



Microsart® maxi.vac | Microsart® mini.vac

Laboratory Vacuum Pumps for Microbiology Analysis

Vacuum pumps



Microsart® maxi.vac Laboratory Vacuum pump 22 l/min for 3- and 6-place manifolds

Description

Microsart® maxi.vac and Microsart® mini.vac are especially designed to meet the requirements of microbiology laboratories. The absolute vacuum is limited to 100 mbar. The adjustable vacuum allows for trouble free working according to ISO 8199 ("Water quality: General guide to enumeration of micro-organisms by culture). The differential pressure during filtration should not exceed 700 mbar to allow a gentle enrichment of the microorganisms.



Microsart® mini.vac Laboratory Vacuum pump 6 l/min for 1-branch manifolds and individual filter holders

Efficient filtration

The intelligent pump design facilitates easy and efficient operation, even in limited working space. The noise development during operation is reduced by 50% compared to conventional membrane pumps. An integral part of the pumps is a newly structured membrane which guarantees leak-proof operation.

The pumps are available in two sizes. The small compact pump Microsart® mini.vac with 6 l/min air flow is ideal for single vacuum filtrations and the standard pump Microsart® maxi.vac, with 22 l/min air flow, for 3- to 6-place manifolds.

- Compliance with ISO 8199 "Water Testing Guideline"
- Adjustable vacuum
- Reduced noise
- Structured Membrane – Patented protection against leakage
- Compact design – Small foot print
- Maintenance-free, 5,000 operating hours guaranteed

Technical Specifications

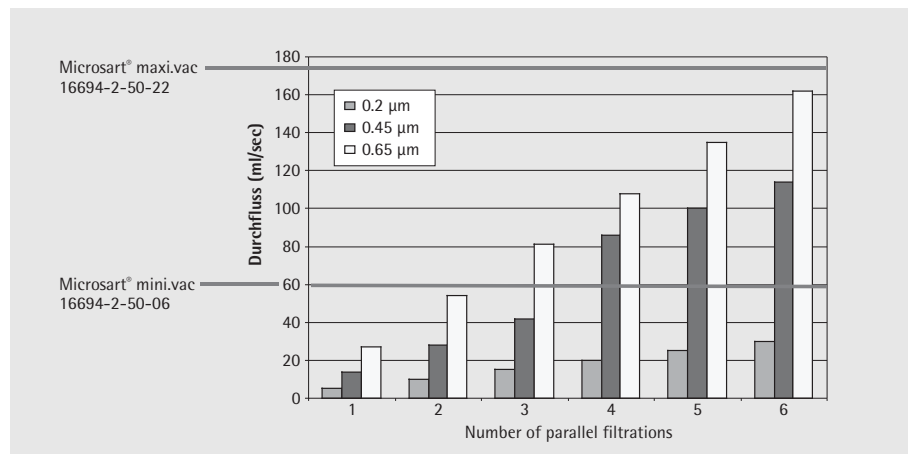
Microsart® maxi.vac Laboratory Vacuum Pump 22 l

Delivery	22 (l/min)
Absolute Vacuum	100 (mbar)
Noise level [100 mbar]	57.5 – 59.0 dBA
Operating Pressure (max)	1 (bar)
Materials (contact with filtrate possible)	Aluminum, CR (Neoprene), NBR (Perbunan)
Connectors for Tube	ID 9 (mm)
Ambient Temperature	5 ... 40°C
Mains 16694-2-50...	230 V/50 Hz
Mains 16694-1-60...	115 V/60 Hz
Motor Protection	IP 44
Power P1	130 W
Operating Current	0.9 A
Weight	7.1 kg
Dimensions L×H×W (mm)	261×204×110

Microsart® mini.vac Laboratory Vacuum Pump 6 l

Delivery	6 (l/min)
Absolute Vacuum	100 (mbar)
Noise level [100 mbar]	53.5 dBA
Operating Pressure (max)	2.5 (bar)
Materials (contact with filtrate possible)	PPS, EPDM, FPM (Viton)
Connectors for Tube	ID 4 (mm)
Ambient Temperature	5 ... 40°C
Mains 16694-2-50...	230 V/50 Hz
Mains 16694-1-60...	115 V/60 Hz
Motor Protection	IP 20
Power P1	65 W
Operating Current	0.63 A
Weight	1.9 kg
Dimensions L×H×W (mm)	164×141×90

Pump capacity at stable vacuum 100 mbar



The graph illustrates the maximum potential of the Laboratory Vacuum pumps during filtration with standard Cellulose Nitrate membranes of different pore sizes. In example, the 6 l vacuum pump delivers enough air flow for three filtrations in parallel with 0.45 µm membranes.

