

VACUUM TECHNOLOGY



TIVAtec

made
in
Germany



HEADQUARTERS – 20,000 m²



FOR MORE THAN 40 YEARS

Timmer GmbH is your reliable partner in the area of pneumatics, vacuum technology as well as pumping and dosing technology. With more than 140 employees, we develop, manufacture and sell an extensive array of products at two factories - ranging from customised solutions through to technical accessories. In short: We offer you everything you need in your daily practice. Our products are known under the brand names Timmer und TIVAtec all over the world.



Administration



Purchasing & Sales



Warehousing & Logistics



Manufacturing of pumps



Manufacturing of cylinders



Manufacturing of special solutions



Founded
1978



Locations
2



Employees
Approx. 140



Development



Design



Mechanical production



Prototype building





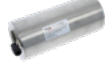



Manufacturing of
vacuum lifting devices






Fixture construction

Pneumatic vacuum pumps

	Type	Suction	Vacuum level	Page
	MINI series	108 - 320 l/min	Max. 88%	12
	MIDI series	395 - 880 l/min	Max. 91%	14
	MAXI series	1800 - 16250 l/min	Max. 90%	16
	Plug-in ejectors, single-stage	6 - 45 l/min	Max. 91%	20
	Stainless steel vacuum pumps	1150 - 1450 l/min	Max. 90%	22
	Annular gap ejectors	Max. 5500 NI/min	Max. 80%	23

Electric vacuum pumps

	Type	Suction	Vacuum level	Page
	Dry-runners	6 -130 m³/h	Max. 88%	27
	Oil-lubricated	8-60 m³/h	Max. 99%	30
	Vacuum blowers	200 -240 m³/h	Max. 45%	32


Suction cups

	Type	Page
	Flat, universal, bellows and special suction cups	33

Vacuum accessories

	Type	Page
	Vacuum accessories	45

Pressure and vacuum switches

	Type	Page
	Pressure and vacuum switches	51

Basic vacuum terminology

Vacuum refers to a pressure that is lower than the pressure of the ambient air. In the technical context, frequently the term “percent vacuum” is used, where 0% vacuum is the normal atmospheric pressure of 101.3 kPa and 100% vacuum means a space that is completely free of air.

Underpressure is present in a system if its pressure is less than the atmospheric pressure.

Overpressure is present in a system, if the pressure is greater than the atmospheric pressure. In our catalogue we always use the term “% vacuum” which is standard in the industry.

The official physical unit is Pascal (Pa) (familiar from weather forecasts). However the units millibar (mbar) or Torr (Torr) are also used.

Suction

To generate vacuum in a tank, a portion of the air quantity must be extracted with the aid of a vacuum pump. To maintain a vacuum level of 50%, half the air quantity must be extracted. Depending on the industry, the air quantity extracted by the vacuum pump per time unit is referred to as suction, suction capacity, or suction air rate.

For our vacuum ejectors we specify suction in standard litres (i.e. norm litres) per minute (NI/min). For example 1000 NI/min means that the vacuum pump can remove 1000 litres of air or gas per minute from the system to be evacuated. Suction decreases as the evacuation time and vacuum level increase, because the air becomes ever “thinner”.

Evacuation time

Here a time frame is meant, in which the vacuum system can be evacuated to a specific vacuum level. This capacity is referred to as evacuation time of the pump and it is normally specified in seconds per litre (s/l). If this value is multiplied by

The following always applies:

1kPa = 10 hPa = 10 mbar = 7.5 Torr.

Due to the many possibilities of specifying the pressure, you must always pay close attention to determine precisely what is meant. The example below shows the interrelationships of the specific units of measure.

For example:

60% vacuum approximately equals:

-60 kPa; 40 kPa; -600 mbar; 400 mbar; 300 Torr.

Do not confuse or compare the suction of vacuum ejectors with the suction of vacuum pumps. In general, the suction of electro-mechanical pumps does not allow a direct statement of how much air is removed from a vacuum system. But rather it refers to a (constant) theoretical value that arises from the cylindrical volume and the rotational speed.

the volume of the system, you get the evacuation time for the desired vacuum level.

Multi-stage vacuum pumps (ejectors)

The basic advantages of compressed air powered vacuum pumps (Venturi), such as compact size, low weight, simple set-up, wear-free and maintenance-free operation, are generally known.

Now however, the fact is that a single-stage Venturi, depending on the nozzle geometry, can achieve either a high final vacuum at low suction or high suction at a low vacuum level.

The technical restrictions of single-stage ejectors were ultimately overcome by multi-stage systems. The TIVatec multi-stage ejectors have additional nozzle stages, which are arranged one behind the other. This enables a maximum volume flow with simultaneous low energy consumption and a high final vacuum. The intake air mixes with the compressed air and thus serves as a “free-of-charge propulsive jet”. Although the rear nozzle stages no longer achieve the high underpressure level of the first stage, they do achieve a significantly higher suction, due to the enlarged nozzle cross section. And they do this with “zero energy consumption”.

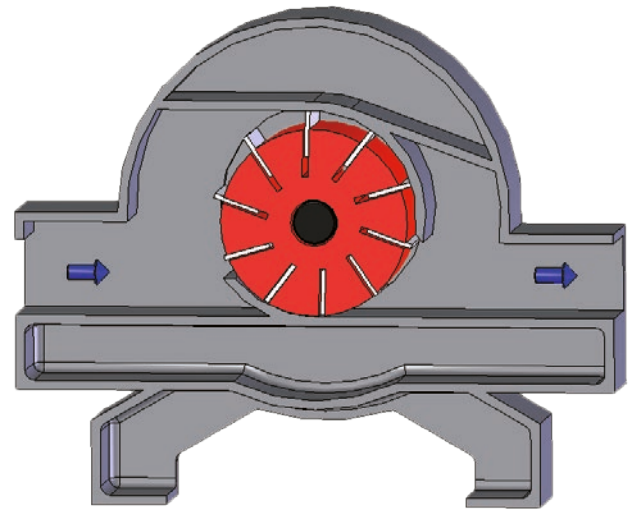
And at an extremely high suction, in order to also achieve a high final vacuum (>90%), the individual nozzle stages are separated from the common vacuum chamber by check valves.

This means, that when switching on the compressed air, all nozzle chambers are first connected to the common vacuum chamber. Due to the nozzle geometry, the last nozzle stage achieves a vacuum level of approximately 30%, for example. Due to the reduced cross section, each of the preceding nozzle stages achieves a higher vacuum level. As soon as the vacuum level in the common vacuum chamber is greater than the vacuum level that must be achieved in each of the individual nozzle stages, the respective check valve will be closed by the different pressure ratios.

Through use of special flow silencers, our multi-stage vacuum pumps are extremely quiet in operation.

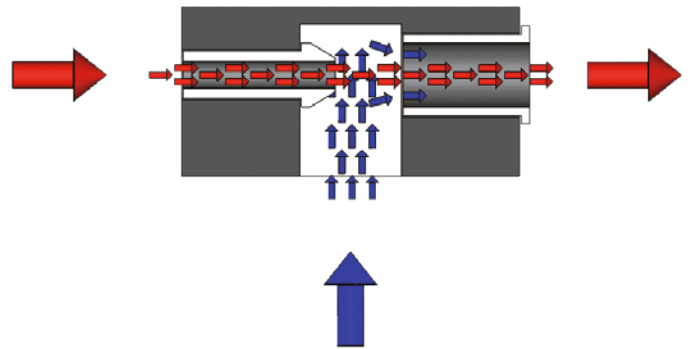
Characteristics of electro-mechanical pumps

- High suction
- High acquisition costs
- Heavy weight
- Large size
- High installation effort (costs)
- Maintenance-intensive (high costs)
- Cycle operation can only be realised by means of additional and expensive vacuum valves
- High noise level
- Heat generation
- Susceptible to wear
- Blow air with high thermal load
- Sensitive to contamination
- Long start and stop times
- Increased maintenance effort (costs for disposal of the waste oil)



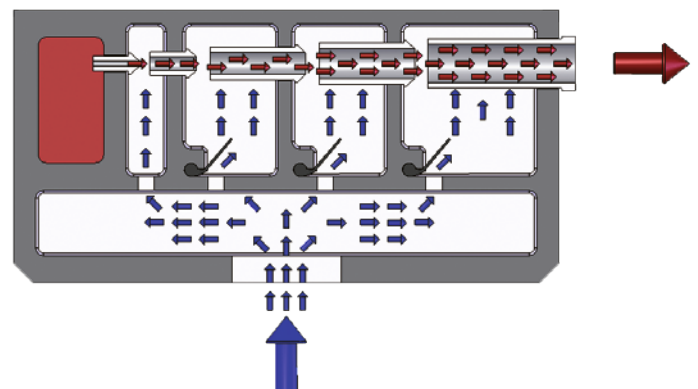
Characteristics of single-stage ejectors

- Relatively high compressed air consumption
- Low suction
- High noise level
- Compact design
- Low weight
- Low-cost acquisition
- Easy installation



Characteristics of multi-stage ejectors

- High suction
- High operational reliability
- Low weight
- Compact design
- Easy installation
- Low maintenance
- Simple cycling on the energy side
- Extremely responsive
- Low noise level
- Energy-efficient
- Virtually wear-free
- Relatively low compressed air consumption
- No rotating parts






Technical data

Operating pressure	: Type-dependent
Pressure (max.)	: 7 bar
Air consumption	: Type-dependent
Vacuum (max.)	: Type-dependent
Temperature range	: -10° C to +80° C

Characteristics

Pneumatic vacuum pumps		
High-efficiency	✓	
Virtually wear-free	✓	
Low energy consumption	✓	
Easy installation	✓	
Compact design	✓	
High operational reliability	✓	
Low-noise	✓	
No heat-up	✓	
Low-maintenance	✓	



Advantages of our TIVAtec multi-stage vacuum pumps

Characteristic	Solution / explanation
High-efficiency	through the multi-stage principle
Low energy consumption	through optimal geometry. Energy consumption only when vacuum is required (cycling on the energy feed)
Abrupt build-up and release of the vacuum	Through the nozzle geometry and cycling of the energy supply (compressed air)
High operational reliability	No moving wear parts
Minimal maintenance requirements	Only clean compressed air and possibly a vacuum filter are required
Compact format, low weight	This means that the vacuum pump can be installed closer to the suction point and thus faster response times can be realised
Easy installation	Only the compressed air connection and the suction line must be installed. Any installation position is possible
Extremely quiet	Thanks to special design and use of flow silencers
No heat generation	Through expansion of the compressed air, a cooling effect occurs instead of heat development, which is the case with mechanical pumps
No vibration	The intake air is vibration free

L-characteristic

For the L-characteristic high suction at a relatively low vacuum level (approx. 70% max.) is the priority. They are particularly well-suited for handling porous material, such as cardboard, and for large-volume vacuum generation, such as for mixers or in systems with fast cycles, where leakage must be compensated in order to maintain the desired vacuum level.

M-characteristic

The M-characteristic is the “classic” among the nozzle systems, which are well-suited for most applications. Select the M-characteristic when you need good suction, as well as a moderate to high vacuum level (max. approx. 90%). The M-characteristic is used for most of the industrial vacuum applications.

M...L characteristic

Optionally the M-characteristic can also be delivered as an M...L version. For this variant the nozzle geometry has been specially configured for low operating pressures (approx. 3-4 bar) or fluctuating operating pressures. This means that the M...L version achieves its max. vacuum level (approx. 90% max.) at a low operating pressure of 3-4 bar.

Options

Optionally all pumps can be delivered with an integrated check valve and FKM seals.

For example: UT-VP-MIN-M21L-R

All MIDI series pumps are likewise available with an energy-saving system. Through use of a pneumatic vacuum sensor and a valve in the compressed air supply, this system offers a cycling by an adjustable setpoint and thus reduces air consumption.

For example: UT-VP-MID-M26L-R-ES

MINI series

The MINI series consists of small, light-weight, multi-stage vacuum pumps that are used for robot handling tasks and automation tasks. These vacuum pumps offer compact dimensions, astounding suction and minimal air consumption as compared to conventional single-stage ejectors.

For each of these pumps we offer two standard characteristics:

- Characteristic L = high suction, moderate vacuum level and normal operating pressure 5-6 bar .
- Characteristic M...L = moderate suction, high vacuum level and normal operating pressure 3-4 bar .

Other characteristics, for an even higher vacuum, for example, are available on request.



MIDI series

The MIDI series vacuum pumps are offered as three-stage vacuum pumps in different sizes and with different characteristics. In spite of their compact size and low weight, MIDI series pumps are characterised by incredible power and are suitable for a variety of applications, either as an autonomous vacuum source or as the basic unit of a system for medium capacity requirements. This series can handle most vacuum tasks with no problems whatsoever; for many applications

the price-performance ratio of the MIDI series is quite favourable.

Here as well, for each of these pumps we offer two standard characteristics: Characteristic M = moderate suction, higher vacuum level and normal operating pressure 5-6 bar. Characteristic M...L = moderate suction, higher vacuum level and normal operating pressure 3-4 bar.



MAXI series

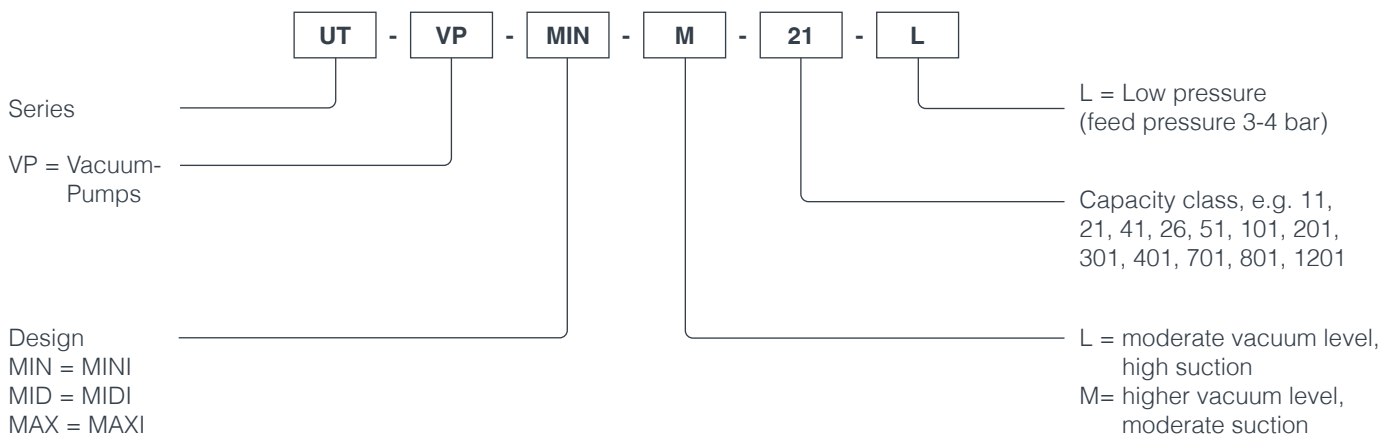
The application area of the MIDI series is concentrated on high suction or compensation for greater leakage. These vacuum pumps are 4-stage systems that deliver even better energy-efficiency at free intake and a low vacuum level. Starting with the UT-VP-MAX-M401, the MAXI series is normally delivered with compressed air and vacuum indicators, as well as an integrated valve and man-

ual switch. A silencer is integrated in the vacuum pump. Optionally exhaust air adapters for ducted exhaust air can be provided.

Characteristic M = moderate suction, higher vacuum level and normal operating pressure 5-6 bar.



Type key explanation, e.g. type: UT-VP-MIN-M21L



Suction NI/min (Nm³/h) at different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	0	(Nm ³ /h)	10	20	30	40	50	60	70	80	90	Max. vacuum (%)
UT-VP-MIN-L11	6	36	108	(6.5)	74	40	30	20	14	4.6	1.5			84
UT-VP-MIN-M11L	4	39	105	(6.3)	65	36	28	21	15	9	5.5	1.3		88
UT-VP-MIN-L21	6	72	220	(13.2)	136	85	64	40	28	9.5				84
UT-VP-MIN-M21L	4	77	220	(13.2)	127	72	56	42	30	18	11	2.6		88
UT-VP-MIN-L41	6	144	320	(19.2)	228	148	116	80	56	19				84
UT-VP-MIN-M41L	4	160	320	(19.2)	173	105	90	71	54	37	21	5.4		88
UT-VP-MID-M26	6	86	395	(23.7)	226	140	76	45	35	23	13	6	1.4	91
UT-VP-MID-M26L	3.5	113	368	(22)	165	120	73	40	32	24	16	6.5	0.7	90
UT-VP-MID-M51	5.5	172	790	(47.4)	452	280	152	90	70	46	26	12	1.4	91
UT-VP-MID-M51L	3.5	226	624	(37.4)	323	234	147	82	64	48	32	13	1.5	90
UT-VP-MID-M101	5.5	252	1185	(71.1)	678	420	228	135	105	69	39	18	2.3	91
UT-VP-MID-M101L	3.5	452	908	(54.4)	542	403	270	163	128	96	65	26	3.1	90
UT-VP-MAX-M201	6	516	2252	(135.1)	1288	840	456	270	210	138	78	36		91
UT-VP-MAX-M201L	3.5	913	1655	(99.3)	1070	780	500	300	240	182	120	48	3.7	90
UT-VP-MAX-M301	5.5	860	4063	(243.7)	2175	1370	765	461	340	216	120	64		91
UT-VP-MAX-M401	5.5	1204	5688	(341.3)	3045	1918	1071	646	476	303	168	89		91
UT-VP-MAX-M701	5.5	1720	8125	(487.5)	4350	2740	1530	923	680	433	240	127		91
UT-VP-MAX-M801	5.5	2580	12188	(731.3)	6525	4110	2295	1384	1020	649	360	191		91
UT-VP-MAX-M1201	5.5	3440	16250	(975)	8700	5480	3060	1845	1360	865	480	254		91

Evacuation time (s/l) to achieve different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	10	20	30	40	50	60	70	80	90	Max. vacuum (%)
UT-VP-MIN-L11	6	36	0.08	0.2	0.46	0.76	1.2	2				84
UT-VP-MIN-M11L	4	39	0.11	0.35	0.6	0.86	1.35	2.1	3.1	6.2		88
UT-VP-MIN-L21	6	72	0.04	0.1	0.23	0.38	0.6	0.86				84
UT-VP-MIN-M21L	4	77	0.05	0.18	0.3	0.43	0.68	1.05	1.55	3.13		88
UT-VP-MIN-L41	6	144	0.02	0.05	0.12	0.19	0.15	0.5				84
UT-VP-MIN-M41L	4	160	0.003	0.09	0.15	0.22	0.34	0.53	0.78	1.56		88
UT-VP-MID-M26	5.5	86	0.016	0.046	0.098	0.214	0.368	0.612	1.024	1.896	5.072	91
UT-VP-MID-M26L	3.5	113	0.02	0.056	0.12	0.24	0.42	0.66	1	1.6	4.6	90
UT-VP-MID-M51	5.5	172	0.008	0.023	0.049	0.107	0.184	0.306	0.512	0.948	2.536	91
UT-VP-MID-M51L	3.5	226	0.013	0.032	0.062	0.12	0.21	0.32	0.5	0.8	2.3	90
UT-VP-MID-M101	5.5	252	0.005	0.015	0.033	0.071	0.123	0.204	0.341	0.632	1.690	91
UT-VP-MID-M101L	3.5	452	0.008	0.018	0.03	0.06	0.1	0.16	0.25	0.42	1.16	90
UT-VP-MAX-M201	5.5	516	0.003	0.008	0.016	0.036	0.061	0.102	0.170	0.316	0.844	91
UT-VP-MAX-M201L	3.5	820	0.007	0.012	0.02	0.04	0.06	0.09	0.14	0.23	0.7	90
UT-VP-MAX-M301	5.5	860	0.001	0.0038	0.009	0.018	0.032	0.054	0.098	0.178	0.508	91
UT-VP-MAX-M401	5.5	1204	0.0006	0.0026	0.006	0.012	0.023	0.039	0.066	0.129	0.367	91
UT-VP-MAX-M701	5.5	1720	0.0005	0.0019	0.005	0.009	0.016	0.027	0.049	0.089	0.254	91
UT-VP-MAX-M801	5.5	2580	0.0003	0.0012	0.003	0.006	0.011	0.018	0.033	0.059	0.169	91
UT-VP-MAX-M1201	5.5	3440	0.0003	0.0010	0.002	0.005	0.008	0.014	0.024	0.044	0.127	91

Recommended hose interior diameters (min.)*

Type	Compressed air Ø (mm)	Vacuum Ø (mm)
MINI		
UT-VP-MIN-L11	4	10
UT-VP-MIN-M11L	4	10
UT-VP-MIN-L21	4	12
UT-VP-MIN-M21L	4	10
UT-VP-MIN-L41	6	15
UT-VP-MIN-M41L	6	12
MIDI		
UT-VP-MID-M26	4	12
UT-VP-MID-M26L	4	12
UT-VP-MID-M51	6	15
UT-VP-MID-M51L	6	15
UT-VP-MID-M101	8	19
UT-VP-MID-M101L	8	19
MAXI		
UT-VP-MAX-M201	10	32
UT-VP-MAX-M201L	10	32
UT-VP-MAX-M301	12	40
UT-VP-MAX-M401	12	40
UT-VP-MAX-M701	15	50
UT-VP-MAX-M801	15	50
UT-VP-MAX-M1201	20	75

*For hose lengths up to 2.5 metres

For optimal performance of the TIVAtec vacuum pumps

To ensure optimal performance of the TIVAtec vacuum pumps, the minimum hose diameters must be strictly complied with.

You can test for correct dimensioning of the hose as follows:

1. Compressed air line:

Connect the compressed air line and close off the vacuum connection with the compressed air switched on.

The vacuum level must now reach the maximum value. If this is not the case, check the operating pressure directly preceding the vacuum pump with the compressed air switched on. With the vacuum pump switched on the nominal pressure (e.g. 6 bar) must not drop (decrease).

2. Suction line:

Connect the vacuum line and leave the end of the line open. With the vacuum pump switched on the vacuum level should not be more than 5 to 10%. For example, if 40% is applied, the first nozzle does not work and the evacuation time is extended. In this case, select a larger cross section for the suction line.

Vacuum pumps, type UT-VP-MIN-...

The MINI series consists of small, lightweight, multi-stage vacuum pumps that are frequently used for robot handling tasks and automation tasks.

The TIVAtec vacuum pumps offer compact dimensions, astounding suction, and minimal air consumption as compared to conventional single-stage ejectors.

For each of these pumps we offer two standard characteristics:

Characteristic L = high suction, moderate vacuum level and normal operating pressure of 5-6 bar

Characteristic M...L = moderate suction, higher vacuum level, low operating pressure of 3-4 bar.

Optionally available with check valve, FKM seals or energy-saving system.

Scope of delivery: Delivery includes silencer, threaded compressed air coupling and vacuum indicator.



