 A
Weight	7.1 kg	7.1 kg
Dimensions LxHxW (mm)	261/204/110	261/204/110
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

## Accessories

Description	Details	Order No.
Silencer	G 1/4	007007
Hose connector	G 1/4, PVDF, AD 10 mm	004658

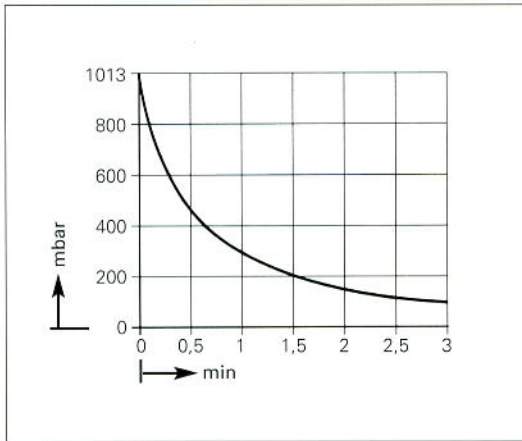


# Diaphragm Pumps for Air, Gases and Vapours

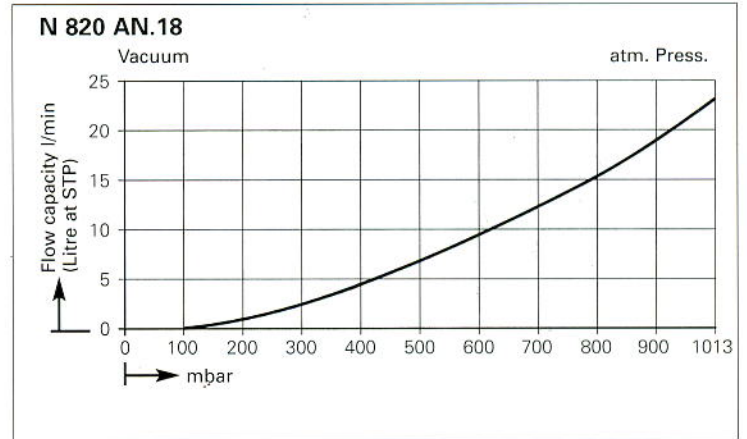
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## Dimensions and performance characteristics

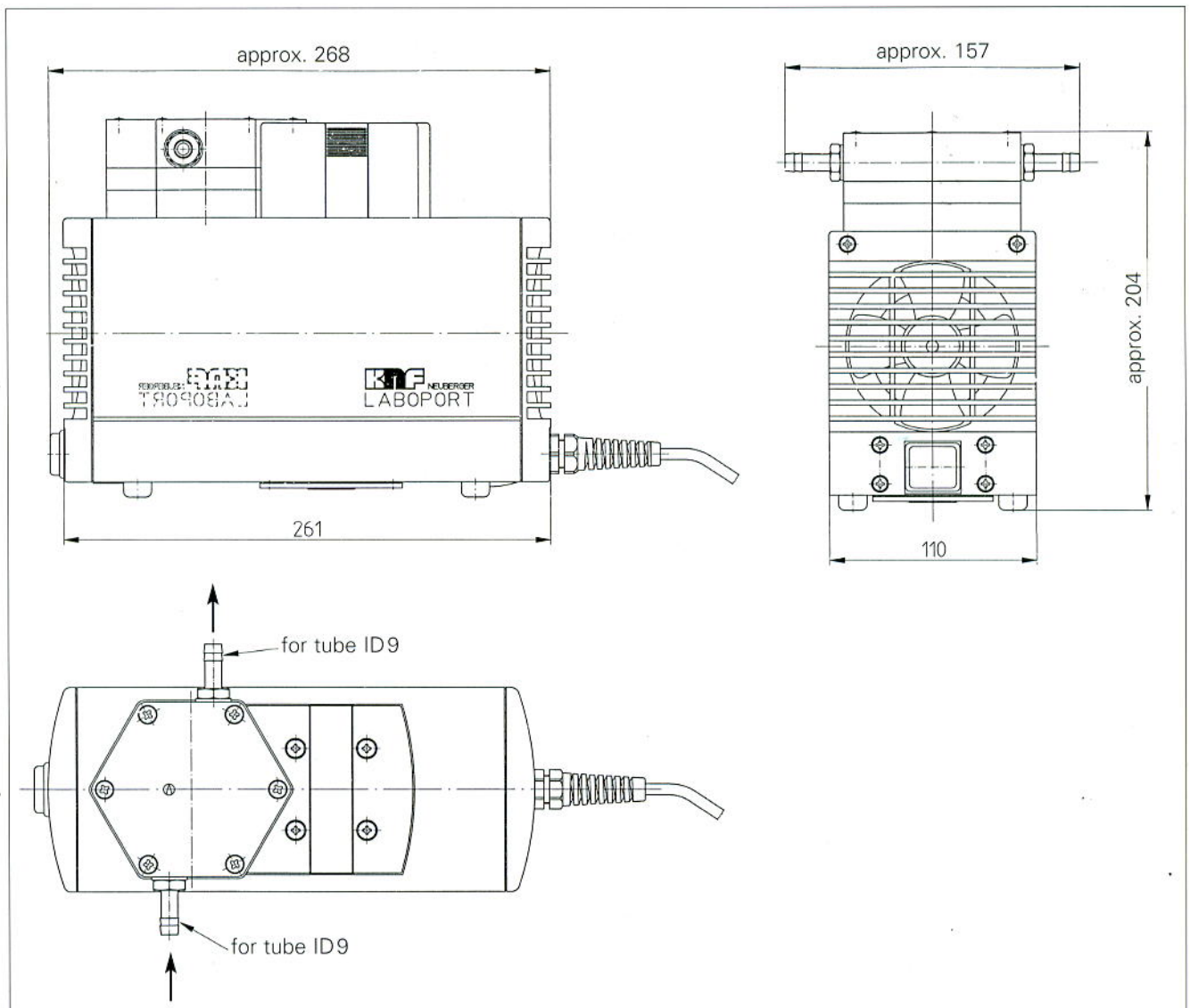
Pump down time for 10 l receiver



Performance characteristics

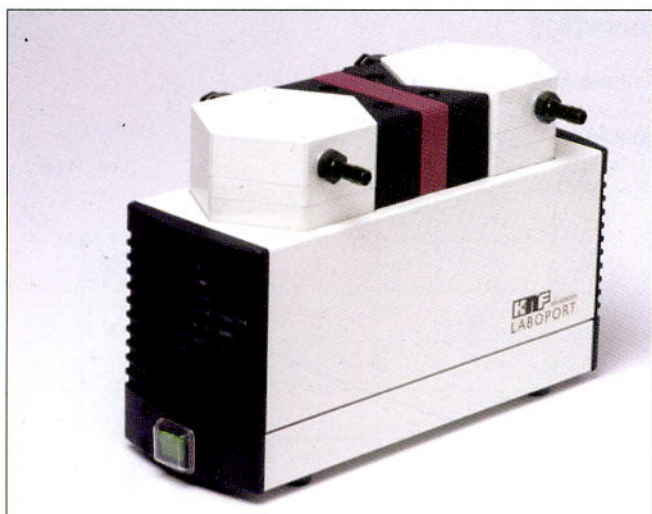


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## LABOPORT® Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapors and condensation
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series LABOPORT® N 820.3 A\_.18 Pumps

Series N 820.3 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination.

The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

The pumps are available in various versions differing in the materials which contact the media.

### Technical data:

	N 820.3 AN.18	N 820.3 AT.18
Delivery (l/min) <sup>1)</sup>	22	20
Ultimate vacuum (mbar abs.)	8	8
Operating pressure (bar g)	1	1
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	120 W	120 W
Operating current	0.7 A	0.7 A
Weight	9.3 kg	9.3 kg
Dimensions LxHxW (mm)	304/204/110	304/204/110
With thermal switch and power fuse		

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 820.3 AN.18	Aluminium	CR	NBR
N 820.3 AT.18	Aluminium	PTFE-coated	FFPM

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

## Accessories

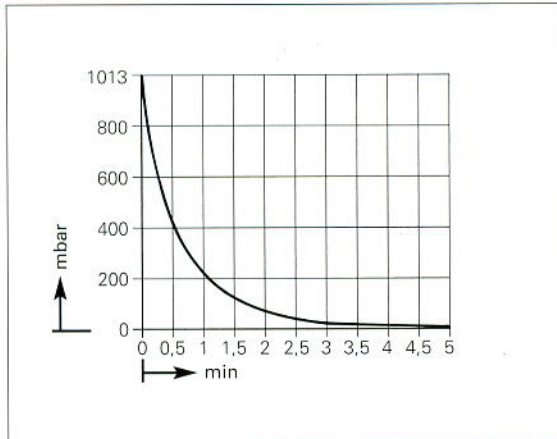
Description	Details	Order No.
Silencer	G 1/4	007007
Hose connector	G 1/4, PVDF, AD 10 mm	004658

# Diaphragm Pumps for Air, Gases and Vapours

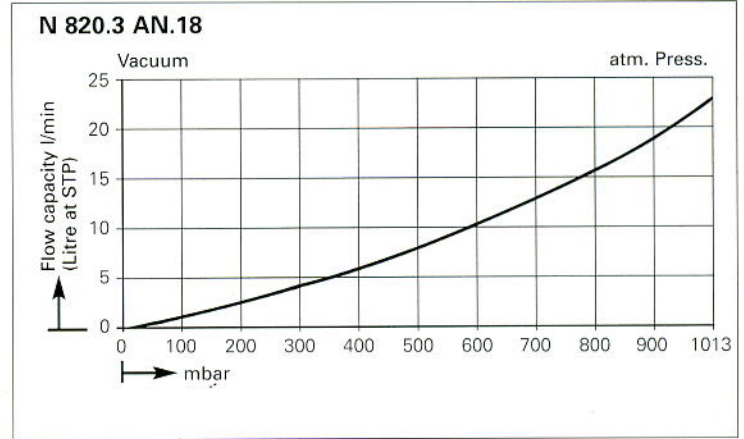
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## Dimensions and performance characteristics

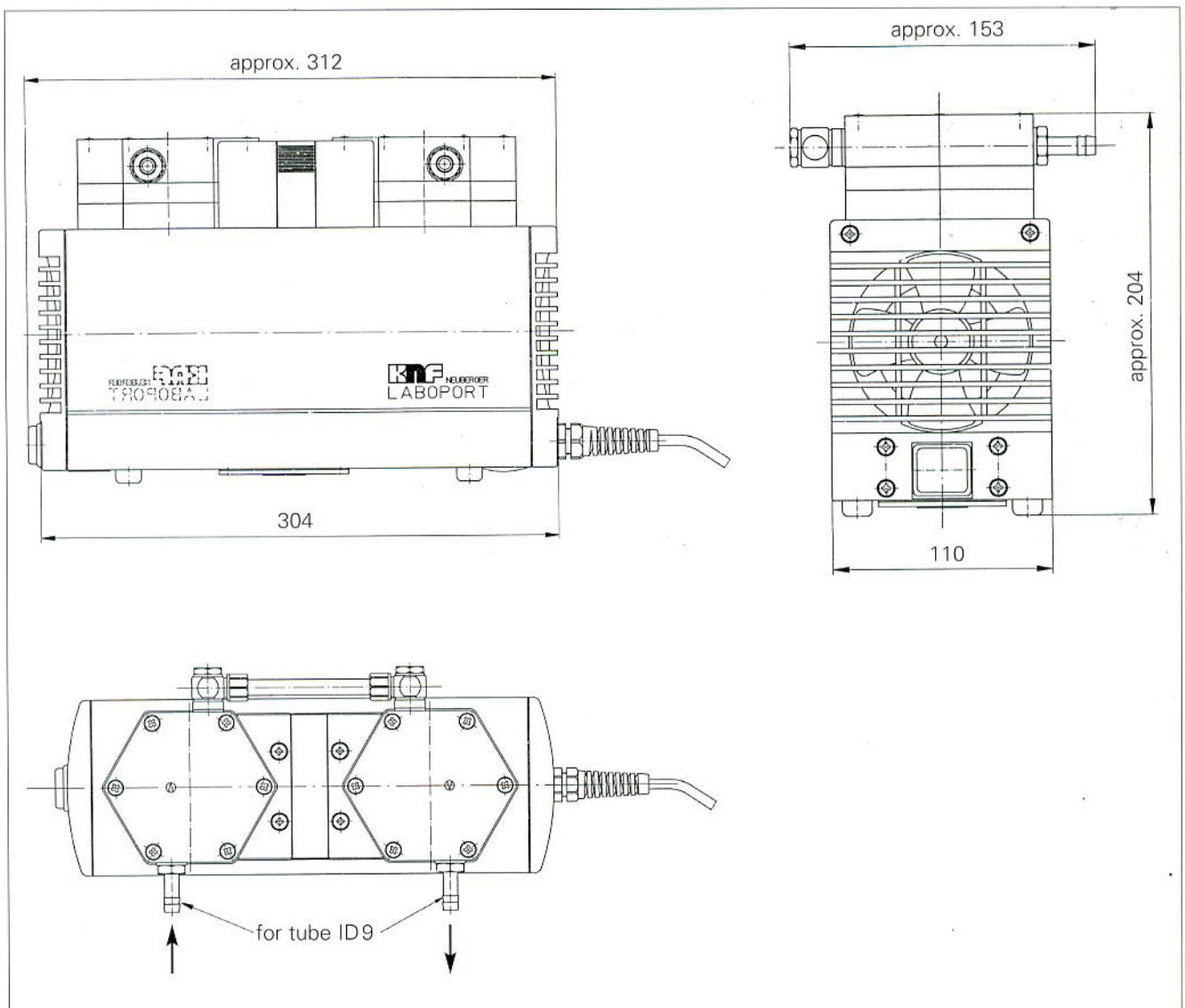
Pump down time for 10 l receiver



Performance characteristics

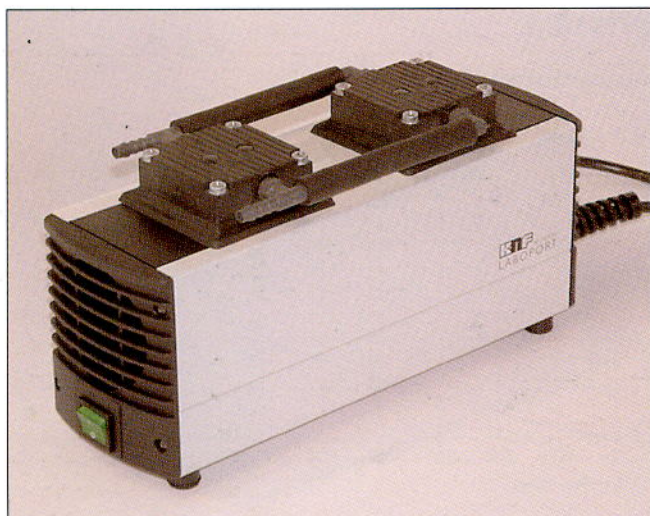


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## LABOPORT® Mini Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series LABOPORT® N 816.1.2 K\_18 Pumps

Series N 816.1.2 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination. The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

The pumps are available in various versions differing in the materials which contact the media.

