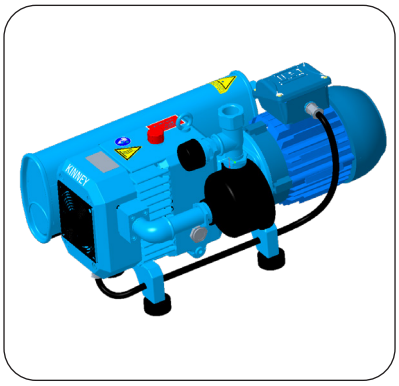
KINNEY®

Kinney®
Dry Claw Vacuum Pumps

Manual 1866 Rev A p/n 1866

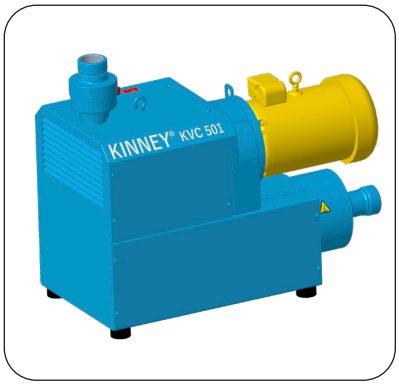
WARNING: Do Not Operate Before Reading Manual

KVC Series
OPERATOR'S MANUAL



Models

KVC-60	KVC-100	KVC-150
KVC-251	KVC-301	KVC-401
KVC-501	KVC-1000	



Operator's Manual: KVC Dry Claw Vacuum Pumps

800.825.6937 | www.kinneyvacuum.com

Original Instructions

Disclaimer Statement:
All information, illustrations and specifications in this manual are based on the latest information available at the time of publishing. The illustrations used in this manual are intended as representative reference views only. Products are under a continuous improvement policy. Thus, information, illustrations and/or specifications to explain and or exemplify a product, service or maintenance improvement may be changed at any time without notice.

Product information and specifications subject to change.

Table of Contents

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01

INTRODUCTION

CONGRATULATIONS on the purchase of a new **Kinney® KVC Series** dry claw vacuum pump. Please examine the pump for shipping damage, and if any damage is found, report it immediately to the carrier. If the pump is to be installed at a later date, make sure it is stored in a clean, dry location and rotated regularly. Make sure covers are kept on all openings. If pump is stored outdoors, be sure to protect it from weather and corrosion.

This manual applies to Kinney Vacuum models KVC Series. Become thoroughly familiar with these instructions before attempting to install, operate or repair this unit. Consult Kinney when problems arise that cannot be resolved after reading this manual. Always include pump nameplate information when ordering parts or components.

Kinney KVC Series vacuum pumps are built to exacting standards and, if properly installed and maintained, will provide many years of reliable service. Read and follow every step of these instructions when installing and maintaining the pump.

⚠ WARNING

Serious injury can result from operating or repairing this machine without first reading the service manual and taking adequate safety precautions.

NOTE: Record the pump model and serial numbers in the OPERATING DATA form on the inside back cover of this manual. Use this identification on any replacement part orders, or if service or application assistance is required.

SCOPE OF MANUAL

The scope of this manual includes the KVC Series dry claw vacuum pumps.

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02

CONVENTIONS AND DATA PLATE

GRAPHIC CONVENTIONS IN THIS MANUAL

The following are hazard levels referenced within this manual:

⚠ DANGER

Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation that can cause damage to the engine, personal property, and/or the environment or cause the equipment to operate improperly.

NOTE: Indicates a procedure, practice, or condition that should be followed in order for the equipment to function in the manner intended.

⚠ CAUTION

Read manual before operation or bodily harm may result. Attention should be given to the safety related sections of this manual.

⚠ WARNING

Keep body & clothing away from machine.

During operation, keep body and clothing away from inlet and outlet of the pump.

⚠ WARNING

Do not operate without guards in place. Assure that the guards are in place and secure prior to operation.

⚠ CAUTION

Hearing protection is required while the pump is in operation. At ultimate pressure noise levels are 80 dBA at 60 Hz, however due to process or installation conditions noise levels may be higher.

⚠ CAUTION

Do not touch hot surfaces.

Do not touch the vacuum pump while it is in operation and assure that the pump is cool before touching, when not in operation.

The following information is contained on the data plate:

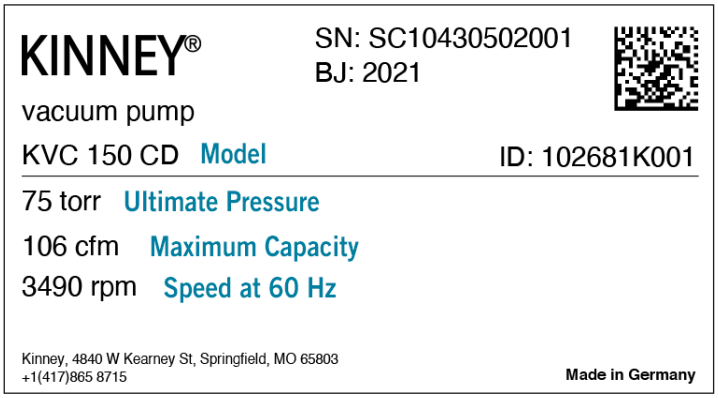
MODEL NUMBER: The specific model of the pump

SERIAL NUMBER: Unique to each pump. Use with any service issues and with any contact with the manufacturer.

YEAR: Year of manufacture

MAX RPM: Maximum RPM at which the pump can be operated

This manual describes instructions and precautions to be observed in the handling and maintenance of Kinney® KVC Series dry claw vacuum pumps. It is strongly recommended that those who operate or maintain the pump read this manual carefully prior to pump operation, to ensure personal safety and pump life.



03 LIFTING

⚠ WARNING

The vacuum pump must be handled using an appropriate device such as a fork truck or appropriate lifting device. *See Table 4-1 on page 7* for approximate weights. Care should be taken to assure pump does not over-turn during handling and installation.

⚠ CAUTION

DO NOT LIFT THE VACUUM PUMP BY THE MOTOR.

NOTICE

Lift the vacuum pump using eye bolts directly attached to the top of the pump housing, or with both fork truck forks underneath the pump.

Lifting Configuration

Refer to ***Figure 3-1 – Lifting Configuration*** for further details on how to properly lift KVC Series vacuum pump.

1. Eyebolts
2. Transport shackle
3. Fixing screw

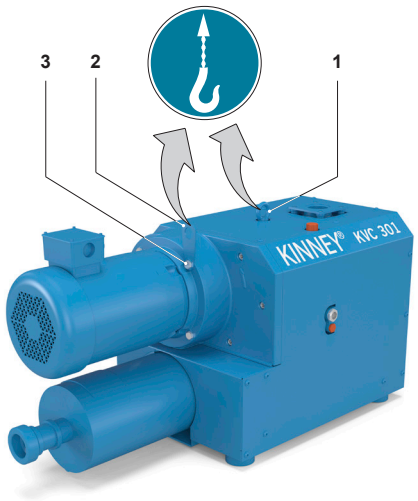


Figure 3-1 – Lifting Configuration

04

DESCRIPTION

The KVC Series model range has a connecting thread on the suction side and an exhaust silencer on the pressure side. With the KVC Series the incoming air is cleaned by a filter cartridge.

The KVC Series is a double-shaft rotary claw vacuum pump which the claws roll off against each other contact free and dry. The counter-rotating claw rotors are synchronized by a gear pair in the gearbox. The synchronous gears and the bearings on the motor side are lubricated with oil. These components are in a gearbox that also contains the oil supply. Oil slingers always ensure that the bearings and the gears are sufficiently supplied with oil at all permissible speeds.

The pumping chamber has no sealants or lubricants. The gearbox and the compression chamber are separated from each other by special seals. The gearbox is sealed from the outside with shaft seals and o-rings, and the compressor chamber with piston rings. Between the piston ring and lip seals there is an atmospherically ventilated area that can be loaded with sealing gas (special version).

The KVC Series is driven by an IEC (KVC60 only) and NEMA flanged three phase motors via a coupling (with an elastomer component). A vacuum regulating valve is used to set the vacuum to the required values. This regulating valve is pre-set at the factory and should not be adjusted without consulting the factory.

DESIGNATED USE

The machine must only be operated in such areas as are described in the operating instructions:

- Only operate the machine in a technically perfect condition.
- Do not operate the machine when it is only partially assembled.
- The machine must only be operated at an ambient temperature and suction temperature of between 40 and 104°F (40°C). Please contact MD-Kinney for temperatures outside this range.
- The machine may convey, compress, or extract the following media:
    - All non-explosive, non-inflammable, non-aggressive, and non-poisonous dry gases and gas air mixtures.

UNACCEPTABLE OPERATING MODES

- Extracting, conveying, and compressing explosive, inflammable, aggressive or poisonous media, solvents as well as gaseous oxygen and other oxidants, water vapor, liquids, or solid materials.
- Using the machine in non-commercial plants if the necessary precautions and protective measures have not been taken in the plant.
- Installing in environments that are at risk of explosions.
- Using the machine in areas with ionizing radiation.
- Modifications to the machine and accessories.

SPECIFICATIONS

	UNIT	KVC-60	KVC-100	KVC-150	KVC-251	KVC-301	KVC-401	KVC-501	KVC-1000
Nominal Displacement	cfm (m^3/h)	42.4 (72)	70.6 (120)	106 (80)	150 (255)	205 (350)	285 (485)	355 (603)	671 (1140)
Motor Power	HP	2	3	5	7.5	7.5	12	15	30
Rotation Speed	RPM	3485	3450	3450	3450	3550	3550	3550	3550
Oil Capacity (Total/Refill)	U.S. gal (L)	.1 (.4)	.15 (.55)	.16 (.6)	.16 (.6)	.4 (1.5)	.5 (1.8)	.5 (1.8)	.7 (2.7)
Suction Connection	FNPT	1" FNPT	1 ½" FNPT	2 ½" FNPT	2" FNPT	2" FNPT	3" FNPT	3" FNPT	4" FNPT
Discharge Connection	MBSP	1" MBSP	1 1/2" FNPT	2 ½" FNPT	2" FNPT	2" FNPT	3" FNPT	3" FNPT	4" FNPT
Height	Inches (mm)	16.3 (415)	14.53 (369)	2 ½" FNPT	14.9 (378)	22.32 (567)	39.76 (1010)	39.84 (1012)	16.22 (1105)
Floor Space Required	Inches (mm)	17×24.7 (431×627)	23.07×29.9 (586×759)	22.99×36 (584×916)	25×38.3 (635×973)	19.49×46.1 (495×1171)	23.54×50.04 (598×1271)	23.54×48.98 (589×1245)	28×64.45 (711×1637)"
Weight	lb (kg)	254 (62)	137 (115)	309 (140)	32 (164)	612 (278)	9308 (442)	1118 (512)	1803 (818)
Ultimate Pressure	mbar	100	150	100	200	150	200	200	200
Noise Level*	dBA	80	82	82	78	77	81	81	83

* Noise level may vary based upon motor selection.

