

MEMBRANE VACUUM MINI PUMPS



The mini pumps described in this page are membrane-type. They can be used both as vacuum pumps and compressors. In the latter version they can supply compressed air 100% oil-free up to a maximum 2 bar (g) pressure.

They are composed of:

- An air-cooled single-phase electric motor with protection class IP 00 (assembly execution).
- A pump body made of plastic corrosion-resistant material, complete with fittings at both suction and blowing ports.
- A Viton membrane, resistant to wear and corrosion, solidly connected to a connecting rod.
- A connecting rod with built-in "long life" bearing activated by a balanced eccentric system fitted on the motor shaft.
- An aluminium support for fixing the pump.

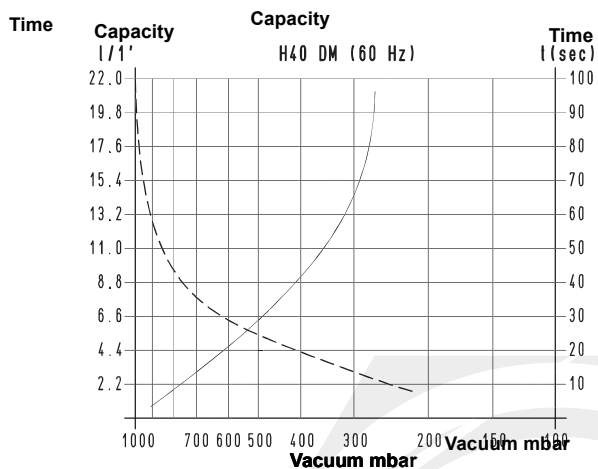
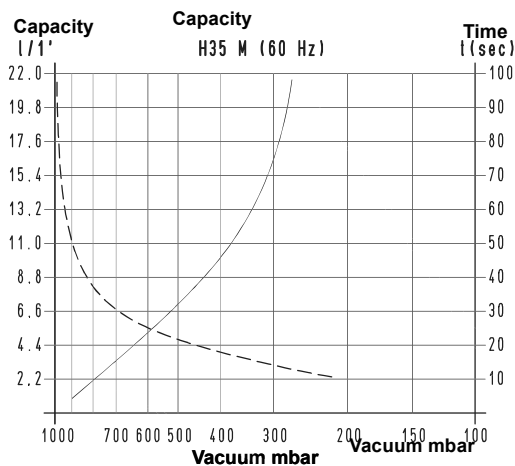
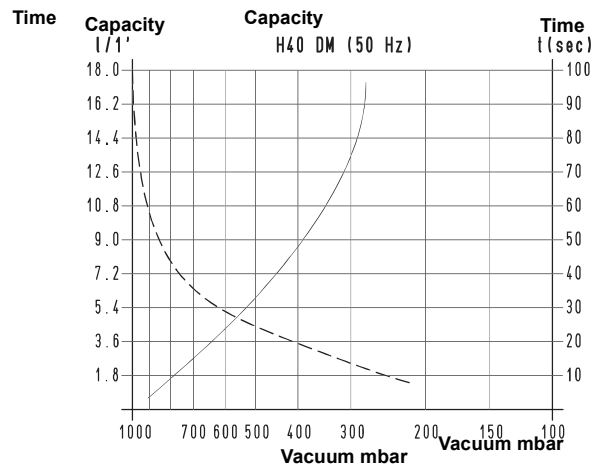
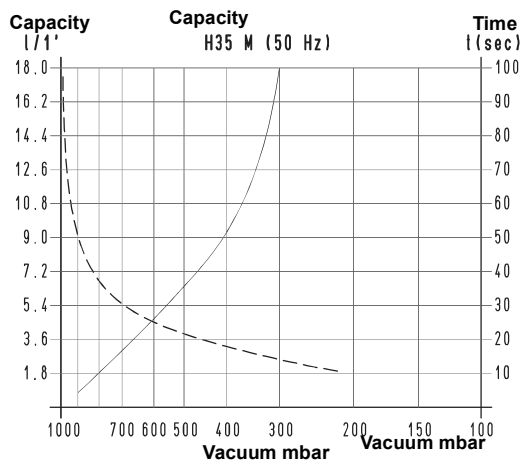
They are available in the versions with single and double head to be used in series or in parallel.

Membrane vacuum mini pumps are very silent ($\leq 50\text{dB(A)}$), they have reduced vibrations and can be installed in any position.

Lubrication-free, they require no maintenance.

Thanks to their minimal overall dimensions and reduced weight, they are particularly indicated for being installed on portable equipment.

They are suited for a discontinuous and non-intense use.



To calculate the emptying time of a volume V_1 , apply the formula

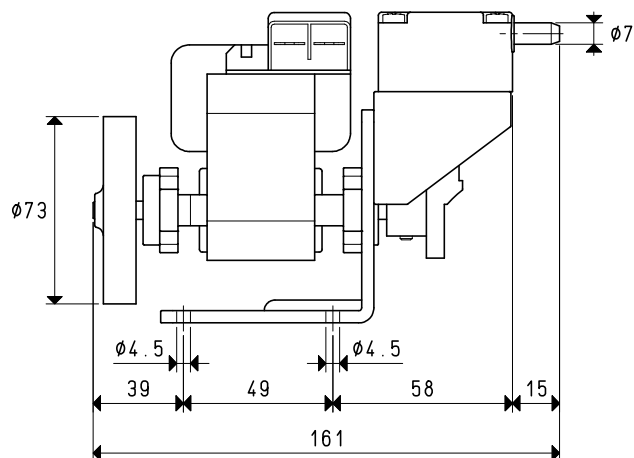
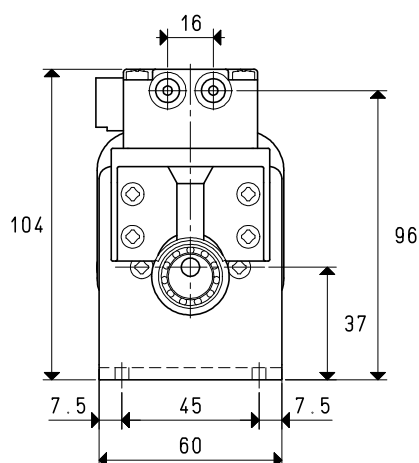
To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{6}$

- Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 6-litre volume

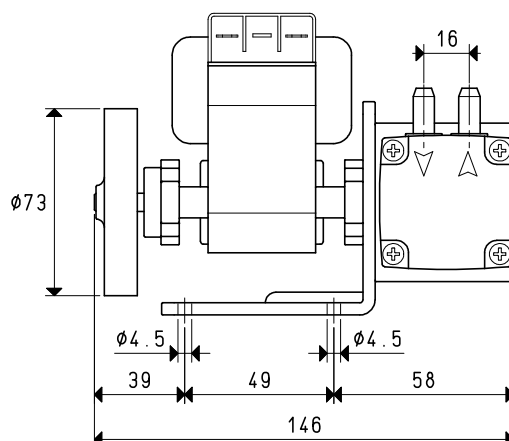
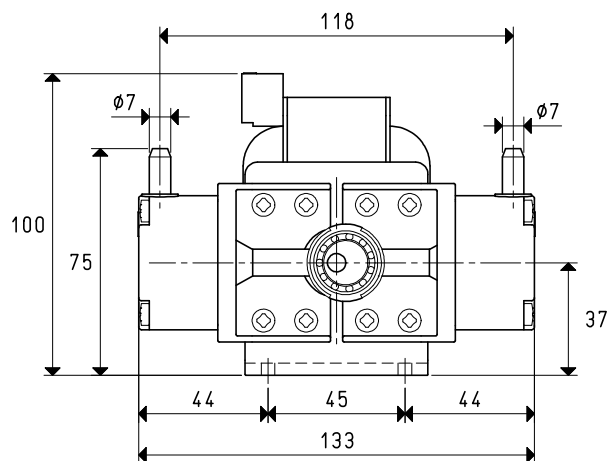
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

MEMBRANE VACUUM MINI PUMPS

H 35 M



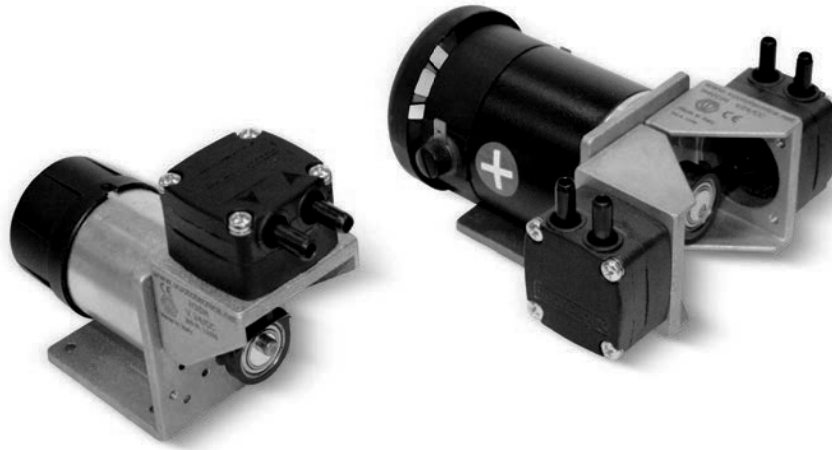
H 40 DM



Art.		H35 M		H40 DM	
Frequency		50Hz	60Hz	50Hz	60Hz
Nominal capacity:					
Connection in series	I / 1'	17.5	21.0	18.0	21.5
Connection in parallel	I / 1'	=	=	18.0 + 18.0	21.5 + 21.5
Final pressure:					
Connection in series	mbar abs.	200		60	
Connection in parallel	mbar abs.	=		160	
Max. pressure	bar (g)	2		2	
Motor execution	1~	230 ± 10%		230 ± 10%	
Volt					
Motor power	1~	15	18	16.5	20
Watt					
Electric absorption	A	0.60		0.80	
Rotation speed	rev/min ⁻¹	2800	3300	2800	3300
Noise level	dB(A)	≤ 50		≤ 50	
Max. weight	Kg	1.3		1.6	
Accessories and spare parts					
Membrane	art.	00 H35M 15		00 H40DM 15	
Lid with fittings	art.	00 H35M 16		00 H40DM 20	

MEMBRANE VACUUM MINI PUMPS WITH DC MOTOR

The mini pumps described in this page are the same as the previously described ones, only with a DC motor instead of AC.
The performance is practically the same.

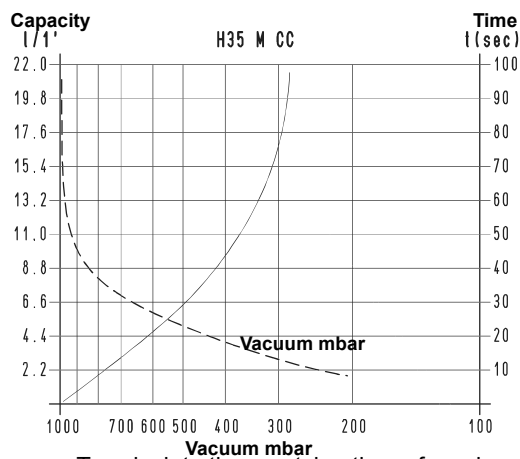


Capacity

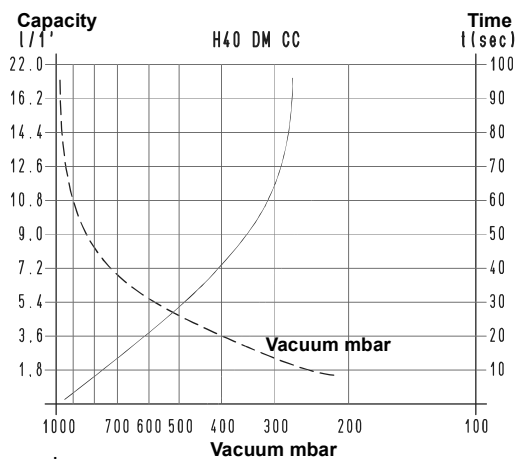
Time

Capacity

Time



To calculate the emptying time of a volume V_1 , apply the formula



V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

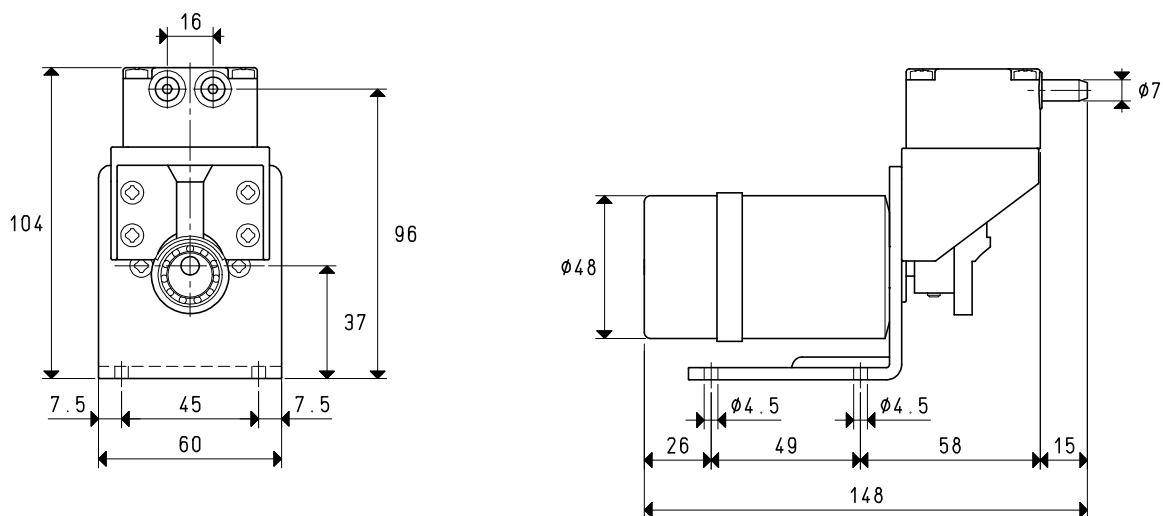
To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{6}$

--- Curve regarding capacity (referring to a 1013 bar pressure)
 ——— Curve regarding the emptying of a 6-litre volume

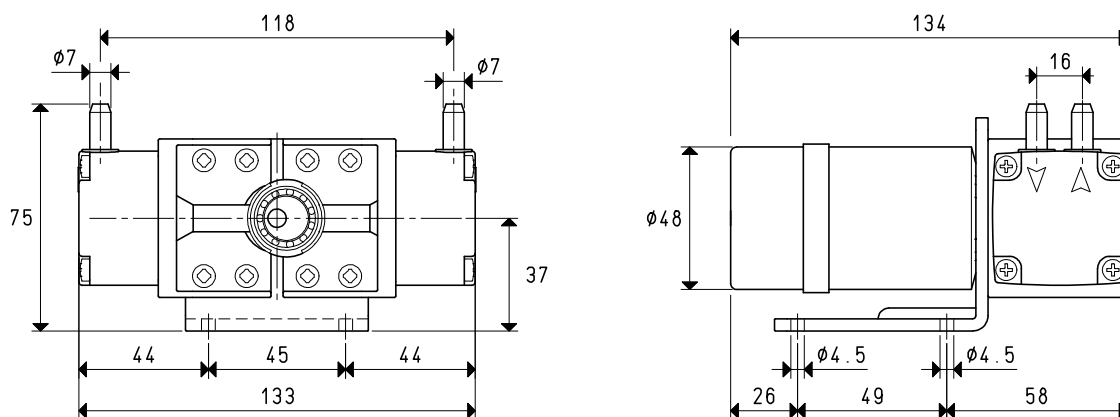
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

MEMBRANE VACUUM MINI PUMPS WITH DC MOTOR

H 35 M CC



H 40 DM CC



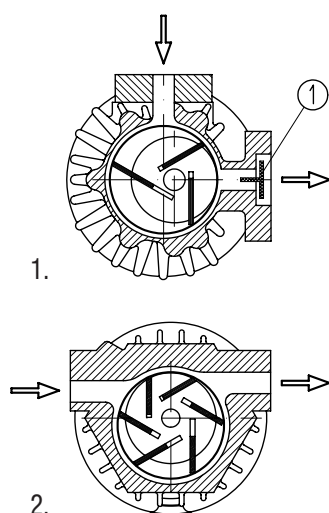
Art.		H35 M CC	H40 DM CC
Nominal capacity:			
Connection in series	l / l'	21.5	20.0
Connection in parallel	l / l'	=	20.0 + 20.0
Final pressure:			
Connection in series	mbar abs.	200	60
Connection in parallel	mbar abs.	=	160
Max. pressure	bar (g)	2	2
Motor execution	Volt	24 CC	24 CC
Motor power	Watt	6	20
Electric absorption	A	0.80	1.50
Rotation speed	rev/min ⁻¹	3000	3000
Noise level	dB(A)	≤ 50	≤ 50
Max. weight	Kg	0.62	1.19
Accessories and spare parts			
Membrane	art.	00 H35M 15	00 H40DM 15
Lid with fittings	art.	00 H35M 16	00 H40DM 20

Operation principle

The rotor rotates eccentrically inside a stator and it has grooves in which the vanes move freely and are pushed against the stator inside wall due to the centrifugal force, thus creating as many chambers as the number of vanes. During rotation, the volume of these chambers varies according to their position with respect to the eccentric axis. The chamber volume increase makes the air inside of them expand, thus creating vacuum (suction phase); the volume reduction, on the other hand, generates air compression (exhaust or delivery phase).

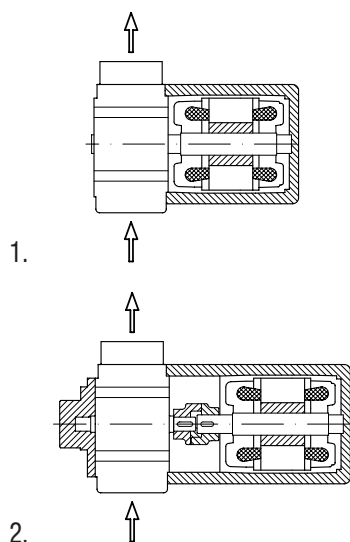
The internal design is the same for both rotating compressors and vacuum pumps.

We have created two different sucked air conveying principles for our pumps. Figure 1 shows a three-vane rotary system with exhaust valve (1). This system is especially used in high vacuum applications. Figure 2 shows a six-vane (therefore with more chambers) rotary system which is mainly used for low vacuum applications.



Rotor housing

In the smaller and more compact pumps, the rotor is cantilevered-fitted on the motor shaft end (fig. 1), while in the high power versions or in those with frequent start-ups, the rotor is supported by bearings on both sides (fig. 2). In the latter case, the pump and the electric motor are two independent units and the two shafts are coupled via an elastic transmission joint.



Lubrication systems

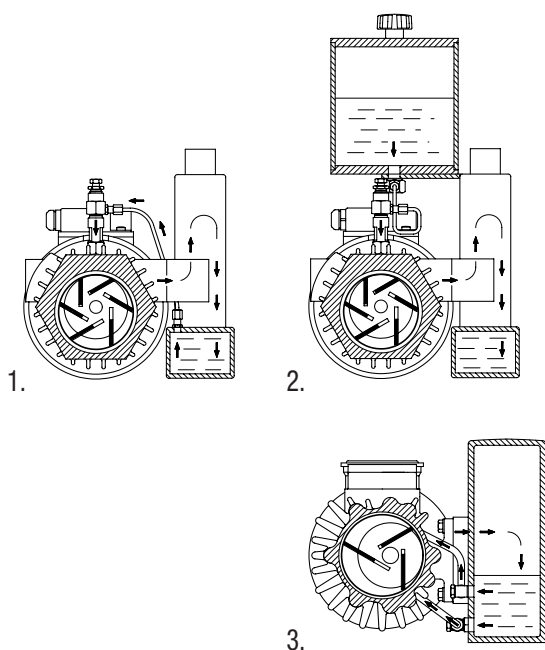
The main lubrication systems we use are by vacuum with oil recycle or disposable oil for vacuum pumps of the VTL series and oil-bath for pumps of the MV series.

As for **oil recycle lubrication** (fig. 1), the oil sucked in the working chamber via adjustable oilers that control the flow, is drained together with the sucked air into the recovery tank and it is separated from the air through a special filtre contained in it and put in circulation again.

As for the **disposable oil lubrication** (fig. 2), the lubricating oil is contained in a special transparent container controlled by a magnetic level switch, and follows the same path as the one described above, only it is collected in the recovery tank without being put in circulation again. This lubrication system is recommended when the sucked air contains water condensation, solvent vapours or anything else that can effect the oil properties.

As for the **oil-bath lubrication** (fig. 3), the oil is sucked in the chamber directly from the recovery tank via calibrated nozzles that control the quantity, and it is kept and separated from the air in the exhaust phase via special microfibre deoiling cartridges located in the tank.

With this lubrication system, the quantity of oil in circulation is much higher than the previous two systems. This results in a better sealing between stator and rotor and lower friction between the rotating parts and the fixed ones, as well as in an increase of the vacuum level, lower heating and less noise.



ROTARY VANE VACUUM PUMPS – GENERAL DESCRIPTION

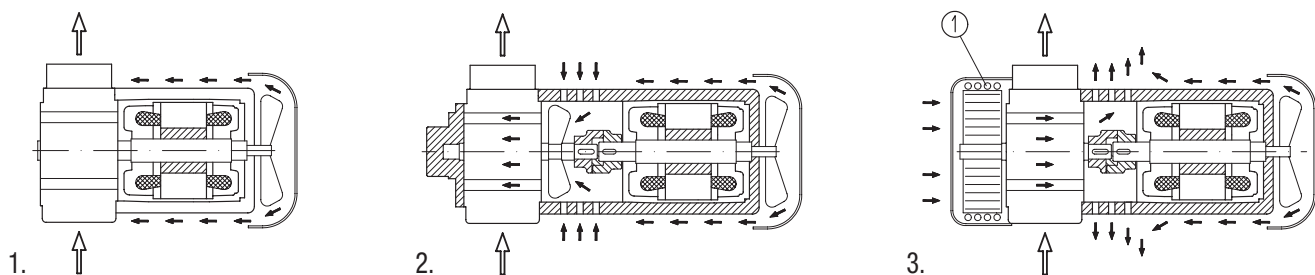
Dry vacuum pumps

The particular conformation of the chamber and the special graphite with which the vanes and the locking flanges are made, allow these pumps to operate with no need for lubrication.

These pumps are **not recommended** when the fluid to be sucked contains vapours and water or oil condensation.

Cooling

The pump cooling system we use is by airflow on their surface. The heat developed by the pump is dispersed from the external surface which is specially finned, via the electric motor fan in the smaller pumps, and by a radial fan fitted on the pump shaft while in the larger ones. Pumps with capacities from 100 cum/h upwards, are also equipped with a serpentine radiator (1). In this case, the lubrication oil, which passes through the radiator before entering the chamber, is cooled by the radial fan that sucks the cooling air through the radiator, thus allowing a further reduction of the heat developed by the pump.



Used materials

The pump stator and flanges are made with spheroidal cast iron, the transmission shaft and the rotor are made with carbon steel, while the vanes are made with carbon or glass fibre for the lubricated pumps and with graphite for the dry ones.

Electric motors

All vacuum pumps with capacity up to 20 cum/h can be supplied either with three-phase or single-phase electric motor, while those with higher capacity can only be equipped with three-phase electric motors. As a standard, all the pumps are equipped with multi-voltage electric motor, in compliance with CE standards. Upon request, they can be supplied with motors in compliance with UL-CSA and with special voltages and frequencies.

Certifications

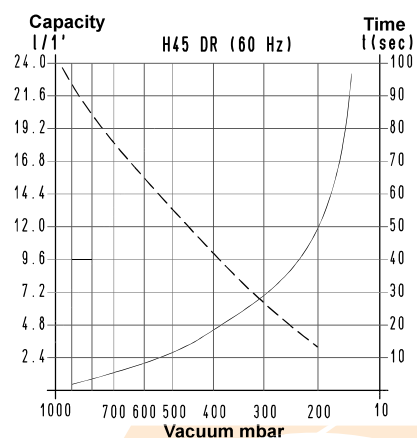
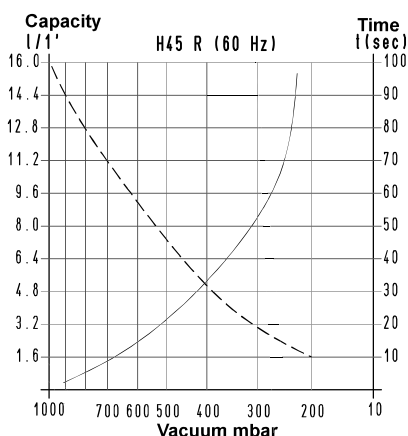
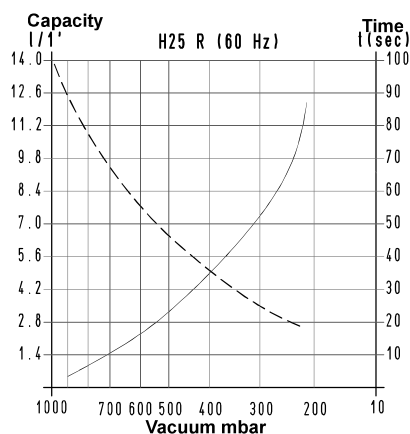
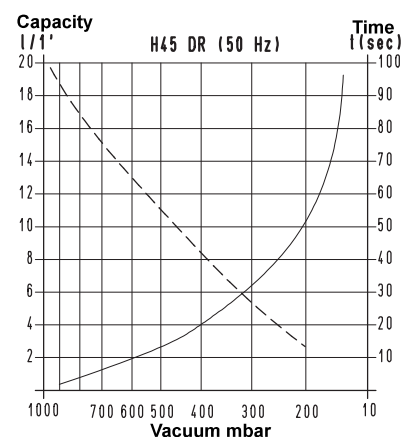
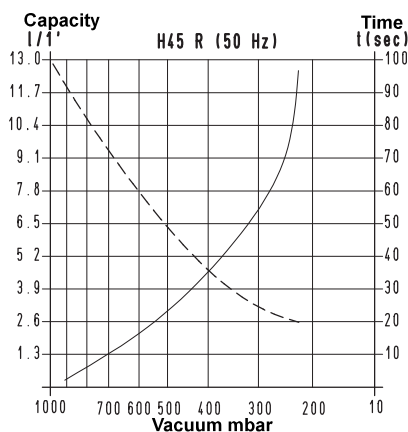
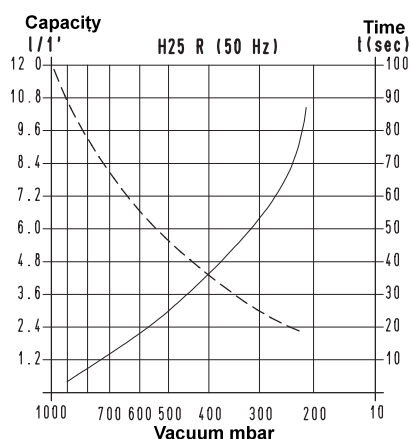
The design and manufacture of our vacuum pumps comply with European Directives on safety. In fact, every identification showing the pump technical data has the CE marking. Moreover, a Declaration of conformity with the 98/37/CE Machinery Directive and subsequent modifications is always annexed to the Use and Maintenance guide.

VANE MINI VACUUM PUMPS



These rotating vane mini vacuum pumps, when needed, can be used even for compressing air. They are composed of a single-phase induction electric motor with condenser, a sintered metal self-lubricating stator, a white metal rotor fitted onto the motor shaft and slotted for housing the hardened steel vanes and a silencer on the exhaust. The operation principle is the same as that of the larger series of vane vacuum pumps. They are noiseless and lubrication-free and require no maintenance.

Thanks to their minimal overall dimensions and their reduced weight, they are particularly suited for being installed on portable equipment. They are suitable for discontinuous, non-intense use.



To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{6}$

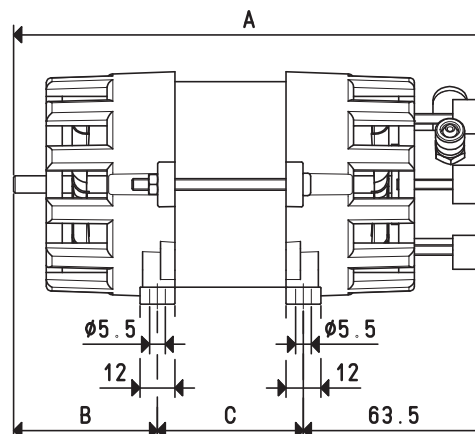
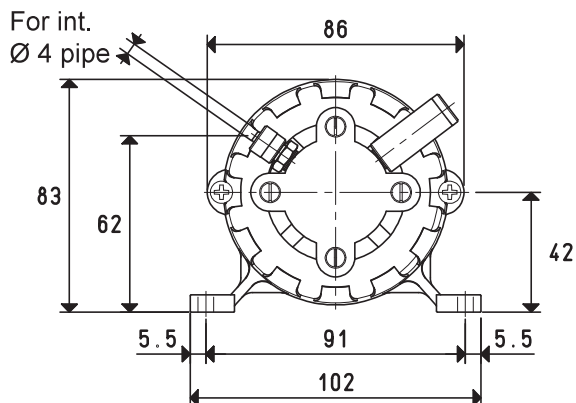
- Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 6-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

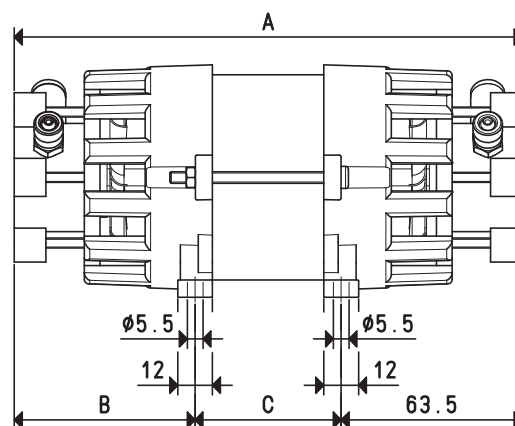
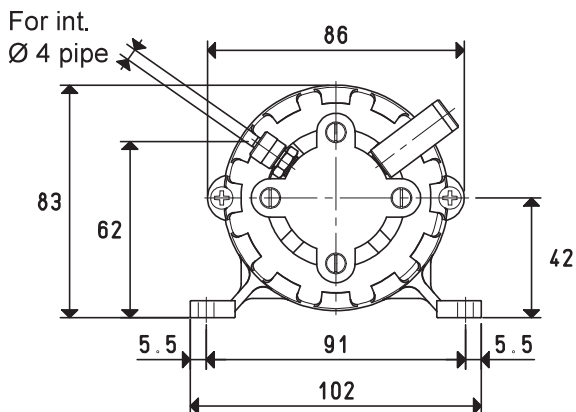
VANE MINI VACUUM PUMPS

H 25 R

H 45 R



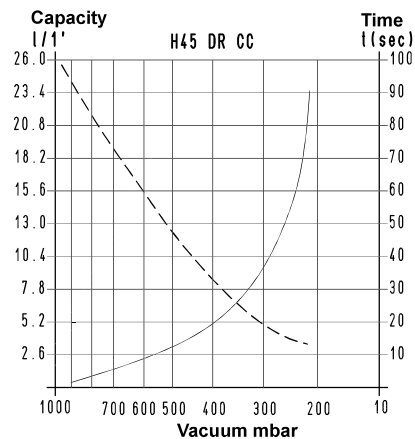
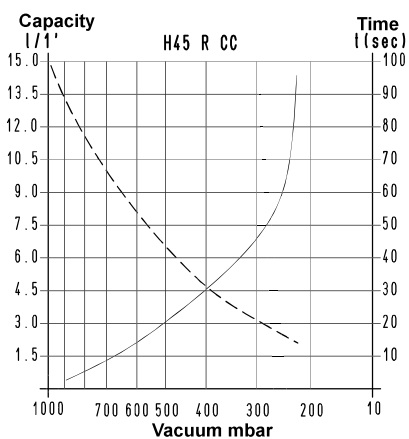
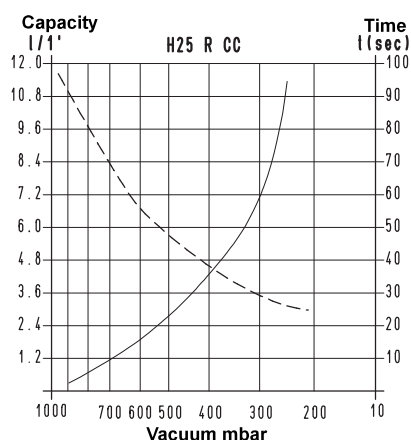
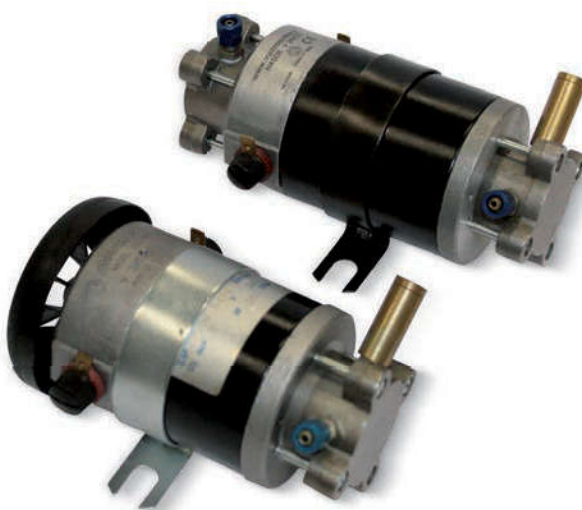
H 45 DR



Art.		H25 R		H45 R		H45 DR	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Nominal capacity:							
Connection in series	l / 1'	11.5	13.8	13.0	15.5	11.0	13.2
Connection in parallel	l / 1'	=	=	=	=	10 + 10	12 + 12
Final pressure:							
Connection in series	mbar abs.	150		200		40	
Connection in parallel	mbar abs.	=		=		150	
Max. pressure	bar (g)	2		2		2	
Motor execution	1~	230 ± 10%		230 ± 10%		230 ± 10%	
Volt							
Motor power	1~	28	33.5	35	42	40	48
Watt							
Condenser	uF	2.50		3.15		3.15	
Electric absorption	A	1.2		1.5		1.8	
Rotation speed	rev/min ⁻¹	2800	3300	2800	3300	2800	3300
Noise level	dB(A)	≤ 60		≤ 60		≤ 60	
Max. weight	Kg	1.45		2.0		2.1	
A		148		165		180	
B		45.5		47.5		63.5	
C		38		53		53	
Accessories and spare parts							
Vanes	art.	n° 10 00 H25R 03		n° 10 00 H45R 02		n° 20 00 H25R 03	
Silencer filtre	art.	FB 1		FB 1		FB 1	
Fittings	art.	RMM5		RMM5		RMM5	

VANE MINI VACUUM PUMPS WITH DC MOTOR

*The previously described mini pumps can be supplied with a DC motor instead of an AC one.
The performance is practically the same.*



To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{6}$

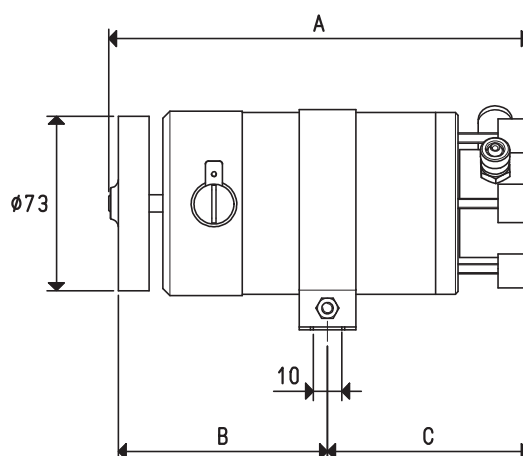
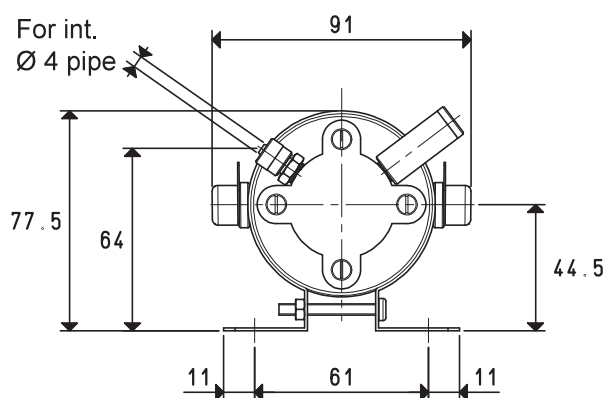
- Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 6-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

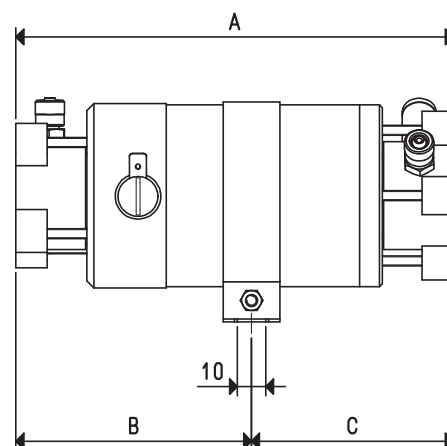
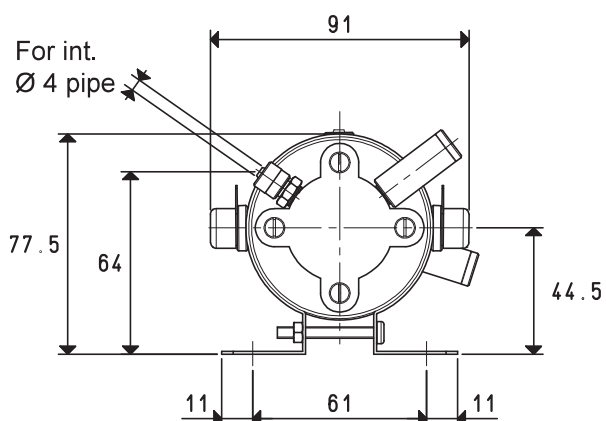
VANE MINI VACUUM PUMPS WITH DC MOTOR

H 25 R CC

H 45 R CC



H 45 DR CC

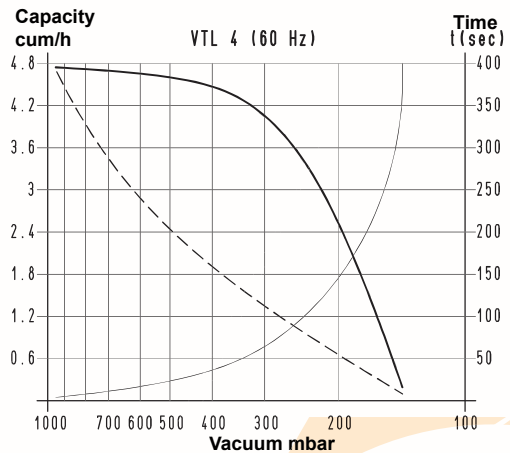
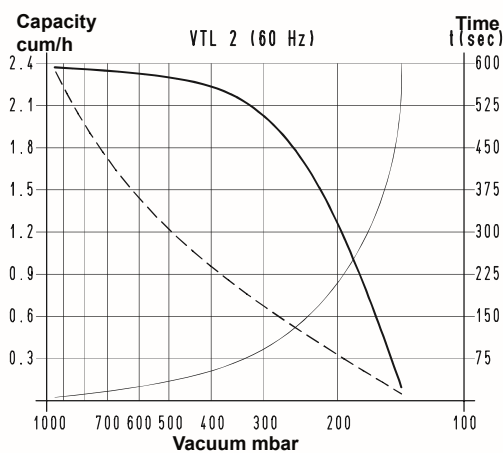
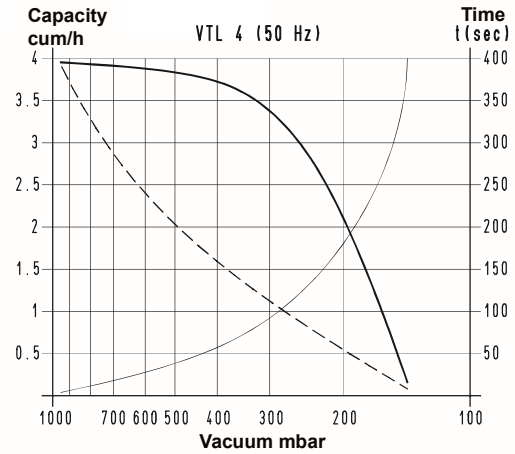
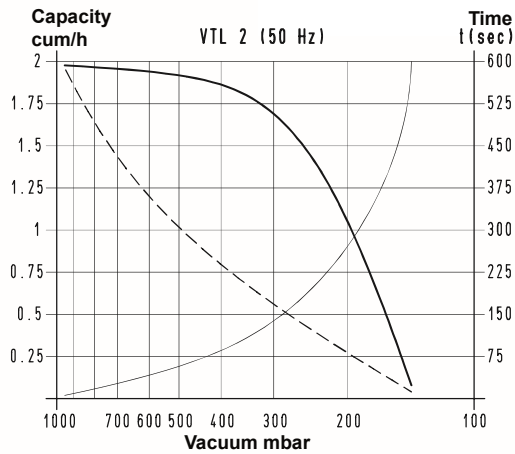
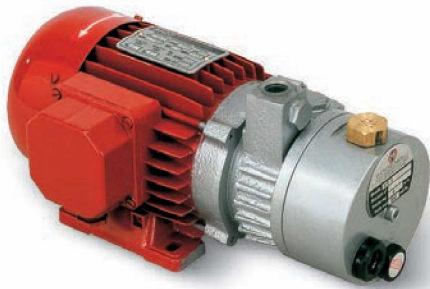


Art.		H25 R CC	H45 R CC	H45 DR CC
Nominal capacity:				
Connection in series	l/ 1'	11.5	14.5	13.5
Connection in parallel	l/ 1'	=	=	13 + 13
Final pressure:				
Connection in series	mbar abs.	200	200	60
Connection in parallel	mbar abs.	=	=	200
Max. pressure	bar (g)	2	2	2
Motor execution	Volt	24 CC	24 CC	24 CC
Motor power	Watt	20	24	30
Electric absorption A	1.5	1.6	1.8	
Rotation speed	rev/min ⁻¹	3000	3000	3000
Noise level	dB(A)	≤ 60	≤ 60	≤ 60
Max. weight	Kg	0.96	1.29	1.44
A		130	148	154
B		57	77	83
C		73	71	71
Accessories and spare parts				
Vanes	art.	n° 10 00 H25R 03	n° 10 00 H45R 02	n° 20 00 H25R 03
Silencer filtre	art.	FB 1	FB 1	FB 1
Fittings	art.	RMM5	RMM5	RMM5

VACUUM PUMPS VTL 2 and 4

These small vacuum pumps have a suction capacity of 2 and 4 cum/h. They feature a wick lubrication with oil recirculation, while the rotor, which is cantilevered-fitted on the motor shaft, allows reducing the overall dimensions to the minimum.