### Technical data:

	N 816.1.2 KN.18	N 816.1.2 KT.18
Delivery (l/min) <sup>1)</sup>	30	30
Ultimate vacuum (mbar abs.)	100	160
Operating pressure (bar g)	0.5	0.5
Connectors for tube (mm) ID	6	6
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	100 W	100 W
Operating current	0.6 A	0.6 A
Weight	3.95 kg	3.95 kg
Dimensions LxHxW (mm)	361/141/90	361/141/90
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

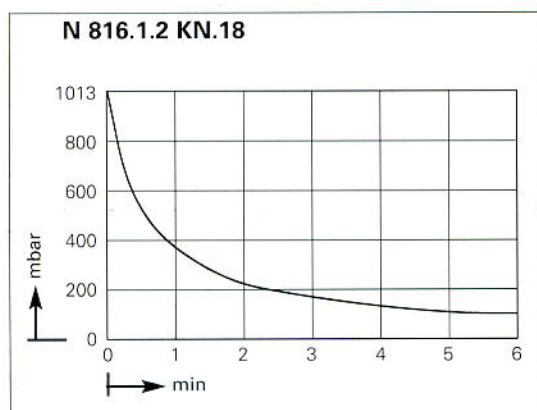
<sup>1)</sup> at atm. pressure

### Material in contact with the pumped media

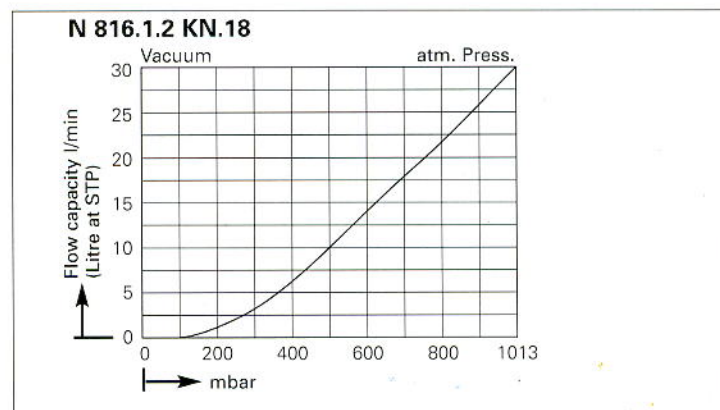
Type/OrderNo.	Pump head	Diaphragm	Valves
N 816.1.2 KN.18 PPS		EPDM	EPDM
N 816.1.2 KT.18 PPS		PTFE-coated	FFPM

## Dimensions and performance characteristics

### Pump down time for 20 l receiver



### Performance

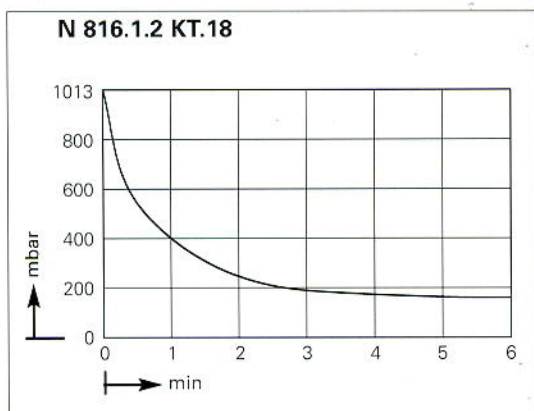


KNF reserves the right to make changes.

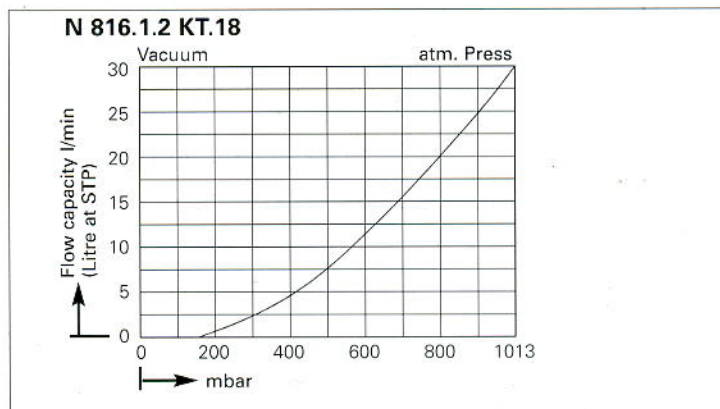
KNF 10/2002 Produced in Germany

# Diaphragm Pumps for Air, Gases and Vapours

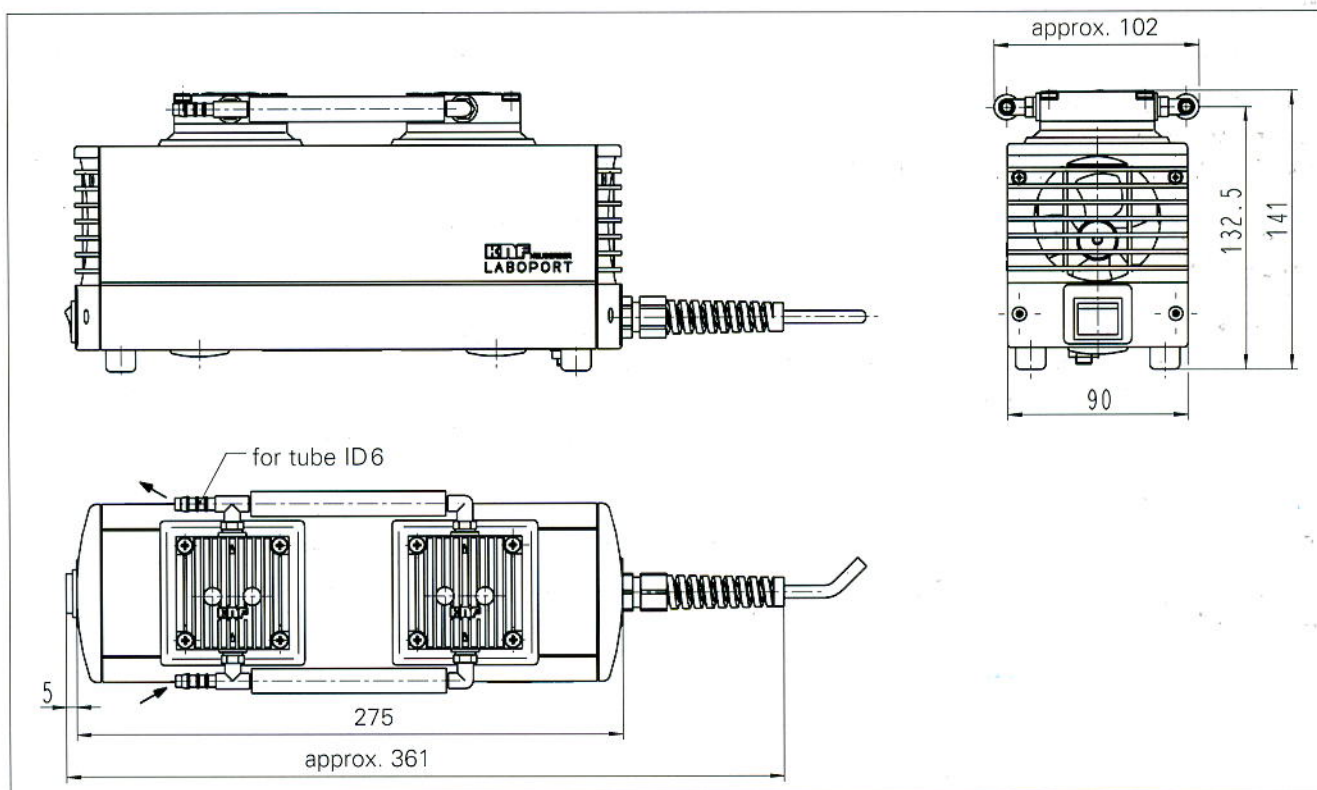
## Pump down time for 20 l receiver



## Performance



## Dimensions (mm)



## Accessories

Description	Details	Order No.
Silencer	G 1/8	000345
Hose connector	G 1/8, PVDF, AD 6 mm	014052

# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 022 A\_.18 Pumps

Series N 022 diaphragm pumps are single-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination.

The pumps are available in various versions differing in the materials which contact the media.

Technical data:	N 022 AN.18	N 022 AT.18
Delivery (l/min) <sup>1)</sup>	15	13
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	4	4
Connectors for tube (mm)	ID 6	ID 6
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	60 W	60 W
Operating current	0.75 A	0.75 A
Weight	4 kg	4 kg
Dimensions LxHxW (mm)	203/194/103	203/194/103
With thermal switch		

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 022 AN.18	Aluminium	CR	Stainless steel
N 022 AT.18	Aluminium	PTFE-coated	Stainless steel

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

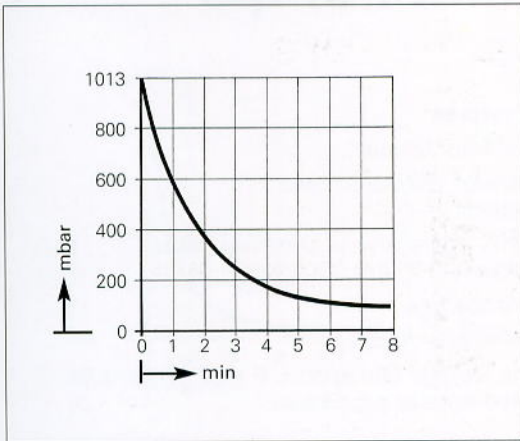
### Accessories

Description	Details	for Type	Order No.
Silencer/Filter	G 1/8		000346
Pressure relief valve	4 bar	N 022 AN.18	000351
Fine control valve with pressure gauge	pressure side	N 022 AN.18	000349
Fine control valve with vacuum gauge	suction side	N 022 AN.18	000350

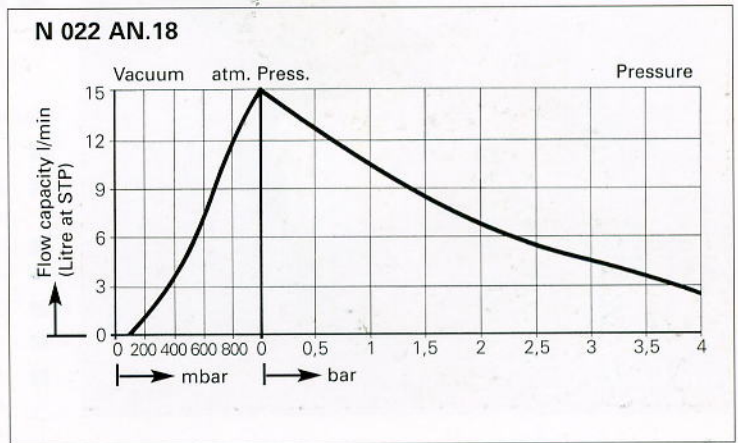
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

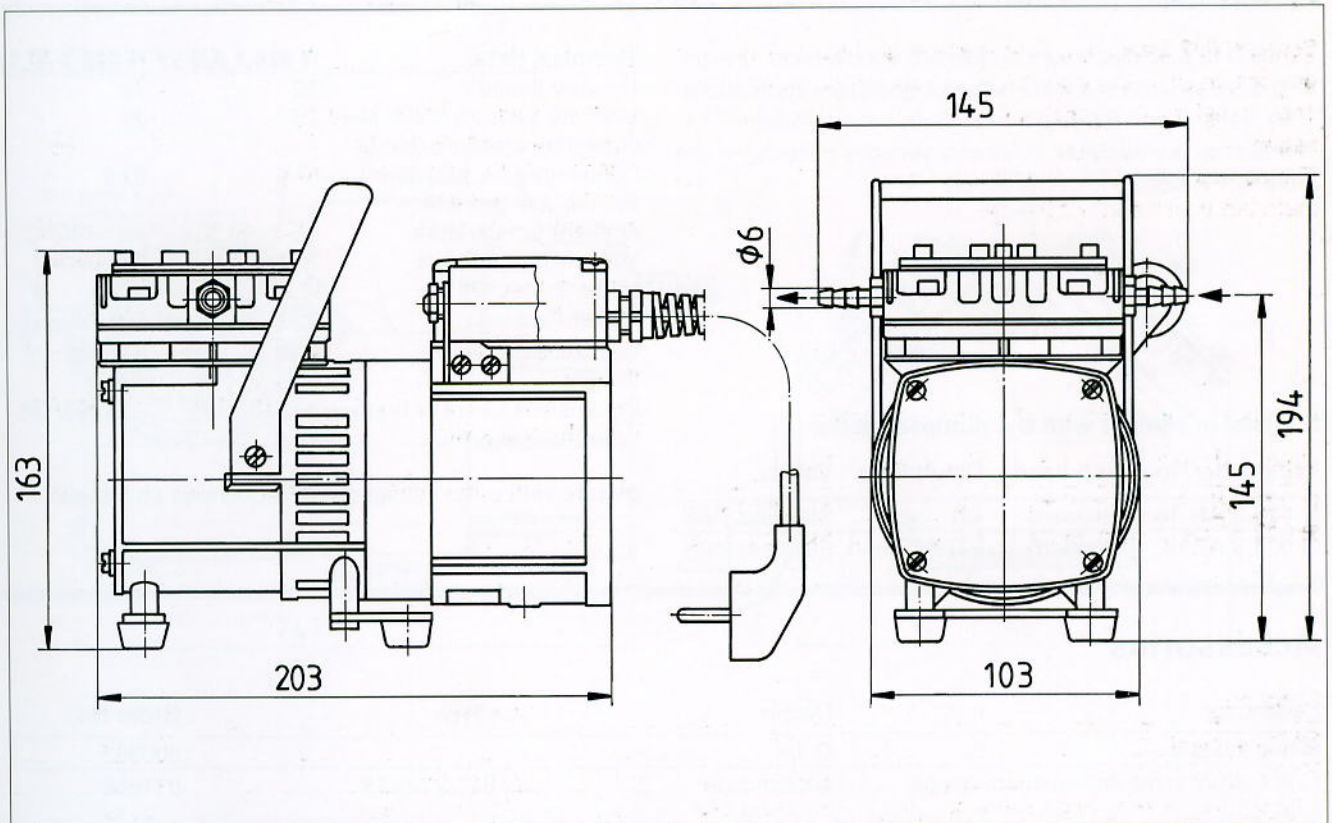
Pump down time for 20 l receiver



Performance characteristics

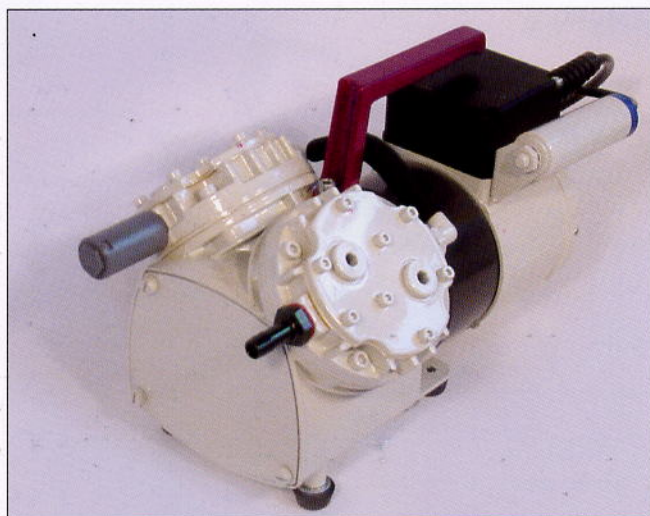


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 026.3 A\_.18 Pumps

Series N 026.32 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination. The pumps are available in various versions differing in the materials which contact the media.

Technical data:	N 026.3 AN.18	N 026.3 AT.18
Delivery (l/min) <sup>1)</sup>	22	18
Ultimate vacuum (mbar abs.)	20	25
Operating pressure (bar g)	-	-
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	150 W	150 W
Operating current	0.85 A	0.85 A
Weight	5.8 kg	5.8 kg
Dimensions LxHxW (mm)	243/185/185	243/185/185
With thermal switch		

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 026.3 AN.18	Aluminium	CR	Stainlesssteel
N 026.3 AT.18	Aluminium	PTFE-coated	Stainlesssteel

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Accessories

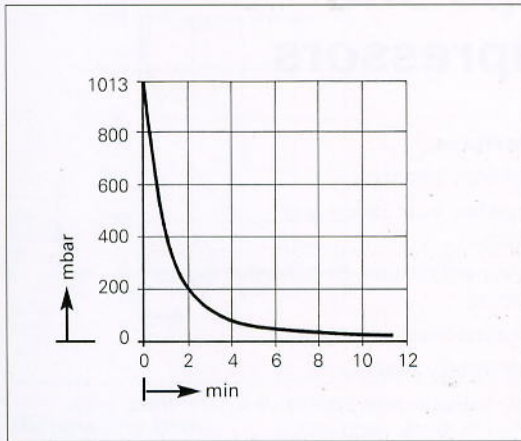
Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Fine control valve with vacuum gauge	suction side	N 026.3 AN.18	011868



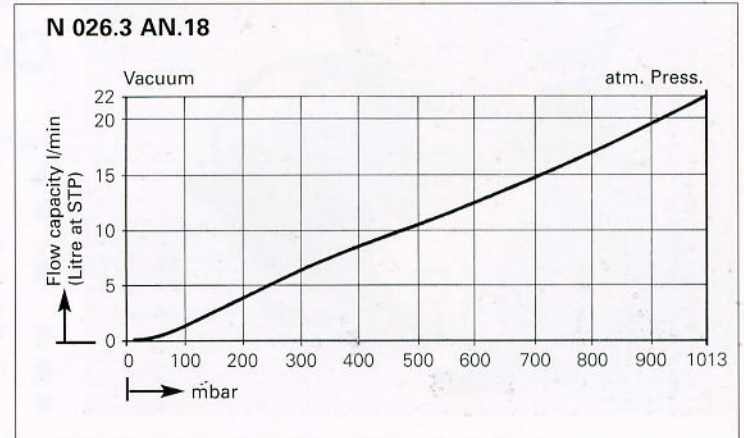
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