Table 4-1 – Specifications

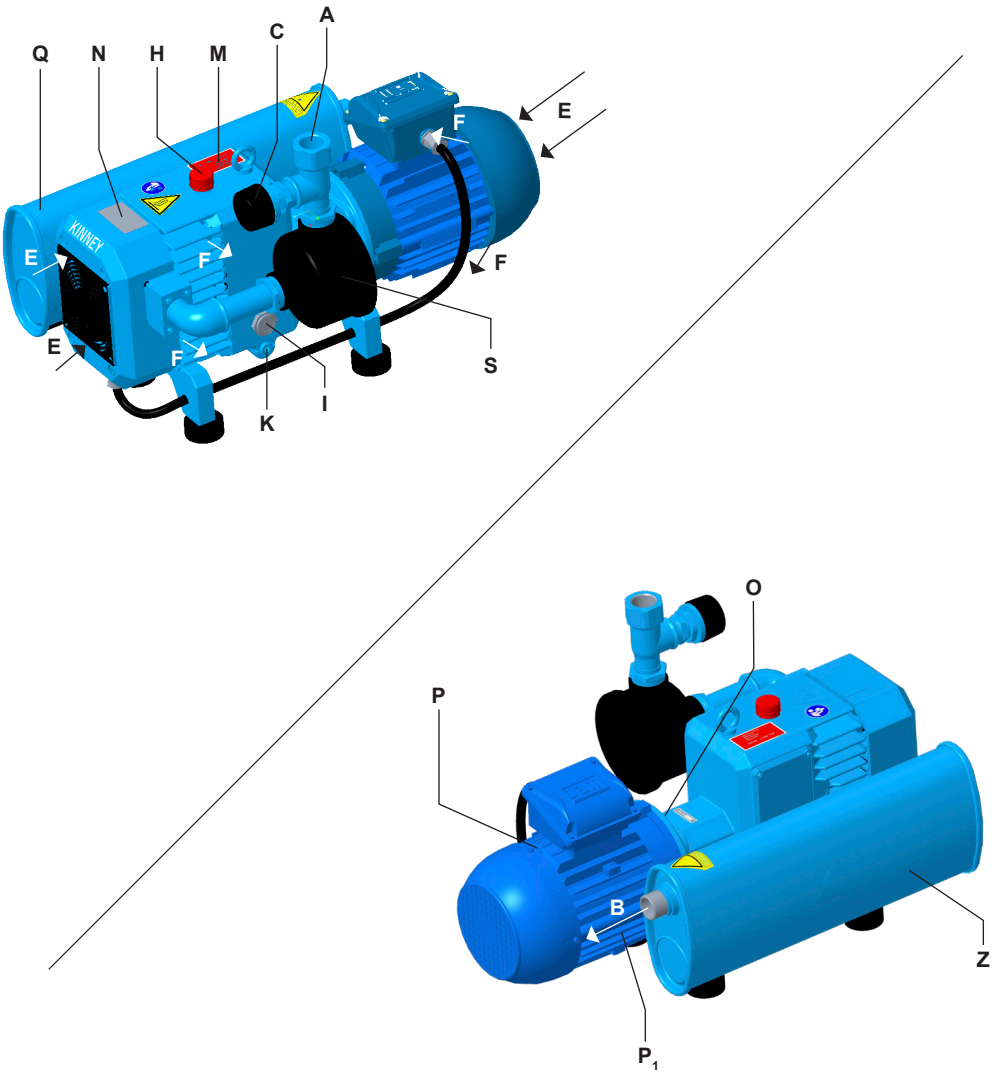
⚠ WARNING

Do not exceed maximum rotation speed (RPM) as stated in *Table 4-1*.

MATERIALS OF CONSTRUCTION

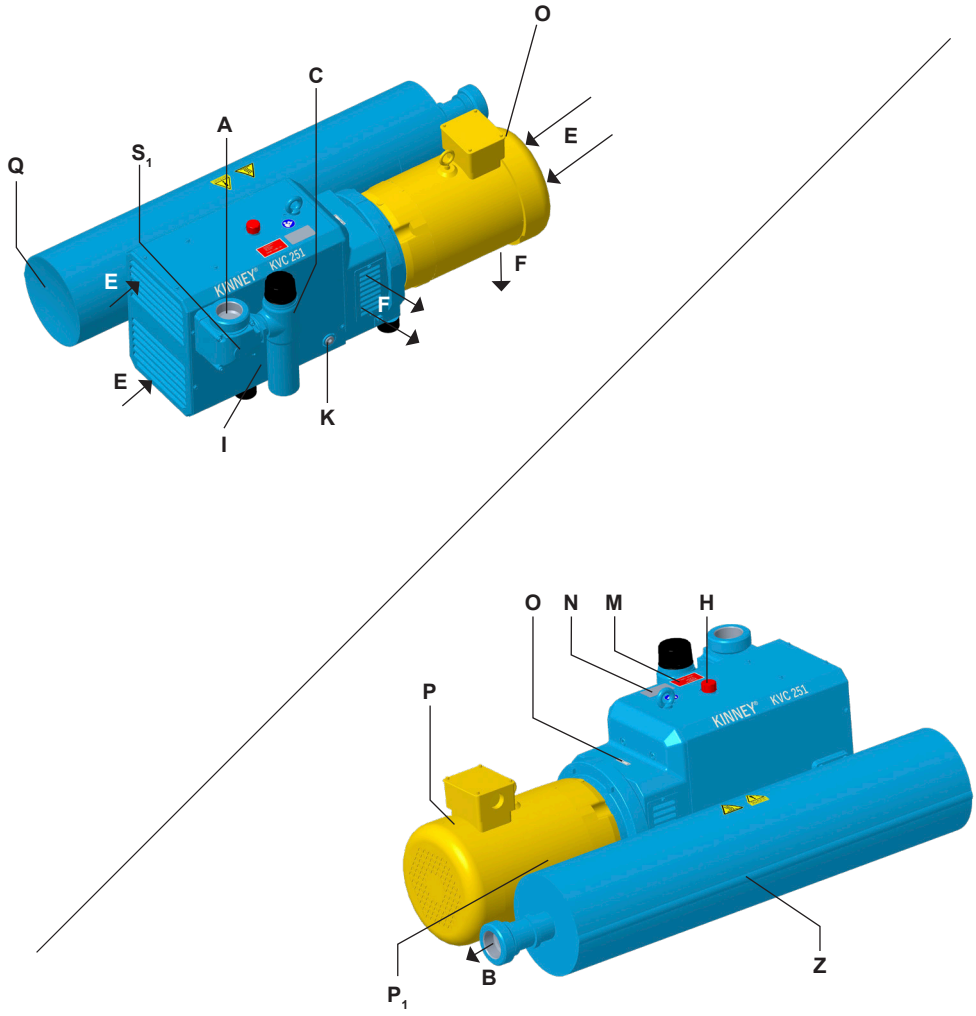
HOUSINGS AND CYLINDER:	Cast iron
ROTORS:	Cast iron
SHAFT:	Carbon Steel
SHAFT SEALS:	Carbon/Viton®

KVC-60 FEATURE SETUP



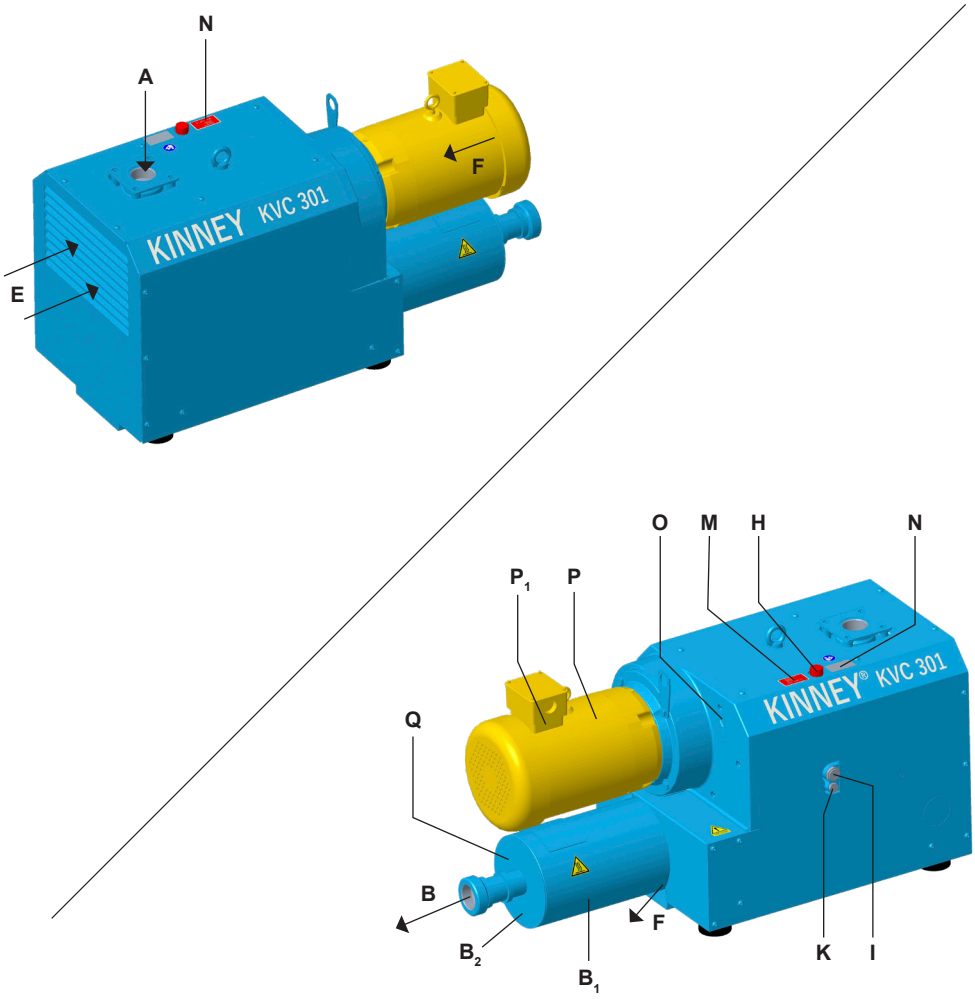
A	Vacuum connection	**M**	Oil recommendation plate
B	Exhaust air outlet	**N**	Data plate
C	Vacuum regulating valve	**O**	Direction of rotation arrow
E	Cooling air inlet	**P**	Drive motor
F	Cooling air outlet	**P_1**	Motor data plate
H	Oil filling point	**Q**	hot surfaces > 70 °C
I	Oil sight glass	**S**	Mesh filter
K	Oil discharge point	**Z**	Outlet silencer