The motor and the pump are cooled by the motor fan (surface cooling). The pumps are equipped with a small tank in line with the pump, which contains the lubrication oil as well as a separator filtre to prevent oil mists and to reduce noise. We strongly recommend installing a check valve and a filtre on the suction inlet. Pumps VTL 2 and 4 can also be supplied with single-phase electric motor.

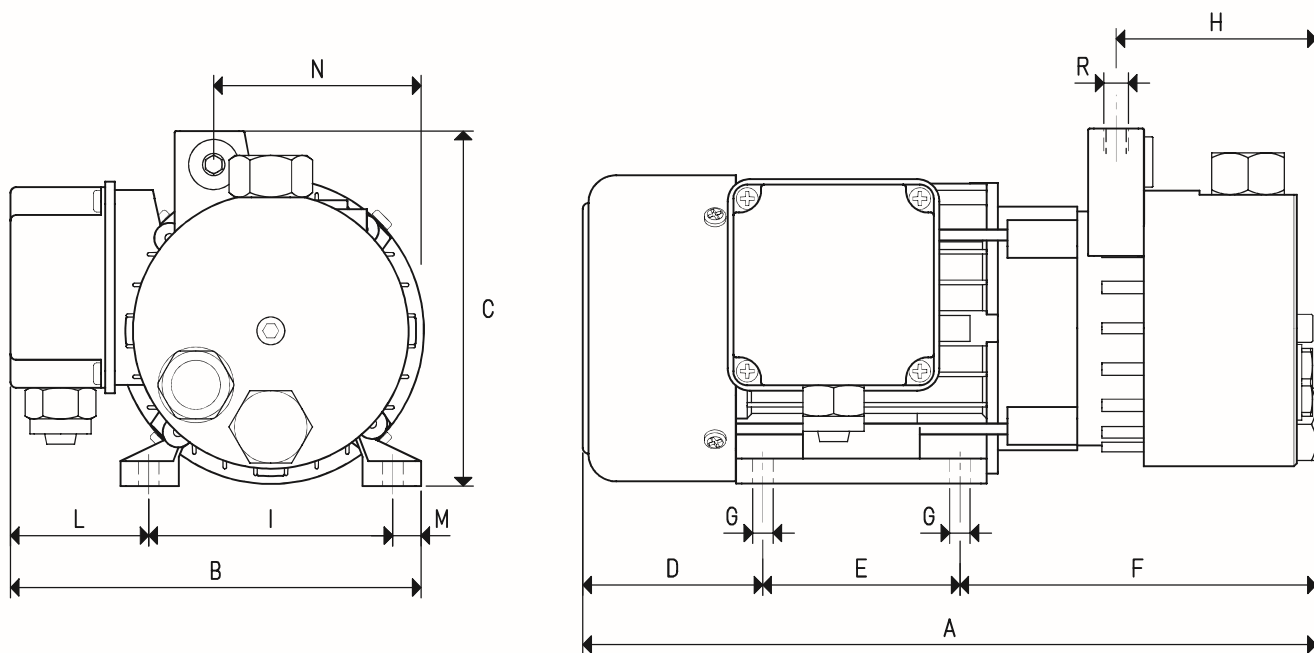


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 mbar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 2 and 4



Art.		VTL 2		VTL 4	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m ³ /h	2.0	2.4	4.0	4.8
Final pressure	mbar abs.	150		150	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.13	0.15	0.18	0.21
Kw	1~	0.13	0.15	0.15	0.18
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	2800	3300	2800	3300
Motor shape		Special		Special	
Motor size		56		63	
Noise level	dB(A)	62	65	62	65
Max. weight	3~	5.7		7.3	
Kg	1~	6.0		7.5	
A		260		285	
B		145		160	
C		126		132	
D		62		66	
E		71		80	
F		127		139	
G	Ø	6.5		7.5	
H		72		80	
I		90		100	
L		43		48	
M		12		12	
N		76		86	
R	Ø gas	G1/4"		G3/8"	
Accessories and spare parts					
Oil load	l	0.05		0.05	
Synthetic oil	VT OIL	ISO 32		ISO 32	
4 vanes	art.	00 VTL 02 10		00 VTL 04 10	
Sealing kit	art.	00 KIT VTL 02		00 KIT VTL 04	
Check valve	art.	10 01 15		10 02 15	
Suction filtre	art.	FB 5		FB 10/FC 10	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTL 2 M).

VACUUM PUMPS VTL 5 and 10

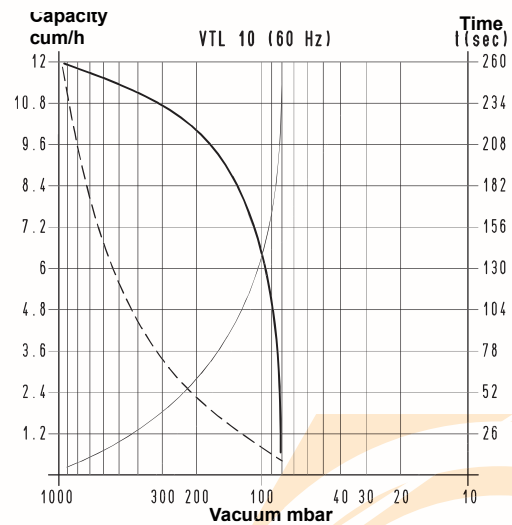
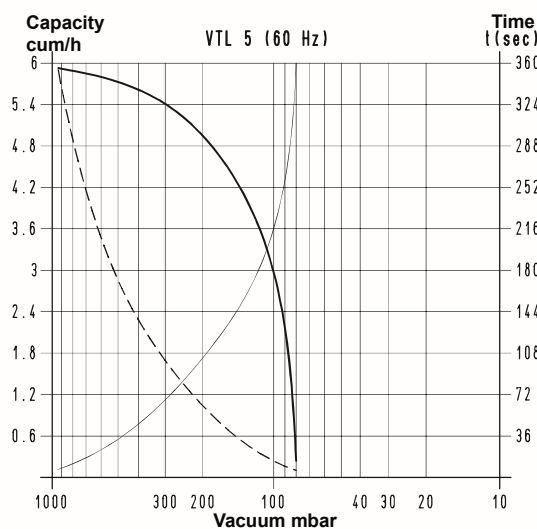
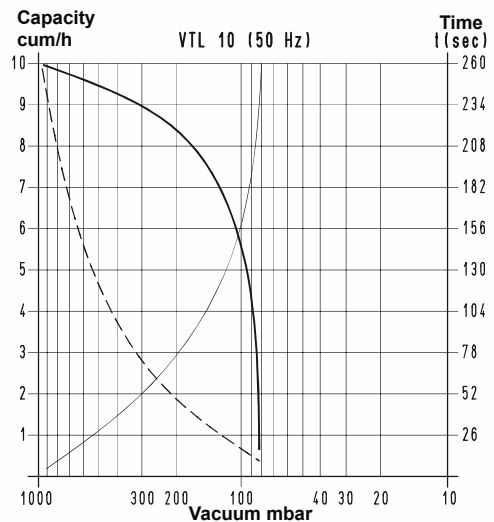
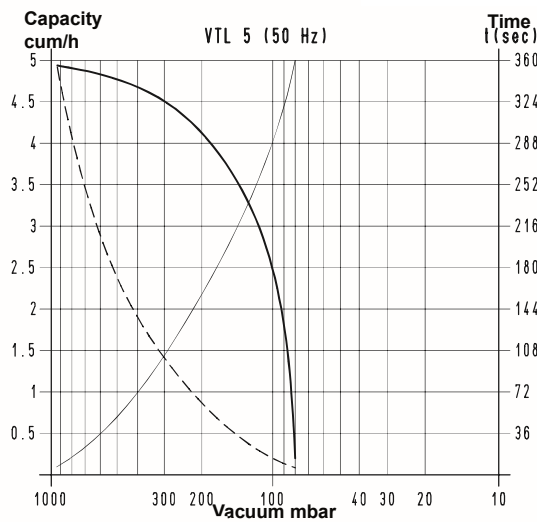


These vacuum pumps have a suction capacity of 5 and 10 cum/h.
The vacuum lubrication with oil recirculation can be adjusted via an oiler located in correspondence of the suction inlet.

The rotor is cantilevered-fitted on the motor shaft and, as a result, the overall dimensions are reduced.

The motor and the pump are cooled by the motor fan (surface cooling).
An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise.

We strongly recommend installing a check valve and a filtre on the suction inlet.
Pumps VTL 5 and 10 can also be supplied with a single-phase electric motor.

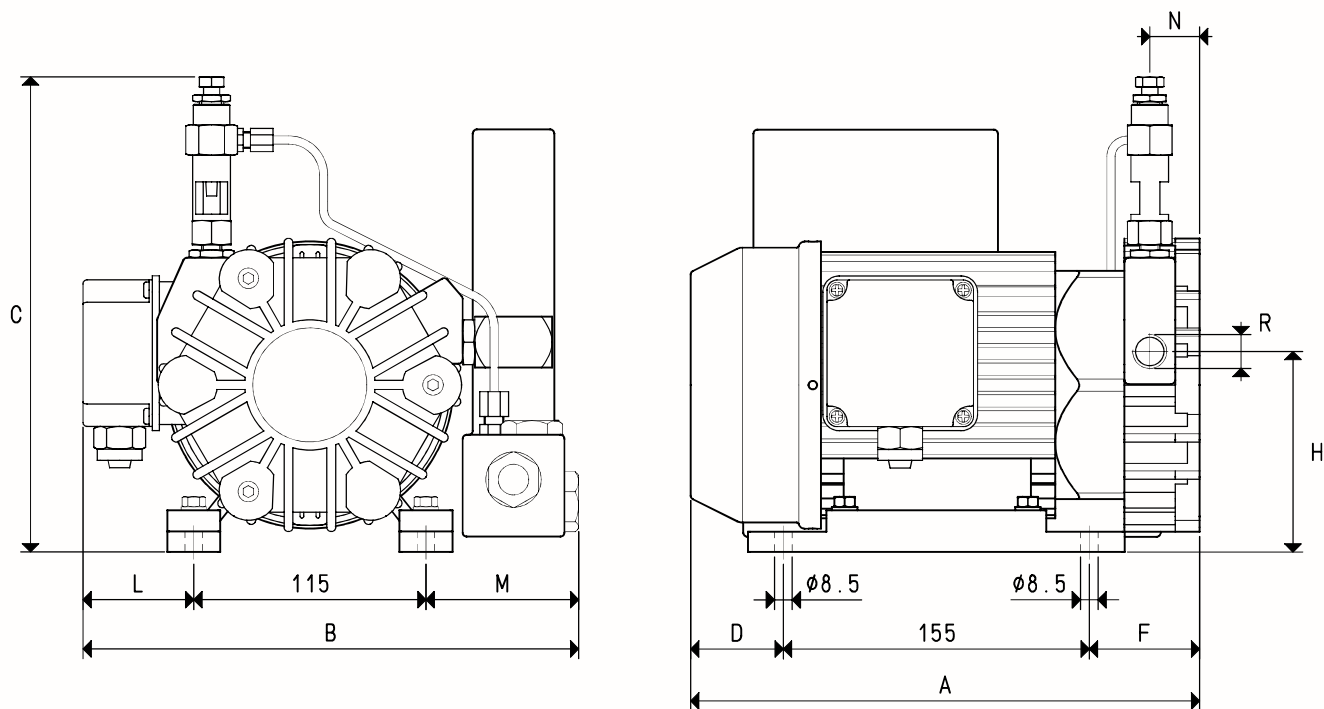


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 mbar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

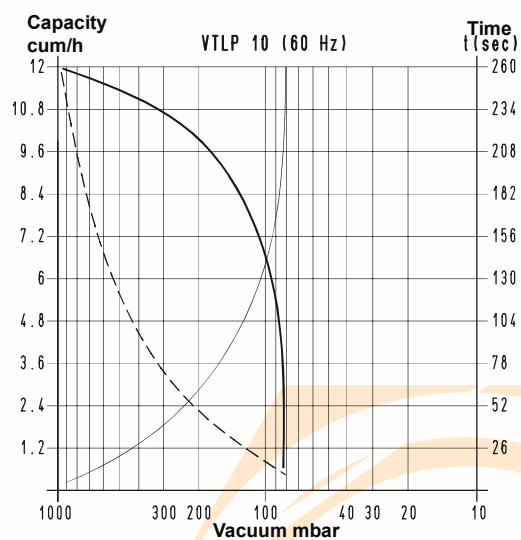
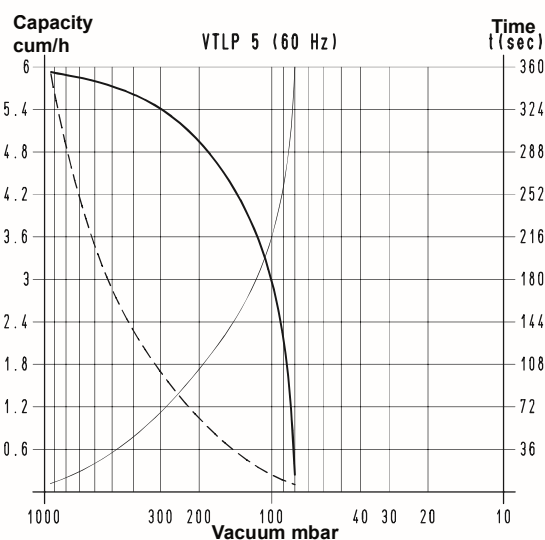
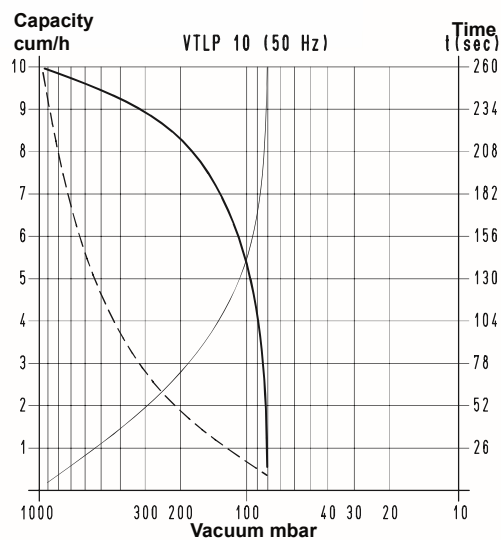
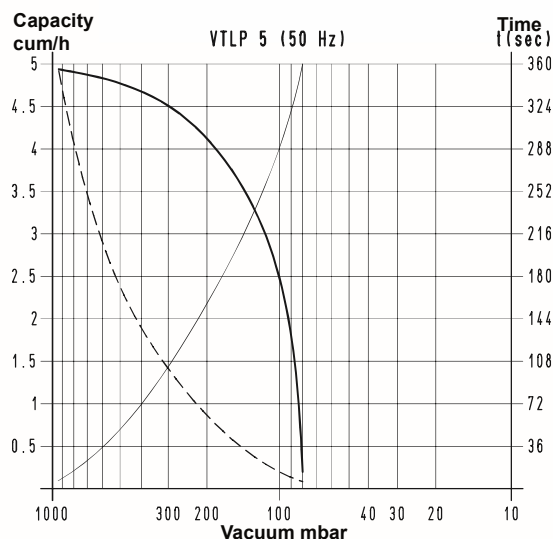
VACUUM PUMPS VTL 5 and 10



Art.		VTL 5		VTL 10	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	5.0	6.0	10.0	12.0
Final pressure	mbar abs.	80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.25	0.30	0.35	0.40
Kw	1~	0.25	0.30	0.25	0.30
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		Special		Special	
Motor size		71		71	
Noise level	dB(A)	62	64	62	64
Max. weight	3~	14.5		20.5	
Kg	1~	15.0		21.0	
A		260		310	
B		245		262	
C		245		245	
D		52		70	
F		53		85	
H		122		122	
L		45		45	
M		85		102	
N		27		52	
R	Ø gas	G3/8"		G1/2"	
Accessories and spare parts					
Oil load	l	0.25		0.40	
Synthetic oil	VT OIL	ISO 32		ISO 32	
6 vanes	art.	00 VTL 05 10		00 VTL 10 10	
Sealing kit	art.	00 KIT VTL 05		00 KIT VTL 10	
Check valve	art.	10 02 10		10 03 10	
Suction filtre	art.	FB 10/FC 10		FB 20/FC 20	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTL 5 M).

VACUUM PUMPS VTLP 5 and 10 WITH DISPOSABLE LUBRICATION

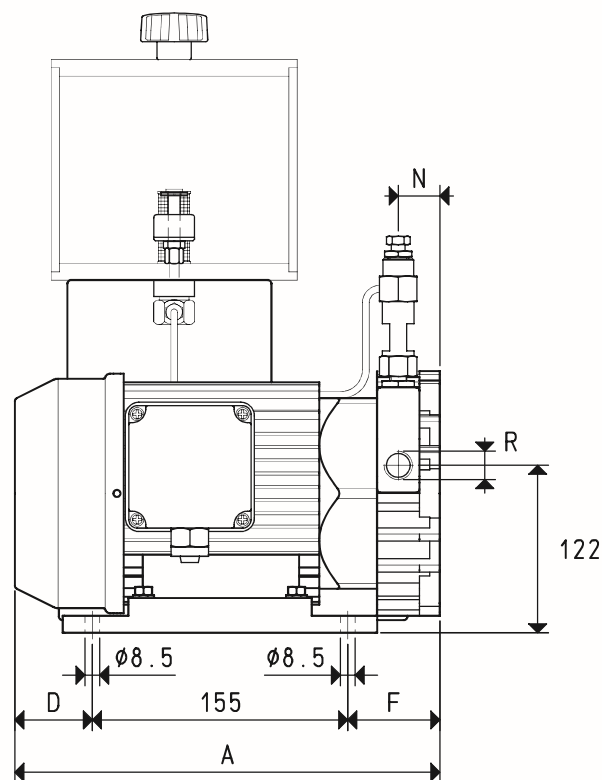
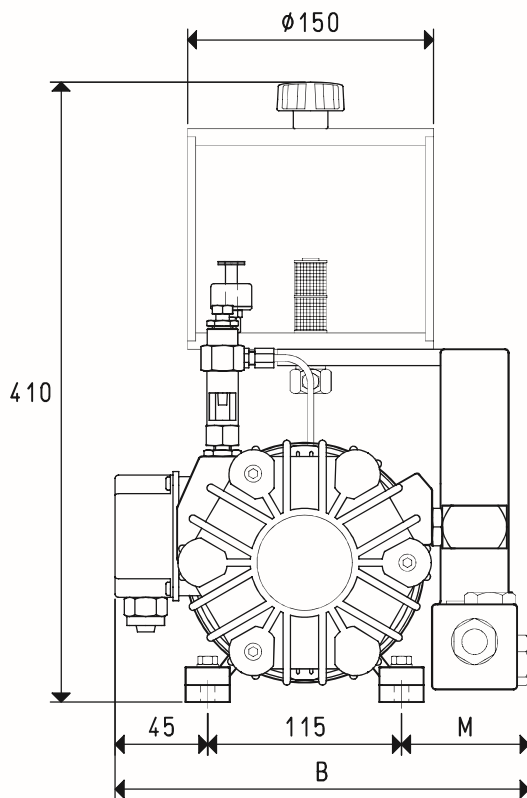


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 5 AND 10



Art.		VTLP 5		VTLP 10	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m ³ /h	5.0	6.0	10.0	12.0
Final pressure	mbar abs.	80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.25	0.30	0.35	0.40
Kw	1~	0.25	0.30	0.25	0.30
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		Special		Special	
Motor size		71		71	
Noise level	dB(A)	62	64	62	64
Max. weight	3~	15.6		21.6	
Kg	1~	16.1		22.1	
A		260		310	
B		245		262	
D		52		70	
F		53		85	
M		85		102	
N		27		52	
R	Ø gas	G3/8"		G1/2"	
Accessories and spare parts					
Oil load	l	1.8		1.8	
Synthetic oil	VT OIL	ISO 32		ISO 32	
6 vanes	art.	00 VTL 05 10		00 VTL 10 10	
Sealing kit	art.	00 KIT VTL 05		00 KIT VTL 10	
Check valve	art.	10 02 10		10 03 10	
Suction filtre	art.	FB 10/FC 10		FB 20/FC 20	
Oil level switch	art.	00 LP VTL 99		00 LP VTL 99	
Oil filtre	art.	00 LP VTL 40		00 LP VTL 40	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTLP 5 M).

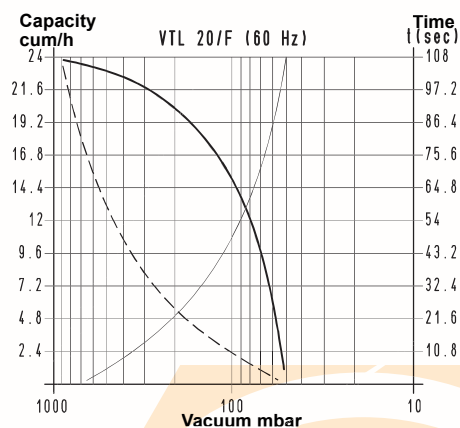
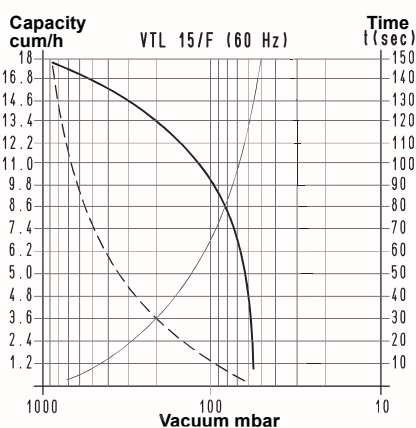
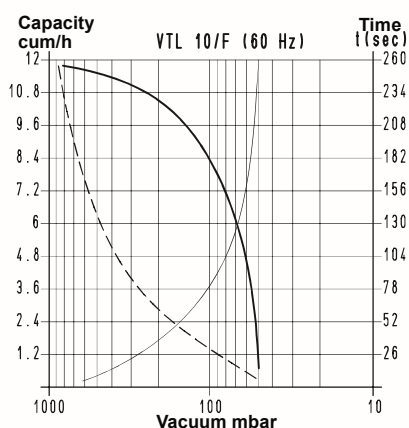
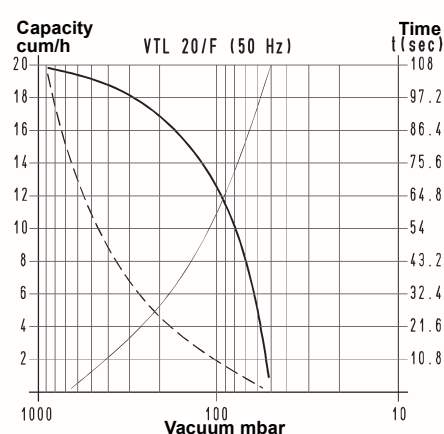
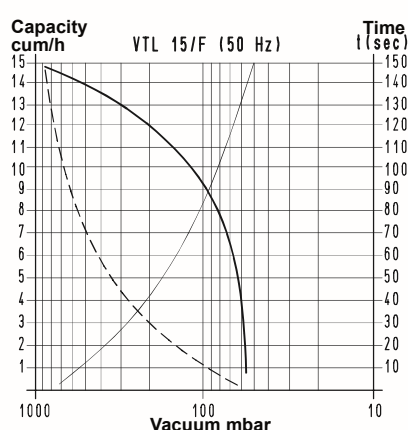
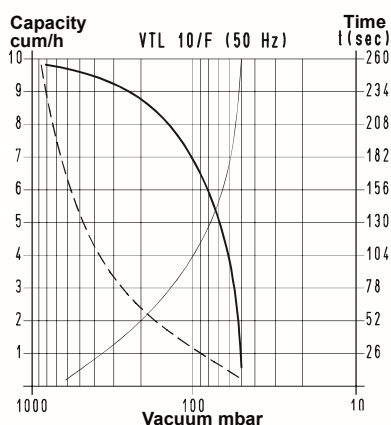
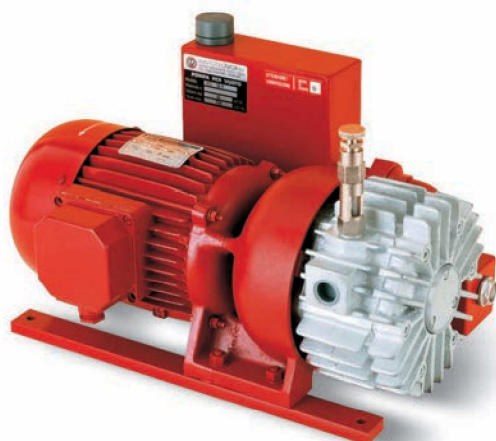
VACUUM PUMPS VTL 10/F, 15/F and 20/F

These vacuum pumps having a suction capacity of 10, 15 and 20 cum/h. The vacuum lubrication with oil recirculation can be adjusted via an oiler located in correspondence of the suction inlet.

The rotor is cantilevered-fitted on the motor shaft and supported by independent bearings housed in the two pump flanges.

The pump is surface cooled. Heat is dispersed from the outer surface, suitably finned, by means of a radial fan placed between motor and pump. An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise.

We strongly recommend installing a check valve and a filtre on the suction inlet. Also this range of pumps can be supplied with single-phase electric motors.

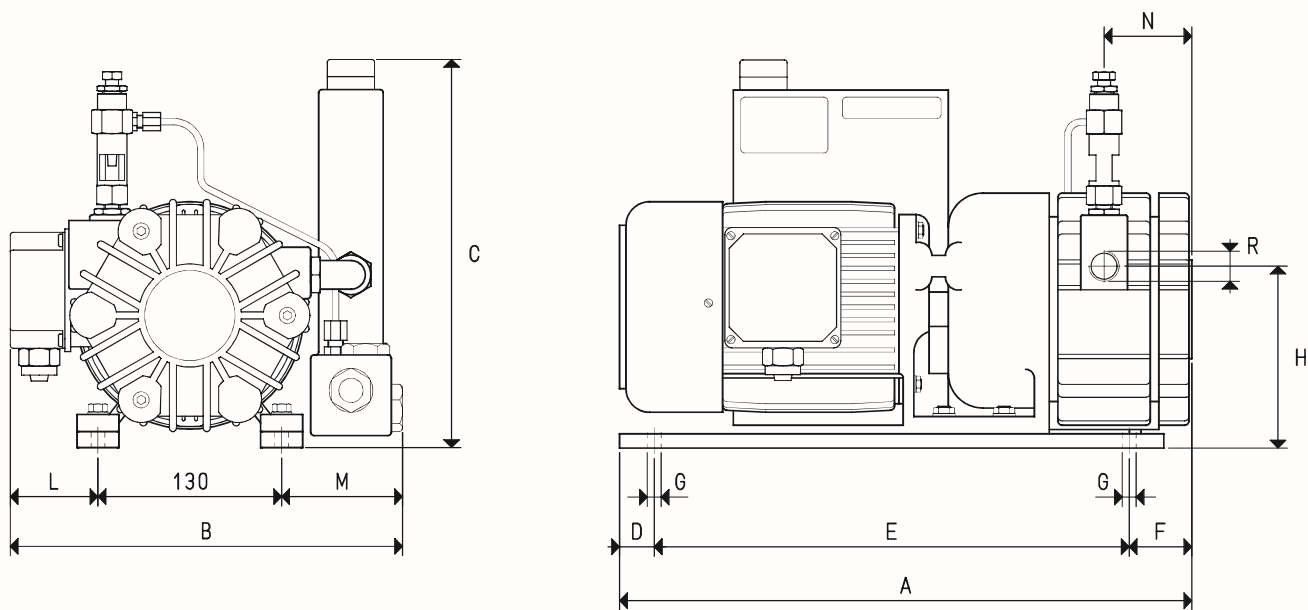


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 10/F, 15/F and 20/F



Art.		VTL 10/F		VTL 15/F		VTL 20/F	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	10.0	12.0	15.0	18.0	20.0	24.0
Final pressure	mbar abs.	50		50		50	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%		230±10%	
Motor power	3~	0.55	0.66	0.55	0.66	0.88	1.05
Kw	1~	0.55	0.66	0.55	0.66	0.66	0.80
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		Special		Special		Special	
Motor size		80		80		80	
Noise level	dB(A)	62	64	63	65	64	66
Max. weight	3~	25.0		27.0		30.0	
Kg	1~	25.5		27.5		30.5	
A		385		405		425	
B		285		285		285	
C		259		259		259	
D		25		25		25	
E		340		340		340	
F		20		40		60	
H		133		133		133	
L		55		55		55	
M		100		100		100	
N		53		63		73	
R	Ø gas	G1/2"		G1/2"		G1/2"	
Accessories and spare parts							
Oil load	l	0.4		0.5		0.65	
Synthetic oil	VT OIL	ISO 68		ISO 68		ISO 68	
6 vanes	art.	00 VTL 10F 10		00 VTL 15F 10		00 VTL 20F 10	
Sealing kit	art.	00 KIT VTL 10F		00 KIT VTL 15F		00 KIT VTL 20F	
Check valve	art.	10 03 10		10 03 10		10 03 10	
Suction filtre	art.	FB 20/FC 20		FB 20/FC 20		FB 20/FC 20	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11		00 VTL 00 11	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTL 10/F M).

VACUUM PUMPS VTLP 10/F, 15/F and 20/F WITH DISPOSABLE LUBRICATION



These vacuum pumps having a suction capacity of 10, 15 and 20 cum/h. The vacuum lubrication with oil recirculation can be adjusted via an oiler located in correspondence of the suction inlet.

The rotor is cantilevered-fitted on the motor shaft and supported by independent bearings housed in the two pump flanges.

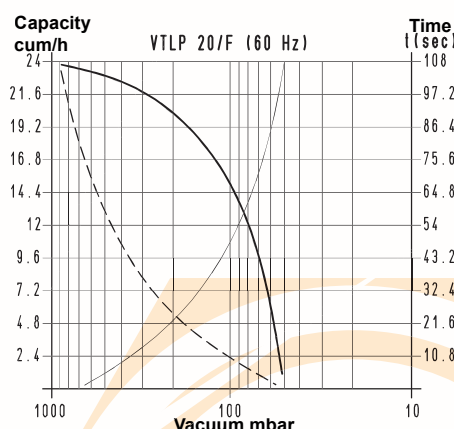
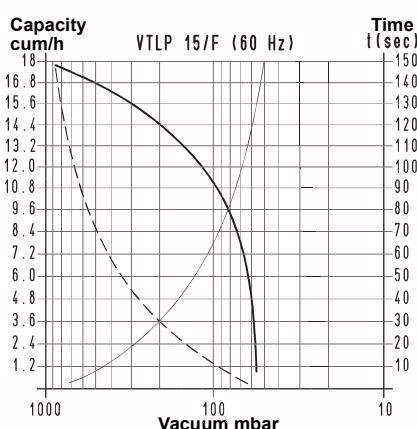
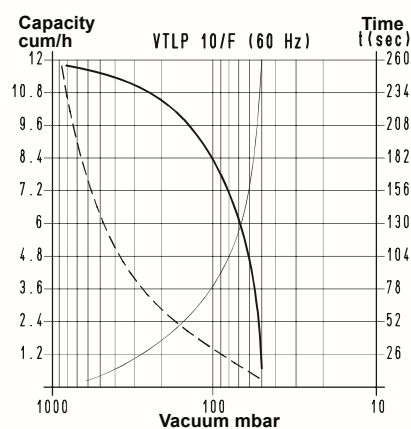
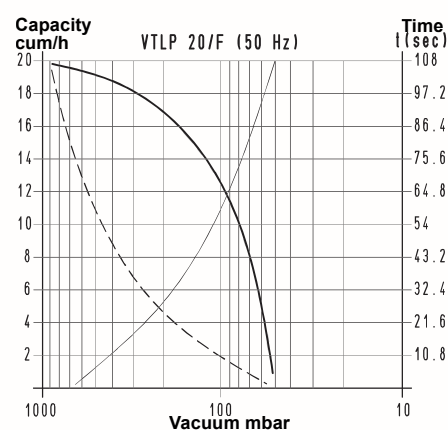
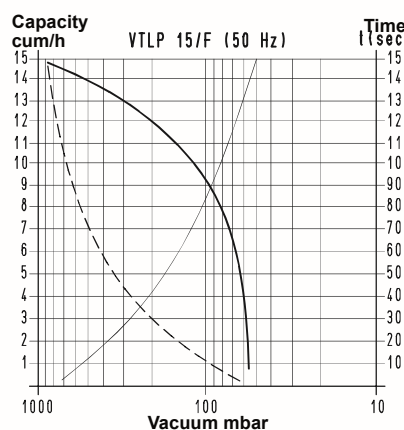
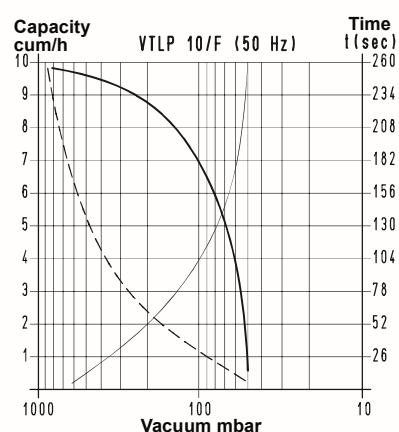
The pump is surface cooled. Heat is dispersed from the outer surface, suitably finned, by means of a radial fan placed between motor and pump. An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise. A safety valve is also installed on the tank for the automatic drainage of the exhaust oil when not regularly drained.

The lubrication oil is contained in a special transparent container, fixed to the pump via its support, and controlled by a magnetic level switch.

In pumps with disposable lubrication, the oil is sucked in the pump through an adjustable drip oiler and drained together with the sucked air in the recovery tank, without being put in circulation again. These pumps are necessary when the air to be sucked contains water condensation, solvent vapours or anything else that could effect oil properties.

We strongly recommend installing a check valve and a filtre on the suction inlet.

Also this range of pumps can be supplied with single-phase electric motors.

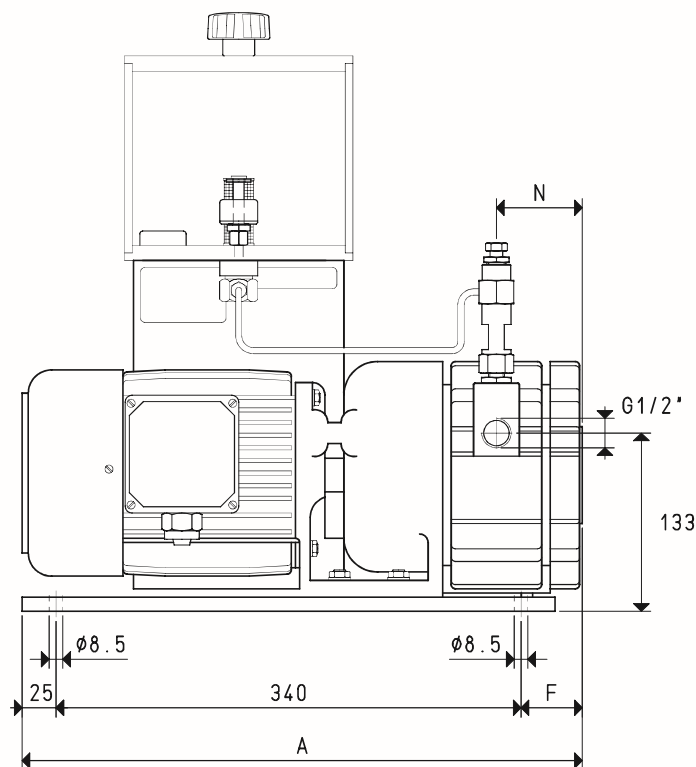
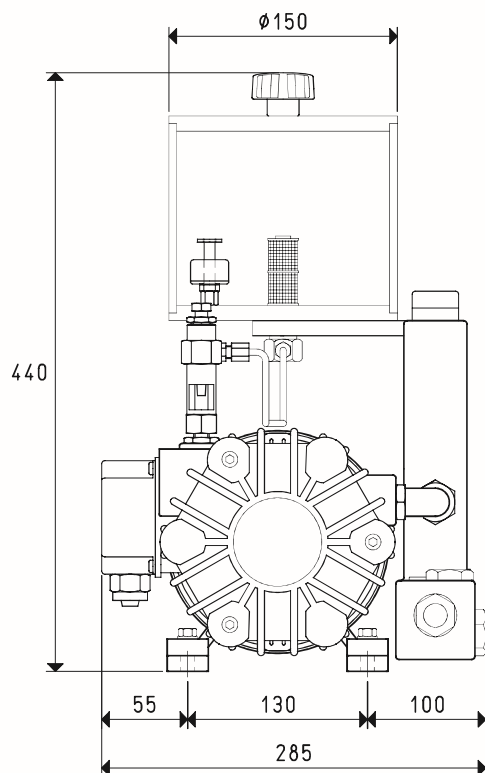


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 10/F, 15/F and 20/F



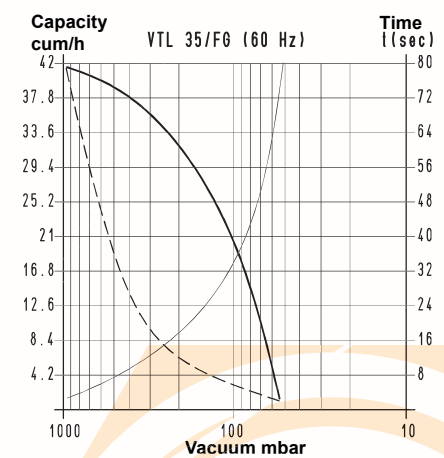
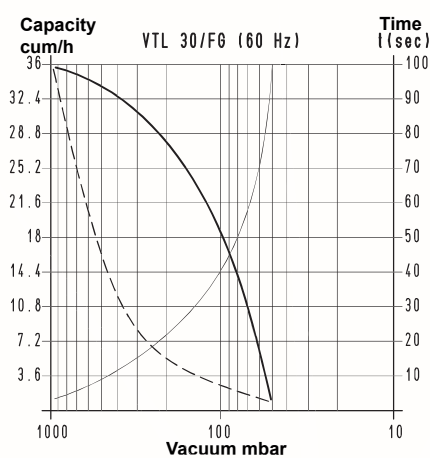
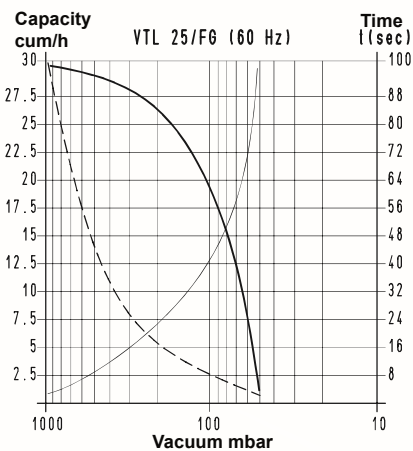
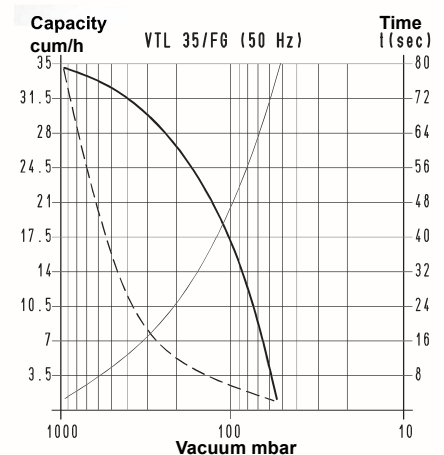
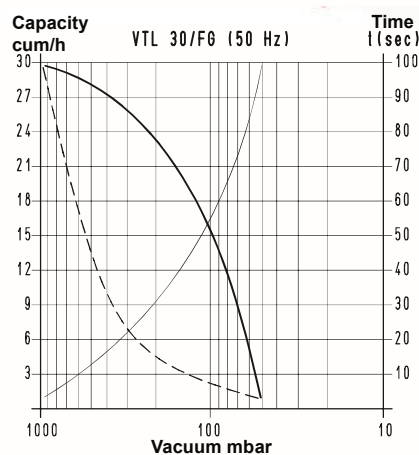
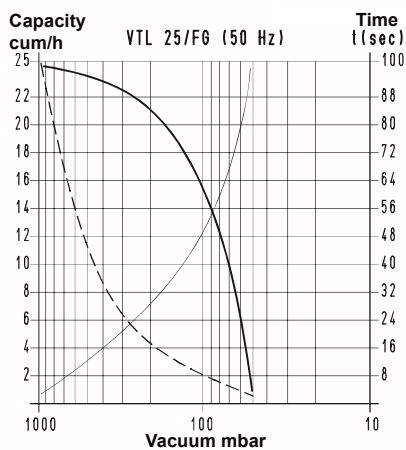
Art.		VTLP 10/F		VTLP 15/F		VTLP 20/F	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	10.0	12.0	15.0	18.0	20.0	24.0
Final pressure	mbar abs.	50		50		50	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt	1~	230±10%		230±10%		230±10%	
Motor power	3~	0.55	0.66	0.55	0.66	0.88	1.05
Kw	1~	0.55	0.66	0.55	0.66	0.66	0.80
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		Special		Special		Special	
Motor size		80		80		80	
Noise level	dB(A)	62	64	63	65	64	66
Max. weight	3~	26.1		28.1		31.1	
Kg	1~	26.6		28.6		31.6	
A		385		405		425	
F		20		40		60	
N		53		63		73	
Accessories and spare parts							
Oil load	l	1.8		1.8		1.8	
Synthetic oil	VT OIL	ISO 68		ISO 68		ISO 68	
6 vanes	art.	00 VTL 10F 10		00 VTL 15F 10		00 VTL 20F 10	
Sealing kit	art.	00 KIT VTL 10F		00 KIT VTL 15F		00 KIT VTL 20F	
Check valve	art.	10 03 10		10 03 10		10 03 10	
Suction filtre	art.	FB 20/FC 20		FB 20/FC 20		FB 20/FC 20	
Oil level switch	art.	00 LP VTL 99		00 LP VTL 99		00 LP VTL 99	
Oil filtre	art.	00 LP VTL 40		00 LP VTL 40		00 LP VTL 40	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11		00 VTL 00 11	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTLP 10/F M).