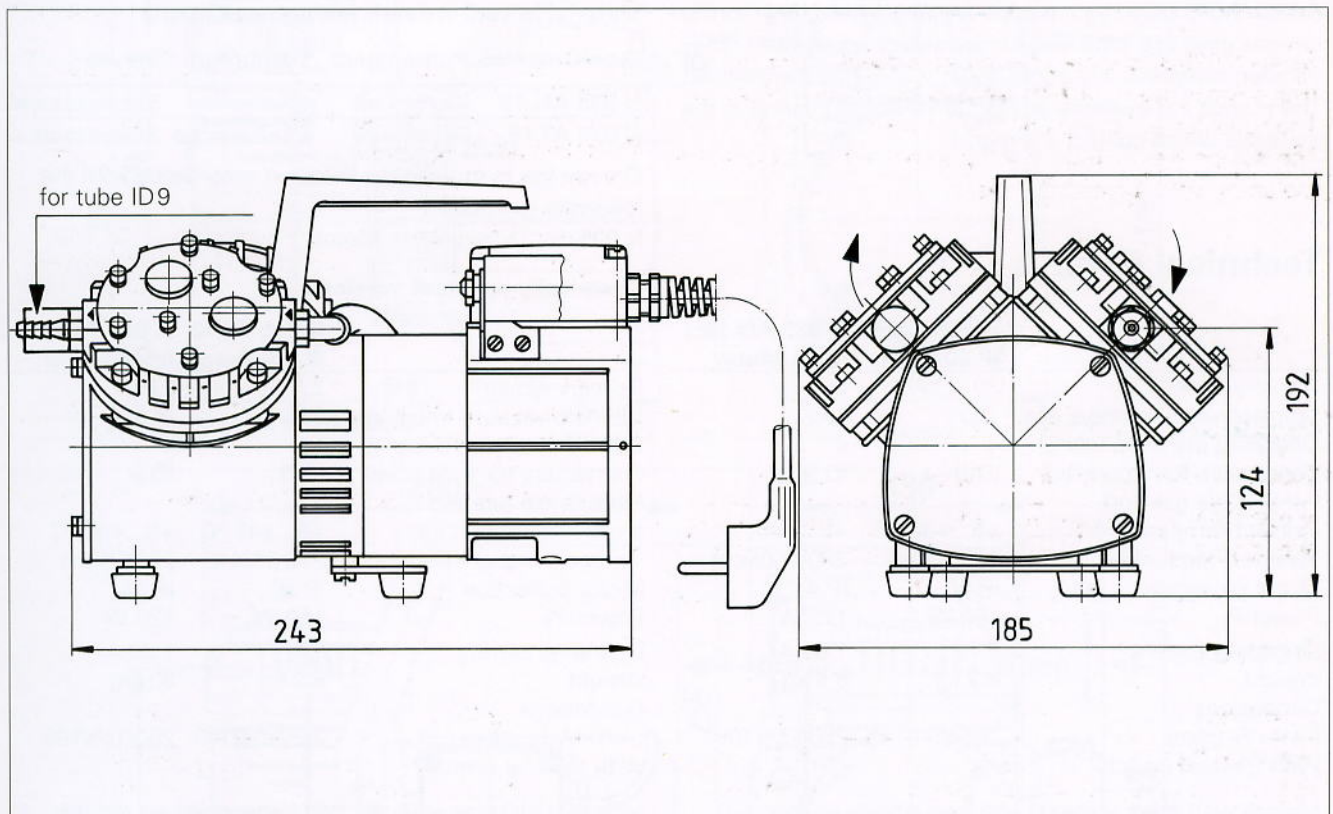
### Pump down time for 20 l receiver



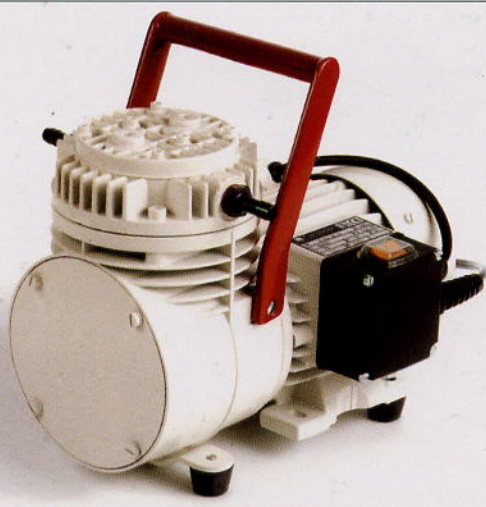
### Performance characteristics



### Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours



## Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 035 A\_.18 Pumps

Series N 035 diaphragm pumps are single-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination. The pumps are available in various versions differing in the materials which contact the media.

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 035 AN.18	Aluminium	CR	Stainless steel
N 035 AT.18	Aluminium	PTFE-coated	Stainless steel

Choose the pump and the motor in accordance with the following example:

N 035 AN.18 with IP 44-Motor.

### Technical data:

	N 035 AN.18 IP 20-Motor	N 035 AN.18 IP 44-Motor
Delivery (l/min) <sup>1)</sup>	30	30
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	4	4
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 44
Power P <sub>1</sub>	150 W	120 W
Operating current	1 A	1,80 A
Weight	8.2 kg	8.5 kg
Dimensions		
LxHxW (mm)	265/254/143	280/255/198
With thermal switch		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Chemically-resistant versions

	N 035 AT.18 IP 20-Motor	N 035 AT.18 IP 44-Motor
Delivery (l/min) <sup>1)</sup>	27	27
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	4	4
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 44
Power P <sub>1</sub>	150 W	120 W
Operating current	1 A	1,80 A
Weight	8.2 kg	8.5 kg
Dimensions		
LxHxW (mm)	265/254/143	280/255/198
With thermal switch		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Accessories

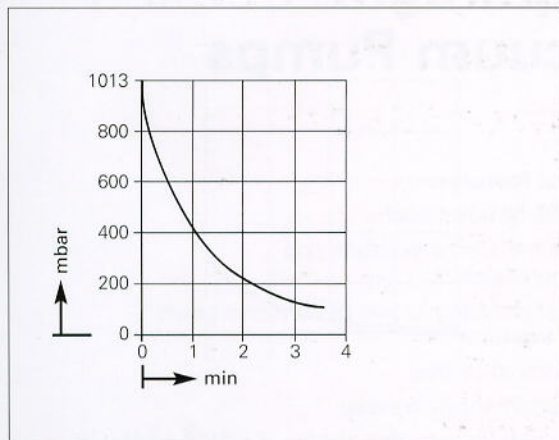
Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Pressure relief valve	4 bar	N 035 AN.18	047601
Fine control valve with pressure gauge	pressure side	N 035 AN.18	000482
Fine control valve with vacuum gauge	suction side		000354

KNF reserves the right to make changes.

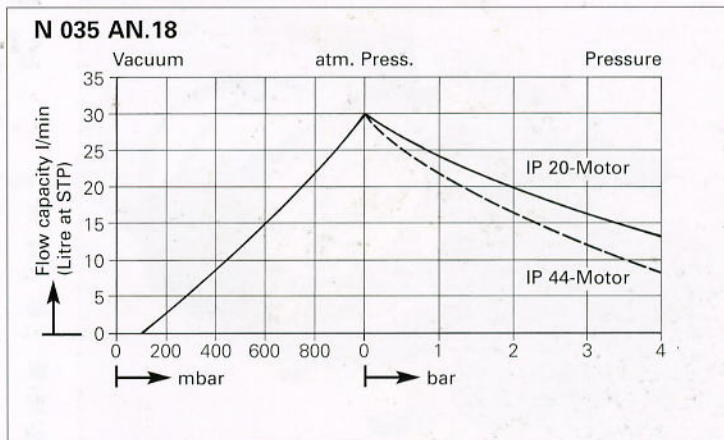
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

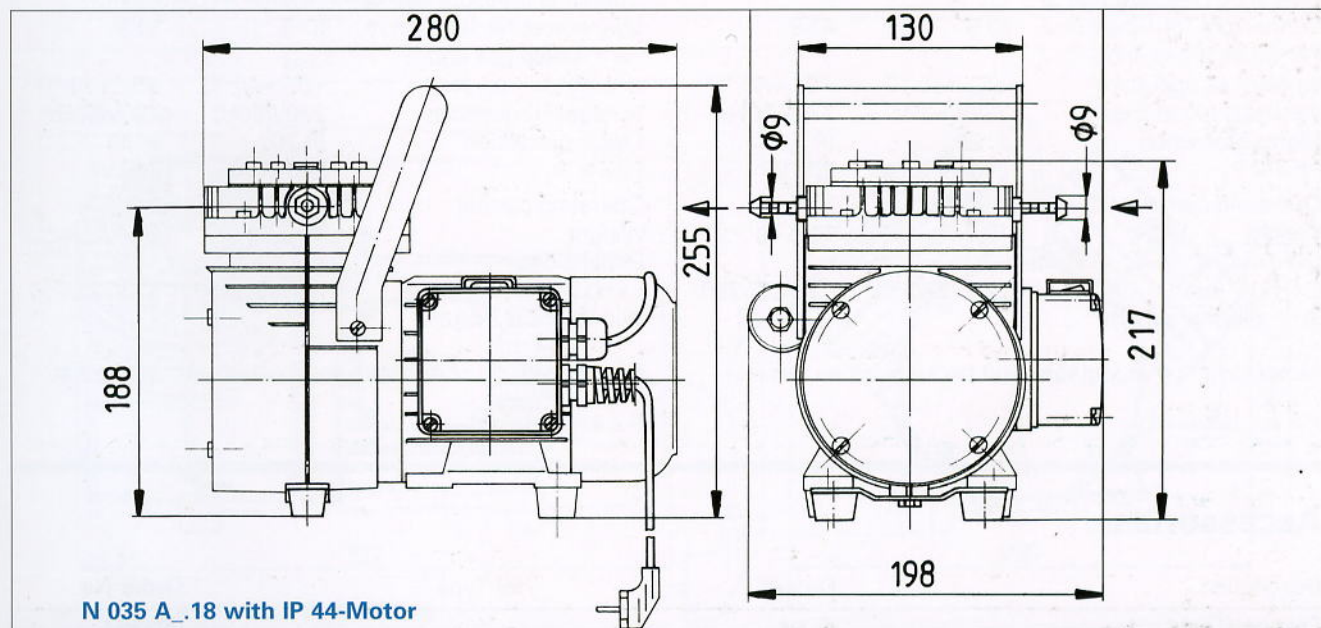
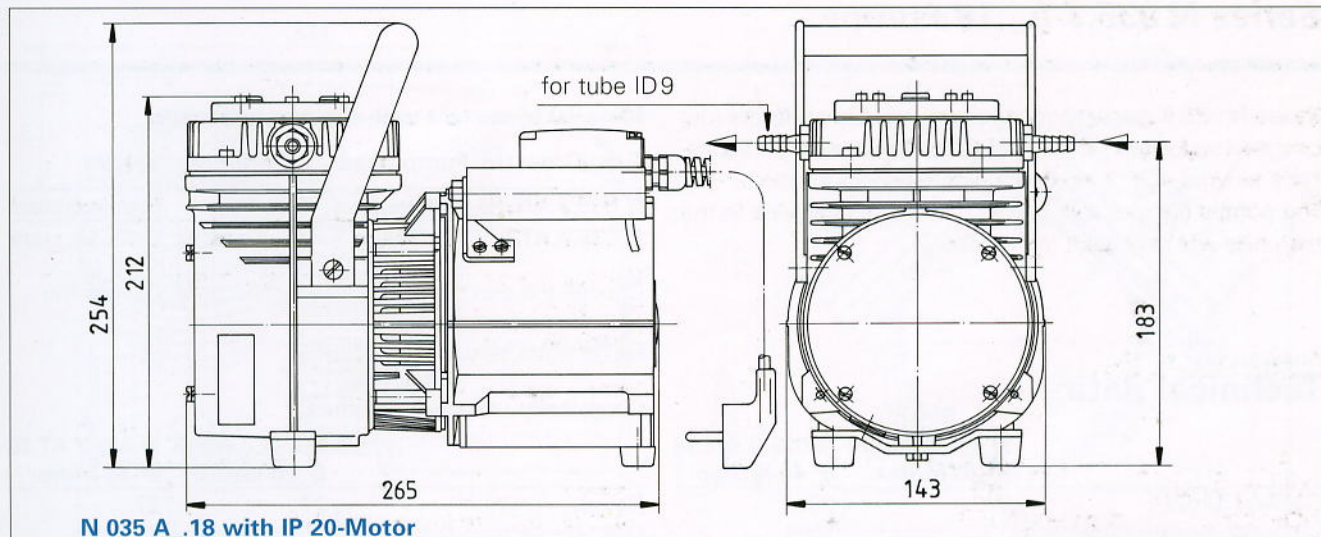
Pump down time for 20 l receiver



Performance characteristics

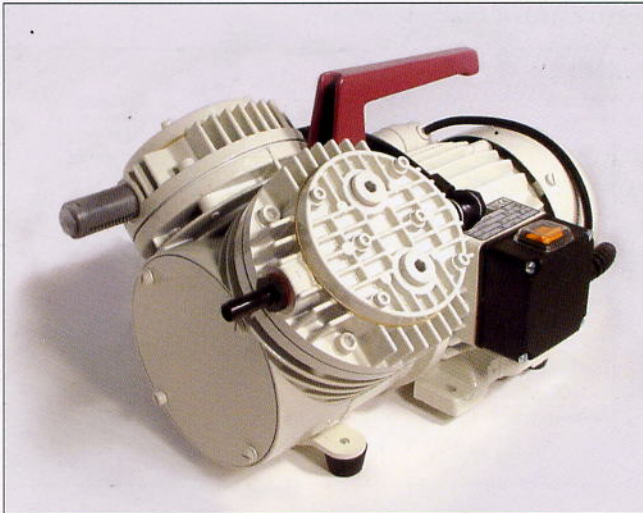


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 035.3 A\_18 Pumps

Series N 035.3 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination. The pumps are available in various versions differing in the materials which contact the media.

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 035.3 AN.18	Aluminium	CR	Stainless steel
N 035.3 AT.18	Aluminium	PTFE-coated	Stainless steel

Choose the pump and the motor in accordance with the following example:

N 035.3 AN.18 with IP 44-Motor.