KVC-100 / KVC-150 / KVC-251 FEATURE SETUP



A	Vacuum connection	**M**	Oil recommendation plate
B	Exhaust air outlet	**N**	Data plate
C	Vacuum Regulating valve	**O**	Rotation direction plate
E	Cooling air inlet	**P**	Drive motor
F	Cooling air outlet	**P_1**	Motor data plate
H	Oil filling point	**Q**	hot surfaces > 70 °C
I	Oil sight glass	**S_1**	Junction box
K	Oil discharge point	**Z**	Outlet silencer

KVC-301 / KVC-401 / KVC-501 / KVC-1000 FEATURE SETUP



A	Vacuum connection	**K**	Oil discharge point
B	Air outlet connection	**M**	Oil recommendation plate
B_1	Exhaust silencer	**N**	Data plate
B_2	Condensate drain (only with “XD”)	**O**	Direction of rotation arrow
E	Cooling air inlet	**P**	Drive motor
F	Cooling air outlet	**P_1**	Motor data plate
H	Oil filling point	**Q**	hot surfaces > 70 °C
I	Oil sight glass	**S**	Mesh filter

05

INSTALLATION

SAFETY

⚠ DANGER

Internal and external rotating parts of the pump and driving equipment can produce serious physical injuries. The pump should never be run with the inlet or discharge piping removed. If it becomes necessary to inspect the rotating parts of the pump or to change the belt, be absolutely sure that all power to the motor controls has been shut off, the motor controls are locked out, and properly tagged before proceeding.

⚠ WARNING

Vacuum pump housing and associated piping or accessories may become hot enough to cause major skin burns on contact as a result of process conditions.

⚠ WARNING

Use lockout / tagout procedures to disable the electrical energy source before any service or work is done on the vacuum pumps.

⚠ CAUTION

Avoid extended exposure in close proximity to machinery with high intensity noise levels. Wear adequate ear protection.

⚠ CAUTION

Other potential hazards to safety may also be associated with operation of this equipment. All personnel working in or passing through the area should be warned by signs and trained to exercise adequate general safety precautions.

NOTICE

Use proper care and good procedures in handling, lifting, installing, operating, and maintaining the equipment.

⚠ WARNING

Never attempt to change or add lubrication while the pump is running. Failure to heed this warning could result in damage to the equipment or personal injury.

⚠ WARNING

Properly dispose of spent lubricants. Refer to the manufacturer of the lubricant and any applicable regulations to ensure proper and safe disposal.

NOTICE

If the oil level is too low, bearings and seals will be damaged as a result of improper lubrication.

NOTICE

The machine may only be operated when it is set up horizontally.

NOTICE

Material damage resulting from the machine tipping over and falling.

NOTICE

When installed at more than 3280 feet (1000 meters) above sea level a reduction in power is noticeable. In this case we would ask you to contact Kinney directly for guidance.

FILLING THE PUMP WITH OIL

Use oil recommended by Kinney and see the specifications for the quantity of oil required to fill the pump. Remove the oil fill plug at the top of the housing and add oil until the level reaches mid-center of the gauge. With the pump shut off, add or drain oil as necessary to keep the oil level.

⚠ CAUTION

Do not overfill the pump as excess oil will be blown out the discharge during the high pressure operation of the pump.

LOCATION

The pump should be mounted on a flat, level surface. There should be enough space around the pump to allow for safe maintenance work and periodic inspections. This includes, at a minimum, the ability to access oil fill and drain locations, view the oil level glass and the oil temperature and pressure gauges.

Foundation

The foundation for the pump assembly should be flat and level, and have adequate load-bearing capacity. The pump and its base frame, peripheral equipment and piping should be installed after the foundation concrete has been cured. It is possible to install the machine on a firm base without anchoring. When installing on a sub-structure Kinney recommends fixing with flexible buffers.

PIPING CONNECTIONS

⚠ WARNING

Pipe loading on the pump should be negligible as pipe loading can cause distortion of the pump. Use proper supports and pipe hangers to assure that there is no loading.

VACUUM CONNECTION

The pumping capacity of the vacuum pump is reduced if the suction pipe is too narrow and/or long. Discharged air can be blow out through the exhaust silencer conducted away using a hose or a pipe.

Length of the Connection Pipes

With connection pipes that have the same pipe cross section as the machine connection and area more than 3m long, a non-return valve must be installed in order to avoid reverse operation when the machine has stopped.

Exhaust Air Must Not be Restricted

Do not block the exhaust pipe of the pump (maximum discharge pressure is 22.5 Torr or 30 mbars). When the exhaust air pipe is connected it must be checked regularly for impurities.

NOTICE

Material damage resulting from the forces and torques of the pipes on the unit being too high. Only screw pipes in by hand.

NOTICE

Do not operate without the standard regulating and relief valve. *If the permissible vacuum is exceeded (see data plate) the machine may be damaged.*

CONNECTING THE MOTOR

⚠ DANGER

Danger of death if the electrical installation is not professionally completed. The electrical installation must be completed by a qualified electrician observing EN 60204. The operating company is required to provide the main switch.

The motor's electrical data is given on the data plate or on the motor data plate. The motors comply with DIN EN 60034 and are in protection class IP55 and insulation class F. The appropriate connection diagram is located in the motor's terminal box (not for the plug connection version).

The motor data must be compared with the data of the existing mains network (current type, voltage, network frequency, and permitted current value).

Connect the motor via the plug connection or the motor overload. For safety reasons, a motor overload is required and the connecting cable must be installed via a cable fitting to provide strain relief. Kinney recommends using motor protection switches with delayed switch off, depending on possible excess current. Temporary excess current may occur when the machine is started cold.

Power Supply

The conditions at the installation location must match the information on the motor data plate. Without derating the following is permissible:

- ± 5% Voltage deviation
- ± 2% Frequency deviation

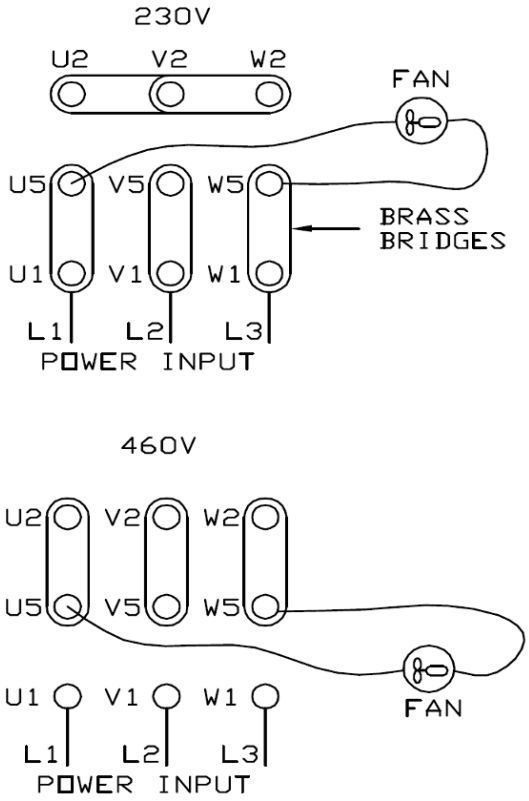


Figure 5-1 – Connection Diagrams for KVC-60 Motor

06 OPERATION

⚠ WARNING

Improper use may lead to severe or fatal injuries. Therefore be sure to obey the safety instructions.

⚠ CAUTION

Hot surfaces. When the machine is at operating temperature the surface temperature on the components may go above 158°F (70°C).You must avoid touching the hot surfaces. These areas are marked with warning plates.

⚠ CAUTION

Noise emission. The highest noise pressure levels measured as per EN ISO 3744. When spending a long time in the vicinity of the running machine use ear protection to avoid permanent damage to your hearing.

NOTICE

Wait until the machine stops. The machine must only be switched on again after it stops.

CHECKING ROTOR ROTATION DIRECTION

Operating in the wrong direction of rotation leads to damage to the machine. Use a phase sequence indicator to check the direction of rotation (clockwise rotating field).

The intended direction of rotation of the drive shaft is shown by the rotary direction arrow on the motor flange. Start the motor briefly (maximum of 2 seconds) to check the direction of rotation. When looking at the motor fan, it must rotate counter-clockwise.

07

MAINTENANCE

ENSURING OPERATIONAL SAFETY

⚠ DANGER

Danger of death from touching live parts. Before maintenance work disconnect the machine by pressing the main switch or unplugging it and ensure it cannot be turned on again.

⚠ WARNING

Hot surfaces and equipment. During maintenance work there is the danger of getting burnt on hot components and by machine lubricating oil. Allow ample time for the machine to cool down prior to maintenance work.

Regular maintenance work must be carried out in order to ensure operational safety. Maintenance intervals also depend on the operational demands on the machine. Observe the safety instructions described in the section labeled ***"Safety" on page 12.*** The entire unit should always be kept in a clean condition.

SPECIFICATIONS

INTERVAL	MAINTENANCE TO BE CARRIED OUT
Monthly	Check the pipes and screws for leaks and to ensure they are seated properly and if necessary seal again or tighten up.
Monthly	Check the terminal box and cable inlet holes for leaks and if necessary re-seal.
Monthly	Clean the regulating valve, the ventilation slots on the machine, and the motor cooling ribs.
Monthly	Check oil level.
5,000 – 20,000 Hours	Change oil. KVC-60 – KVC-251: 5,000 Hours KVC-301 – KVC-501: 20,000 Hours KVC-1000: 8,000 Hours
Monthly / Every 6 Months	KVC Series: Clean or replace filter cartridge.
Dependent Discharged Media Cleanliness	KVC-100 – KVC-251: Clean micro filter.
Yearly (at least once yearly)	Check for coupling wear.

Table 7-1 – Maintenance Interval Schedule

CHANGING THE OIL

The oil level in the sight glasses must be checked every month. The machine must be switched off and vented to atmospheric pressure to top up the oil. With clean operations the oil must be changed every 5,000 operating hours. The oil viscosity must comply with ISO VG 150 as per the recommended number of hours on table 7-1.

