Operating Instructions

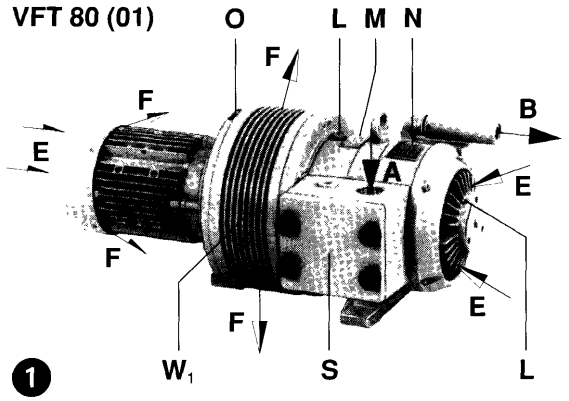
Rietschle

Vacuum pumps

VFT

VFT 25
VFT 40
VFT 60
VFT 80
VFT 100
VFT 140
VFT 180
VFT 250
VFT 340
VFT 500

VFT 80 (01)



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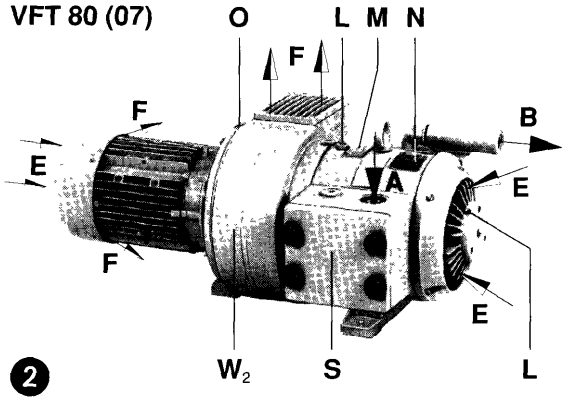
VFT 80 (07)



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Pump ranges

These operating instructions concern the following dry running rotary vane vacuum pumps: Models VFT 25 to VFT 500.

Version (01) → cooling air exits through slots on the fan housing — see pictures ❶ and ❸

Version (07) → cooling air exits out of the spiral housing — see pictures ❷ and ❹

The vacuum capacities at atmosphere are 25, 40, 60, 80, 100, 140, 180, 250, 340 and 500 m^3/hr operating on 50 cycles.

The pumping curves showing capacity against pressure can be found in data sheets:

D 157 → VFT 25 - VFT 100 (01)
D 158 → VFT 25 - VFT 100 (07)
D 167 → VFT 140 - VFT 500 (01)
D 168 → VFT 140 - VFT 500 (07)

Description

All models are complete with an inlet threaded connection and a silencer on the exhaust (except when the exhaust is piped in to the spiral housing). All the air handled is filtered by a built-in micro-fine filter.

A high efficiency cooling fan that pulls air in is situated between the pump housing and the motor. On version (01) the fan is located in the fan housing (see pictures ❶ and ❸). The heated cooling air (F) is totally directed out of the fan housing (W_1) On version (07) the fan is located in a spiral housing (see pictures ❷ and ❹). In this case the heated cooling air (F) can be directed either upwards or to the side depending on the position of the spiral housing (W_2). It is also possible to connect ducting to the spiral housing so that the cooling air (F) can be transported away from the unit.

All the pumps are driven by a direct flanged three phase, standard TEFV motor via a pin and bush coupling

Optional extras: As required, vacuum regulating valve (ZRV), non return valve (ZRK), inlet dust filter (ZFP), vacuum tight suction filter (ZVF), motor starter (ZMS), star delta starter (ZSG), unloading valve (ZAE) and various vacuum gauges.

Suitability

The VFT can be used for the evacuation of a closed system or for a permanent vacuum from 150 to 1000 mbar (abs.). A maximum vacuum of 100 mbar (abs.) is possible on intermittent operation.

⚠ **The ambient and suction temperatures must be between 5 and 40° C. For temperatures outside this range please contact your supplier.**

These dry running vacuum pumps are suitable for use with air of a relative humidity of 30 to 90%.

⚠ **No dangerous mixtures (i.e. flammable or explosive gases or vapours) extremely humid air, water vapour, aggressive gases or traces of oil and grease can be handled.**

All applications where an unplanned shut down of the vacuum pump could possibly cause harm to persons or installations, then the corresponding safety backup system must be installed.

Handling and Setting up

⚠ **Pumps that have reached operating temperature may have a surface temperature at position (Q) of more than 70° C. WARNING! Do Not Touch.** (see pictures ❺ and ❻)

The filter housing (S), exhaust box (T), housing cover (b) and greasing points (L) must all be easily accessible. For maintenance purposes we recommend a space of 0.4 m in front of the filter housing and housing cover. The cooling air entries (E) and the cooling air exits (F) must have a minimum distance of 20 cm from any obstruction. The discharged cooling air must not be recirculated. If the cooling air exits from the spiral housing (W_2) via ducting then care should be taken so that the passage of air is not obscured. (see pictures ❶ to ❻)

The VFT pumps can only be operated reliably if they are installed horizontally.

⚠ **For installations that are higher than 1000 m above sea level there will be a loss in capacity. For further advice please contact your supplier.**

Installed on a solid base these pumps may be installed without fixing down. If the pumps are installed on a base plate we would recommend fitting anti-vibration mounts. This range of vacuum pumps are almost vibration free in operation.

BE 157

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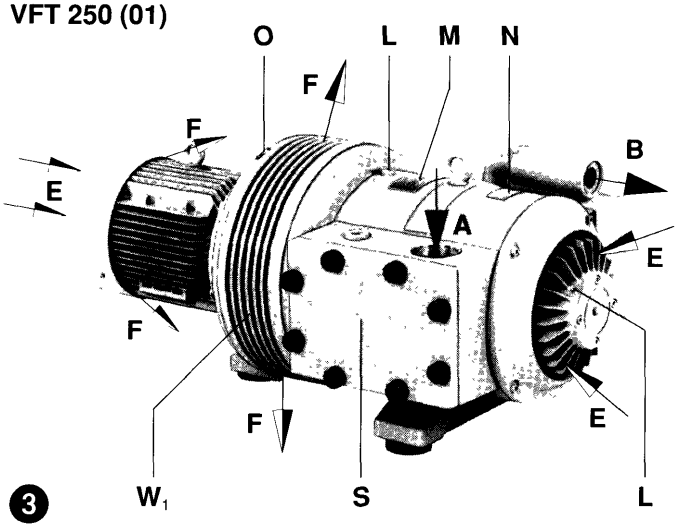
VFT 250 (01)