### Technical data:

	N 035.3 AN.18 IP 20-Motor	N 035.3 AN.18 IP 44-Motor
Delivery (l/min) <sup>1)</sup>	30	30
Ultimate vacuum (mbar abs.)	13	13
Operating pressure (bar g)	-	-
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 44
Power P <sub>1</sub>	200 W	200 W
Operating current	1.50 A	2 A
Weight	11.3 kg	11.6 kg
Dimensions		
LxHxW (mm)	294/222/250	322/222/250
With thermal switch		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Chemically-resistant versions

	N 035.3 AT.18 IP 20-Motor	N 035.3 AT.18 IP 44-Motor
Delivery (l/min) <sup>1)</sup>	27	27
Ultimate vacuum (mbar abs.)	20	20
Operating pressure (bar g)	-	-
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 44
Power P <sub>1</sub>	200 W	200 W
Operating current	1.50 A	2 A
Weight	11.3 kg	11.6 kg
Dimensions		
LxHxW (mm)	294/222/250	322/222/250
With thermal switch		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Accessories

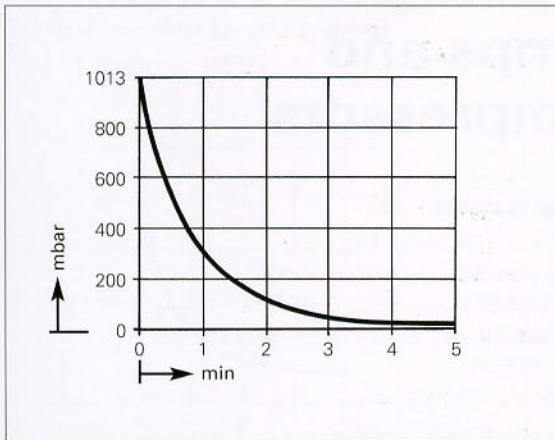
Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Fine control valve with vacuum gauge	suction side		000354

# Diaphragm Pumps for Air, Gases and Vapours

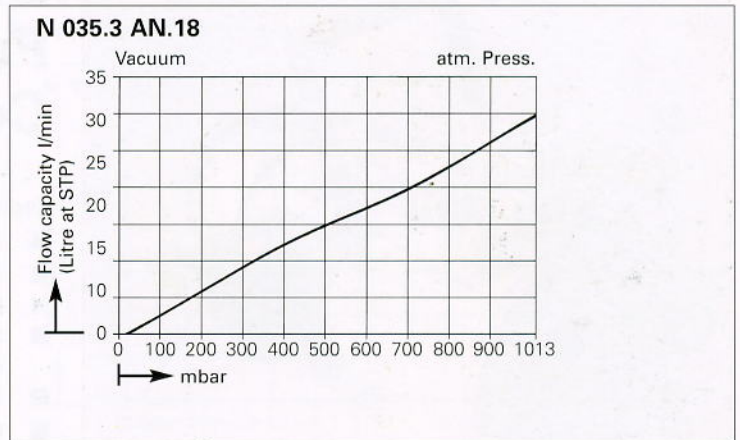
1

## Dimensions and performance characteristics

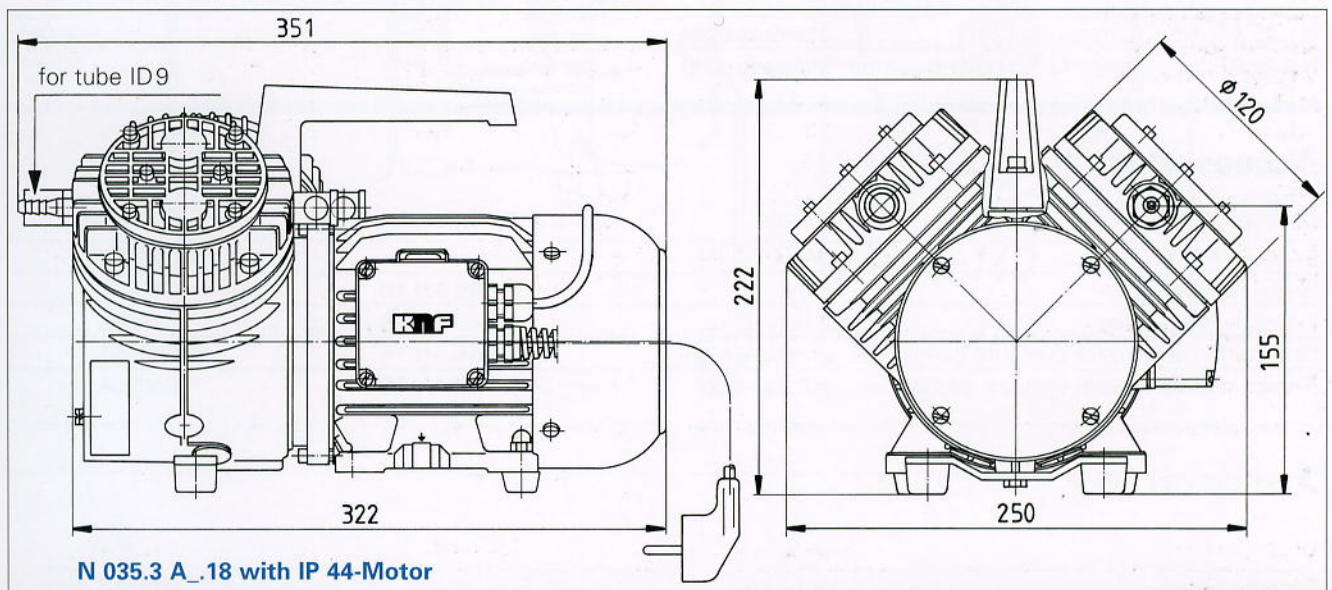
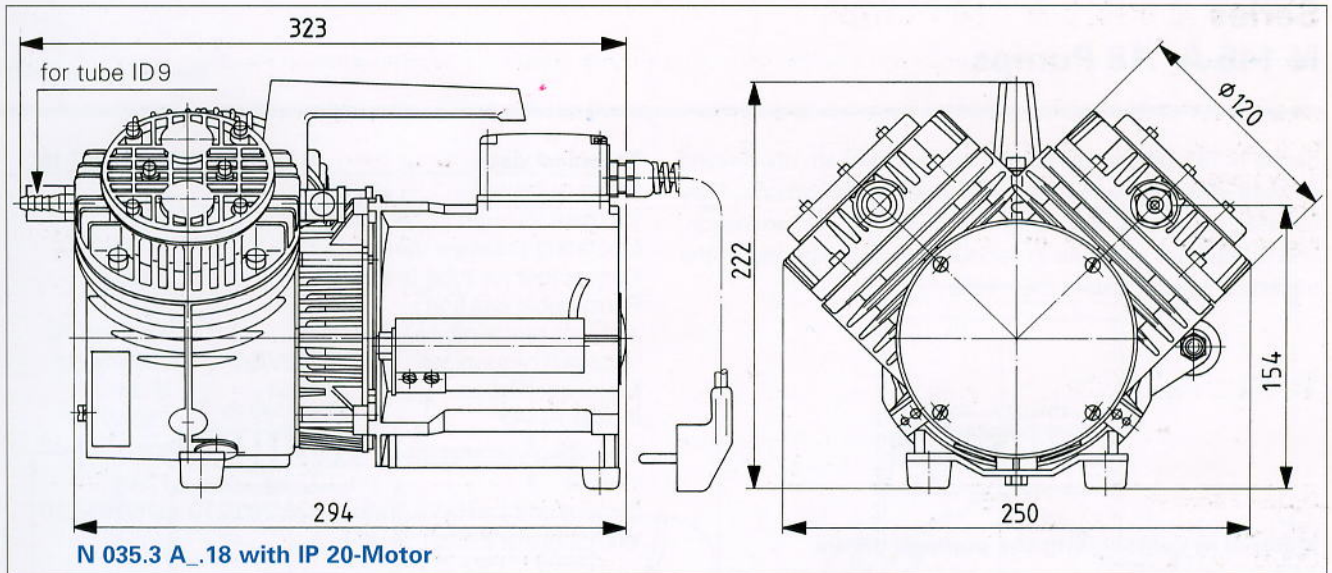
Pump down time for 20 l receiver



Performance characteristics

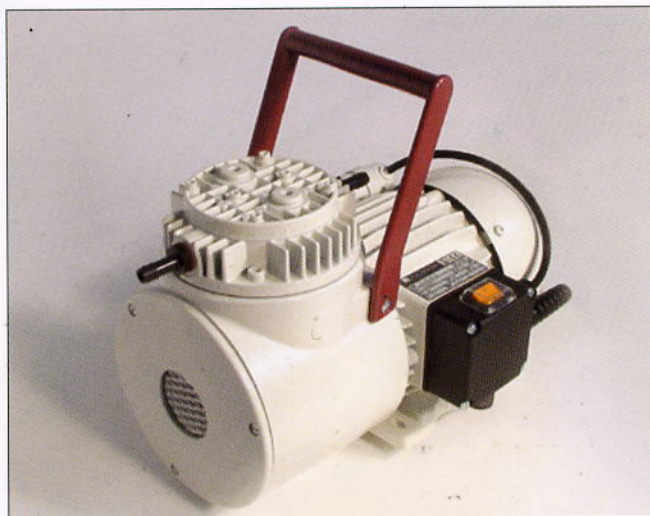


### Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 145 A\_.18 Pumps

Series N 145 diaphragm pumps are single-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination. The pumps are available in various versions differing in the materials which contact the media.

Technical data:	N 145 AN.18	N 145 AT.18
Delivery (l/min) <sup>1)</sup>	30	27
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	7	7
Connectors for tube (mm)	ID 9	ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	250 W	250 W
Operating current	2 A	2 A
Weight	12 kg	12 kg
Dimensions LxHxW (mm)	325/285/210	325/285/210
With thermal switch		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 145 AN.18	Aluminium	CR	Stainless steel
N 145 AT.18	Aluminium	PTFE-coated	Stainless steel

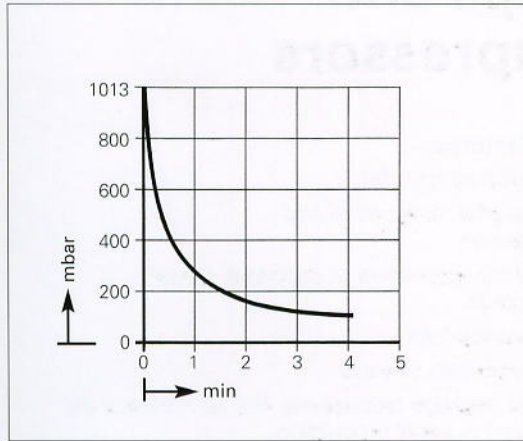
### Accessories

Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Pressure relief valve	4 bar	N 145 AN.18	047601
Pressure relief valve	7 bar	N 145 AN.18	047602
Fine control valve with pressure gauge	pressure side	N 145 AN.18	000356
Fine control valve with vacuum gauge	suction side	N 145 AN.18	000354

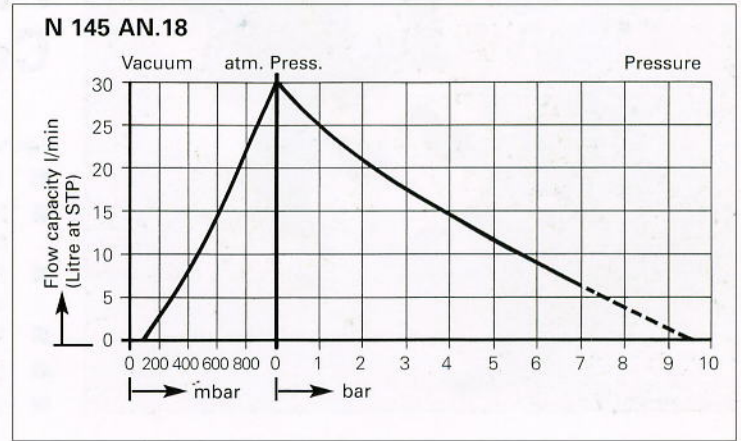
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

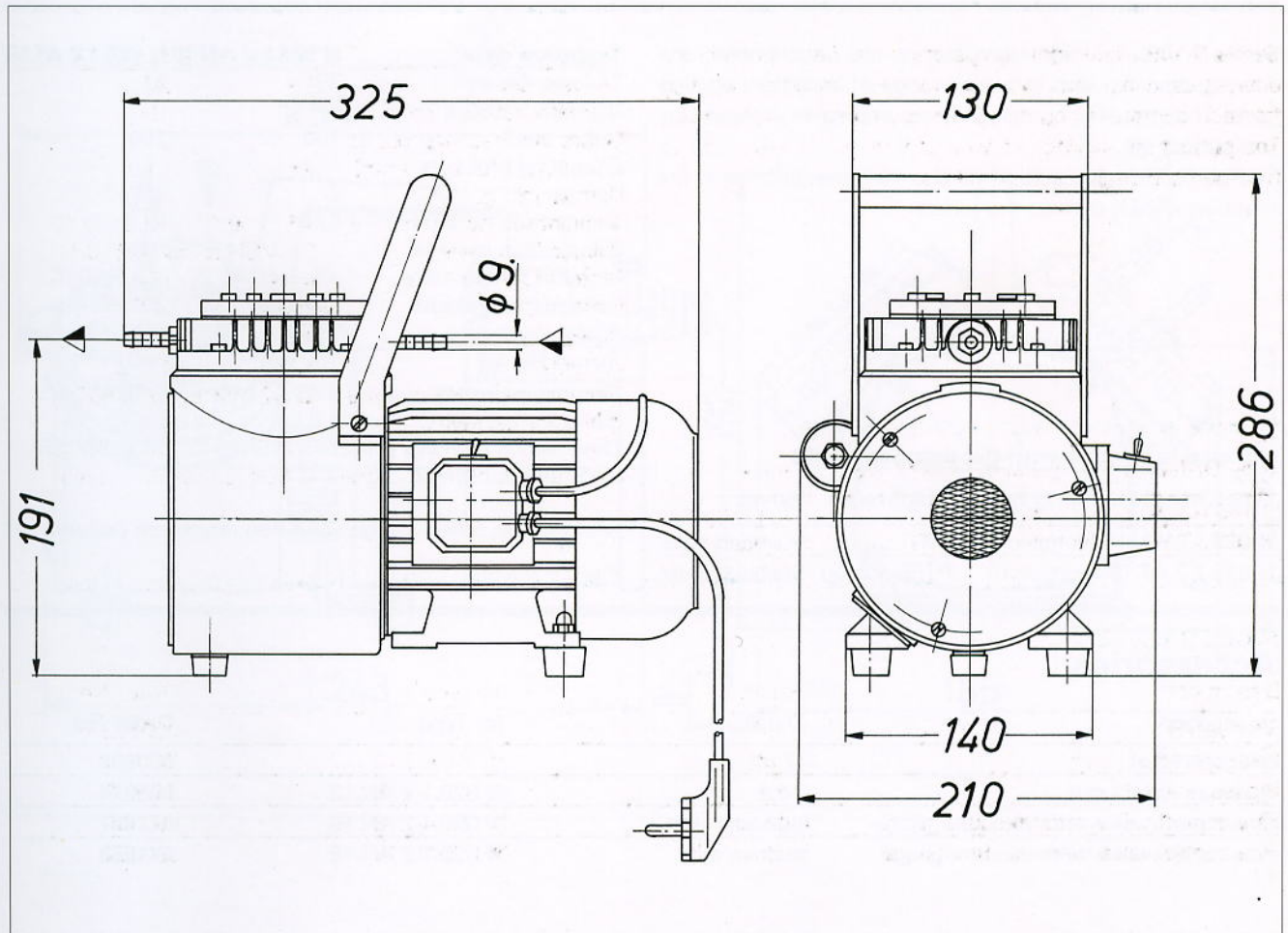
Pump down time for 20 l receiver



Performance characteristics

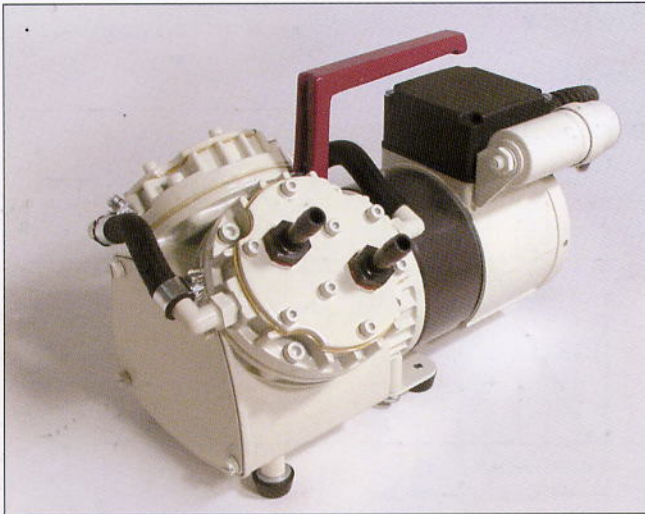


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 026.1.2 A\_18 Pumps

Series N 026.1.2 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination.

The pumps are available in various versions differing in the materials which contact the media.