Designation as per DIN 51502: CLP HC 150.
We recommend the following oil brand:
Kinney KV150.

NOTICE

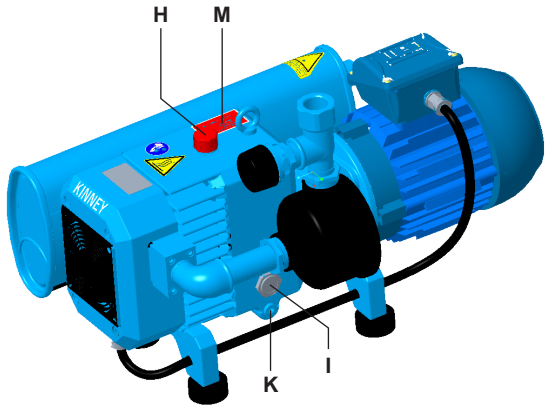
Always change the oil when the machine is at operating temperature and in an atmospherically ventilated area. If it is completely emptied the amount that can be refilled is reduced.

NOTICE

The waste oil must be disposed of in compliance with the local environmental protection regulations. If you are going to use another oil type, empty the oil removing device housing and oil cooler completely.

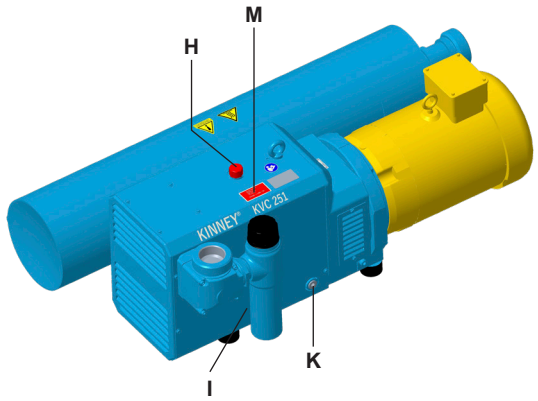
KVC SERIES OIL DIAGRAMS

KVC-60 Oil Diagram



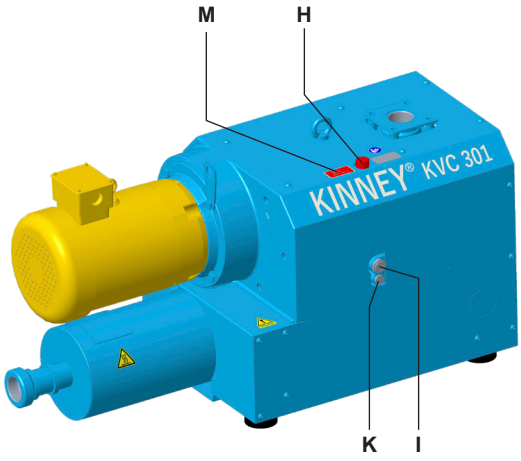
H Oil filling point
I Oil sight glass
K Oil discharge point
M Oil recommendation plate

KVC-100 / KVC-150 / KVC-251 Oil Diagram



H Oil filling point
I Oil sight glass
K Oil discharge point
M Oil recommendation plate

KVC-301 / KVC-401 / KVC-501 / KVC-1000 Oil Diagram



H Oil filling point
I Oil sight glass
K Oil discharge point
M Oil recommendation plate

FILTER CLEANING

The filter cartridge (KVC Series) for the suction filter must be cleaned monthly or more often depending on the level of contamination by purging from the inside outwards. In spite of cleaning the filter it's separation efficiency will continue to deteriorate. Therefore the filter should be replaced every six months. The filter cartridge can be removed after undoing the tension clamps.

NOTICE

Insufficient maintenance on the air filter may cause power of the machine to lessen, which may damage the machine.

NOTICE

Do not damage the filter cartridge when cleaning.

⚠ WARNING

Danger of injury when dealing with compressed air. When blowing through with compressed air, solid particles may be carried along or powder dust swirling around may cause injury to the eyes. Therefore, when cleaning with compressed air always wear safety goggles and a dusty mask.

COUPLING

The coupling sleeve is subject to wear and must be checked regularly (at least once a year).

⚠ CAUTION

A defective coupling sleeve may lead to the rotor shaft breaking.

To check the coupling sleeve, switch the motor off and ensure that is cannot be switched on again. Undo the screws on the housing flange. Remove the motor axially with half of the coupling on the motor side and suspend with a lifting device. If the sleeve is damaged or worn, then replace the sleeve.

REPLACEMENT PARTS

Replacement parts for the KVC Series dry claw vacuum pump shown in **"KVC-60 Series Parts List" on page 23**. Maintenance kits are available for the KVC line of pumps. Contact the factory with serial number information for kit part numbers. Delivery can be provided at that time.

FACTORY SERVICE AND REPAIR

With proper care, Kinney vacuum pumps and systems will provide years of reliable service. Should adjustments or parts replacement eventually be needed, these can often be performed locally as described in this book after obtaining required parts. Personnel should have a good background of mechanical experience and be thoroughly familiar with the procedures outlined in this manual.

For major repairs not covered in this manual, contact the nearest Kinney Authorized Service Center. Pump repair services are also available at our factory in Springfield, MO, or through our international network of Authorized Service Centers. Call (800) 825-6937 for the location nearest you for more information. Units that are still under warranty must be returned to the factory, freight prepaid, for service. Please contact Customer Service or visit us online for additional instructions on how to receive a Return Authorization number.

08

TROUBLESHOOTING

Although Kinney vacuum pumps are well-designed and manufactured, problems may occur due to normal wear and the need for readjustment. The following chart lists symptoms that may occur along with probable causes and remedies.

SYMPTOM	PROBABLE CAUSE	REMEDIES
Machine is switched off by the motor overload	Mains voltage/frequency does not correspond with the motor data	Check by qualified electrician
	Connection to motor terminal board is not correct	
	Motor overload is not set correctly	
	Motor overload is triggered too quickly	Use motor protection switch with an overload-dependent delayed switch off that takes into consideration the short-term excess current at start up (version with short circuit) and overload trigger as per VDE 0660 Part 2 or IEC 947-4)
	The regulating valve is dirty so that the permissible vacuum value is exceeded	Clean or replace the regulating valve
Pumping capacity is insufficient	The suction filter is dirty	Clean or replace the suction filter
	The suction pipe is too long or too narrow	Check the hose or the pipe
	Machine or system leaking	Check the pipework and screw connections for leaks and to ensure that they are firmly seated
Final pressure (maximum vacuum) is not reached	Machine or system leaking	Check the pipework and screw connections for leaks and to ensure that they are firmly seated
Machine gets too hot	Ambient or intake temperature is too high	Ensure it is being used properly
	Cooling air supply is obstructed	Check to ensure ventilation air intake is not blocked
		Clean ventilation slots
	The regulating valve is dirty so that the permissible vacuum value is exceeded	Clean or replace the regulating valve
The machine makes an abnormal noise	Deposits on the rotary claw	Clean the working space and the rotary claw
	The regulating valve is vibrating	Replace the valve

PART NUMBER DESIGNATIONS

EXAMPLE: MODEL KVC60CD-BDD

Position #:

1				2	3	4	5
K	**V**	**C**	**60**	**CD**	**-**	**B**	**DD**

Position 1

PUMP MODEL NUMBER:

Position 1	
SIZE	KVC-60
	KVC-100
	KVC-150
	KVC-251
	KVC-301
	KVC-401
	KVC-501
	KVC-1000

Position 2:

PUMP VERSION

Position 2		
VERSION	CD	Standard duty
	XD	Extreme duty for heavy duty applications

Position 4:

MOTOR HP

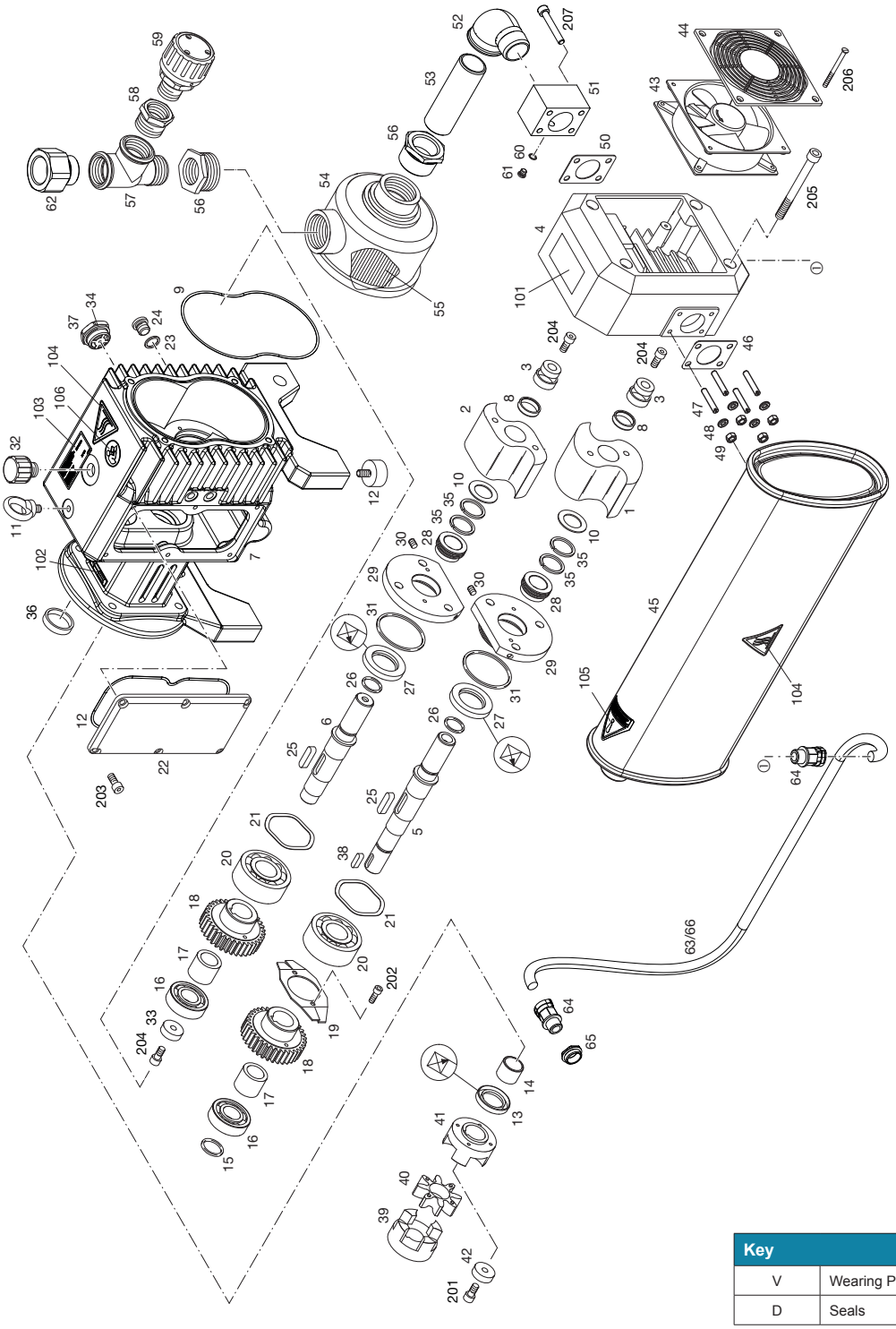
Positon 4		
HP	2hp	B
	3hp	C
	5hp	D
	7.5hp	E
	10hp	F
	12hp	X
	15hp	G
	30hp	J