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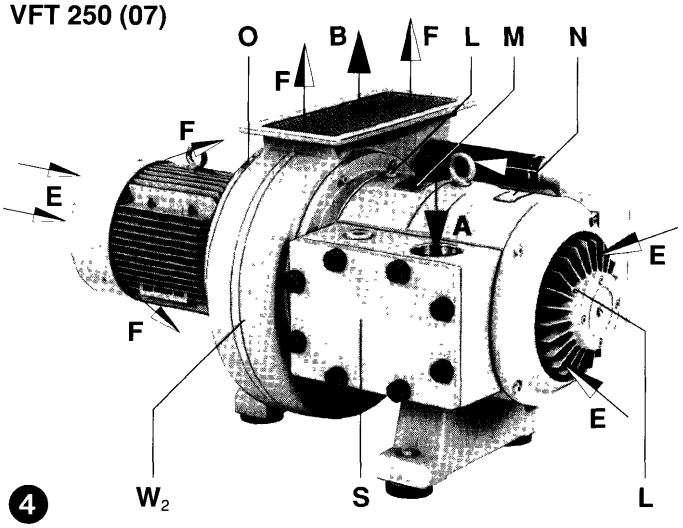
VFT 250 (07)



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Installation (pictures ❶ to ❻)

⚠ **For operating and installation follow any relevant national standards that are in operation.**

1. Vacuum connection at (A).
   The air handled can be exhausted into the atmosphere through the exhaust port (B) or on models VFT 140-500 (07) by directing the air through the spiral housing (W_2).

⚠ **Long and/or small bore pipework should be avoided as this tends to reduce the capacity of the pump.**

2 The electrical data can be found on the data plate (N) or the motor data plate. The motors correspond to DIN/VDE 0530 and have IP 54 protection and insulation class B or F. The connection diagram can be found in the terminal box on the motor (unless a special plug connection is fitted). Check the electrical data of the motor for compatibility with your available supply (voltage, frequency, permissible current etc.).

3. Connect the motor via a motor starter. It is advisable to use thermal overload motor starters to protect the motor and wiring. All cabling used on starters should be secured with good quality cable clamps.
   We recommend that motor starters should be used that are fitted with a time delayed trip resulting from running beyond the amperage setting. When the unit is started cold, overamperage may occur for a short time.

⚠ **Electrical connections should only be made by qualified electricians.**

Initial Operation (pictures ❶ to ❹)

1. Initially switch the pump on and off for a few seconds to check the direction of rotation against the direction arrow (O).
   Note: On this initial start the suction pipework should not be connected. If the pump runs backwards with the pipework connected a pressure could build up within the housing which could result in damaged rotor blades.
2. Connect the suction pipe at (A).

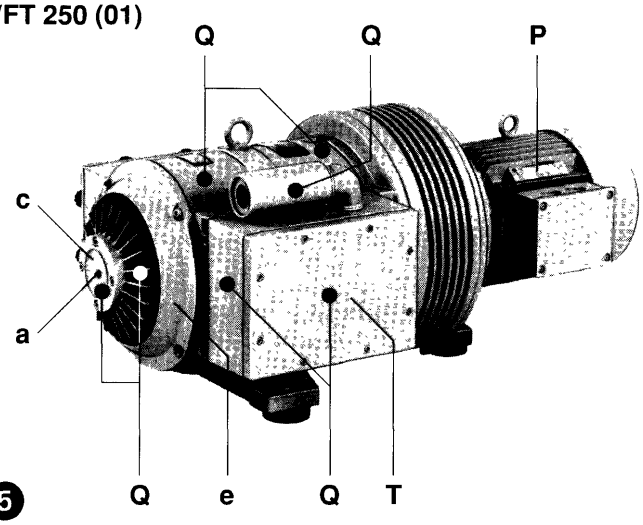
⚠ **For pipe work longer than 3 m we recommend using non-return-valves (ZRK), to avoid reverse rotation when the units are switched off.**

3. Vacuum regulating valve (optional extra):
   The vacuum can be adjusted by turning the regulating valve (C) according to the symbols on the top of the regulating valve.

Potential risks for operating personnel

Noise Emission: The worst noise levels considering direction and intensity measured according to DIN 45635 part 3 (as per 3. GSGV) are shown in the table at the back. When working permanently in the vicinity of an operating pump we recommend wearing ear protection to avoid any damage to hearing.

VFT 250 (01)



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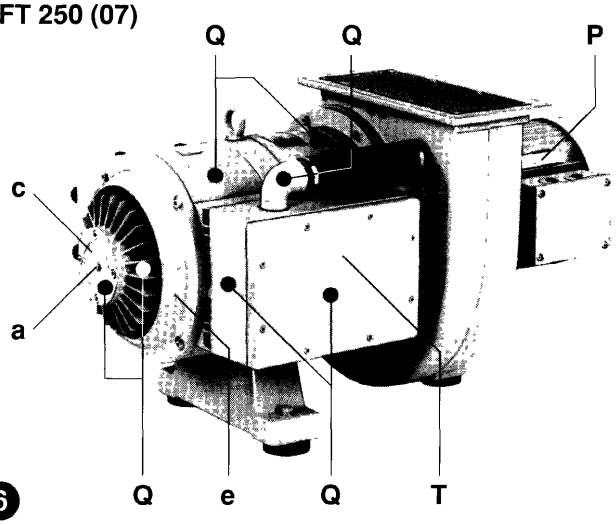
VFT 250 (07)



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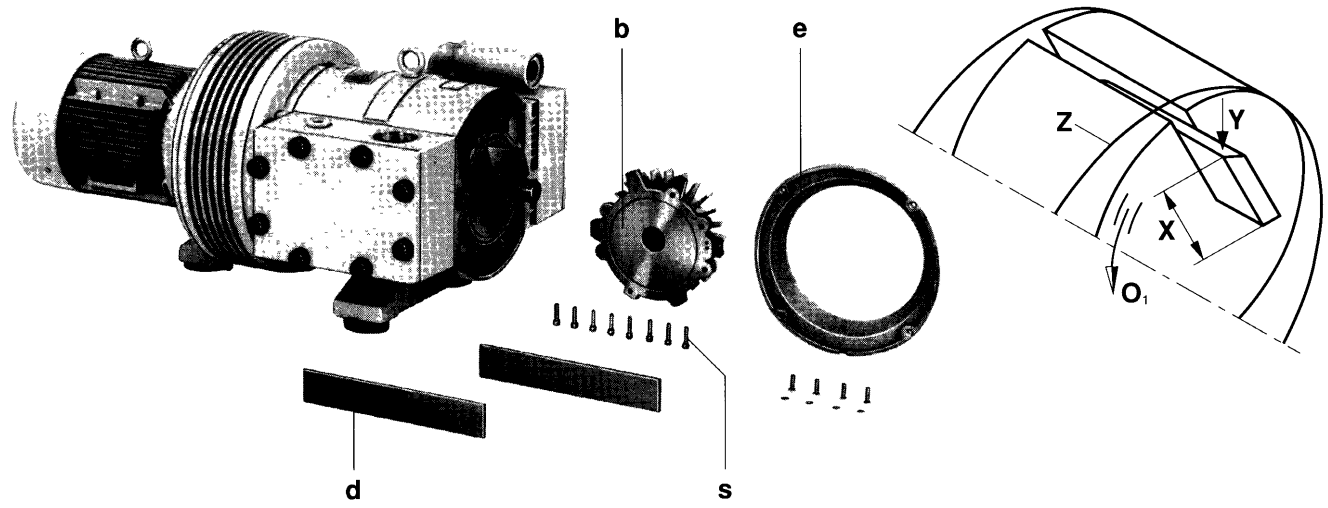

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Maintenance and Servicing

When maintaining these units and having such situations where personnel could be hurt by moving parts or by live electrical parts the pump must be isolated by totally disconnecting the electrical supply. It is imperative that the unit cannot be re-started during the maintenance operation.