VACUUM PUMPS VTL 25/FG, 30/FG and 35/FG



These vacuum pumps have a suction capacity of 10, 15 and 20 cum/h. The vacuum lubrication with oil recirculation is adjusted via two oilers located in correspondence of the support bearings. The rotor is cantilevered-fitted on the motor shaft and supported by independent bearings housed in the two pump flanges. The pump and the electric motor are, therefore, two independent units and fixed onto a special support and connected to each other via an elastic transmission joint. All this allows using standard electric motors, in the shapes and sizes indicated in the table. The pump is surface cooled. Heat is dispersed from the outer surface, suitably finned, by means of a radial fan placed between motor and pump. An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise. We strongly recommend installing a check valve and a filtre on the suction inlet. These pumps are supplied with three-phase electric motors only.

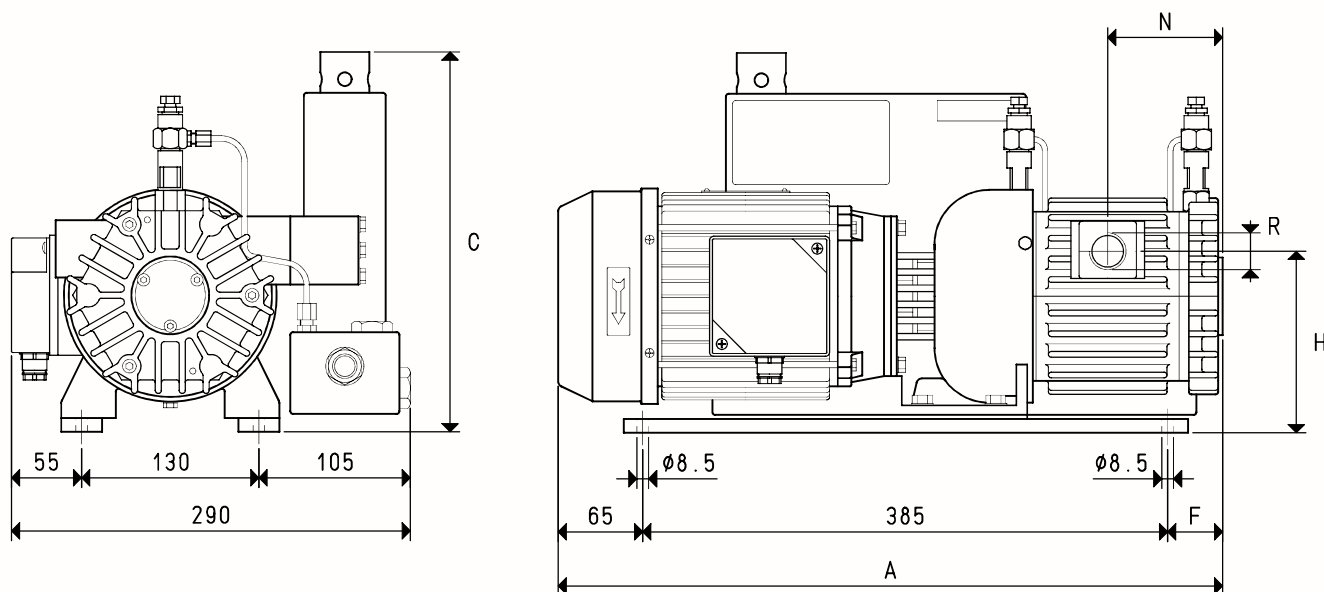


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 25/FG, 30/FG and 35/FG



Art.		VTL 25/FG		VTL 30/FG		VTL 35/FG	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	25.0	30.0	30.0	36.0	35.0	42.0
Final pressure	mbar abs.	50		50		50	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt							
Motor power	3~	0.88	1.05	1.00	1.20	1.00	1.20
Kw							
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		B14		B14		B14	
Motor size		80		80		80	
Noise level	dB(A)	64	66	65	67	65	67
Max. weight	3~	31.0		35.0		37.0	
Kg							
A		470		490		510	
C		280		280		280	
F		20		40		60	
H		133		133		133	
N		73		83		93	
R	Ø gas	G3/4"		G3/4"		G3/4"	
Accessories and spare parts							
Oil load	l	0.65		0.85		0.85	
Synthetic oil	VT OIL	ISO 68		ISO 68		ISO 68	
6 vanes	art.	00 VTL 25FG 10		00 VTL 30FG 10		00 VTL 35FG 10	
Sealing kit	art.	00 KIT VTL 25FG		00 KIT VTL 30FG		00 KIT VTL 35FG	
Check valve	art.	10 04 10		10 04 10		10 04 10	
Suction filter	art.	FB 25/FC 25		FB 25/FC 25		FB 25/FC 25	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11		00 VTL 00 11	

VACUUM PUMPS VTL 25/FG, 30/FG and 35/FG WITH DISPOSABLE LUBRICATION



These vacuum pumps have a suction capacity of 25, 30 and 35 cum/h.

The vacuum lubrication with oil recirculation is adjusted via two oilers located in correspondence of the support bearings.

The rotor is cantilevered-fitted on the motor shaft and supported by independent bearings housed in the two pump flanges.

The pump and the electric motor are, therefore, two independent units and fixed onto a special support and connected to each other via an elastic transmission joint.

All this allows using standard electric motors, in the shapes and sizes indicated in the table.

The pump is surface cooled. Heat is dispersed from the outer surface, suitably finned, by means of a radial fan placed between motor and pump.

An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise.

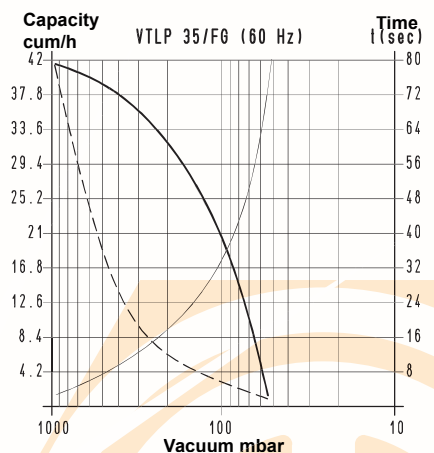
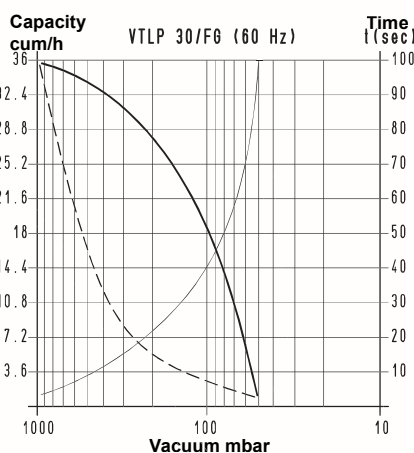
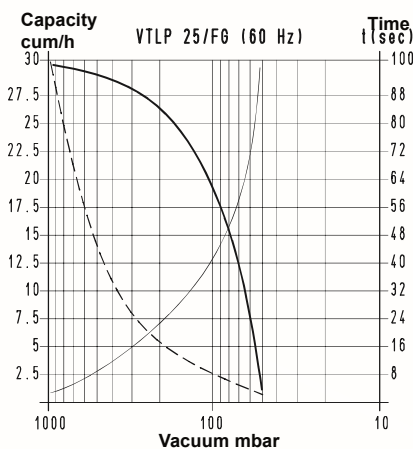
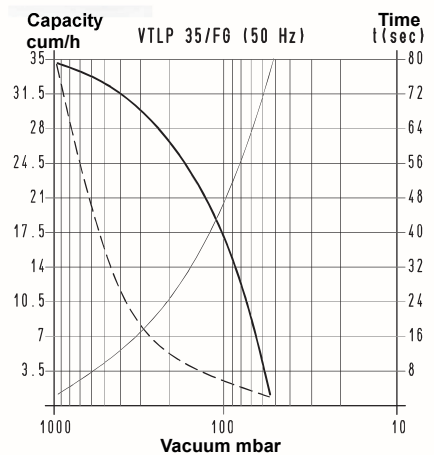
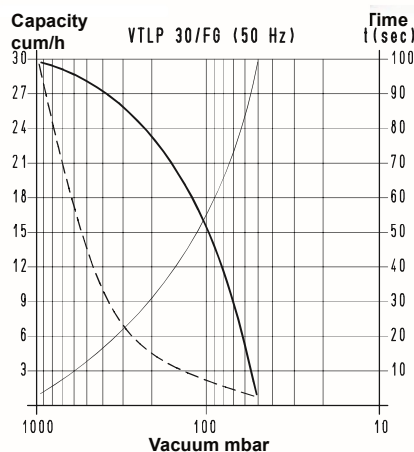
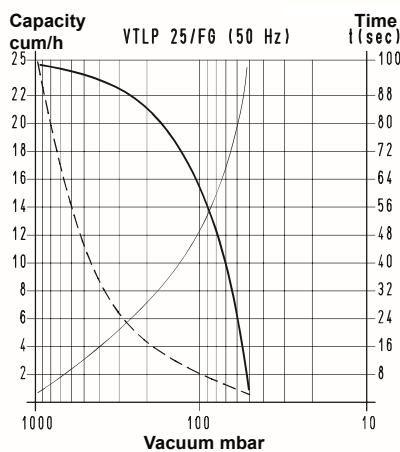
A safety valve is also installed on the tank for the automatic drainage of the exhaust oil when not regularly drained.

The lubrication oil is contained in a special transparent container, fixed to the pump via its support, and controlled by a magnetic level switch.

In pumps with disposable lubrication, the oil is sucked in the pump through an adjustable drip oiler and drained together with the sucked air in the recovery tank, without being put in circulation again. These pumps are necessary when the air to be sucked contains water condensation, solvent vapours or anything else that could effect oil properties.

We strongly recommend installing a check valve and a filtre on the suction inlet.

These pumps are supplied with three-phase electric motors only.

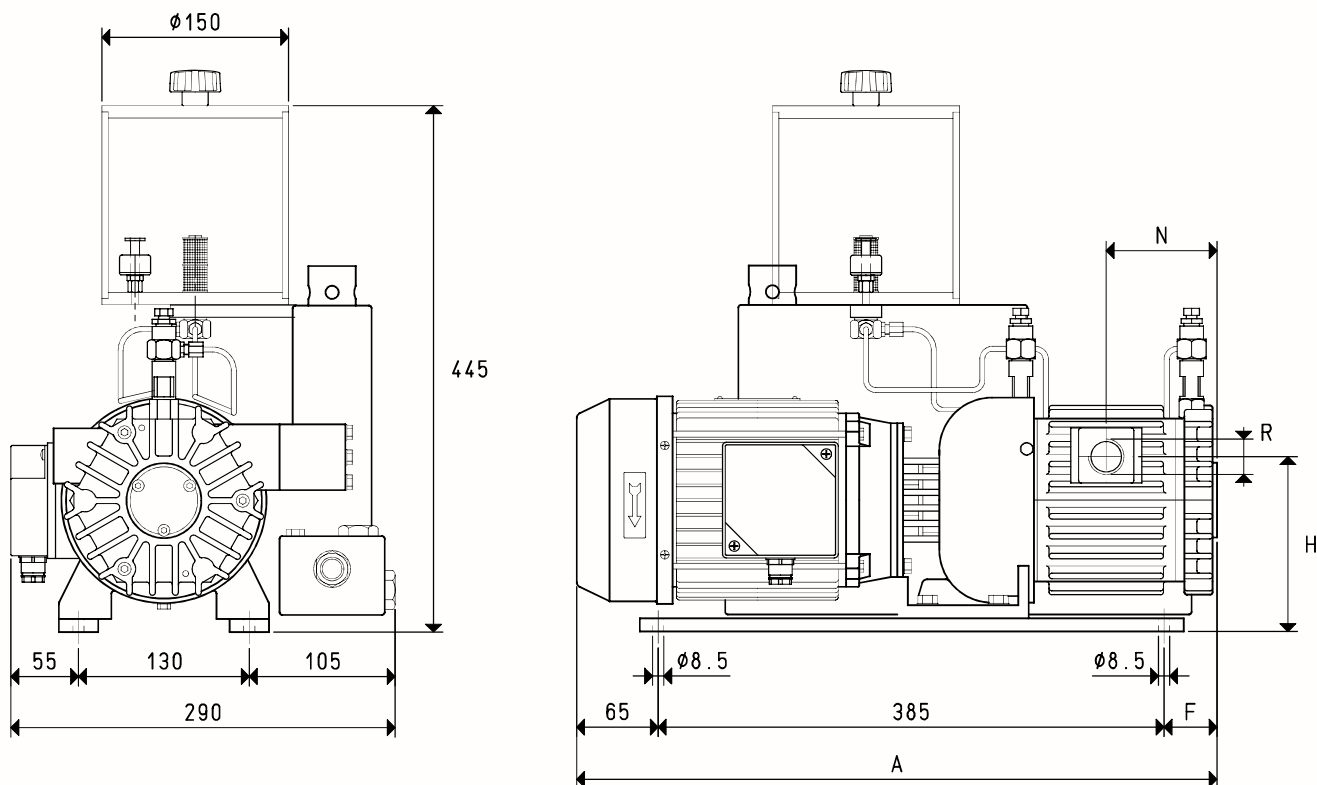


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

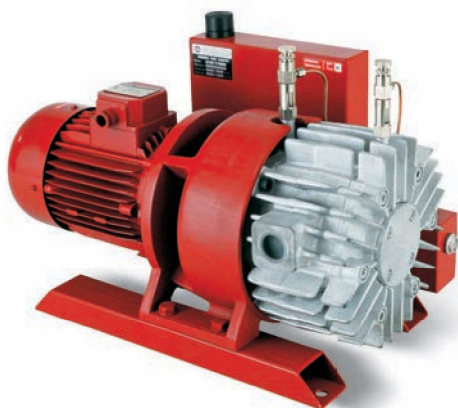
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTLP 25/FG, 30/FG and 35/FG



Art.		VTLP 25/FG		VTLP 30/FG		VTLP 35/FG	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	25.0	30.0	30.0	36.0	35.0	42.0
Final pressure	mbar abs.	50		50		50	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt							
Motor power	3~	0.88	1.05	1.00	1.20	1.00	1.20
Kw							
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		B14		B14		B14	
Motor size		80		80		80	
Noise level	dB(A)	64	66	65	67	65	67
Max. weight	3~	32.0		36.0		38.0	
Kg							
A		470		490		510	
F		20		40		60	
H		133		133		133	
N		73		83		93	
R	Ø gas	G3/4"		G3/4"		G3/4"	
Accessories and spare parts							
Oil load	l	1.8		1.8		1.8	
Synthetic oil	VT OIL	ISO 68		ISO 68		ISO 68	
6 vanes	art.	00 VTL 25FG 10		00 VTL 30FG 10		00 VTL 35FG 10	
Sealing kit	art.	00 KIT VTL 25FG		00 KIT VTL 30FG		00 KIT VTL 35FG	
Check valve	art.	10 04 10		10 04 10		10 04 10	
Suction filtre	art.	FB 25/FC 25		FB 25/FC 25		FB 25/FC 25	
Oil level switch	art.	00 LP VTL 99		00 LP VTL 99		00 LP VTL 99	
Oil filtre	art.	00 LP VTL 40		00 LP VTL 40		00 LP VTL 40	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11		00 VTL 00 11	

VACUUM PUMPS VTL 40/G1 ÷ 105/G1



These vacuum pumps have a suction capacity of 40, 50, 65, 75, 90 and 105 cum/h.

The vacuum lubrication with oil recirculation is adjusted via two oilers located in correspondence of the support bearings.

The rotor is fitted on the motor shaft and supported by independent bearings housed in the two pump flanges. The pump and the electric motor are, therefore, two independent units and fixed onto a special support and connected to each other via an elastic transmission joint.

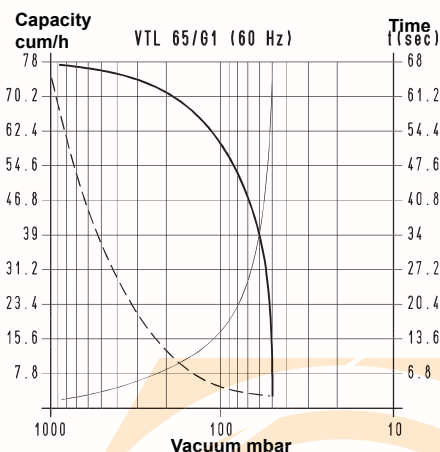
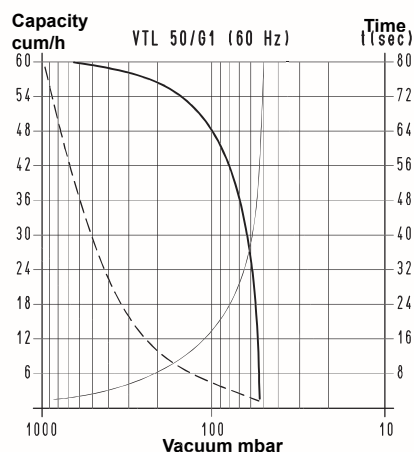
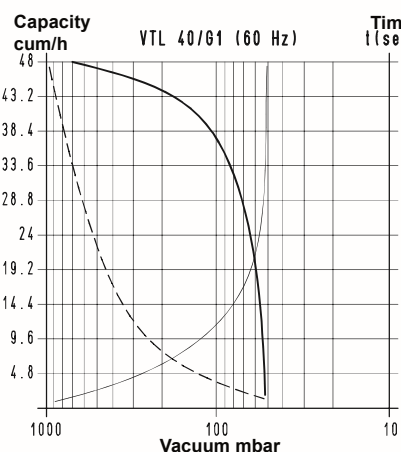
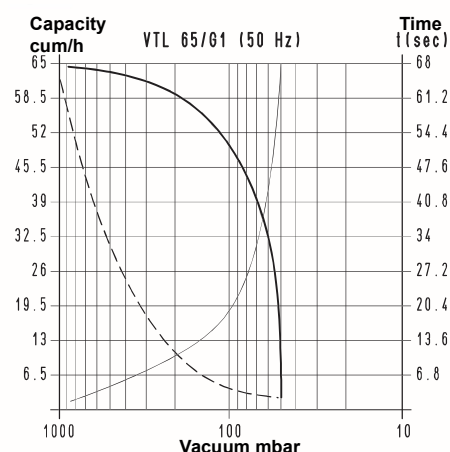
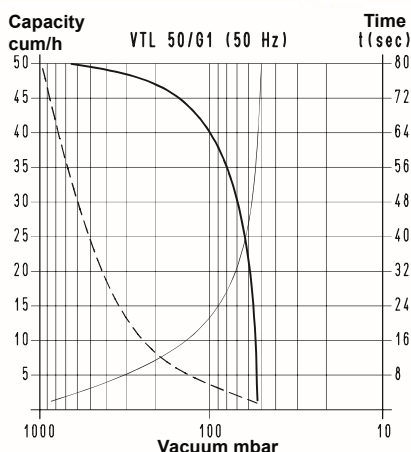
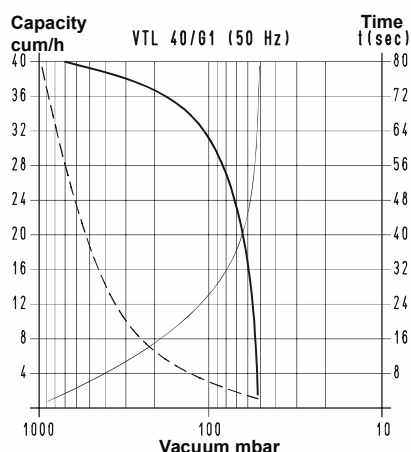
All this allows using standard electric motors, in the shapes and sizes indicated in the table.

The pump is surface cooled. Heat is dispersed from the outer surface, suitably finned, by means of a radial fan placed between motor and pump.

An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise.

An oil recovery tank is installed on the pump exhaust. This tank contains a separator filtre that prevents oil mists and reduces noise.

A check valve and a filtre must be installed on the suction inlet. These pumps are supplied with three-phase electric motors only.

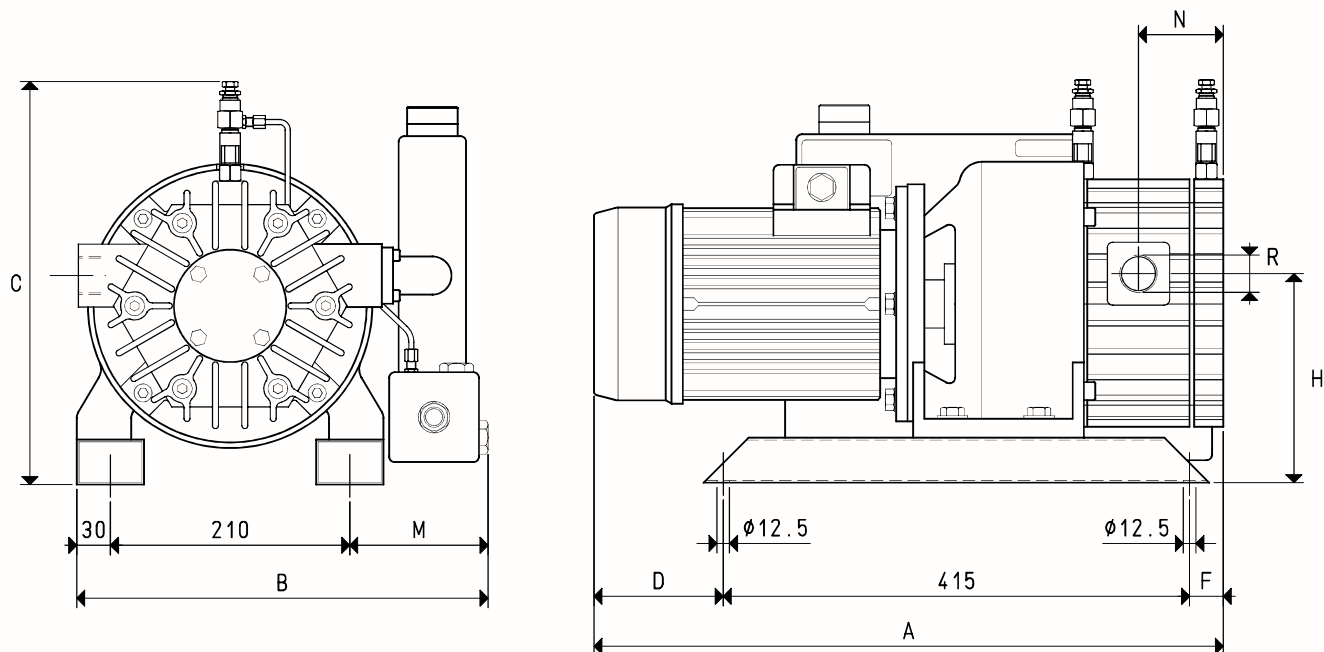


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

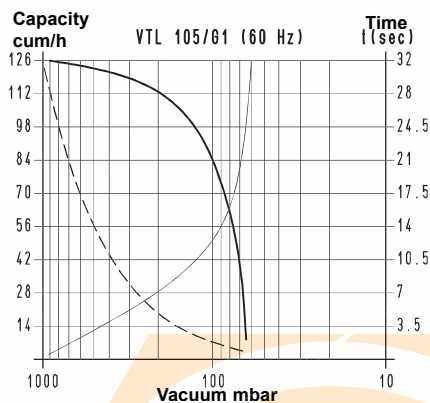
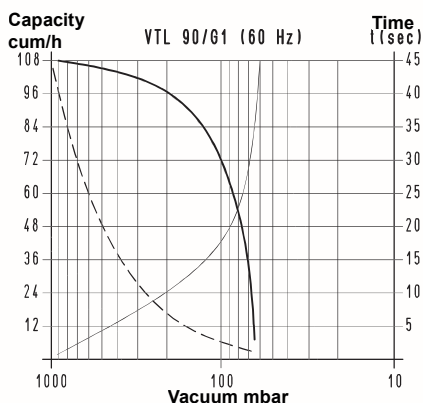
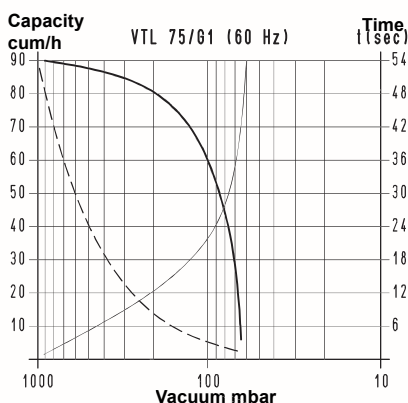
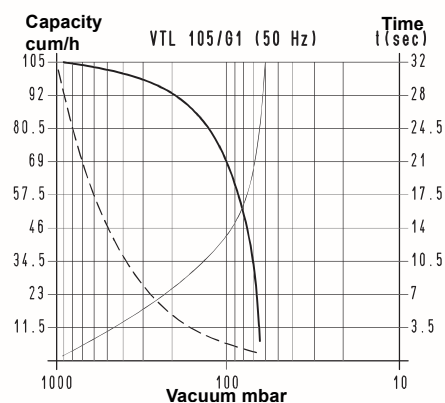
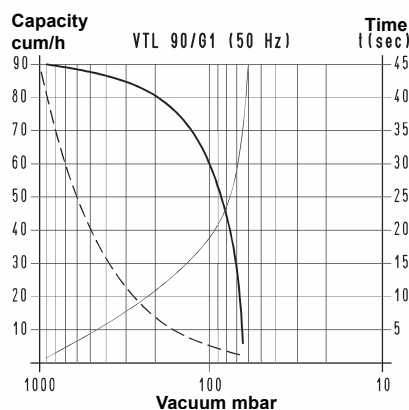
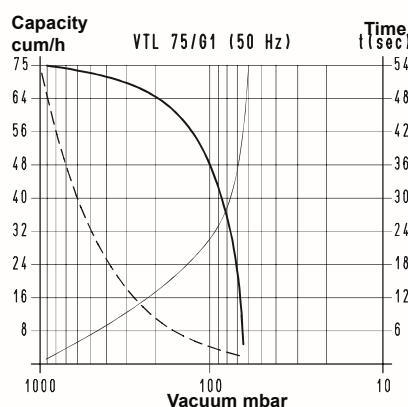
- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 40/G1, 50/G1 and 65/G1



Art.		VTL 40/G1		VTL 50/G1		VTL 65/G1	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m ³ /h	40.0	48.0	50.0	60.0	65.0	78.0
Final pressure	mbar abs.	50		50		50	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt							
Motor power	3~	1.10	1.35	1.50	1.80	1.50	1.80
Kw							
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		B5		B5		B5	
Motor size		90		90		90	
Noise level	dB(A)	68	70	68	70	70	72
Max. weight	3~	51.0		54.0		71.0	
Kg							
A		520		560		580	
B		365		365		365	
C		350		350		350	
D		60		115		120	
F		45		30		45	
H		186		186		186	
M		125		125		125	
N		70		80		80	
R	Ø gas	G1"		G1"		G1"	
Accessories and spare parts							
Oil load	l	0.85		1.00		1.00	
Synthetic oil	VT OIL	ISO 100		ISO 100		ISO 100	
6 vanes	art.	00 VTL 40G1 10		00 VTL 50G1 10		00 VTL 65G1 10	
Sealing kit	art.	00 KIT VTL 40G1		00 KIT VTL 50G1		00 KIT VTL 65 G1	
Check valve	art.	10 05 10		10 05 10		10 05 10	
Suction filtre	art.	FB 30/FC 30		FB 30/FC 30		FB 30/FC 30	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11		00 VTL 00 11	

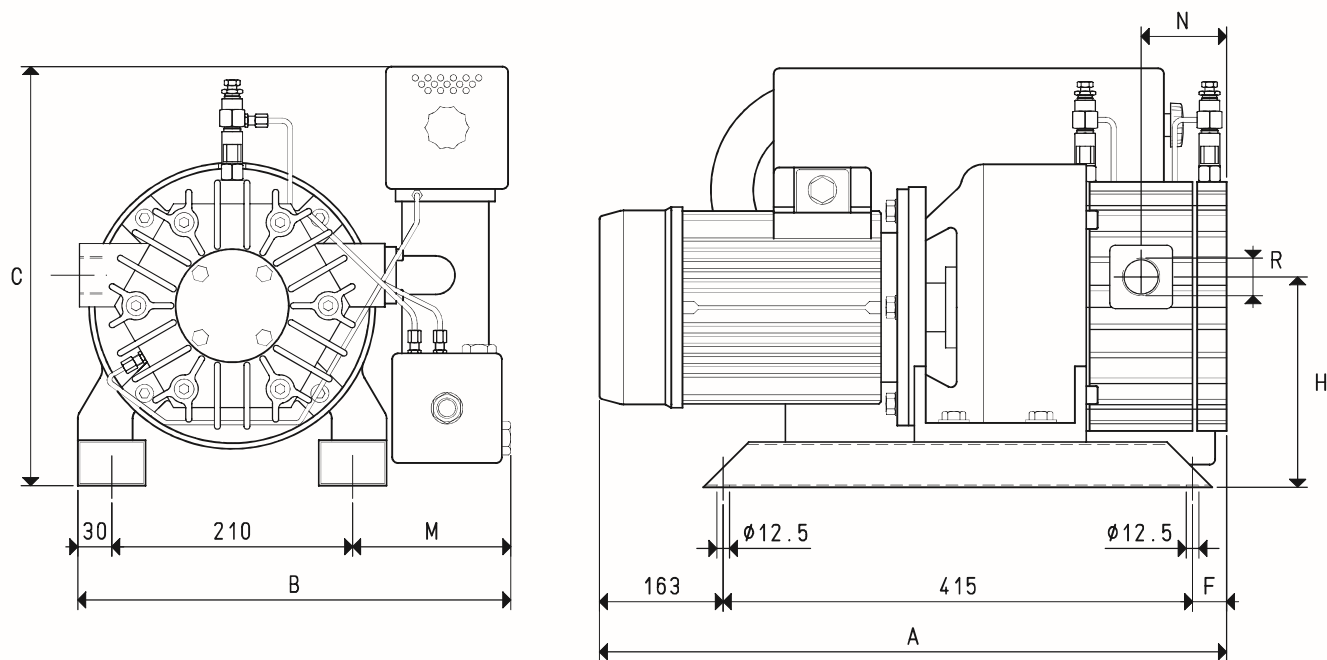


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

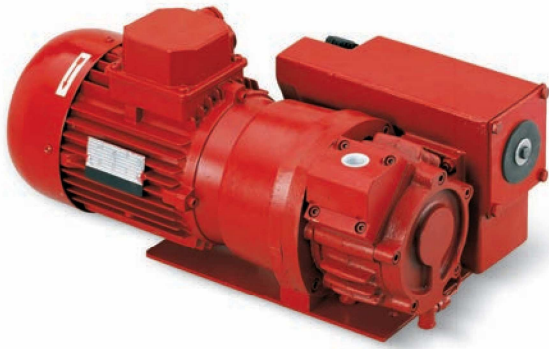
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

VACUUM PUMPS VTL 75/G1, 90/G1 and 105/G1



Art.		VTL 75/G1		VTL 90/G1		VTL 105/G1	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	75.0	90.0	90.0	108.0	105.0	126.0
Final pressure	mbar abs.	50		50		50	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt							
Motor power	3~	2.20	2.70	3.00	3.60	3.00	3.60
Kw							
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		B5		B5		B5	
Motor size		100		100		100	
Noise level	dB(A)	70	72	71	73	72	74
Max. weight	3~	76.5		84.0		97.6	
Kg							
A		640		660		690	
B		385		400		400	
C		400		400		445	
F		62		82		112	
H		186		186		186	
M		145		150		160	
N		80		92		122	
R	Ø gas	G1"1/4		G1"1/4		G1"1/2	
Accessories and spare parts							
Oil load	l	2.0		2.6		2.6	
Synthetic oil	VT OIL	ISO 100		ISO 100		ISO 100	
Deoiling cartridge	art.	00 VTL 75G1 29		00 VTL 90G1 29		00 VTL 105G1 29	
6 vanes	art.	00 VTL 75G1 10		00 VTL 90G1 10		00 VTL 105G1 10	
Sealing kit	art.	00 KIT VTL 75G1		00 KIT VTL 90G1		00 KIT VTL 105G1	
Check valve	art.	10 06 10		10 06 10		10 07 10	
Suction filtre	art.	FB 40/FC 40		FB 40/FC 40		FB 50/FC 50	
Adjustable drip oiler	art.	00 VTL 00 11		00 VTL 00 11		00 VTL 00 11	

OIL-BATH VACUUM PUMPS MV 20 ÷ 300R and MV 20A ÷ 300RA

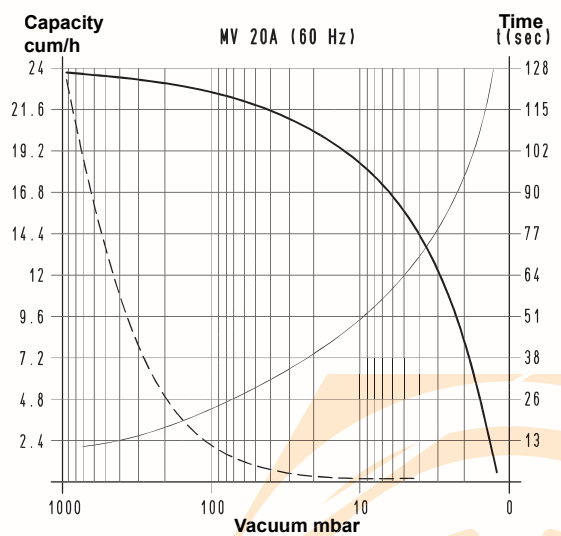
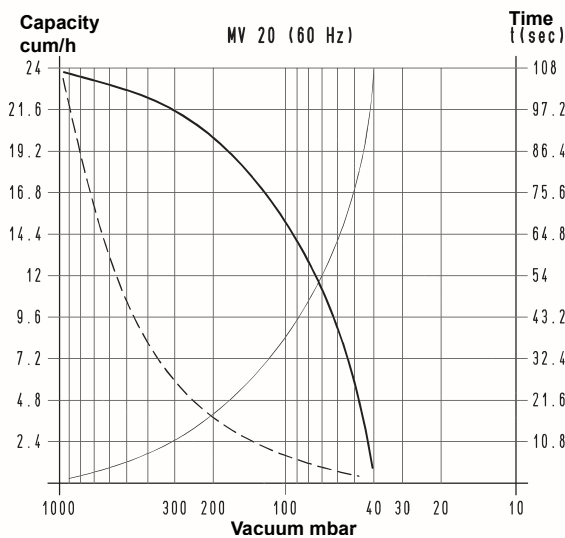
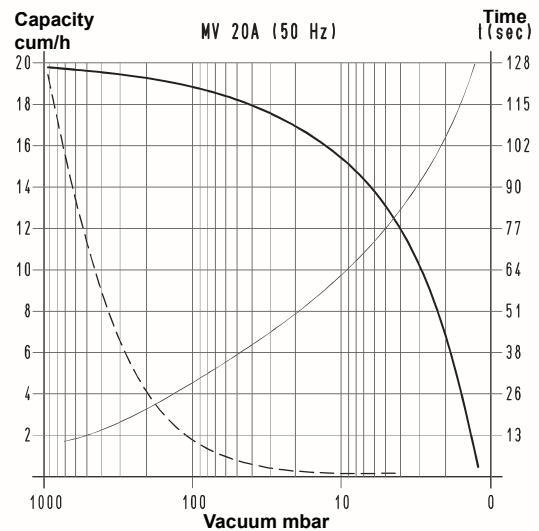
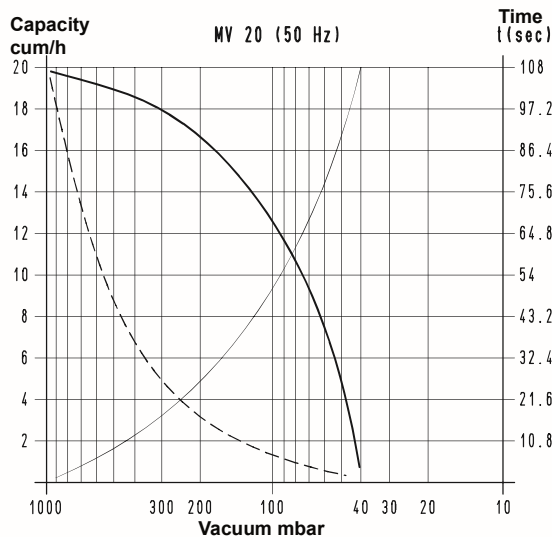


The single-stage oil-bath vane vacuum pumps of the MV series are activated by a standard electric motor coupled together via an elastic transmission joint. A centrifugal fan cantilevered-fitted onto the pump shaft guarantees the right airflow for cooling the pump unit (forced surface cooling).

A large oil recovery tank with built-in microfibre deoiling cartridges, located on the pump exhaust, serves as a silencer and as a fume collector. The oil contained in the system lubricates, cools and seals the rotating and the fixed parts of the pumps.

The standard check valve on the suction inlet is integral part of the pumps. Upon request, a filtre for trapping possible impurities can also be provided. Pumps included between the MV 20 and the MV 100 are set for the installation of a gas ballast valve (upon request) which allows for a high compatibility to water vapour. In the other pumps, starting from MV 160R up to MV 300R, the built-in gas ballast valve is a standard.

The features described above associated with a strong and compact construction make the pumps of the MV series suitable for continuous and intense use.

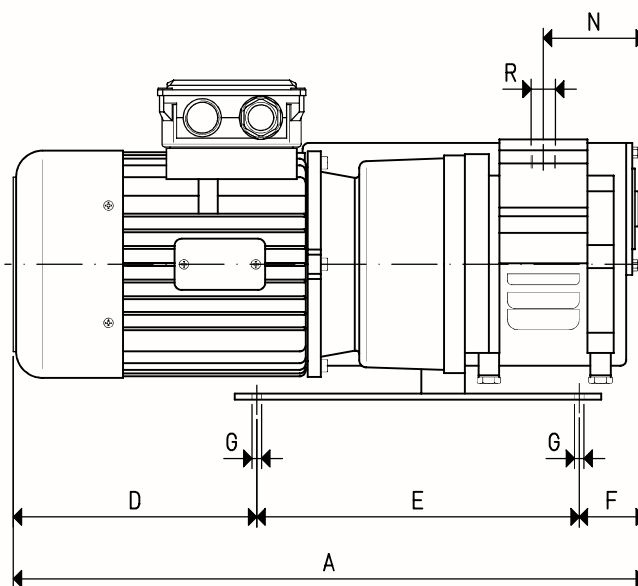
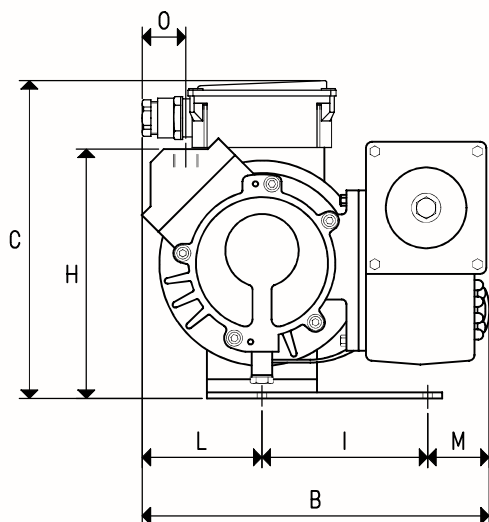


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

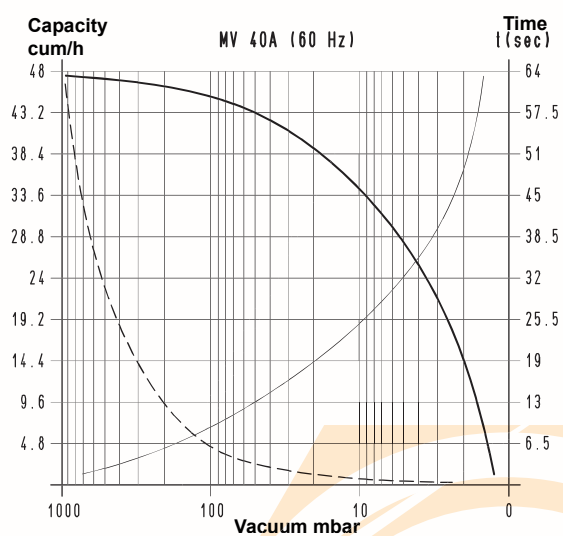
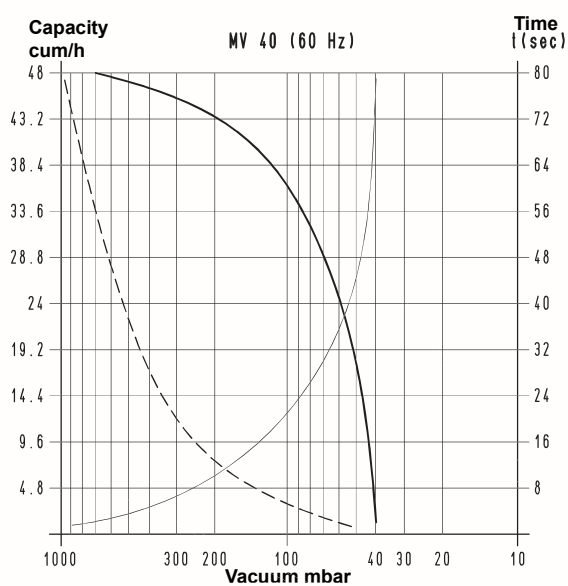
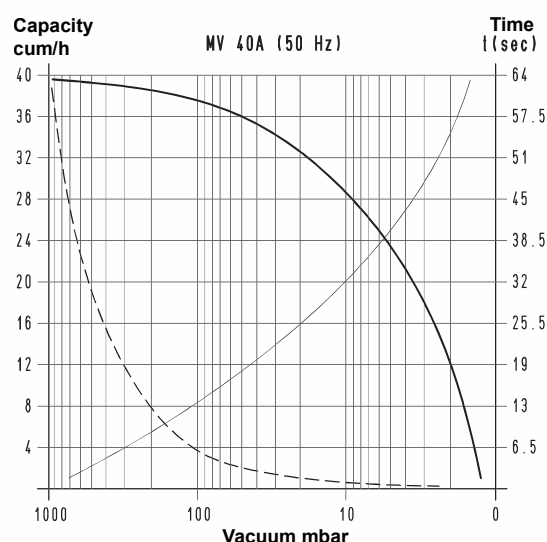
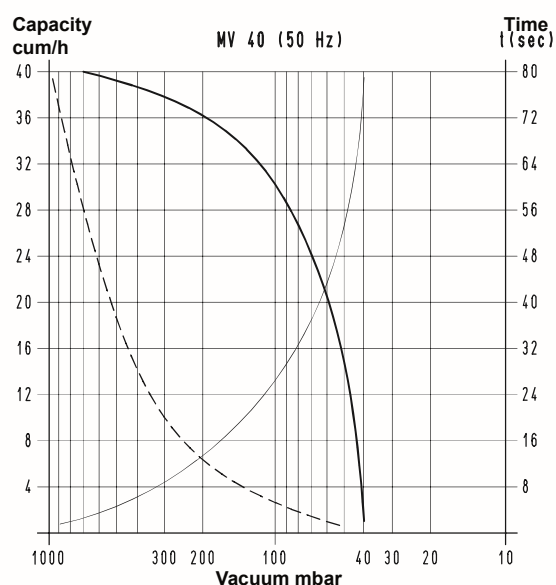
OIL-BATH VACUUM PUMPS MV 20 AND MV 20A



Art.		MV 20		MV 20A	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	20.0	24.0	20.0	24.0
Final pressure	mbar abs.	40		0.7	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.75	0.90	0.75	0.90
Kw	1~	0.75	0.90	0.75	0.90
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	2800	3350	2800	3350
Motor shape		B14		B14	
Motor size		80		80	
Noise level	dB(A)	64	66	64	66
Max. weight	3~	21.5		21.5	
Kg	1~	22.0		22.0	
A		425		425	
B		235		235	
C		215		215	
D		145		145	
E		220		220	
F		60		60	
G	Ø	6.5		6.5	
H		170		170	
I		113		113	
L		82		82	
M		40		40	
N		60		60	
O		30		30	
R	Ø gas	G1/2"		G1/2"	
Accessories and spare parts					
Oil load	l	0.70		0.70	
Synthetic oil	VT OIL	ISO 68		ISO 68	
Deoiling cartridge	art.	00 MV 20 11		00 MV 20 11	
3 vanes	art.	00 MV 20 10		00 MV 20 10	
Sealing kit	art.	00 KIT MV 20		00 KIT MV 20	
Check valve	art.	Built-in		Built-in	
Suction filtre	art.	FC 20		FC 20	
Ballast valve	art.	VZ 01		VZ 01	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: MV 20 M).