Ordering Information Microsart® maxi.vac Laboratory Vacuum Pump 22 l

Order Number	Mains	Delivery
16694-2-50-22	230 V	22 l/min
16694-1-60-22	115 V	22 l/min

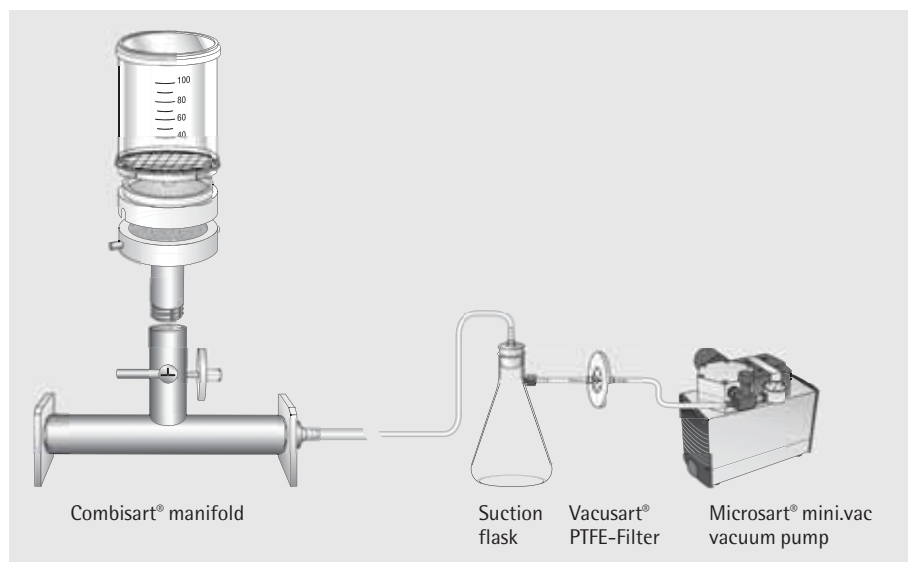
Spare Parts Microsart® maxi.vac

Order Number	Description
1EV---0002	Fine adjustment head incl. vacuometer
1EH---0002	Sound absorber
1ED---0055	Repair part set incl. membrane, sealing ring, valves

Ordering Information Microsart® mini.vac Laboratory Vacuum Pump 6 l

Order Number	Mains	Delivery
16694-2-50-06	230 V	6 l/min
16694-1-60-06	115 V	6 l/min

Characteristic set-up of a laboratory vacuum filtration



More information about vacuum filtration equipment is available at:
www.sartorius-stedim.com/microbio – Colony Counting – Combisart Hardware Set-Ups

Spare Parts Microsart® mini.vac

Order Number	Description
1EV---0001	Fine adjustment head incl. vacuometer
1EH---0001	Sound absorber
1ED---0054	Repair part set incl. membrane, sealing ring, valves
1EV---0003	Fine adjustment head incl. manometer



Microsart® e.jet

Laboratory Transfer Pump with Quick Connection for Microbiological Analysis



Typical Set-up: Microsart® e.jet connected to a 3-branch manifold with Microsart® Funnels 100

New pump for vacuum filtration in Microbiological Analysis

The Microsart® e.jet is a laboratory vacuum pump which creates vacuum and concomitantly transfers the filtered liquid to waste. The Microsart® e.jet is ideal for sample preparation in microbiological analysis achieving a trans membrane pressure of 600 mbar and a flow rate of 4.0 NI/min (4.0 Normliters water displacement by air in one minute). Constant flow rates and a defined maximum vacuum guarantees a smooth and reliable filtration.

Reduced operating complexity

Until now vacuum equipment for the Membrane Filtration Method consists of numerous parts including connectors, tubes, vacuum containers, protection filter, Woulff's bottle and a vacuum pump. After several samples the vacuum must be broken to empty the filtrate collection container. The complete traditional equipment requires far more laboratory space and is time consuming to operate and maintain. The new Microsart® e.jet greatly reduces operating complexity.

Smart design fits any laboratory environment

The Microsart® e.jet pump is an ideal accessory for 3-branch and 1-branch manifolds. Compared to traditional equipment, the

Microsart® e. jet and stainless steel manifold require only 30% of the average space, which translates to less congestion when working in laminar flow cabinets.

Safe operation | Maintenance-free

Traditional vacuum pumps often lose their efficiency and capability to generate sufficient vacuum, when liquid is drawn into the pump head. The Microsart® e.jet is designed to pump both gas and liquids, meaning no loss of efficiency or malfunction from water drawn into the pump head.

Building-up the vacuum filtration system is easy and fast thanks to the innovative Quick Connections. The Microsart® e.jet Transfer Pump is equipped with Quick Connection Nipples assembled to Quick Connection Couplings on hose nipples for DN 10 tubings. Simply push-to-connect for assembling and pull-to-disassembling the whole system within seconds. The Quick Connections are non-shut-off.