UT-VP-MIN-L11
UT-VP-MIN-M11L

Order no.	Type	Operating pressure (bar)	Max. vacuum (%)	Max. suction (NI/min)	Air consumption (NI/min)	Weight (g)
24400110	UT-VP-MIN-L11	6	84	108	36	125
24400111	UT-VP-MIN-M11L	4	88	105	39	125
24401020	UT-VP-MIN-L21	6	84	220	72	155
24401021	UT-VP-MIN-M21L	4	88	220	77	155
24401040	UT-VP-MIN-L41	6	84	320	144	170
24401041	UT-VP-MIN-M41L	4	88	320	160	170

General technical data

Characteristic	Operating pressure (bar)	Max. operating pressure (bar)	Noise level (dBA)	Operating temperature (°C)
L	5-6	7	60-65	0 to +60
M...L	3-4	7	60-65	0 to +60



UT-VP-MIN-L21
UT-VP-MIN-M21L

Material

Housing	:	Anodised aluminium
Seals	:	Neoprene
Screws:	:	Stainless steel
Nozzles:	:	Brass

Suction (NI/min) at different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	Vacuum range (%)										Max. vacuum (%)
			0	10	20	30	40	50	60	70	80		
UT-VP-MIN-L11	6	36	108	74	40	30	20	14	4.6				84
UT-VP-MIN-M11L	4	39	105	65	36	28	21	15	9	5.5	1.3		88
UT-VP-MIN-L21	6	72	220	136	85	64	40	28	9.5				84
UT-VP-MIN-M21L	4	77	220	128	72	56	42	30	18	11	2.6		88
UT-VP-MIN-L41	6	144	320	228	148	116	80	56	19				84
UT-VP-MIN-M41L	4	160	320	173	105	90	71	54	37	21	5.4		88

Evacuation time (s/l) to achieve different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	Vacuum range (%)										Max. vacuum (%)
			10	20	30	40	50	60	70	80			
UT-VP-MIN-L11	6	36	0.08	0.2	0.46	0.76	1.2	2					84
UT-VP-MIN-M11L	4	39	0.11	0.35	0.6	0.86	1.35	2.1	3.1	6.2			88
UT-VP-MIN-L21	6	72	0.04	0.1	0.23	0.38	0.6	0.86					84
UT-VP-MIN-M21L	4	77	0.05	0.18	0.3	0.43	0.68	1.05	1.55	3.13			88
UT-VP-MIN-L41	6	144	0.02	0.05	0.12	0.19	0.15	0.5					84
UT-VP-MIN-M41L	4	160	0.003	0.09	0.15	0.22	0.34	0.53	0.78	1.56			88



UT-VP-MIN-L41
UT-VP-MIN-M41L

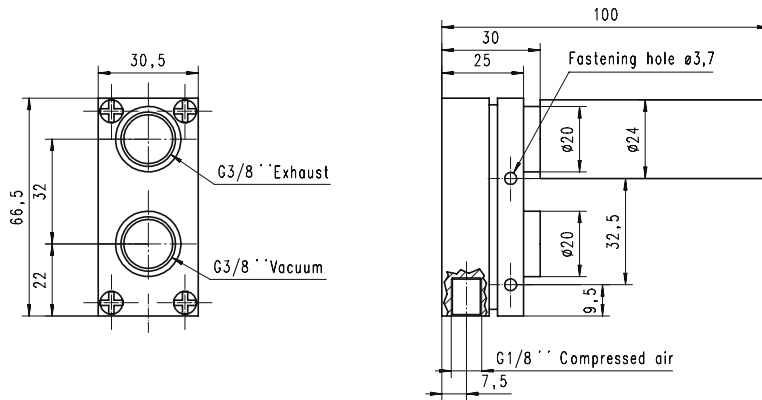
TIVatec – pneumatic vacuum pumps

MINI series (small, lightweight, multi-stage)

SERIES UT

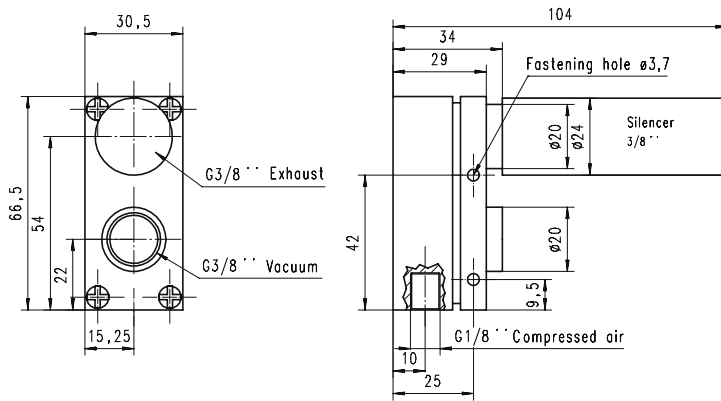
Technical data for type UT-VP-MIN-...

Dimensions UT-VP-MIN-L11, UT-VP-MIN-M11L



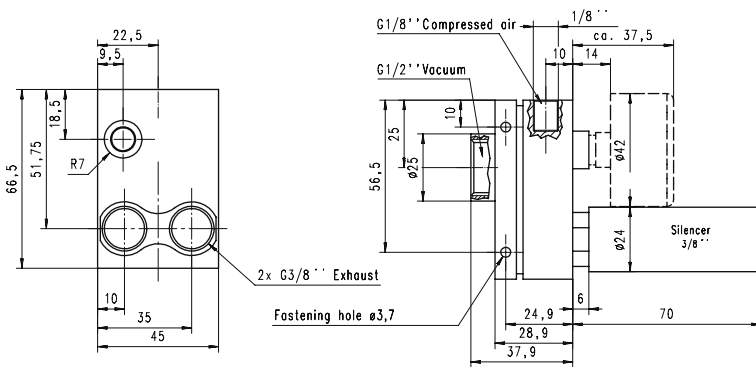
UT-VP-MIN-L11
UT-VP-MIN-M11L

Dimensions UT-VP-MIN-L21, UT-VP-MIN-M21L



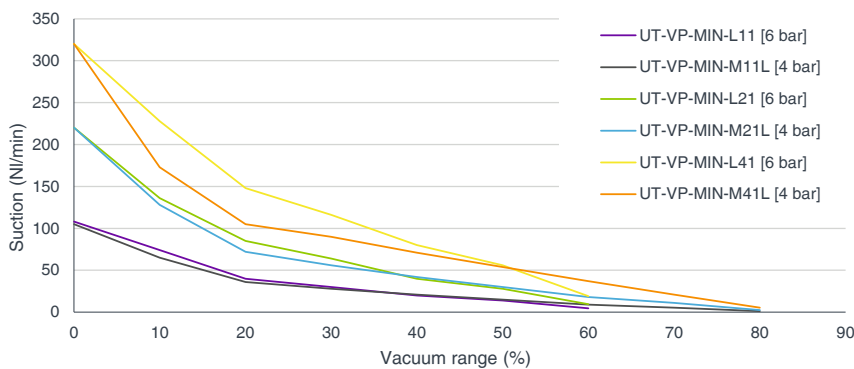
UT-VP-MIN-L21
UT-VP-MIN-M21L

Dimensions UT-VP-MIN-L41, UT-VP-MIN-M41L



UT-VP-MIN-L41
UT-VP-MIN-M41L

Suction (NI/min) at different vacuum ranges (%)



Vacuum pumps type UT-VP-MID- M...

The MIDI series vacuum pumps are offered as three-stage vacuum pumps in different sizes and with different characteristics. In spite of their compact size and low weight, MIDI series pumps are characterised by incredible power and are suitable for a variety of applications, either as an autonomous vacuum source or as the basic unit of a system for medium capacity requirements.

This series can handle most vacuum tasks with no problems whatsoever; for many applications the price-performance ratio of the MIDI series is quite favourable.

Here as well, for each of these pumps we offer two standard characteristics:

Characteristic M = moderate suction, higher vacuum level and normal operating pressure 5-6 bar.

Characteristic M...L = moderate suction, higher vacuum level, low operating pressure of 3-4 bar.

Optionally available with check valve, FKM seals or energy-saving system.

Scope of delivery: Delivery includes silencer, threaded compressed air coupling and vacuum indicator.



UT-VP-MID-M26
UT-VP-MID-M51
UT-VP-MID-M101

Order no.	Type	Operating pressure (bar)	Max. vacuum (%)	Max. suction (NI/min)	Air consumption (NI/min)	Weight (kg)
24401025	UT-VP-MID-M26	5.5	91	395	86	0.7
24401030	UT-VP-MID-M26L	3.5	90	368	113	1
24401050	UT-VP-MID-M51	5.5	91	790	172	0.8
24401060	UT-VP-MID-M51L	3.5	90	624	226	1.05
24401100	UT-VP-MID-M101	5.5	91	1185	252	1
24401110	UT-VP-MID-M101L	3.5	90	908	452	1.3

General technical data

Characteristic	Operating pressure (bar)	Max. operating pressure (bar)	Noise level (dBA)	Operating temperature (°C)
M	5-6	6	55-78	0 to +60
M...L	3-4	7	50-65	0 to +60



UT-VP-MID-M26L
UT-VP-MID-M51L
UT-VP-MID-M101L

Material M...L

Housing : Anodised aluminium
Seals : Neoprene
Screws : Stainless steel
Nozzles : Brass

Material M

Housing : Anodised aluminium
Seals : NBR
Screws : Stainless steel
Nozzles : Anodised aluminium

Suction (NI/min) at different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	Vacuum range (%)										Max. vacuum (%)
			0	10	20	30	40	50	60	70	80	90	
UT-VP-MID-M26	5.5	86	395	226	140	76	45	35	23	13	6	1.4	91
UT-VP-MID-M26L	3.5	113	368	165	120	73	40	32	24	16	6.5	0.7	90
UT-VP-MID-M51	5.5	172	790	452	280	152	90	70	46	26	12	1.4	91
UT-VP-MID-M51L	3.5	226	624	323	234	147	82	64	48	32	13	1.5	90
UT-VP-MID-M101	5.5	252	1185	678	420	228	135	105	69	39	18	2.3	91
UT-VP-MID-M101L	3.5	452	908	542	403	270	163	128	96	65	26	3.1	90

Evacuation time (s/l) to achieve different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	Vacuum range (%)										Max. vacuum (%)
			10	20	30	40	50	60	70	80	90		
UT-VP-MID-M26	5.5	86	0.016	0.046	0.098	0.214	0.368	0.612	1.024	1.896	5.072	91	
UT-VP-MID-M26L	3.5	113	0.02	0.056	0.12	0.24	0.42	0.66	1	1.6	4.6	90	
UT-VP-MID-M51	5.5	172	0.008	0.023	0.049	0.107	0.184	0.306	0.512	0.948	2.536	91	
UT-VP-MID-M51L	3.5	226	0.013	0.032	0.062	0.12	0.21	0.32	0.5	0.8	2.3	90	
UT-VP-MID-M101	5.5	252	0.005	0.015	0.033	0.071	0.123	0.204	0.341	0.632	1.690	91	
UT-VP-MID-M101L	3.5	452	0.008	0.018	0.03	0.06	0.1	0.16	0.25	0.42	1.16	90	



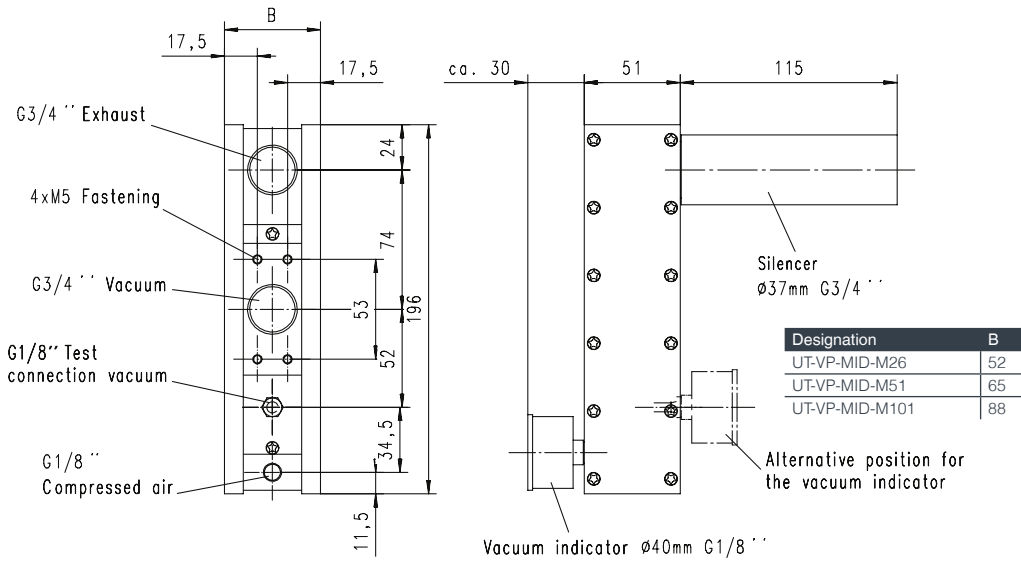
UT-VP-MID-M51-R-ES
Energy-saving system

TIVatec – pneumatic vacuum pumps MIDI series (compact size, low weight, multi-stage)

SERIES UT

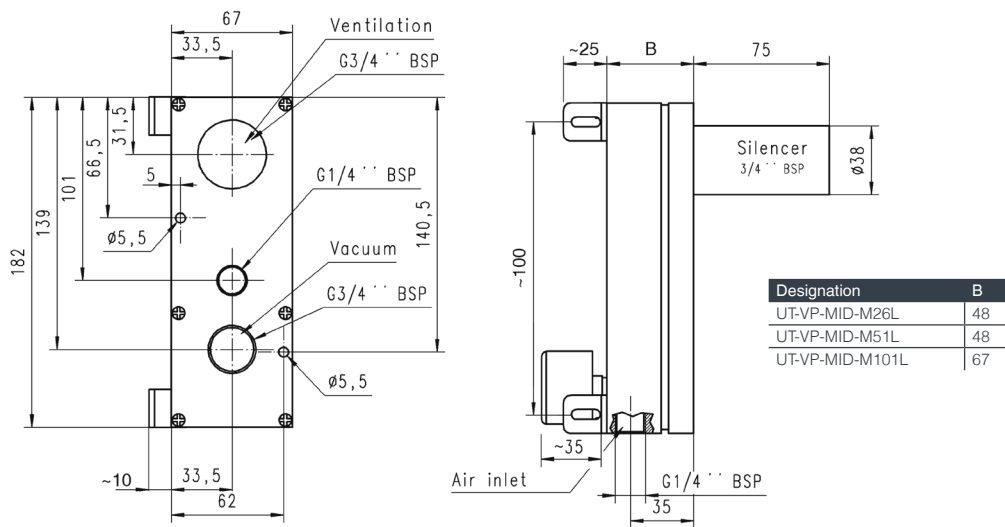
Technical data for type UT-VP-MID-M...

Dimensions UT-VP-MID-M26, UT-VP-MID-M51, UT-VP-MID-M101



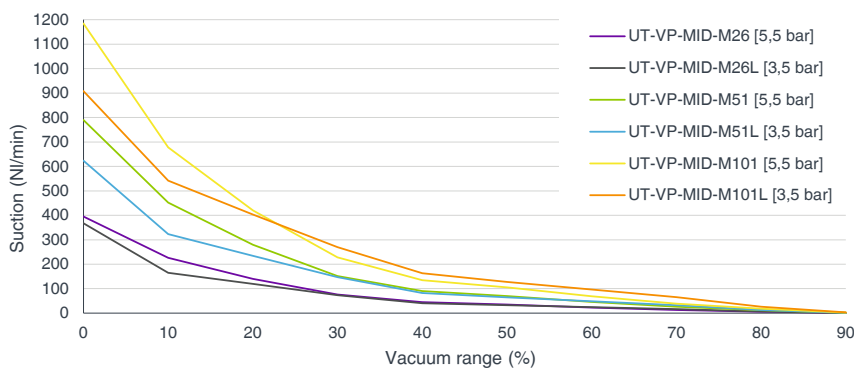
UT-VP-MID-M26
UT-VP-MID-M51
UT-VP-MID-M101

Dimensions UT-VP-MID-M26L, UT-VP-MID-M51L, UT-VP-MID-M101L



UT-VP-MID-M26L
UT-VP-MID-M51L
UT-VP-MID-M101L

Suction (NI/min) at different vacuum ranges (%)



Vacuum pumps type UT-VP-MAX-M...

The application area of the MIDI series is concentrated on high suction or compensation for greater leakage. These vacuum pumps are 3-stage to 4-stage systems that deliver even better energy efficiency, particularly at free intake and a low vacuum level.

Starting with the UT-VP-MAX-M401, the MAXI series is delivered with compressed air indicator and vacuum indicator, as well as an integrated valve and manual switch. A silencer is integrated in the vacuum pump. Optionally the MAXI series can be delivered with an exhaust air adapter for ducted exhaust air.

Characteristic L = high suction, moderate vacuum level and normal operating pressure of 5-6 bar

Characteristic M...L = moderate suction, higher vacuum level, low operating pressure of 3-4 bar.

Optionally available with check valve and FKM seals



UT-VP-MAX-M201

Order no.	Type	Operating pressure (bar)	Max. vacuum (%)	Max. suction (NI/min)	Air consumption (NI/min)	Weight (kg)
24401200	UT-VP-MAX-M201	5.5	91	2252	516	1.9
24401210	UT-VP-MAX-M201L	3.5	90	1655	913	2.53
24401300	UT-VP-MAX-M301	5.5	91	4063	860	6.2
24401400	UT-VP-MAX-M401	5.5	91	5688	1204	7.3
24401700	UT-VP-MAX-M701	5.5	91	8125	1720	9.0
24401800	UT-VP-MAX-M801	5.5	91	12188	2580	11.7
24401900	UT-VP-MAX-M1201	5.5	91	16250	3440	14.4

General technical data

Characteristic	Operating pressure (bar)	Max. operating pressure (bar)	Noise level (dBA)	Operating temperature (°C)
M	5-6	7	55-78	0 to +60
M...L	3-4	7	50-65	0 to +60

Material M...L

Housing : Anodised aluminium
 Seals : Neoprene
 Screws : Stainless steel
 Nozzles : Brass

Material M

Housing : Anodised aluminium
 Seals : NBR
 Screws : Stainless steel
 Nozzles : Anodised aluminium



UT-VP-MAX-M201L

Suction (NI/min) at different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	Vacuum range (%)										Max. vacuum (%)
			0	10	20	30	40	50	60	70	80	90	
UT-VP-MAX-M201	5.5	516	2252	1288	840	456	270	210	138	78	36	91	
UT-VP-MAX-M201L	3.5	913	1655	1070	780	500	300	240	182	120	48	3.7	90
UT-VP-MAX-M301	5.5	860	4063	2175	1370	765	461	340	216	120	64	91	
UT-VP-MAX-M401	5.5	1204	5688	3045	1918	1071	646	476	303	168	89	91	
UT-VP-MAX-M701	5.5	1720	8125	4350	2740	1530	923	680	433	240	127	91	
UT-VP-MAX-M801	5.5	2580	12188	6525	4110	2295	1384	1020	649	360	191	91	
UT-VP-MAX-M1201	5.5	3440	16250	8700	5480	3060	1845	1360	865	480	254	91	

Evacuation time (s/l) to achieve different vacuum ranges (%)

Type	Operating pressure (bar)	Air consumption (NI/min)	Vacuum range (%)										Max. vacuum (%)
			10	20	30	40	50	60	70	80	90		
UT-VP-MAX-M201	5.5	516	0.003	0.008	0.016	0.036	0.061	0.102	0.170	0.316	0.844	91	
UT-VP-MAX-M201L	3.5	913	0.007	0.012	0.02	0.04	0.06	0.09	0.14	0.23	0.7	90	
UT-VP-MAX-M301	5.5	860	0.001	0.0038	0.009	0.018	0.032	0.054	0.098	0.178	0.508	91	
UT-VP-MAX-M401	5.5	1204	0.0006	0.0026	0.006	0.012	0.023	0.039	0.066	0.129	0.367	91	
UT-VP-MAX-M701	5.5	1720	0.0005	0.0019	0.005	0.009	0.016	0.027	0.049	0.089	0.254	91	
UT-VP-MAX-M801	5.5	2580	0.0003	0.0013	0.003	0.006	0.011	0.018	0.033	0.059	0.169	91	
UT-VP-MAX-M1201	5.5	3440	0.0003	0.0010	0.002	0.005	0.008	0.014	0.024	0.044	0.127	91	



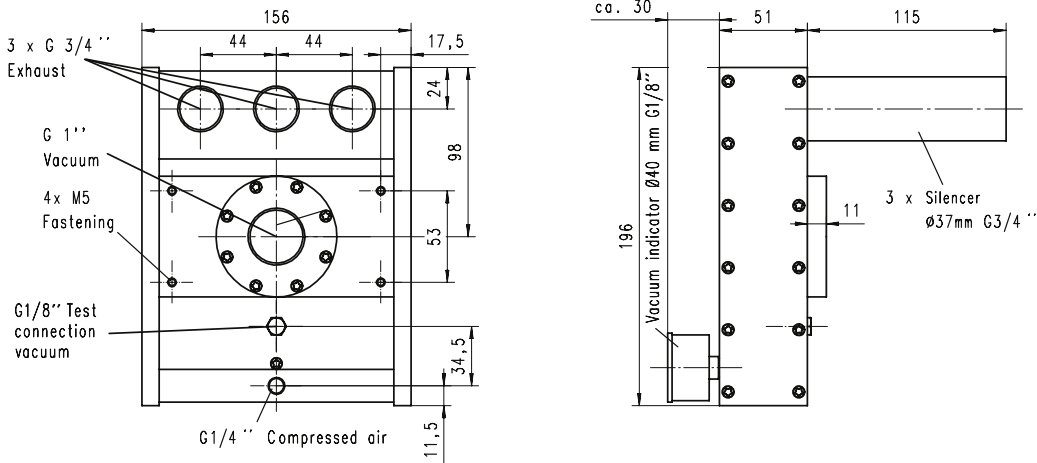
UT-VP-MAX-M301
 UT-VP-MAX-M401
 UT-VP-MAX-M701
 UT-VP-MAX-M801
 UT-VP-MAX-M1201

TIVatec – pneumatic vacuum pumps MAXI series (high suction, multi-stage)

SERIES UT

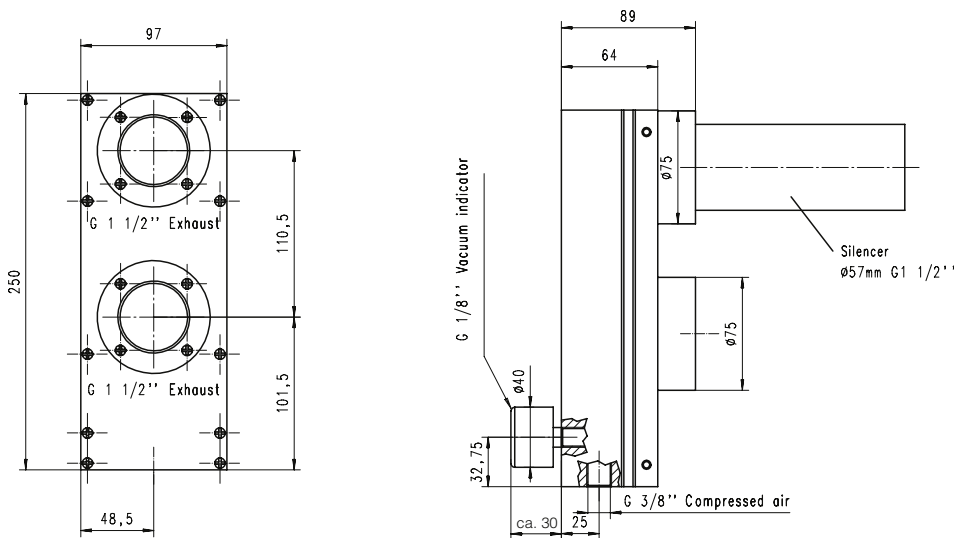
Technical data for type UT-VP-MAX- M...