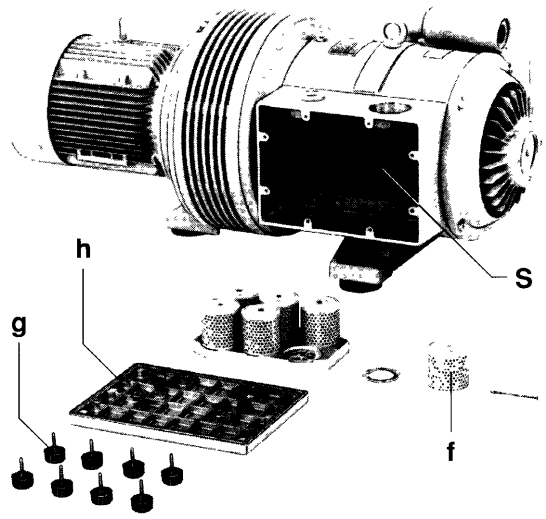
Do not maintain a pump that is at its normal operating temperature as there is a danger from hot parts.

1. Lubrication The lubrication points are (L); lubrication periods are as follows, but minimum is once a year:

Model	Operating hours 50 Hz	60 Hz	Grease every bearing
VFT 25 - 60	7.000	7.000	4 g
VFT 80	4 000	4.000	6 g
VFT 100	4.000	3.000	6 g
VFT 140 - 250	4.000	3.000	8 g
VFT 340 - 500	4.000	3.000	10 g

Note! These greasing instructions are valid for operation at 20°C ambient temperature. At 40°C these should be reduced by 50 %.

We recommend the following grease types: Shell Alvania R3, Mobil Mobilux 3, BP Energrease LS3, Esso Beacon 3, Aral Aralub HL3 or other equal greases (see label of recommended greases (M))



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2. Air filtration (pictures ❶ to ❽)

The capacity of the pump could be reduced if the air inlet filters are not maintained correctly.

The filter cartridges (f) of the suction filter (S) have to be cleaned monthly and replaced once a year (under extreme conditions more often). Changing the filter: Loosen thumb screws (g). Take off filter cover (h) complete with gasket Remove filter cartridges (f) and clean or exchange. Reassemble in reverse order

3. Blades (picture ❼)

Checking blades: The models VFT have 4 blades which have a low but permanent wear factor.

VFT 25 - VFT 100: first check after 4,000 operating hours, thereafter every 500 operating hours.

VFT 140 - VFT 500: first check after 2,000 operating hours, thereafter every 500 operating hours.

Screw off end cover (e) To remove the housing cover (b) from the housing the bolt (a) located in the centre of the bearing cover (c) should be removed. To facilitate this one of the fixing bolts (s) from the housing cover should be screwed into the thread in the centre of the bearing cover (c). Remove the blades (d) and check. All blades must have a minimum height (X) of:

Model	X (minimum hight)
VFT 25 - 40	22 mm
VFT 60	25 mm
VFT 80 - 100	30 mm
VFT 140 - 250	40 mm
VFT 340 - 500	60 mm

Blades must be changed completly.

Note! The VFT 500 has 2 blades per slot.

Changing blades: if the minimum height (X) is reached, then the whole set of rotor blades should be changed.

Before refitting the blades blow out the housing and the rotor slots. Place the blades with the radius outwards (Y) such that the bevel is in the direction of rotation (O_1) and corresponds with the radius of the housing (Z).

Before refitting the housing cover (b) redistribute the grease from the bearing cover (c) on to the appropriate bearing. It is important that the shaft end is completely clean so that no grease can enter the housing, this could mix together with carbon dust and give a viscous paste which would result in blades being stuck into the rotor slots.

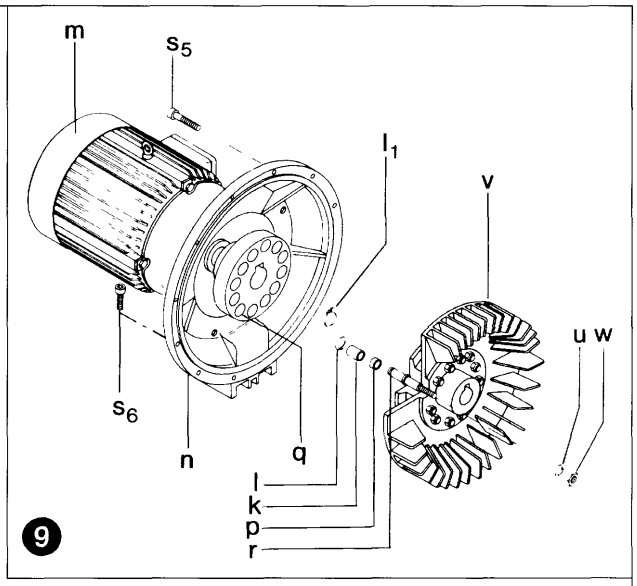
Note! Care should be taken that the bearing should not become contaminated.

When re-fitting the housing cover (b) tighten the bolts evenly so that the end cover fits correctly onto the fixing points. When the end cover is almost touching the housing we recommend moving the fan in both directions whilst further tightening the bolts. This can be achieved by removing the motor fan cover. This then ensures that the blades are sitting correctly in their slots and avoids any edge damage Refit the end cover (e).

5. Coupling (picture ❾)
The coupling rubbers (k) are wearing parts and should be checked regularly. When the coupling rubbers are worn this can be detected by a knocking sound when the vacuum pump is started.

⚠ **Defective coupling rubbers can cause extensive damage and even in some extreme cases break the rotor shaft.**

To check the coupling stop the motor (m) and isolate. Remove the screws (s_5) on the motor flange (n). For motors secured by the feet, screws (s_6) should also be removed. Pull off the motor together with the motor side coupling half (q). If the coupling rubbers (k) are damaged remove the circlips (l) from the coupling bolt (r) and exchange the coupling rubbers (k). Leave the spacer (p) in place, check the coupling bolts (r) for any wear and replace if necessary. To replace, remove the circlip (l_1), pull off the coupling and fan (v) complete from the pumpshaft, remove the nut (w) with washer (u) and exchange the coupling bolts. Re-assemble in reverse order.