OIL-BATH VACUUM PUMPS MV 40 and MV 40A

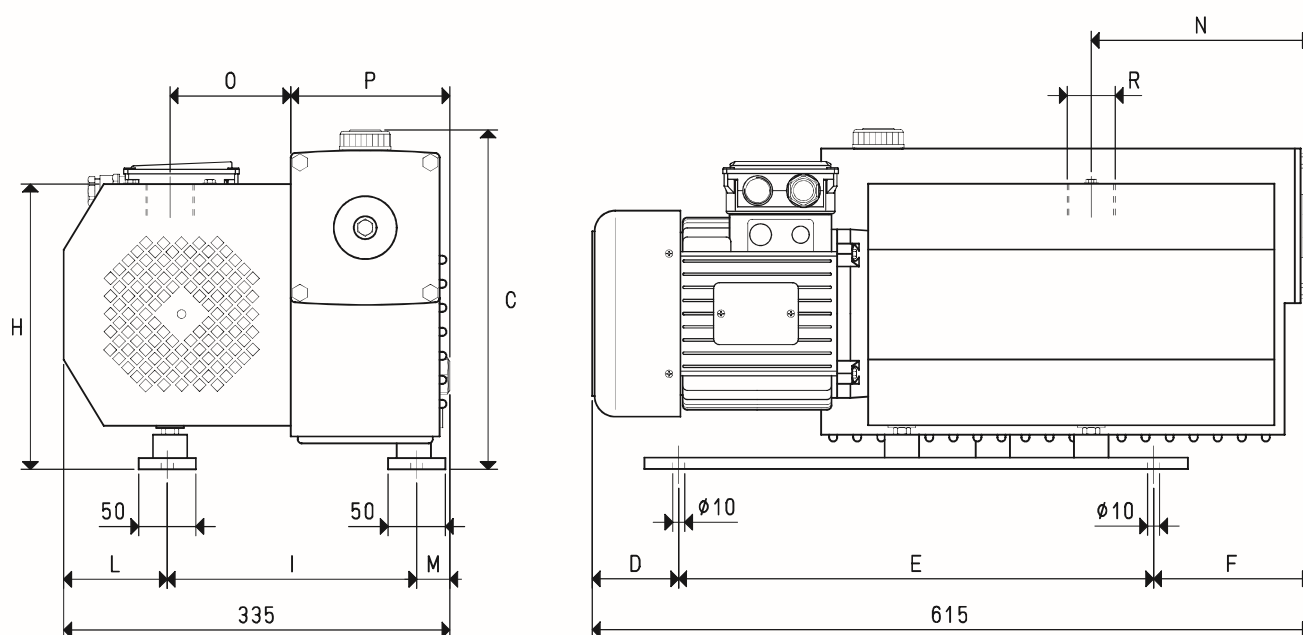


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 mbar pressure)
- Curve regarding the emptying of a 100-litre volume

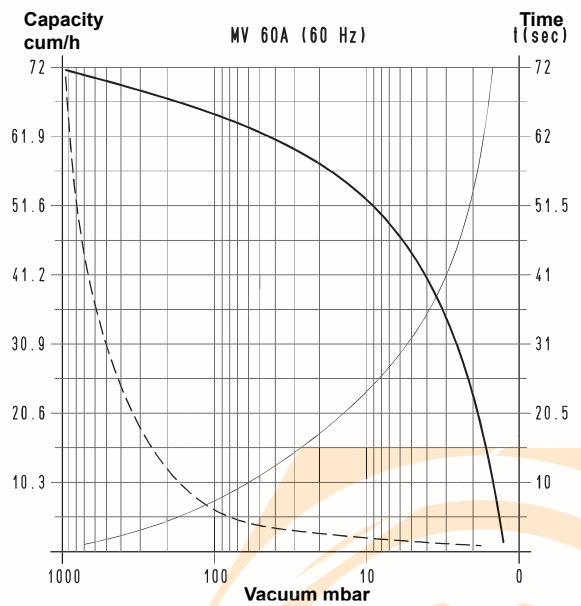
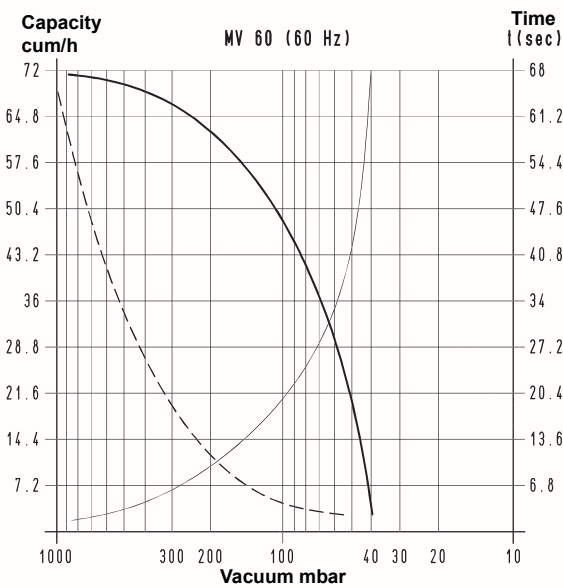
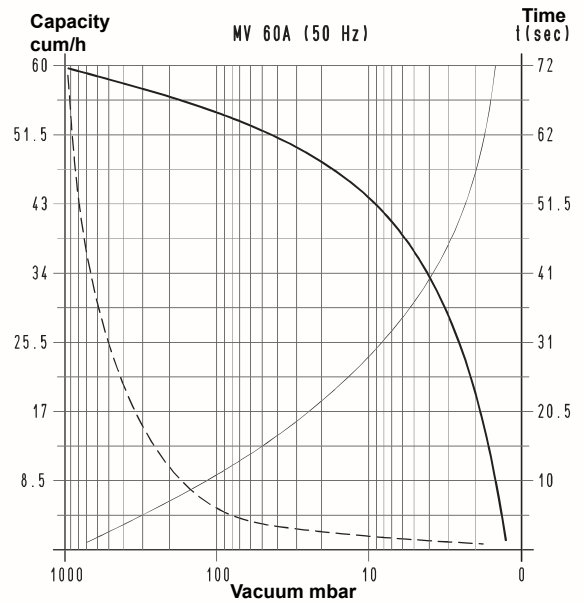
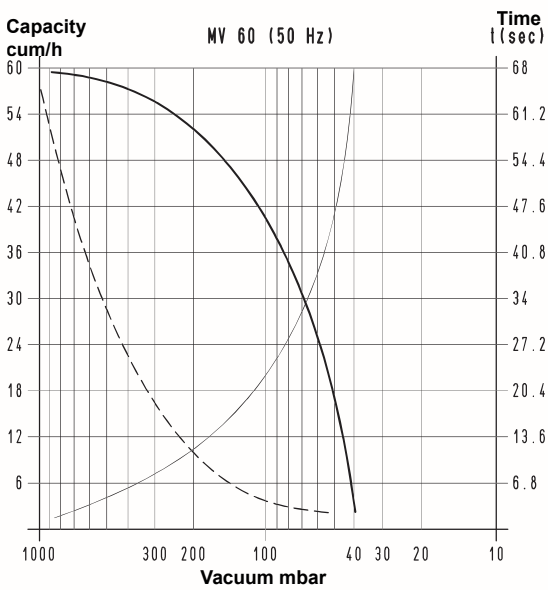
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

OIL-BATH VACUUM PUMPS MV 40 AND MV 40A



Art.		MV 40		MV 40A	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m ³ /h	40.0	48.0	40.0	48.0
Final pressure	mbar abs.	40		0.7	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt					
Motor power	3~	1.10	1.35	1.10	1.35
Kw					
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		B14		B14	
Motor size		90		90	
Noise level	dB(A)	66	68	66	68
Max. weight	3~	45.0		45.0	
Kg					
C		295		295	
D		63		63	
E		415		415	
F		137		137	
H		245		245	
I		210		210	
L		91		91	
M		34		34	
N		188		188	
O		100		100	
P		140		140	
R	Ø gas	G1"1/4		G1"1/4	
Accessories and spare parts					
Oil load	l	2.00		2.00	
Synthetic oil	VT OIL	ISO 68		ISO 68	
Deoiling cartridge	art.	00 MV 40 50		00 MV 40 50	
3 vanes	art.	00 MV 40 10		00 MV 40 10	
Sealing kit	art.	00 KIT MV 40		00 KIT MV 40	
Check valve	art.	Built-in		Built-in	
Suction filtre	art.	FC 35		FC 35	
Ballast valve	art.	VZ 02		VZ 02	

OIL-BATH VACUUM PUMPS MV 60 and MV 60A

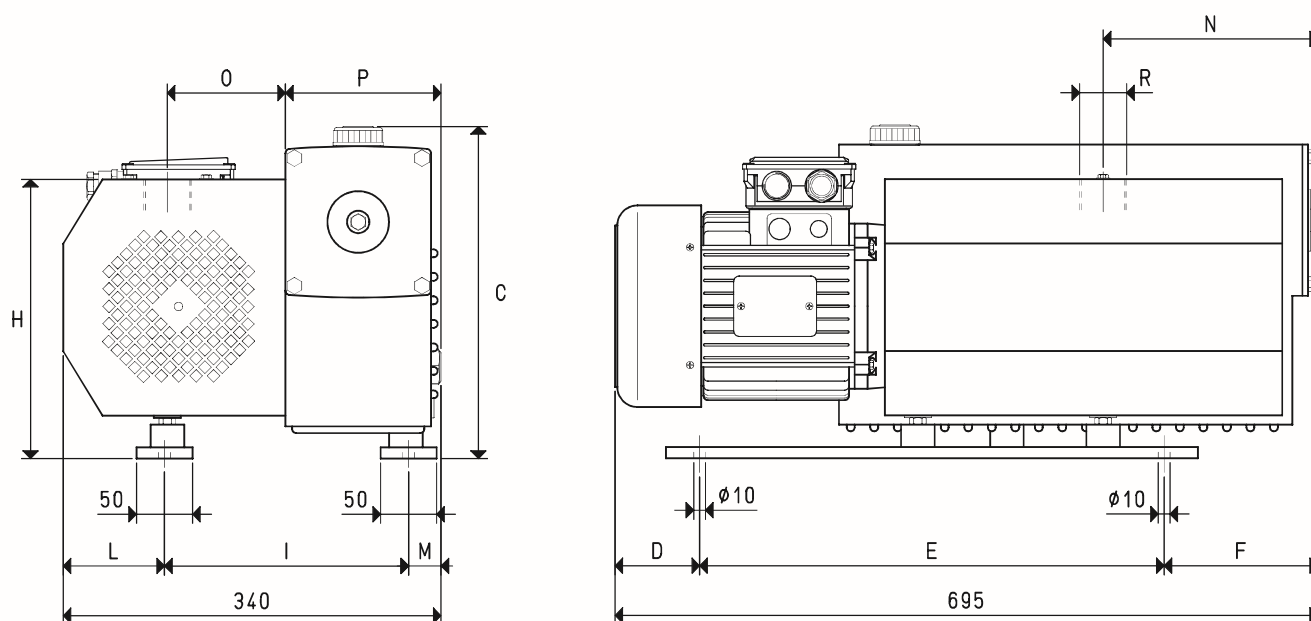


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

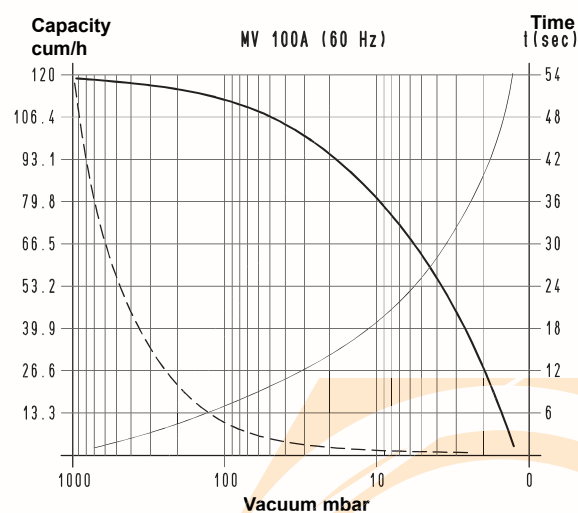
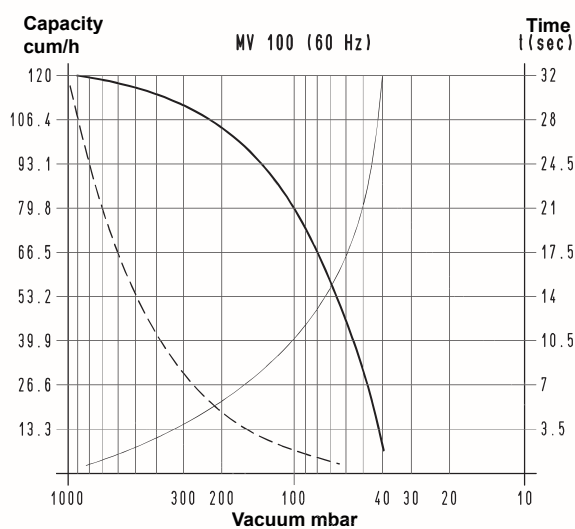
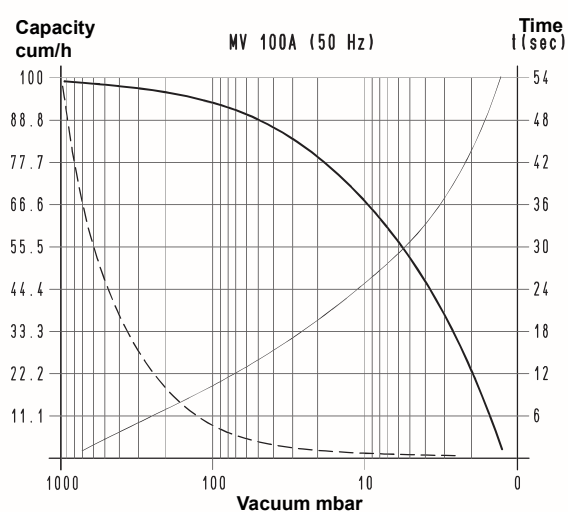
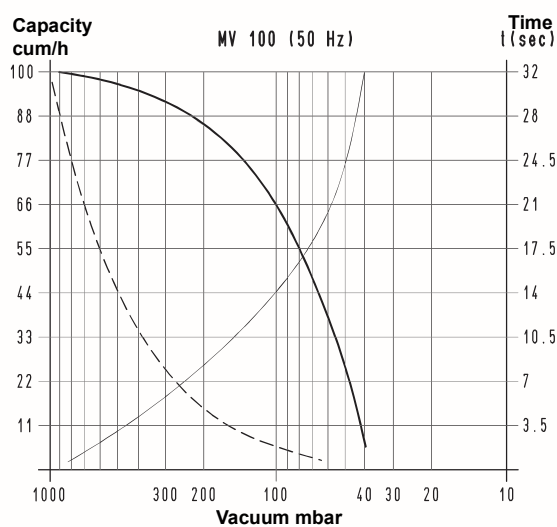
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

OIL-BATH VACUUM PUMPS MV 60 and MV 60A



Art.		MV 60		MV 60A	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	60.0	72.0	60.0	72.0
Final pressure	mbar abs.	40		0.7	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt					
Motor power	3~	1.50	1.80	1.50	1.80
Kw					
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		B14		B14	
Motor size		90		90	
Noise level	dB(A)	68	70	68	70
Max. weight	3~	53.0		53.0	
Kg					
C		300		300	
D		150		150	
E		415		415	
F		130		130	
H		248		248	
I		210		210	
L		100		100	
M		30		30	
N		184		184	
O		100		100	
P		140		140	
R	Ø gas	G1"1/4		G1"1/4	
Accessories and spare parts					
Oil load	l	2.00		2.00	
Synthetic oil	VT OIL	ISO 68		ISO 68	
Deoiling cartridge	art.	00 MV 60 50		00 MV 60 50	
3 vanes	art.	00 MV 60 10		00 MV 60 10	
Sealing kit	art.	00 KIT MV 60		00 KIT MV 60	
Check valve	art.	Built-in		Built-in	
Suction filtre	art.	FC 35		FC 35	
Ballast valve	art.	VZ 02		VZ 02	

OIL-BATH VACUUM PUMPS MV 100 and MV 100A

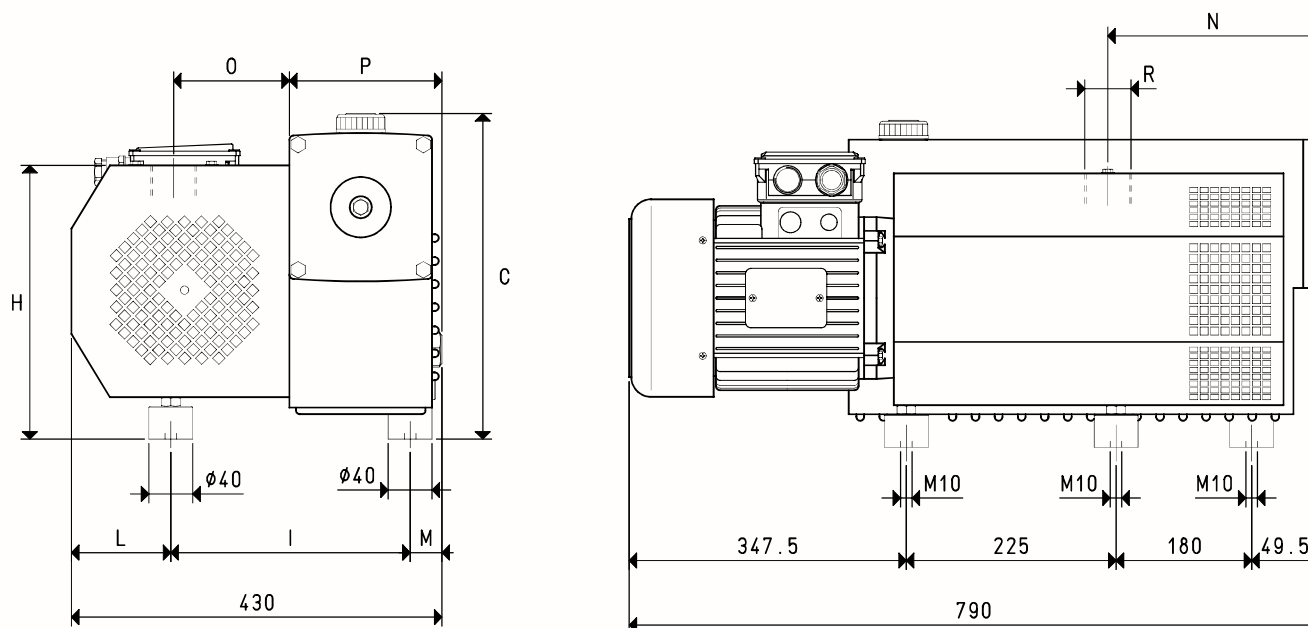


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

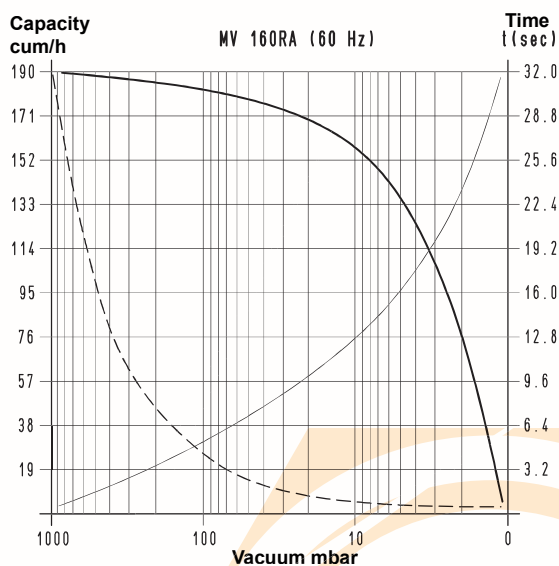
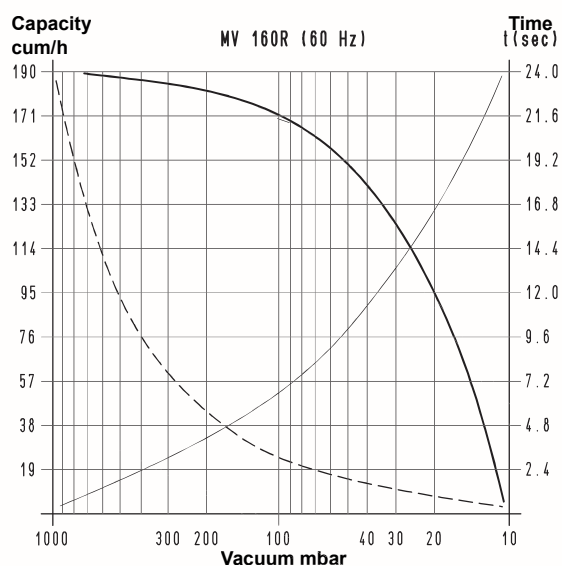
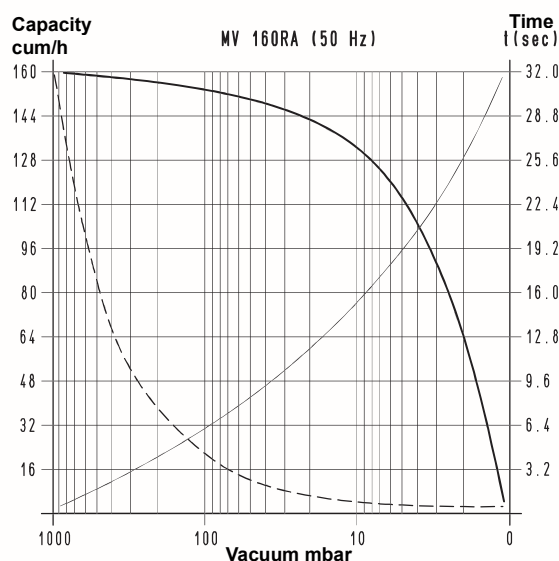
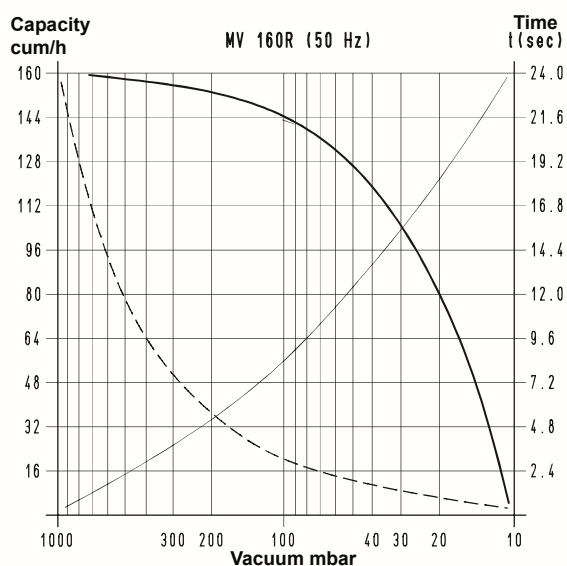
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

OIL-BATH VACUUM PUMPS MV 100 and MV 100A



Art.		MV 100		MV 100A	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m ³ /h	100.0	120.0	100.0	120.0
Final pressure	mbar abs.	40		0.7	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt					
Motor power	3~	2.20	2.70	2.20	2.70
Kw					
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		B14		B14	
Motor size		100		100	
Noise level	dB(A)	68	70	68	70
Max. weight	3~	80.0		80.0	
Kg					
C		330		330	
H		290		290	
I		275		275	
L		115		115	
M		40		40	
N		240		240	
O		130		130	
P		180		180	
R	Ø gas	G1"1/4		G1"1/4	
Accessories and spare parts					
Oil load	l	3.50		3.50	
Synthetic oil	VT OIL	ISO 100		ISO 100	
2 deoiling cartridges	art.	00 MV 100 06		00 MV 100 06	
3 vanes	art.	00 MV 100 10		00 MV 100 10	
Sealing kit	art.	00 KIT MV 100		00 KIT MV 100	
Check valve	art.	Built-in		Built-in	
Suction filtre	art.	FC 35		FC 35	
Ballast valve	art.	VZ 02		VZ 02	

OIL-BATH VACUUM PUMPS MV 160R and MV 160RA



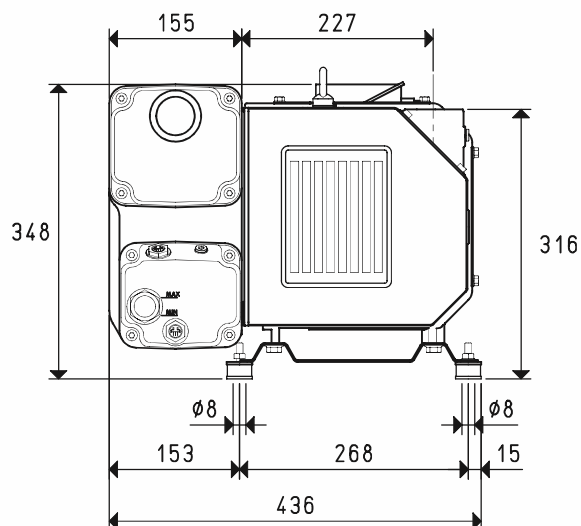
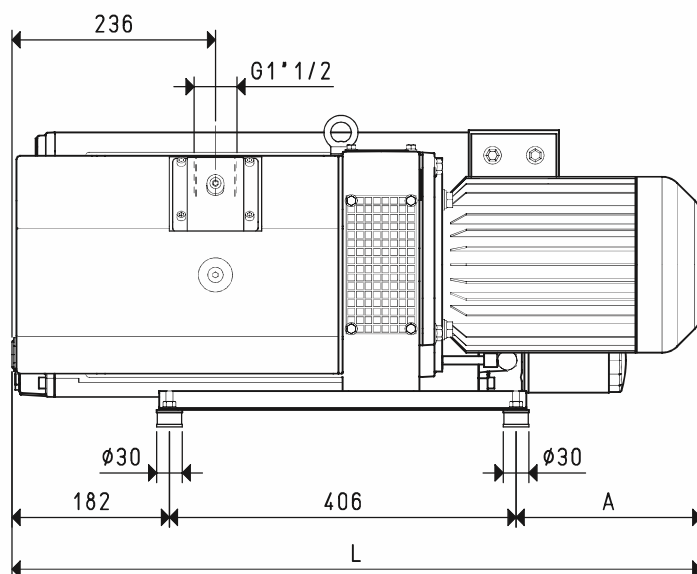
To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

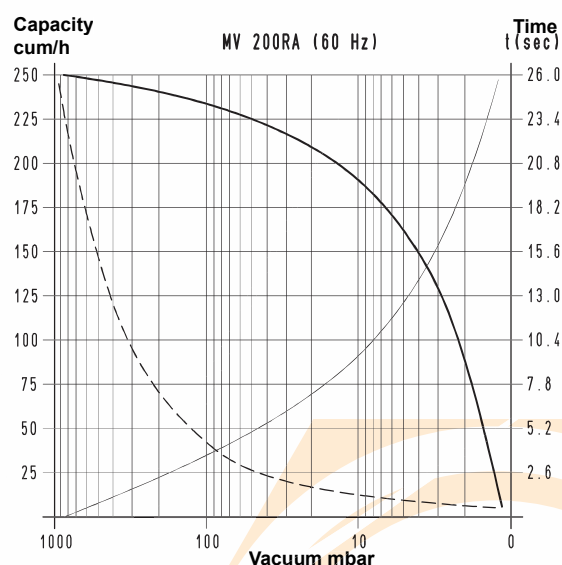
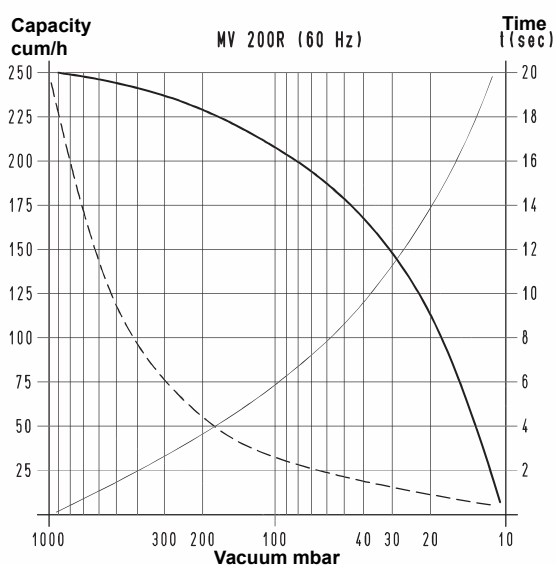
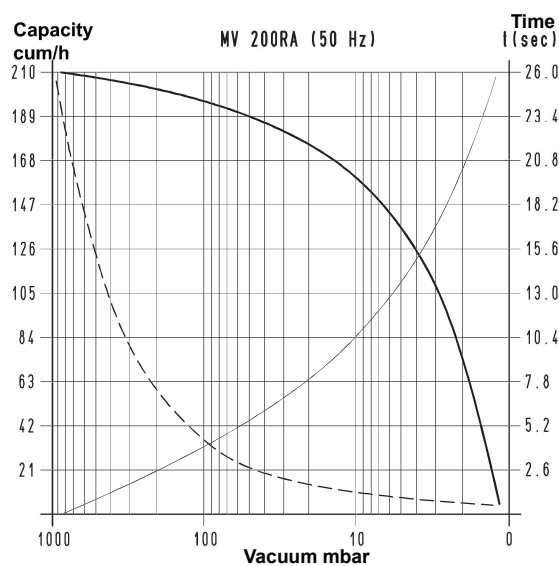
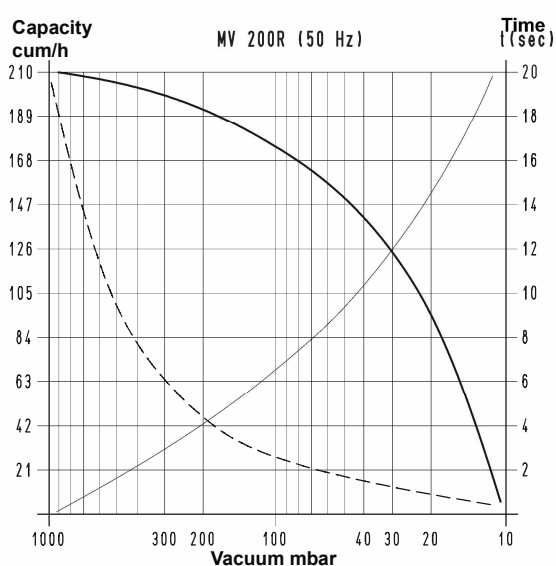
OIL-BATH VACUUM PUMPS

MV 160R and MV 160RA



Art.		MV 160R		MV 160RA	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	150	180	150	180
Final pressure	mbar abs.	10		0.5	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt					
Motor power	3~	3.0	4.0	3.0	4.0
Kw					
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	1500	1800	1500	1800
Motor shape		B5		B5	
Motor size		100		100	
Noise level	dB(A)	71	72	71	72
Max. weight	3~	104	110	104	110
Kg					
A		217	226	217	226
L		805	814	805	814
Accessories and spare parts					
Oil load	l	3.0		3.0	
Synthetic oil	VT OIL	ISO 100		ISO 100	
2 deoiling cartridges	art.	00 MV 160R 06		00 MV 160R 06	
3 vanes	art.	00 MV 160R 10		00 MV 160R 10	
Sealing kit	art.	00 KIT MV 160R		00 KIT MV 160R	
Check valve	art.	Built-in		Built-in	
Oil filter	art.	00 MV 160R 07		00 MV 160R 07	
Suction filter	art.	FC 50		FC 50	
Ballast valve	art.	Built-in		Built-in	

OIL-BATH VACUUM PUMPS MV 200R and MV 200RA

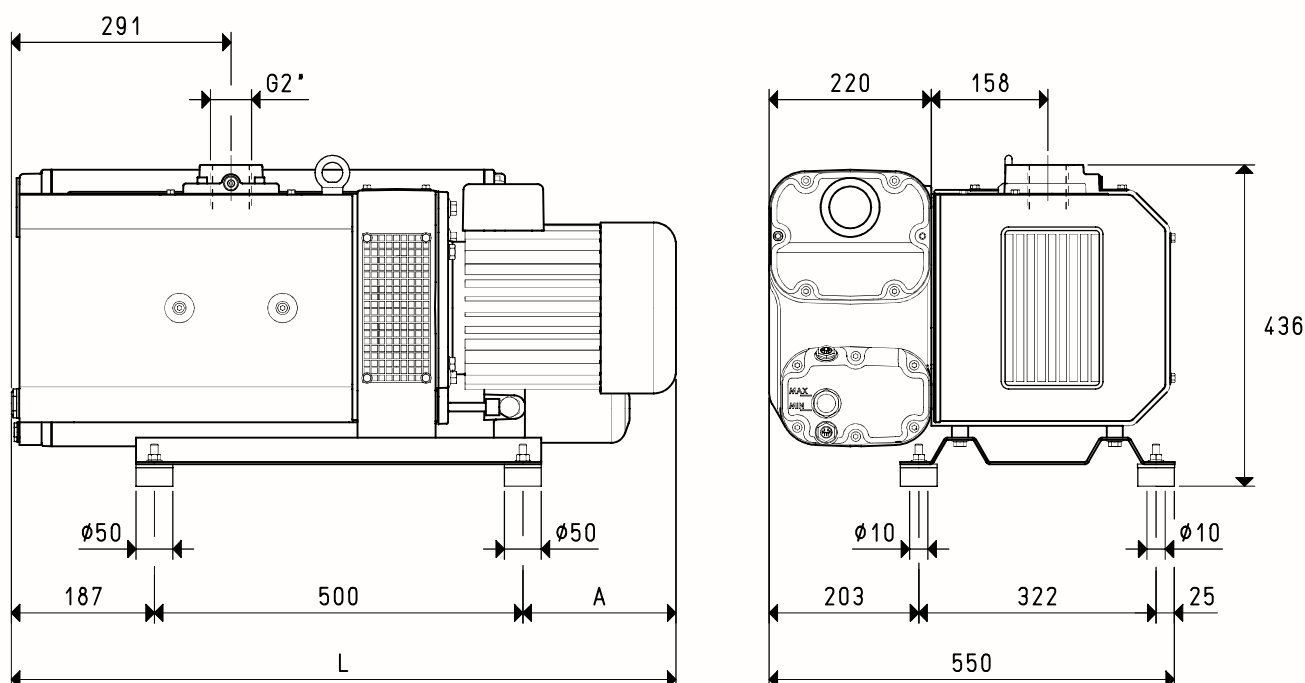


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

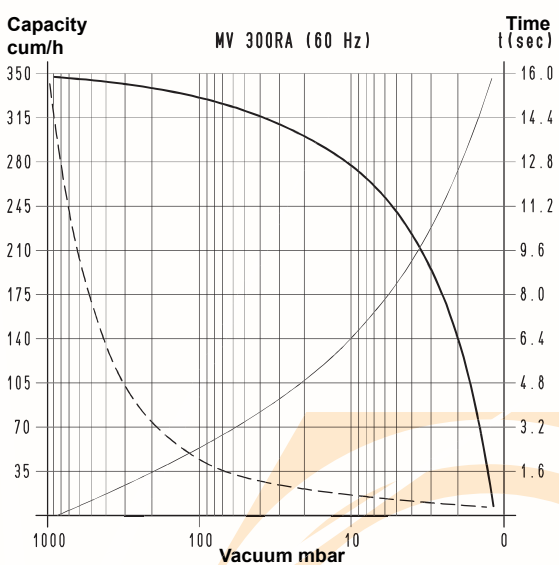
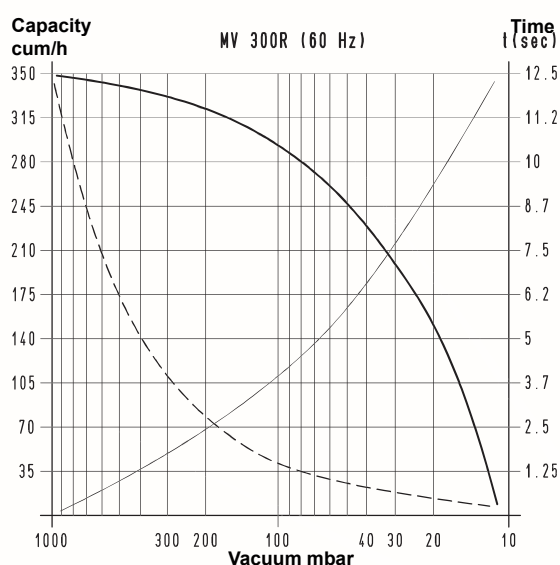
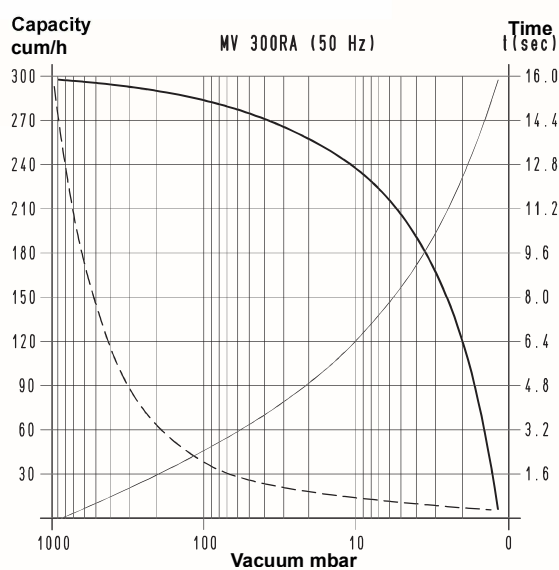
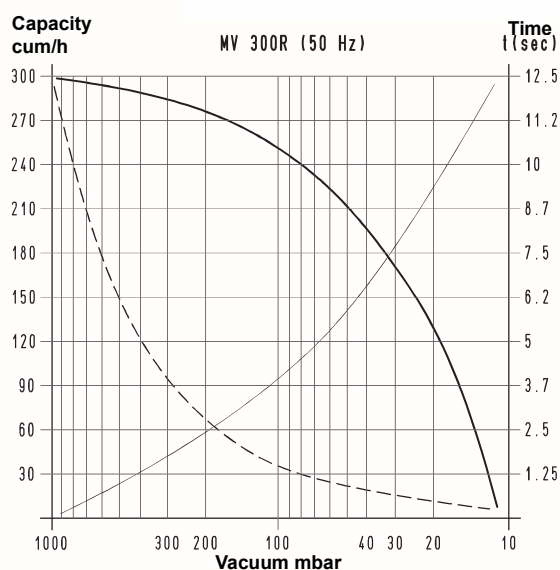
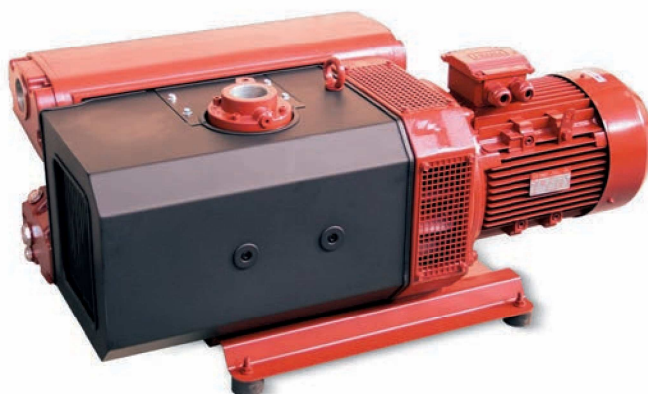
V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