Dimensions UT-VP-MAX-M201



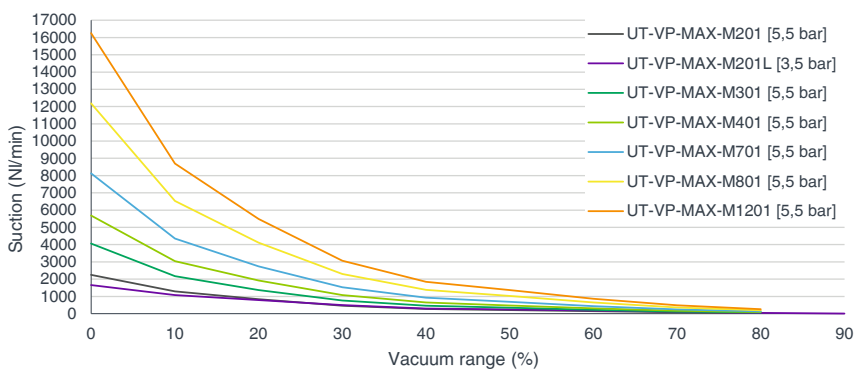
UT-VP-MAX-M201

Dimensions UT-VP-MAX-M201L



UT-VP-MAX-M201L

Suction (NI/min) at different vacuum ranges (%)



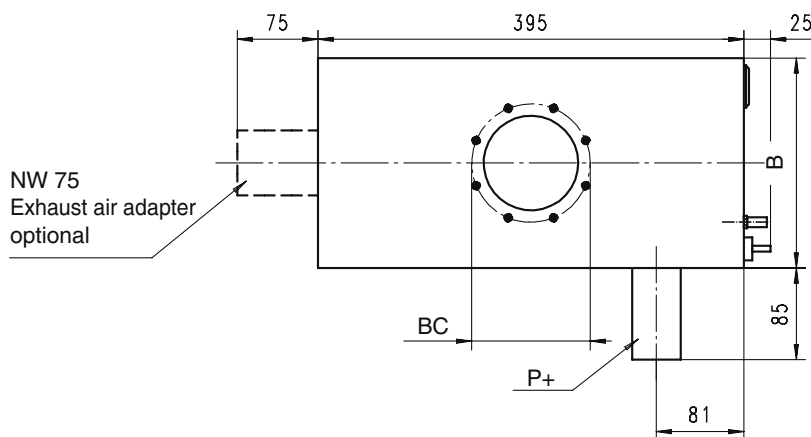
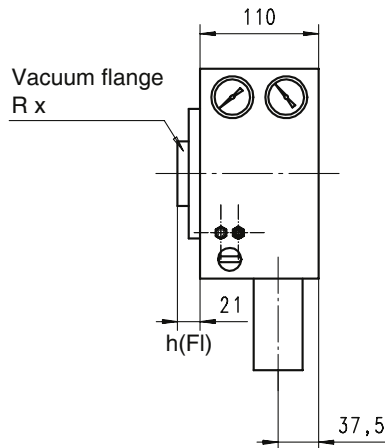
(See also page 18)

Technical data for type UT-VP-MAX-M...

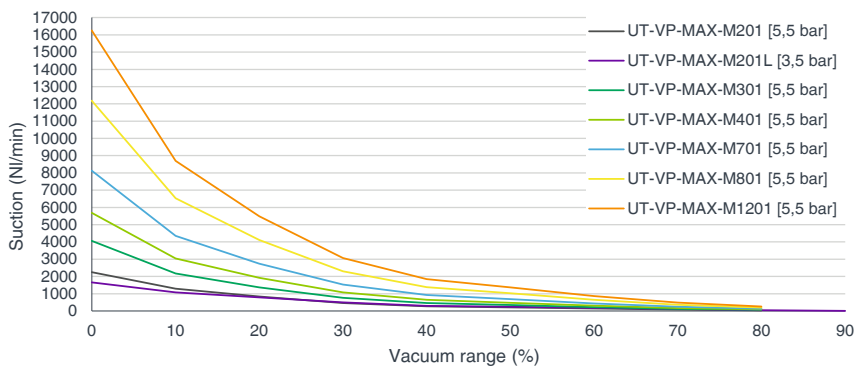
Type	Width (W)	Compressed air connection P+	Vacuum connection bolt circle (BC)	Vacuum flange R x	Flange height h(FI)
UT-VP-MAX-M301	150 mm	G 3/4"	8x M5 to BC 80	R 1 1/2"	11 mm
UT-VP-MAX-M401	195 mm	G 3/4"	8x M5 to BC 110	R 2"	21 mm
UT-VP-MAX-M701	262 mm	G 3/4"	8x M5 to BC 110	R 2"	21 mm
UT-VP-MAX-M801	375 mm	G 1"	8x M6 to BC 160	R 2 1/2"	26 mm
UT-VP-MAX-M1201	487 mm	G 1"	8x M6 to BC 160	R 2 1/2"	26 mm



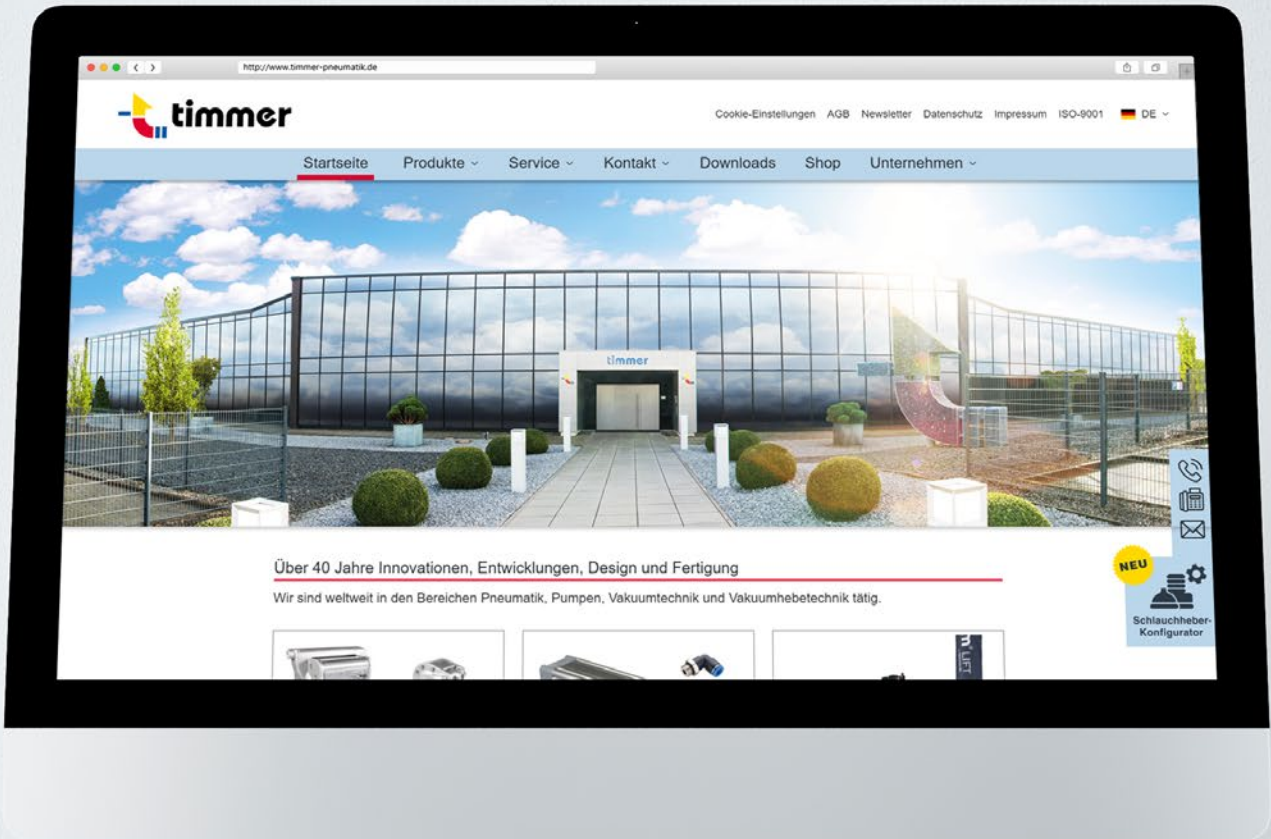
UT-VP-MAX-M301
UT-VP-MAX-M401
UT-VP-MAX-M701
UT-VP-MAX-M801
UT-VP-MAX-M1201



Suction (NI/min) at different vacuum ranges (%)



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Vacuum ejectors type UT-VP-SEJ-...

The TIVAtec vacuum plug-in injectors are small, compact vacuum generators. Thanks to their design, the ejectors can be used directly at the implementation area between compressed air line and suction cup.

Since they do not need any fastenings whatsoever, a complex installation is dispensed with. The suction of this series enables small, lightweight vacuum tasks, such as pick and place handling.

General technical data

Operating pressure (bar)	Operating temperature (°C)	Material (housing)
1.5- 6	+5 to +60	Brass nickel-plated, PP, PBT, Nylon

Order no.	Type	Max. suction (NI/min)	Nozzle Ø (mm)	Max. vacuum (%)	Hose outer Ø	Weight (g)
24400055	UT-VP-SEJ-M2-GV-6	18	0.5	85	6	25
24400056	UT-VP-SEJ-M5-GV-6	23	1.0	85	6	30



UT-VP-SEJ-...-GV-...

Order no.	Type	Max. suction (NI/min)	Nozzle Ø (mm)	Max. vacuum (%)	Thread	Hose outer Ø	Weight (g)
24400051	UT-VP-SEJ-M2-GEk-6-1/8	18	0.5	85	R 1/8	6	25
24400053	UT-VP-SEJ-M5-GEk-8-1/8	23	1.0	85	R 1/8	8	30



UT-VP-SEJ-...-GE-...

Order no.	Type	Max. suction (NI/min)	Nozzle Ø (mm)	Max. vacuum (%)	Thread	Hose outer Ø	Weight (g)
24400065	UT-VP-SEJ-M2-WESD-6-1/8	6	0.5	85	R 1/8	6	45
24400059	UT-VP-SEJ-M3-WESD-8-1/8	31	0.7	70	R 1/8	8	50
24400054	UT-VP-SEJ-M5-WESD-8-1/8	45	1.0	85	R 1/8	8	50



UT-VP-SEJ-...-WESD-...

Order no.	Type	Max. suction (NI/min)	Nozzle Ø (mm)	Max. vacuum (%)	Thread	Hose outer Ø	Weight (g)
24400061	UT-VP-SEJ-M2-GEk-6-1/8	6	0.5	85	R 1/8	6	45
24400064	UT-VP-SEJ-M2-GEk-8-1/8	31	0.7	70	R 1/8	8	50
24400063	UT-VP-SEJ-M2-GEk-8-1/8	45	1.0	85	R 1/8	8	50



UT-VP-SEJ-...-WEK-...

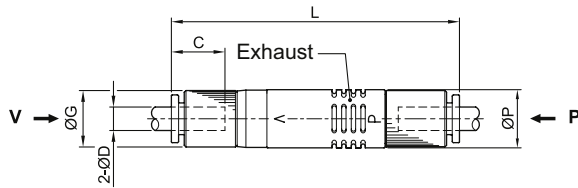
TIVatec vacuum ejectors

Plug-in ejectors – single-stage

SERIES UT

Technical data for type UT-VP-SEJ-...

Dimensions UT-VP-SEJ-...-GV-...

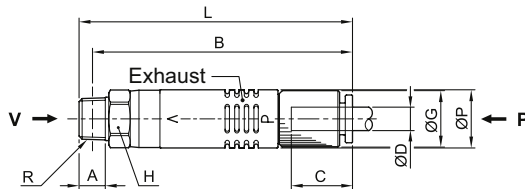


Type	Ø D	C	Ø G	L	Ø P
UT-VP-SEJ-M2-GV-6	6	17.1	13	65.9	14.3
UT-VP-SEJ-M5-GV-6	6	17.1	15	75.6	15.8



UT-VP-SEJ-...-GV-...

Dimensions UT-VP-SEJ-...-GE-...

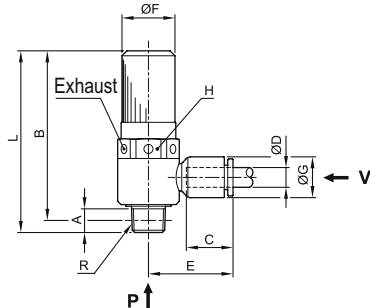


Type	Ø D	R	A	B	C	Ø G	H	L	Ø P
UT-VP-SEJ-M2-GEk-6-1/8	6	1/8"	6	59.6	17.1	13	12	62.6	14.3
UT-VP-SEJ-M5-GEk-8-1/8	8	1/8"	6	72	18.7	15	14	75	15.8



UT-VP-SEJ-...-GE-...

Dimensions UT-VP-SEJ-...-WESD-...

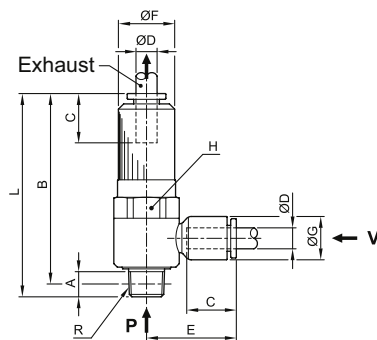


Type	Ø D	R	A	B	C	E	Ø F	Ø G	H	L
UT-VP-SEJ-M2-WESD-6-1/8	6	1/8"	7.2	45	16.7	25.5	16	12.4	17	48.6
UT-VP-SEJ-M3-WESD-8-1/8	8	1/8"	7.2	45	18.8	27.6	16	14.3	17	48.6
UT-VP-SEJ-M5-WESD-8-1/8	8	1/8"	7.2	45	18.8	27.6	16	14.3	17	48.6



UT-VP-SEJ-...-WESD-...

Dimensions UT-VP-SEJ-...-WEK-...



Type	Ø D	R	A	B	C	E	Ø F	Ø G	H	L
UT-VP-SEJ-M2-WEK-6-1/8	6	1/8"	7.2	54.6	16.7	25.5	16	12.4	17	58.2
UT-VP-SEJ-M3-WEK-8-1/8	8	1/8"	7.2	56.2	18.8	27.6	16	14.3	17	59.8
UT-VP-SEJ-M5-WEK-8-1/8	8	1/8"	7.2	56.2	18.8	27.6	16	14.3	17	59.8

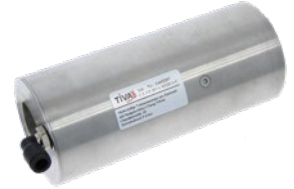


UT-VP-SEJ-...-WEK-...

Vacuum pumps type UT-VP-RVA-M101-...

Our 3-stage, series UT-VP-RVA, TIVAtec vacuum pumps are impressive with their rounded design and superb performance data. The suction is up to 4.5 times the compressed air used. Thus these pumps are capable of generating a vacuum of up to 90%. Thanks to the use of high-quality and resistant materials (stainless steel 1.4301 and FKM) these vacuum pumps are particularly well-suited for use in conjunction with aggressive media in critical environments.

A version with clamp rings (see photo below) is available on request. These vacuum pumps are CIP-compatible, and thus there is no need to remove the vacuum generators. The cleaning agent is simply supplied from the vacuum side and exits the system on the exhaust air side.



UT-VP-RVA-M...

Order no.	Type	Operating pressure (bar)	Max. vacuum (%)	Max. suction (NI/min)	Air consumption (NI/min)	Weight (kg)
24402205	UT-VP-RVA-M101-1	3-6	90	1150	252	2.5
24402206	UT-VP-RVA-M126-1	3-6	90	1450	344	2.6

General technical data

UT-VP-RVA-M101-...

- Operating pressure optimal (bar) : 5.6
- Noise level (dB(A)) : 55-78
- Operating temperature : -20 to +80 °C
- Materials : Stainless steel 1.4301, FKM seals

Suction (NI/min) at different vacuum ranges (%)

Type	Vacuum range (%)									Max. vacuum (%)
	0	10	20	30	40	50	60	70	80	
UT-VP-RVA-M101-1	1150	660	420	228	135	105	69	39	18	90
UT-VP-RVA-M126-1	1450	810	560	304	180	140	92	52	24	90

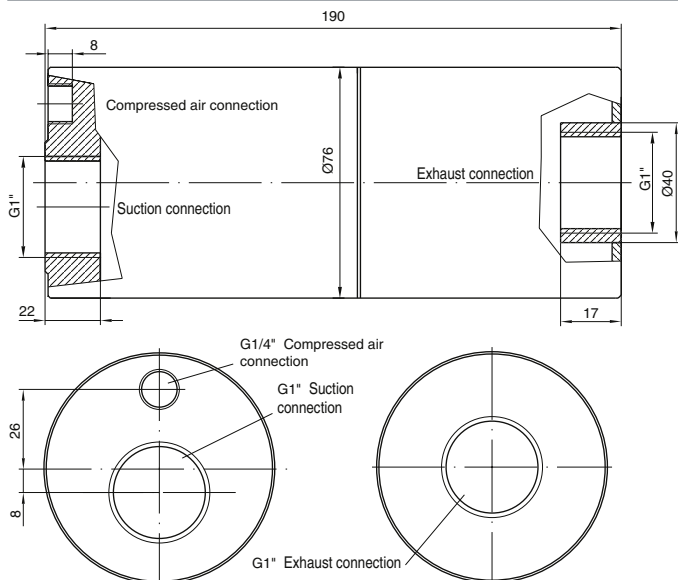
Evacuation time (s/l) to achieve different vacuum ranges (%)

Type	Vacuum range (%)									Max. vacuum (%)
	10	20	30	40	50	60	70	80	90	
UT-VP-RVA-M101-1	0.006	0.016	0.034	0.072	0.124	0.205	0.350	0.650	1.700	90
UT-VP-RVA-M126-1	0.005	0.013	0.026	0.055	0.093	0.155	0.265	0.490	1.3	90



UT-VP-RVA-M...-C

Dimensions UT-VP-RVA-...-WEk-...



TIVatec – pneumatic vacuum pumps

Annular gap ejectors – delivery ejectors – adjustable

SERIES UT

Annular gap ejectors type UT-VP-RISPA-...

UT-VP-RISPA are suitable for all types of propellants and intake gases. The propellant is delivered into a mixing pipe diagonally to the inside in the flow direction by means of an outer annular gap. In this process the intake medium is carried along from the upstream side of the mixing pipe.

These annular gap ejectors are available with passages from Ø 10 to Ø 40 mm. The maximum vacuum is -15 to -80 kPa. Application areas include blowing in bulk materials and gases, mixing of gases, thread handling, as well as drying wire and pipe, as well as general use for blow-air generation and boost or multiplication through the intake air (e.g. for fan-pattern blowing, cooling or for process engineering).

The UT-VP-RISPA jet pumps are operated with propellants at a pressure from 0-6 bar. Intake capacity, mixing ratio, and maximum vacuum are adjusted depending on the intensity of the pressure. Moreover, the UT-VP-RISPA jet pumps can be freely adjusted via a threaded element. Thus vacuum as well as air consumption and mixing ratio can be regulated in a broad range. Our UT-VP-RISPA pumps are available in different materials, such as aluminium, stainless steel and high-temperature steel.



UT-VP-RISPA-L100-...

Order no.	Type	Max. vacuum (%)	Air consumption at 6 bar (NI/min)	Suction at 6 bar (NI/min)	Material
24402005	UT-VP-RISPA-L100-AL	80	0-1000	Max. 700	Aluminium
24402006	UT-VP-RISPA-L100-VA	80	0-1000	Max. 700	Stainless steel
24402008	UT-VP-RISPA-L250-AL	45	0-3200	Max. 3300	Aluminium
24402009	UT-VP-RISPA-L250-VA	45	0-3200	Max. 3300	Stainless steel
24402010	UT-VP-RISPA-L300-AL	30	0-3400	Max. 4000	Aluminium
24402011	UT-VP-RISPA-L300-VA	30	0-3400	Max. 4000	Stainless steel
24402012	UT-VP-RISPA-L400-AL	15	0-3600	Max. 5500	Aluminium

Material

Aluminium : Anodised aluminium, nickel-plated brass, NBR seals
 Stainless steel : Stainless steel 1.4305, FKM seals

On request:

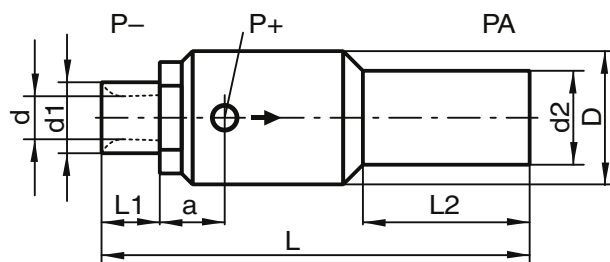
HT steel : High-temperature steel, special wear-guard inserts, copper seals



UT-VP-RISPA-L250-...
 UT-VP-RISPA-L300-...
 UT-VP-RISPA-L400-...

Dimensions UT-VP-RISPA...

Type	od (mm)	od1 (mm)	od2 (mm)	oD (mm)	L (mm)	L1 (mm)	L2 (mm)	a (mm)	P+
UT-VP-RISPA-L100-AL UT-VP-RISPA-L100-VA	10	G3/4" AG	40 and IG 3/4"	40	152.5	14	76	51.5	G3/8" IG
UT-VP-RISPA-L250-AL UT-VP-RISPA-L250-VA	25	32	40	60	236.5	38	110	64.5	G3/8" IG
UT-VP-RISPA-L300-AL UT-VP-RISPA-L300-VA	30	40	50	65	237	40.5	110	62	G3/8" IG
UT-VP-RISPA-L400-AL	40	50	75	90	277	50	120	62.5	G1/2" IG



P- Suction connection
 P+ Compressed air connection
 PA Exhaust

Annular gap ejectors type UT-VP-UTM-...

UT-VP-UTM are suitable for all types of propellants and intake gases. The propellant is delivered into a mixing pipe diagonally to the inside in the flow direction by means of an outer annular gap. In this process the intake medium is carried along from the upstream side of the mixing pipe.

These annular gap ejectors are available with passages from Ø 3.2 to Ø 9.5 mm. The maximum vacuum is -14 to -39 kPA. Application areas include blowing in / blowing out bulk materials, gases and dusts, mixing of gases, thread handling, drying wire and pipe, as well as general use for blow-air generation and boost or multiplication through the intake air (e.g. for fan-pattern blowing, cooling or for process engineering).

The UT-VP-UTM jet pumps are operated with propellants at a pressure from 0.2-6 bar. Intake capacity, mixing ratio, and maximum vacuum are adjusted depending on the intensity of the pressure. The UT-VP-UTM are not freely adjustable, however, vacuum, air consumption and the mixing ratio can be regulated via the pressure range.

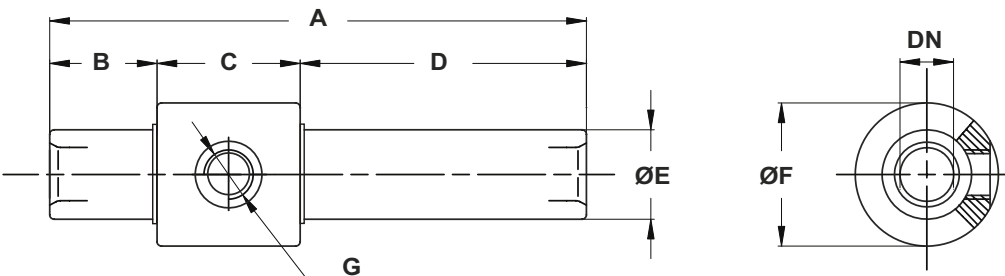


UT-VP-UTM-...