Technical Specification

Flow rate	> 4.0 NI/min
Max. Vacuum	0.4 bar
Max. Pressure	1.0 bar
Materials (contact with filtrate)	PTFE, ETFE, Polypropylene, EPDM, POM, PSU
Mains	100-230 V 50-60 Hz
Weight	
Pump	1,425.3 g
Power supply	202.8 g
Dimensions (W x L x H)	12 x 17 x 19 cm
Max. ambient temp.	+5...+40°C
Max. temp. of liquid	+5...+80°C
Max. viscosity	< 150 cSt*
Protection type	IP 64
Protection class	III
Inlet Outlet	Quick Connection on hose nipples for DN 10 tubings

Ordering Information

Order Number	Description
166MP-4	Microsart® e.jet Transfer Pump

Spare Parts

Order Number	Description
1EP---0003	Pump head complete for 166MP-4
1EE---0007	Power supply complete for 166MP-4
1EAS--0027	2 Quick Connection Couplings (PSU) and 2 Nipples (POM)



Microsart® e.jet

Labor Transferpumpe mit Quick Connection für die Mikrobiologische Analyse



Typischer Aufbau: Microsart® e.jet angeschlossen an eine 3-fach Edelstahlleiste mit Microsart® Funnels 100

Neue Pumpe zur Vakuumfiltration in der mikrobiologischen Analyse

Microsart® e.jet ist eine neue Laborvakuumpumpe, die während der Vakuumfiltration, das Filtrat gleichzeitig dem Abfluss zuführt. Mit einem Transmembrandruck von 600 mbar und einer Durchflussrate von > 4,0 NI/min (4,0 Normliter Wasserverdrängung durch Luft in einer Minute) ist sie ideal zur mikrobiologischen Analyse geeignet. Konstante Durchflüsse und ein definiertes Maximumvakuum garantieren schonende und zuverlässige Filtration.

Einfacher Aufbau und Non-Stop Filtrationen

Herkömmlicherweise setzt sich ein Vakuumsystem für die Membranfiltrationsmethode aus einzelnen Komponenten, wie Filterhalter, Saugflasche, Wasserfalle, Vakuumpumpe, Schläuche, Anschlüsse etc. zusammen. Nach einigen Filtrationsdurchgängen muss das Vakuum entspannt werden, um das gesammelte Filtrat aus der Saugflasche zu verwerfen. Dieser raumintensive Aufbau und die aufwändige Durchführung gehören mit Microsart® e.jet der Vergangenheit an, das Filtrat wird direkt einem Ausguss zugeführt.

Kompaktes Design

Die Vakuumpumpe Microsart® e.jet ist optimal für die Filtration mittels 1-fach und 3-fach Edelstahlleisten. Im Vergleich zu herkömm-

lichem Equipment benötigen Microsart® e.jet zusammen mit einer Edelstahlleiste lediglich 30% des Platzes und eignen sich hervorragend für Arbeiten in einer Reinen Werkbank.

Wartungsfrei

Ein weiterer Vorteil ist, dass Microsart® e.jet weder an Effizienz verliert, noch Störungen während der Anwendung auftreten, weil Flüssigkeit in den Pumpenkopf eingedrungen ist. Außerdem kann sie nicht nur Flüssigkeiten sondern auch Gase fördern.

Der Aufbau des Vakuumfiltrationssystems ist dank der innovativen Quick Connections einfach und schnell. Die Microsart® e.jet Transfer Pumpe ist mit Quick Connections auf Schlaucholiven versehen, welche für DN 10 Schläuche geeignet sind. Zum Anbringen genügt ein einfaches Andrücken, zum Abbauen ein einfaches Abziehen der Quick Connections. Die Quick Connections besitzen keine Absperrvorrichtung.

Spezifikationen

Durchflussrate	> 4,0 NI/min
Endvakuum	0,4 bar
Max. Druck	1,0 bar
Materialien (Filtrat-berührt)	PTFE, ETFE, Polypropylen, EPDM, POM, PSU
Netzanschlüsse	100–230 V 50–60 Hz
Gewicht	
Pumpe	1.425,3 g
Netzteil	202,8 g
Abmessungen (B x L x H)	12 x 17 x 19 cm
Max. Umgebungstemperatur	+5...+40°C
Max. Mediumtemperatur	+5...+80°C
Max. Viskosität	< 150 cSt
Schutztyp	IP 64
Schutzklasse	III
Ein- und Auslass	Quick Connection für DN 10 Schläuche

Bestellinformationen

Bestellnummer	Beschreibung
166MP-4	Microsart® e.jet Transferpumpe

Ersatzteile

Bestellnummer	Beschreibung
1EP---0003	Pumpenkopf für 166MP-4, komplett
1EE---0007	Netzstecker für 166MP-4, komplett
1EAS--0027	2 Quick Connection Kupplungen (PSU) und 2 Stecknippel (POM)