Position 5:

MOTOR SUPPLIED

Position 5			
IEC	NEMA	xp	VOLTAGES
DD	V		3/50-60/190/380//230/460
		H	3/60/230-460
BB	9		3/60/200
CC	E		3/60/575

KVC-60 SERIES EXPLODED VIEW DRAWING



Key	
V	Wearing Parts
D	Seals

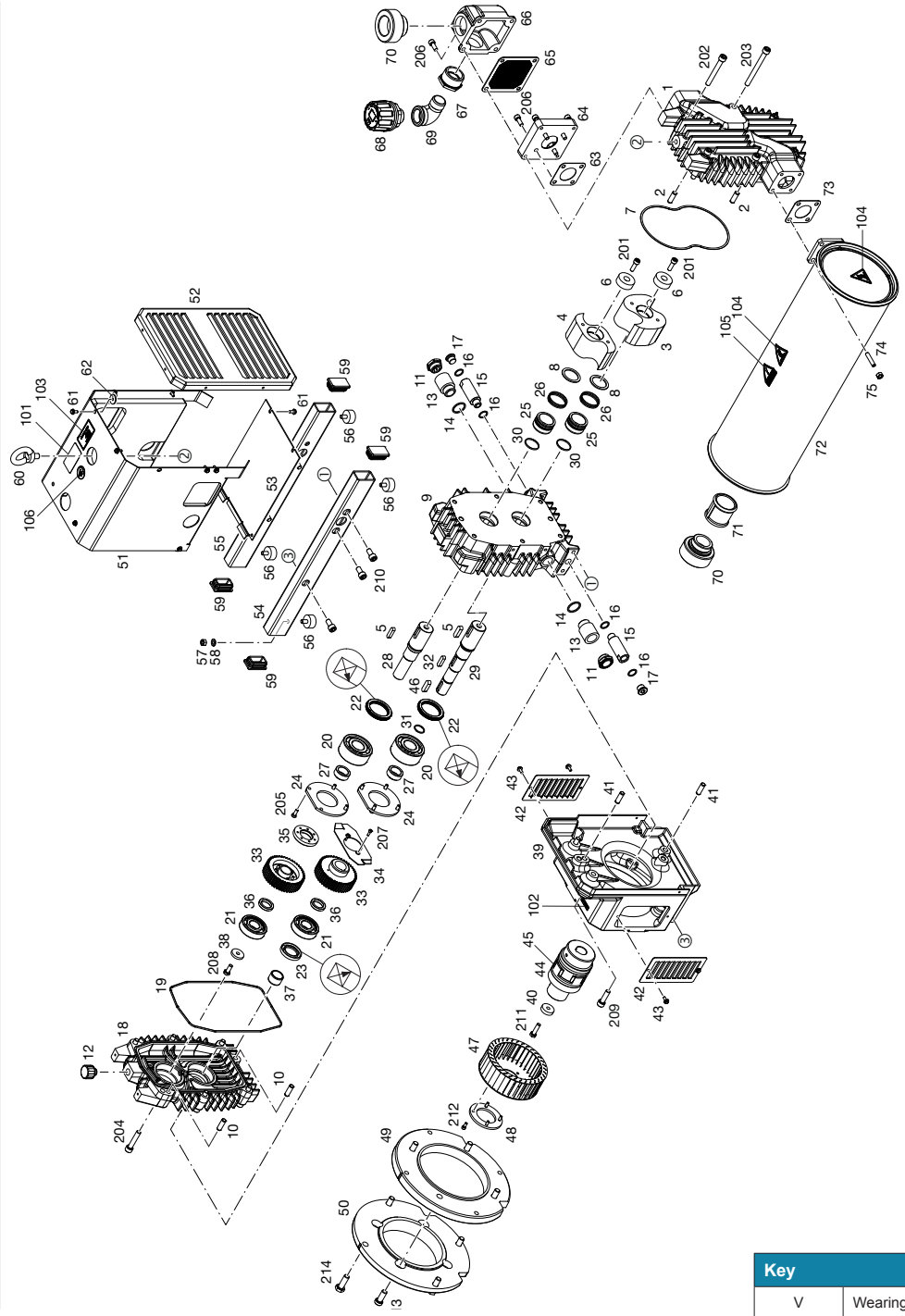
Repair kits available consisting of V- and D- parts

KVC-60 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
Compressor parts			
1		Rotor 1	1
2		Rotor 2	1
3		Spacer bushing	2
4		Housing cover B	1
5		Shaft, driving	1
6		Shaft, driven	1
7		Cylinder	1
8		Conical-clamping element	2
9	D	O-Ring	1
10		Spacer ring	2
11		Eyebolt	1
12		Rubber foot	4
13	D	Shaft seal	1
Gear			
14	V	Bush	1
15	D	O-Ring	1
16	V	Ball bearing	2
17		Sleeve	2
18		Gear wheel	2
19		Flinger	1
20	V	Double ball row bearing	2
21		Bearing spring	2
22		Gear-box cover	1
23		Threaded plug	1
24		Copper washer	1
25		Key	2
26	D	O-Ring	2
27	D	Shaft seal	2
28		Sleeve	2
29		Flange	2
30		Setscrew	4
31	D	O-Ring	2
32		Oil fill cap, vented	1
33		End cover, shaft	1
34	D	O-Ring	1
35	V	Piston ring	4
36		Plug	1
37	V	Oil sight glass	1
Drive			
38		Key	1
39		Coupling hub, drive side	1
40	V	Coupling spider	1
41		Coupling hub, compressor side	1
42		End cover, shaft	1
Fan			
43		Fan	1
44		Grid	1

ITEM NO.	PART TYPE	DESCRIPTION	QTY
Silencer			
45		Silencer	1
46	D	Gasket	1
47		Setscrew	4
48		Shim	4
49		Hexhead nut	4
Assembly parts suction side			
50	D	Gasket	1
51		Connection flange	1
52		Bow	1
53		Pipe fitting	1
54		Inlet filter ZVF 32 with	1
55	V	Filter cartridge	1
	D	Gasket kit	1
56		Reducer	2
57		T-fitting	1
58		Reducer	1
59		Vacuum relief valve ZRV 20	1
60		Washer	1
61		Threaded plug	1
62		BSP-NPT thread adapter	1
Cabeling			
63		Cable, 1.3 m	1
64		Screw connector	2
		Cable clip (not shown)	5
65		Bushing	1
66		Conduit, electrical, 1 m	1
Labels			
101		Data plate	1
102		Direction arrow	1
103		Oil type plate	1
104		Warning label hot surface	2
105		Label max. back pressure	1
106		Label manual	1
Screws			
201		Allen bolt	1
202		Allen bolt	2
203		Allen bolt	6
204		Allen bolt	3
205		Allen bolt	4
206		Countersunk head screw	4
207		Allen bolt	4

KVC-100 SERIES EXPLODED VIEW DRAWING



Key	
V	Wearing Parts
D	Seals

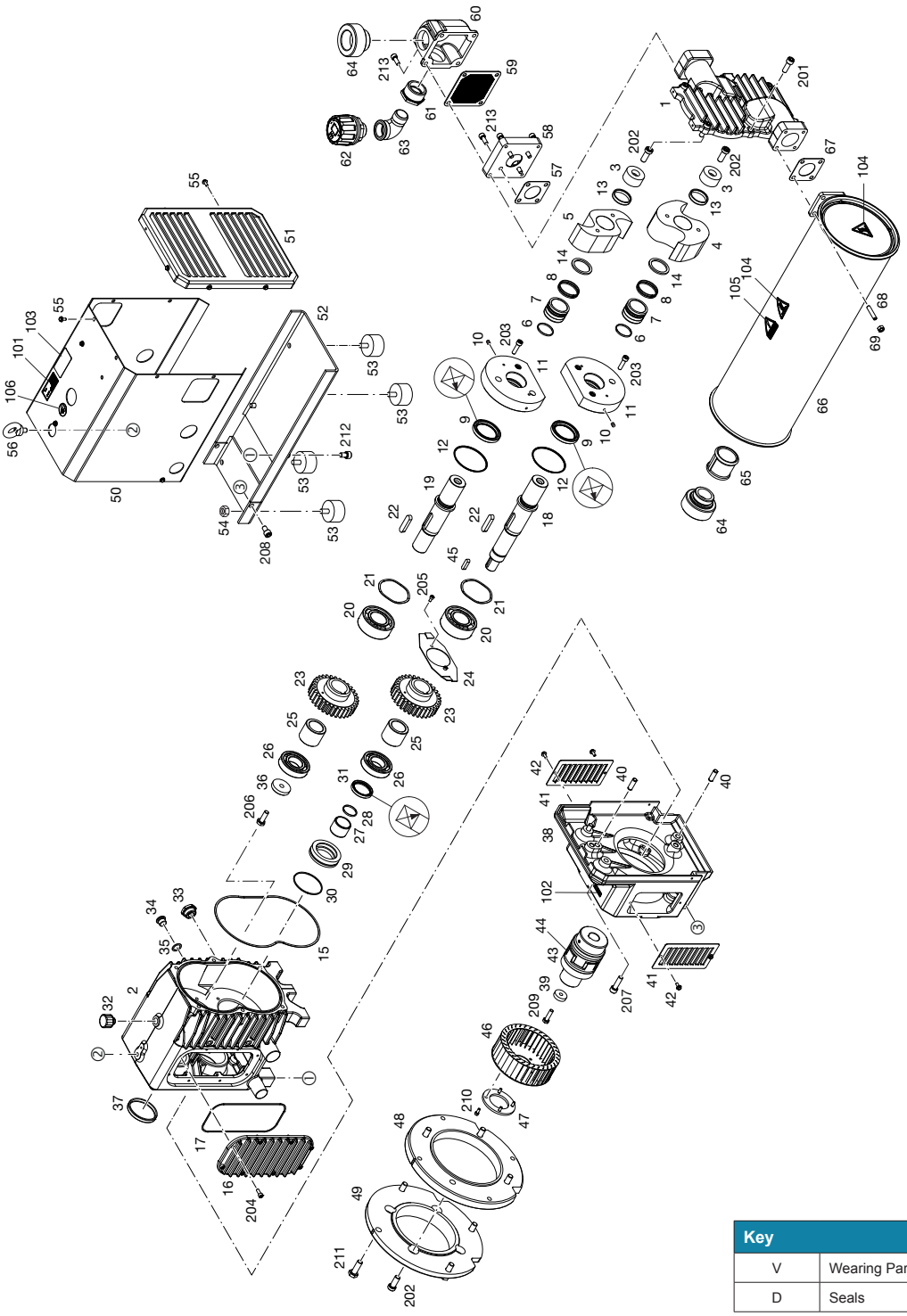
Repair kits available consisting of V- and D- parts