Order no.	Type	Material	Max. vacuum (%)	Air consumption at 1- 6 bar (NI/min)	Suction (NI/min)
24402013	UT-VP-UTM-003-AL	Aluminium	39	23 - 77	75
24402014	UT-VP-UTM-006-AL	Aluminium	31	43 - 144	216
24402015	UT-VP-UTM-009-AL	Aluminium	14	39 - 134	426

Dimensions UT-VP-UTM

Type	DN (mm)	A (mm)	B (mm)	C (mm)	D (mm)	ØE (mm)	ØF (mm)	G
UT-VP-UTM-003-AL	3.2	89	19	25	45	20	32	G1/8"
UT-VP-UTM-006-AL	6.4	89	19	25	45	20	32	G1/8"
UT-VP-UTM-009-AL	9.5	89	19	25	45	20	32	G1/8"




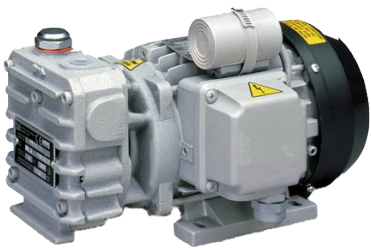


Technical data

Operating voltage	: 3-phase 400-volt
Suction	: Type-dependent
Noise level	: Type-dependent
Vacuum (max.)	: Type-dependent
Temperature range	: 0°- 40° C

Characteristics

Electric vacuum pumps		
Constant capacity		✓
Compact design		✓
High operational reliability		✓
High final vacuum		✓
High suction		✓



Electric vacuum pumps

Rotary vane pumps as dry-runner pumps

These types of vacuum pumps are low maintenance and operate without lubricants. Thus it is not possible to contaminate the pumped medium. In addition, there are no treatment and disposal efforts expenses. The dry-runner pumps have a compact design and low weight. A vacuum of 88% can be achieved when evacuating closed containers. Pump cooling is ensured by an integrated fan. Therefore adequate ventilation must be ensured for the dry-runner vacuum pumps.

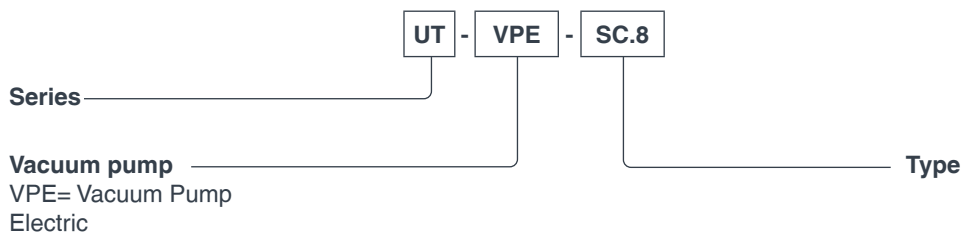
Rotary vane pumps – oil-lubricated

Thanks to their oil lubrication, these types of vacuum pumps offer a long service life and are reliable in continuous operation. They are characterised by constant high suction with a high final vacuum. With dense materials a vacuum of up to 99% can be achieved. These pumps are particularly suited for evacuating closed containers.

Vacuum blowers

These blowers are frequently used on porous materials, such as cardboard and particle-board panels. These compressors are characterised by a high suction, on the other hand the vacuum level is low. High-quantities of non-explosive gas/air mixtures can be pumped or high leak rates can be compensated.

Type key explanation, e.g. type: UT-VPE-SC.8



TIVatec – electric vacuum pumps

dry-runner, oil-free, 3-phase motor 400 volts

SERIES UT

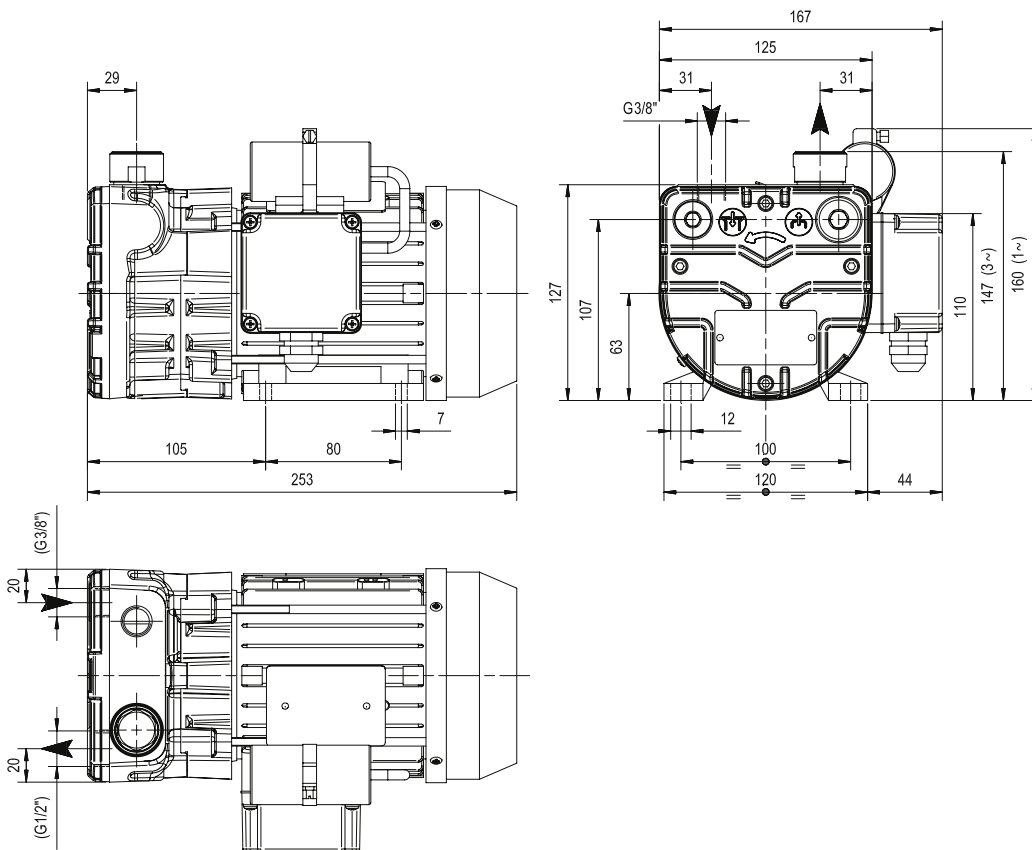
Rotary-vane pumps type UT-VPE...

These oil-free rotary-vane pumps are manufactured in monoblock design. This means that the rotor is directly fastened on the motor shaft. Using this design the pumps are low weight with compact dimensions, which in turn makes it possible to install these rotary vane pumps where available space is limited. A lightweight metal alloy is used as the material. However, sufficient ventilation should be present. Pump cooling is ensured by an integrated fan.

Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405067	UT-VPE-SC.8	8	88	0.25	2800	G 3/8"



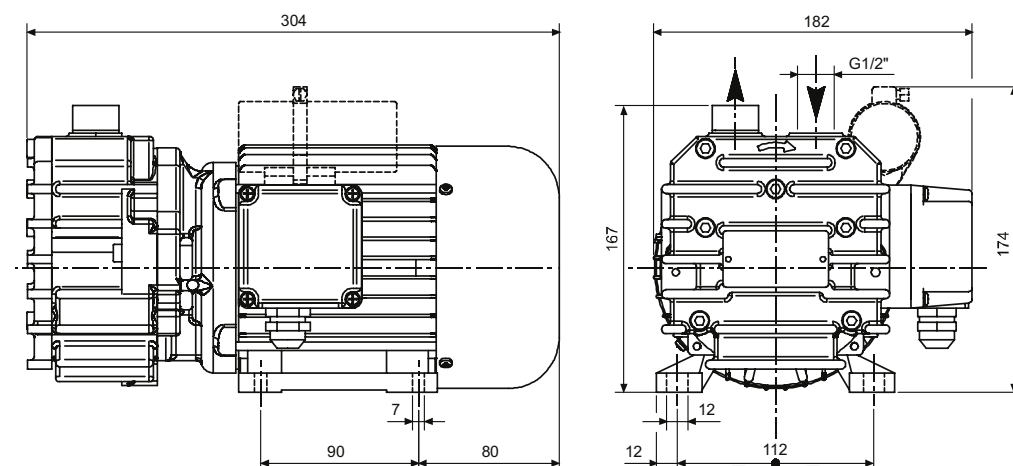
UT-VPE-SC.8
Dry-runner



Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405005	UT-VPE-SB.10	10	88	0.37	1400	G 1/2"

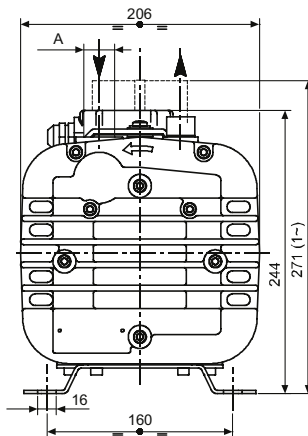
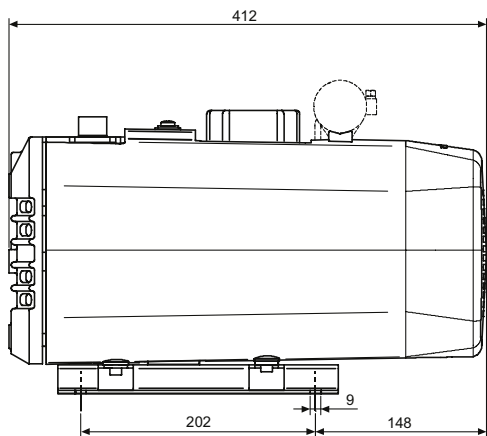


UT-VPE-SB.10
Dry-runner



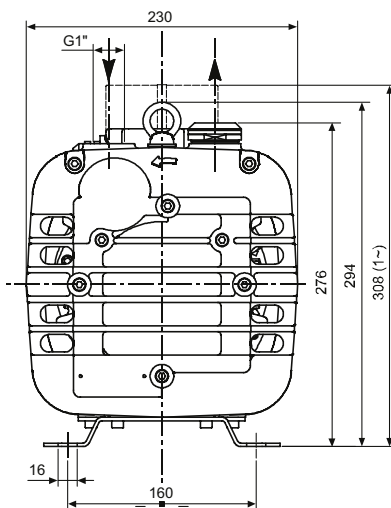
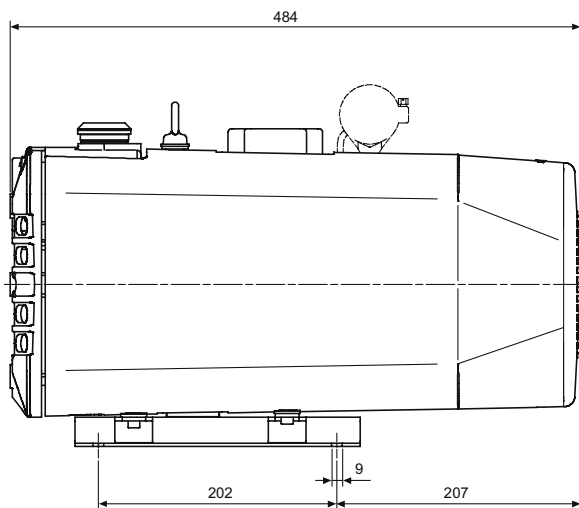
Rotary vane pumps type UT-VPE SB...

Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port (A)
24405001	UT-VPE-SB.16	16	88	0.55	1400	G 1/2"
24405007	UT-VPE-SB.25	25	88	0.75	1400	G 3/4"



UT-VPE-SB.16
UT-VPE-SB.25
Dry-runner

Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405011	UT-VPE-SB.40	40	88	1.5	1400	G 1"



UT-VPE-SB.40
Dry-runner

TIVatec – electric vacuum pumps dry-runner, oil-free, 3-phase motor 400 volt

SERIES UT

Rotary vane pumps type UT-VPE SC...

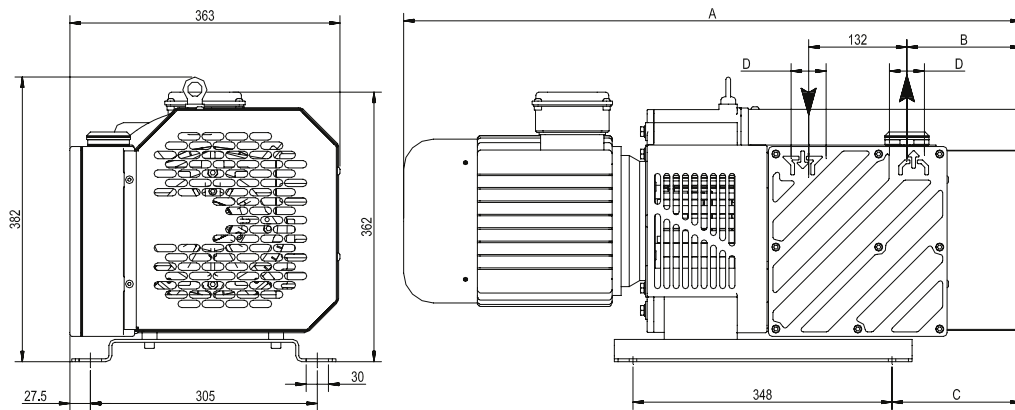
The rotor is on a shaft supported by 2 bearings. The motor connection is established by means of an electric coupling. Cooling is ensured by a powerful fan between the motor and pump housing. This series is extremely compact, thanks to the stable protective housing. Moreover the sound pressure level is significantly reduced. These pumps require a 400 volt power supply.

Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405013	UT-VPE-SC.60	60	88	1.5	1400	G 1"
24405006	UT-VPE-SC.80	80	88	2.2	1400	G 1"

Type	A	B	C	D
UT-VPE-SC.60	682	56	76	G 1"
UT-VPE-SC.80	712	56	76	G 1"



UT-VPE-SC.60
UT-VPE-SC.80
Dry-runner

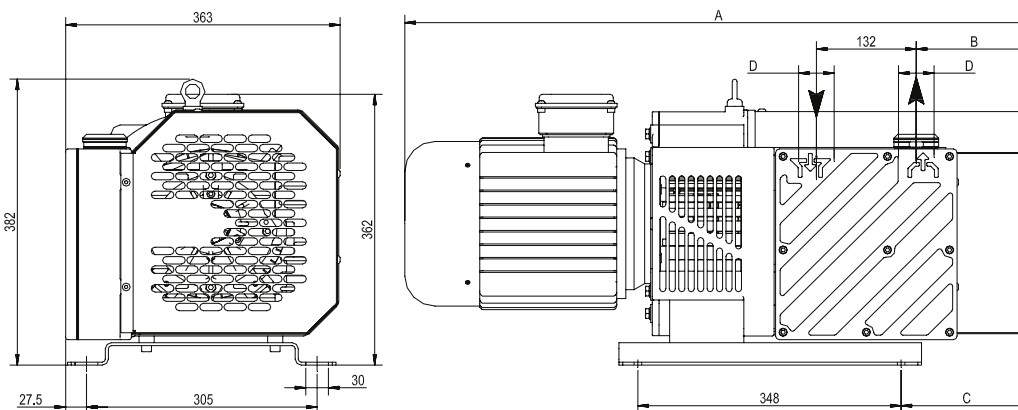


Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405010	UT-VPE-SC.100	100	88	3	1400	G 1 1/2"
24405014	UT-VPE-SC.140	130	88	4	1400	G 1 1/2"

Type	A	B	C	D
UT-VPE-SC.100	810	154	174	G 1-1/2"
UT-VPE-SC.140	830	154	174	G 1-1/2"



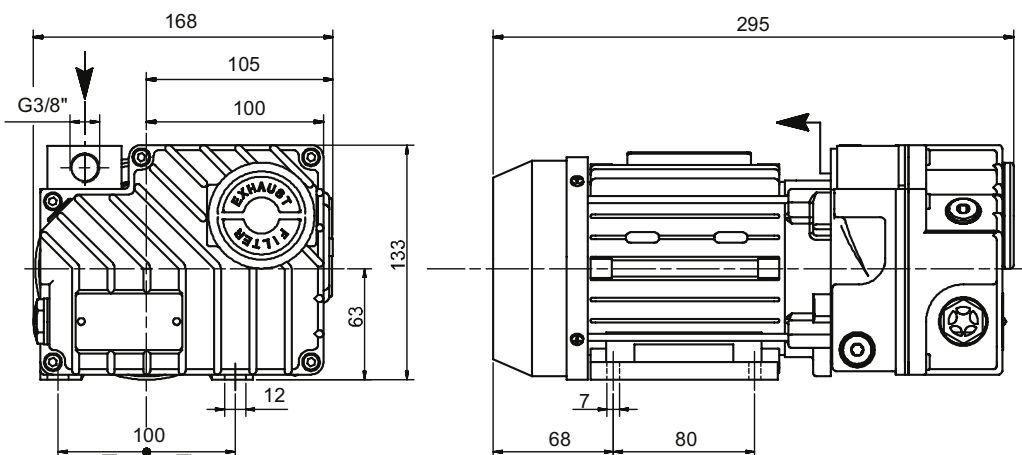
UT-VPE-SC.100
UT-VPE-SC.140
Dry-runner



Rotary vane pumps type UT-VPE LB.8

For this series the compact dimensions and high final vacuum are the stand-out features. Oil fumes are prevented by a vaporisation and recovery system. A special sealing system protects against collapse of the vacuum. These pumps have an adjustable suction port. These pumps are specially suited for evacuating small closed containers. The UT-VPE-LC.12 is suitable for continuous operation in a pressure range from 400 mbar to 2 mbar.

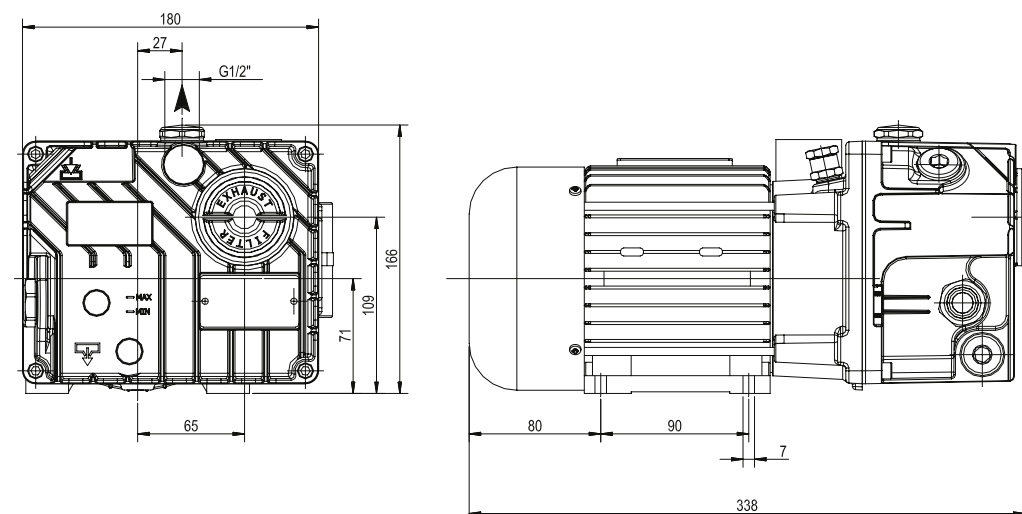
Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405004	UT-VPE-LB.8	8	99	0.25	2800	G 3/8"



UT-VPE-LB.8
Oil-lubricated

Rotary vane pumps type UT-VPE LC.12

Order no.	Type	Suction m ³ /h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405053	UT-VPE-LC.12	12	0.45	2800	G 1/2"	



UT-VPE-LC.12
Oil-lubricated

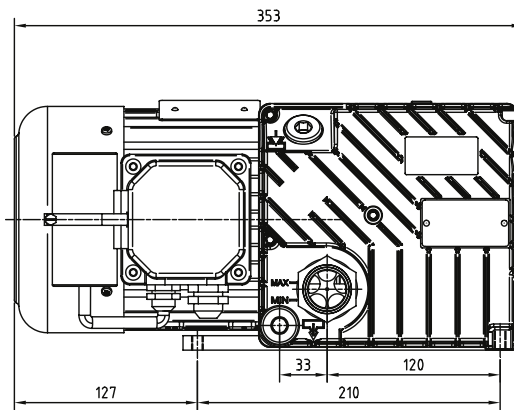
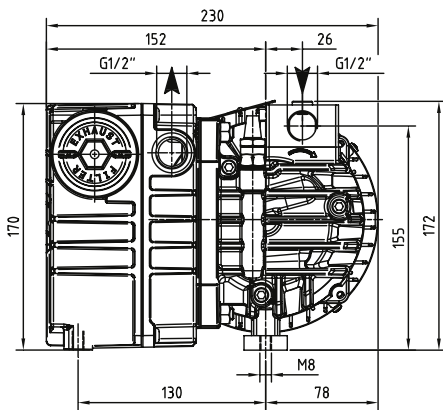
TIVatec – electric vacuum pumps oil-lubricated, 3-phase motor 400 volt

SERIES UT

Rotary vane pumps type UT-VPE LC.20

A very compact design, low sound-pressure level, easy execution of inspection and maintenance tasks; all are characteristics of this vacuum pump. The exhaust air is free of oil fumes. This is achieved by the vaporisation and recovery system, which is equipped with a bypass and oil recovery valve. Also on the suction-side, the check valve prevents oil from flowing back, if the pump comes to a standstill under vacuum. This pump is particularly well-suited for evacuating small closed containers.

Order no.	Type	Suction m³/h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405056	UT-VPE-LC.20	20	99	0.75	2800	G 1/2"

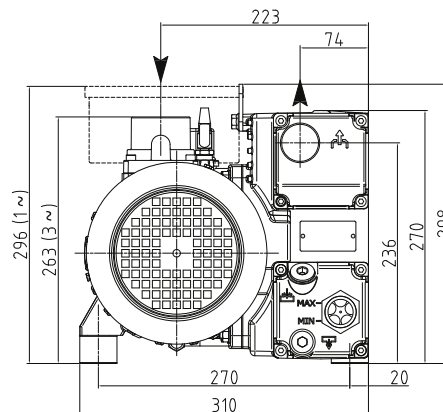
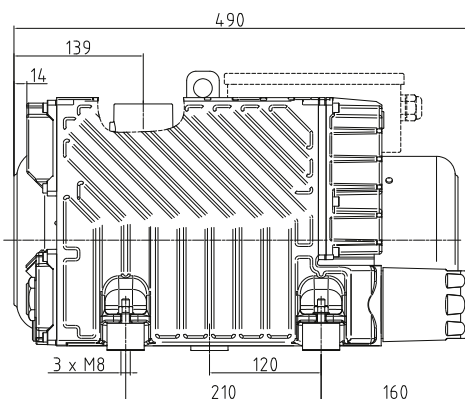


UT-VPE-LC.20
oil-lubricated

Rotary vane pumps type UT-VPE LC.60

A very compact design, low sound-pressure level, easy execution of inspection and maintenance tasks; all are characteristics of this vacuum pump. The exhaust air is free of oil fumes. This is achieved by the vaporisation and recovery system, which is equipped with a bypass and oil recovery valve and a float. Also on the suction-side, the check valve prevents oil from flowing back, if the pump comes to a standstill under vacuum. The standard version is suitable for continuous operation from 400 mbar to 0.1 mbar.

Order no.	Type	Suction m³/h	Vacuum level %	Motor power kW	Speed RPM	Suction port
24405009	UT-VPE-LC.60	60	99	1.5	1400	G 1 1/2"



UT-VPE-LC.60
oil-lubricated

Vacuum blowers type UST-VPE-BL52...

These vacuum blowers are suitable for intake and compression of non-explosive gas/air mixtures. The compression occurs without lubricants, this ensures that no oil whatsoever gets into the compressed medium.