Trouble Shooting:

1. Motor starter cuts out vacuum pump:
1.1 Check that the incoming voltage and frequency corresponds with the motor data plate.
1.2 Check the connections on the motor terminal block.
1.3 Pump is trying to operate against a closed exhaust or without an unloading valve on start/delta starting.
Solution: Optional extra, unloading valve model ZAE.
1.4 Incorrect setting on the motor starter.
1.5 Motor starter trips too fast.
Solution: Use a motor starter with a time delay trip (version as per ICE 947-4).
1.6 Back pressure on the exhaust pipework is excessive.

2. Insufficient suction capacity:
2.1 Inlet filters are obscured.
2.2 Suction pipe work is too long or too small.
2.3 Leak on the pump or on the system.
2.4 Blades are damaged.

3. Vacuum pump does not reach ultimate vacuum:
3.1 Check for leaks on the suction side of the pump or on the system
3.2 Blades are worn or damaged

4. Vacuum pump operates at an abnormally high temperature:
4.1 Ambient or suction temperature too high
4.2 Cooling air flow is restricted.
4.3 Problem as per 1.6.

5. Unit emits abnormal noise:
5 1 The pump cylinder is worn.
Solution: send your complete unit off for repair to the supplier or approved service agent.
5.2 The regulating valve (if fitted) is noisy.
Solution: replace valve.
5.3 Blades are damaged.

Appendix:

Repair on Site. For all repairs on site an electrician must disconnect the motor so that an accidental start of the unit cannot happen.
All engineers are recommended to consult the original manufacturer or one of the subsidiaries, agents or service agents. The address of the nearest repair workshop can be obtained from the manufacturer on application.
After a repair or before re-installation follow the instructions as shown under the headings "Installation and Initial Operation".

Lifting and Transport: To lift and transport the vacuum pump the eye bolts on the housing and motor must be used. If an eye bolt is missing use suitably rated strops. The weight of the pumps are shown in the accompanying table.

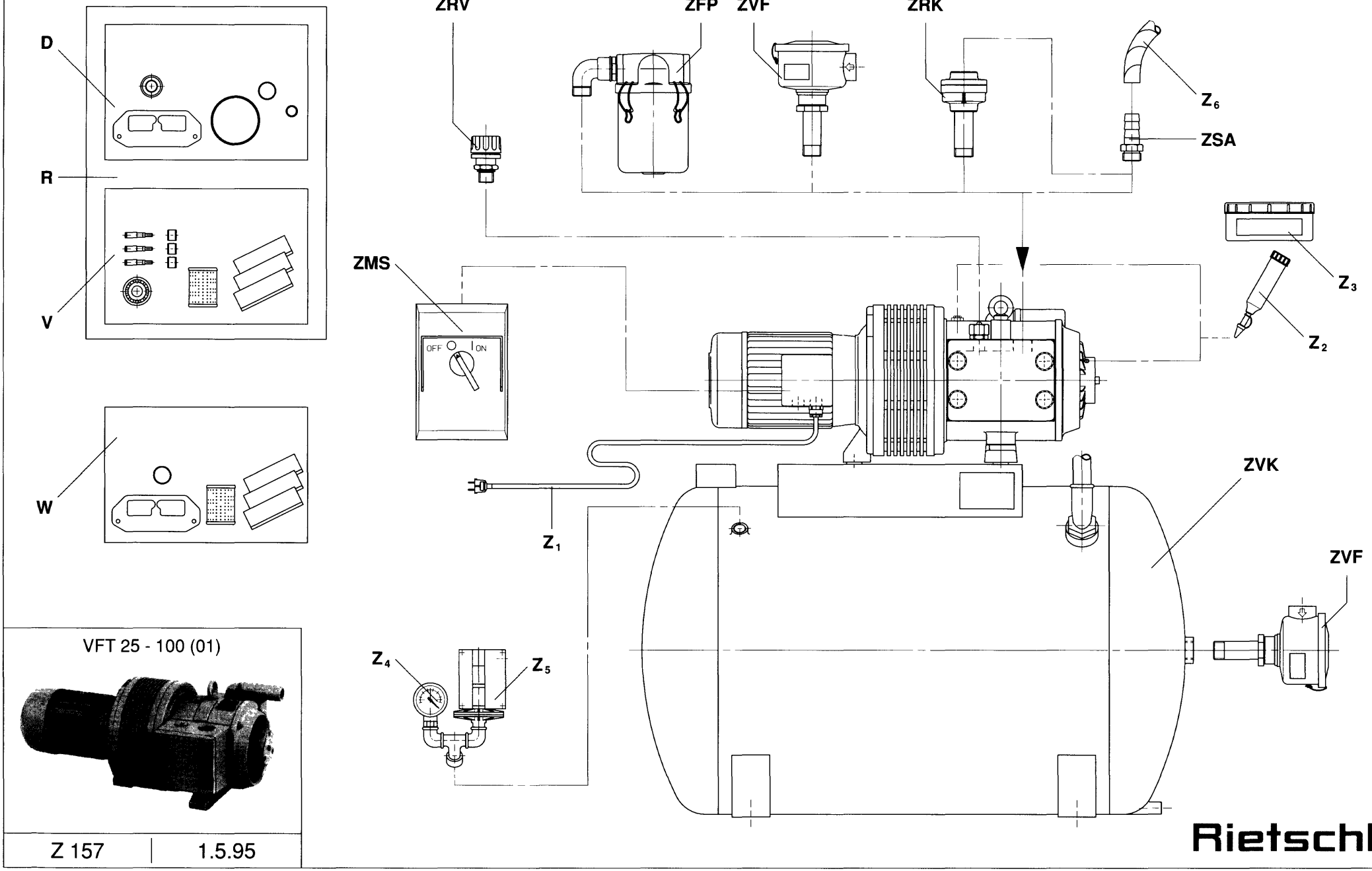
Storage: VFT units must be stored in dry ambient conditions with normal humidity. We recommend for a relative humidity of over 80% that the pump should be stored in a closed container with the appropriate drying agents

Disposal: The fast wearing parts (as listed in the spare parts lists) should be disposed of with due regard to health and safety regulations.