OIL-BATH VACUUM PUMPS MV 200R and MV 200RA



Art.		MV 200R		MV 200RA	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	205	245	205	245
Final pressure	mbar abs.	10		0.5	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt					
Motor power	3~	4.0	5.5	4.0	5.5
Kw					
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	1500	1800	1500	1800
Motor shape		B5		B5	
Motor size		112		112	
Noise level	dB(A)	70	72	70	72
Max. weight	3~	161	171	161	171
Kg					
A		208	257	208	257
L		895	944	895	944
Accessories and spare parts					
Oil load	l	7.0		7.0	
Synthetic oil	VT OIL	ISO 100		ISO 100	
2 deoiling cartridges	art.	00 MV 200R 50		00 MV 200R 50	
3 vanes	art.	00 MV 200R 10		00 MV 200R 10	
Sealing kit	art.	00 KIT MV 200R		00 KIT MV 200R	
Check valve	art.	Built-in		Built-in	
Oil filter	art.	00 MV 200R 07		00 MV 200R 07	
Suction filter	art.	FC 60		FC 60	
Ballast valve	art.	Built-in		Built-in	

OIL-BATH VACUUM PUMPS MV 300R and MV 300RA



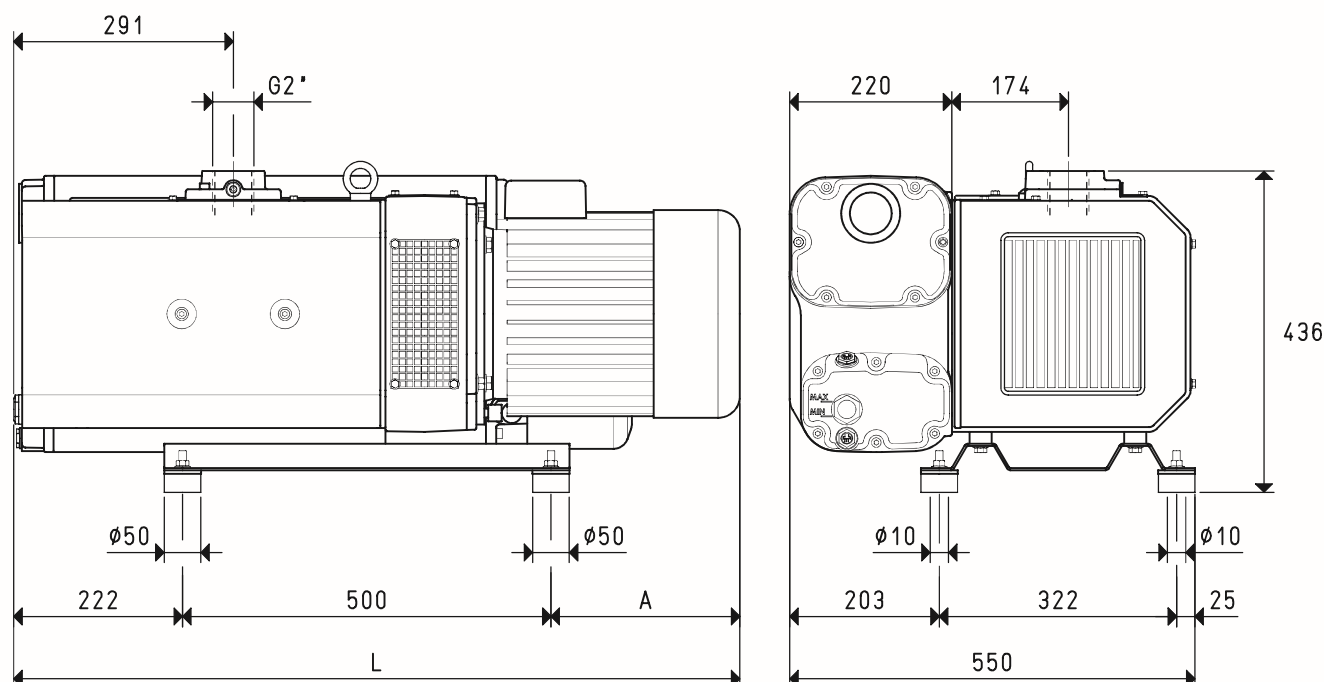
To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

OIL-BATH VACUUM PUMPS

MV 300R and MV 300RA



Art.		MV 300R		MV300RA	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	300	350	300	350
Final pressure	mbar abs.	10		0.5	
Motor execution	3~	400/650±10%	480/828±10%	400/650±10%	480/828±10%
Volt					
Motor power	3~	5.5	7.5	5.5	7.5
Kw					
Motor protection	IP	55		55	
Rotation speed	rev/min ⁻¹	1500	1800	1500	1800
Motor shape		B5		B5	
Motor size		112		112	
Noise level	dB(A)	71	73	71	73
Max. weight	3~	188	192	188	192
Kg					
A		257		297	
L		979		1019	
Accessories and spare parts					
Oil load	l	7.0		7.0	
Synthetic oil	VT OIL	ISO 100		ISO 100	
3 deoiling cartridges	art.	00 MV 300R 50		00 MV 300R 50	
3 vanes	art.	00 MV 300R 10		00 MV 300R 10	
Sealing kit	art.	00 KIT MV 300R		00 KIT MV 300R	
Check valve	art.	Built-in		Built-in	
Oil filtre	art.	00 MV 300R 07		00 MV 300R 07	
Suction filtre	art.	FC 60		FC 60	
Ballast valve	art.	Built-in		Built-in	

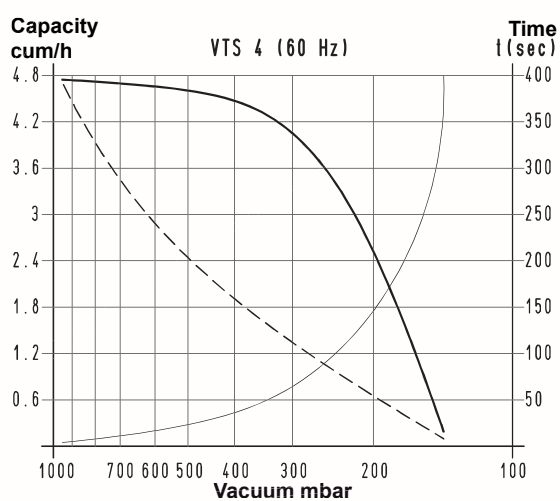
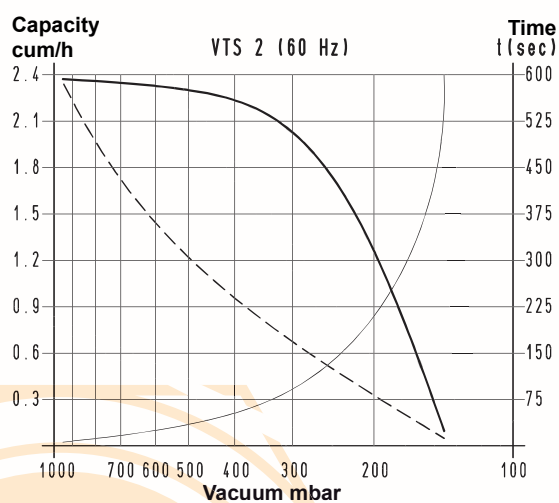
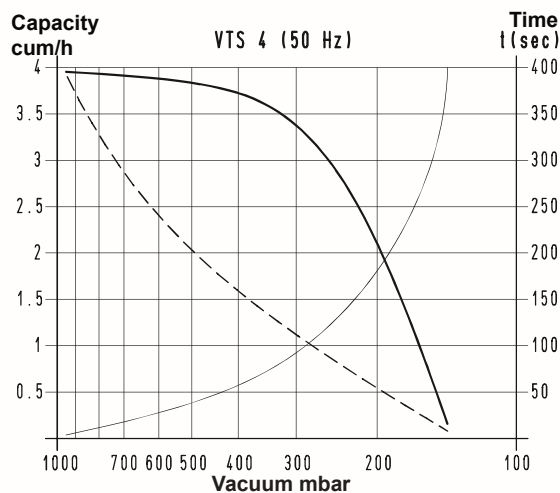
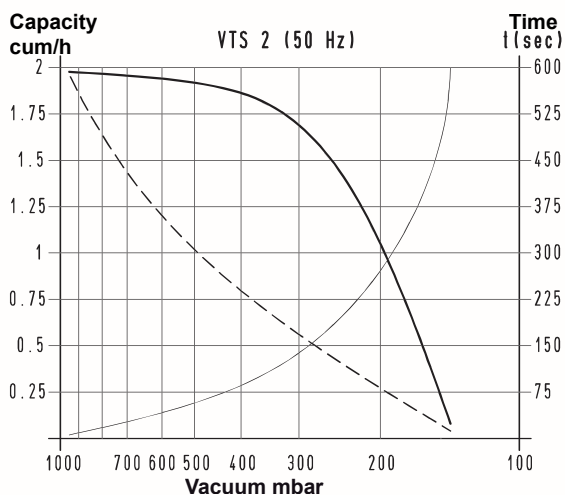
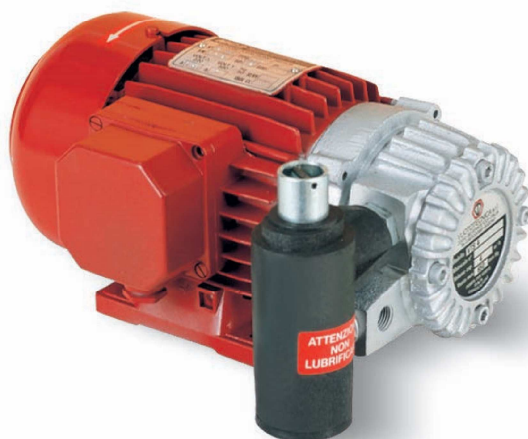
DRY VACUUM PUMPS VTS 2 AND 4

These small dry vacuum pumps have a suction capacity of 2 and 4 cum/h. The particular shape of the working chamber and the special graphite, with which the locking flanges and vanes are made, allow these pumps to operate with no lubrication.

The rotor is cantilevered-fitted on the motor shaft, thus reducing overall dimensions to the minimum. The motor and the pump are cooled by the motor fan (surface cooling). A filtre that functions as a silencer is installed on the suction inlet.

We strongly recommend installing a filtre on the suction inlet against possible impurities. These pumps are **not recommended** when the fluid to be sucked contains water or oil vapours or condensations.

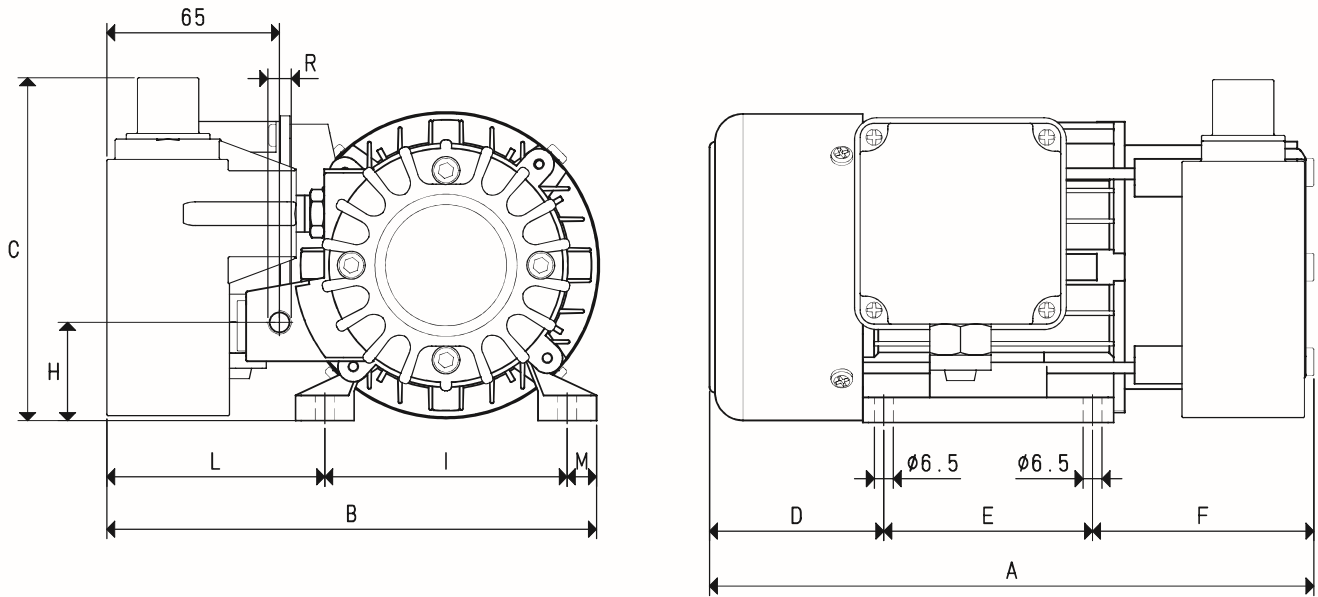
Vacuum pumps VTS 2 and 4 can also be supplied with single-phase electric motor.



To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 mbar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)



Art.		VTS 2		VTS 4	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	2.0	2.4	4.0	4.8
Final pressure	mbar abs.	150		150	
Motor execution	3~	230/400±10%		230/400±10%	
Volt	1~	230±10%		230±10%	
Motor power	3~	0.13	0.15	0.15	0.18
Kw	1~	0.13	0.15	0.15	0.18
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	2800	3300	2800	3300
Motor shape		Special		Special	
Motor size		56		63	
Noise level	dB(A)	64	66	64	66
Max. weight	3~	5.3		6.8	
Kg	1~	5.5		7.0	
A		217		251	
B		180		186	
C		121		131	
D		66		78	
E		71		81	
F		80		92	
H		35		45	
I		90		100	
L		79		73	
M		11		13	
R	Ø gas	G1/4"		G1/4"	
Accessories and spare parts					
4 graphite vanes	art.	00 VTS 02 10		00 VTS 04 10	
Perforated graphite disc	art.	00 VTS 02 12		00 VTS 02 12	
Non-perforated graphite disc	art.	00 VTS 02 16		00 VTS 02 16	
Sealing kit	art.	00 KIT VTS 02		00 KIT VTS 04	
Check valve	art.	10 01 15		10 01 15	
Suction filtre	art.	FB 5		FB 5	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTS 2 M).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

cfm= cum/h x 0.588; inch Hg= mbar x 0.0295; psi= bar (g) x 14.6

DRY VACUUM PUMPS VTS 6 DC WITH DC MOTOR

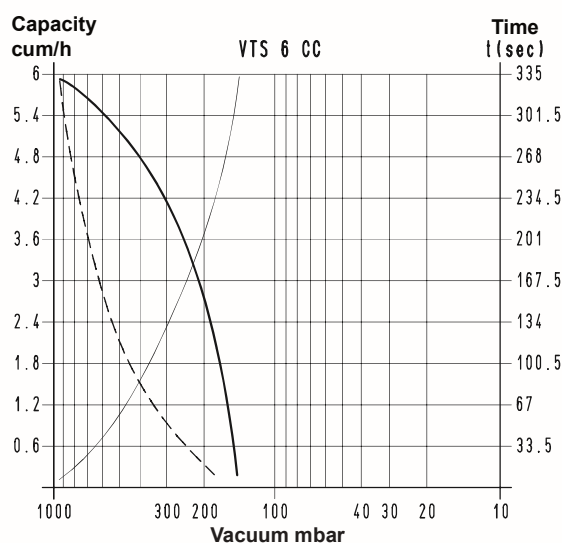
The extremely reduced size, the excellent final vacuum level that can be reached, the total absence of lubrication and the DC motor with which it is equipped, are the main features of this rotating vane vacuum pump.

This pump has a monobloc structure with the rotor fitted directly on the motor shaft. Both the motor and the pump are cooled by the motor fan (surface cooling).

A filtre that functions as a silencer is installed on the suction inlet.

We strongly recommend installing a filtre on the suction inlet against possible impurities. These pumps are **not recommended** when the fluid to be sucked contains water or oil vapours or condensations.

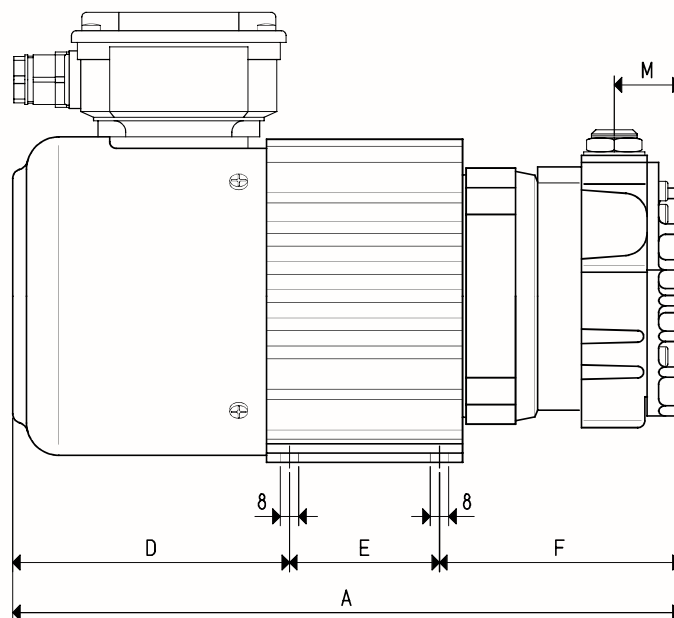
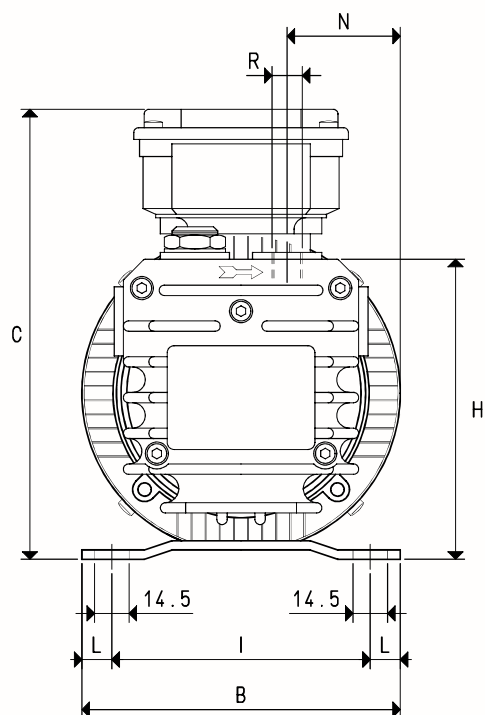
Pumps VTS 6 DC can only be supplied with DC motor (service S1) conform with the EMC (89/336/EEC) Directive.



To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- ... Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)



Art.		VTS 6 CC
Capacity	m ³ /h	6.0
Final pressure	mbar abs.	150
Motor execution	Volt	24 CC
Motor power	Kw	0.28
Max. absorption at 24V/CC	A	15
Motor protection	IP	54
Rotation speed	rev/min ⁻¹	3000
Motor shape		Special
Motor size		71
Noise level	dB(A)	72
Max. weight	Kg	9.5
A		290
B		136
C		193
D		124
E		65
F		101
H		131
I		112
L		12
M		28
N		48
R	Ø gas	G1/4"
Accessories and spare parts		
4 vanes	art.	00 VTS 06 CC 10
Sealing kit	art.	00 KIT VTS 06 CC
Check valve	art.	10 01 15
Suction filtre	art.	FB 5

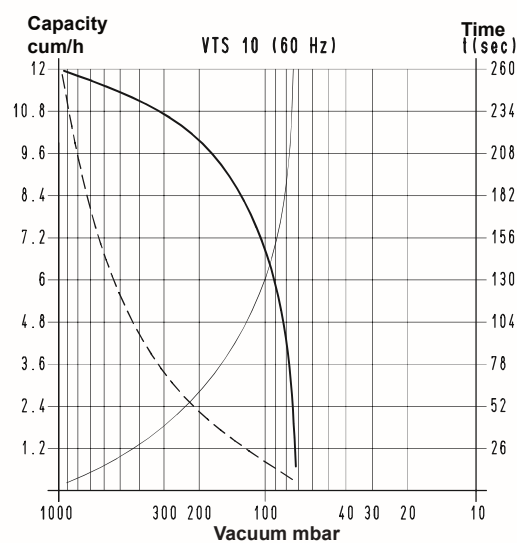
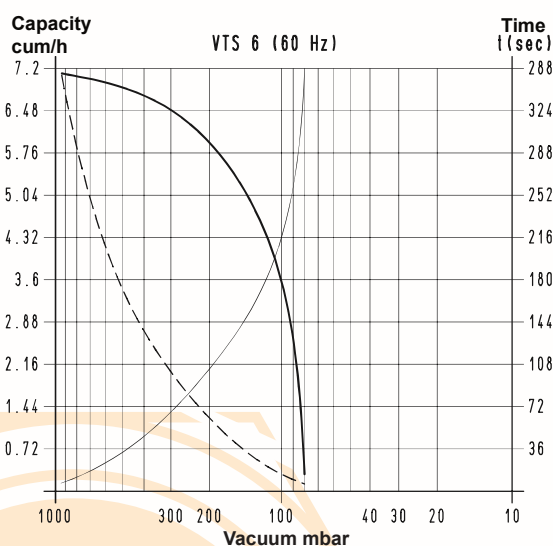
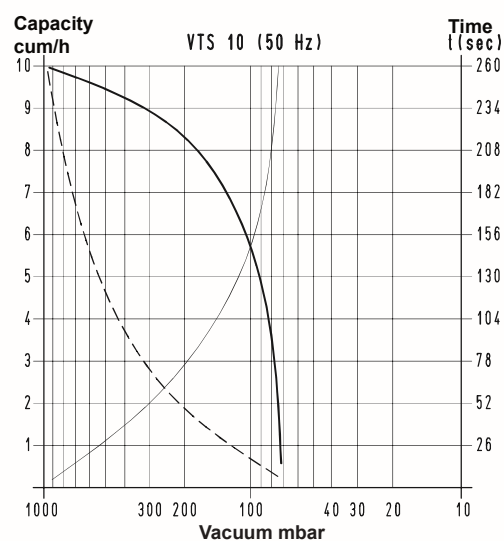
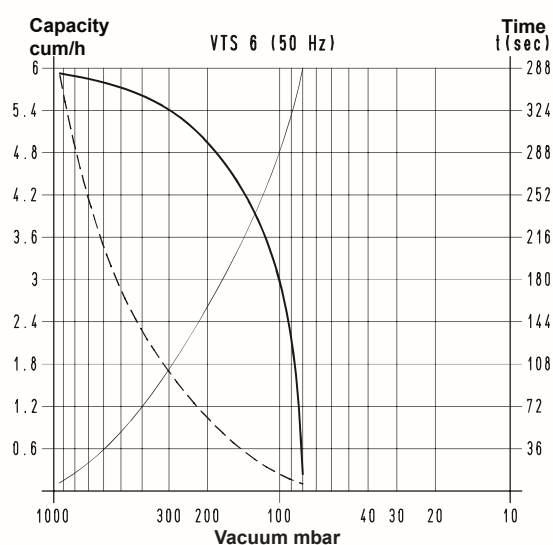
DRY VACUUM PUMPS VTS 6 and 10

These dry vacuum pumps have a suction capacity of 6 and 10 cum/h. The particular shape of the working chamber and the special graphite, with which the locking flanges and vanes are made, allow these pumps to operate without any lubrication.

The rotor is cantilevered-fitted on the motor shaft, thus reducing overall dimensions to the minimum. The motor and the pump are cooled by the motor fan (surface cooling). A filtre that functions as a silencer is installed on the suction inlet..

We strongly recommend installing a filtre on the suction inlet against possible impurities. These pumps are **not recommended** when the fluid to be sucked contains water or oil vapours or condensations.

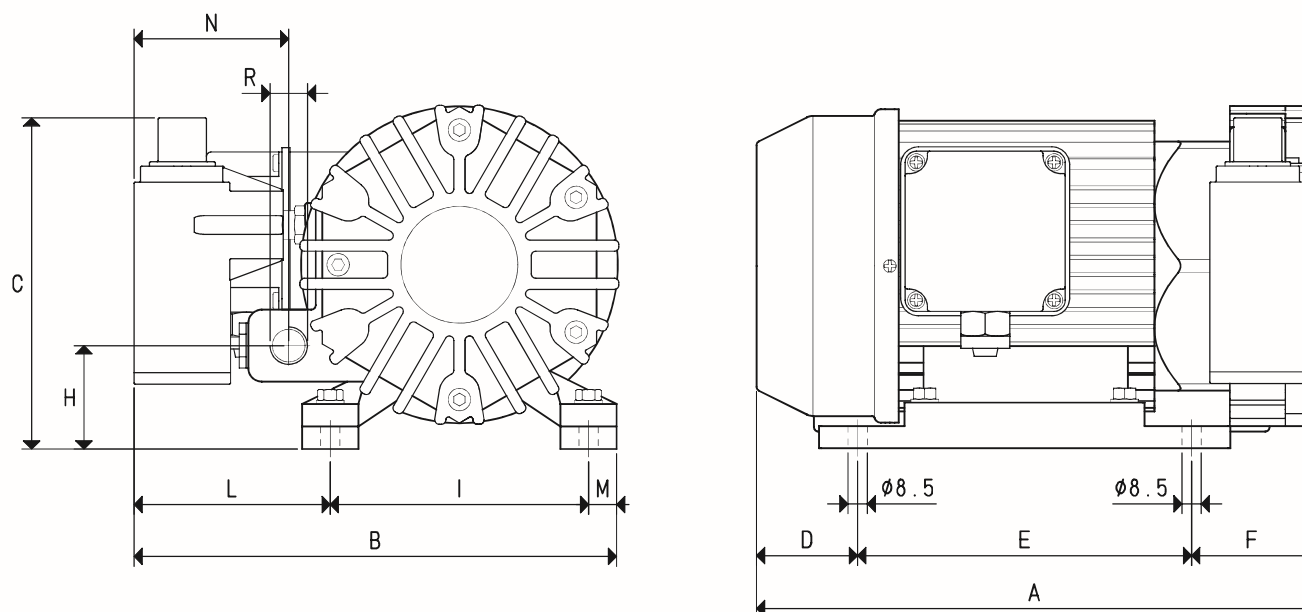
Pumps VTS 6 and 10 can also be supplied with single-phase electric motor.



To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 mbar pressure)
- ... Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)



Art.		VTS 6		VTS 10	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	6.0	7.2	10.0	12.0
Final pressure	mbar abs.	80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.25	0.30	0.35	0.40
Kw	1~	0.18	0.21	0.25	0.30
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		Special		Special	
Motor size		71		71	
Noise level	dB(A)	64	66	64	66
Max. weight	3~	11.8		15.0	
Kg	1~	12.0		15.2	
A		268		298	
B		210		180	
C		156		156	
D		55		55	
E		155		155	
F		58		88	
H		43		53	
I		115		115	
L		82.5		52.5	
M		12.5		12.5	
N		68		13	
R	Ø gas	G1/4"		G3/8"	
Accessories and spare parts					
6 graphite vanes	art.	00 VTS 06 10		00 VTS 10 10	
Front graphite disc	art.	00 VTS 06 08		00 VTS 10 12	
Rear graphite disc	art.	00 VTS 06 13		00 VTS 10 19	
Sealing kit	art.	00 KIT VTS 06		00 KIT VTS 10	
Check valve	art.	10 01 15		10 02 10	
Suction filtre	art.	FB 5		FB 10/FC 10	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTS 6 M).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

cfm= cum/h x 0.588; inch Hg= mbar x 0.0295; psi= bar (g) x 14.6

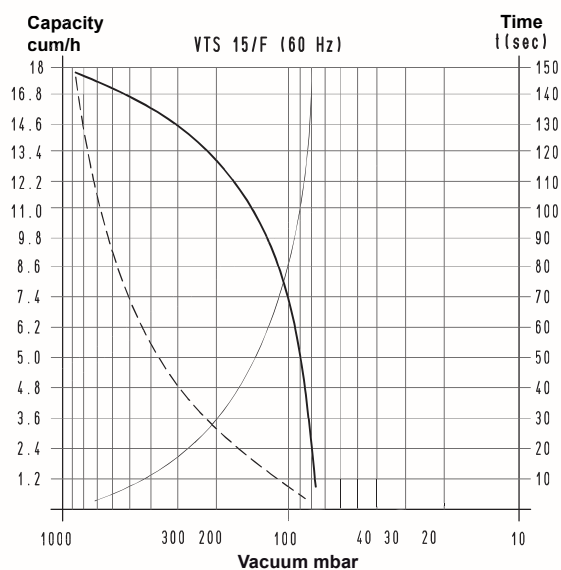
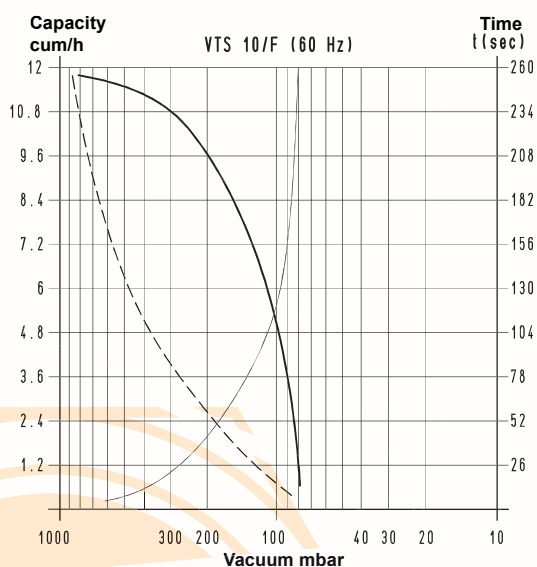
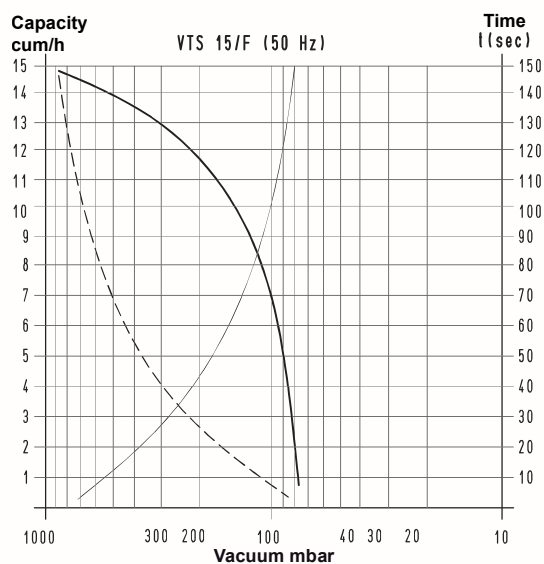
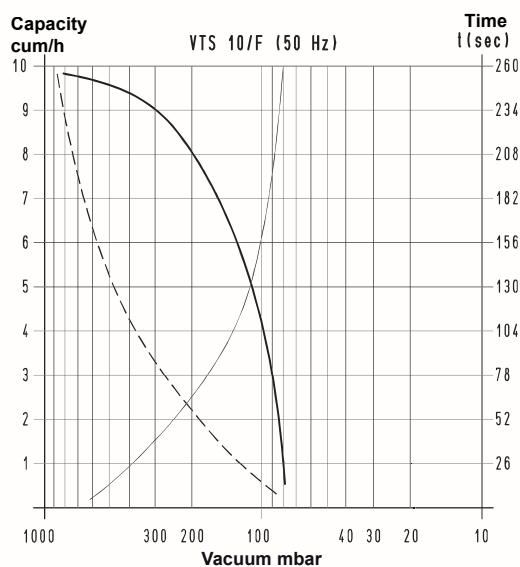
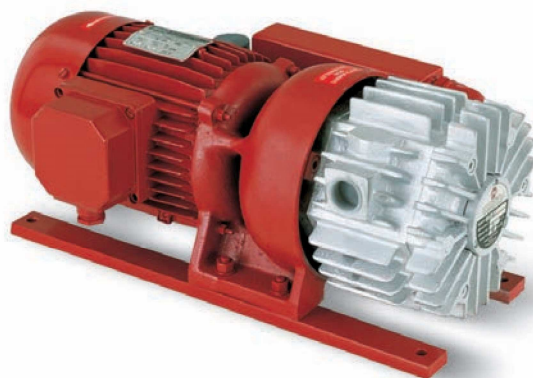
DRY VACUUM PUMPS VTS 10/F, 15/F, 20/F and 25/F

These lubrication-free rotating vane vacuum pumps have a suction capacity of 10, 15, 20 and 25 cum/h. The particular shape of the working chamber and the special graphite, with which the locking flanges and vanes are made, allow these pumps to operate with no lubrication.

The pump rotor is fitted on the motor shaft and supported by independent bearings located on both the pump locking flanges. The pump is surface-cooled; the heat is dispersed from the especially finned external surface by a radial fan located between the motor and the pump.

A filtre that functions as a silencer is installed on the suction inlet. We strongly recommend installing a filtre on the suction inlet against possible impurities. These pumps are **not recommended** when the fluid to be sucked contains water or oil vapours or condensations.

This range of pumps can be also supplied with single-phase electric motors.

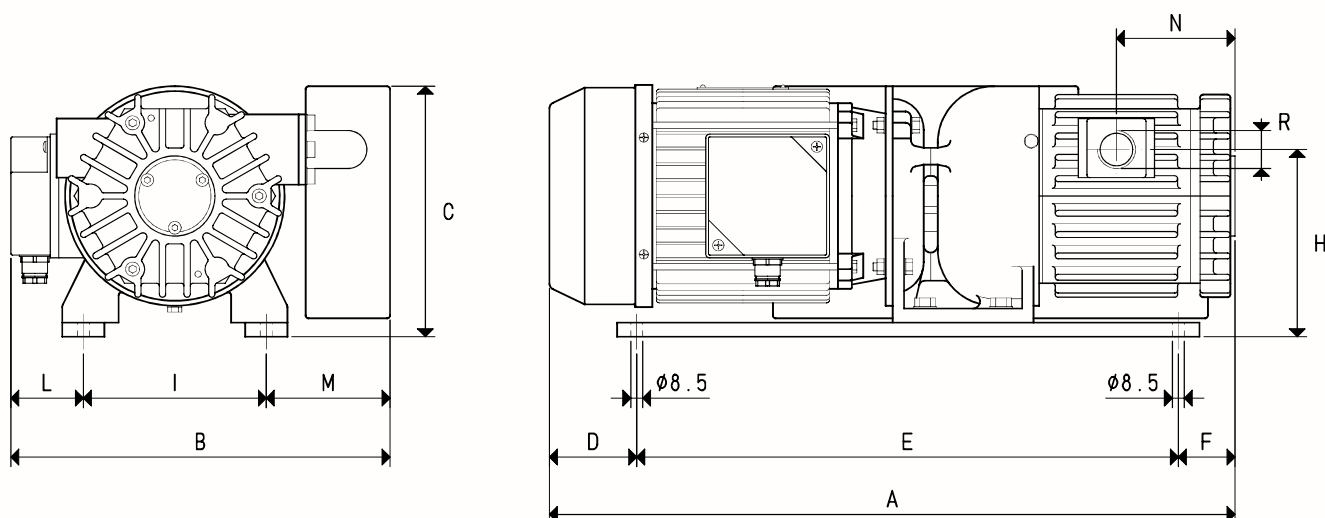


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

DRY VACUUM PUMPS VTS 10/F and 15/F



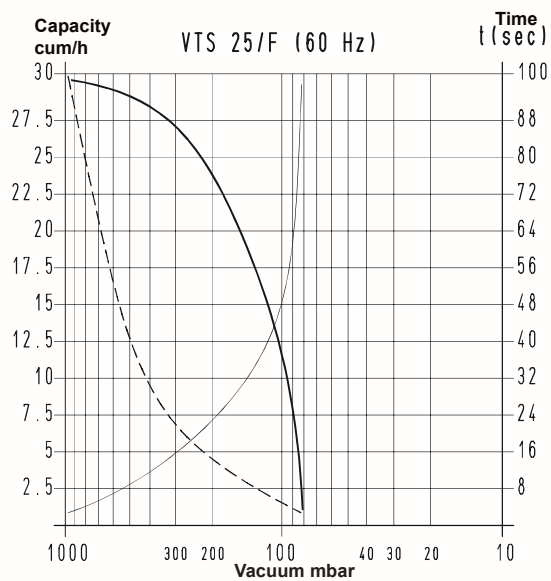
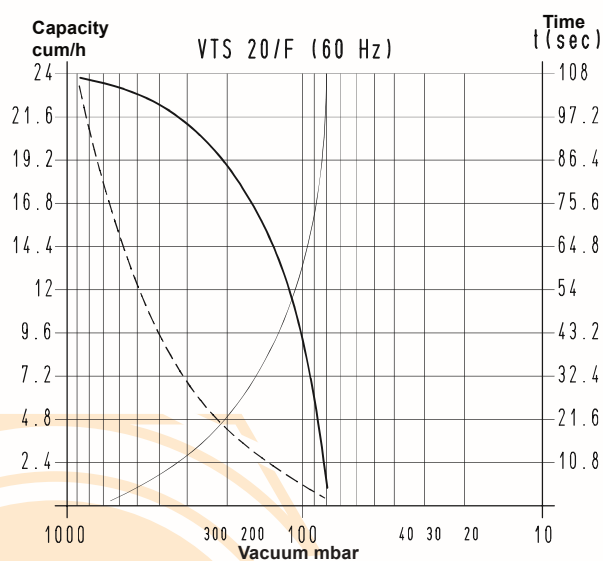
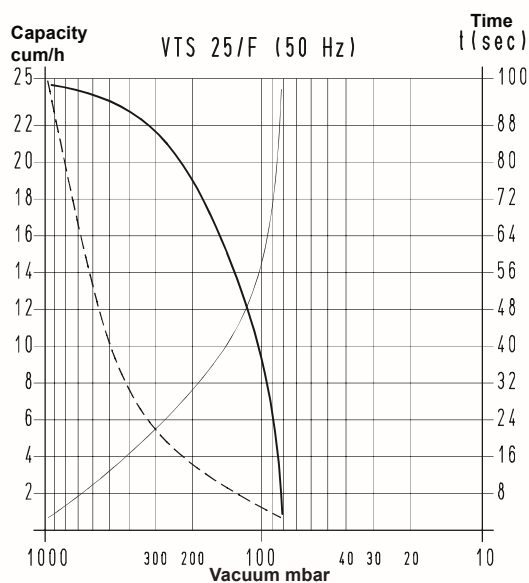
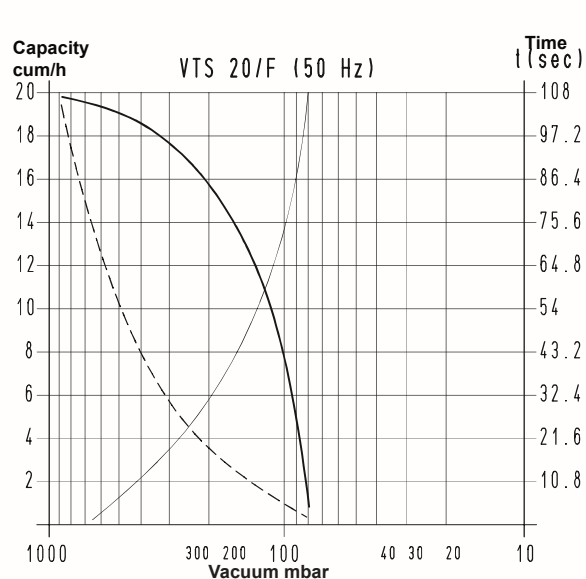
Art.		VTS 10/F		VTS 15/F	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	10.0	12.0	15.0	18.0
Final pressure	mbar abs.	80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.55	0.66	0.55	0.66
Kw	1~	0.55	0.66	0.55	0.66
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		Special		Special	
Motor size		80		80	
Noise level	dB(A)	64	66	65	67
Max. weight	3~	22.1		24.1	
Kg	1~	22.5		24.5	
A		388		408	
B		260		260	
C		187		187	
D		24		24	
E		340		340	
F		24		44	
H		133		133	
I		130		130	
L		55		55	
M		75		75	
N		53		63	
R	Ø gas	G1/2"		G1/2"	
Accessories and spare parts					
6 graphite vanes	art.	00 VTS 10F 10		00 VTS 15F 10	
Front graphite disc	art.	00 VTS 10F 21		00 VTS 10F 21	
Rear graphite disc	art.	00 VTS 10F 21		00 VTS 10F 21	
Sealing kit	art.	00 KIT VTS 10F		00 KIT VTS 15F	
Check valve	art.	10 03 10		10 03 10	
Suction filter	art.	FB 20/FC 20		FB 20/FC 20	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTS 10/F M).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

cfm= cum/h x 0.588; inch Hg= mbar x 0.0295; psi= bar (g) x 14.6

DRY VACUUM PUMPS VTS 20/F and 25/F

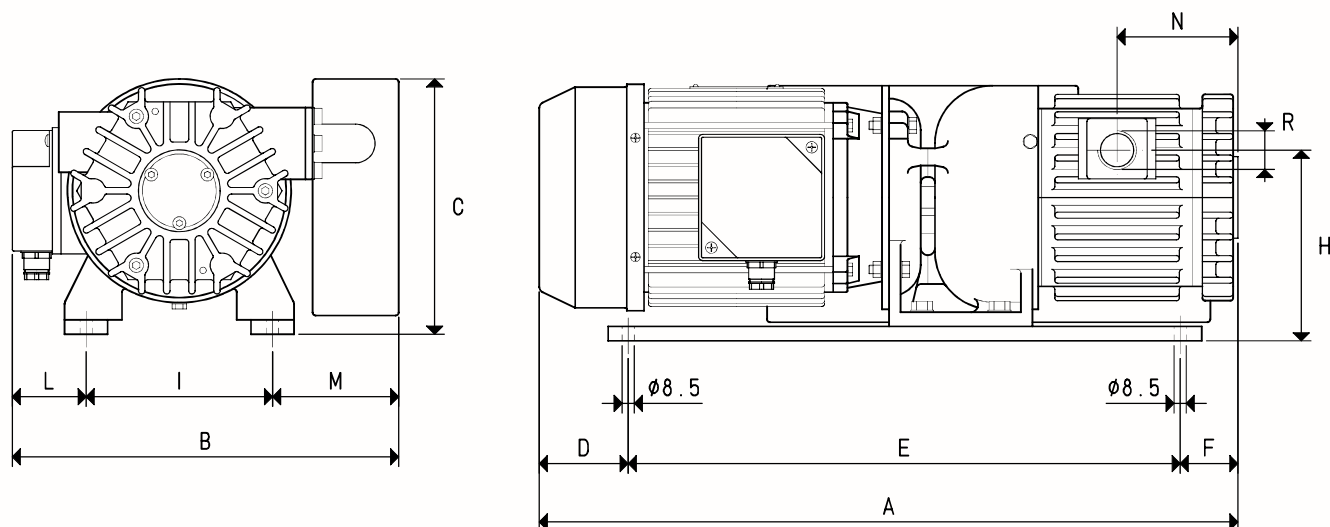


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

DRY VACUUM PUMPS VTS 20/F and 25/F



Art.		VTS 20/F		VTS 25/F	
Frequency		50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	20.0	24.0	25.0	30.0
Final pressure	mbar abs.	80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%
Volt	1~	230±10%		230±10%	
Motor power	3~	0.88	1.05	0.88	1.05
Kw	1~	0.88	1.05	0.88	1.05
Motor protection	IP	54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740
Motor shape		Special		Special	
Motor size		80		80	
Noise level	dB(A)	65	67	65	67
Max. weight	3~	27.4		28.1	
Kg	1~	27.9		28.6	
A		428		428	
B		260		260	
C		187		187	
D		24		24	
E		340		385	
F		64		19	
H		133		133	
I		130		130	
L		55		55	
M		75		75	
N		73		73	
R	Ø gas	G1/2"		G3/4"	
Accessories and spare parts					
6 graphite vanes	art.	00 VTS 20F 10		00 VTS 25F 10	
Front graphite disc	art.	00 VTS 10F 21		00 VTS 10F 21	
Rear graphite disc	art.	00 VTS 10F 21		00 VTS 10F 21	
Sealing kit	art.	00 KIT VTS 20F		00 KIT VTS 25F	
Check valve	art.	10 03 10		10 04 10	
Suction filter	art.	FB 20/FC 20		FB 25/FC 25	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTS 20/F M).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

cfm= cum/h x 0.588; inch Hg= mbar x 0.0295; psi= bar (g) x 14.6

DRY VACUUM PUMPS VTS 10/FG ÷ 35/FG

These lubrication-free rotating vane vacuum pumps have a suction capacity of 10, 15, 20, 25, 30 and 35 cum/h. The particular shape of the working chamber and the special graphite, with which the locking flanges and vanes are made, allow these pumps to operate with no lubrication.