Order no.	Type	Suction capacity m³/h	Vacuum level %	Motor power kW	Vacuum connection	Weight (kg)
62102001	UST-VPE-BL52-2019	230	39	4.0	2"	39

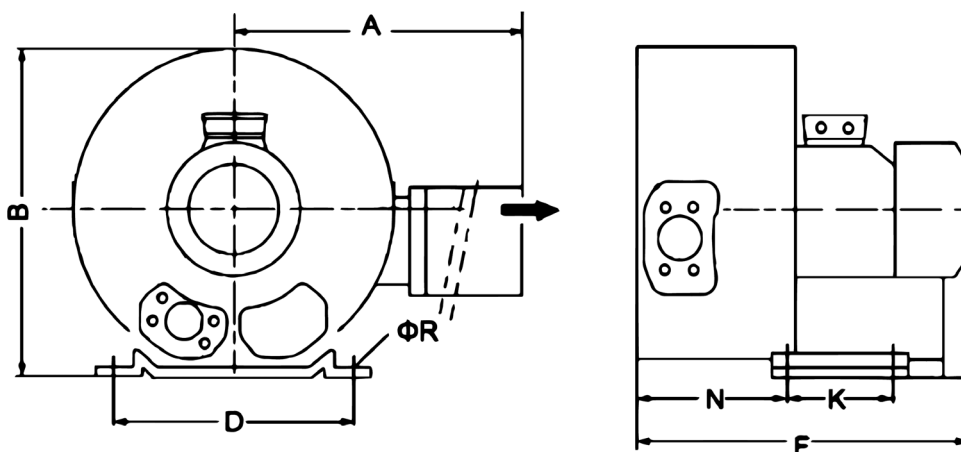
Additional accessories (optionally available): Noise insulating hood



UST-VPE-BL...

Dimensions UST-VPE-BL52...

Type	A	B	D	F	K	N	ØR
UST-VPE-BL52-2019	411	371	260	499	115	171	14




**OTHER
DESIGNS,
SUCH AS
SIDE-CHANNEL
COMPRESSOR
AVAILABLE ON
REQUEST!**



Technical data

Material	: Type-dependent
Shore hardness	: Type-dependent
Temperature range	: Type-dependent

Characteristics

Suction cups		
Various sizes, shapes and profiles	✓	
Robust materials	✓	
Various materials and Shore hardness ratings	✓	
Easy installation	✓	
Connection via internal thread and external thread	✓	



Application areas for flat suction cups type UT-SN-F...

Flat suction cups are designed for use on level surfaces, when high holding forces are required. Due to the support ribs these suction cups offer minimal deformation and better positioning accuracy than universal suction cups. These suction cups are also ideally suited for horizontal applications.



Application areas for bellows suction cups type UT-SN- B...

Due to their design, bellows suction cups offer a lift function. They can be used on level surfaces and slightly arched surfaces. Likewise they offer the possibility of compensating position tolerances of the workpieces to be grasped.



Application areas for bellows suction cups type UT-SN- U...

Universal suction cups are particularly well-suited for use on level surfaces and slightly arched surfaces. These products offer better compensation of uneven areas than do flat suction cups.



Application areas for bellows suction cups long, type UT-SN- BL...

These bellows suction cups long offer an even better lift function than the bellows suction cups. However due to the many bellows, the suction cups are less stable. They are suitable for applications up to 60% vacuum.



Application areas for profile suction cups long, type UT-SN- P...

These suction cups are particularly suitable for rough surfaces, such as stone, concrete slabs, etc. The cellular rubber offers a good seal on many surfaces.



Application areas for oval profile suction cups long type UT-SN- OP...

These suction cups are particularly suitable for rough surfaces, such as stone, concrete slabs, etc. The cellular rubber offers a good seal on many surfaces. For tasks involving thin objects the oval shape increases stability.



Application areas for long suction cups with button valves, type UT-SN-...Tast

For applications with a central vacuum system and multiple suction cups, it can be effective to equip the suction cups with a push-button valve (German term "Tastventil"), so that the vacuum system does not take in any external air, if a suction cup does not rest correctly on the material to be handled. Thanks to the integrated button the valve is only opened when the suction cup rests correctly on the workpiece.



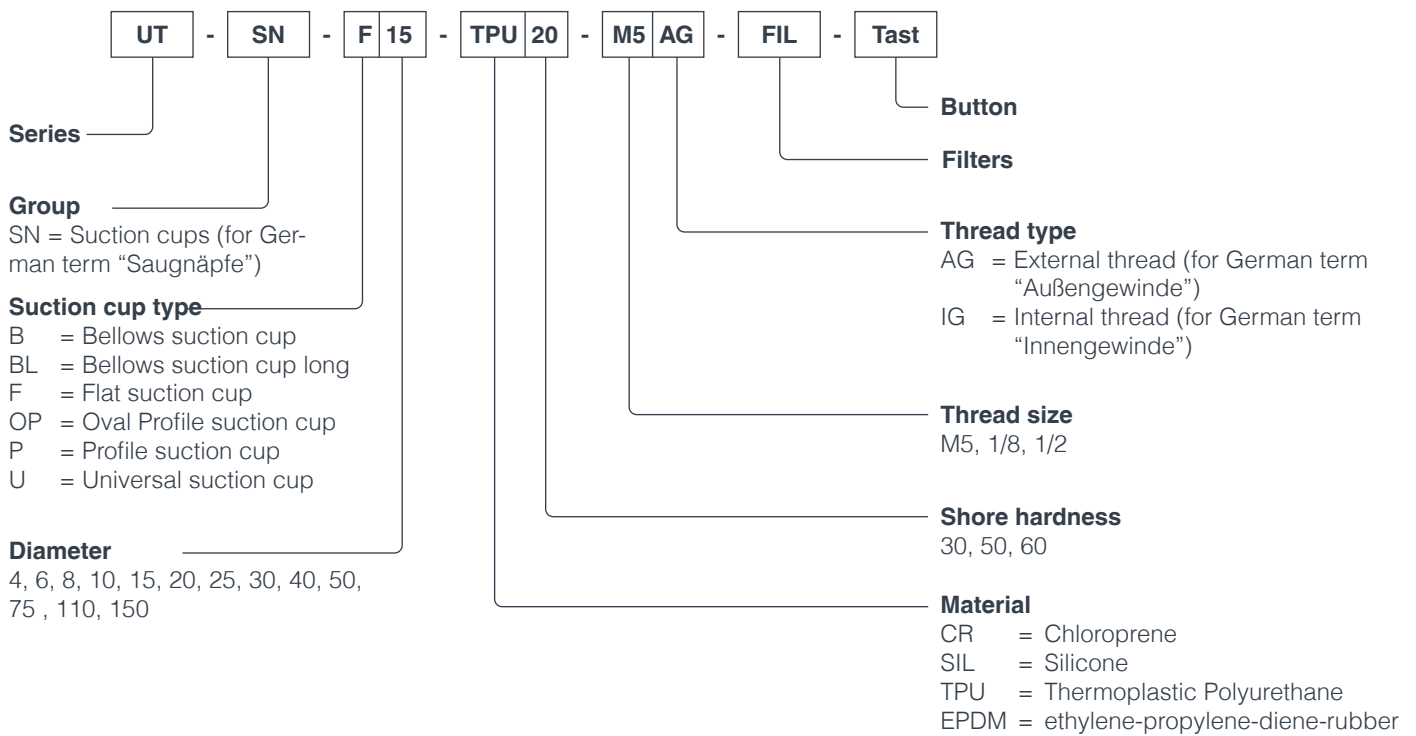
Material properties

Material property	Chloroprene (CR)	Silicone (SIL)	Thermo-plastic polyurethane (TPU)	Ethylene-propylene-diene-rubber (EPDM)	Polyurethane (PUR)
Oxidation resistance	Excellent	Outstanding	Excellent	Outstanding	Excellent
Hydrolysis resistance	Excellent	Good	Excellent	Excellent	Not suitable
Oil-resistance	Good	Not suitable	Outstanding	Not suitable	Outstanding
Wear-resistance	Outstanding	Excellent	Excellent	Good	Outstanding
Alcohol resistance	Excellent	Excellent	Excellent	Outstanding	Good
Weather and ozone resistance	Excellent	Outstanding	Excellent	Outstanding	Outstanding
Petrol resistance	Good	Not suitable	Not suitable	Not suitable	Good

Suction cups

Application areas

Type key explanation e.g. type: UT-SN-F15-TPU20-M5AG-FIL-Tast



Temperature ranges

Material	Temperature	Version
Chloroprene (CR)	-40 to +90 °C	
Silicone (SIL)	-70 to +200 °C	
Thermoplastic polyurethane (TPU), leaves no imprints	-25 to +80 °C	
Ethylene-propylene-diene-rubber (EPDM)	-30 to +130 °C	

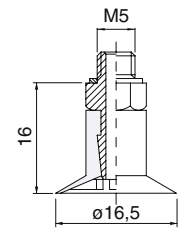

Silicone versions are suitable for high temperature ranges!

**Suction cups
Flat suction cups**

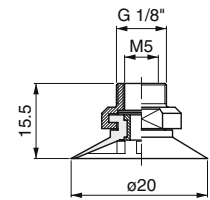
Flat suction cups type UT-SN-F...with holder

Flat suction cups are designed for use on level surfaces, when high holding forces are required. Due to the support ribs these suction cups offer minimal deformation and better positioning accuracy than universal suction cups. These suction cups are also ideally suited for horizontal applications.

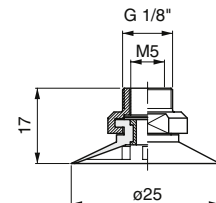
Order no.	Type	ø (mm)	Material	Colour	*Horizontal / vertical Holding force in N at vacuum level	
					20%	60%
24500124	UT-SN-F15-CR-M5AG	16.5	Chloroprene	Black	4.1/2.1	12.5/6.2
24500104	UT-SN-F15-SIL-M5AG	16.5	Silicone	White		
24500125	UT-SN-F20-CR-1/8AG/M5IG-FIL	20	Chloroprene	Black	6.2/3.1	18.4/9.2
24500105	UT-SN-F20-SIL-1/8AG/M5IG-FIL	20	Silicone	White		
24500126	UT-SN-F25-CR-1/8AG/M5IG-FIL	25	Chloroprene	Black	9.6/4.8	28.9/14.4
24500106	UT-SN-F25-SIL-1/8AG/M5IG-FIL	25	Silicone	White		
24500127	UT-SN-F30-CR-1/8AG/M5IG-FIL	30	Chloroprene	Black		
24500107	UT-SN-F30-SIL-1/8AG/M5IG-FIL	30	Silicone	White	13.8/6.9	41.6/20.8
24500128	UT-SN-F30-CR-1/8AG/M5IG-FIL-Tast	30	Chloroprene	Black		
24500108	UT-SN-F30-SIL-1/8AG/M5IG-Tast	30	Silicone	White		
24500120	UT-SN-F40-CR-1/8IG-FIL	40	Chloroprene	Black		
24500100	UT-SN-F40-SIL-1/8IG-FIL	40	Silicone	White	24.6/12.3	73.9/36.9
24500122	UT-SN-F40-CR-1/8IG-Tast	40	Chloroprene	Black		
24500102	UT-SN-F40-SIL-1/8IG-Tast	40	Silicone	White		
24500121	UT-SN-F50-CR-1/8IG-FIL	50	Chloroprene	Black		
24500101	UT-SN-F50-SIL-1/8IG-FIL	50	Silicone	White	38.5/19.2	115.5/57.7
24500123	UT-SN-F50-CR-1/8IG-Tast	50	Chloroprene	Black		
24500103	UT-SN-F50-SIL-1/8IG-Tast	50	Silicone	White		
24500129	UT-SN-F75-CR-1/2IG-FIL	75	Chloroprene	Black		
24500109	UT-SN-F75-SIL-1/8IG-FIL	75	Silicone	White	86.7/43.3	260/130
24500132	UT-SN-F75-CR-1/8IG-FIL-Tast	75	Chloroprene	Black		
24500112	UT-SN-F75-SIL-1/8IG-FIL-Tast	75	Silicone	White		
24500130	UT-SN-F110-CR-1/2IG-FIL	110	Chloroprene	Black		
24500110	UT-SN-F110-SIL-1/2IG-FIL	110	Silicone	White	186.4/93.2	559/279
24500133	UT-SN-F110-CR-1/2IG-FIL-Tast	110	Chloroprene	Black		
24500113	UT-SN-F110-SIL-1/2IG-FIL-Tast	110	Silicone	White		
24500131	UT-SN-F150-CR-1/2IG-FIL	150	Chloroprene	Black		
24500111	UT-SN-F150-SIL-1/2IG-FIL	150	Silicone	White	346/173.3	1040/520
24500134	UT-SN-F150-CR-1/2IG-FIL-Tast	150	Chloroprene	Black		
24500114	UT-SN-F150-SIL-1/2IG-FIL-Tast	150	Silicone	White		



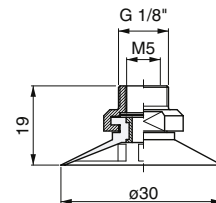
UT-SN-F15-M5AG



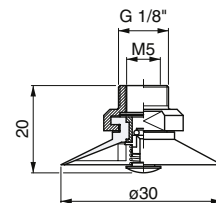
UT-SN-F20-1/8AG/M5IG-FIL



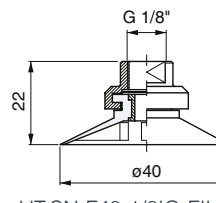
UT-SN-F25-1/8AG/M5IG-FIL



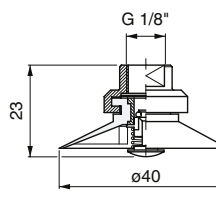
UT-SN-F30-1/8AG/M5IG-FIL



UT-SN-F30-1/8AG/M5IG-Tast



UT-SN-F40-1/8IG-FIL



UT-SN-F40-1/8IG-Tast

Flat suction cups with holder – low impression (TPU)

Order no.	Type	ø (mm)	Material	Colour	Shore hardness	*Horizontal / vertical Holding force in N at vacuum level	
						20%	60%
24500819	UT-SN-F20-TPU60-1/8AG/M5IG-FIL	20	TPU	Natural	60		
24500820	UT-SN-F20-TPU50-1/8AG/M5IG-FIL	20	TPU	Orange	50	6.2/3.1	18.4/9.2
24500821	UT-SN-F20-TPU30-1/8AG/M5IG-FIL	20	TPU	Green	30		
24500822	UT-SN-F25-TPU60-1/8AG/M5IG-FIL	25	TPU	Natural	60		
24500823	UT-SN-F25-TPU50-1/8AG/M5IG-FIL	25	TPU	Orange	50	9.6/4.8	28.9/14.4
24500824	UT-SN-F25-TPU30-1/8AG/M5IG-FIL	25	TPU	Green	30		
24500825	UT-SN-F30-TPU60-1/8AG/M5IG-FIL	30	TPU	Natural	60		
24500826	UT-SN-F30-TPU50-1/8AG/M5IG-FIL	30	TPU	Orange	50	13.8/6.9	41.6/20.8
24500827	UT-SN-F30-TPU30-1/8AG/M5IG-FIL	30	TPU	Green	30		
24500828	UT-SN-F40-TPU60-1/8IG-FIL	40	TPU	Natural	60		
24500829	UT-SN-F40-TPU50-1/8IG-FIL	40	TPU	Orange	50	24.6/12.3	73.9/36.9
24500830	UT-SN-F40-TPU30-1/8IG-FIL	40	TPU	Green	30		
24500831	UT-SN-F50-TPU60-1/8IG-FIL	50	TPU	Natural	60		
24500832	UT-SN-F50-TPU50-1/8IG-FIL	50	TPU	Orange	50	38.5/19.2	115.5/57.7
24500833	UT-SN-F50-TPU30-1/8IG-FIL	50	TPU	Green	30		
24500834	UT-SN-F75-TPU60-1/8IG-FIL	75	TPU	Natural	60		
24500835	UT-SN-F75-TPU50-1/8IG-FIL	75	TPU	Orange	50	86.7/43.3	260/130
24500836	UT-SN-F110-TPU60-1/2IG-FIL	110	TPU	Natural	60		
24500837	UT-SN-F110-TPU50-1/2IG-FIL	110	TPU	Orange	50	186.4/93.2	559/279



Suction cups

Flat suction cups

SERIES UT

Flat suction cups type UT-SN-F... without holder

Order no.	Type	ø (mm)	Material	Colour	*Horizontal / vertical Holding force in N at vacuum level	
					20%	60%
24500310	UT-SN-F15-CR	16.5	Chloroprene	Black	4.1/2.1	12.5/6.2
24500300	UT-SN-F15-SIL	16.5	Silicone	White		
24500311	UT-SN-F20-CR	20	Chloroprene	Black	6.2/3.1	18.4/9.2
24500301	UT-SN-F20-SIL	20	Silicone	White		
24500312	UT-SN-F25-CR	25	Chloroprene	Black	9.6/4.8	28.9/14.4
24500302	UT-SN-F25-SIL	25	Silicone	White		
24500313	UT-SN-F30-CR	30	Chloroprene	Black	13.8/6.9	41.6/20.8
24500303	UT-SN-F30-SIL	30	Silicone	White		
24500314	UT-SN-F40-CR	40	Chloroprene	Black	24.6/12.3	73.9/36.9
24500304	UT-SN-F40-SIL	40	Silicone	White		
24500315	UT-SN-F50-CR	50	Chloroprene	Black	38.5/19.2	115.5/57.7
24500305	UT-SN-F50-SIL	50	Silicone	White		
24500316	UT-SN-F75-CR	75	Chloroprene	Black	86.7/43.3	260/130
24500306	UT-SN-F75-SIL	75	Silicone	White		
24500317	UT-SN-F110-CR	110	Chloroprene	Black	186.4/93.2	559/279
24500307	UT-SN-F110-SIL	110	Silicone	White		
24500318	UT-SN-F150-CR	150	Chloroprene	Black	346/173.3	1040/520
24500308	UT-SN-F150-SIL	150	Silicone	White		

Flat suction cups without holder – low impression (TPU)

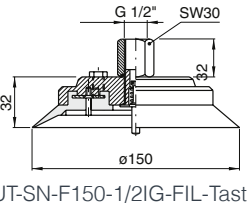
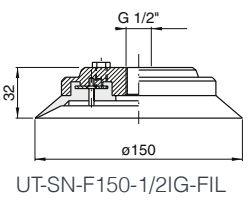
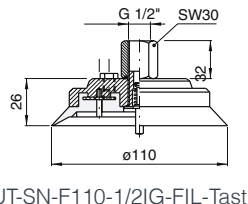
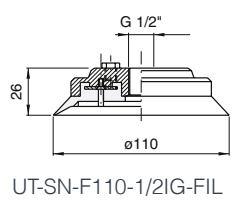
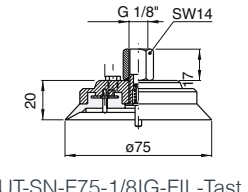
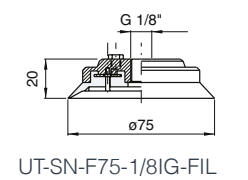
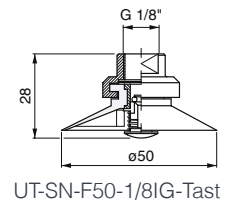
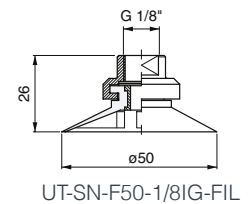
Order no.	Type	ø (mm)	Material	Colour	Shore hardness	*Horizontal / vertical Holding force in N at vacuum level	
						20%	60%
24500800	UT-SN-F20-TPU60	20	TPU	Natural	60		
24500801	UT-SN-F20-TPU50	20	TPU	Orange	50	6.2/3.1	18.4/9.2
24500802	UT-SN-F20-TPU30	20	TPU	Green	30		
24500803	UT-SN-F25-TPU60	25	TPU	Natural	60		
24500804	UT-SN-F25-TPU50	25	TPU	Orange	50	9.6/4.8	28.9/14.4
24500805	UT-SN-F25-TPU30	25	TPU	Green	30		
24500806	UT-SN-F30-TPU60	30	TPU	Natural	60		
24500807	UT-SN-F30-TPU50	30	TPU	Orange	50	13.8/6.9	41.6/20.8
24500808	UT-SN-F30-TPU30	30	TPU	Green	30		
24500809	UT-SN-F40-TPU60	40	TPU	Natural	60		
24500810	UT-SN-F40-TPU50	40	TPU	Orange	50	24.6/12.3	73.9/36.9
24500811	UT-SN-F40-TPU30	40	TPU	Green	30		
24500812	UT-SN-F50-TPU60	50	TPU	Natural	60		
24500813	UT-SN-F50-TPU50	50	TPU	Orange	50	38.5/19.2	115.5/57.7
24500814	UT-SN-F50-TPU30	50	TPU	Green	30		
24500815	UT-SN-F75-TPU60	75	TPU	Natural	60	86.7/43.3	260/130
24500816	UT-SN-F75-TPU50	75	TPU	Orange	50		
24500817	UT-SN-F110-TPU60	110	TPU	Natural	60	186.4/93.2	559/279
24500818	UT-SN-F110-TPU50	110	TPU	Orange	50		

*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5 μ and a safety factor of 1. Depending on the application, higher safety factors must be selected.

When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

Temperature range

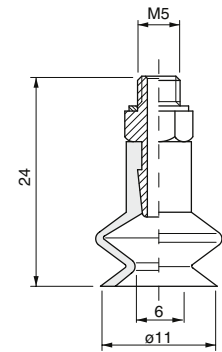
Chloroprene (CR)	: -40 to +90 °C
Silicone (SIL)	: -70 to +200 °C
TPU low impression	: -25 to +80 °C



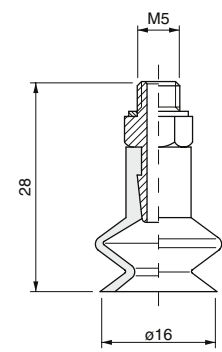
Bellows suction cups type UT-SN-B... with holder

Due to their design, bellows suction cups offer a lift function. They can be used in conjunction with level and slightly arched surfaces. Likewise they offer the possibility of compensating position tolerances of the workpieces to be grasped.