Spare part lists: E 157 → VFT 25 - VFT 100 (01) E 167 → VFT 140 - VFT 500 (01)
E 158 → VFT 25 - VFT 100 (07) E 168 → VFT 140 - VFT 500 (07)

VFT			25	40	60	80	100	140	180	250	340	500
Noise level (max.)	dB(A)	50 Hz	77	78	80	81	81	86	89	91	91	92
		60 Hz	78	79	81	82	82	87	90	92	92	93
Weight (max.)	kg	(01)	35	50	65	75	92	151	198	222	374	531
		(07)	40	55	70	80	101	161	208	232	384	541
Length (max.)	mm	(01)	585	680	710	753	803	828	955	1074	1244	1445
		(07)	585	680	709	754	804	847	955	1073	1244	1445
Width	mm		333	333	383	431	437	566	566	566	702	712
Height (max.)	mm	(01)	254	254	292	319	319	450	450	450	575	575
		(07)	305	305	343	363	363	647	647	647	807	807

VFT 25 - 100 (01)



VFT 25 - 100 (01)

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	Deutsch	English	Francais	Italiano	Hollands
D	Dichtungssatz	Gasket set	Pochette de joints	Serie guarnizioni	Pakkingset
V	Verschleißteilsatz	Wearing parts set	Kit pièces d'usure	Serie parti usurabili	Set slijtdelen
R	Reparatursatz	Repair set	Kit d'entretien	Set revisione	Reparatie set
W	Wartungssätze	Maintenance sets	Kit de première intervention	Set manutenzione	Service set
ZMS	Motorschutzschalter	Motor starter	Disjoncteur moteur	Interruttore magnetotermico	Motor beveiliging schakelaar
ZFP	Vakuumdichter Staubabscheider	Vacuum tight dust separator	Filtre séparateur étanche	Separatore polveri	Vacuümdicht stofafscheider
ZRK	Rückschlagventil	Non return valve	Clapet anti-retour	Valvola di non ritorno	Terugslagklep
ZRV	Vakuum-Regulierventil	Vacuum regulating valve	Valve réglage vide	Valvola regolazione vuoto	Vacuüm regelventiel
ZSA	Schlauchanschluß	Hose connection	Raccord tuyau	Attacco portagomma	Slangpilaar
ZVF	Vakuumdichter Ansaugfilter	Vacuum tight suction filter	Filtre d'aspiration étanche	Filtro aspirazione ermetico	Vacuümdicht voorfilter
ZVK	Vakuumkessel	Vacuum receiver	Réservoir	Serbatoio del vuoto	Vacuümketel
Z_1	Anschlußkabel mit Stecker	Connection cable with plug	Câble raccordement avec fiche	Cavo di collegamento con prese	Aansluitsnoer met stekker
Z_2	Fettpresse	Grease gun	Pompe à graisse	Ingrassatore	Vetspuit
Z_3	Schmierfett	Grease	Graisse	Grasso di lubrificazione	Smeervet
Z_4	Vakuummeter	Vacuum gauge	Vacuomètre	Vacuometro	Vacuüm meter
Z_5	Vakuum-Schalter	Vacuum switch	Commutateur vide	Vacuostato	Vacuümschakelaar
Z_6	Vakuumschlauch	Flexible pipe	Flexible	Tubo flessibile	Vacuüm slang

	Español	Português	Dansk	Svensk	Suomi
D	Kitt de juntas	Jogo de juntas	Pakningssæt	Packningssats	Tiivistesarja
V	Kitt partes desgastables	Jogo de peças de desgaste	Sliddelssæt	Slitdelssats	Kulutusosasarja
R	Kitt de revisión	Jogo de revisão geral	Reparationssæt	Renoveringssats	Korjaussarja
W	Kitt de mantenimiento	Jogo de manutenção	Servicesæt	Servicesats	Huolto-osasarja
ZMS	Interruptor guarda motor	Discontactor para motor	Motorværn	Motorskyddsbrytare	Moottorin suojakytkin
ZFP	Separador polvo estanco	Separador de poeiras para vácuo	Vakuumtæt støvfilter	Vakuumtätt partikelfilter	Pölyn erotin
ZRK	Válvula de retención	Válvula anti-retorno	Tilbageslagsventil	Backventil	Takaiskuventtiili
ZRV	Válvula reguladora de vacio	Válvula de regulação de vácuo	Vakuumreguleringsventil	Vakuumreglerventil	Alipalneen säätöventtiili
ZSA	Racord conexión	Ponteira para tubo flexível	Slangestuds	Slangnippel	Letkuliitin
ZVF	Filtro de aspiración	Filtro de aspiração para vácuo	Vakuumtæt indsugningsfilter	Vakuumtätt insugningsfilter	Imusuodatin
ZVK	Recipiente de vacio	Reservatório de vácuo	Vakuumbeholder	Vakuumtank	Alipainesälliö
Z_1	Cable conector con clavija	Cabo com ficha de ligação	Kabel med stik	Kabel med stickpropp	Liitäntäkaapeli
Z_2	Bomba grasa	Bomba para lubrificação a massa	Fedtsprøjte	Fettspruta	Rasvapuristin
Z_3	Grasa	Massa de alta temperatura	Smørefedt	Kullagerfett	Voltelurasva
Z_4	Vacuómetro	Vacuómetro	Vakuumeter	Vakuumeter	Alipainemittari
Z_5	Interruptor vacio	Vacuostato	Vakuumstat	Pressostat	Alipainekytkin
Z_6	Tubo flexible	Tubo flexível para vácuo	Vakuumslange	Vakuumslang	Joustava liitos

Bei Bestellungen folgendes angeben: Typ, Baugroße, Motordaten
To order please indicate: Model, size, motor data
En cas de commande préciser: Type, série, caractéristique moteur
Nell'ordine indicare: Tipo, grandezza construttiva, dati motore
Bij bestelling vermelden: Type, bouwgrotte, motorgegevens

En caso de pedido precisamos: Modelo, serie, caracteristicas del motor
Ao encomendar indique: Modelo, tamanho, características do motor
Ved bestilling opgiv: Type, størrelse og motordata
Vid beställning ange: Typ, storlek, motordata
Tilattaessa mainittava: Tyyppi, koko, moottorin tiedot

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Daten

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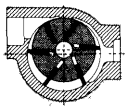
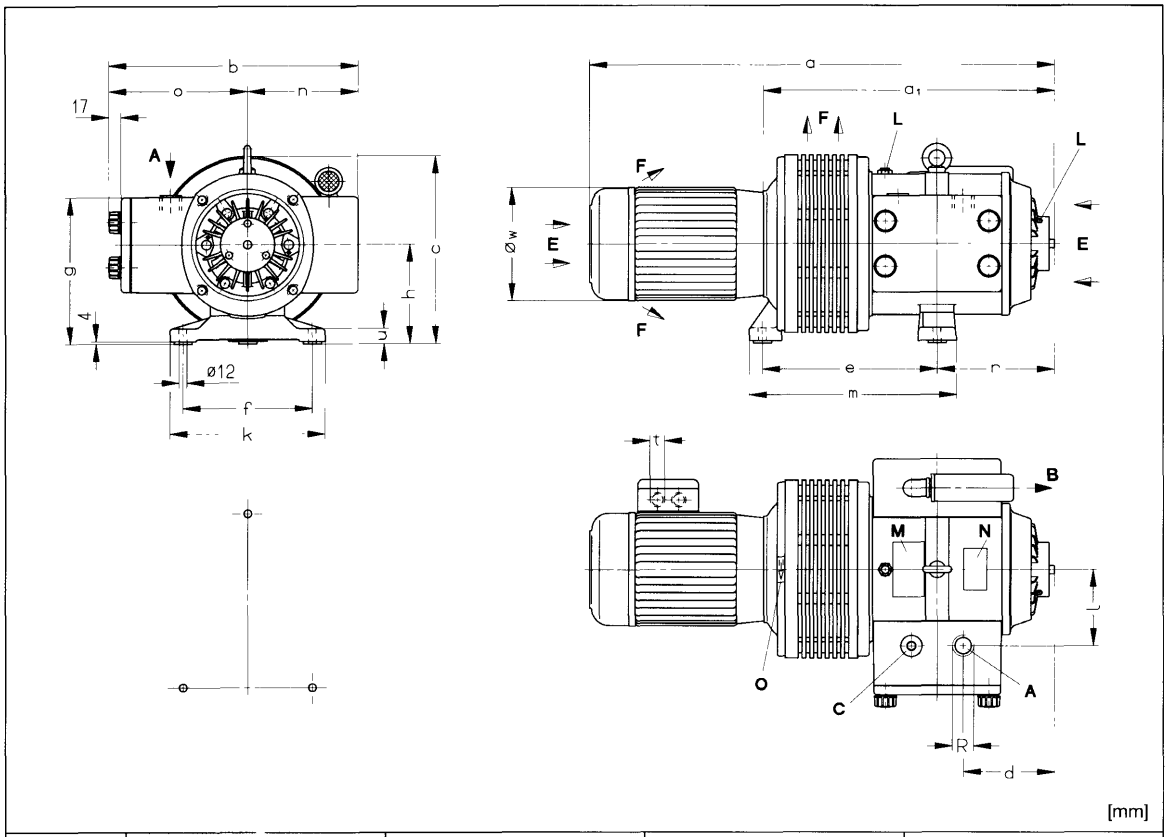