The pump rotor is fitted on the motor shaft and supported by independent bearings located on both the pump locking flanges.

Therefore, the pump and the electric motor are two independent units connected to each other by an elastic transmission joint.

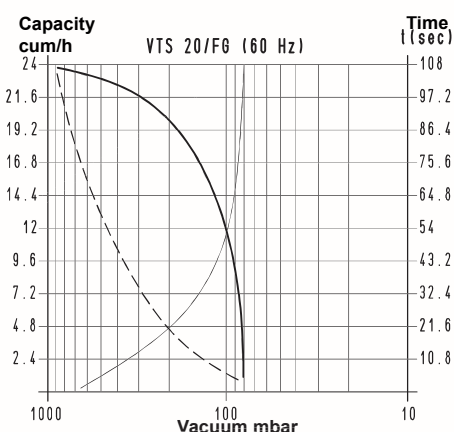
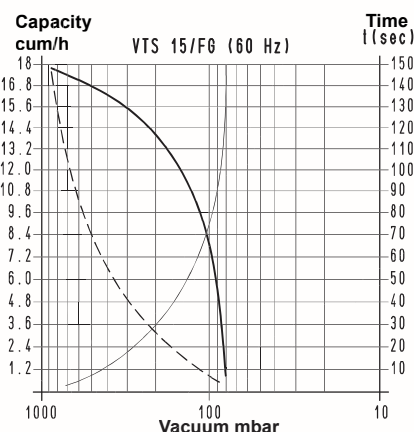
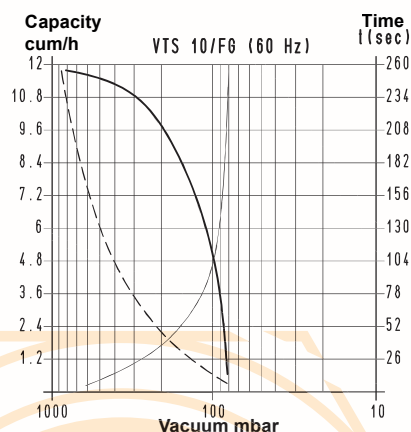
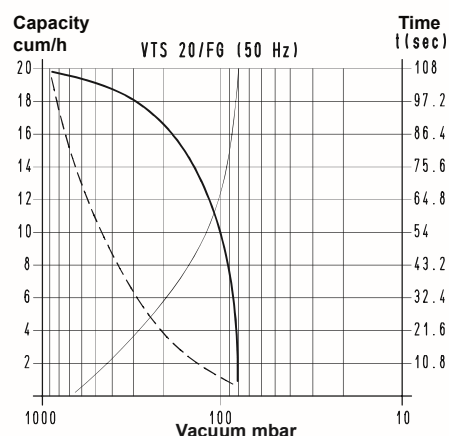
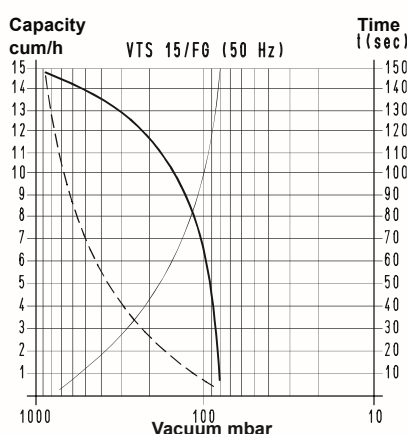
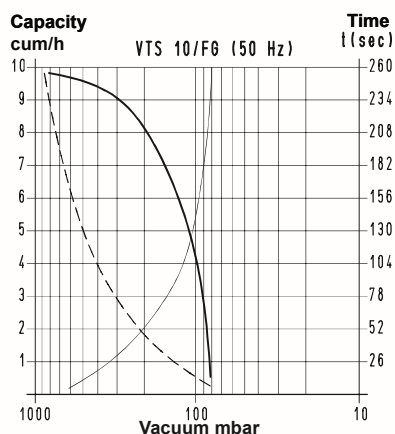
All this allows using standard electric motors in the shapes and sizes indicated in the table.

The pump is surface-cooled; the heat is dispersed from the especially finned external surface by a radial fan located between the motor and the pump.

A filtre that functions as a silencer is installed on the suction inlet..

We strongly recommend installing a filtre on the suction inlet against possible impurities. These pumps are not recommended when the fluid to be sucked contains water or oil vapours or condensations.

The pumps with capacity up to 20 cum/h can also be supplied with single-phase electric motors.

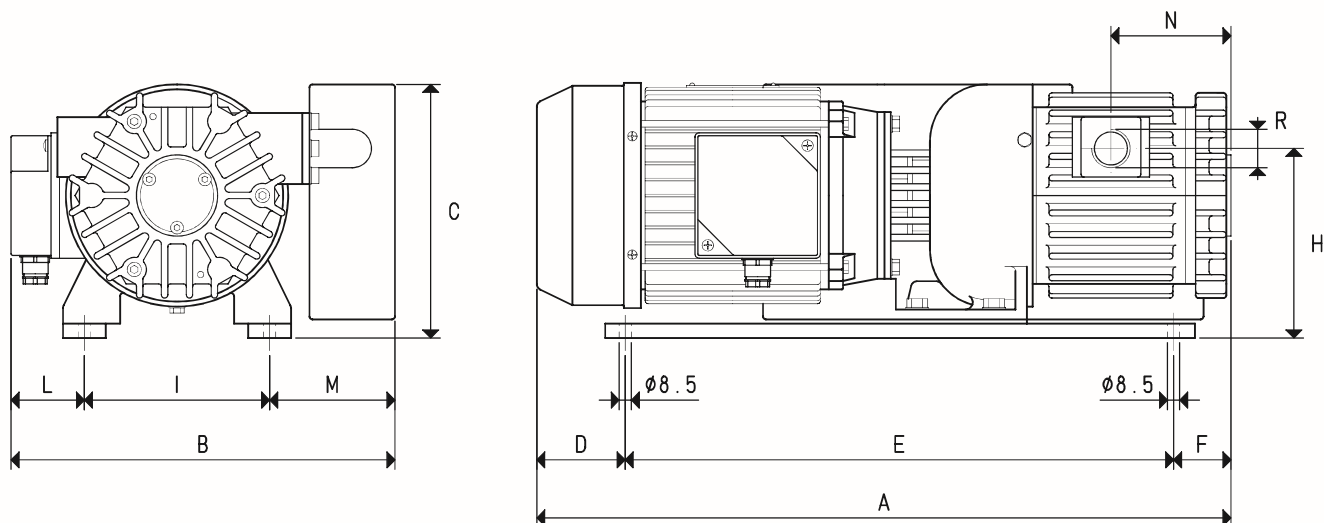


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 bar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

DRY VACUUM PUMPS VTS 10/FG, 15/FG and 20/FG



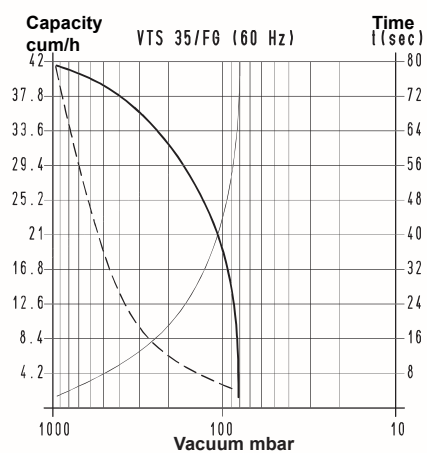
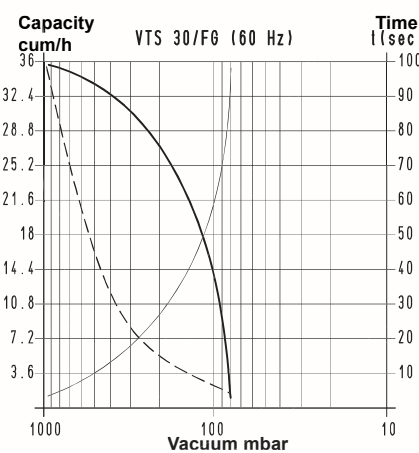
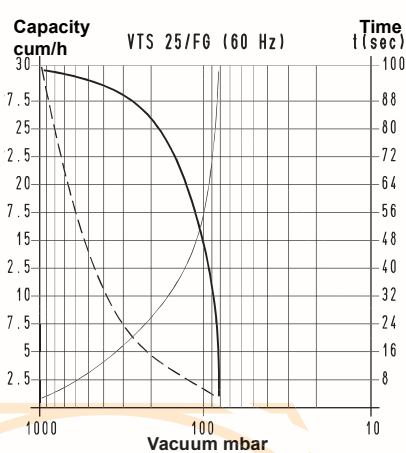
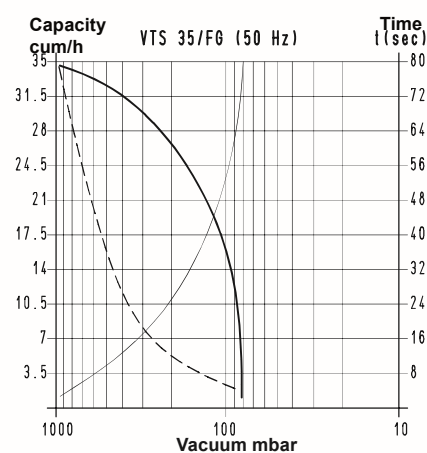
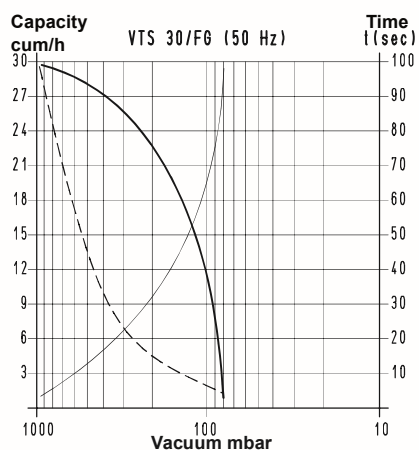
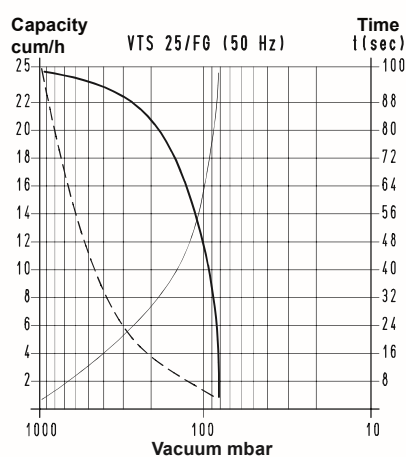
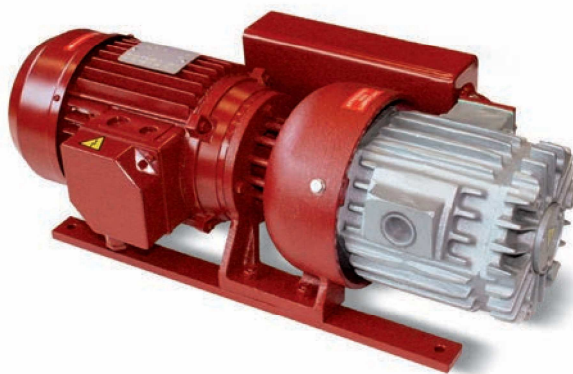
Art.		VTS 10/FG		VTS 15/FG		VTS 20/FG	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	10.0	12.0	15.0	18.0	20.0	24.0
Final pressure	mbar abs.	80		80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt		230±10%		230±10%		230±10%	
Motor power	3~	0.55	0.66	0.55	0.66	0.88	1.05
Kw	1~	0.55	0.66	0.55	0.66	0.88	1.05
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		B14		B14		B14	
Motor size		80		80		80	
Noise level	dB(A)	64	66	65	67	65	67
Max. weight	3~	22.0		24.0		27.3	
Kg	1~	22.4		24.4		27.8	
A		430		450		470	
B		265		265		265	
C		170		170		170	
D		65		65		65	
E		340		340		340	
F		25		45		65	
H		133		133		133	
I		130		130		130	
L		55		55		55	
M		80		80		80	
N		73		83		93	
R	Ø gas	G1/2"		G1/2"		G1/2"	
Accessories and spare parts							
6 graphite vanes	art.	00 VTS 10FG 10		00 VTS 15FG 10		00 VTS 20FG 10	
Front graphite disc	art.	00 VTS 10FG 17		00 VTS 15FG 17		00 VTS 20FG 17	
Rear graphite disc	art.	00 VTS 10FG 26		00 VTS 15FG 26		00 VTS 20FG 26	
Sealing kit	art.	00 KIT VTS 10FG		00 KIT VTS 15FG		00 KIT VTS 20FG	
Check valve	art.	10 03 10		10 03 10		10 03 10	
Suction filtre	art.	FB 20/FC 20		FB 20/FC 20		FB 20/FC 20	

Note: The pump will be supplied with single-phase electric motor by adding the letter M to the article (E.g.: VTS 10/FG M).

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

cfm= cum/h x 0.588; inch Hg= mbar x 0.0295; psi= bar (g) x 14.6

VACUUM PUMPS VTS 25/FG, 30/FG and 35/FG

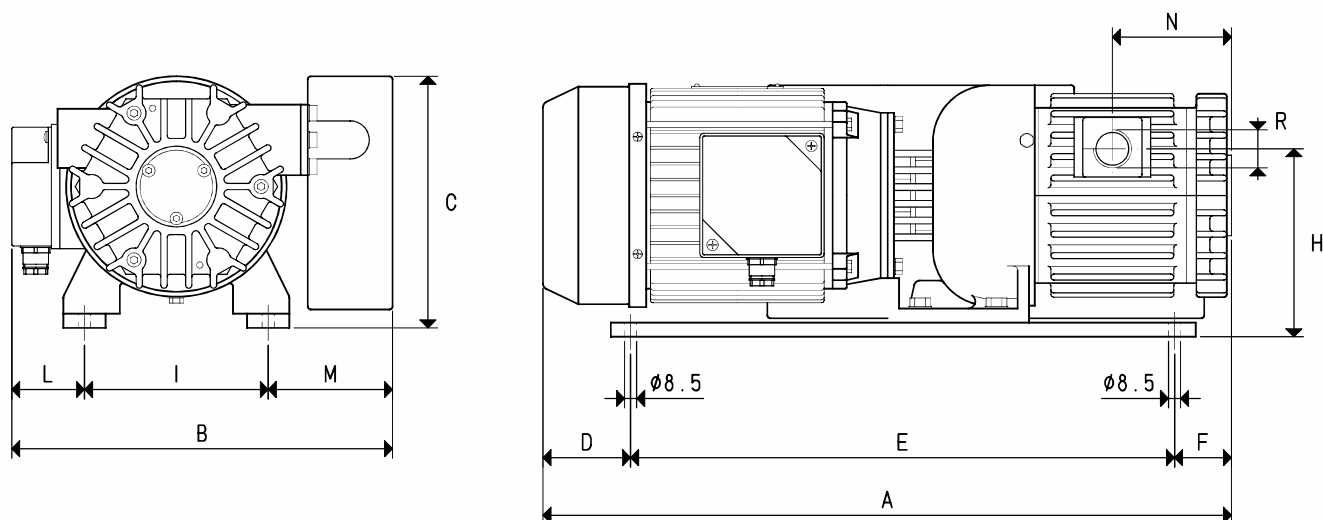


To calculate the emptying time of a volume V_1 , apply the formula $t_1 = \frac{t \times V_1}{100}$

- Curve regarding capacity (referring to the suction pressure)
- - - Curve regarding capacity (referring to a 1013 mbar pressure)
- Curve regarding the emptying of a 100-litre volume

V_1 : Volume to be emptied
 t_1 : Time to be calculated (sec)
 t : Time obtained in the table (sec)

DRY VACUUM PUMPS VTS 25/FG, 30/FG and 35/FG



Art.		VTS 25/FG		VTS 30/FG		VTS 35/FG	
Frequency		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Capacity	m³/h	25.0	30.0	30.0	36.0	35.0	42.0
Final pressure	mbar abs.	80		80		80	
Motor execution	3~	230/400±10%	275/480±10%	230/400±10%	275/480±10%	230/400±10%	275/480 ±10%
Volt							
Motor power	3~	0.88	1.05	1.00	1.20	1.00	1.20
Kw							
Motor protection	IP	54		54		54	
Rotation speed	rev/min ⁻¹	1450	1740	1450	1740	1450	1740
Motor shape		B14		B14		B14	
Motor size		80		80		80	
Noise level	dB(A)	66	68	68	70	70	72
Max. weight	3~	28.0		32.0		34.0	
Kg							
A		470		490		510	
B		265		265		265	
C		170		170		170	
D		65		65		65	
E		385		385		385	
F		20		40		60	
H		133		133		133	
I		130		130		130	
L		55		55		55	
M		80		80		80	
N		73		83		93	
R	Ø gas	G3/4"		G3/4"		G3/4"	
Accessories and spare parts							
6 graphite vanes	art.	00 VTS 25FG 10		00 VTS 30FG 10		00 VTS 35FG 10	
Front graphite disc	art.	00 VTS 25FG 17		00 VTS 30FG 18		00 VTS 35FG 18	
Rear graphite disc	art.	00 VTS 25FG 26		00 VTS 30FG 27		00 VTS 35FG 27	
Sealing kit	art.	00 KIT VTS 25FG		00 KIT VTS 30FG		00 KIT VTS 35FG	
Check valve	art.	10 04 10		10 04 10		10 04 10	
Suction filtre	art.	FB 25/FC 25		FB 25/FC 25		FB 25/FC 25	

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

cfm= cum/h x 0.588; inch Hg= mbar x 0.0295; psi= bar (g) x 14.6

MINI PUMPSETS – GENERAL DESCRIPTION

Mini pumpsets are independent vacuum-producing units with reduced size.

They are composed of:

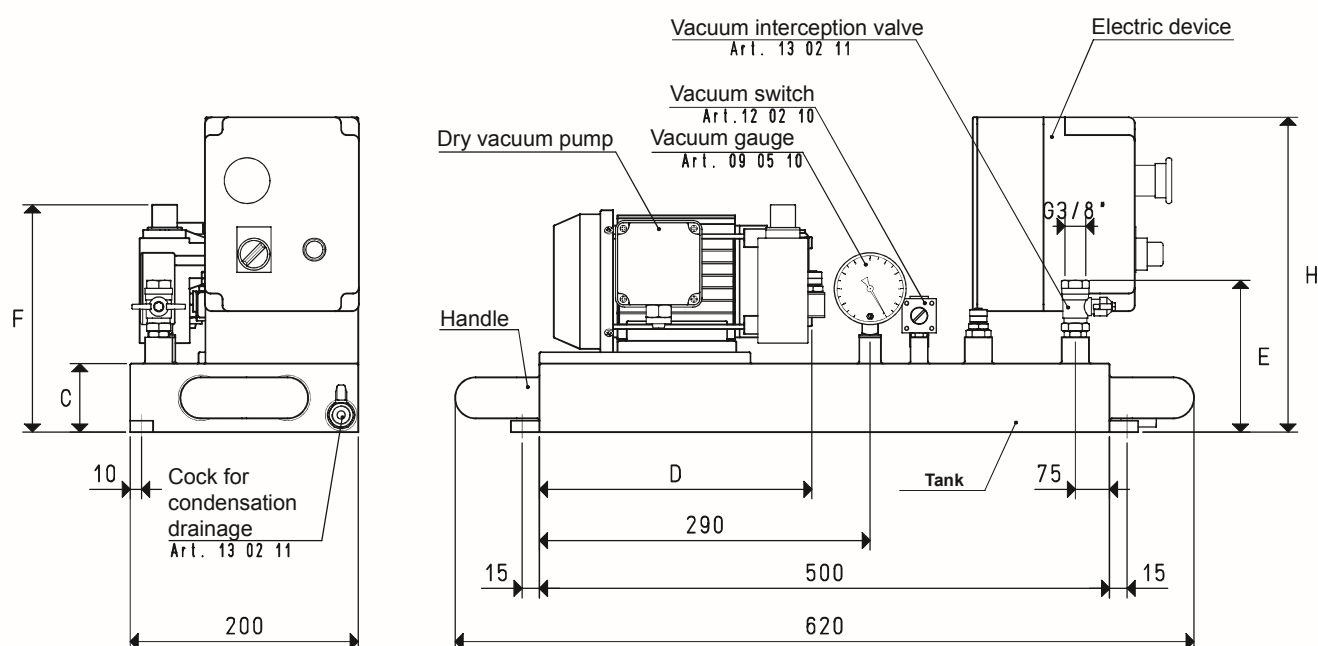
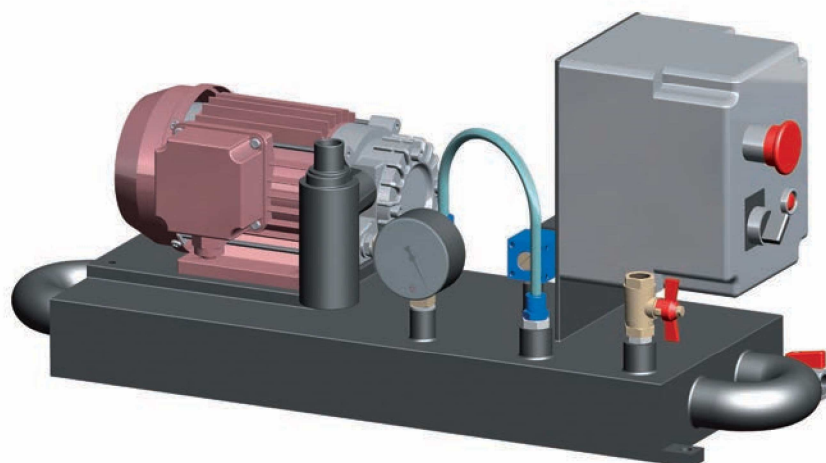
- *A small welded sheet steel tank with perfect vacuum seal.*
- *A low-capacity dry or lubricated rotating vane vacuum pump.*
- *A mini vacuum switch for adjusting the maximum vacuum level.*
- *A vacuum gauge for reading the vacuum level.*
- *A switchgear enclosed in a special casing.*
- *A manual valve for vacuum interception.*
- *A cock for condensation drainage.*

The vacuum level, preset via the mini vacuum switch is automatically maintained in the tank.

Mini pumpsets can also be supplied with single-phase or DC electric motors and they are suited for equipping fixed or mobile working units that require vacuum, such as:

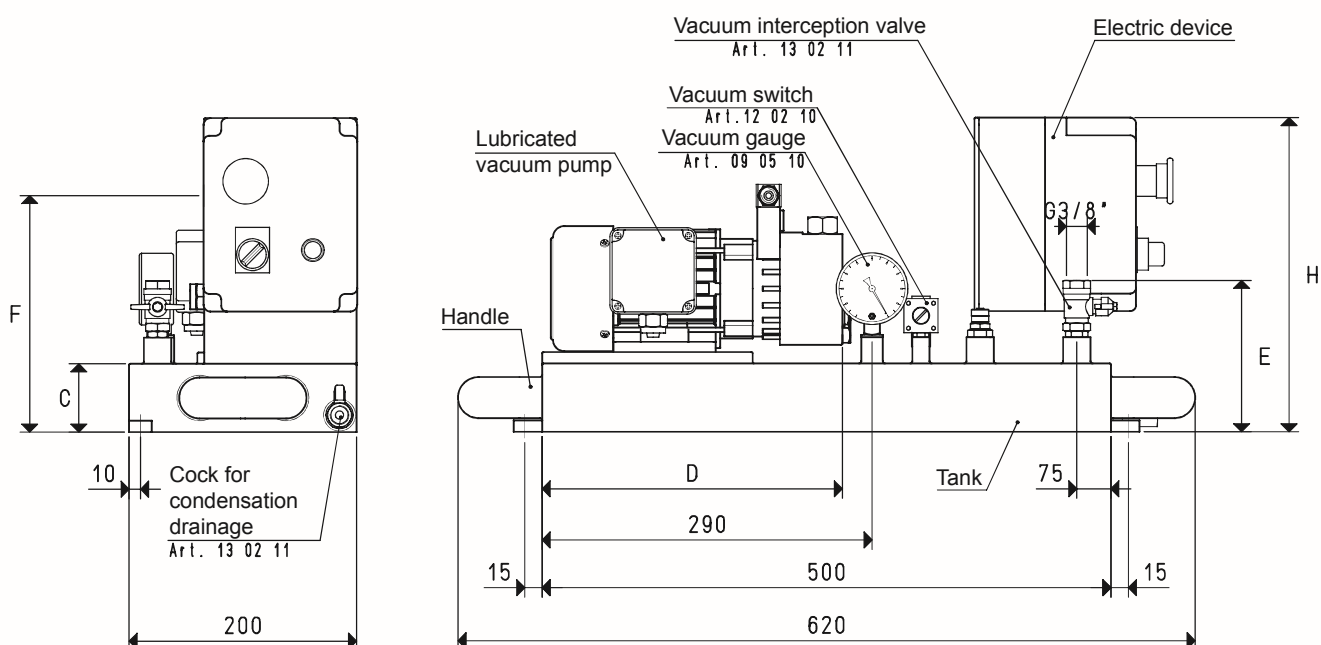
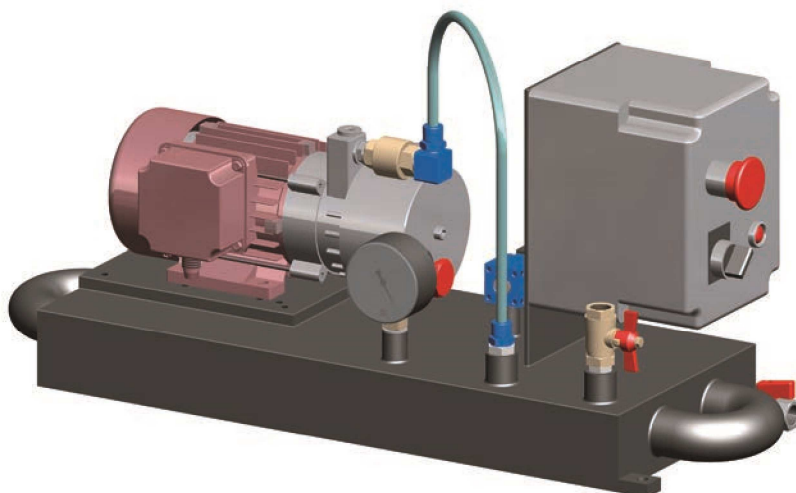
- *Trolleys with vacuum cups for fixing and transporting glass and crystals.*
- *Vacuum clamping systems for ski maintenance, marble processing and for polishing copper, pewter or silver objects.*
- *Hoists with vacuum cups for lifting television sets and household appliances for glass installation in door and window frames, for laying ceramic tiles, for feeding sheet metal into presses, etc.*



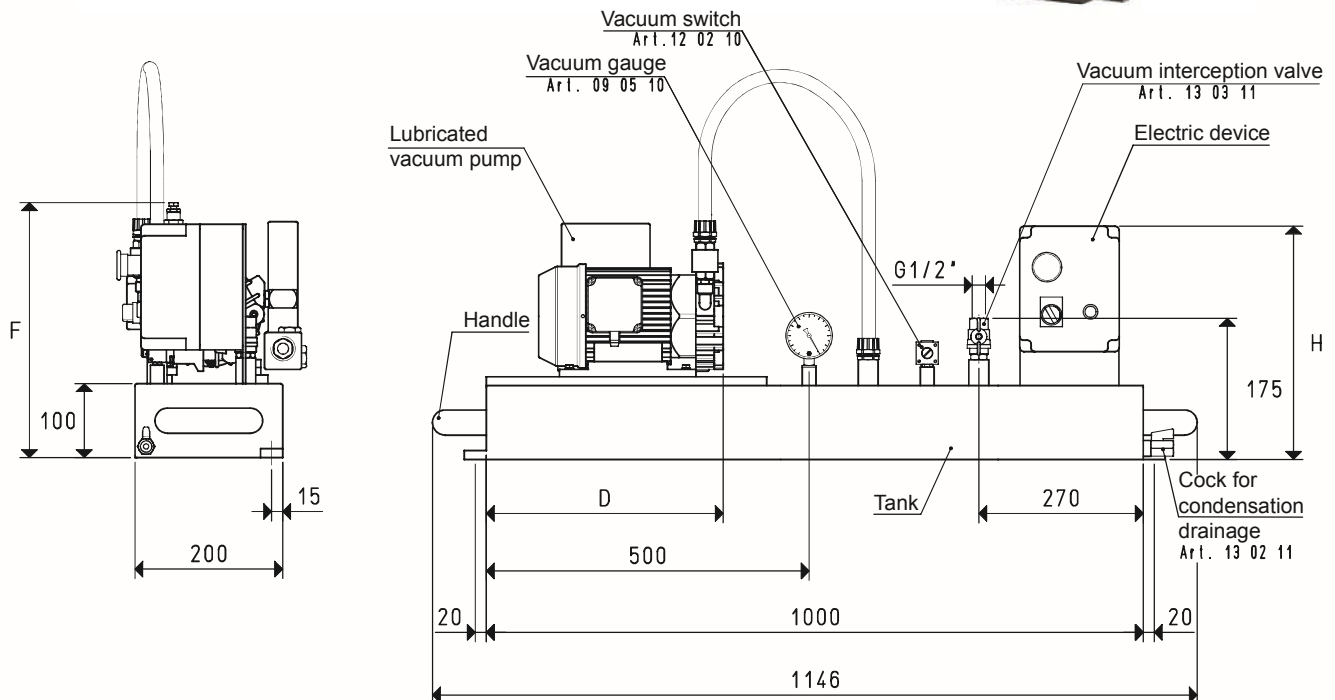
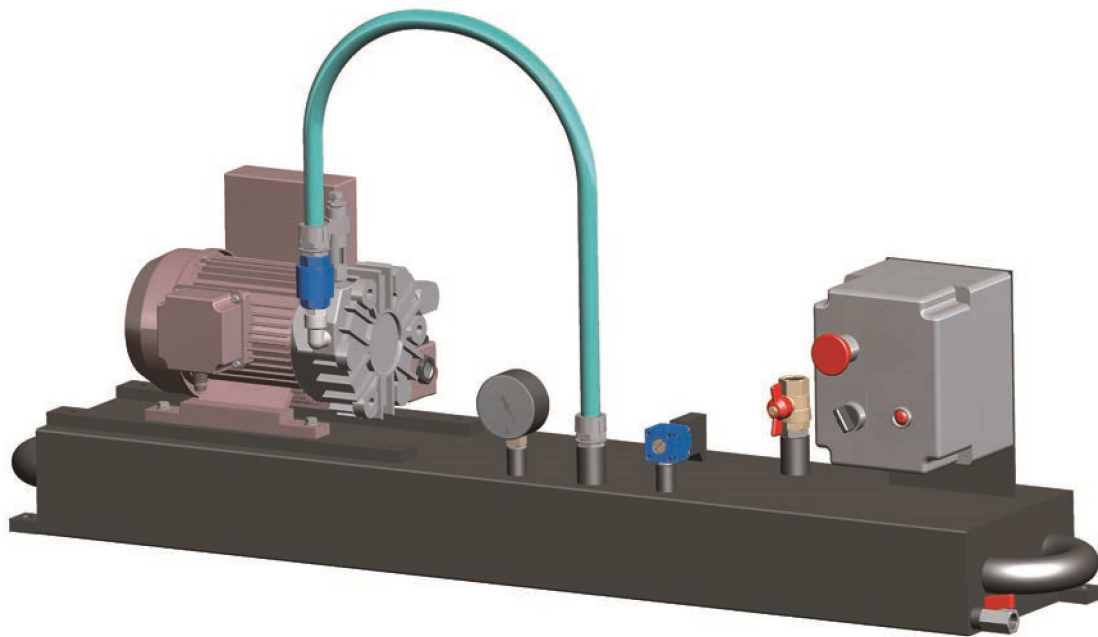


Art.	Tank	Pump	Motor execution	Switchgear	C	D	E	F	H	Weight	Filte accessories
	Litres	Mod.	Volt	art.						Kg	art.
DO 06 VTS 2	6	VTS 2	3 ~ 230/400-50Hz	DO 06 92	60	220	135	181	230	14.8	FB 10 / FC 10
DO 06 VTS 2 M	6	VTS 2 M	1 ~ 230-50Hz	DO 06 90	60	220	135	181	230	15.0	FB 10 / FC 10
DO 06 VTS 4	6	VTS 4	3 ~ 230/400-50Hz	DO 06 92	60	253	135	191	230	16.3	FB 10 / FC 10
DO 06 VTS 4 M	6	VTS 4 M	1 ~ 230-50Hz	DO 06 90	60	253	135	191	230	16.5	FB 10 / FC 10
DO 06 VTS 6	6	VTS 6	3 ~ 230/400-50Hz	DO 06 92	60	270	135	216	230	21.3	FB 10 / FC 10
DO 06 VTS 6 M	6	VTS 6 M	1 ~ 230-50Hz	DO 06 90	60	270	135	216	230	21.5	FB 10 / FC 10
DO 06 VTS 6 CC	6	VTS 6 CC	= 24-CC	DO 06 93	60	290	135	253	230	18.8	FB 10 / FC 10
DO 10 VTS 2	10	VTS 2	3 ~ 230/400-50Hz	DO 06 92	100	220	175	221	270	19.0	FB 10 / FC 10
DO 10 VTS 2 M	10	VTS 2 M	1 ~ 230-50Hz	DO 06 90	100	220	175	221	270	19.2	FB 10 / FC 10
DO 10 VTS 4	10	VTS 4	3 ~ 230/400-50Hz	DO 06 92	100	253	175	231	270	20.5	FB 10 / FC 10
DO 10 VTS 4 M	10	VTS 4 M	1 ~ 230-50Hz	DO 06 90	100	253	175	231	270	20.7	FB 10 / FC 10
DO 10 VTS 6	10	VTS 6	3 ~ 230/400-50Hz	DO 06 92	100	270	175	256	270	25.5	FB 10 / FC 10
DO 10 VTS 6 M	10	VTS 6 M	1 ~ 230-50Hz	DO 06 90	100	270	175	256	270	25.7	FB 10 / FC 10
DO 10 VTS 6 CC	10	VTS 6 CC	= 24-CC	DO 06 93	100	290	175	293	270	21.2	FB 10 / FC 10

MINI PUMPSETS D0 06 ... and D0 10 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	D	E	F	H	Weight	Filtre accessories
	Litres	Mod.	Volt	art.						Kg	art.
D0 06 VTL 2	6	VTL 2	3 ~ 230/400-50Hz	D0 06 92	60	300	135	198	230	15.2	FB 10 / FC 10
D0 06 VTL 2 M	6	VTL 2 M	1 ~ 230-50Hz	D0 06 90	60	300	135	198	230	15.5	FB 10 / FC 10
D0 06 VTL 4	6	VTL 4	3 ~ 230/400-50Hz	D0 06 92	60	330	135	198	230	16.8	FB 10 / FC 10
D0 06 VTL 4 M	6	VTL 4 M	1 ~ 230-50Hz	D0 06 90	60	330	135	198	230	17.0	FB 10 / FC 10
D0 06 VTL 5	6	VTL 5	3 ~ 230/400-50Hz	D0 06 92	60	260	135	310	230	24.0	FB 10 / FC 10
D0 06 VTL 5 M	6	VTL 5 M	1 ~ 230-50Hz	D0 06 90	60	260	135	310	230	24.5	FB 10 / FC 10
D0 06 VTL 6 CC	6	VTL 6 CC	= 24-CC	D0 06 93	60	290	135	260	230	19.8	FB 10 / FC 10
D0 10 VTL 2	10	VTL 2	3 ~ 230/400-50Hz	D0 06 92	100	300	175	238	270	19.4	FB 10 / FC 10
D0 10 VTL 2 M	10	VTL 2 M	1 ~ 230-50Hz	D0 06 90	100	300	175	238	270	19.7	FB 10 / FC 10
D0 10 VTL 4	10	VTL 4	3 ~ 230/400-50Hz	D0 06 92	100	330	175	238	270	21.0	FB 10 / FC 10
D0 10 VTL 4 M	10	VTL 4 M	1 ~ 230-50Hz	D0 06 90	100	330	175	238	270	21.2	FB 10 / FC 10
D0 10 VTL 5	10	VTL 5	3 ~ 230/400-50Hz	D0 06 92	100	260	175	350	270	28.2	FB 10 / FC 10
D0 10 VTL 5 M	10	VTL 5 M	1 ~ 230-50Hz	D0 06 90	100	260	175	350	270	28.7	FB 10 / FC 10
D0 10 VTL 6 CC	10	VTL 6 CC	= 24-CC	D0 06 93	100	290	175	260	270	24.0	FB 10 / FC 10



Art.	Tank	Pump	Motor execution	Switchgear	D	F	H	Weight	Filter accessories
	Litres	Mod.	Volt	art.				Kg	art.
DO 20 VTL 5	20	VTL 5	3 ~ 230/400-50Hz	DO 06 92	320	345	270	38.5	FB 20 / FC 20
DO 20 VTL 5 M	20	VTL 5 M	1 ~ 230/50Hz	DO 06 90	320	345	270	39.0	FB 20 / FC 20
DO 20 VTL 6 CC	20	VTL 6 CC	= 24-CC	DO 06 93	400	295	270	34.3	FB 20 / FC 20
DO 20 VTL 10	20	VTL 10	3 ~ 230/400-50Hz	DO 06 92	352	345	270	44.5	FB 20 / FC 20
DO 20 VTL 10 M	20	VTL 10 M	1 ~ 230-50Hz	DO 06 90	352	345	270	45.0	FB 20 / FC 20
DO 20 VTL 10/F	20	VTL 10/F	3 ~ 230/400-50Hz	DO 06 92	390	360	270	49.0	FB 20 / FC 20
DO 20 VTL 10/F M	20	VTL 10/F M	1 ~ 230-50Hz	DO 06 90	390	360	270	49.5	FB 20 / FC 20
DO 20 VTL 15/F	20	VTL 15/F	3 ~ 230/400-50Hz	DO 06 92	410	360	270	51.0	FB 20 / FC 20
DO 20 VTL 15/F M	20	VTL 15/F M	3 ~ 230/400-50Hz	DO 06 90	410	360	270	51.5	FB 20 / FC 20
DO 20 VTL 20/F	20	VTL 20/F	3 ~ 230/400-50Hz	DO 06 92	430	360	270	54.0	FB 20 / FC 20
DO 20 VTL 20/F M	20	VTL 20/F M	1 ~ 230-50Hz	DO 06 90	430	360	270	54.5	FB 20 / FC 20
DO 20 MV 20	20	MV 20	3 ~ 230/400-50Hz	DO 06 92	430	315	270	45.5	FB 20 / FC 20
DO 20 MV 20 M	20	MV 20 M	1 ~ 230-50Hz	DO 06 90	430	315	270	46.0	FB 20 / FC 20

Note: As a standard, MV 20 pumps are equipped with an FC 20 filter on the suction inlet.

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

HORIZONTAL PUMPSETS – GENERAL DESCRIPTION

As a standard, these pumpsets are built with various capacities and they are composed of:

- A horizontal welded sheet steel tank with perfect vacuum seal.
- A rotating vane vacuum pump to be selected according to the required suction capacity and vacuum degree.
- A vacuum switch for adjusting the vacuum level within which to operate.
- A vacuum gauge for a direct reading of the vacuum level in the tank.
- A switchgear enclosed in a special plastic casing for tanks from 25 to 50 litres and in a watertight metal casing for tanks of 100 litres upwards.
- A manual valve for vacuum interception.
- A cock for condensation drainage.