Order no.	Type	ø (mm)	Material	Colour	*Horizontal holding force in N at vacuum level	
					20%	60%
24500172	UT-SN-B10-CR-M5AG	11	Chloroprene	Black	1.9	5.6
24500162	UT-SN-B10-SIL-M5AG	11	Silicone	White		
24500173	UT-SN-B15-CR-M5AG	16	Chloroprene	Black	3.9	11.8
24500163	UT-SN-B15-SIL-M5AG	16	Silicone	White		
24500174	UT-SN-B20-CR-1/8AG/M5IG-FIL	20	Chloroprene	Black	6.2	18.4
24500164	UT-SN-B20-SIL-1/8AG/M5IG-FIL	20	Silicone	White		
24500175	UT-SN-B30-CR-1/8AG/M5IG-FIL	30	Chloroprene	Black	13.8	41.6
24500165	UT-SN-B30-SIL-1/8AG/M5IG-FIL	30	Silicone	White		
24500170	UT-SN-B40-CR-1/8IG-FIL	40	Chloroprene	Black	24.6	73.9
24500160	UT-SN-B40-SIL-1/8IG-FIL	40	Silicone	White		
24500171	UT-SN-B50-CR-1/8IG-FIL	50	Chloroprene	Black	38.5	115.5
24500161	UT-SN-B50-SIL-1/8IG-FIL	50	Silicone	White		
24500176	UT-SN-B75-CR-1/8IG-FIL	75	Chloroprene	Black	86.7	260.1
24500166	UT-SN-B75-SIL-1/8IG-FIL	75	Silicone	White		
24500177	UT-SN-B110-CR-1/2IG-FIL	110	Chloroprene	Black	186.4	559/279
24500167	UT-SN-B110-SIL-1/2IG-FIL	110	Silicone	White		
24500178	UT-SN-B150-CR-1/2IG-FIL	150	Chloroprene	Black	346.7	1040.1
24500168	UT-SN-B150-SIL-1/2IG-FIL	150	Silicone	White		



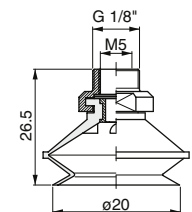
UT-SN-B10-M5AG



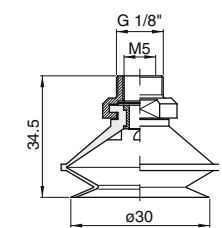
UT-SN-B15-M5AG

Bellows suction cups with holder – low impression (TPU)

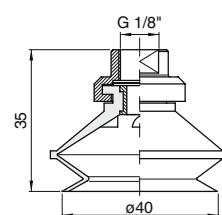
Order no.	Type	ø (mm)	Material	Colour	Shore hardness	*Horizontal holding force in N at vacuum level	
						20%	60%
24500854	UT-SN-B20-TPU60-1/8AG/M5IG-FIL	20	TPU	Natural	60		
24500855	UT-SN-B20-TPU50-1/8AG/M5IG-FIL	20	TPU	Orange	50	6.2	18.4
24500856	UT-SN-B20-TPU30-1/8AG/M5IG-FIL	20	TPU	Green	30		
24500857	UT-SN-B30-TPU60-1/8AG/M5IG-FIL	30	TPU	Natural	60		
24500858	UT-SN-B30-TPU50-1/8AG/M5IG-FIL	30	TPU	Orange	50	13.8	41.6
24500859	UT-SN-B30-TPU30-1/8AG/M5IG-FIL	30	TPU	Green	30		
24500860	UT-SN-B40-TPU60-1/8IG-FIL	40	TPU	Natural	60		
24500861	UT-SN-B40-TPU50-1/8IG-FIL	40	TPU	Orange	50	24.6	73.9
24500862	UT-SN-B40-TPU30-1/8IG-FIL	40	TPU	Green	30		
24500863	UT-SN-B50-TPU60-1/8IG-FIL	50	TPU	Natural	60		
24500864	UT-SN-B50-TPU50-1/8IG-FIL	50	TPU	Orange	50	38.5	115.5
24500865	UT-SN-B50-TPU30-1/8IG-FIL	50	TPU	Green	30		
24500866	UT-SN-B75-TPU60-1/8IG-FIL	75	TPU	Natural	60		
24500867	UT-SN-B75-TPU50-1/8IG-FIL	75	TPU	Orange	50	86.7	260.1
24500868	UT-SN-B110-TPU60-1/2IG-FIL	110	TPU	Natural	60	186.4	559/279
24500869	UT-SN-B110-TPU50-1/2IG-FIL	110	TPU	Orange	50		



UT-SN-B20-1/8AG/M5IG-FIL



UT-SN-B30-1/8AG/M5IG-FIL



UT-SN-B40-1/8IG-FIL



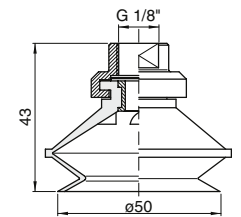
Suction cups

Bellows suction cups

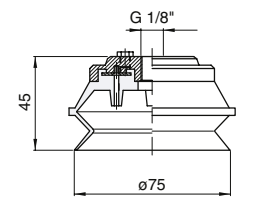
SERIES UT

Bellows suction cups type UT-SN-B... without holder

Order no.	Type	ø (mm)	Material	Colour	*Horizontal holding force in N at vacuum level	
					20%	60%
24500350	UT-SN-B10-CR	11	Chloroprene	Black	1.9	5.6
24500340	UT-SN-B10-SIL	11	Silicone	White		
24500351	UT-SN-B15-CR	16	Chloroprene	Black	3.9	11.8
24500341	UT-SN-B15-SIL	16	Silicone	White		
24500352	UT-SN-B20-CR	20	Chloroprene	Black	6.2	18.4
24500342	UT-SN-B20-SIL	20	Silicone	White		
24500353	UT-SN-B30-CR	30	Chloroprene	Black	13.8	41.6
24500343	UT-SN-B30-SIL	30	Silicone	White		
24500354	UT-SN-B40-CR	40	Chloroprene	Black	24.6	73.9
24500344	UT-SN-B40-SIL	40	Silicone	White		
24500355	UT-SN-B50-CR	50	Chloroprene	Black	38.5	115.5
24500345	UT-SN-B50-SIL	50	Silicone	White		
24500356	UT-SN-B75-CR	75	Chloroprene	Black	86.7	260.1
24500346	UT-SN-B75-SIL	75	Silicone	White		
24500357	UT-SN-B110-CR	110	Chloroprene	Black	186.4	559/279
24500347	UT-SN-B110-SIL	110	Silicone	White		
24500358	UT-SN-B150-CR	150	Chloroprene	Black	346.7	1040.1
24500348	UT-SN-B150-SIL	150	Silicone	White		



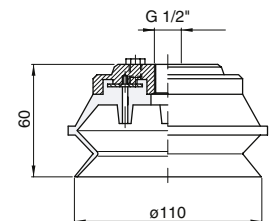
UT-SN-B50-1/8IG-FIL



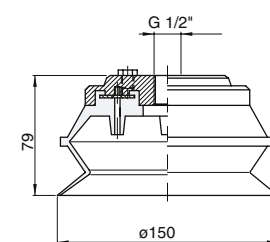
UT-SN-B75-1/8IG-FIL

Bellows suction pads without holder – low impression (TPU)

Order no.	Type	ø (mm)	Material	Colour	Shore hardness	*Horizontal holding force in N at vacuum level	
						20%	60%
24500838	UT-SN-B20-TPU60	20	TPU	Natural	60		
24500839	UT-SN-B20-TPU50	20	TPU	Orange	50	6.2	18.4
24500840	UT-SN-B20-TPU30	20	TPU	Green	30		
24500841	UT-SN-B30-TPU60	30	TPU	Natural	60		
24500842	UT-SN-B30-TPU50	30	TPU	Orange	50	13.8	41.6
24500843	UT-SN-B30-TPU30	30	TPU	Green	30		
24500844	UT-SN-B40-TPU60	40	TPU	Natural	60		
24500845	UT-SN-B40-TPU50	40	TPU	Orange	50	24.6	73.9
24500846	UT-SN-B40-TPU30	40	TPU	Green	30		
24500847	UT-SN-B50-TPU60	50	TPU	Natural	60		
24500848	UT-SN-B50-TPU50	50	TPU	Orange	50	38.5	115.5
24500849	UT-SN-B50-TPU30	50	TPU	Green	30		
24500850	UT-SN-B75-TPU60	75	TPU	Natural	60	86.7	260.1
24500851	UT-SN-B75-TPU50	75	TPU	Orange	50		
24500852	UT-SN-B110-TPU60	110	TPU	Natural	60	186.4	559/279
24500853	UT-SN-B110-TPU50	110	TPU	Orange	50		



UT-SN-B110-1/2IG-FIL



UT-SN-B150-1/2IG-FIL

*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5 μ and a safety factor of 1. Depending on the application, higher safety factors must be selected. When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

Temperature range

Chloroprene (CR)	: -40 to +90 °C
Silicone (SIL)	: -70 to +200 °C
TPU low impressions	: -25 to +80 °C



Universal suction pads type UT-SN-U... with holder

Universal suction cups are particularly well-suited for use on level surfaces and slightly arched surfaces. These products offer better compensation of uneven areas than do flat suction cups.

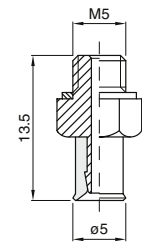
Order no.	Type	ø (mm)	Material	Colour	*Horizontal holding force in N at vacuum level	
					20%	60%
24500152	UT-SN-U4-CR-M5AG	5	Chloroprene	Black	0.39	1.17
24500142	UT-SN-U4-SIL-M5AG	5	Silicone	White		
24500153	UT-SN-U6-CR-M5AG	7	Chloroprene	Black	0.78	2.25
24500143	UT-SN-U6-SIL-M5AG	7	Silicone	White		
24500154	UT-SN-U8-CR-M5AG	9	Chloroprene	Black	1.27	3.72
24500144	UT-SN-U8-SIL-M5AG	9	Silicone	White		
24500155	UT-SN-U10-CR-M5AG	11	Chloroprene	Black	1.86	5.59
24500145	UT-SN-U10-SIL-M5AG	11	Silicone	White		
24500156	UT-SN-U15-CR-M5AG	16.5	Chloroprene	Black	4.21	12.5
24500146	UT-SN-U15-SIL-M5AG	16.5	Silicone	White		
24500157	UT-SN-U20-CR-1/8AG/M5IG-FIL	20	Chloroprene	Black	6.18	18.4
24500147	UT-SN-U20-SIL-1/8AG/M5IG-FIL	20	Silicone	White		
24500158	UT-SN-U30-CR-1/8AG/M5IG-FIL	30	Chloroprene	Black	13.8	41.5
24500148	UT-SN-U30-SIL-1/8AG/M5IG-FIL	30	Silicone	White		
24500150	UT-SN-U40-CR-1/8IG-FIL	40	Chloroprene	Black	24.6	73.9
24500140	UT-SN-U40-SIL-1/8IG-FIL	40	Silicone	White		
24500151	UT-SN-U50-CR-1/8IG-FIL	50	Chloroprene	Black	38.5	115.5
24500141	UT-SN-U50-SIL-1/8IG-FIL	50	Silicone	White		

*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5 μ and a safety factor of 1. Depending on the application, higher safety factors must be selected. When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

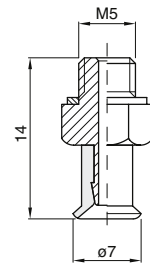
Temperature range

Chloroprene (CR) : -40 to +90 °C
 Silicone (SIL) : -50 to +220 °C

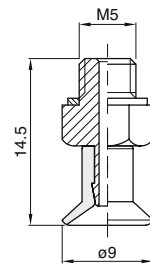
OTHER MATERIALS ON REQUEST!



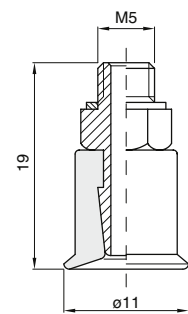
UT-SN-U4-M5AG



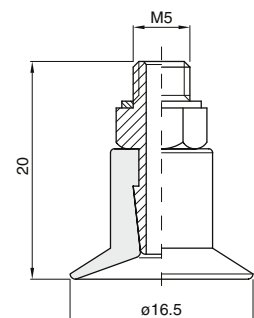
UT-SN-U6-M5AG



UT-SN-U8-M5AG



UT-SN-U10-M5AG



UT-SN-U15-M5AG

Suction cups

Universal suction cups

SERIES UT

Universal suction pads type UT-SN-U... without holder

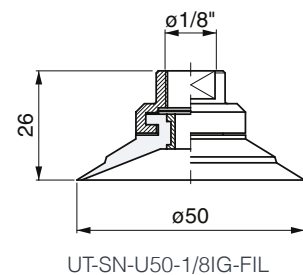
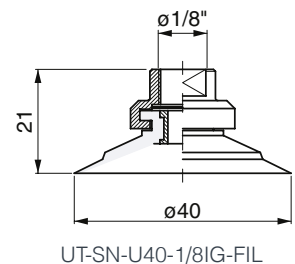
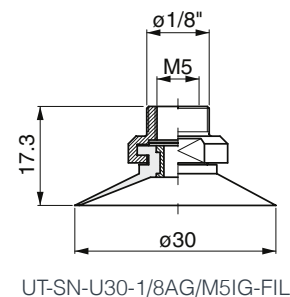
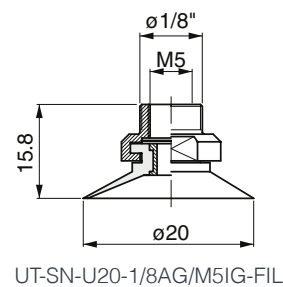
Order no.	Type	Ø (mm)	Material	Colour	*Horizontal holding force in N at vacuum level	
					20%	60%
24500330	UT-SN-U4-CR	5	Chloroprene	Black	0.39	1.17
24500320	UT-SN-U4-SIL	5	Silicone	White		
24500331	UT-SN-U6-CR	7	Chloroprene	Black	0.78	2.25
24500321	UT-SN-U6-SIL	7	Silicone	White		
24500332	UT-SN-U8-CR	9	Chloroprene	Black	1.27	3.72
24500322	UT-SN-U8-SIL	9	Silicone	White		
24500333	UT-SN-U10-CR	11	Chloroprene	Black	1.86	5.59
24500323	UT-SN-U10-SIL	11	Silicone	White		
24500334	UT-SN-U15-CR	16.5	Chloroprene	Black	4.21	12.5
24500324	UT-SN-U15-SIL	16.5	Silicone	White		
24500335	UT-SN-U20-CR	20	Chloroprene	Black	6.18	18.4
24500325	UT-SN-U20-SIL	20	Silicone	White		
24500336	UT-SN-U30-CR	30	Chloroprene	Black	13.8	41.5
24500326	UT-SN-U30-SIL	30	Silicone	White		
24500337	UT-SN-U40-CR	40	Chloroprene	Black	24.6	73.9
24500327	UT-SN-U40-SIL	40	Silicone	White		
24500338	UT-SN-U50-CR	50	Chloroprene	Black	38.5	115.5
24500328	UT-SN-U50-SIL	50	Silicone	White		

*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5 μ and a safety factor of 1. Depending on the application, higher safety factors must be selected. When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

Temperature range

Chloroprene (CR) : -40 to +90 °C
 Silicone (SIL) : -70 to +200 °C

OTHER MATERIALS ON REQUEST!

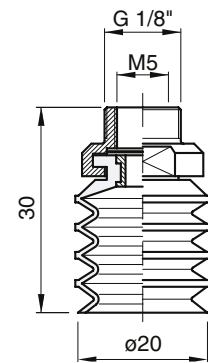


**Suction cups
Bellow suction cups long**

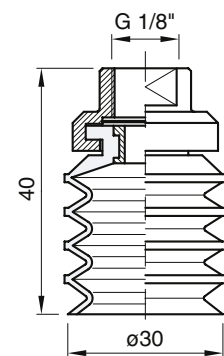
Bellows suction cups long, type UT-SN-BL... with holder

The "bellows suction cups long" offer an even better lift function than the bellows suction cups. However due to the many bellows, the suction cups are less stable. They are suitable for applications up to 60% vacuum.

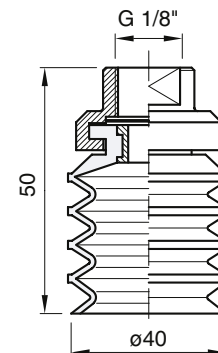
Order no.	Type	ø (mm)	Material	Colour	*Horizontal holding force in N at vacuum level	
					20%	60%
24500190	UT-SN-BL20-CR-1/8AG/M5IG-FIL	20	Chloroprene	Black	6.18	18.44
24500180	UT-SN-BL20-SIL-1/8AG/M5IG-FIL	20	Silicone	White		
24500191	UT-SN-BL30-CR-1/8IG-FIL	30	Chloroprene	Black	13.83	41.59
24500181	UT-SN-BL30-SIL-1/8IG-FIL	30	Silicone	White		
24500192	UT-SN-BL40-CR-1/8IG-FIL	40	Chloroprene	Black	24.62	73.96
24500182	UT-SN-BL40-SIL-1/8IG-FIL	40	Silicone	White		
24500193	UT-SN-BL50-CR-1/8IG-FIL	50	Chloroprene	Black	38.55	115.56
24500183	UT-SN-BL50-SIL-1/8IG-FIL	50	Silicone	White		



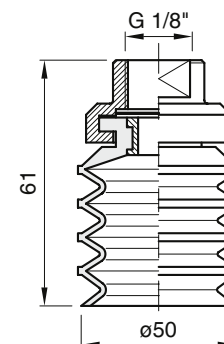
UT-SN-BL20-1/8AG/M5IG-FIL



UT-SN-BL30-1/8IG-FIL



UT-SN-BL40-1/8IG-FIL



UT-SN-BL50-1/8IG-FIL

Bellows suction cups long type UT-SN-BL... without holder

Order no.	Type	ø (mm)	Material	Colour	*Horizontal holding force in N at vacuum level	
					20%	60%
24500370	UT-SN-BL20-CR	20	Chloroprene	Black	6.18	18.44
24500360	UT-SN-BL20-SIL	20	Silicone	White		
24500371	UT-SN-BL30-CR	30	Chloroprene	Black	13.83	41.59
24500361	UT-SN-BL30-SIL	30	Silicone	White		
24500372	UT-SN-BL40-CR	40	Chloroprene	Black	24.62	73.96
24500362	UT-SN-BL40-SIL	40	Silicone	White		
24500373	UT-SN-BL50-CR	50	Chloroprene	Black	38.55	115.56
24500363	UT-SN-BL50-SIL	50	Silicone	White		

*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5 μ and a safety factor of 1. Depending on the application, higher safety factors must be selected. When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

Temperature range

Chloroprene (CR) : -40 to +90 °C
Silicone (SIL) : -70 to +200 °C

OTHER MATERIALS ON REQUEST!



Suction cups

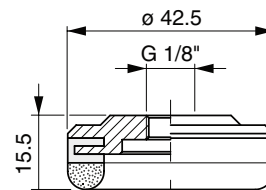
Profile suction cups

SERIES UT

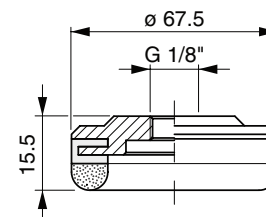
Profile suction cups type UT-SN-P... with holder

These suction cups are particularly suitable for rough surfaces, such as stone, concrete slabs, etc. The cellular rubber offers a good seal on many surfaces.

Order no.	Type	ø (mm)	Material	*Horizontal holding force in N at vacuum level	
				20%	60%
24500250	UT-SN-P35-EPDM-1/8IG	42.5	EPDM	27.8	83.4
24500251	UT-SN-P60-EPDM-1/8IG	67.5	EPDM	70.2	210.6
24500255	UT-SN-P100-EPDM-1/2IG	107.5	EPDM	178	534.2



UT-SN-P35-EPDM-1/8IG



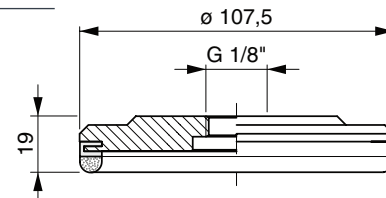
UT-SN-P60-EPDM-1/8IG



Oval profile suction cups type UT-SN-OP... With holder

These suction cups are particularly suitable for rough surfaces, such as stone, concrete slabs, etc. The cellular rubber offers a good seal on many surfaces. For tasks involving thin objects the oval shape increases stability.

Order no.	Type	Material	*Horizontal holding force in N at vacuum level	
			20%	60%
24500201	UT-SN-OP20x100-EPDM-1/8IG	EPDM	37.5	112.6
24500204	UT-SN-OP40x200-EPDM-1/2IG	EPDM	155.6	457.1

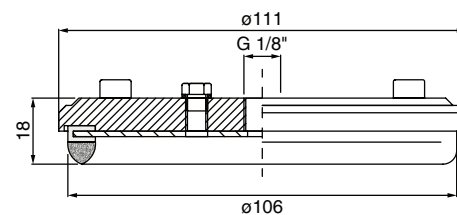


UT-SN-P100-EPDM-1/8IG

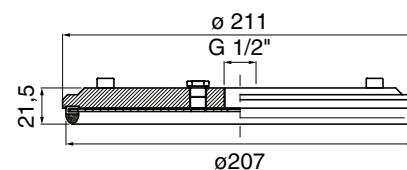
*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5μ and a safety factor of 1. Depending on the application, higher safety factors must be selected. When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

Temperature range

EPDM : -30 to +130 °C



UT-SN-OP20x100-EPDM-1/8IG



UT-SN-OP40x200-EPDM-1/2IG

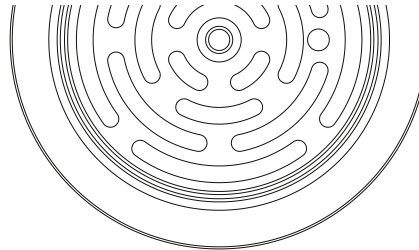
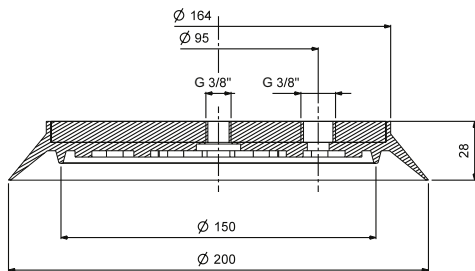


Special suction cups

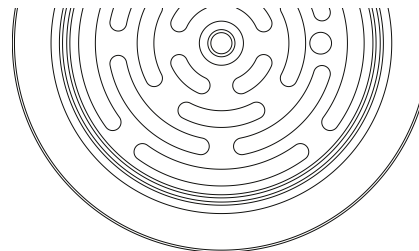
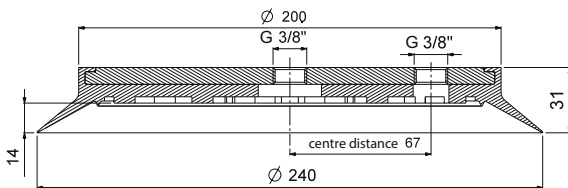
Our product range includes a variety of special suction cups with different designs, sizes and materials, which are available on request.

*The specified holding forces apply for dry sheet steel with a coefficient of friction of 0.5 μ and a safety factor of 1. Depending on the application, higher safety factors must be selected. When selecting the appropriate suction cups, we recommend multiplying the weight that should be lifted by at least a factor of 2.