KVC-100 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
1		Compressor housing	1
2		Pin	2
3		Rotor 1	1
4		Rotor 2	1
5		Key	2
6		End cover	2
7	D	O-Ring	1
8		Spacer ring	2
		Gear	
9		Gearbox	1
10		Pin	2
11	V	Oil sight glass	2
12		Oil fill cap, vented1	1
13		Extension	2
14		Copper washer	2
15		Extension	2
16		Washer	4
17		Plug	2
18		Gear-box cover	1
19	D	O-Ring	1
20	V	Double ball row bearing	2
21	V	Ball baering	2
22	D	Shaft seal	2
23	D	Shaft seal	1
24		Cover	2
25	V	Sleeve	2
26		Piston ring	4
27		Bush	2
28		Shaft, driven	1
29		Shaft, driving	1
30	D	O-Ring	2
31	D	O-Ring	1
32		Key	1
33		Gear wheel pair	1
34		Flinger	1
35		Disc	1
36	V	**Sleeve**	1
37		INA bush	1
38		Retaining disc	1
		Drive	
39		Fan housing	1
40		Disc	1
41		Pin	2
42		Grill, air vent	2
43		Bolt, self-locking	4
44		Coupling, cpl.	1
45	V	Coupling spider	1
46		Key	1
47		Fan	1
48		Disc	1
49		Motor flange, part 1	1
50		Motor flange, part 2	1

ITEM NO.	PART TYPE	DESCRIPTION	QTY
		Covering cap	
51		Cover panel	1
52		Front cover	1
53		Bottom plate	1
54		Base rail, left	1
55		Base rail, right	1
56		Vibration absorber	4
57		Nut	4
58		Disc	4
59		Cap	4
60		Eyebolt	1
61		Bolt, self-locking	13
62		Disc	5
		Assembly parts suction side	
63	D	Gasket	1
64		Adapter plate	1
65	D	Gasket with sieve	1
66		Connection housing	1
67		Reducer	1
68		Vacuum relief valve ZRV 25	1
69		Bow	1
70		BSP-NPT adapter	2
71		Bush	1
		Silencer	
72		Silencer	1
73	D	Gasket	1
74		Setscrew	4
75		Hexhead nut	4
		Labels	
101		Data plate	1
102		Direction arrow	1
103		Oil type plate	1
104		Warning label hot surface	2
105		Label max. back pressure	1
106		Label manual	1
		Screws	
201		Allen bolt	2
202		Allen bolt	5
203		Allen bolt	1
204		Allen bolt	6
205		Allen bolt	8
206		Allen bolt	8
207		Allen bolt	2
208		Hexhead screw	1
209		Allen bolt	2
210		Allen bolt	6
211		Hexhead screw	1
212		Allen bolt	4
213		Allen bolt	4
214		Hexhead screw	4

KVC-150 SERIES EXPLODED VIEW DRAWING



Key	
V	Wearing Parts
D	Seals

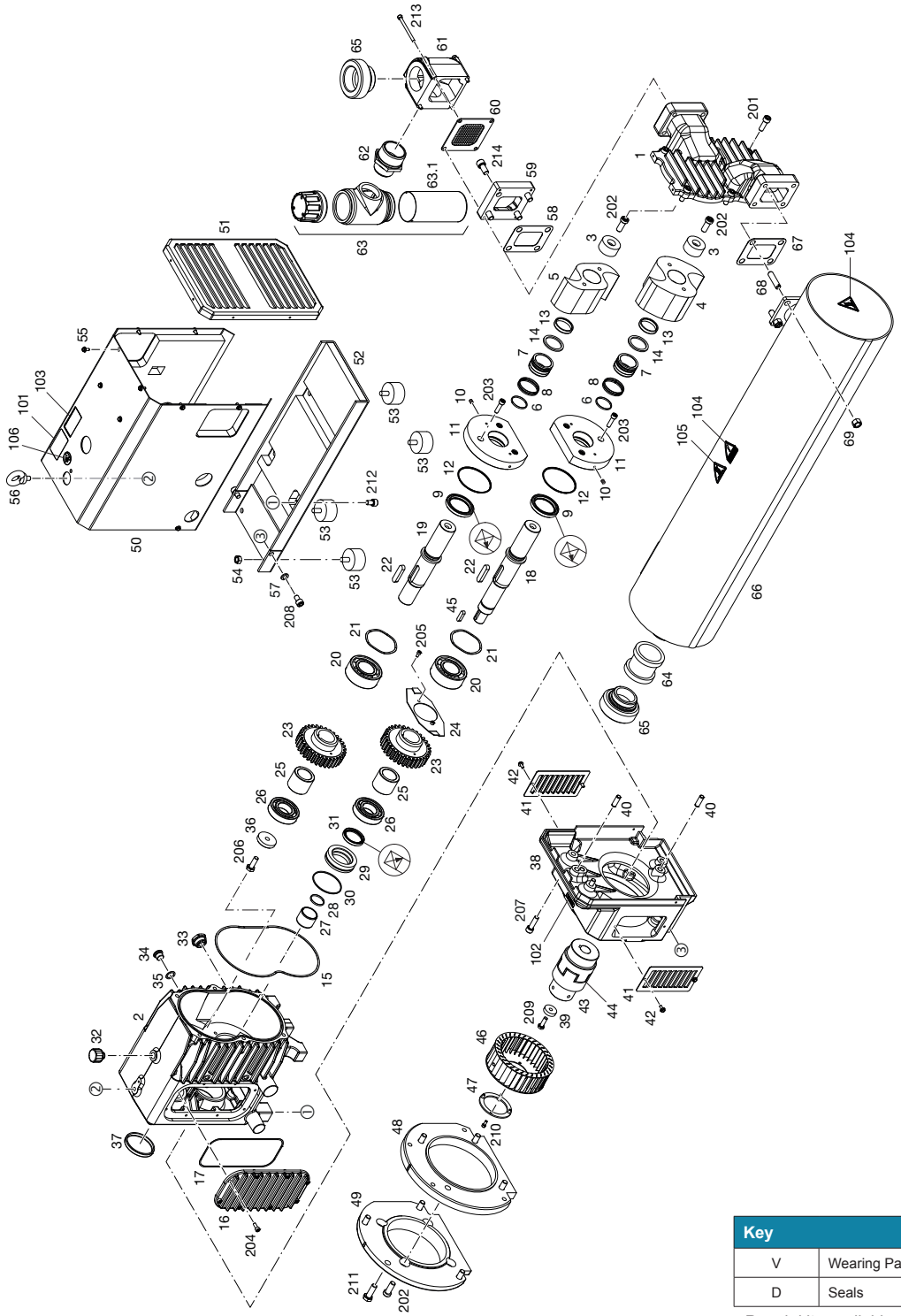
Repair kits available consisting of V- and D- parts

KVC-150 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
Compressor parts			
1		Housing Cover B	1
2		Compressor housing	1
3		Disc	2
4		Rotor 1	1
5		Rotor 2	1
6	D	O-Ring	2
7	V	Sleeve	2
8	V	Piston ring	4
9	D	Seal	2
10		Setscrew	2
11		Bearing cover	2
12	D	O-Ring	2
13		Conical-clamping element	2
14		Spacer ring	2
15	D	O-Ring	1
Gear			
16		Cover	1
17	D	O-Ring	1
18		Shaft, driving	1
19		Shaft, driven	1
20	V	Double ball row bearing	2
21		Ball bearing shim	2
22		Key	2
23		Gear wheel	2
24		Flinger	1
25		Spacer	2
26	V	Ball baering	2
27	V	Sleeve	1
28	D	O-Ring	1
29		Ring	1
30	D	O-Ring	1
31	D	Shaft seal	1
32		Oil fill cap, vented	1
33	V	Oil sight glass	1
34		Plug	1
35		Washer	1
36		Disc	1
37		Cap	1
Drive			
38		Fan housing	1
39		Disc	1
40		Pin	2
41		Grill, air vent	2
42		Bolt, self-locking	4
43		Coupling, cpl.	1
44	V	Coupling spider	1
45		Key	1
46		Fan	1
47		Disc	1
48		Motor flange, part 1	1

ITEM NO.	PART TYPE	DESCRIPTION	QTY
49		Motor flange, part 2	1
Covering cap			
50		Cover	1
51		Front cover	1
52		Bottom plate	1
53		Rubber foot	4
54		Hexhead nut	4
55		Bolt, self-locking	10
56		Eyebolt	1
Assembly parts suction side			
57	D	Gasket	1
58		Adapter plate	1
59	D	Gasket with sieve	1
60		Connection housing	1
61		Reducer	1
62		Vacuum relief valve ZRV 25	1
63		Bow	1
64		BSP-NPT adapter	2
65		Bush	1
Silencer			
66		Silencer	1
67	D	Gasket	1
68		Setscrew	4
69		Hexhead nut	4
Labels			
101		Data plate	1
102		Direction arrow	1
103		Oil type plate	1
104		Warning label hot surface	2
105		Label max. back pressure	1
106		Label manual	1
Screws			
201		Allen bolt	6
202		Allen bolt	6
203		Allen bolt	6
204		Allen bolt	8
205		Allen bolt	2
206		Allen bolt	1
207		Allen bolt	2
208		Allen bolt	2
209		Hexhead screw	1
210		Allen bolt	4
211		Hexhead screw	4
212		Allen bolt	2
213		Allen bolt	8