### Technical data:

	N 026.1.2 AN.18	N 026.1.2 AT.18
Delivery (l/min) <sup>1)</sup>	39	31
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	2	2
Connectors for tube (mm) ID	9	9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 20
Power P <sub>1</sub>	150 W	150 W
Operating current	0.85 A	0.85 A
Weight	5.8 kg	5.8 kg
Dimensions LxHxW (mm)	243/185/185	243/185/185
With thermal switch		

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 026.1.2 AN.18	Aluminium	CR	Stainless steel
N 026.1.2 AT.18	Aluminium	PTFE-coated	Stainless steel

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Accessories

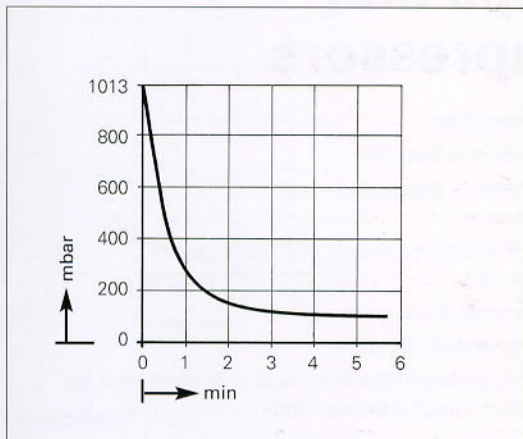
Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Pressure relief valve	2 bar	N 026.1.2 AN.18	003074
Fine control valve with pressure gauge	pressure side	N 026.1.2 AN.18	011867
Fine control valve with vacuum gauge	suction side	N 026.1.2 AN.18	011868



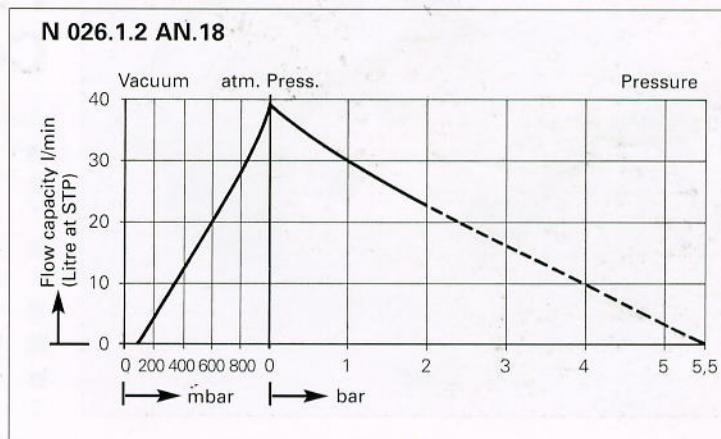
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

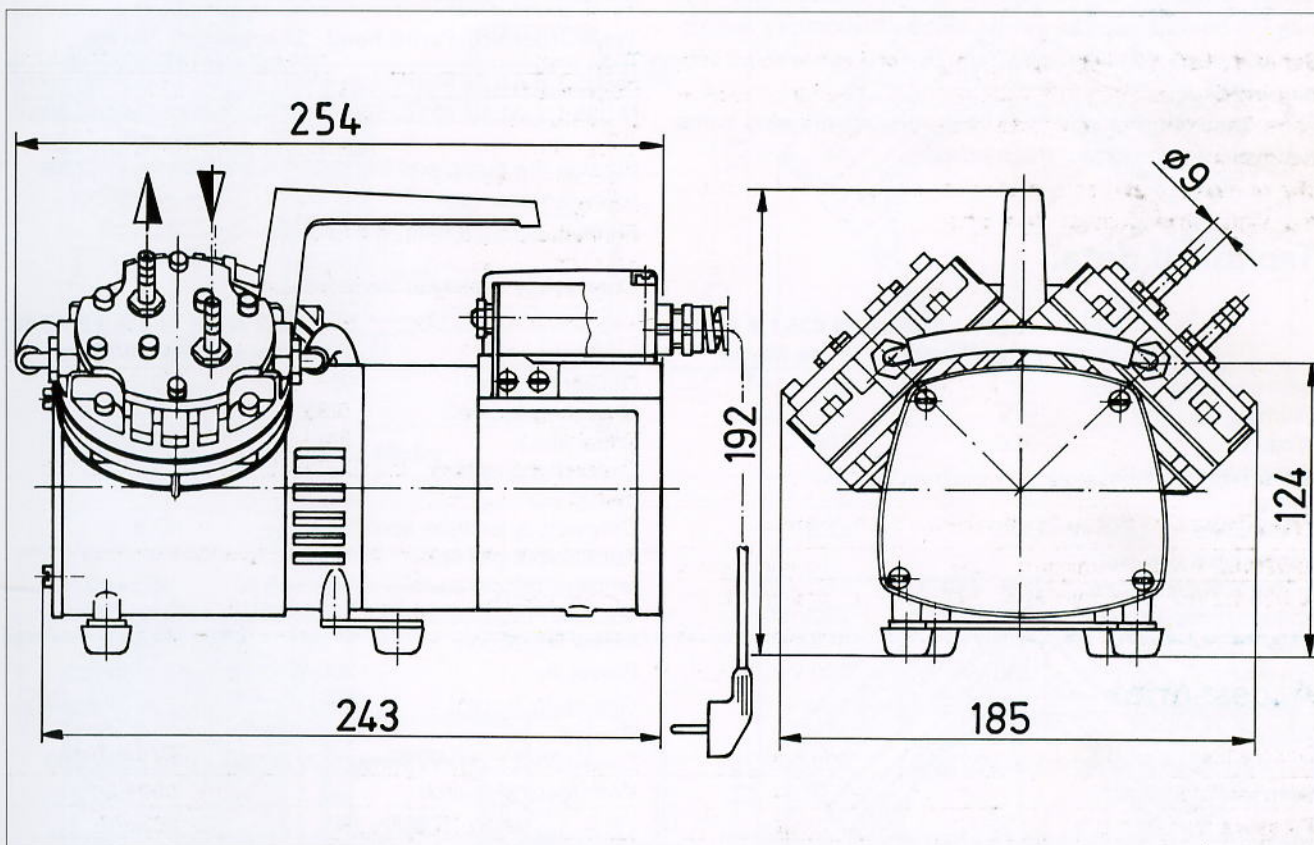
Pump down time for 20 l receiver



Performance characteristics

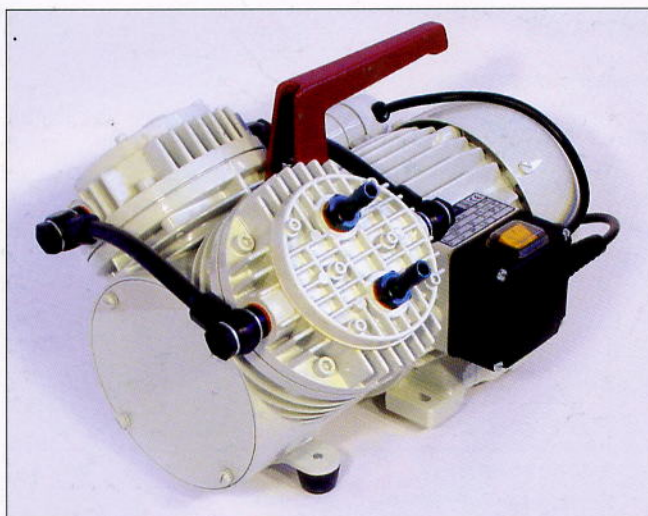


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps and Compressors

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 035.1.2 A\_.18 Pumps

Series N 035.1.2 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination.

The pumps are available in various versions differing in the materials which contact the media.

### Technical data:

	N 035.1.2 AN.18 IP 20-Motor	N 035.1.2 AN.18 IP 44-Motor
Delivery (l/min) <sup>1)</sup>	55	55
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	4	4
Connectors for tube (mm) ID 9		ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 44
Power P <sub>1</sub>	200 W	200 W
Operating current	1.50 A	2 A
Weight	11.3 kg	11.6 kg
Dimensions LxHxW (mm) With thermal switch	294/222/250	322/222/250

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 035.1.2 AN.18	Aluminium	CR	Stainless steel
N 035.1.2 AT.18	Aluminium	PTFE-coated	Stainless steel

Choose the pump and the motor in accordance with the following example:

N 035.1.2 AN.18 with IP 44-Motor.

### Chemically-resistant versions

	N 035.1.2 AT.18 IP 20-Motor	N 035.1.2 AT.18 IP 44-Motor
Delivery (l/min) <sup>1)</sup>	50	50
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	4	4
Connectors for tube (mm) ID 9		ID 9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 20	IP 44
Power P <sub>1</sub>	200 W	200 W
Operating current	1.50 A	2 A
Weight	11.3 kg	11.6 kg
Dimensions LxHxW (mm) With thermal switch	294/222/250	322/222/250

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

### Accessories

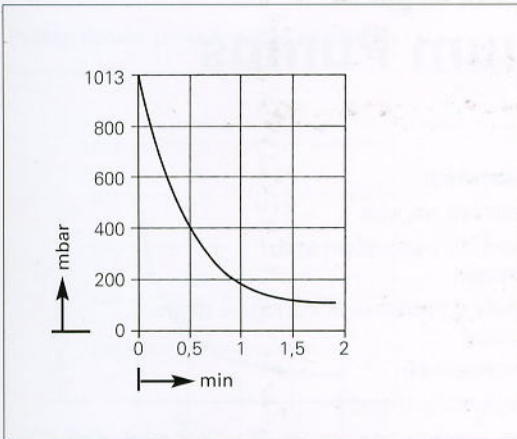
Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Pressure relief valve	4 bar	N 035.1.2 AN.18	047601
Fine control valve with pressure gauge	pressure side	N 035.1.2 AN.18	000482
Fine control valve with vacuum gauge	suction side	N 035.1.2 AN.18	000354

KNF reserves the right to make changes.

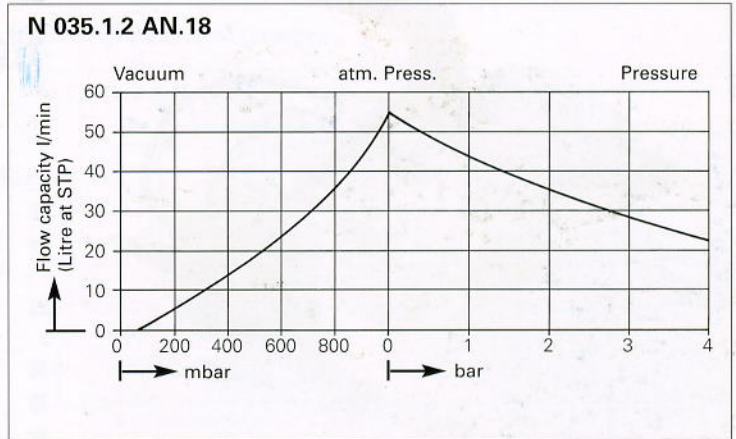
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

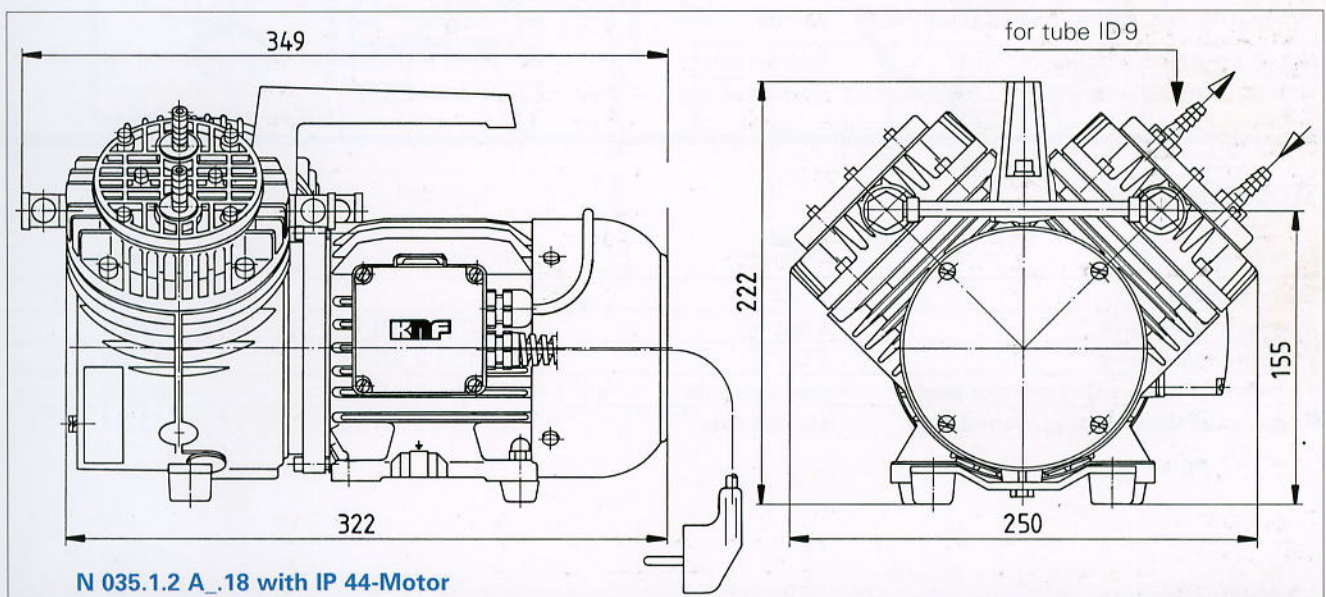
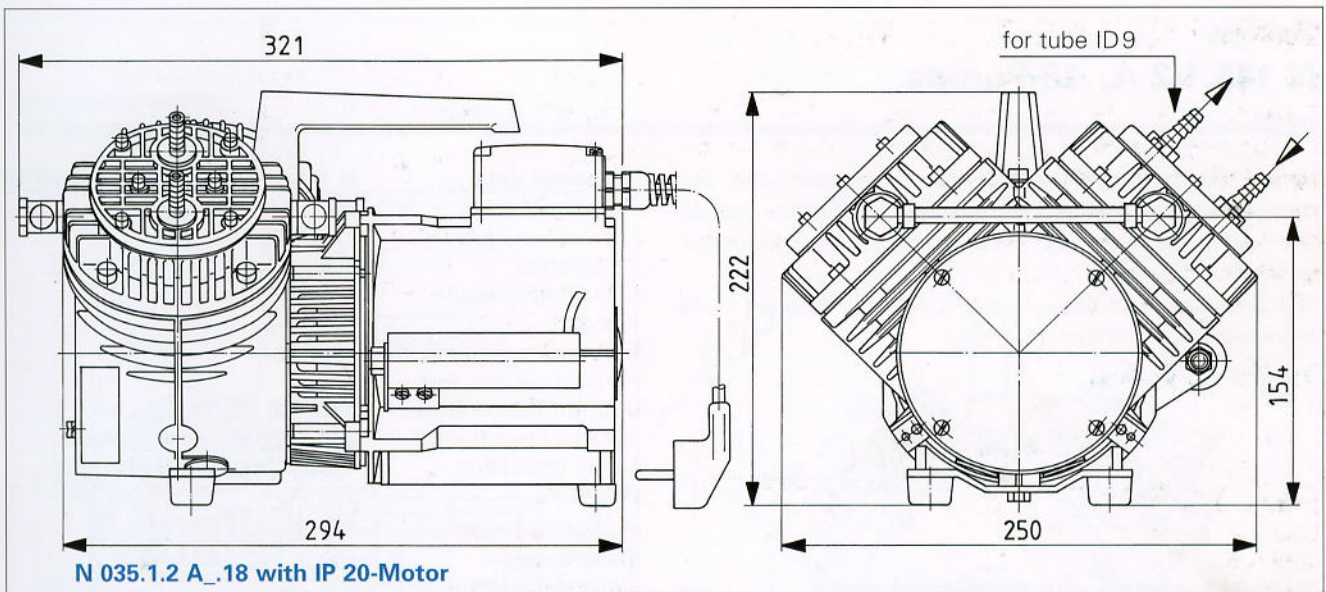
Pump down time for 20 l receiver



Performance characteristics

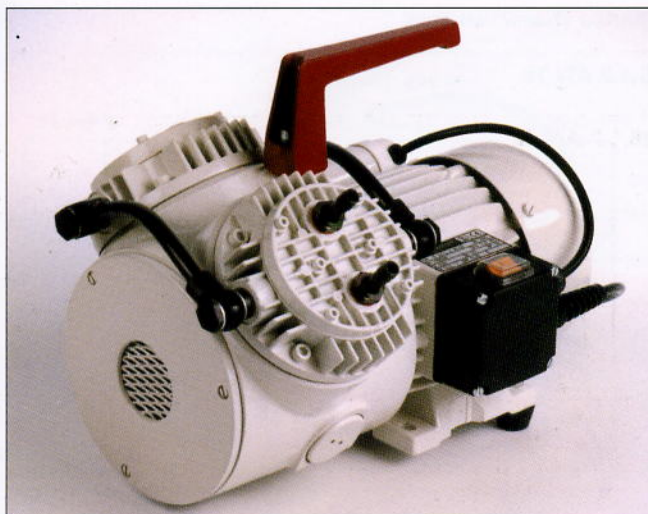


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- For slightly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Series N 145.1.2 A\_.18 Pumps

Series N 145.1.2 diaphragm pumps are double-head, dry-running devices used in a wide range of laboratory applications. They transfer, compress and pump down without contamination.

The pumps are available in various versions differing in the materials which contact the media.