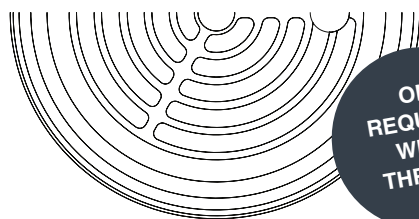
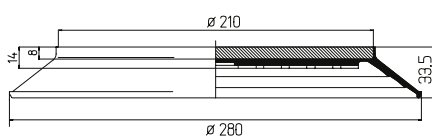
Order no.	Type	\varnothing (mm)	Material	*H / V Holding force in N at vacuum level	
				20%	60%
24500456	UT-SN-F200-CR-3/8	200	Chloroprene	616/308	1849/924



Order no.	Type	\varnothing (mm)	Material	*H / V Holding force in N at vacuum level	
				20%	60%
24500455	UT-SN-F240-CR-3/8	240	Chloroprene	887/443	2662/1331



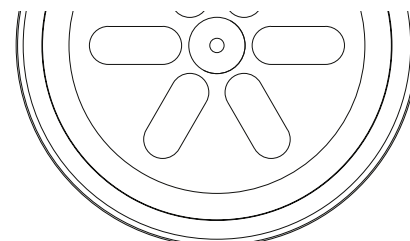
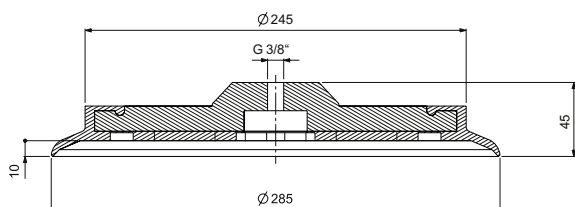
Order no.	Type	\varnothing (mm)	Material	*H / V Holding force in N at vacuum level	
				20%	60%
24500542	UT-SN-F280-NBR	280	Nitrile rubber	1208/604	3624/1812



ON REQUEST WITH THREAD



Order no.	Type	\varnothing (mm)	Material	*H / V Holding force in N at vacuum level	
				20%	60%
24500457	UT-SN-F285-NR-3/8	285	Natural rubber	1251/625	3754/1877





Characteristics

Vacuum accessories



Accessories for a variety of applications	✓
Easy installation	✓
Various sizes	✓
Various shapes	✓



Vacuum filters type UT-ZUB-FV-...-steel, incl. filter cartridge

Order no.	Type	Max. flow (NI/min)*	Operating temperature (°C)	Pressure range (bar)
24600110	UT-ZUB-FV-3/8-steel	400	Max. +80	-1 to 0
24600111	UT-ZUB-FV-1/2-steel	750	Max. +80	-1 to 0
24600112	UT-ZUB-FV-3/4-steel	830	Max. +80	-1 to 0
24600113	UT-ZUB-FV-1-steel	1500	Max. +80	-1 to 0
24600114	UT-ZUB-FV-1 1/4-steel	2500	Max. +80	-1 to 0
24600115	UT-ZUB-FV-1 1/2-steel	3300	Max. +80	-1 to 0
24600116	UT-ZUB-FV-2-steel	5300	Max. +80	-1 to 0

*With 200 mm H2O flow loss measured flow rates with filter, including steel filter cartridge



UT-ZUB-FV-...-steel

Replacement filter cartridge

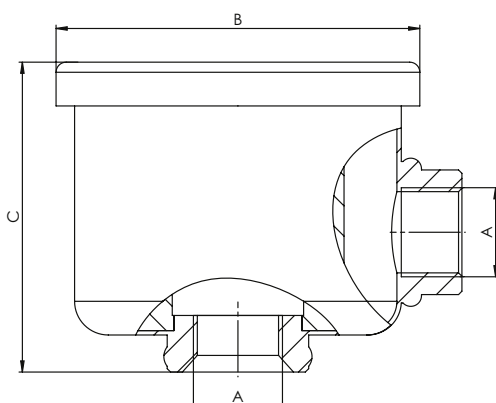
Order no.	Type	Suitable for filters
24600120	UT-ZUB-FVE-3/8-steel	UT-ZUB-FV-3/8-steel
24600121	UT-ZUB-FVE-1/2-3/4-steel	UT-ZUB-FV-1/2-steel as well as UT-ZUB-FV-3/4-steel
24600123	UT-ZUB-FVE-1-steel	UT-ZUB-FV-1-steel
24600124	UT-ZUB-FVE-1 1/4-steel	UT-ZUB-FV-1-1/4-steel
24600126	UT-ZUB-FVE-1 1/2-steel	UT-ZUB-FV-1-1/2-steel
24600125	UT-ZUB-FVE-2-steel	UT-ZUB-FV-2-steel



UT-ZUB-FVE-...-steel

Dimensions

Type	A	B	C
UT-ZUB-FV-3/8-steel	G3/8"	83	80
UT-ZUB-FV-1/2-steel	G1/2"	108	93
UT-ZUB-FV-3/4-steel	G3/4"	108	93
UT-ZUB-FV-1-steel	G1"	133	105
UT-ZUB-FV-1 1/4-steel	G1 1/4"	176	161
UT-ZUB-FV-1 1/2-steel	G1 1/2"	176	200
UT-ZUB-FV-2-steel	G2"	200	258



Material

Housing	:	Painted steel
Seals	:	NBR
Filter cartridge	:	Polyester
Pore size	:	5-7 µm

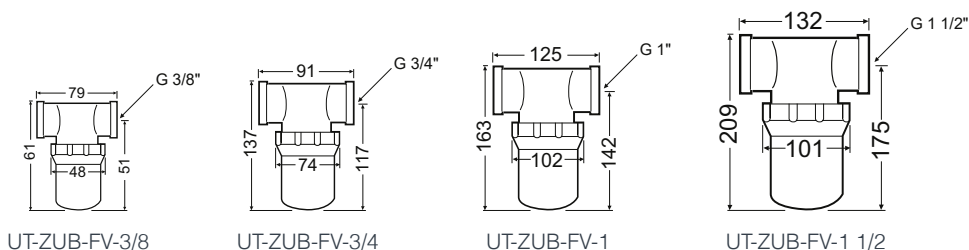
Vacuum filter type UT-ZUB-FV-...

Order no.	Type	Filter surface (cm ²)	Max. flow (NI/min)	Operating temperature (°C)	Pressure range (bar)
24600100	UT-ZUB-FV-3/8	28	150	Max. +50	-1 to +10
24600101	UT-ZUB-FV-3/4	123	900	Max. +50	-1 to +10
24600102	UT-ZUB-FV-1	213	2500	Max. +50	-1 to +10
24600103	UT-ZUB-FV-1 1/2	252	5100	Max. +50	-1 to +10

Replacement filter cartridge

Order no.	Type	Suitable for filters
24600500	UT-ZUB-FVE-3/8	UT-ZUB-FV-3/8
24600501	UT-ZUB-FVE-1/2-3/4	UT-ZUB-FV-3/4
24600502	UT-ZUB-FVE-1	UT-ZUB-FV-1
24600503	UT-ZUB-FVE-1 1/2	UT-ZUB-FV-1 1/2

Dimensions



Material

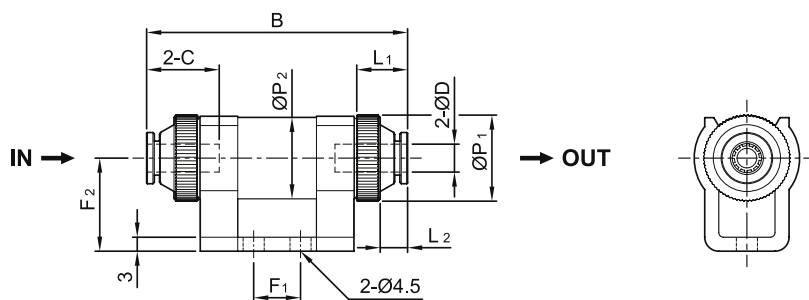
Housing	: Polyamide	Filter cartridge	: Polyethylene, Stainless steel
Container	: Polycarbonate	Pore size	: 10 µm
Seals	: NBR		

Vacuum filter type UT-ZUB-FV-...-Inline

Order no.	Type	Filter surface (mm ²)	Max. flow (NI/min)	Operating temperature (°C)	Pressure range (bar)
24600130	UT-ZUB-FV-6-Inline	7.5	30	Max. +60	-1 to 0
24600131	UT-ZUB-FV-8-Inline	12.5	50	Max. +60	-1 to 0
24600132	UT-ZUB-FV-10-Inline	15	70	Max. +60	-1 to 0

Dimensions

Type	ØD	B	L1	L2	ØP1	ØP2	C	F1	F2
UT-ZUB-FV-6-Inline	6	55.5	10.8	5.8	18.5	17.5	15.5	10	20
UT-ZUB-FV-8-Inline	8	65.2	12.4	6.4	22.5	21.5	17.2	14	24
UT-ZUB-FV-10-Inline	10	80.9	16.2	7.7	26.5	25.5	20.9	16	28.5



Material

Housing	: Aluminium / LLDPE	Pore size	: 10 µm
Fastening / holder	: Polyamide	Filter insert	: Polyethylene



UT-ZUB-FV-3/8



UT-ZUB-FV-3/4
UT-ZUB-FV-1



UT-ZUB-FV-1 1/2



UT-ZUB-FV-6-Inline



UT-ZUB-FV-8-Inline



UT-ZUB-FV-10-Inline

Vacuums hose, H-S14

This hose is ideally suited as a suction and pressure hose for the vacuum area. The inner steel wire insert maintains the shape of the hose even at 100% vacuum, without pulling together. Series E hose connectors are mainly used for the threaded fittings.

Technical data

Operating pressure	: See table
Temperature range	: Up to max. 65 °C
Medium*	: Vacuum and fluids
Mech. characteristics	: Kink-resistant, completely vacuum-resistant, : resistance to ageing
Colour	Transparent, other colours available on request

*With the exception of typical pneumatic applications, the user must ensure the chemical and mechanical resistance of this item relative to the materials used, with due consideration of all factors, such as temperature, pressure, radiation, etc.
Timmer GmbH accepts no liability and offers no warranty if this instruction is not complied with.



H-S14...

Material: PVC – with cast steel wire insert

Order no.	Type	ø A mm	ø l mm	Max vacuum in bar	Perm. pressure at 20°C in bar	Min. bending radius in mm
14039409	H-S14-16/10	16	10	-1	10	48
14038404	H-S14-18/12	18	12	-1	10	48
14037406	H-S14-20/14	20	14	-1	9	56
14039408	H-S14-23/16	23	16	-1	9	64
14030410	H-S14-27/20	27	20	-1	8	80
14033415	H-S14-33/25	33	25	-1	8	100
14038418	H-S14-40/32	40	32	-1	7	128
14033421	H-S14-48/38	48	38	-1	7	152
14031424	H-S14-62/50	62	50	-1	7	200
14036427	H-S14-72/60	72	60	-1	7	240

Straight screw-in connector 1/3 threaded fitting, nickel-plated brass

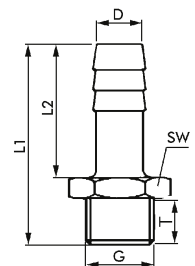
Order no.	Type	Thread	Hose Inner ø	D	L1	L2	T	SW	VPE
10201139	E-GET-13-1/4-MSv	G1/4	13	13	44	28	10	17	10
10204140	E-GET-13-3/8-MSv	G3/8	13	13	44	28	10	19	10
10203141	E-GET-13-1/2-MSv	G1/2	13	13	46	28	12	24	10
10200151	E-GET-16-1/2-MSv	G1/2	16	16	47	29	12	24	10
10205150	E-GET-16-3/4-MSv	G3/4	16	16	50	29	15	30	10
10206153	E-GET-19-1/2-MSv	G1/2	19	19	48	30	12	24	10
10202154	E-GET-19-3/4-MSv	G3/4	19	19	51	30	15	30	10
10208154	E-GET-25-3/4-MSv	G3/4	25	25	56	35	15	30	10
10208155	E-GET-25-1-MSv	G1	25	25	60	35	15	36	10
10201156	E-GET-32-1-MSv	G1	32	32	62	37	15	36	10
10207157	E-GET-32-1¼-MSv	G1¼	32	32	62	37	15	46	10
10200160	E-GET-38-1¼-MSv	G1¼	38	38	66	41	15	46	5
10203158	E-GET-38-1½-MSv	G1½	38	38	66	41	15	55	5
10200058	E-GET-50-1½-MSv	G1½	50	50	75	50	15	55	5
10209159	E-GET-50-2-MSv	G2	50	50	80	50	20	65	5
10200162	E-GET-60-2-MSv	G2	60	60	95	65	20	65	5
10200161	E-GET-60-2½-MSv	G2½	60	60	95	65	20	85	5



1/8" - 1/2"



3/8" - 2 1/2"



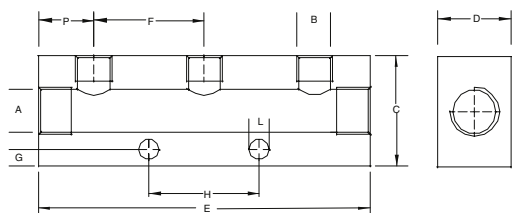
Hose clamp galvanised steel

Order no.	Type	Clamping range in mm	Width in mm	SW	VPE
15081008	J-SS1-12-22-STz	12 - 22	9	7	50
15087012	J-SS1-16-27-STz	16 - 27	9	7	50
15088016	J-SS1-23-35-STz	23 - 35	9	7	50
15086019	J-SS1-30-45-STz	30 - 45	9	7	25
15087023	J-SS1-32-50-STz	32 - 50	9	7	25
15089025	J-SS1-40-60-STz	40 - 60	9	7	25
15080029	J-SS1-50-70-STz	50 - 70	9	7	25
15086031	J-SS1-60-80-STz	60 - 80	9	7	25
15088033	J-SS1-70-90-STz	70 - 90	9	7	25



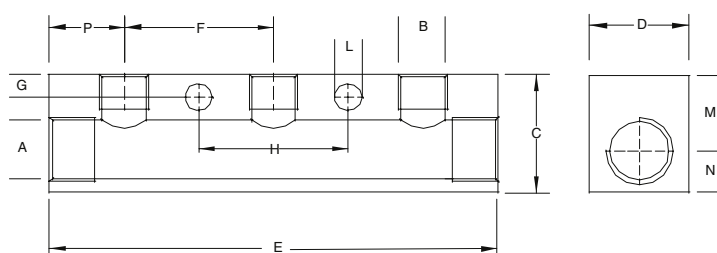
J-SS1-...-STz

Manifold – internal thread, one side, aluminium natural



F-VT1-2x1/4-...

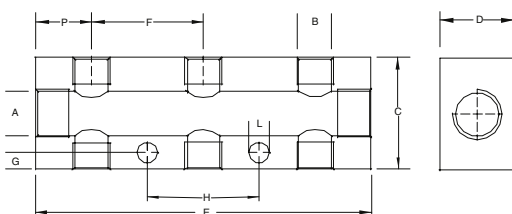
Order no.	Type	A	B	C	D	E	F	G	H	L	P
12750501	F-VT1-2x1/4-3x1/8-AL-natural	G1/4	G1/8	30	20	90	30	4.5	30	5.5	15
12750502	F-VT1-2x1/4-4x1/8-AL-natural	G1/4	G1/8	30	20	120	30	4.5	60	5.5	15
12750503	F-VT1-2x1/4-5x1/8-AL-natural	G1/4	G1/8	30	20	150	30	4.5	90	5.5	15



F-VT1-2x3/8-...

Order no.	Type	A	B	C	D	E	F	G	H	L	M	N	P
12750505	F-VT1-2x3/8-3x1/4-AL-natural	G3/8	G1/4	30	25	108	36	6	36	6.5	18	12	18
12750506	F-VT1-2x3/8-4x1/4-AL-natural	G3/8	G1/4	30	25	144	36	6	72	6.5	18	12	18
12750507	F-VT1-2x3/8-5x1/4-AL-natural	G3/8	G1/4	30	25	180	36	6	108	6.5	18	12	18

Manifold – internal thread, both sides, aluminium natural

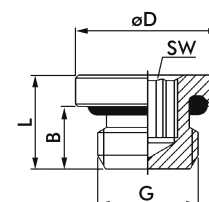


F-VT2-2x-...

Order no.	Type	A	B	C	D	E	F	G	H	L	P
12750509	F-VT2-2x1/4-6x1/8-AL-natural	G1/4	G1/8	30	20	90	30	4.5	30	5.5	15
12750510	F-VT2-2x1/4-8x1/8-AL-natural	G1/4	G1/8	30	20	120	30	4.5	60	5.5	15
12750511	F-VT2-2x1/4-10x1/8-AL-natural	G1/4	G1/8	30	20	150	30	4.5	90	5.5	15
12750513	F-VT2-2x3/8-6x1/4-AL-natural	G3/8	G1/4	40	20	108	36	6	36	6.5	18
12750514	F-VT2-2x3/8-8x1/4-AL-natural	G3/8	G1/4	40	20	144	36	6	72	6.5	18
12750515	F-VT2-2x3/8-10x1/4-AL-natural	G3/8	G1/4	40	20	180	36	6	108	6.5	18
12750516	F-VT2-2x1/2-6x1/4-AL-natural	G1/2	G1/4	40	30	116	36	6	36	6.5	22
12750517	F-VT2-2x1/2-8x1/4-AL-natural	G1/2	G1/4	40	30	152	36	6	72	6.5	22
12750518	F-VT2-2x1/2-10x1/4-AL-natural	G1/2	G1/4	40	30	188	36	6	108	6.5	22

Locking screw, hex socket with O-ring seal nickel-plated brass

Order no.	Type	Thread	B	L	øD	SW	VPE
12772002	F-VIS-M5-MSv	M5	4	7.5	8	2.5	10
12773006	F-VIS-1/8-MSv	G1/8	6	8.5	14	5.0	10
12779007	F-VIS-1/4-MSv	G1/4	8	11.0	18	6.0	10
12775008	F-VIS-3/8-MSv	G3/8	9	12.5	20	8.0	10
12771009	F-VIS-1/2-MSv	G1/2	10	13.5	25	10.0	10



Vacuum meter

Order no.	Type	Display in kPa	Thread	Ø (mm)	SW
24600440	M-DH-40-1/0-tivatec	0 / -100	1/8	40	14

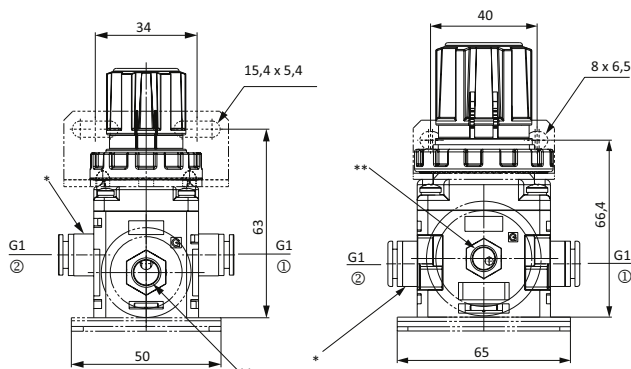


M-DH-40-1/0-tivatec

Vacuum regulator, without external leakage

2x quick-release connection Ø 8 mm / G1/4", or Ø 8 mm / G3/8" with adapter for manometer R1/8

Order no.	Type	Max. flow (m³/h)	Control range (bar)	Operating temp. (° C)	Weight (g)
24600406	UT-ZUB-VR1-1/4-1/0	8.4	-1 - 0	5 - 60	135
24600407	UT-ZUB-VR1-3/8-1/0	14	-1 - 0	5 - 60	250



- ① = connection vacuum suction unit / consumer (designation SET)
- ② = Connection vacuum pump (designation VAC)
- * = Plug connection Ø 8 mm
- ** = R1/8 manometer connection



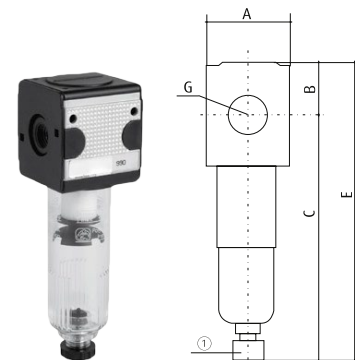
UT-ZUB-VR1-...

Filter/water separator – size 1

For vacuum and compressed air with manual condensate drain

Order no.	Type	A	B	C	E	G
24600090	UT-ZUB-F1-3/8	48	28	128	156	G3/8

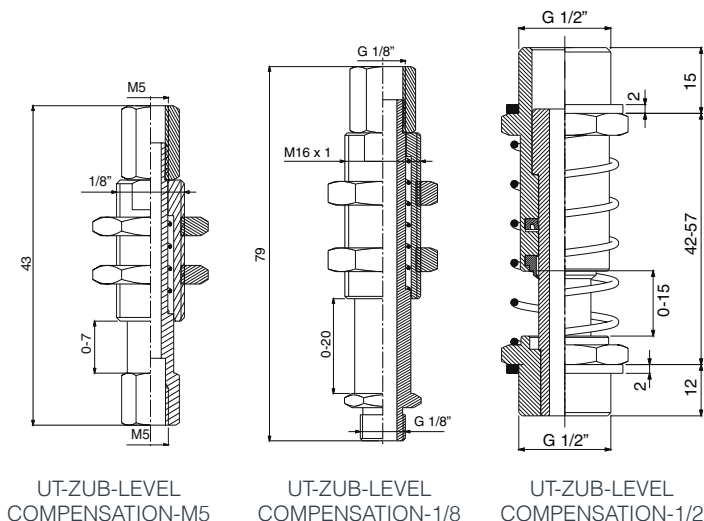
Max. input pressure (bar)	Temperature-resistance max. (° C)	Flow at 6 bar compressed air (m³/h)	Flow at low vacuum (m³/h)	Pore size of the filter element (µm)	Passage Ø (mm)	Max. fill capacity (cm³)
16	60	126	10	5	10	25



UT-ZUB-F1-3/8

Level compensation type UT-ZUB level compensation ...

Order no.	Type	Lift (mm)	Thread	Material
24600201	UT-ZUB-level compensation-M5	7	M5	Stainless steel, Steel nickel plated
24600200	UT-ZUB-level compensation-1/8	20	G1/8"	Stainless steel, Steel nickel plated
24600202	UT-ZUB-level compensation-1/2	15	G1/2"	Stainless steel, Steel nickel plated



UT-ZUB-LEVEL COMPENSATION-M5

UT-ZUB-LEVEL COMPENSATION-1/8

UT-ZUB-LEVEL COMPENSATION-1/2



UT-ZUB-LEVEL COMPENSATION-M5



UT-ZUB-LEVEL COMPENSATION-1/8



UT-ZUB-LEVEL COMPENSATION-1/2



Characteristics

Vacuum accessories	
Electric vacuum switches	✓
Pneumatic vacuum switches	✓
Digital precision pressure switch	✓



Electric type UT-ZUB-VS-E600-W changeover switch with cap

Pressure switches are used to convert a specific, adjustable operating pressure into an electrical signal. When a set vacuum level is reached, the switch releases an electrical signal for further processing.

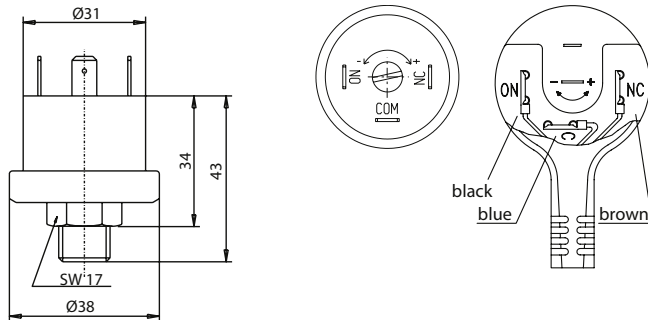
Order no.	Type	Thread	Signal range / measuring range Vacuum (%)	Weight (g)
24600320	UT-ZUB-VS-E600-W	R1/8"	15-95	65

General technical data

Current consumption	Operating voltage	Cable length	Measurement range vacuum (%)	Hysteresis (mbar)	Switching pressure (bar)	Operating temperature (°C)
Max. 10 A	Max. 250 V~	350 mm	15 to 95	150 ± 50	Max. 20	0 to +90

Material

Membrane : Stainless steel
 Housing: : PET
 Pressure connection : Brass
 Seals: : Silicon



UT-ZUB-VS-E600-W



Cap

Pneumatic type UT-ZUB-VS-PN...

Pressure switches are used to convert a specific, adjustable operating pressure into a pneumatic signal. When a set vacuum level is reached the switch releases a pneumatic signal for further processing.

For the pneumatic switches there is a distinction:
 NC: The 3/2-way pneumatic valve has no output signal without underpressure
 NO: The 3/2-way pneumatic valve has no output signal without underpressure

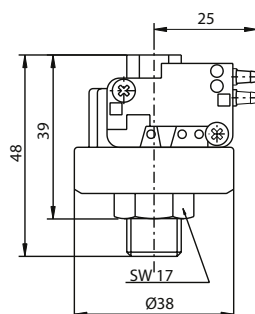
Order no.	Type	Thread	Flow rate (NI/min)	Signal range Vacuum (%)	Weight (g)
24600322	UT-ZUB-VS-PN110-NG	R1/8"	Approx. 100	20-90	68
24600323	UT-ZUB-VS-PN120-NO	R1/8"	Approx. 100	20-90	68

General technical data

Type	Measurement range vacuum (%)	Hysteresis (mbar)	Switch pressure (bar)	Pneumatic connection	Operating temperature (°C)
UT-ZUB-VS-PN...	20 to 90	± 100	2-8	3 mm	-10 to +60

Material

Diaphragm / seals : NBR, EPDM, Silicon, FKM
 Housing : PPS-PA



UT-ZUB-VS-PN...

Pressure and vacuum switches electric

SERIES UT

Electric type V-VS560-0.85-1-1/4-W

Including device plug, 4-pin DIN 43650 FORM A / changeover switch

This electric vacuum switch is mainly used in the rough vacuum area. It converts pneumatic signals into electric signals; the switching point is variably adjustable via an adjustment button. Likewise the V-VS560 has an integrated micro switch and thus can be used as NC contact, NO contact or changeover contact, depending on the connection. Optionally plug sockets with or without LED are available as accessories.