KVC-251 SERIES EXPLODED VIEW DRAWING



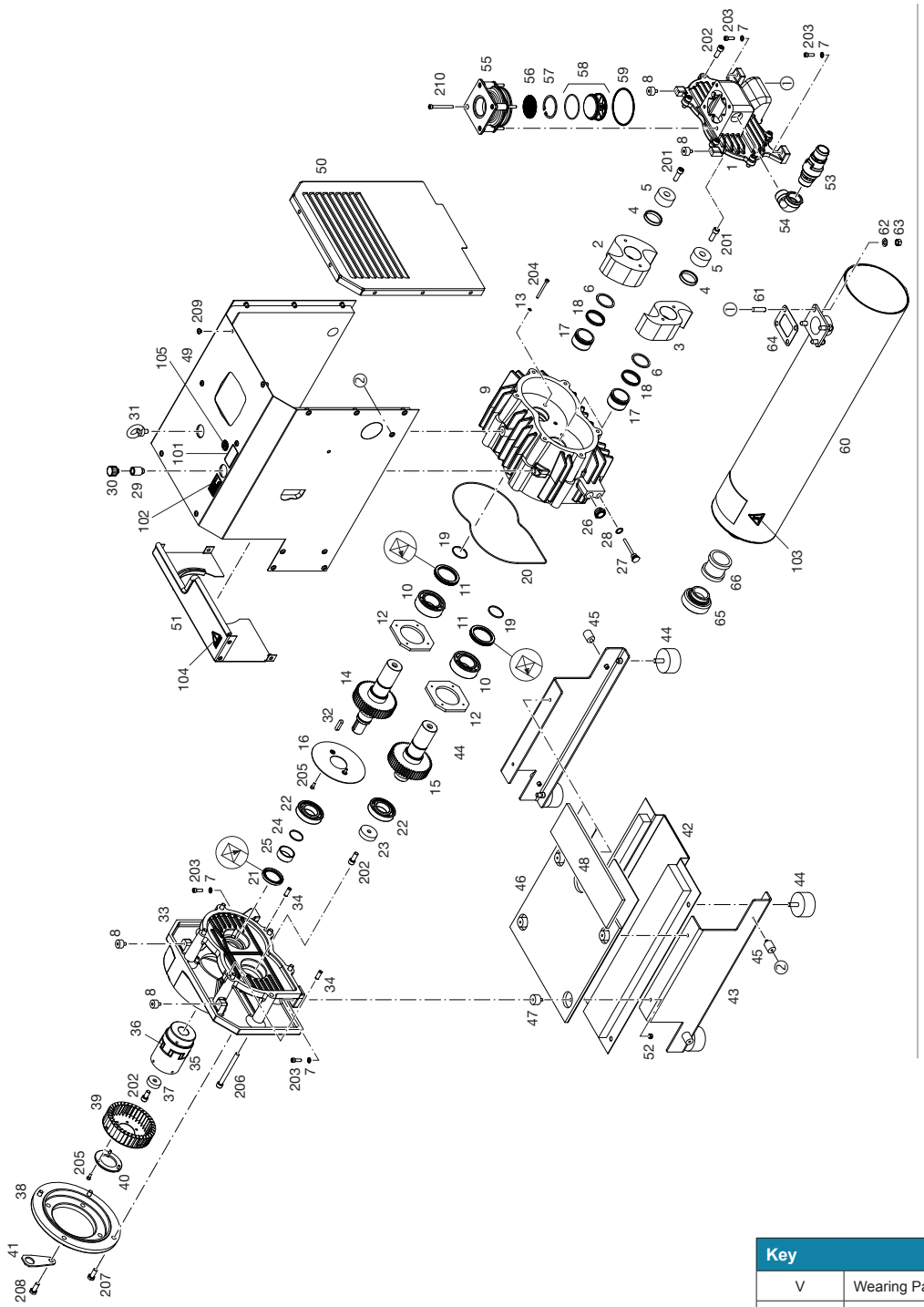
Key	
V	Wearing Parts
D	Seals

Repair kits available consisting of V- and D- parts

KVC-251 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
Compressor parts			
1		Housing Cover B	1
2		Compressor housing	1
3		Disc	2
4		Rotor 1	1
5		Rotor 2	1
6	D	O-Ring	2
7	V	Sleeve	2
8	V	Piston ring	4
9	D	Seal	2
10		Setscrew	2
11		Flange	2
12	D	O-Ring	2
13		Conical-clamping element	2
14		Spacer ring	2
15	D	O-Ring	1
Gear			
16		Cover	1
17	D	O-Ring	1
18		Shaft, driving	1
19		Shaft, driven	1
20	V	Double ball row bearing	2
21		Ball bearing shim	2
22		Key	2
23		Gear wheel	2
24		Flinger	1
25		Spacer	2
26	V	Ball baering	2
27	V	Sleeve	1
28	D	O-Ring	1
29		Ring	1
30	D	O-Ring	1
31	D	Shaft seal	1
32		Oil fill cap, vented	1
33	V	Oil sight glass	1
34		Plug	1
35		Washer	1
36		Disc	1
37		Cap	1
Drive			
38		Fan housing	1
39		Disc	1
40		Pin	2
41		Grill, air vent	2
42		Bolt, self-locking	4
43		Coupling, cpl.	1
44	V	Coupling spider	1
45		Key	1
46		Fan	1
47		Disc	1
48		Motor flange, part 1	1
49		Motor flange, part 2	1
Covering cap			
50		Cover	1
51		Front cover	1
52		Base plate, cpl.	1
53		Rubber foot	4
54		Hexhead nut	4
55		Bolt, self-locking	10
56		Eyebolt	1
57		Lock washer	2
Assembly parts suction side			
58	D	Gasket	1
59		Adapter plate	1
60	D	Mesh	1
61		Connection housing	1
62		Pipe fitting	1
63		Vacuum relief valve, cpl.	1
63.1		Damper pipe	1
		(part of 2132130000)	
64		Bush	1
65		ZAN 50 fitting	2
Silencer			
66		Silencer	1
67	D	Gasket	1
68		Setscrew	4
69		Hexhead nut	4
Labels			
101		Data plate	1
102		Direction arrow	1
103		Oil type plate	1
104		Warning label hot surface	2
105		Label max. back pressure	1
106		Label manual	1
Screws			
201		Allen bolt	6
202		Allen bolt	6
203		Allen bolt	6
204		Allen bolt	8
205		Allen bolt	2
206		Allen bolt	1
207		Allen bolt	2
208		Allen bolt	2
209		Hexhead screw	1
210		Allen bolt	4
211		Hexhead screw	4
212		Allen bolt	4
213		Allen bolt	4
214		Allen bolt	4

KVC-301 SERIES EXPLODED VIEW DRAWING



Key	
V	Wearing Parts
D	Seals

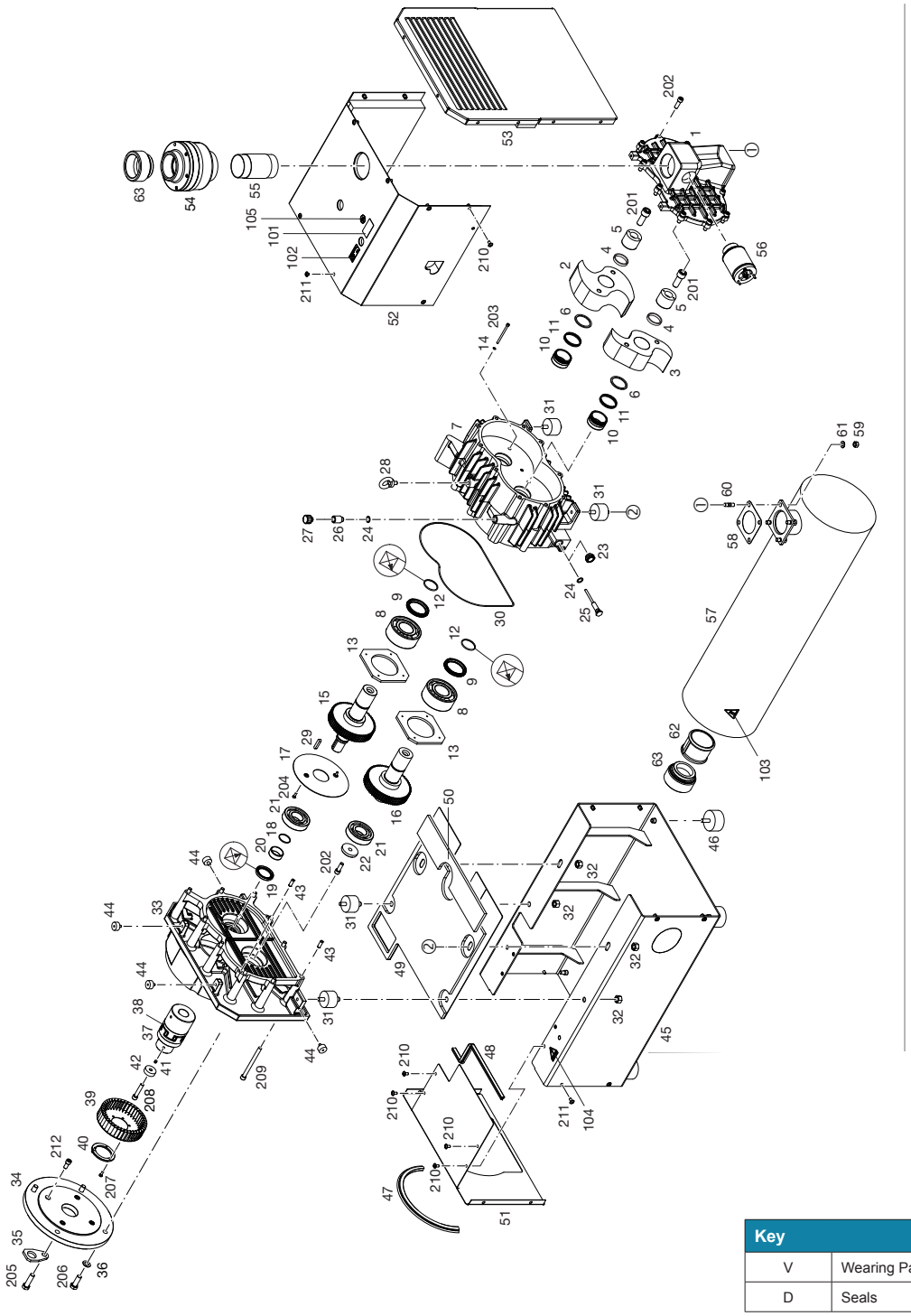
Repair kits available consisting of V- and D- parts