Vakuum-pumpen | **Vacuum Pumps** | **Pompes à vide** | **Pompe per vuoto**

VFT (01)

VFT 25 (01)
VFT 40 (01)
VFT 60 (01)
VFT 80 (01)
VFT 100 (01)



[mm]

A	Vakuum-Anschluß	Vacuum connection	Raccord du vide	Attacco vuoto
B	Abluft-Austritt	Exhaust	Refoulement	Scarico aria
C	Anschlußmoglichkeit fur Vakuum-Regulierventil	Connecting possibility for regulation valve	Possibilité de raccordement pour valve de règlage du vide	Possibilita di allaciamento per valvola regolazione vuoto
E	Kuhlluft-Eintritt	Cooling air entry	Entrée air refroidissement	Entrata aria di raffredd.
F	Kühlluft-Austritt	Cooling air exit	Sortie air refroidissement	Uscita aria di raffredd
L	Schmierstellen	Greasing points	Points de graissage	Punti di lubrificazione
M	Schmierschild	Greasing label	Etiquette graissage	Targhetta della lubrificazione
N	Datenschild	Data plate	Etiquette caractéristique	Targhetta dati
O	Drehrichtungsschild	Direction of rotation	Flèche sens rotation	Targhetta senso rotazione

VFT (01)		25	40	60	80	100
[mm]	a 3 ~	569	656	710	753	803
	a 1 ~	585	680	–	–	–
	a_1	342	412	441	450	500
	b	333	333	383	431	437
	c	254	254	292	319	319
	d	106	126	133	131	137
	e	203	238	270	285	310
	f	170	170	200	200	200
	g	198	198	229	244	244
	h	134	134	154	164	164
	k	204	204	240	240	240
	l	96	99	119	131	131
	m	253	288	320	335	360
	n	156	156	171	208	214
	o	177	177	212	223	223
	r	131	166	173	167	192
	t	Pg 13,5	Pg 16	Pg 16	Pg 21	Pg 21
	u	26	26	24	24	24
	Ø w	160	176	176	196	196
	R	G ¾	G 1	G 1	G 1¼	G1½

D 157

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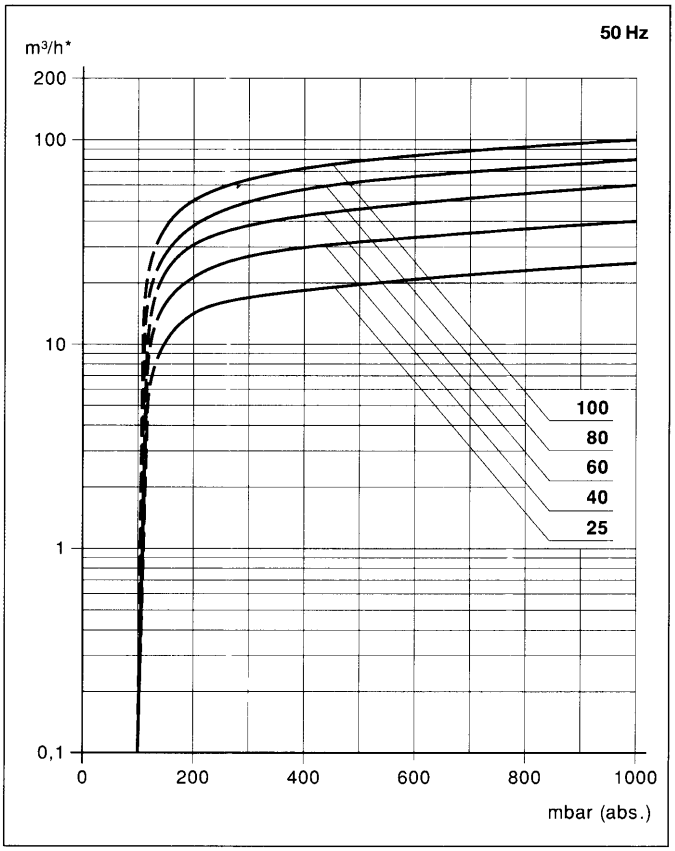
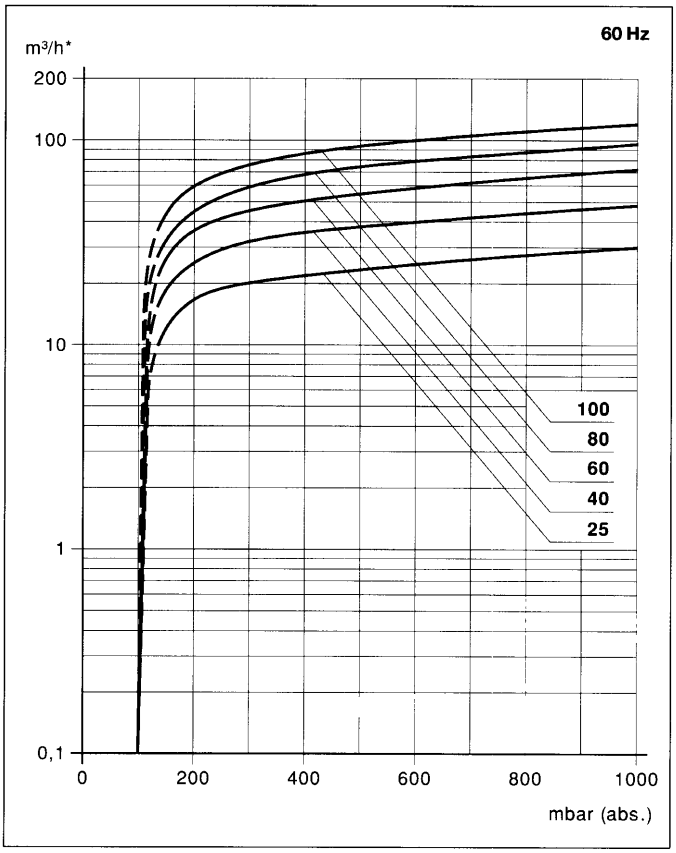
VFT (01)		25	40	60	80	100
m^3/h	50 Hz	25	40	60	80	100
	60 Hz	30	48	72	96	120
mbar (abs.)*		100				
mbar (abs.)■		150				
3 ~	50 Hz	230/400 V ± 10%				
	60 Hz	220/380 V				
1 ~	50 Hz	230 V ± 10%		–		
	60 Hz	220 V		–		
kW (50 Hz)	3 ~	0,75	1,1	1,5	2,2	3,0
	1 ~	0,9	1,3	–	–	–
kW (60 Hz)	3 ~	0,9	1,3	1,8	2,6	3,6
	1 ~	1,1	1,5	–	–	–
A (50 Hz)	3 ~	3,5/2	4,9/2,8	6,4/3,7	9/5,2	12,1/7,0
	1 ~	6,2	8,1	–	–	–
A (60 Hz)	3 ~	3,9/2,3	5,8/3,4	8/4,6	10,8/6,3	14,6/8,5
	1 ~	7	9,8	–	–	–
min^{-1}	50 Hz	1450				
	60 Hz	1740				
dB(A)	50 Hz	73	74	76	77	77
	60 Hz	74	75	77	78	78
kg		35	50	65	75	92