### Technical data:

	N 145.1.2 AN.18	N 145.1.2 AT.18
Delivery (l/min) <sup>1)</sup>	55	50
Ultimate vacuum (mbar abs.)	100	100
Operating pressure (bar g)	7	7
Connectors for tube (mm) ID	9	9
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	250 W	250 W
Operating current	2 A	2 A
Weight	15 kg	15 kg
Dimensions LxHxW (mm)	350/260/250	350/260/250
With thermal switch		

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 145.1.2 AN.18	Aluminium	CR	Stainless steel
N 145.1.2 AT.18	Aluminium	PTFE-coated	Stainless steel

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

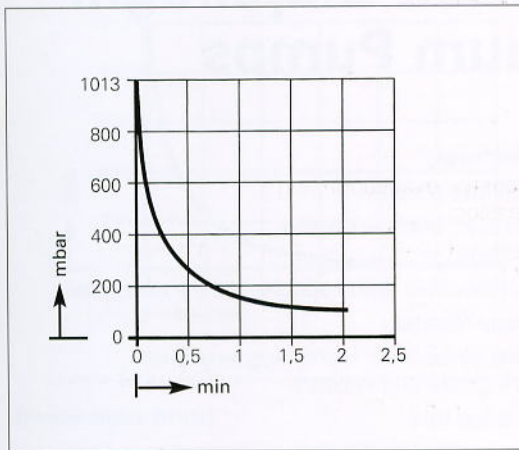
### Accessories

Description	Details	for Type	Order No.
Silencer/Filter	G 1/4		000352
Pressure relief valve	4 bar	N 145.1.2 AN.18	047601
Pressure relief valve	7 bar	N 145.1.2 AN.18	047602
Fine control valve with pressure gauge	pressure side	N 145.1.2 AN.18	000356
Fine control valve with vacuum gauge	suction side	N 145.1.2 AN.18	000354

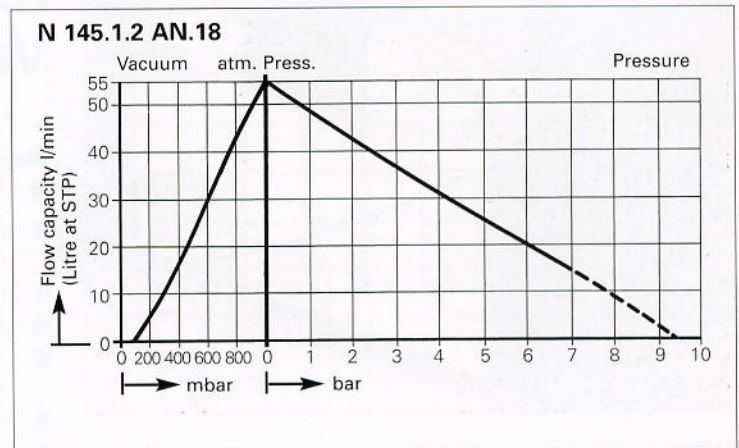
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

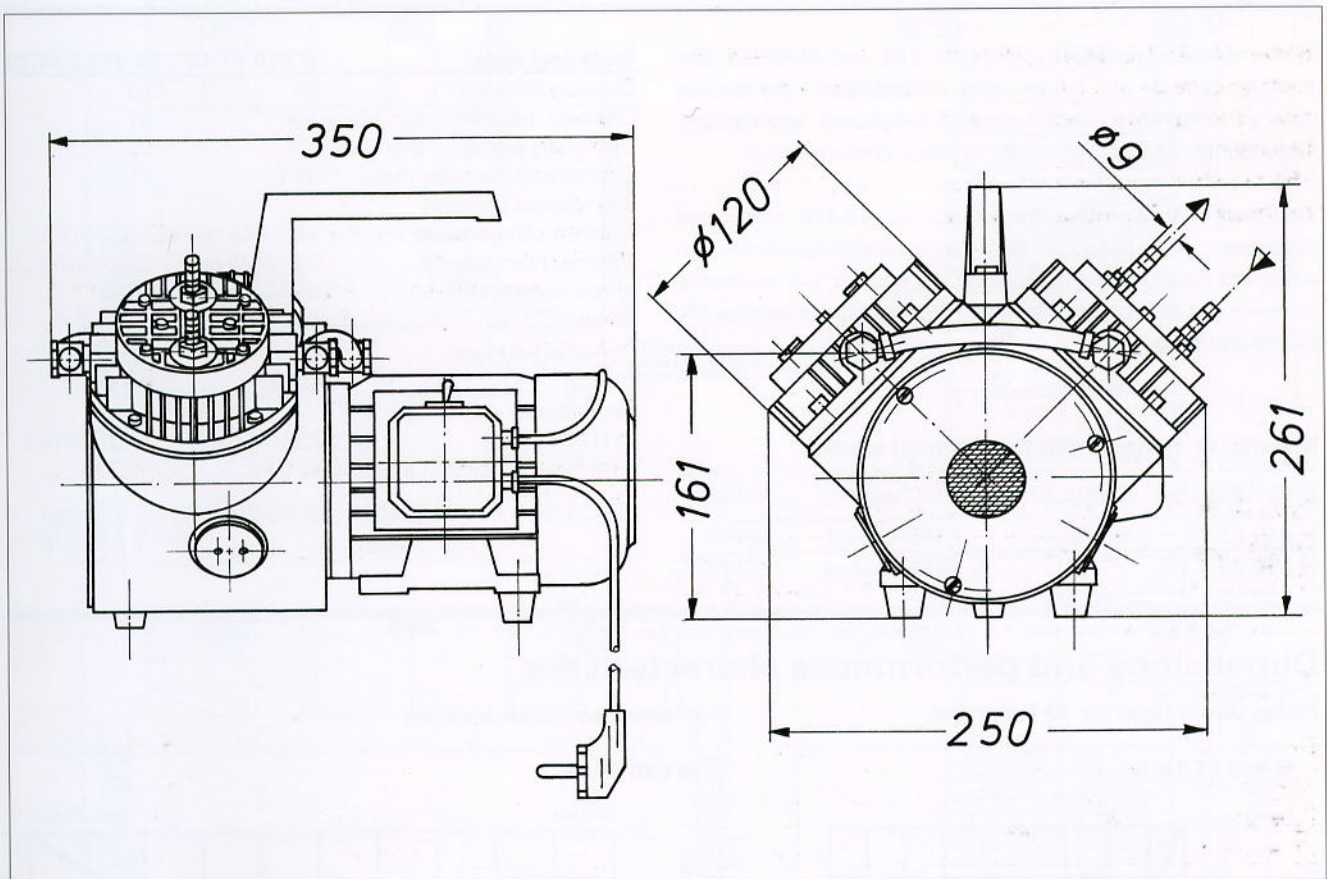
### Pump down time for 20 l receiver



### Performance characteristics

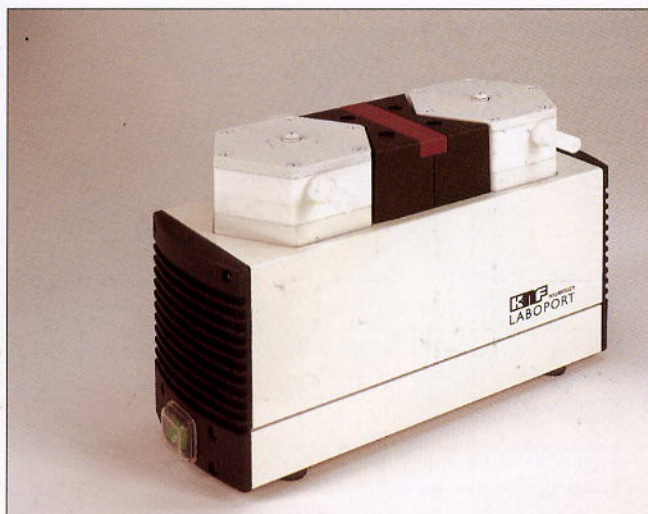


### Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Series LABOPORT® N 810 FT.18, N 810.3 FT.18 Pumps

The chemically-resistant series N 810 and N 810.3 diaphragm pumps are single- and double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination.

The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

### Material in contact with the pumped media

Type/Order No.	Pump head	Diaphragm	Valves
N 810 FT.18	PTFE	PTFE-coated	FFPM
N 810.3 FT.18	PTFE	PTFE-coated	FFPM

## LABOPORT® Chemically-resistant Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapours and condensation
- Chemically-resistant
- Therefore suitable for highly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

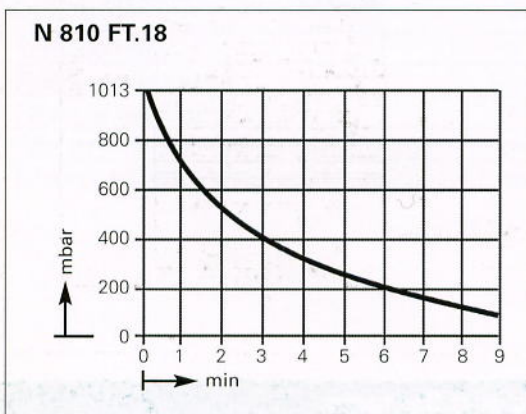
	N 810 FT.18	N 810.3 FT.18
Delivery (l/min) <sup>1)</sup>	10	10
Ultimate vacuum (mbar abs.)	100	8
Operating pressure (bar g)	1	1
Connectors for tube (mm)	ID 10	ID 10
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	100 W	90 W
Operating current	0.6 A	0.6 A
Weight	5.9 kg	6.9 kg
Dimensions		
LxHxW (mm)	256/187/146	281/187/140
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

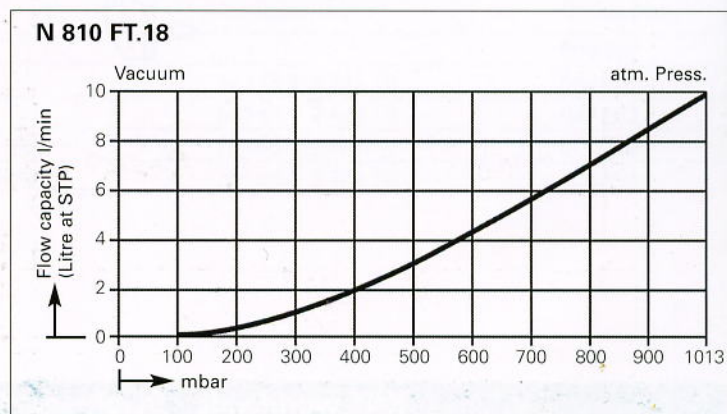
## Dimensions and performance characteristics

### Pump down time for 10 l receiver



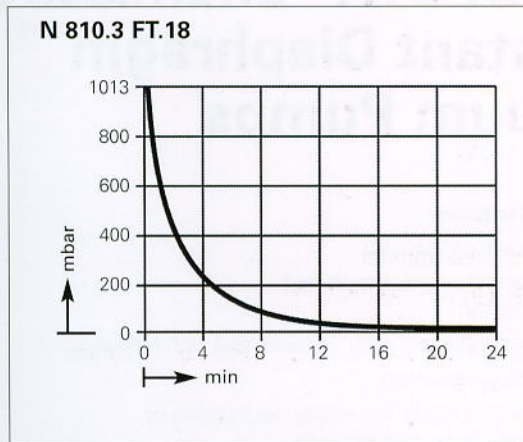
KNF reserves the right to make changes.

### Performance characteristics

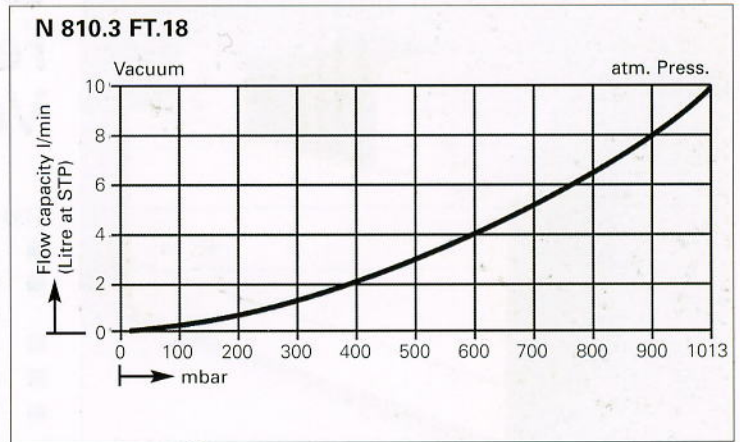


# Diaphragm Pumps for Air, Gases and Vapours

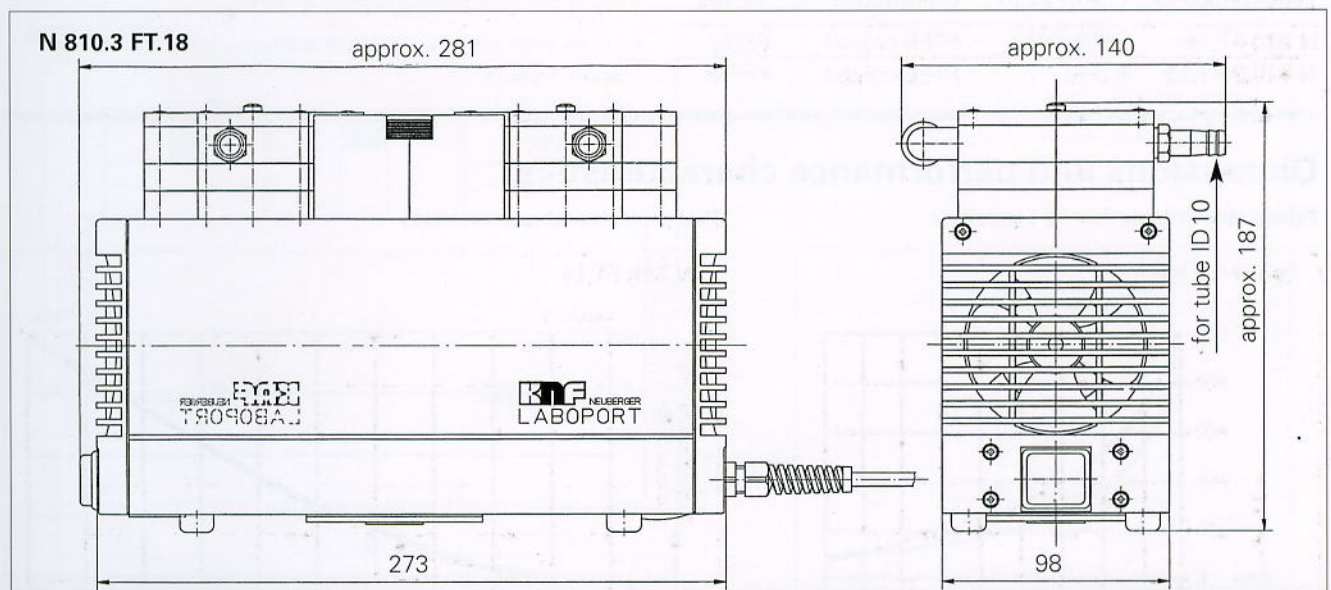
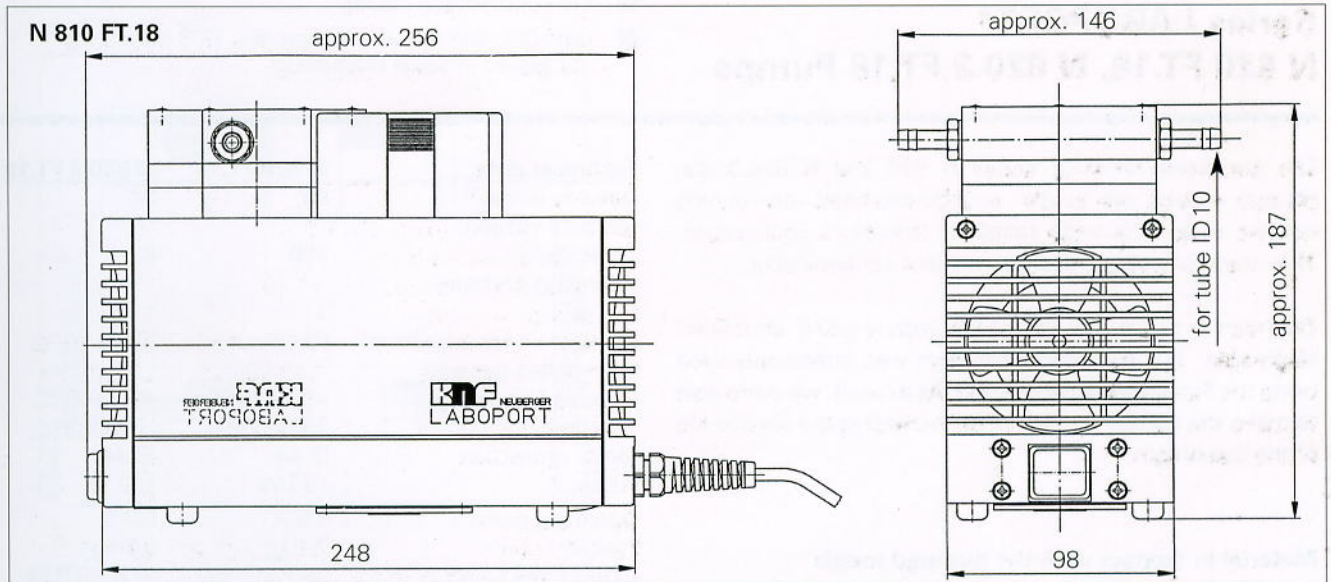
Pump down time for 10 l receiver



Performance characteristics

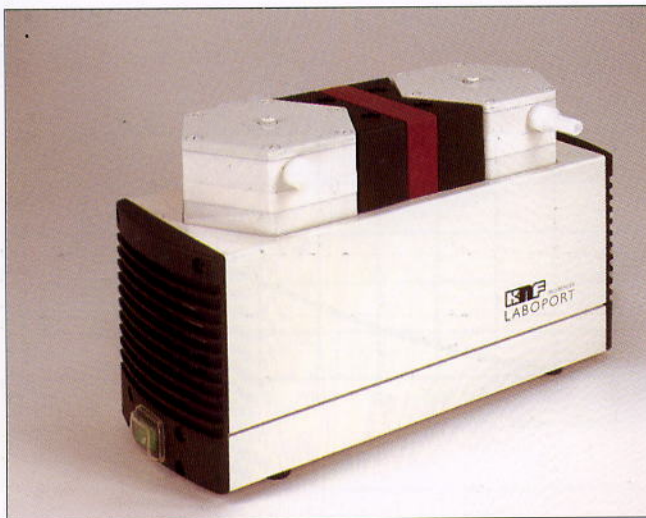


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Series LABOPORT® N 820 FT.18, N 820.3 FT.18 Pumps

The chemically-resistant series N 820 and N 820.3 diaphragm pumps are single- and double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination.