Order no.	Type	Thread	Pressure adjustment range	Weight (g)
25014242	V-VS560-0,85-1-1/4-W	G1/4" IG flange	-0.85 to +1	295

General technical data

Switching frequency (Max)	Vibration-resistance	Shock-resistance	Protection class	Repetition accuracy	Operating temperature (°C)
200 / min	10 g (10 to 2000 Hz)	30 g	IP65	+2%*	-10 to +80

*Based on the final range value



V-VS560-0,85-1-1/4-W

Material

Housing : Special die cast material
 Adjustment cap : Aluminium (powder-coated)
 seals / diaphragm : Perbunan

Operating current / voltage

AC12 i. a. w. VDE0660 (EN60947): 4 A at 250 VAC

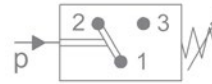
At use category

AC14 i. a. w. VDE0660 (EN60947): 1 A at 250 VAC

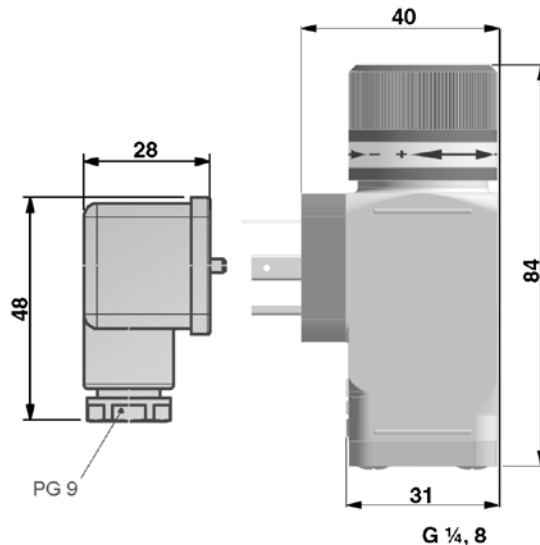
DC12 i. a. w. VDE0660 (EN60947): 3 A at 28 VDC

DC14 i. a. w. VDE0660 (EN60947): 1 A at 28 VDC

Contact arrangement / switch symbol



Dimensions



Digital precision pressure / vacuum switch

With the digital pressure switch, pressure signals or vacuum signals are relayed via an analog output or 2 PNP outputs. All parameters of the switch are adjusted via the front membrane keypad. The large display enables easy read-out.

When selecting the switch, in addition to the desired pressure adjustment range, also pay attention to the maximum permissible system pressure. Devices for special ambient conditions and higher system pressures and for other adjustment ranges or NPN switch outputs are available on request.

Features

- Extensive line of accessories
- Large display for easy read-out
- Easy, menu-driven adjustment
- 2-colour display (green LED: OUT1 / red LED: OUT2)
- Adjustable hysteresis
- Units displayed: MPa, psi, kgf/cm², bar, mmHg, InHg
- Adjustable switch output: Normally open (NO) or normally closed (NC)
- Analog output

Scope of delivery:

Switch and fastening A

Order no.	Type	Signal range (bar)	Hysteresis	Pressure port	Weight (g)
25014261	V-VS-KP20V-1/0-1/8-PNP	-1 to 0	Adjustable	G1/8"	135
25014263	V-DS-KP20P-0/10-1/8-PNP	0 to 10	Adjustable	G1/8"	135

General technical data

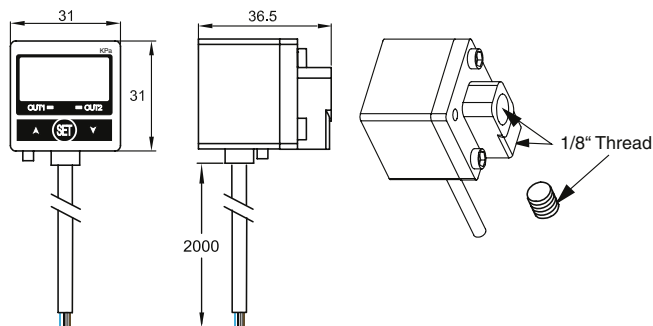
Repeat accuracy	Medium	Protection class	Electrical connection	Operating voltage	Operating temperature
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± 0.2%	Air, non-flammable gasses	IP 65	5-wire cable (2 m)	12-24V DC ± 10% ripple	0°C to +50°C
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Display LED Accuracy	Current consumption	Response time	Switch outputs	Switch output	Analog output
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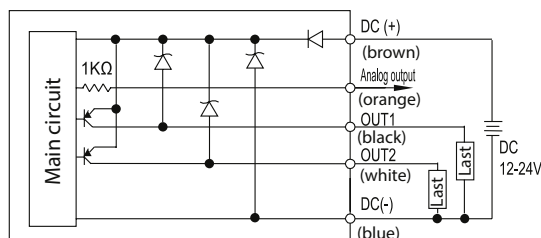
± 2%	<55 mA	<±2.5 ms	Short-circuit proof	2 x PNP	1 to 5 V <±5%
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Dimensions



V-VS-KP20...

Circuit diagram PNP



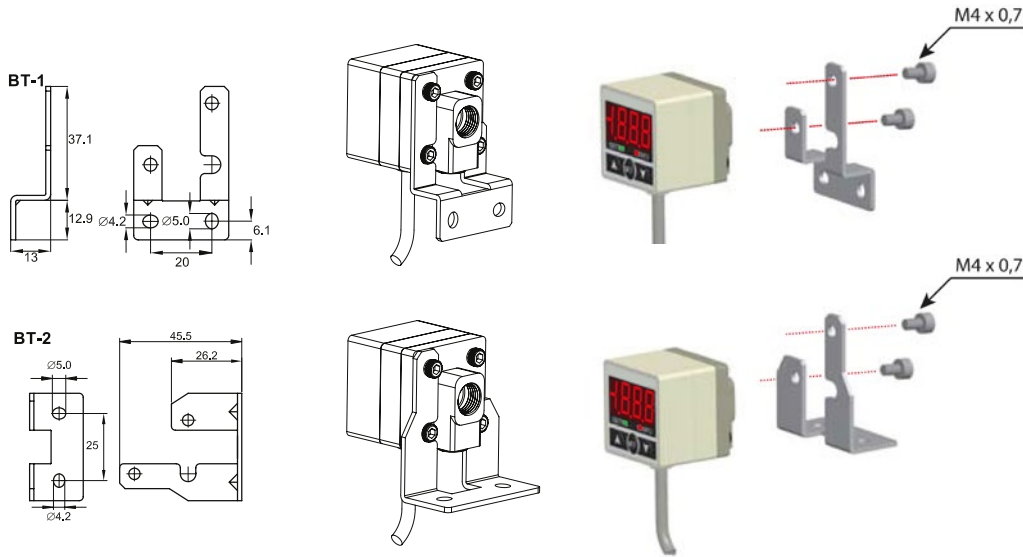
Pressure and vacuum switches electric

SERIES UT

Fastenings

Order no.	Type	Fastening	
25014265	V-BEF-KP20-BT1-BT2	A	Fastening bracket
25014267	V-BEF-KP20-PA1-PA2-FPC1	C	Control panel installation

Dimensions of fastening A

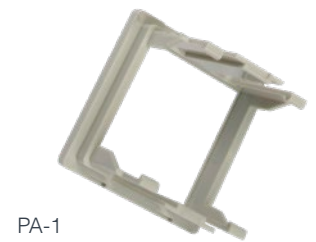
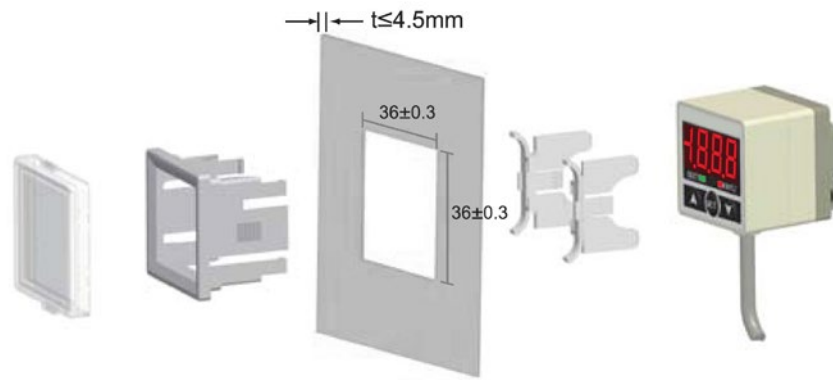


V-BEF-KP20-BT1-...



V-BEF-KP20-BT1-BT2

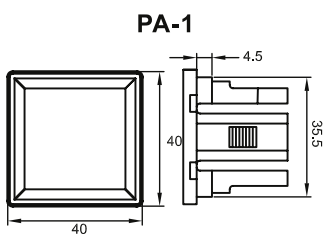
Dimensions of fastening C



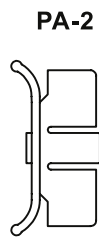
PA-1



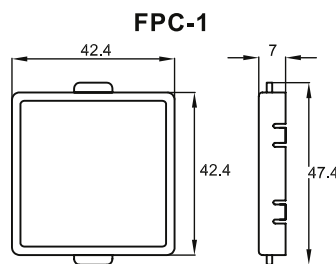
PA-2



PA-1



PA-2



FPC-1



FPC-1

V-BEF-KP20-PA1-PA2-FPC1

Digital precision pressure / vacuum switch

This digital pressure switch relays pressure signals or vacuum signals via two digital outputs in addition one analog output is available. All parameters of the switch are adjusted via the front membrane keypad. The large display enables easy read-out. The values can be displayed in MPa, psi, kgf/cm² or bar.

When selecting the switch, in addition to the desired pressure adjustment range, also pay attention to the maximum permissible system pressure. Devices for special ambient conditions and higher system pressures as well as for other adjustment ranges or NPN switch outputs are available on request.

Features

- Two digital outputs
- Analog output
- Adjustable hysteresis
- High display accuracy
- Adjustable switch output NC contact or NO contact

Order no.	Type	Signal range bar	Pressure port	Hysteresis	Weight (g)
25014291	V-VS-KP30V-1/0-1/8-PNP	-1 to 0	1/8" AG	Adjustable	60
25014292	V-DS-KP30P-0/10-1/8-PNP	0 to 10	1/8" AG	Adjustable	60

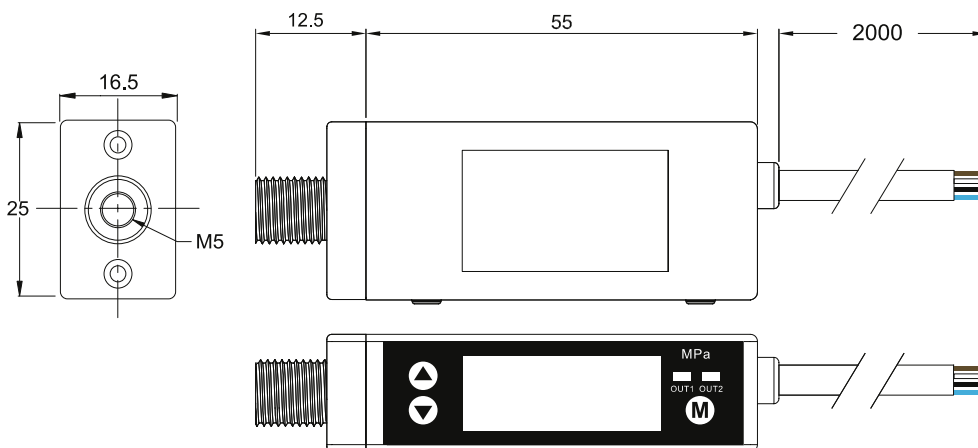
General technical data

Display LED Accuracy	Medium	Protection class	Current consumption	Electrical connection	Operating voltage	Operating temperature
± 2%	Air, non-flammable gases	IP 40	<55 mA	5-wire cable	12-24V DC ± 10% ripple	0°C to + 50°C

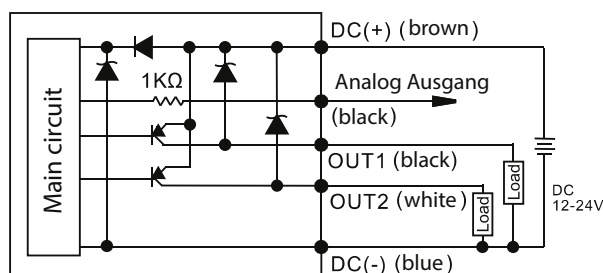


V-VS-KP30...

Dimensions



Circuit diagram



Pressure and vacuum switches electric

SERIES UT

Pressure and vacuum switches

Pressure switches are used in line systems with gaseous media. When a set pressure is reached the switch releases an electrical signal for further processing.

When selecting the switch, in addition to the desired pressure adjustment range, also pay attention to the maximum permissible system pressure. Devices for special ambient conditions and higher system pressures and for other adjustment ranges or NPN switch outputs are available on request.

Features

- Connection for push-in fitting
- Compact design
- Simple operation

Order no.	Type	Signal range bar	Function	Weight (g)
25014274	V-DS-KP101-4/-1-D6-S-2m	-1 to 4	NO contact	20

General technical data

Pressure port	Current consumption	Electrical connection	Medium	Operating voltage	Operating temperature
Ø 6 mm	<55 mA	2-wire cable (2 m)	Air	12-24V DC ± 10% ripple	0°C to + 60°C

Pressure adjustment

Use a flat-blade screwdriver to adjust the pressure switch via the trimmer.

Turn clockwise to increase the pressure setpoint.

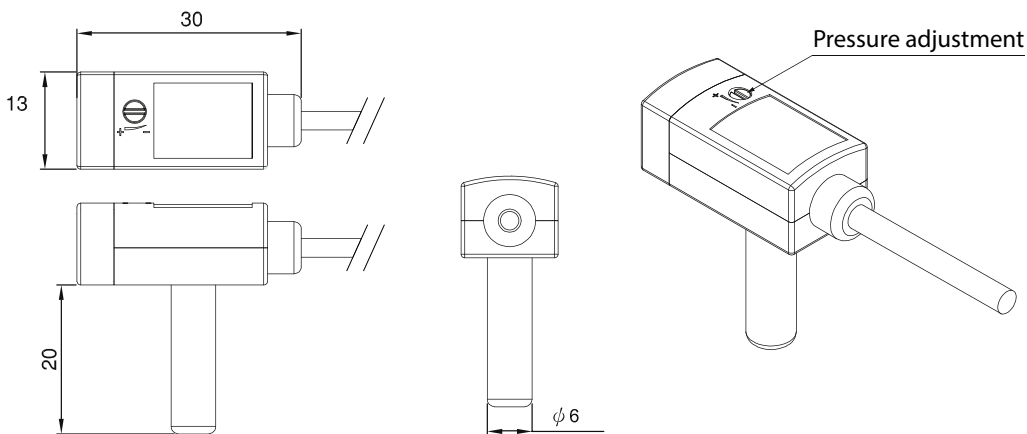
Turn anticlockwise for vacuum settings.

A stop on each side ensures that the trimmer cannot be turned beyond its limit value. Turning the adjuster beyond the limit value can damage the adjuster.

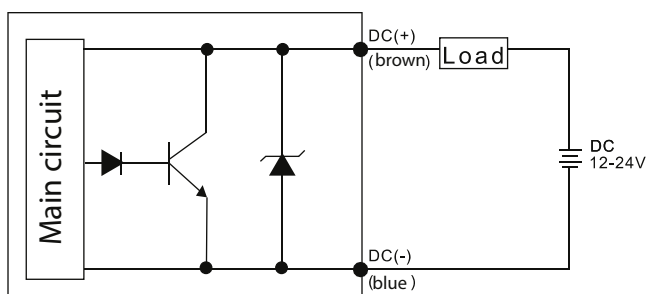


V-DS-KP101-4/-1-D6-S-2m

Dimensions



Circuit diagram



Pressure / vacuum switches

Vacuum switches are used in line systems with gaseous media. When a set vacuum pressure is reached, the switch releases an electrical signal for further processing.

When selecting the switch, in addition to the desired pressure adjustment range, also pay attention to the maximum permissible system pressure. Devices for special ambient conditions and higher system pressures and for other adjustment ranges or NPN switch outputs are available on request.

Features

- Small, compact design
- Fast response time: 5 ms
- Switch point display via LED
- Hysteresis can be adjusted from 1-10% of the measured value

Order no.	Type	Signal range (bar)	Pressure port	Operating temperature	Weight (g)
25014271	V-VS-KP11-1/0-1/8-PNP	-1 to 0	G1/8"	0°C to +50°C	50
25014273	V-DS-KP12-0/10-1/8-PNP	0 to 10	G1/8"	0°C to +50°C	50

General technical data

Repeat accuracy	Medium	Response time	Electrical connection	Operating voltage	Protection class
±1%	Air, non-flammable gases	5 ms	3-wire cable (1 m)	12-24V DC ± 10% ripple	IP 40



Pressure and hysteresis adjustment

Use a flat-blade screwdriver to adjust the pressure switch via the trimmer.

Turn clockwise to increase the pressure setpoint.

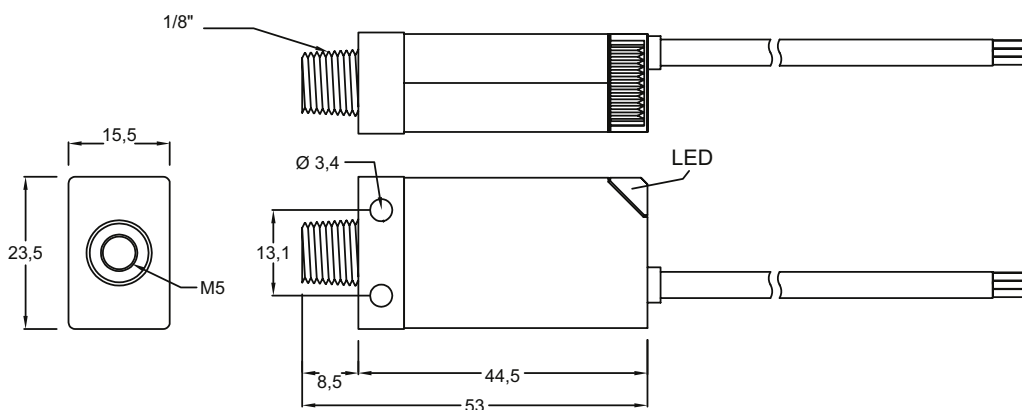
Turn anticlockwise for vacuum settings.

The setpoint for the hysteresis is also set with a screwdriver.

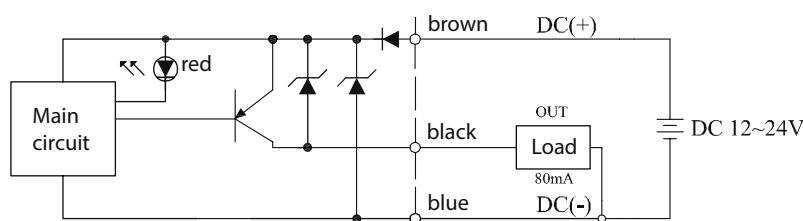
The rotation angle of the trimmer is 220°.

A stop on each side ensures that the trimmer cannot be turned beyond its limit value. Turning the adjuster beyond the limit value can damage the adjuster.

Dimensions



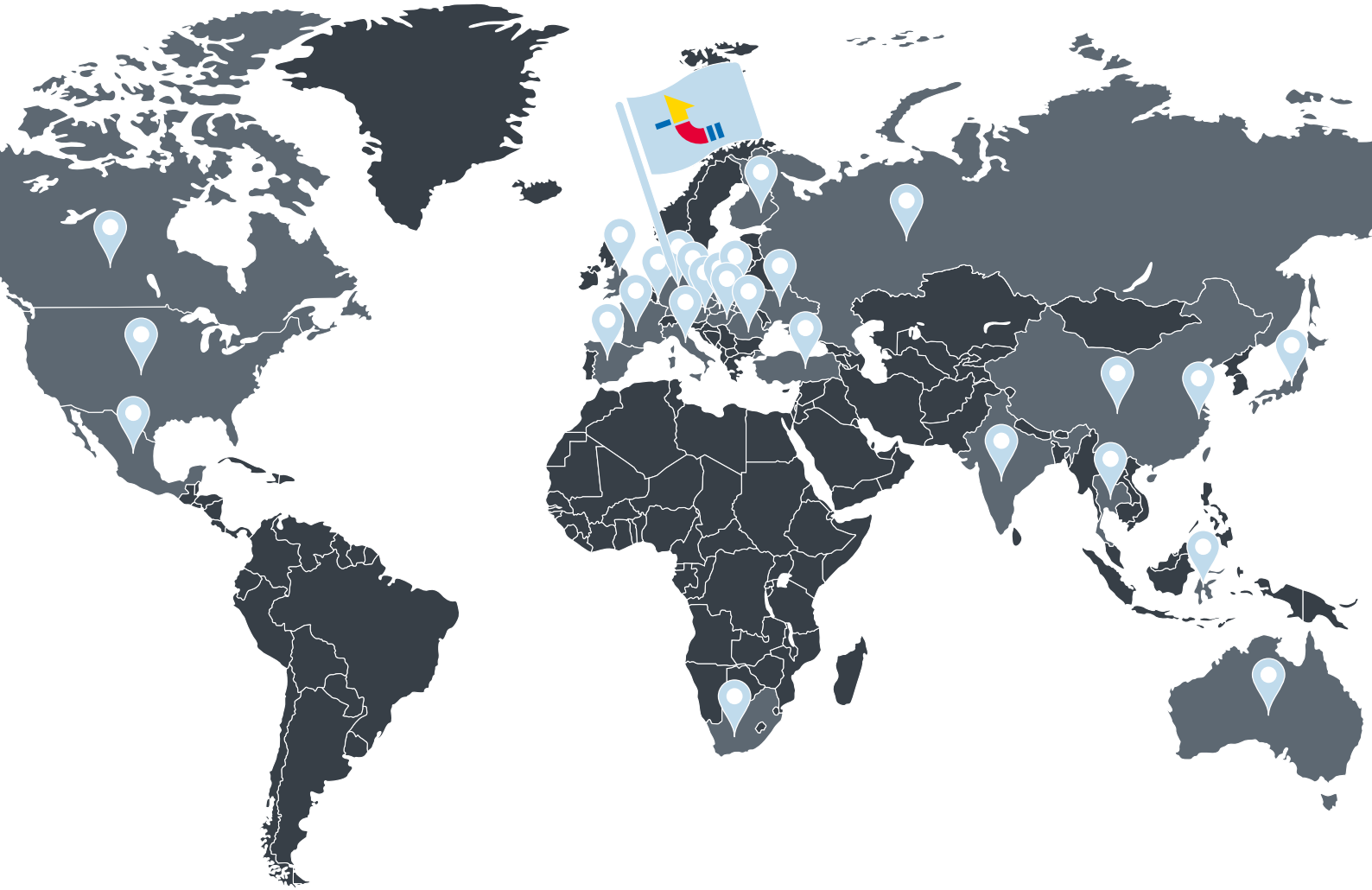
Circuit diagram



Conversion table for standard pressure units


Unit	bar	mbar	Pa	Mpa	kp/cm ²	mmHg	mmWs	psi
1 bar	1	1000	100000	0.1	1.019716	750.062	10197.16	14.50377
1 mbar	0.001	1	100	0.001	0.001019716	0.750062	10.19716	0.01450377
1 Pa	0.00001	0.01	1	0.000001	1,02E-05	0.00750062	0.1019716	0.000145038
1 MPa	10	10000	1000000	1	10.19716	7500.62	101971.6	145.0377
1 kp/cm ²	0.980665	980.665	98066.5	0.0980665	1	735.559	10000	14.223344
1 mmHg	0.001333224	1.333224	133.3224	0.000133322	0.00135951	1	13.6	0.019336
1 mmWs	9,81E-05	0.0980665	9.80665	9,81E-06	0.0001	0.073556	1	0.001422327
1 psi	0.06894757	68.94757	6894.757	0.006894757	0.070307	51.715217	703.07	1



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