The vacuum level, preset via the mini vacuum switch is automatically maintained in the tank. The pump operation can be both continuous or automatic.

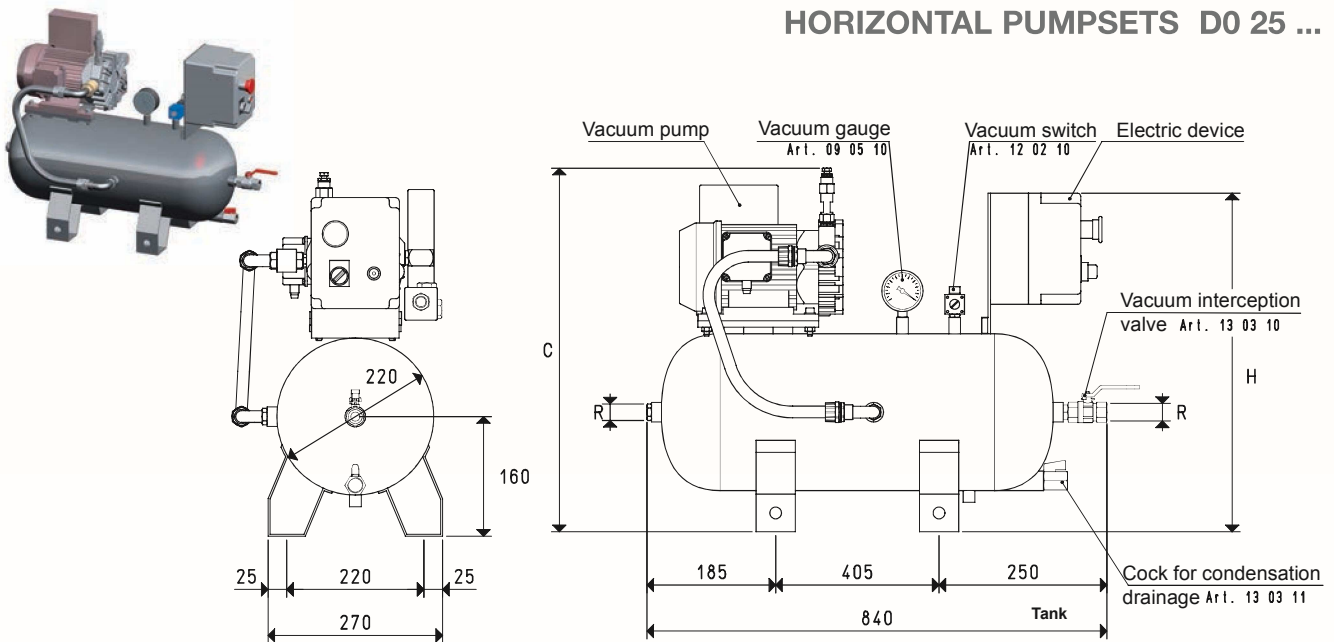
Pumpsets are normally used for handling particularly heavy or valuable loads since, in case of electricity failure, they allow the vacuum cups to maintain the grip for a certain amount of time, according to the tank capacity.

These pumpsets are recommended for multi-point applications, to centralise vacuum.

These pumpsets offer many advantages in energy consumption, since the pump operates only when required by the machine.

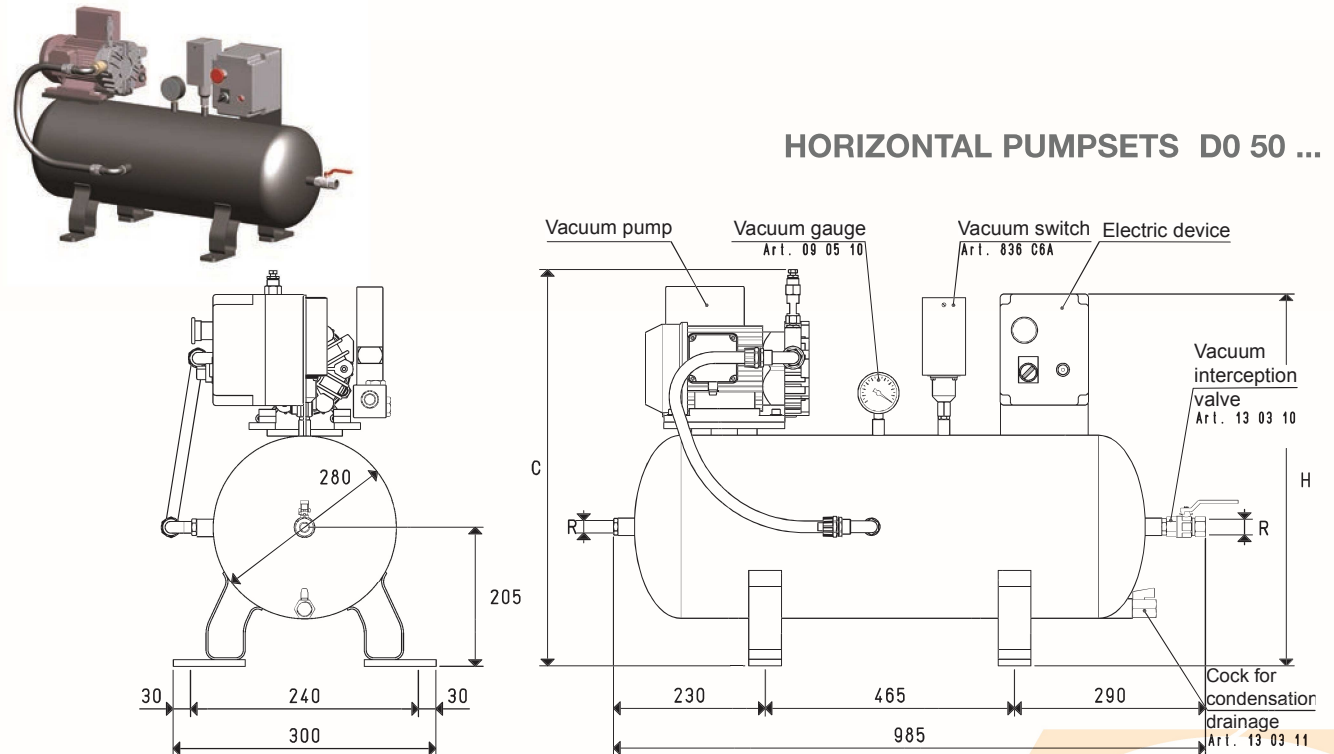


HORIZONTAL PUMPSETS D0 25 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
D0 25 VTL 5	25	VTL 5	3 ~ 230/400-50Hz	D0 06 92	540	450	G1/2"	33.5	FB 20 / FC 20
D0 25 VTL 5 M	25	VTL 5 M	1 ~ 230/50Hz	D0 06 90	540	450	G1/2"	34.0	FB 20 / FC 20
D0 25 VTL 6 CC	25	VTL 6 CC	= 24-CC	D0 06 93	480	450	G1/2"	29.3	FB 20 / FC 20
D0 25 VTL 10	25	VTL 10	3 ~ 230/400-50Hz	D0 06 92	540	450	G1/2"	39.5	FB 20 / FC 20
D0 25 VTL 10 M	25	VTL 10 M	1 ~ 230-50Hz	D0 06 90	540	450	G1/2"	40.0	FB 20 / FC 20

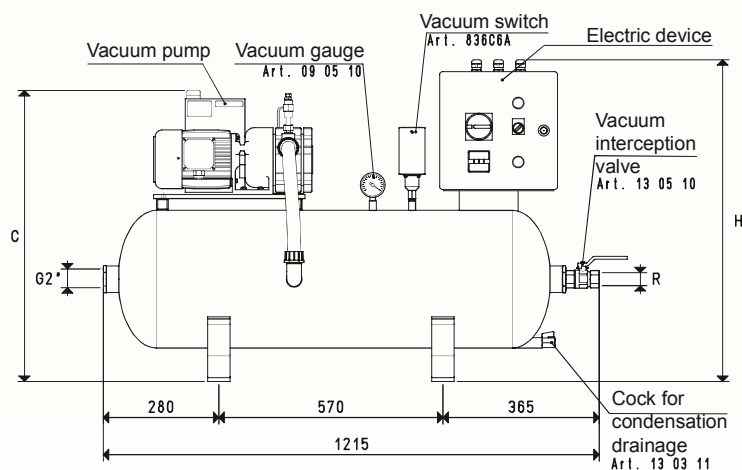
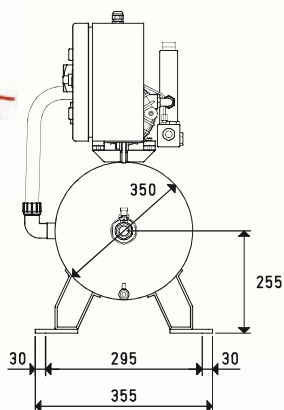
Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: D0 25 VTL 10 SR).



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
D0 50 VTL 5	50	VTL 5	3 ~ 230/400-50Hz	D0 06 92	620	530	G1/2"	39.3	FB 20 / FC 20
D0 50 VTL 5 M	50	VTL 5 M	1 ~ 230/50Hz	D0 06 90	620	530	G1/2"	39.8	FB 20 / FC 20
D0 50 VTL 6 CC	50	VTL 6 CC	= 24-CC	D0 06 93	570	530	G1/2"	35.1	FB 20 / FC 20
D0 50 VTL 10	50	VTL 10	3 ~ 230/400-50Hz	D0 06 92	620	530	G1/2"	45.3	FB 20 / FC 20
D0 50 VTL 10 M	50	VTL 10 M	1 ~ 230-50Hz	D0 06 90	620	530	G1/2"	45.8	FB 20 / FC 20

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: D0 50 VTL 10 SR).

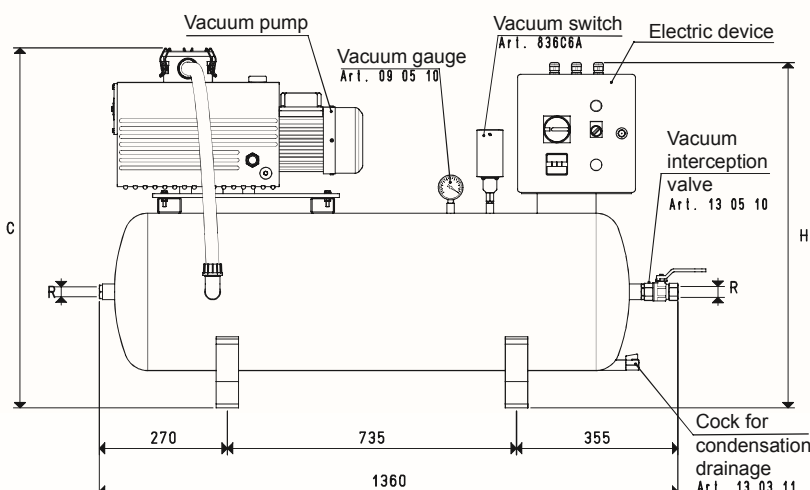
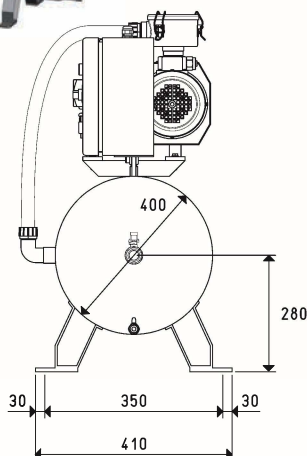
HORIZONTAL PUMPSETS DO 100 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 100 VTL 10/F	100	VTL 10/F	3 ~ 230/400-50Hz	DO 100 90	710	800	G1"	66.7	FB 30 / FC 30
DO 100 VTL 10/F M	100	VTL 10/F M	1 ~ 230/50Hz	DO 100 89	710	800	G1"	68.2	FB 30 / FC 30
DO 100 VTL 15/F	100	VTL 15/F	3 ~ 230/400-50Hz	DO 100 90	710	800	G1"	68.7	FB 30 / FC 30
DO 100 VTL 15/F M	100	VTL 15/F M	1 ~ 230-50Hz	DO 100 89	710	800	G1"	70.2	FB 30 / FC 30
DO 100 VTL 20/F	100	VTL 20/F	3 ~ 230/400-50Hz	DO 100 90	710	800	G1"	71.7	FB 30 / FC 30
DO 100 VTL 20/F M	100	VTL 20/F M	1 ~ 230-50Hz	DO 100 89	710	800	G1"	73.2	FB 30 / FC 30
DO 100 MV 20	100	MV 20	3 ~ 230/400-50Hz	DO 100 90	681	800	G1"	62.2	FB 30 / FC 30
DO 100 MV 20 M	100	MV 20 M	1 ~ 230-50Hz	DO 100 89	681	800	G1"	64.7	FB 30 / FC 30

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: DO 100 VTL 15/F S)

HORIZONTAL PUMPSETS DO 150 ...

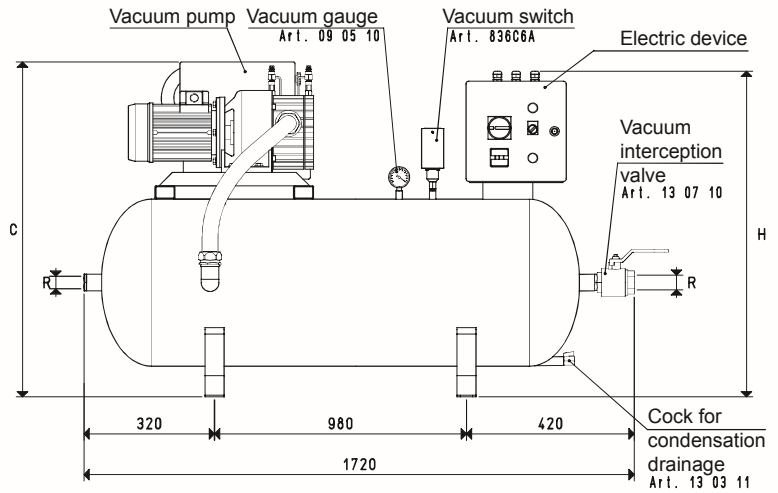
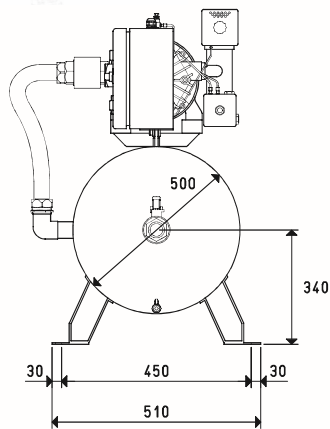


Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 150 VTL 25/FG	150	VTL 25/FG	3 ~ 230/400-50Hz	DO 100 90	805	840	G1"	79.0	FB 30 / FC 30
DO 150 VTL 30/FG	150	VTL 30/FG	3 ~ 230/400-50Hz	DO 100 90	805	840	G1"	83.0	FB 30 / FC 30
DO 150 VTL 35/FG	150	VTL 35/FG	3 ~ 230/400-50Hz	DO 100 90	805	840	G1"	85.0	FB 30 / FC 30
DO 150 MV 40	150	MV 40	3 ~ 230/400-50Hz	DO 100 90	916	840	G1"	93.0	FB 30 / FC 30
DO 150 VTL 50/G1	150	VTL 50/G1	3 ~ 230/400-50Hz	DO 100 90	880	840	G1"	102.0	FB 30 / FC 30
DO 150 MV 60	150	MV 60	3 ~ 230/400-50Hz	DO 100 90	916	840	G1"	101.0	FB 30 / FC 30
DO 150 VTL 75/G1	150	VTL 75/G1	3 ~ 230/400-50Hz	DO 100 90	930	840	G1"	118.5	FB 30 / FC 30

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: DO 150 VTL 30/FG SR).

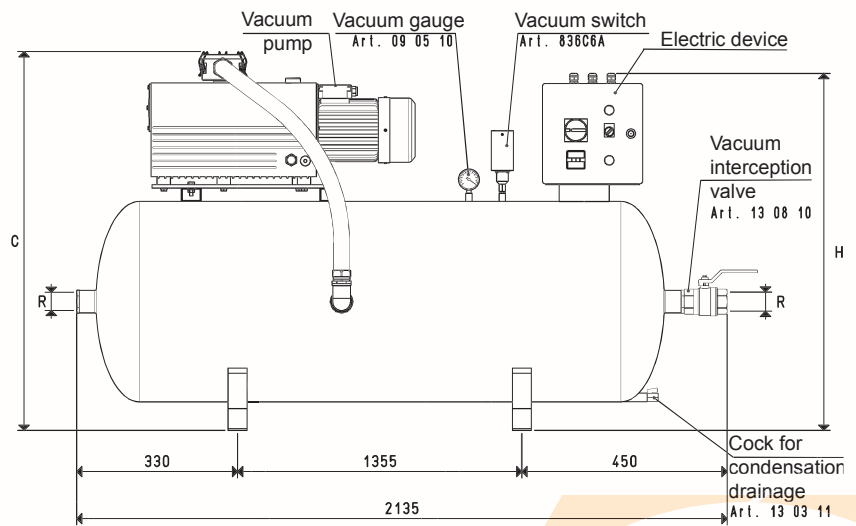
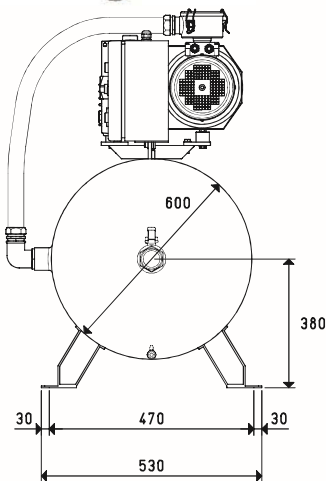
As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

HORIZONTAL PUMPSETS D0 300 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filter accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 300 MV 60	300	MV 60	3 ~ 230/400-50Hz	D0 100 90	940	940	G1"1/2	135.3	FB 50 / FC 50
DO 300 VTL 75/G1	300	VTL 75/G1	3 ~ 230/400-50Hz	D0 100 90	1040	940	G1"1/2	153.3	FB 50 / FC 50
DO 300 MV 100	300	MV 100	3 ~ 230/400-50Hz	D0 100 90	970	940	G1"1/2	162.3	FB 50 / FC 50
DO 300 VTL 105/G1	300	VTL 105/G1	3 ~ 230/400-50Hz	D0 100 90	1080	940	G1"1/2	181.7	FB 50 / FC 50
DO 300 MV 160R	300	MV 160R	3 ~ 230/400-50Hz	D0 100 90	988	940	G1"1/2	186.3	FB 50 / FC 50

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: DO 300 MV 100 SR).



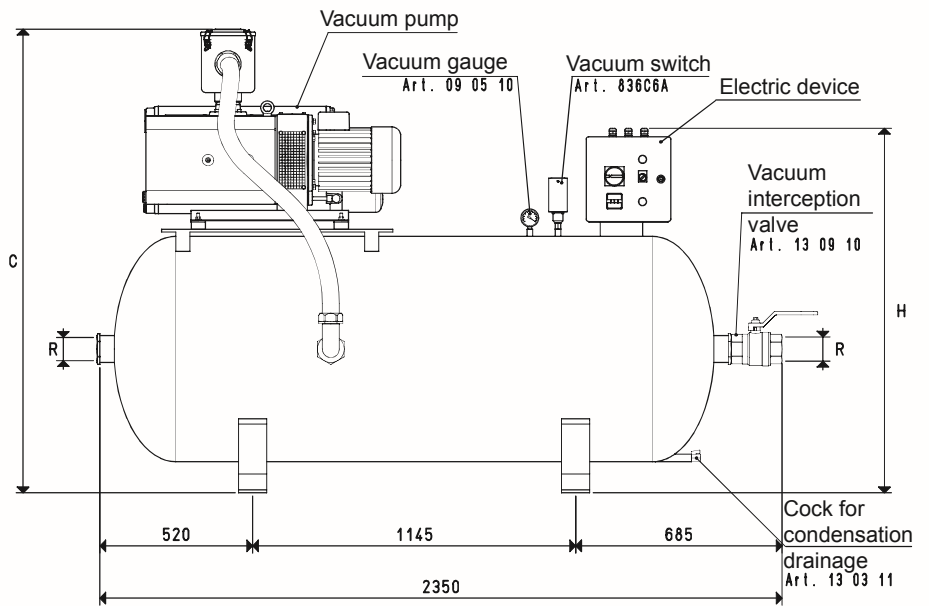
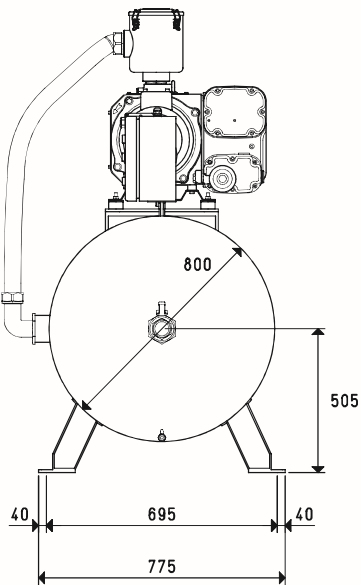
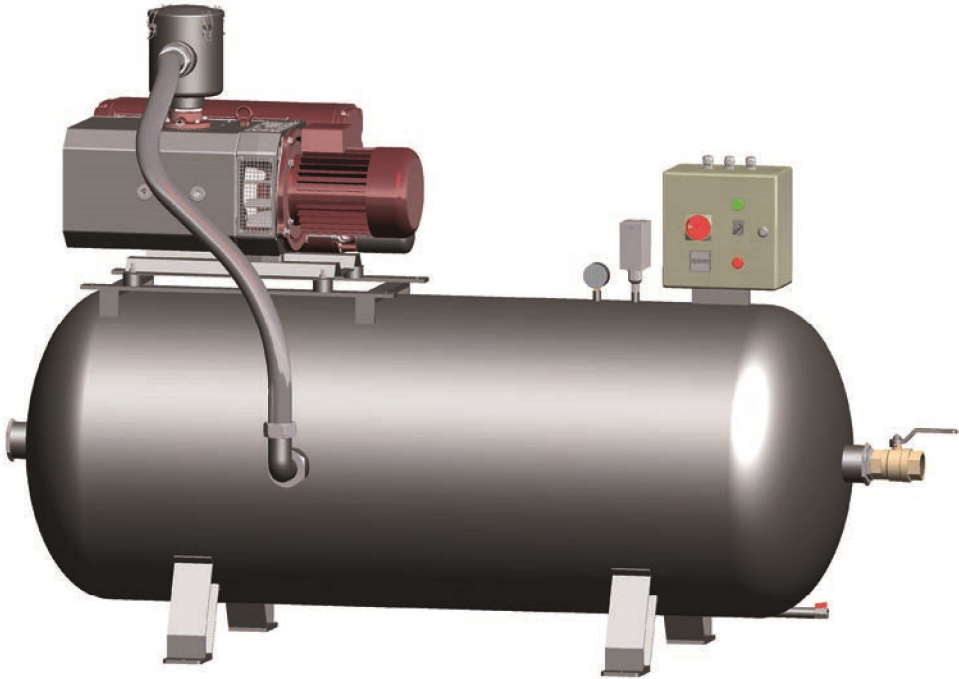
Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filter accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 500 MV 100	500	MV 100	3 ~ 230/400-50Hz	D0 100 90	1060	1010	G2"	232.2	FB 60 / FC 60
DO 500 VTL 105/G1	500	VTL 105/G1	3 ~ 230/400-50Hz	D0 100 90	1180	1010	G2"	249.8	FB 60 / FC 60
DO 500 MV 160R	500	MV 160R	3 ~ 230/400-50Hz	D0 100 90	1198	1010	G2"	273.8	FB 60 / FC 60
DO 500 MV 200R	500	MV 200R	3 ~ 230/400-50Hz	D0 100 91	1220	1010	G2"	303.2	FB 60 / FC 60
DO 500 MV 300R	500	MV 300R	3 ~ 400/690-50Hz	D0 100 91	1220	1010	G2"	333.2	FB 60 / FC 60

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

HORIZONTAL PUMPSETS DO 1000 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 1000 MV 200R	1000	MV 200R	3 ~ 230/400-50Hz	DO 100 91	1541	1250	G3"	405	FC 80
DO 1000 MV 300R	1000	MV 300R	3 ~ 400/690-50Hz	DO 100 91	1541	1250	G3"	432	FC 80

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

HORIZONTAL PUMPSETS – GENERAL DESCRIPTION

As a standard, these pumpsets are built with various capacities and they are composed of:

- A horizontal welded sheet steel tank with perfect vacuum seal.
- A rotating vane vacuum pump to be selected according to the required suction capacity and vacuum degree.
- A vacuum switch for adjusting the vacuum level within which to operate.
- A vacuum gauge for a direct reading of the vacuum level in the tank.
- A switchgear enclosed in a special plastic casing for tanks from 25 to 50 litres and in a watertight metal casing for tanks of 100 litres upwards.
- A manual valve for vacuum interception.
- A cock for condensation drainage.

The vacuum level, preset via the mini vacuum switch is automatically maintained in the tank. The pump operation can be both continuous or automatic.

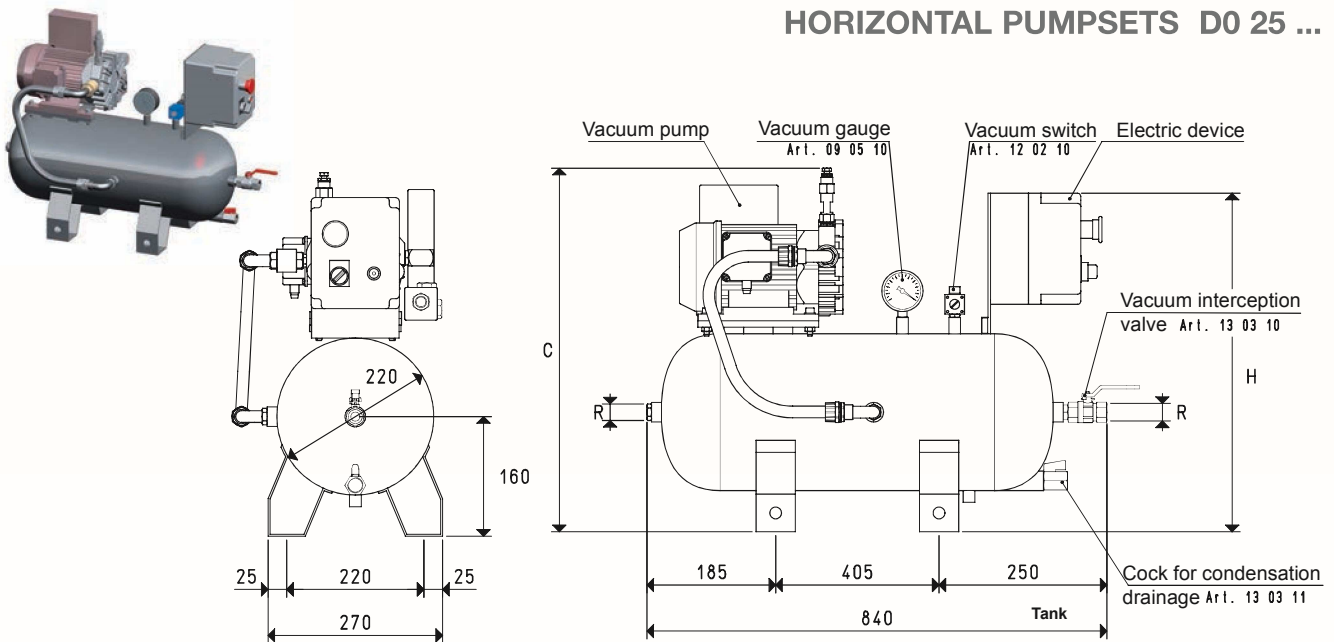
Pumpsets are normally used for handling particularly heavy or valuable loads since, in case of electricity failure, they allow the vacuum cups to maintain the grip for a certain amount of time, according to the tank capacity.

These pumpsets are recommended for multi-point applications, to centralise vacuum.

These pumpsets offer many advantages in energy consumption, since the pump operates only when required by the machine.

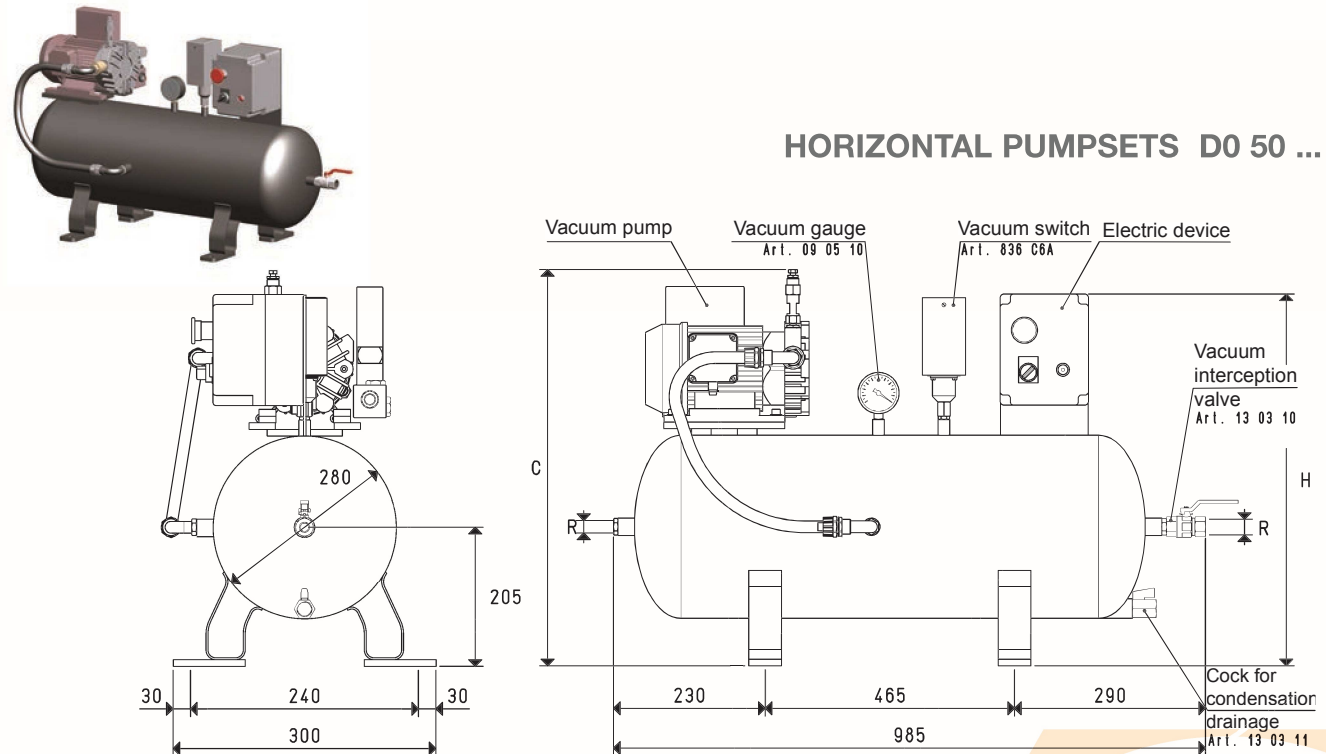


HORIZONTAL PUMPSETS D0 25 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
D0 25 VTL 5	25	VTL 5	3 ~ 230/400-50Hz	D0 06 92	540	450	G1/2"	33.5	FB 20 / FC 20
D0 25 VTL 5 M	25	VTL 5 M	1 ~ 230/50Hz	D0 06 90	540	450	G1/2"	34.0	FB 20 / FC 20
D0 25 VTL 6 CC	25	VTL 6 CC	= 24-CC	D0 06 93	480	450	G1/2"	29.3	FB 20 / FC 20
D0 25 VTL 10	25	VTL 10	3 ~ 230/400-50Hz	D0 06 92	540	450	G1/2"	39.5	FB 20 / FC 20
D0 25 VTL 10 M	25	VTL 10 M	1 ~ 230-50Hz	D0 06 90	540	450	G1/2"	40.0	FB 20 / FC 20

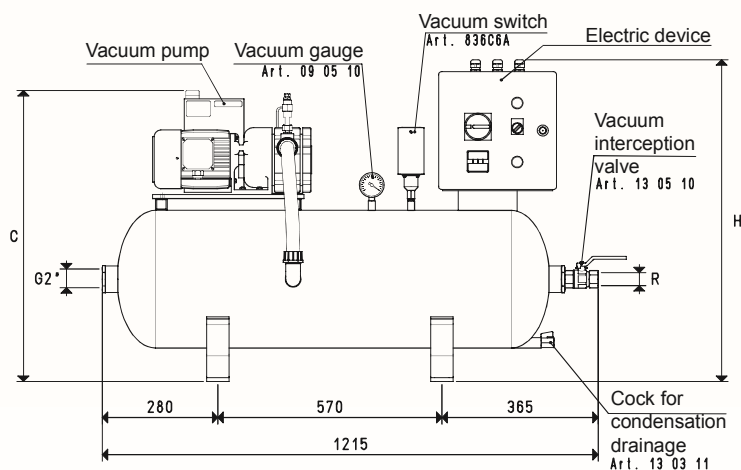
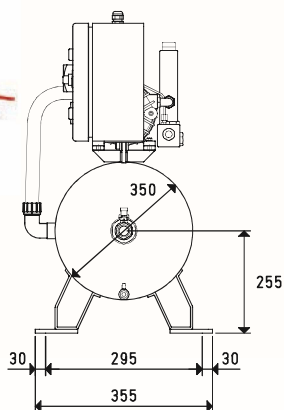
Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: D0 25 VTL 10 SR).



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
D0 50 VTL 5	50	VTL 5	3 ~ 230/400-50Hz	D0 06 92	620	530	G1/2"	39.3	FB 20 / FC 20
D0 50 VTL 5 M	50	VTL 5 M	1 ~ 230/50Hz	D0 06 90	620	530	G1/2"	39.8	FB 20 / FC 20
D0 50 VTL 6 CC	50	VTL 6 CC	= 24-CC	D0 06 93	570	530	G1/2"	35.1	FB 20 / FC 20
D0 50 VTL 10	50	VTL 10	3 ~ 230/400-50Hz	D0 06 92	620	530	G1/2"	45.3	FB 20 / FC 20
D0 50 VTL 10 M	50	VTL 10 M	1 ~ 230-50Hz	D0 06 90	620	530	G1/2"	45.8	FB 20 / FC 20

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: D0 50 VTL 10 SR).

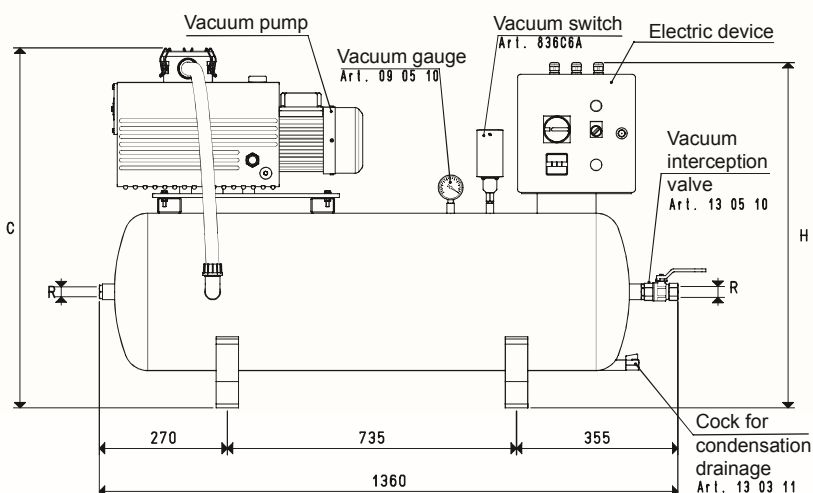
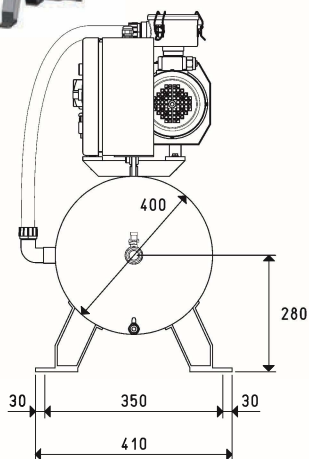
HORIZONTAL PUMPSETS DO 100 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 100 VTL 10/F	100	VTL 10/F	3 ~ 230/400-50Hz	DO 100 90	710	800	G1"	66.7	FB 30 / FC 30
DO 100 VTL 10/F M	100	VTL 10/F M	1 ~ 230/50Hz	DO 100 89	710	800	G1"	68.2	FB 30 / FC 30
DO 100 VTL 15/F	100	VTL 15/F	3 ~ 230/400-50Hz	DO 100 90	710	800	G1"	68.7	FB 30 / FC 30
DO 100 VTL 15/F M	100	VTL 15/F M	1 ~ 230-50Hz	DO 100 89	710	800	G1"	70.2	FB 30 / FC 30
DO 100 VTL 20/F	100	VTL 20/F	3 ~ 230/400-50Hz	DO 100 90	710	800	G1"	71.7	FB 30 / FC 30
DO 100 VTL 20/F M	100	VTL 20/F M	1 ~ 230-50Hz	DO 100 89	710	800	G1"	73.2	FB 30 / FC 30
DO 100 MV 20	100	MV 20	3 ~ 230/400-50Hz	DO 100 90	681	800	G1"	62.2	FB 30 / FC 30
DO 100 MV 20 M	100	MV 20 M	1 ~ 230-50Hz	DO 100 89	681	800	G1"	64.7	FB 30 / FC 30

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: DO 100 VTL 15/F S)

HORIZONTAL PUMPSETS DO 150 ...

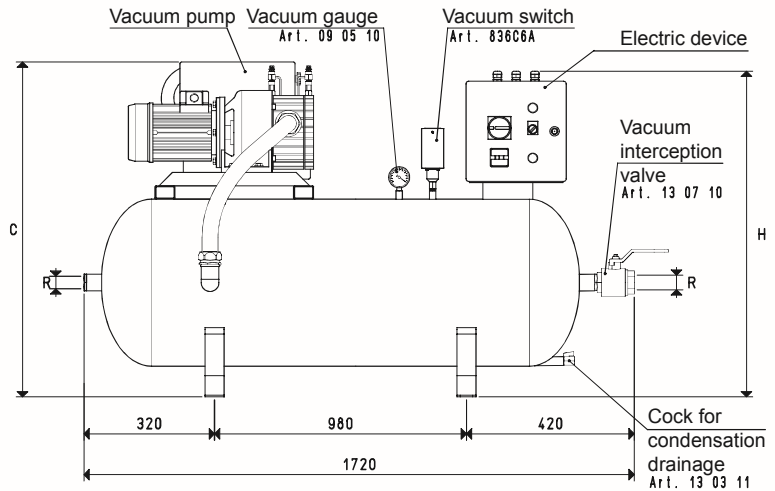
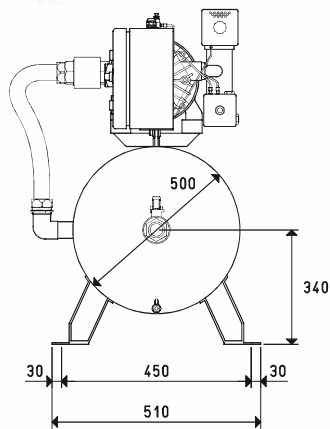


Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 150 VTL 25/FG	150	VTL 25/FG	3 ~ 230/400-50Hz	DO 100 90	805	840	G1"	79.0	FB 30 / FC 30
DO 150 VTL 30/FG	150	VTL 30/FG	3 ~ 230/400-50Hz	DO 100 90	805	840	G1"	83.0	FB 30 / FC 30
DO 150 VTL 35/FG	150	VTL 35/FG	3 ~ 230/400-50Hz	DO 100 90	805	840	G1"	85.0	FB 30 / FC 30
DO 150 MV 40	150	MV 40	3 ~ 230/400-50Hz	DO 100 90	916	840	G1"	93.0	FB 30 / FC 30
DO 150 VTL 50/G1	150	VTL 50/G1	3 ~ 230/400-50Hz	DO 100 90	880	840	G1"	102.0	FB 30 / FC 30
DO 150 MV 60	150	MV 60	3 ~ 230/400-50Hz	DO 100 90	916	840	G1"	101.0	FB 30 / FC 30
DO 150 VTL 75/G1	150	VTL 75/G1	3 ~ 230/400-50Hz	DO 100 90	930	840	G1"	118.5	FB 30 / FC 30

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: DO 150 VTL 30/FG SR).

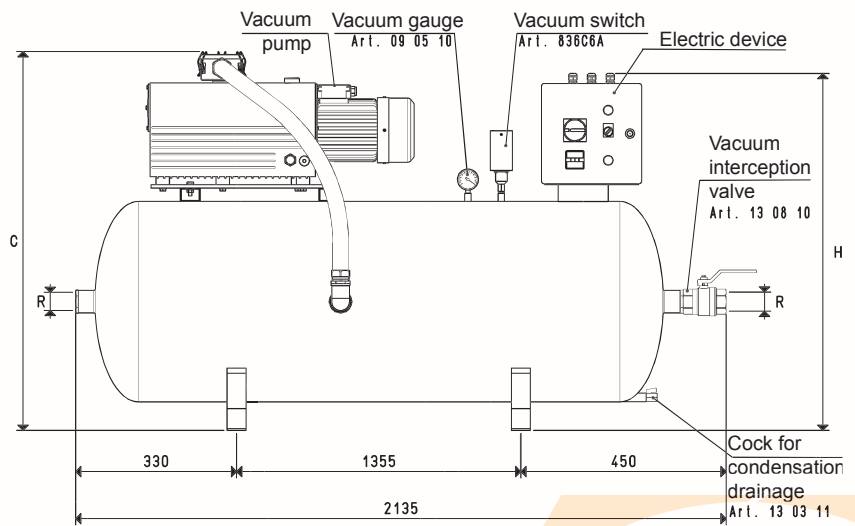
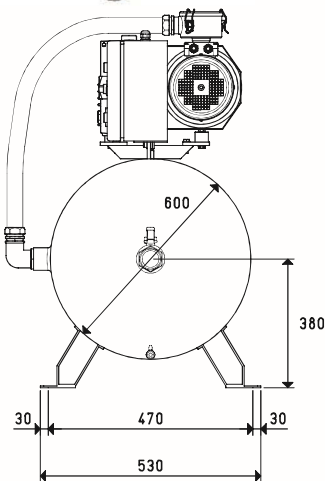
As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

HORIZONTAL PUMPSETS D0 300 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filter accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
D0 300 MV 60	300	MV 60	3 ~ 230/400-50Hz	D0 100 90	940	940	G1"1/2	135.3	FB 50 / FC 50
D0 300 VTL 75/G1	300	VTL 75/G1	3 ~ 230/400-50Hz	D0 100 90	1040	940	G1"1/2	153.3	FB 50 / FC 50
D0 300 MV 100	300	MV 100	3 ~ 230/400-50Hz	D0 100 90	970	940	G1"1/2	162.3	FB 50 / FC 50
D0 300 VTL 105/G1	300	VTL 105/G1	3 ~ 230/400-50Hz	D0 100 90	1080	940	G1"1/2	181.7	FB 50 / FC 50
D0 300 MV 160R	300	MV 160R	3 ~ 230/400-50Hz	D0 100 90	988	940	G1"1/2	186.3	FB 50 / FC 50

Note: By adding the letters SR, the pumpset will be supplied with wheels (E.g.: D0 300 MV 100 SR).