The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 820 FT.18	PTFE	PTFE-coated	FFPM
N 820.3 FT.18	PTFE	PTFE-coated	FFPM

## LABOPORT® Chemically-resistant Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapours and condensation
- Chemically-resistant
- Therefore suitable for highly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

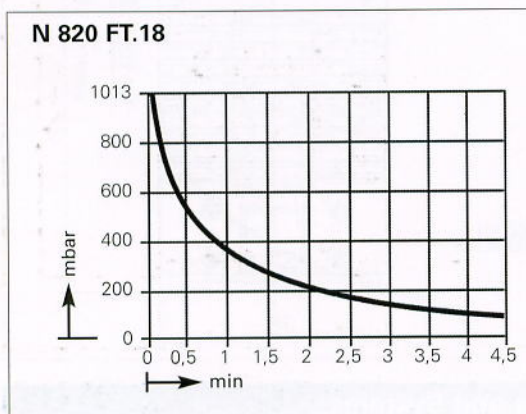
	N 820 FT.18	N 820.3 FT.18
Delivery (l/min) <sup>1)</sup>	20	20
Ultimate vacuum (mbar abs.)	100	8
Operating pressure (bar g)	1	1
Connectors for tube (mm)	ID 10	ID 10
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	130 W	120 W
Operating current	0.9 A	0.7 A
Weight	7.1 kg	9.3 kg
Dimensions LxHxW (mm)	268/207/159	312/207/154
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

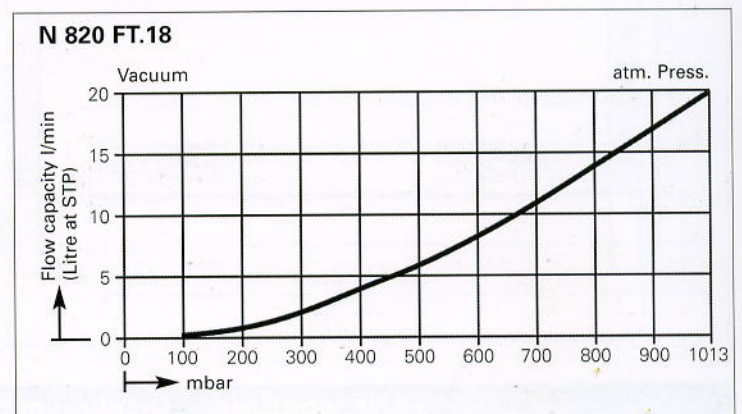
## Dimensions and performance characteristics

### Pump down time for 10 l receiver



KNF reserves the right to make changes.

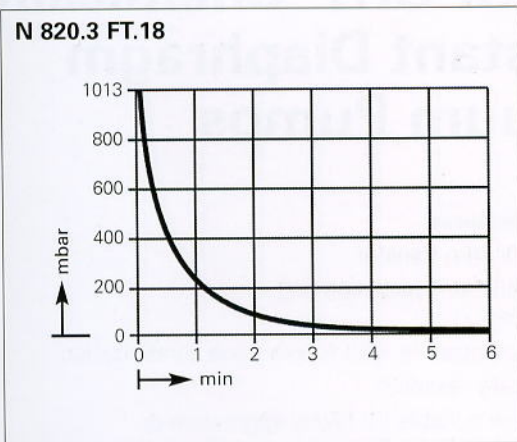
### Performance characteristics



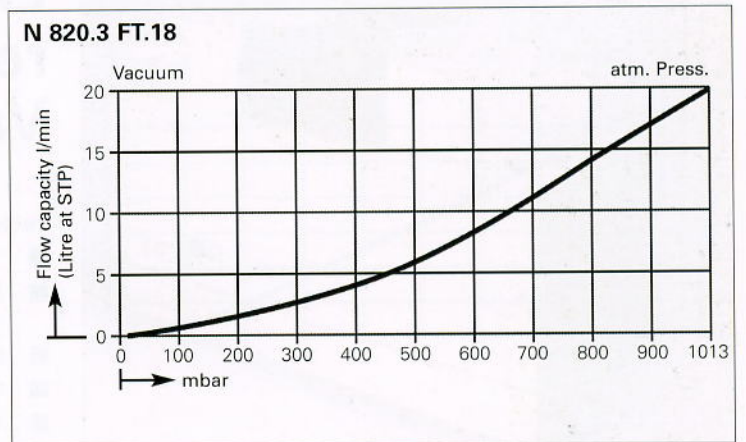


# Diaphragm Pumps for Air, Gases and Vapours

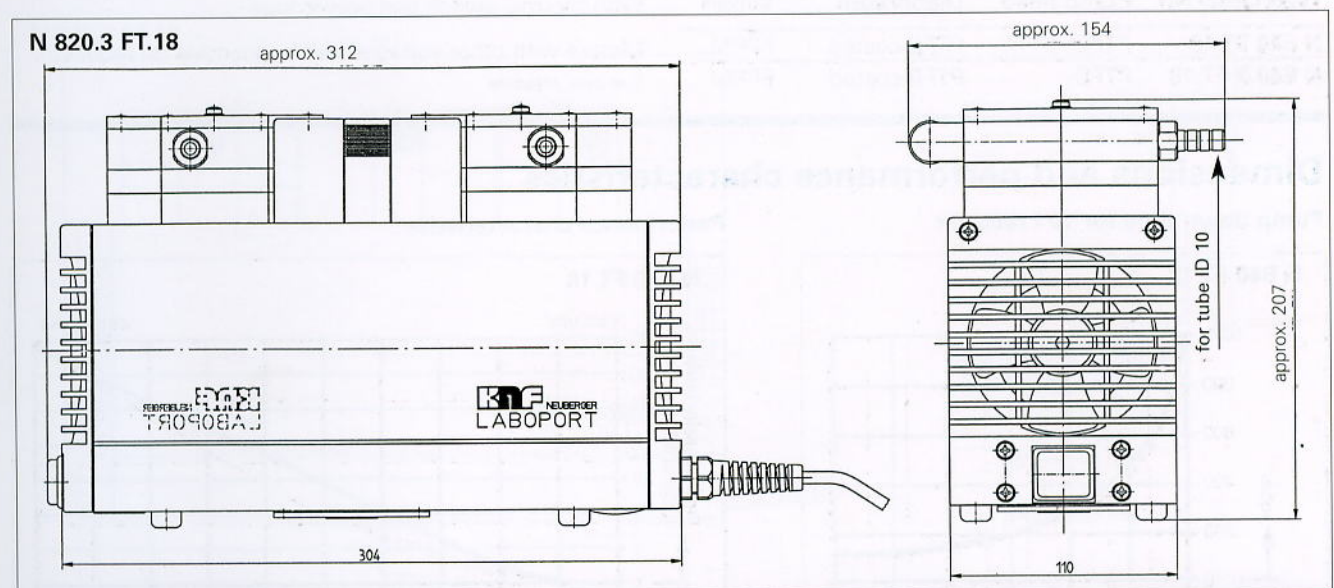
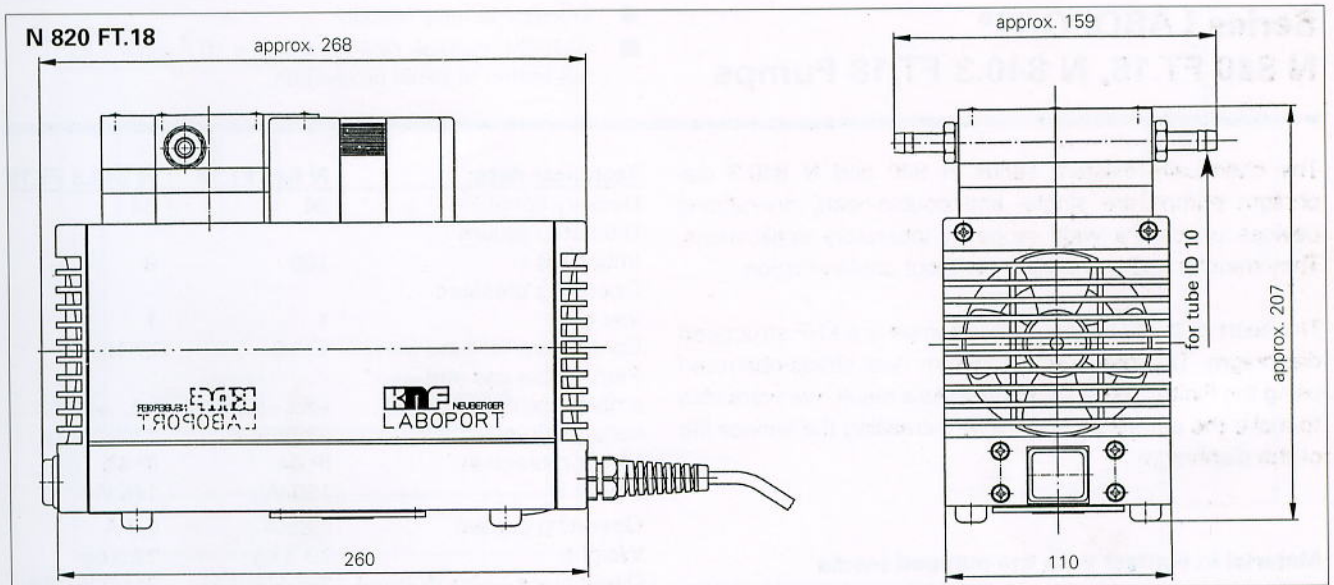
Pump down time for 10 l receiver



Performance characteristics

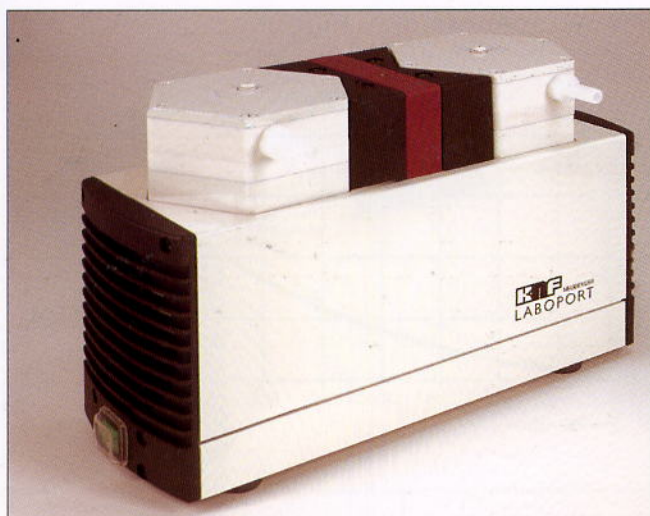


Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Series LABOPORT® N 840 FT.18, N 840.3 FT.18 Pumps

The chemically-resistant series N 840 and N 840.3 diaphragm pumps are single- and double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination.

The heart of these very compact pumps is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pumps smaller while increasing the service life of the diaphragm.

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 840 FT.18	PTFE	PTFE-coated	FFPM
N 840.3 FT.18	PTFE	PTFE-coated	FFPM

## LABOPORT® Chemically-resistant Diaphragm Vacuum Pumps

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapours and condensation
- Chemically-resistant
- Therefore suitable for highly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

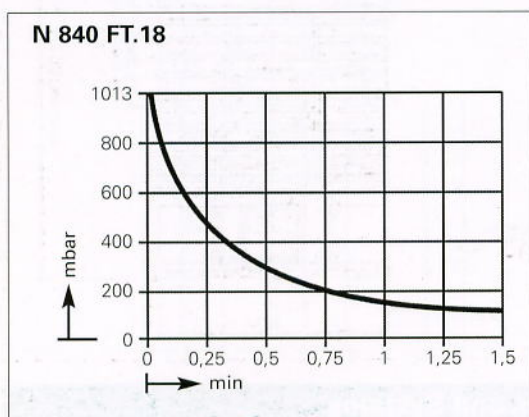
	N 840 FT.18	N 840.3 FT.18
Delivery (l/min) <sup>1)</sup>	34	34
Ultimate vacuum (mbar abs.)	100	8
Operating pressure (bar g)	1	1
Connectors for tube (mm)	ID 10	ID 10
Permissible gas and ambient temperature	+5...+40 °C	+5...+40 °C
Voltage/Frequencies	230V/50Hz	230V/50Hz
Motor protection	IP 44	IP 44
Power P <sub>1</sub>	180 W	245 W
Operating current	1.35 A	1.8 A
Weight	10.3 kg	12.6 kg
Dimensions LxHxW (mm)	297/226/171	341/226/166
With thermal switch and power fuse		

Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

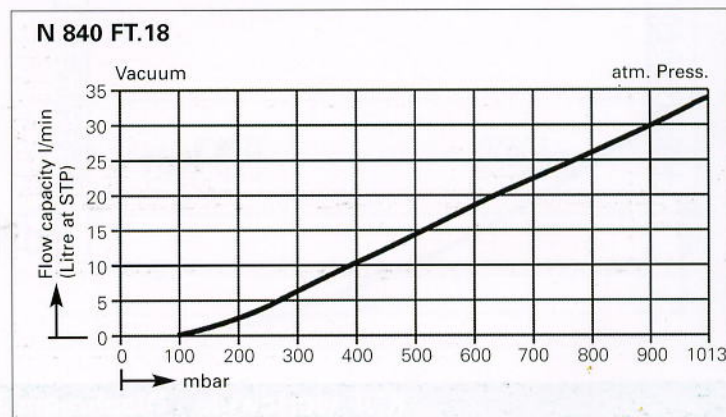
## Dimensions and performance characteristics

### Pump down time for 10 l receiver



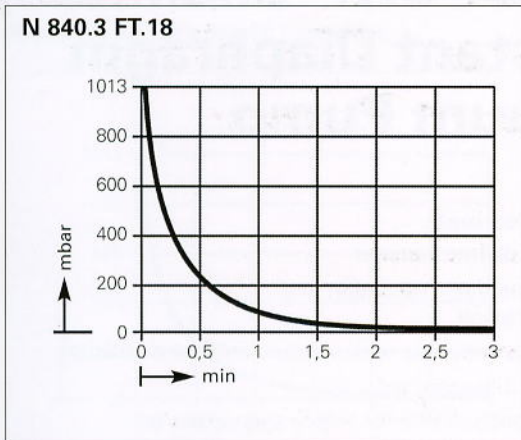
KNF reserves the right to make changes.