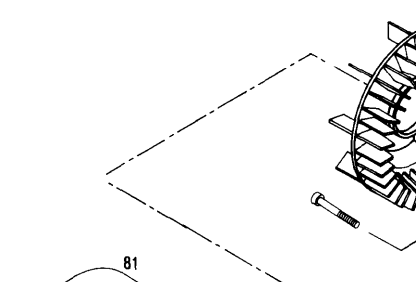
ZRV	13	20	20	20	25
ZRK	20 (03)	25 (03)	25 (03)	32 (03)	40 (03)
ZFP	145 (11)	145 (06)	145 (06)	216 (07)	216 (06)
ZVF	20 (03)	20 (04)	32 (02)	32 (03)	32 (04)
ZMS (3 ~) 50 Hz	40/24	60/40	100/40	100/60	160/100
ZMS (3 ~) 60 Hz	40/24	60/40	100/60	160/100	160/100
ZMS (1 ~)	100	100	–	–	–

m^3/h	Saugvermogen	Capacity	Débit	Portata
mbar (abs.)*	max. Endvakuum	Ultimate vacuum max.	Vide limite maxi.	Vuoto finale massimo
mbar (abs.)■	Endvakuum im Dauerbetrieb	Ult. vacuum on contin. operation	Vide limite en fonction continu	Vuoto finale in esercizio perman.
mbar (abs.)	Ansaugdruck	Suction pressure	Pression d'aspiration	Pressione di aspirazione
3 ~/1 ~	Motorausfuhrung	Motor version	Exécution moteur	Esecuzione motore
kW	Motorleistung	Motor rating	Puissance moteur	Potenza motore
A	Stromaufnahme	Current drawn	Intensité absorbée	Corrente nominale
min^{-1}	Drehzahl	Speed	Vitesse rotation	Numero giro
dB(A)	mittl. Schallpegel	Average noise level	Niveau sonore moyen	Rumorosità media
kg	max. Gewicht	Weight max	Poids maxi.	Peso massimo
	Zubehor	Optional extras	Accessoires	Accessori
ZRV	Vakuum-Regulierventil	Vacuum regulation valve	Valve règlage vide	Valvola regolazione vuoto
ZRK	Ruckschlagventil	Non return valve	Clapet anti-retour	Valvola di non ritorno
ZFP	Staubabscheider	Dust separator	Filtre séparateur	Separatore polveri
ZVF	Vakuumdichtes Ansaugfilter	Vacuum tight suction filter	Filtre d'aspiration étanche	Filtro ermetico sull'aspirazione
ZMS	Motorschutzschalter	Motor starter	Disjoncteur moteur	Interruttore magnetotermico





*bezogen auf den Zustand im Sauganschluß / related to suction conditions at inlet connection / Relatif à l'état règnant à l'aspiration / riferito alle condizioni in aspirazione
Kennlinien und Tabellenangaben beziehen sich auf betriebswarme Vakuumpumpen / Curves and tables refer to vacuum pump at normal operating temperature / Les courbes et tableaux sont établis, pompe à température de fonctionnement / Le curve caratteristiche ed i dati riportati nelle tabelle si riferiscono alle pompe per vuoto con funzionamento a regime
Technische Änderungen vorbehalten! / We reserve the right to alter technical information! / Sous réserve de modification technique! / Salvo modifiche tecniche!
Die Abmessungen a und ø w sowie die Stromaufnahme konnen je nach Motorfabrikat von den hier aufgefuhrten Angaben abweichen / The dimensions a and ø w and/or the current drawn can differ when compared with the data list, depending on the motor type / Les dimensions a et ø w ainsi que l'ampérage peuvent différer des données indiquées, ci-dessus, selon le fabricant du moteur / Le dimensioni a e ø w come la corrente nominale possono scostarsi leggermente dai dati qui riportati a seconda del costruttore del motore



VFT 25 – 100 (01)