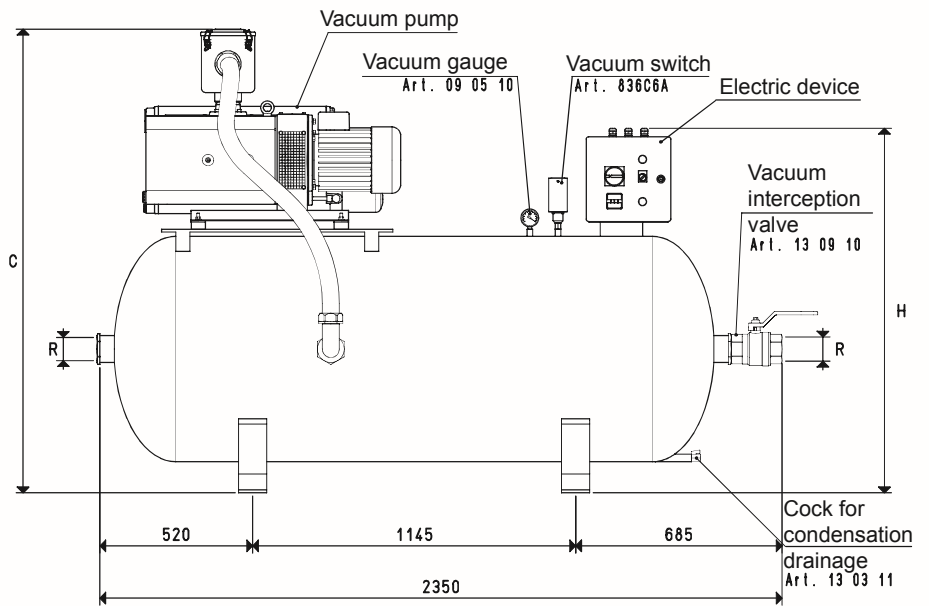
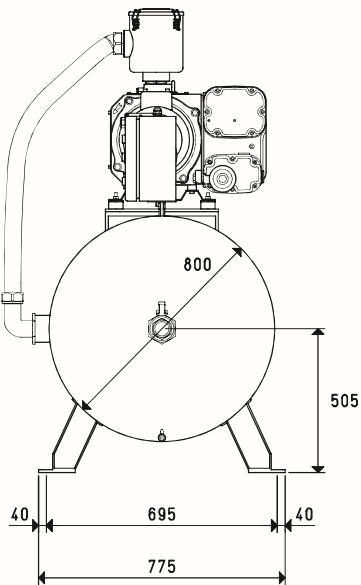
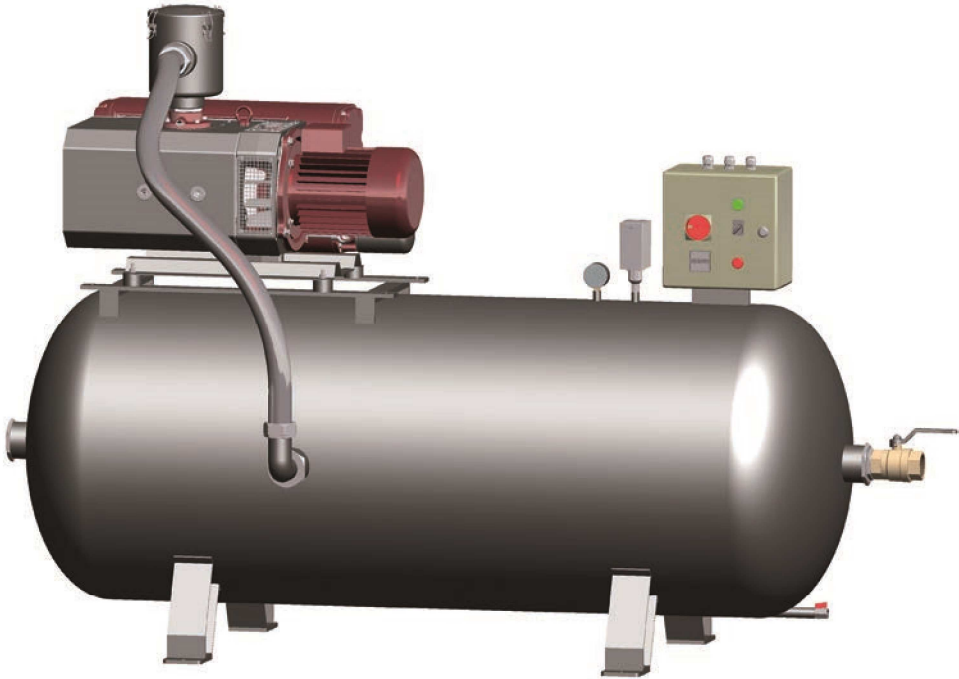
Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filter accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
D0 500 MV 100	500	MV 100	3 ~ 230/400-50Hz	D0 100 90	1060	1010	G2"	232.2	FB 60 / FC 60
D0 500 VTL 105/G1	500	VTL 105/G1	3 ~ 230/400-50Hz	D0 100 90	1180	1010	G2"	249.8	FB 60 / FC 60
D0 500 MV 160R	500	MV 160R	3 ~ 230/400-50Hz	D0 100 90	1198	1010	G2"	273.8	FB 60 / FC 60
D0 500 MV 200R	500	MV 200R	3 ~ 230/400-50Hz	D0 100 91	1220	1010	G2"	303.2	FB 60 / FC 60
D0 500 MV 300R	500	MV 300R	3 ~ 400/690-50Hz	D0 100 91	1220	1010	G2"	333.2	FB 60 / FC 60

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

HORIZONTAL PUMPSETS DO 1000 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DO 1000 MV 200R	1000	MV 200R	3 ~ 230/400-50Hz	DO 100 91	1541	1250	G3"	405	FC 80
DO 1000 MV 300R	1000	MV 300R	3 ~ 400/690-50Hz	DO 100 91	1541	1250	G3"	432	FC 80

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

VERTICAL PUMPSETS – GENERAL DESCRIPTION

As a standard, these pumpsets are built with various capacities and they are composed of:

- *A vertical welded sheet steel tank with perfect vacuum seal.*
- *A rotating vane vacuum pump to be selected according to the required suction capacity and vacuum degree.*
- *A vacuum switch for adjusting the vacuum level within which to operate.*
- *A vacuum gauge for a direct reading of the vacuum level in the tank.*
- *A switchgear enclosed in a special watertight metal casing.*
- *A manual valve for vacuum interception.*
- *A cock for condensation drainage.*

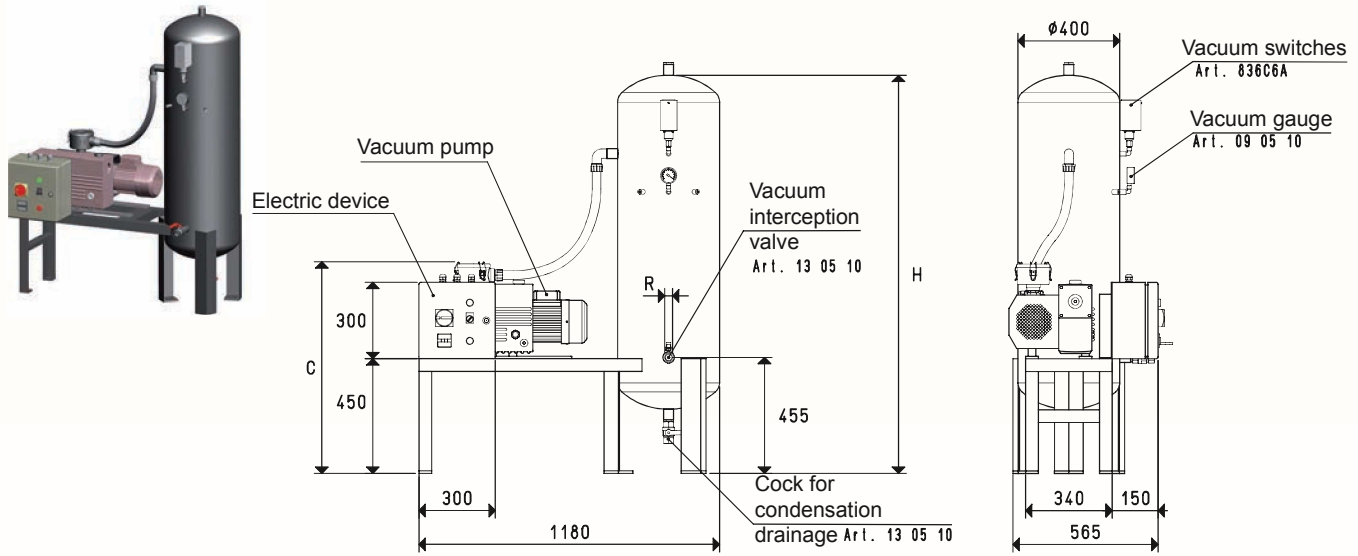
The vacuum level, preset via the mini vacuum switch is automatically maintained in the tank. The pump operation can be both continuous or automatic.

These pumpsets are normally used for interconnecting several vacuum-operated machines and, for safety reasons, for vacuum handlers since, in case of electricity failure, they allow the vacuum cups to maintain the grip for an amount of time proportional to the tank capacity.

As for energy consumption, in both cases these pumpsets offer many advantages, since the pump operates only to restore vacuum in the tank within the preset values and its interventions depend exclusively on the quantity of air that is actually sucked at the service.

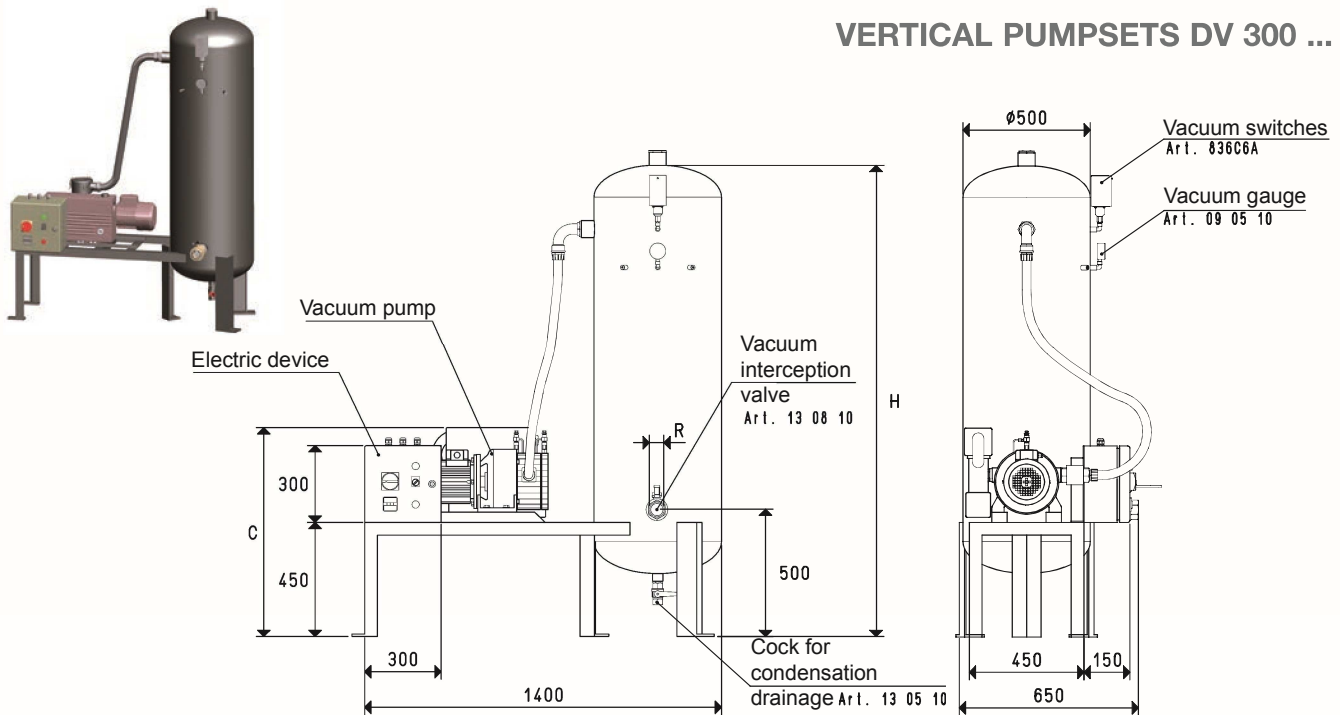


VERTICAL PUMPSETS DV 150 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DV 150 VTL 25/FG	150	VTL 25/FG	3 ~ 230/400-50Hz	D0 100 90	730	1600	G1"	103	FB 30 / FC 30
DV 150 VTL 30/FG	150	VTL 30/FG	3 ~ 230/400-50Hz	D0 100 90	730	1600	G1"	107	FB 30 / FC 30
DV 150 VTL 35/FG	150	VTL 35/FG	3 ~ 230/400-50Hz	D0 100 90	730	1600	G1"	109	FB 30 / FC 30
DV 150 MV 40	150	MV 40	3 ~ 230/400-50Hz	D0 100 90	810	1600	G1"	117	FB 30 / FC 30
DV 150 VTL 50/G1	150	VTL 50/G1	3 ~ 230/400-50Hz	D0 100 90	805	1600	G1"	126	FB 30 / FC 30
DV 150 MV 60	150	MV 60	3 ~ 230/400-50Hz	D0 100 90	810	1600	G1"	125	FB 30 / FC 30
DV 150 VTL 75/G1	150	VTL 75/G1	3 ~ 230/400-50Hz	D0 100 90	855	1600	G1"	148	FB 30 / FC 30

VERTICAL PUMPSETS DV 300 ...



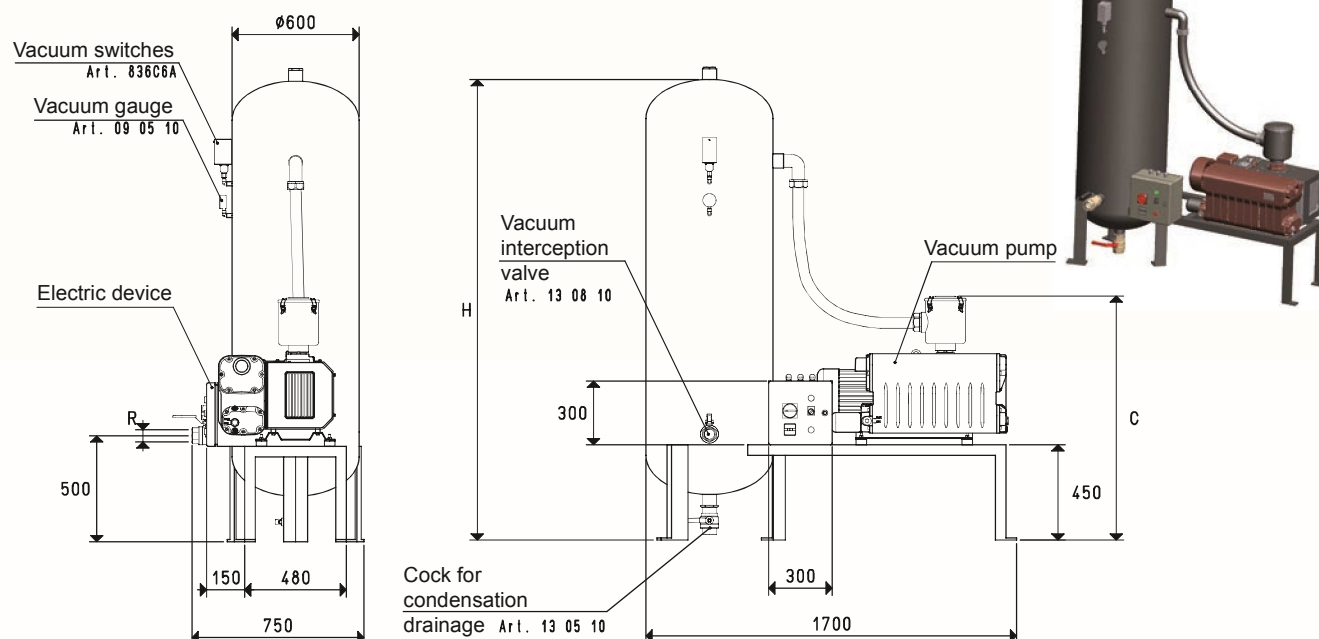
Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DV 300 MV 40	300	MV 40	3 ~ 230/400-50Hz	D0 100 90	810	1890	G2"	147	FB 60 / FC 60
DV 300 VTL 50/G1	300	VTL 50/G1	3 ~ 230/400-50Hz	D0 100 90	805	1890	G2"	156	FB 60 / FC 60
DV 300 MV 60	300	MV 60	3 ~ 230/400-50Hz	D0 100 90	810	1890	G2"	155	FB 60 / FC 60
DV 300 VTL 75/G1	300	VTL 75/G1	3 ~ 230/400-50Hz	D0 100 90	855	1890	G2"	178	FB 60 / FC 60
DV 300 MV 100	300	MV 100	3 ~ 230/400-50Hz	D0 100 90	840	1890	G2"	182	FB 60 / FC 60
DV 300 VTL 105/G1	300	VTL 105/G1	3 ~ 230/400-50Hz	D0 100 90	900	1890	G2"	199	FB 60 / FC 60
DV 300 MV 160R	300	MV 160R	3 ~ 230/400-50Hz	D0 100 90	858	1890	G2"	206	FB 60 / FC 60

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

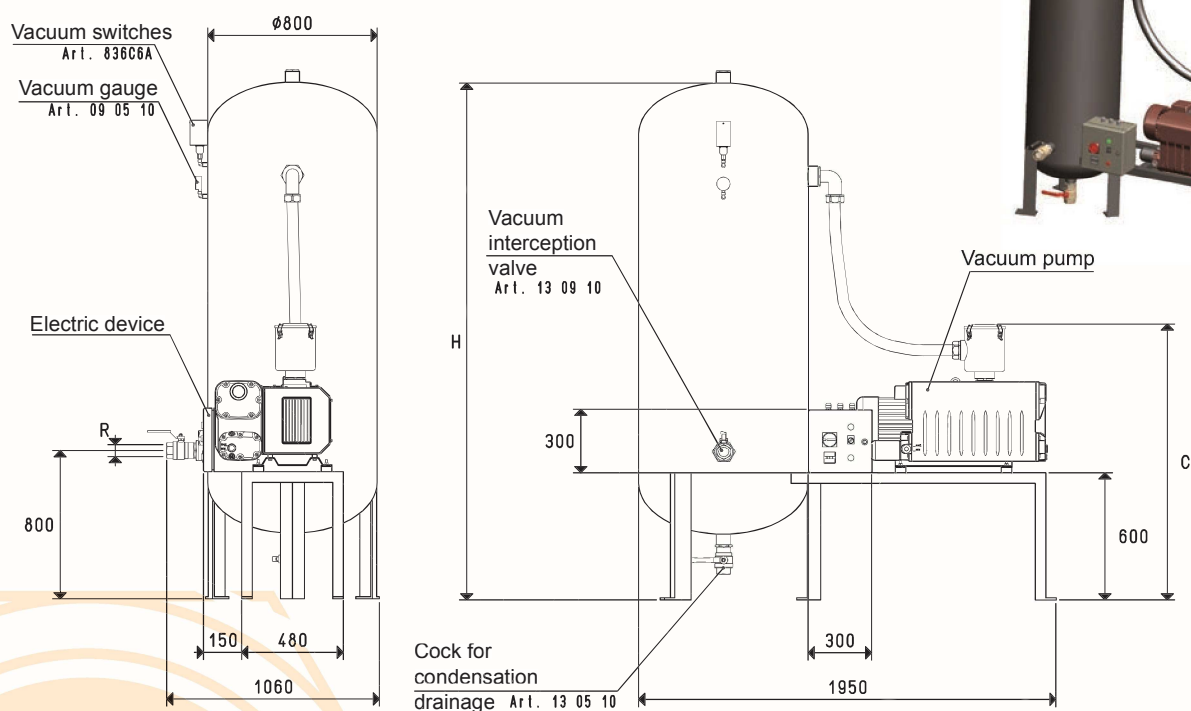
GAS-NPT thread adapters available at page 1.117

VERTICAL PUMPSETS DV 500 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DV 500 MV 160R	500	MV 160R	3 ~ 230/400-50Hz	D0 100 90	1061	2220	G2"	300	FB 60 / FC 60
DV 500 MV 200R	500	MV 200R	3 ~ 230/400-50Hz	D0 100 91	1151	2220	G2"	357	FB 60 / FC 60
DV 500 MV 300R	500	MV 300R	3 ~ 400/690-50Hz	D0 100 91	1151	2220	G2"	404	FB 60 / FC 60

VERTICAL PUMPSETS DV 1000 ...



Art.	Tank	Pump	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DV 1000 MV 200R	1000	MV 200R	3 ~ 230/400-50Hz	D0 100 91	1301	2480	G3"	406	FC 80
DV 1000 MV 300R	1000	MV 300R	3 ~ 400/690-50Hz	D0 100 91	1301	2480	G3"	433	FC 80

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

VERTICAL SAFETY PUMPSETS – GENERAL DESCRIPTION

Safety pumpsets have been designed to centralise vacuum in all work environments such as hospitals, laboratories, etc. where vacuum must be guaranteed 24/24.

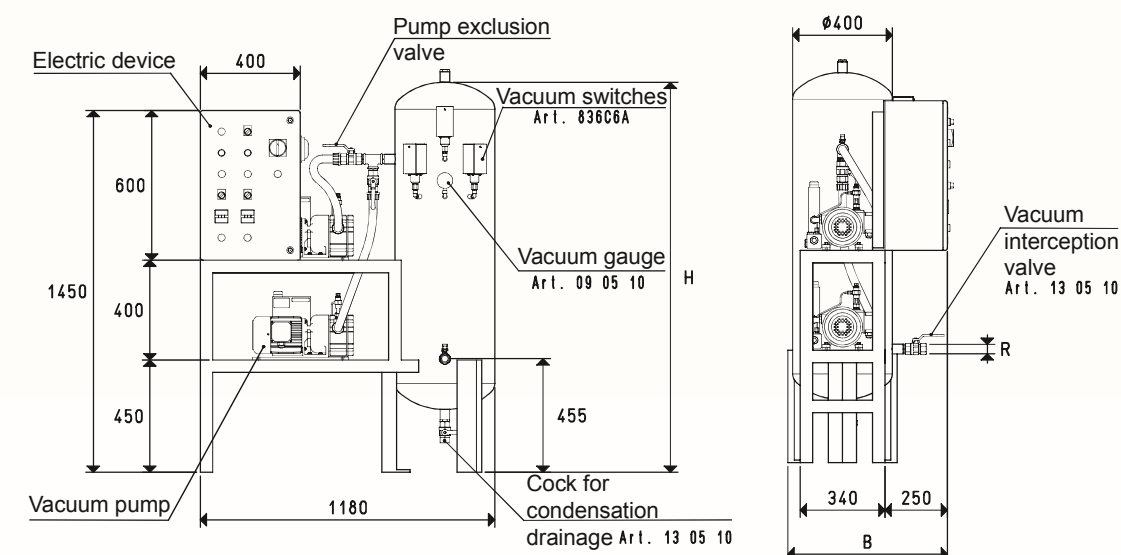
They are composed of:

- *A vertical welded sheet steel tank with perfect vacuum seal.*
- *Two rotating vane vacuum pumps to be chosen according to the required suction capacity and vacuum level.*
- *Three vacuum switches, of which two for adjusting the vacuum level within which each pump must operate, and one for determining the minimum safety value, under which the alarm sets off.*
- *A vacuum gauge for a direct reading of the vacuum level in the tank.*
 - *Two manual valves for pump exclusion.*
 - *A manual valve for vacuum interception.*
 - *A cock for condensation drainage.*
- *A switchgear enclosed in a special watertight metal casing with switches for automatic or manual pump operation, an alarm device with sound and light signal, alarm-test buttons and hour-counter for counting the hours of actual operation of every single pump.*

These pumpsets normally provide for the operation of one pump with subsequent automatic insertion of the second one for larger consumptions and when, for whatever reason, the plant vacuum level goes under the preset value. The automatic timed inverter, located on the switchboard, accurately alternates the pump start-up, so that they are both subject to the same mechanical wear. The switchboard and remote alarm systems operate when the plant vacuum level is below the set safety value.

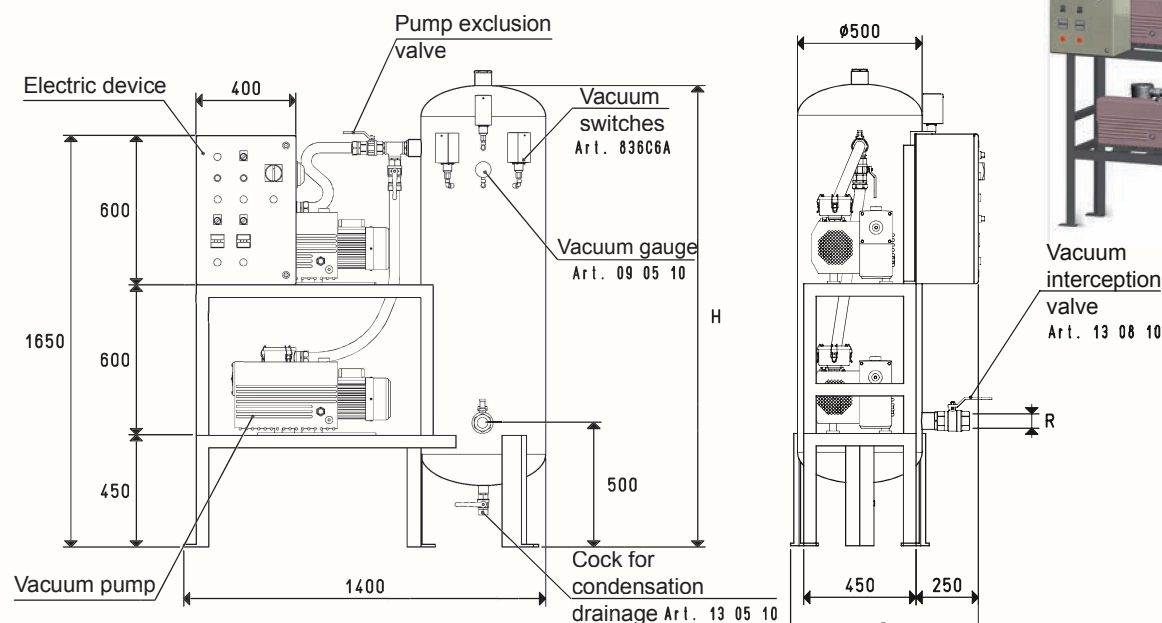


VERTICAL SAFETY PUMPSETS DSV 150 ...



Art.	Tank	2 pumps	Motor	Switchgear	B	H	R	Weight	Filtre
	Litres	Mod.	execution	art.			Ø	Kg	accessories
			Volt						art.
DSV 150 VTL 10/F	150	VTL 10/F	3 ~ 230/400-50Hz	DSO 300 90	625	1600	G1"	152	FB 30 / FC 30
DSV 150 VTL 15/F	150	VTL 15/F	3 ~ 230/400-50Hz	DSO 300 90	625	1600	G1"	164	FB 30 / FC 30
DSV 150 VTL 20/F	150	VTL 20/F	3 ~ 230/400-50Hz	DSO 300 90	625	1600	G1"	167	FB 30 / FC 30
DSV 150 MV 20	150	MV 20	3 ~ 230/400-50Hz	DSO 300 90	625	1600	G1"	158	FB 30 / FC 30
DSV 150 VTL 25/FG	150	VTL 25/FG	3 ~ 230/400-50Hz	DSO 300 90	630	1600	G1"	168	FB 30 / FC 30
DSV 150 VTL 30/FG	150	VTL 30/FG	3 ~ 230/400-50Hz	DSO 300 90	630	1600	G1"	172	FB 30 / FC 30
DSV 150 VTL 35/FG	150	VTL 35/FG	3 ~ 230/400-50Hz	DSO 300 90	630	1600	G1"	174	FB 30 / FC 30

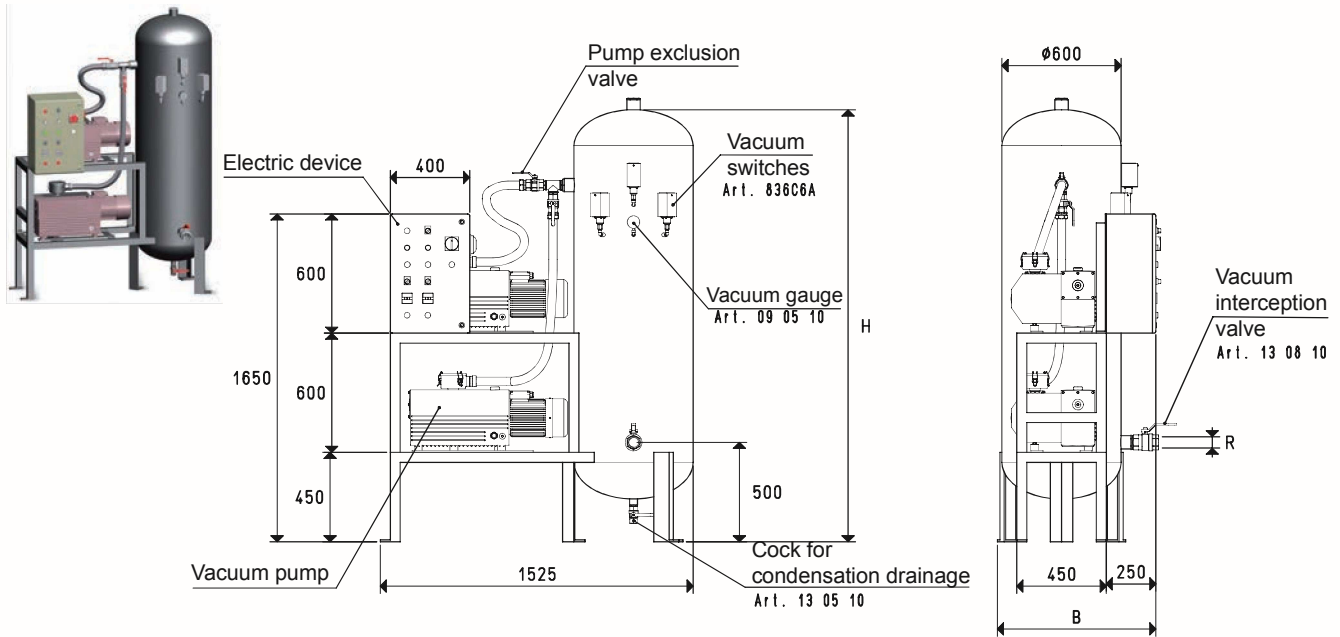
VERTICAL SAFETY PUMPSETS DSV 300 ...



Art.	Tank	2 pumps	Motor	Switchgear	B	H	R	Weight	Filtre
	Litres	Mod.	accessories	art.			Ø	Kg	accessories
			Volt						art.
DSV 300 MV 40	300	MV 40	3 ~ 230/400-50Hz	DSO 300 90	725	1890	G2"	217	FB 60 / FC 60
DSV 300 VTL 50/G1	300	VTL 50/G1	3 ~ 230/400-50Hz	DSO 300 90	725	1890	G2"	226	FB 60 / FC 60
DSV 300 MV 60	300	MV 60	3 ~ 230/400-50Hz	DSO 300 90	725	1890	G2"	225	FB 60 / FC 60
DSV 300 VTL 75/G1	300	VTL 75/G1	3 ~ 230/400-50Hz	DSO 300 90	725	1890	G2"	249	FB 60 / FC 60
DSV 300 MV 100	300	MV 100	3 ~ 230/400-50Hz	DSO 300 90	725	1890	G2"	252	FB 60 / FC 60
DSV 300 VTL 105/G1	300	VTL 105/G1	3 ~ 230/400-50Hz	DSO 300 90	725	1890	G2"	270	FB 60 / FC 60

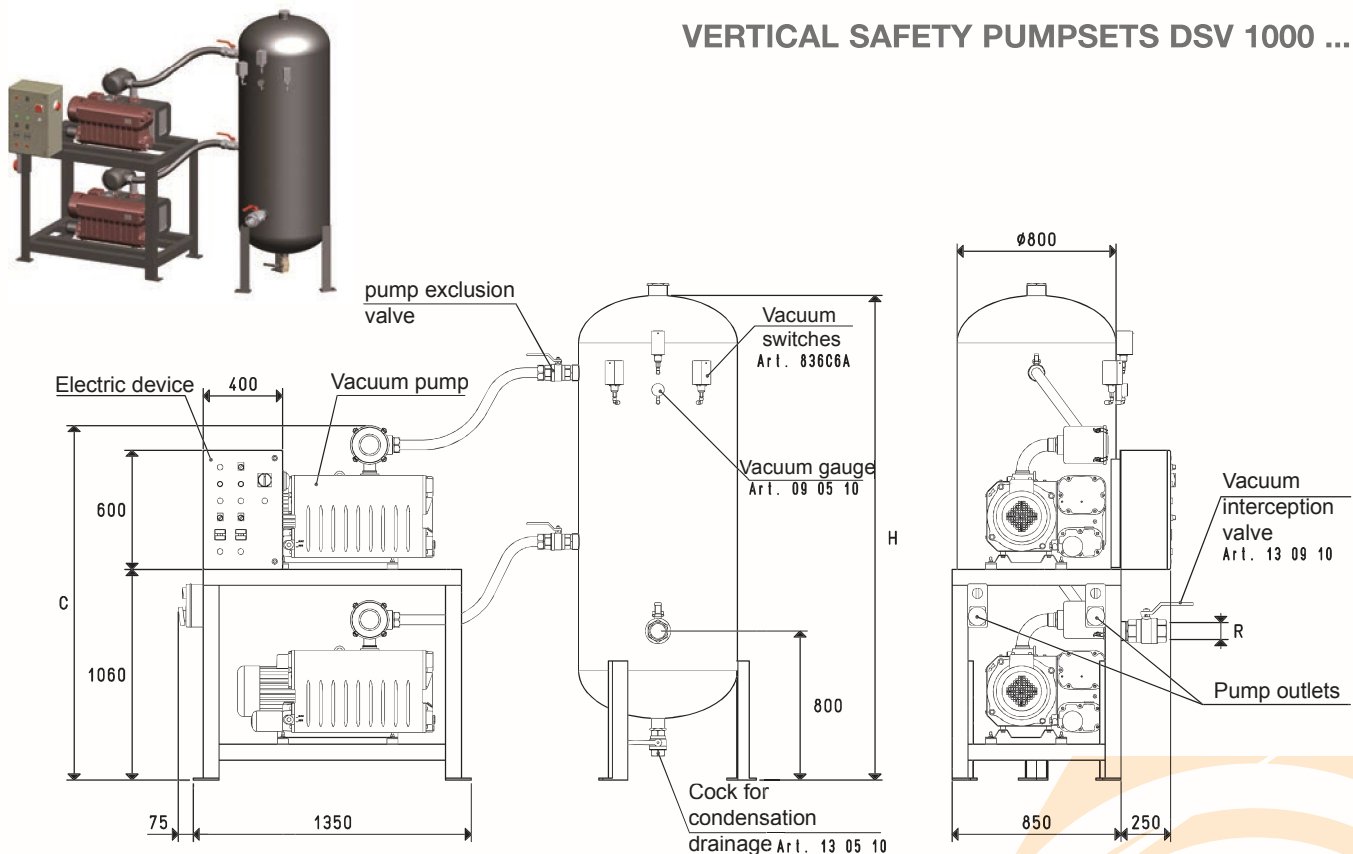
Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

VERTICAL SAFETY PUMPSETS DSV 500 ...



Art.	Tank	2 pumps	Motor execution	Switchgear	B	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DSV 500 MV 60	500	MV 60	3 ~ 230/400-50Hz	DSO 300 90	750	2220	G2"	308	FB 60 / FC 60
DSV 500 VTL 75/G1	500	VTL 75/G1	3 ~ 230/400-50Hz	DSO 300 90	750	2220	G2"	355	FB 60 / FC 60
DSV 500 MV 100	500	MV 100	3 ~ 230/400-50Hz	DSO 300 90	750	2220	G2"	362	FB 60 / FC 60
DSV 500 VTL 105/G1	500	VTL 105/G1	3 ~ 230/400-50Hz	DSO 300 90	750	2220	G2"	396	FB 60 / FC 60
DSV 500 MV 160R	500	MV 160R	3 ~ 230/400-50Hz	DSO 300 90	750	2220	G2"	410	FB 60 / FC 60

VERTICAL SAFETY PUMPSETS DSV 1000 ...



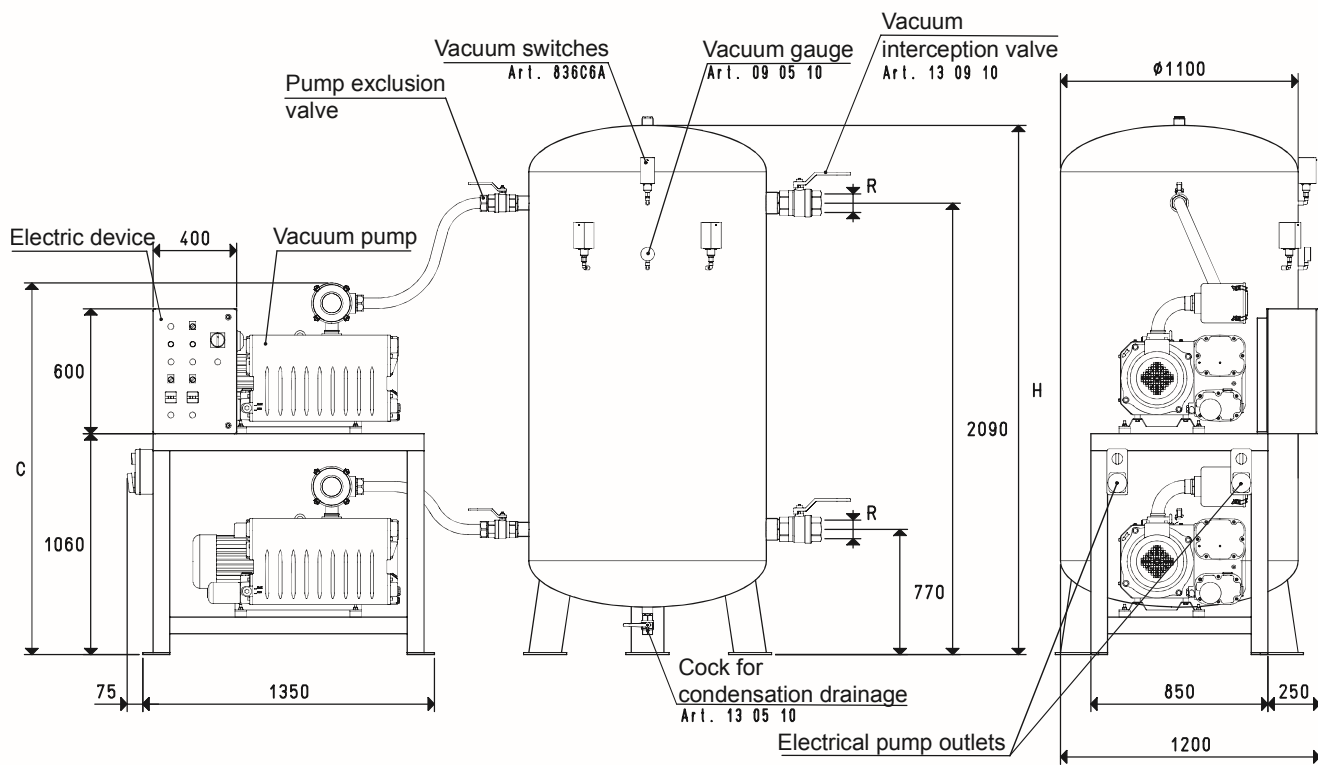
Art.	Tank	2 pumps	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DSV 1000 MV 160R	1000	MV 160R	3 ~ 230/400-50Hz	DSO 300 90	1663	2480	G3"	478	FC 80
DSV 1000 MV 200R	1000	MV 200R	3 ~ 230/400-50Hz	DSO 300 91	1751	2480	G3"	592	FC 80
DSV 1000 MV 300R	1000	MV 300R	3 ~ 400/690-50Hz	DSO 300 91	1751	2480	G3"	646	FC 80

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.

Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

VERTICAL SAFETY PUMPSETS DSV 2000 ...



Art.	Tank	2 pumps	Motor execution	Switchgear	C	H	R	Weight	Filtre accessories
	Litres	Mod.	Volt	art.			Ø	Kg	art.
DSV 2000 MV 200R	2000	MV 200R	3 ~ 230/400-50Hz	DSO 300 91	1751	2450	G3"	902	FC 80
DSV 2000 MV 300R	2000	MV 300R	3 ~ 400/690-50Hz	DSO 300 91	1751	2450	G3"	926	FC 80

Note: As a standard, all MV... pumps are equipped with an FC... filtre adjusted to the suction connection size.