### Performance characteristics

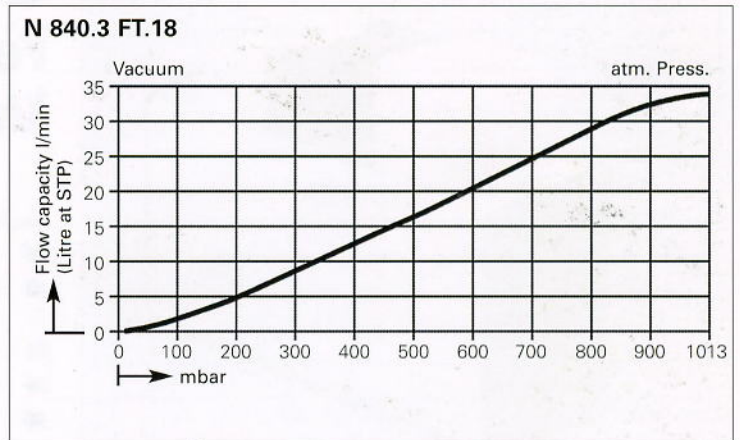


# Diaphragm Pumps for Air, Gases and Vapours

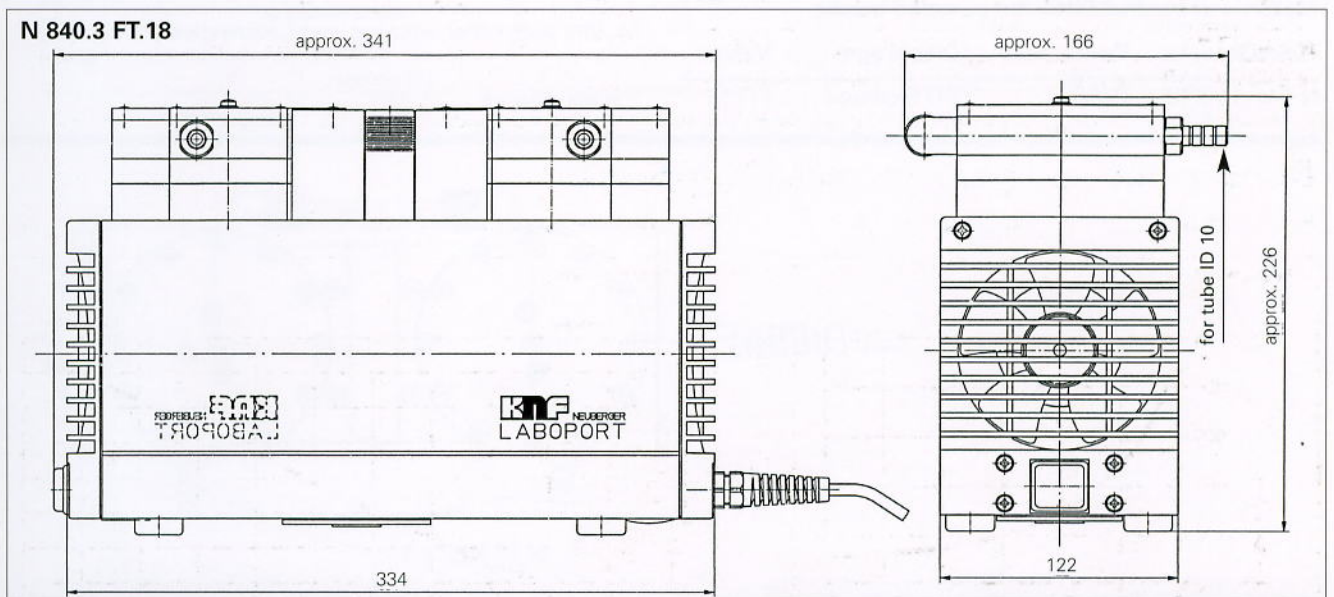
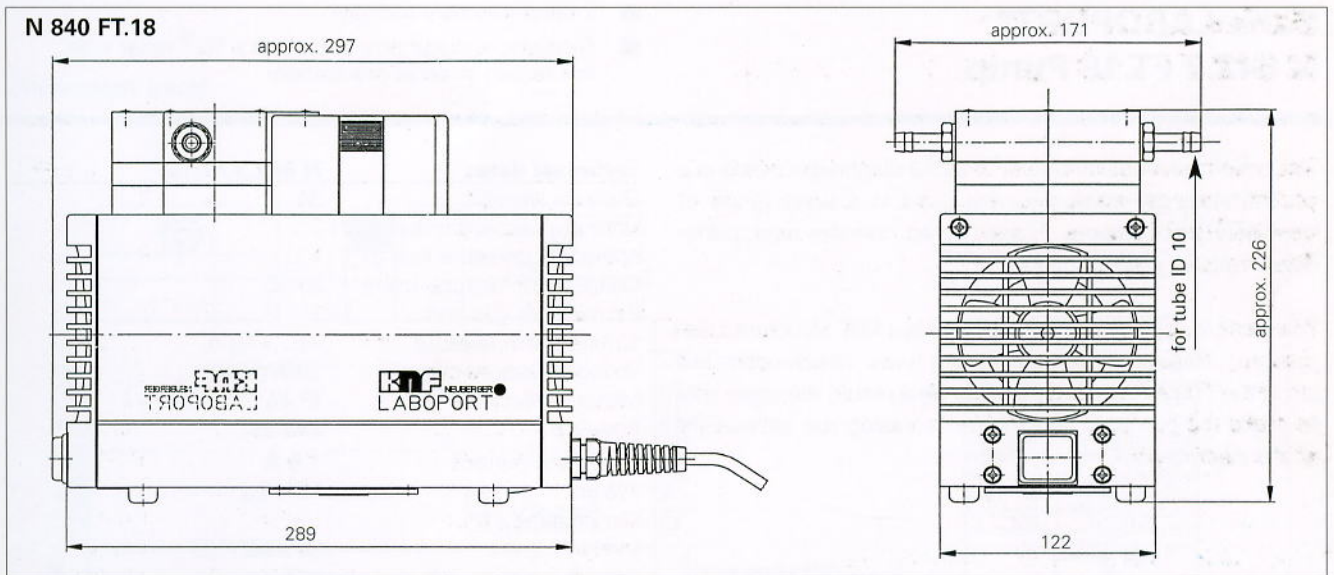
Pump down time for 10 l receiver



Performance characteristics



Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Serie LABOPORT® N 842.3 FT.18 Pump

The chemically-resistant serie N 842.3 diaphragm pump is a double-head, dry-running device used in a wide range of laboratory applications. These pump transfer and pump down without contamination.

The heart of this very compact pump is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pump smaller while increasing the service life of the diaphragm.

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 842.3 FT.18	PTFE	PTFE-coated	FFPM

## LABOPORT® Chemically-resistant Diaphragm Vacuum Pump

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapours and condensation
- Chemically-resistant
- Therefore suitable for highly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

### N 842.3 FT.18

Delivery (l/min) <sup>1)</sup>	34
Ultimate vacuum (mbar abs.)	2
operating pressure (bar g)	1
Connectors for tube (mm)	ID 10
Permissible gas and ambient temperature	+5...+40 °C
Voltage/Frequencies	230V/50Hz
Motor protection	IP 44
Power P <sub>1</sub>	245 W
Operating current	1.8 A
Weight	13.4 kg
Dimensions	
LxHxW (mm)	341/223/167
With thermal switch and power fuse	

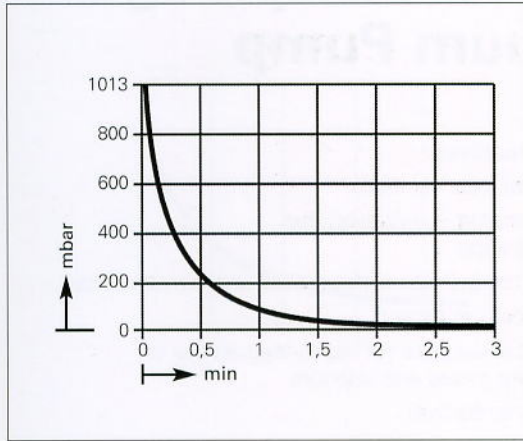
Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

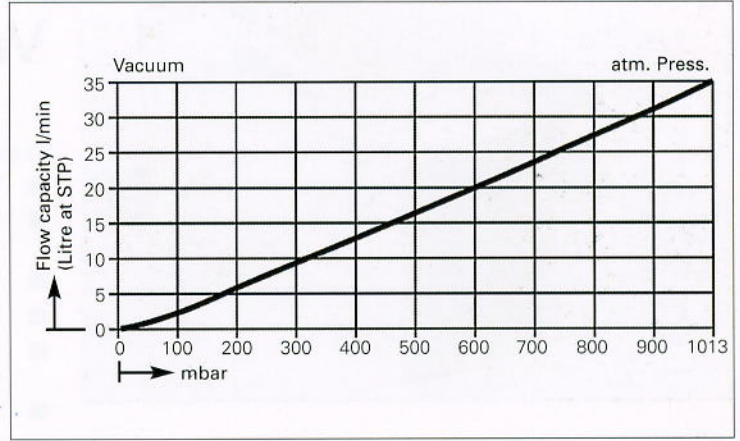
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

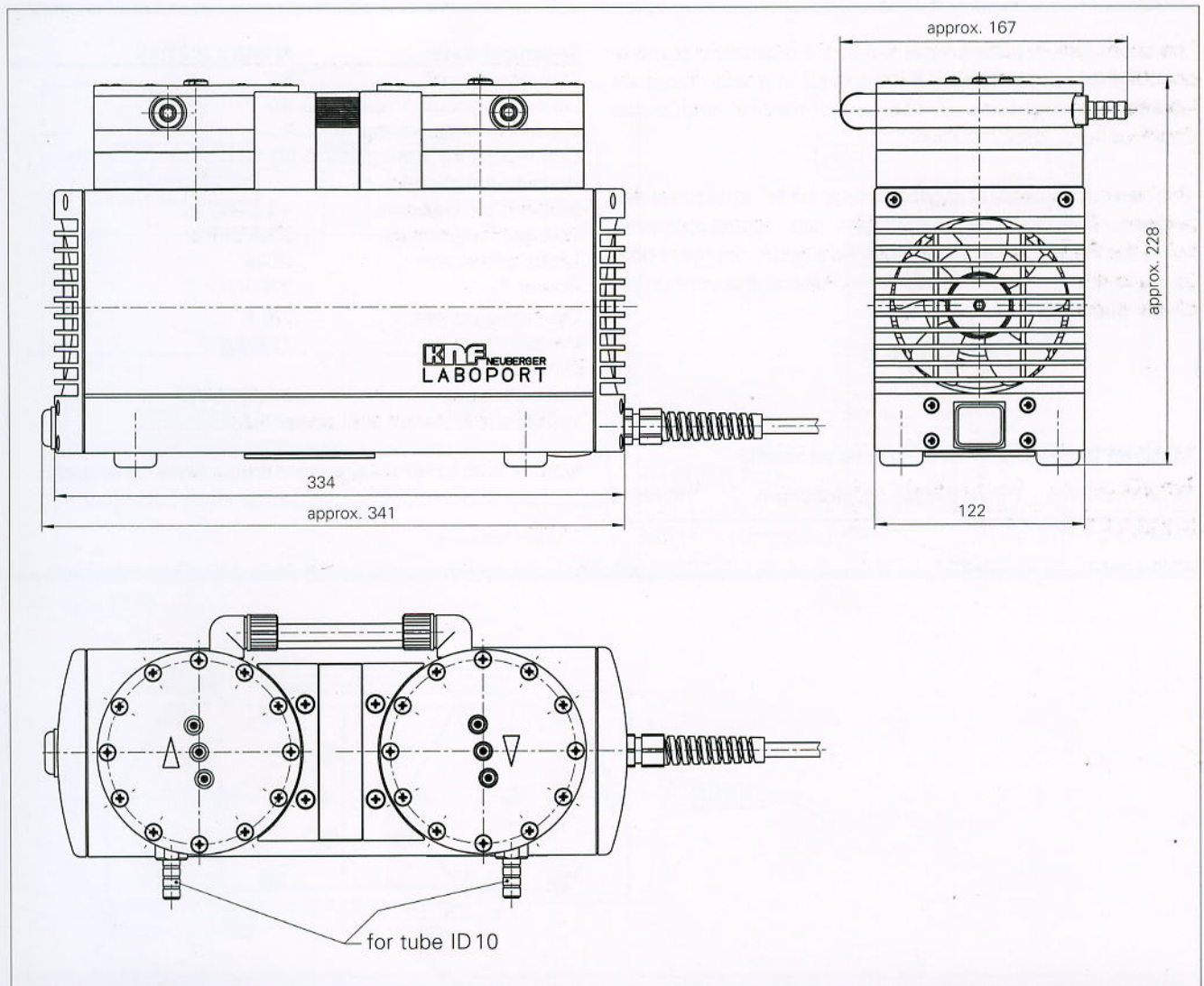
Pump down time for 10 l receiver



Performance characteristics

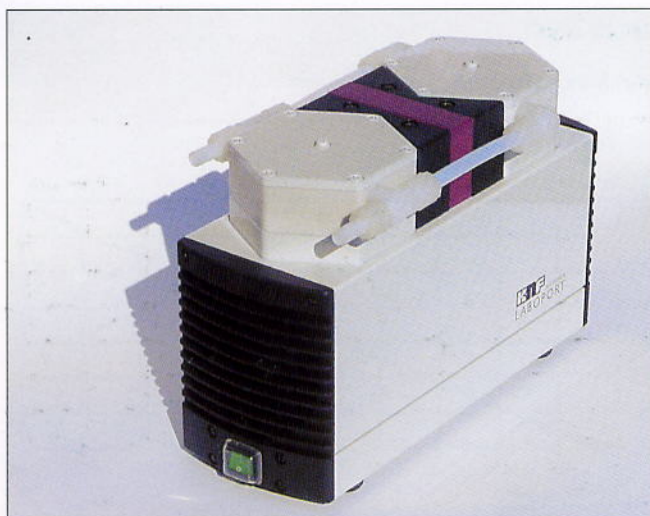


## Dimensions (mm)



# Diaphragm Pumps for Air, Gases and Vapours

1



## Serie LABOPORT® N 840.1.2 FT.18 Pump

The chemically-resistant serie N 840.1.2 diaphragm pump is a double-head, dry-running device used in a wide range of laboratory applications. These pump transfer and pump down without contamination.

The heart of this very compact pump is a KNF structured diaphragm. This patented diaphragm was stress-optimized using the Finite Elements method. As a result, we were able to make the pump smaller while increasing the service life of the diaphragm.

### Material in contact with the pumped media

Type/OrderNo.	Pump head	Diaphragm	Valves
N 840.1.2 FT.18	PTFE	PTFE-coated	FFPM

## LABOPORT® Chemically-resistant Diaphragm Vacuum Pump

### Technical features:

- 100% oil-free transfer
- Pure transfer, evacuation and compression
- Highly compatible with vapours and condensation
- Chemically-resistant
- Therefore suitable for highly aggressive or corrosive gases and vapours
- Maintenance-free
- Environmentally friendly
- Gastight, leakage rate approx.  $6 \times 10^{-3}$  mbar x l/s, not tested in serial production.

### Technical data:

#### N 840.1.2 FT.18

Delivery (l/min) <sup>1)</sup>	60
Ultimate vacuum (mbar abs.)	90
operating pressure (bar g)	1
Connectors for tube (mm)	ID 10
Permissible gas and ambient temperature	+5...+40 °C
Voltage/Frequencies	230V/50Hz
Motor protection	IP 44
Power P <sub>1</sub>	270 W
Operating current	1.9 A
Weight	12.6 kg
Dimensions	
LxHxW (mm)	341/226/160
With thermal switch and power fuse	

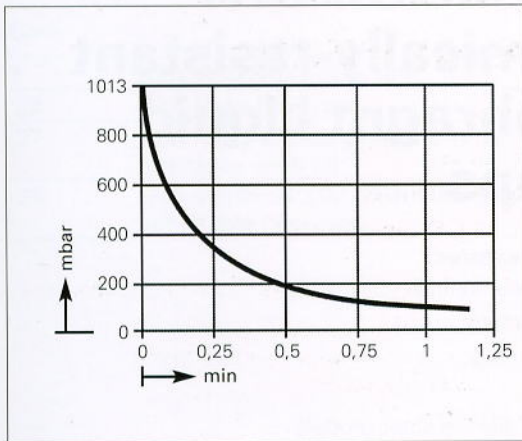
Motors with other voltages and frequencies on request.

<sup>1)</sup> at atm. pressure

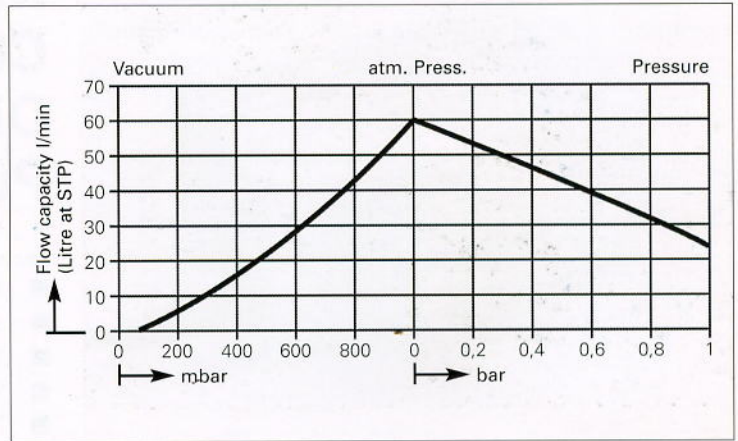
# Diaphragm Pumps for Air, Gases and Vapours

## Dimensions and performance characteristics

Pump down time for 10 l receiver



Performance characteristics



## Dimensions (mm)