VFT 25–60

VFT 80/100

Rietschle

		Grundeinheit	Fundamental unit	Eléments de base	Parti fondamentali
1		Gehäuse	Cylinder	Corps	Corpa pompa
2		Rotor	Rotor	Rotor	Rotore
3	V	Lamelle	Blade	Palettes	Paletta
4	D	O-Ring (VFT 80/100)	O-ring (VFT 80/100)	Joint torique (VFT 80/100)	O-Ring (VFT 80/100)
5		Gehausedeckel	End cover	Couvercle de corps	Coperchio corpo pompa
7		Abdeckring 'A	Cover 'A	Cache 'A	Anello di protezione 'A
8	V	Rillenkugellager	Roller bearing	Rouleau aiguille	Cuscinetto a sfere
9		Spannmutter	Nut	Ecrou	Manicotto
10	D	INA-Dichtring	INA-seal ring	Joint d'arbre	Anello di tenuta
11		Lagerdeckel 'A	Bearing cover 'A	Couvercle roulement 'A	Coperchio cuscinetti 'A
12	V	Sicherungsring	Security ring	Circlips	Anello di sicurezza
13	V	Sicherungsring	Security ring	Circlips	Anello di sicurezza
14		Abdeckring 'B	Cover 'B	Cache 'B	Anello di protezione 'B
15	V	Rollenlager	Roller bearing	Roulement à Rouleaux	Cuscinetto a rulli
16	V	Ausgleichsscheibe	Tolerance shim	Rondelle de rappel	Rondella di tolleranza
17		Lagerdeckel 'B	Bearing cover 'B	Couvercle roulement 'B	Coperchio cuscinetti 'B
18		Schmiernippel	Grease nipple	Graisseur	Ingrassatore
19		Paßfeder	Key	Clavette	Chiavetta
20		Verschl. Schraube	Plug	Bouchon obturateur	Riduzione
21		Scheibe	Disk	Rondelle	Disco
22		Rohrleitung	Pipe	Tubulure	Tubazione
23		Hohlschraube	Hollow screw	Viscreuse	Vite cava
24	D	Dichtring	Seal ring	Joint	Anello di tenuta
25		Hohlschraube	Hollow screw	Viscreuse	Vite cava
26	D	Dichtring	Seal ring	Joint	Anello di tenuta
27		Zyl Stift	Dowel pin	Goujon	Spina cilindrica
28		Schraubeinsatz	Coil	Douille filetée	Sede della vite
29	D	Ventilscheibe	Valve disk	Rondelle de clapet	Rondella della valvola
30		Ventilteller	Valve plate	Disque clapet	Disco della valvola
31		Ringschraube	Eye bolt	Piton	Golfare
32	D	Dichtring	Seal ring	Joint d'arbre	Anello di tenuta
33	D	Stützring	Support ring	Bague de maintien	Anello di supporto
		Saugluftseite	**Suction side**	**Côté aspiration**	**Lato aspirazione**
34	D	Dichtring	Seal ring	Joint	Anello di tenuta
35	V	Micro-Top-Patrone	Filter cartridge	Cartouche filtre	Cartuccia
36	D	Dichtung	Gasket	Joint	Guarnizione
37		Filtergehäuse	Filter housing	Carter de filtre	Scatola filtri
38		Schaftschraube	Shaft screw	Goujon calibré	Prigioniero
39	D	Dichtung	Gasket	Joint	Guarnizione
40		Filtersockel	Filter base	Support filtre	Basetta del filtro
41	D	Dichtring	Seal ring	Joint	Anello di tenuta
42	V	Micro-Top-Patrone	Filter cartridge	Cartouche filtre	Cartuccia
43		Senkschraube	Screw	Vis	Vite a testa svasata
44	D	Dichtung	Gasket	Joint	Guarnizione
45		Filterdeckel	Filter cover	Couvercle filtre	Coperchio filtri
46		Kegelfeder	Con spring	Ressort	Molla
47		Filterschraubknopf	Knob	Téte de vis	Pomello
48		Verschl. Schraube	Plug	Vis obturatrice	Vite di chiusura
49	D	Dichtring	Sealing ring	Anneau d'étanchéité	Anello guarnizione
50		Stiftschraube	Threated pin	Vis filetée	Vite prigioniera

		Blasluftseite VFT 80/100	Pressure side VFT 80/100	Coté refoulement d'air VFT 80/100	Lato soffieria VFT 80/100
36	D	Dichtung	Gasket	Joint	Guarnizione
51		Zwischenkasten	Frame	Boitier	Telaio
52	D	Dichtung	Gasket	Joint	Guarnizione
53		Ausblasgehäuse	Exhaust box	Carter refoulement	Scatola filtro
54	D	Dichtung	Gasket	Joint	Guarnizione
55		Ausblasventil. kompl.	Exhaust valve cpl	Soupape refoulement cpl.	Valvola di scarico cpl.
56		Innen-Sechskantschraube	Allen screw	Vis 6 pans creuse	Vite a brugola
57		Federteller	Spring plate	Disque ressort	Piatto elastico
58		Druckfeder	Spring	Ressort	Molla a pressione
59		Ventilkörper	Valve plate	Disque valve	Disco della valvola
60		Rohr	Pipe	Tuyau	Tubo
61	D	Ventilscheibe	Valve disc	Rondelle valve	Rondella della valvola
62		Ventilscheibe	Valve disc	Rondelle valve	Rondella della valvola
63		Ventilplatte	Valve disc	Plaque valve	Piastra della valvola
64		Bogen	Bow	Coude	Curva
65		Gerauschdämpfer kompl.	Silencer Complete	Silencieux Complet	Silenziatore Completo
44	D	Dichtung	Gasket	Joint	Guarnizione
45		Filterdeckel	Filter cover	Couvercle filtri	Coperchio filtri
		VFT 25–60	VFT 25–60	VFT 25–60	VFT 25–60
97		Ausblasgehäuse	Exhaust box	Carter refoulement	Scatola filtri
98	D	Dichtung	Gasket	Joint	Guarnizione
		Kühlung	**After cooler**	**Refroidissement**	**Radiatore**
66		Ventilatorhaube	Fan cover	Capot ventilateur	Calotta della ventola
67		Ventilator	Fan	Ventilateur	Ventola
68		Kupplung 'getrieben	Coupling 'driven	Accouplement pompe	Giunto ricevente
69	V	Kupplungsbolzen	Coupling bolt	Doigt d'accouplement	Perno del giunto
70	V	Distanzring	Distance ring	Rondelle entretoise	Anello distanziatore
71	V	Kupplungsgummi	Coupling rubber	Caoutchouc d'accouplem	Gommino del giunto
72	V	Sicherungsring	Security ring	Circlips	Rosetta di sicurezza
73		Abschlußdeckel	End cover	Couvercle	Coperchio
74		Scheibe	Disc	Rondelle	Rondella
		Antrieb	**Drive**	**Entrainement**	**Parti di collegamento**
78		Kupplung 'treibend	Coupling 'driving	Accouplem. entrainement	Giunto azionante
79		Motorflansch	Motor flange	Bride moteur	Flangia del motore
80		Fuß	Foot	Pied	Supporto
81		Motor	Motor	Moteur	Motore
82		Gewindestift	Threated pin	Vis pointeau	Grano
83		Fußpolster	Rubber foot	Silenbloc	Piedino in gomma
		Schilder	**Label's**	**Plaque signalétique**	**Targhette**
100		Datenschild	Data plate	Etiquette caractéristique	Targhetta dati
101		Schmierschild	Greasing label	Etiquette graissage	Targhetta grassi consigliati
102		Pfeilschild	Rotation arrow	Flèche sens de rotation	Freccia senso di rotazione

Bei Bestellungen folgendes angeben: Typ, Fabrikations-Nr., Positions-Nr , Motor (kW, V, Hz)
To order please indicate: model, serial-no , item-no , motor (kW, V, Hz)
En cas de commande préciser: type, d'appareil, no. de position des pièces, moteur (kW, V, Hz)
Nell'ordine indicare: tipo, il numero di matricola, il numero di posizione dei recambi, il motore (kW, V, Hz)

V = Verschleißteile **D** = Dichtungen
V = Fast-wearing parts **D** = Seals
V = Pièces d'usure **D** = Joints
V = Parti usurabili **D** = Guarnizioni

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