KVC-301 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
		Compressor parts	
1		Housing Cover B	1
2		Rotor 1, driving	1
3		Rotor 2, driven	1
4	V	Conical-clamping element	2
5		Disc	2
6		Spacer ring	2
7		Disc	4
8	V	Rubber foot	4
		Gear	
9		Housing	1
10	V	Ball baering	2
11	D	Shaft seal	2
12		Bearing cover	2
13	D	Seal ring	8
14		Shaft, driving	1
15		Shaft, driven	1
16		Flinger	1
17	V	Piston ring sleeve	2
18	V	Piston ring	4
19	D	O-Ring	2
20	D	O-Ring	1
21	D	Seal	1
22	V	Deep groove ball bearing	2
23		Shaft end cover	1
24	D	O-Ring	1
25	V	INA bush	1
26	V	Oil sight glass	1
27		Lock screw	1
28	D	Seal ring	1
29		Drain fitting, oil cooler	1
30		Oil fill cap, vented	1
31		Eyebolt	1
32		Key	1
		Drive	
33		Fan housing	1
34		Pin	2
35		Coupling, cpl.	1
36	V	Coupling spider	1
37		Disc	1
38		Motor flange	1
39		Fan	1
40		Disc	1
41		Lifting lug	1
		Cover	
42		Bottom plate with insulation mat	1
43		Foot	2
44		Rubber foot	4
45	V	Rubber foot	4
46		Intermediate sheet with insulation mat	1
47	V	Vibration absorber	4

ITEM NO.	PART TYPE	DESCRIPTION	QTY
48		Accoustic mat	1
49		Cover with insulation mat	1
50		Front cover	1
51		Cover plate	1
52		Hexhead nut	4
		Parts on suction side	
53		Vacuum limitation valve ZUV 32 1	
54		Bow	1
		Assembly parts suction side	
55		Suction flange NPT	1
56	D	Mesh	1
57		Retaining ring	1
58		Non return valve	1
59	D	O-Ring	1
		Silencer	
60		Silencer	
61		Setscrew	4
62		Washer	4
63		Hexhead nut	4
64	D	Gasket	1
65		Socket	1
66		ZAN 50 fitting	1
		Labels	
101		Data plate	1
102		Oil type plate	1
103		Warning label hot surface	2
104		Label max. back pressure	1
105		Label manual	
		Screws	
201		Allen bolt	2
202		Allen bolt	8
203		Allen bolt	4
204		Allen bolt	8
205		Allen bolt, self locking	5
206		Allen bolt	6
207		Hexhead screw	3
208		Hexhead screw	1
209		Flat head screws with hexagon socket	22
210		Allen bolt	4

KVC-401-501 SERIES EXPLODED VIEW DRAWING



Key	
V	Wearing Parts
D	Seals

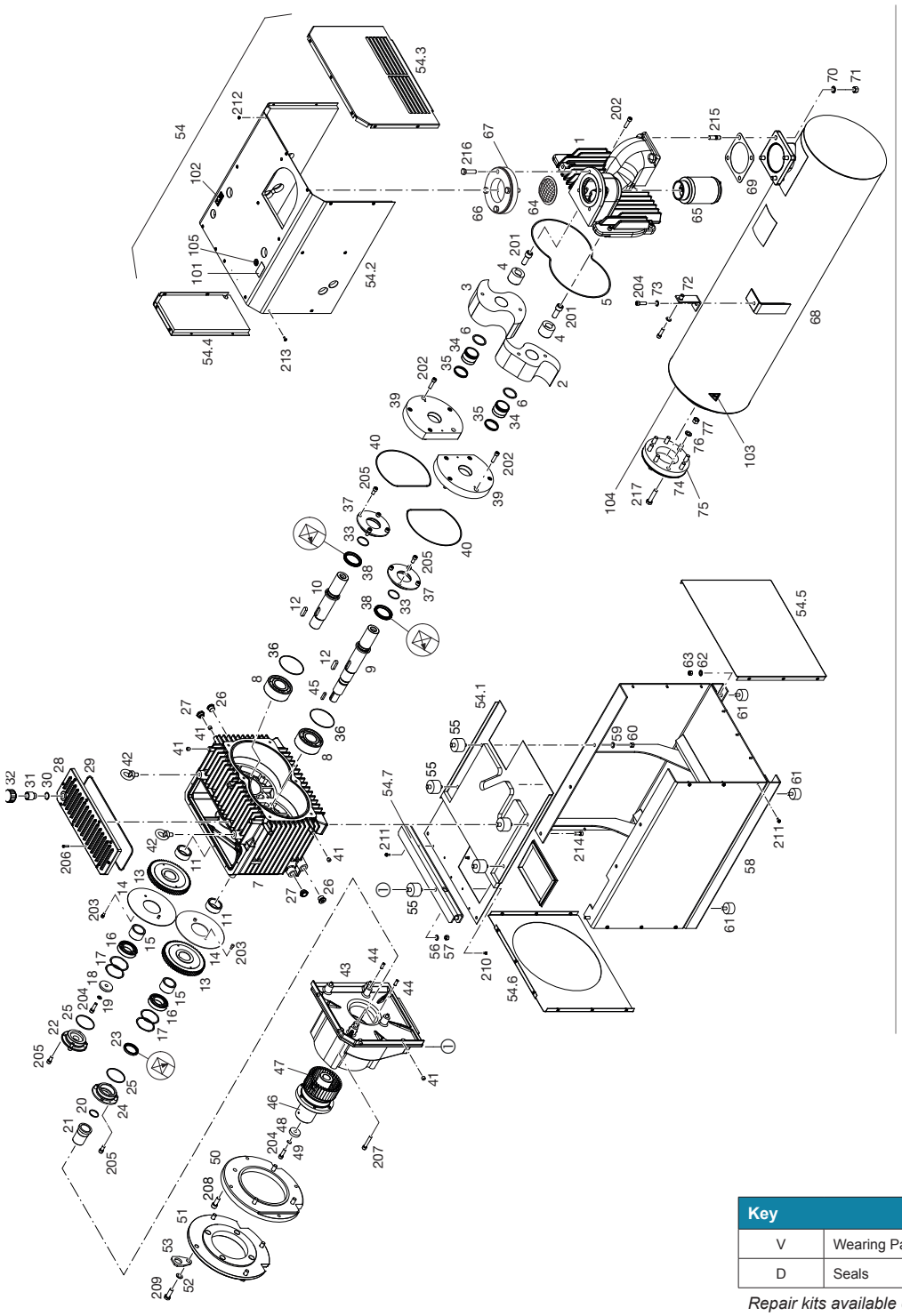
Repair kits available consisting of V- and D- parts

KVC-401-501 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
Compressor parts			
1		Housing Cover B	1
2		Rotor 1, driving	1
3		Rotor 2, driven	1
4	V	Conical-clamping element	2
5		Pressing cylinder, KVC 401	2
6		Spacer ring	2
Gear			
7		Housing	1
8	V	Ball baering	2
9	D	Shaft seal	2
10	V	Piston ring sleeve	2
11	V	Piston ring	4
12	D	O-Ring	2
13		Bearing cover	2
14	D	Seal ring	8
15		Shaft, driving, with gear wheel	1
16		Shaft, driven, with gear wheel	1
17		Flinger	1
18	D	O-Ring	1
19	D	Seal	1
20	V	INA bush	1
21	V	Deep groove ball bearing	2
22		Disc	1
23		Oil sight glass	1
24	D	Seal ring	1
25	V	Plug	1
26		Drain fitting, oil cooler	1
27		Oil fill cap, vented	1
28		Eyebolt	1
29		Key	1
	D	Gasket	1
30	D	O-Ring	1
31	V	Rubber foot	4
32		Hexhead nut	4
Drive			
33		Fan housing	1
34		Motor flange	1
35		Lifting lug	1
36		Washer	4
37		Coupling cpl.	1
38	V	Coupling spider	1
39		Fan	1
40		Disc	1
41		Setscrew	1
42		Disc	1
43		Pin	2
44	V	Vibration absorber	4

ITEM NO.	PART TYPE	DESCRIPTION	QTY
Cover			
45		Basis foot	1
46	V	Rubber foot	4
47		Edge protection section	1
48		Edge protection section	1
49		Intermediate sheet with insulation mat	1
50		Accoustic mat	1
51		Cover plate	1
52		Cover with insulation mat	1
53		Front cover	1
Parts on suction side			
54		Non return valve ZRK 80	1
55		Pipe fitting	1
56		Vacuum limitation valve ZBS 50	1
Silencer			
57		Silencer	1
58	D	Gasket	1
59		Hexhead nut	4
60		Setscrew	4
61		Washer	4
62		Bush	1
63		ZAN 80 fitting	2
Labels			
101		Data plate	1
102		Oil type plate	1
103		Warning label hot surface	2
104		Label max. back pressure	1
105		Label manual	1
Screws			
201		Allen bolt	2
202		Allen bolt	12
203		Allen bolt	8
204		Allen bolt, self locking	2
205		Hexhead screw	1
206		Hexhead screw	3
207		Allen bolt	3
208		Allen bolt	1
209		Allen bolt	10
210		Flat head screws with hexagon socket	24
211		Flat head screws with hexagon socket	4
212		Allen bolt, KVC 501	4

KVC-1000 SERIES EXPLODED VIEW DRAWING



Key	
V	Wearing Parts
D	Seals

Repair kits available consisting of V- and D- parts

KVC-1000 SERIES PARTS LIST

ITEM NO.	PART TYPE	DESCRIPTION	QTY
		Compressor parts	
1		Housing Cover B	1
2		Rotor 1, driving	1
3		Rotor 2, driven	1
4	V	Conical-clamping element	2
5	D	O-Ring	1
6		Spacer ring	2
		Gear	
7		Housing	1
8	V	Ball baering	2
9		Shaft, driving	1
10		Shaft, driven	1
11		Bush	2
12		Key	2
13		Gear wheel	2
14		Flinger	2
15		Bush	2
16	V	Deep groove ball bearing	2
17		Ball bearing shim	4
18		Disc	1
19	V	Lock washer	1
20	D	O-Ring	1
21	V	Sleeve	1
22		Cover	1
23	D	Shaft seal	1
24	V	Ring	1
25	D	O-ring	2
26	V	Plug	2
27		Oil sight glass	1
28		Gear box cover	1
29	D	O-Ring	1
30	D	Seal ring	1
31		Fitting	1
32		Oil fill cap, vented	1
33	D	O-Ring	2
34	V	Sleeve	2
35	V	Piston ring	4
36	D	O-Ring	2
37		Bearing cover	2
38	D	Shaft seal	2
39		Flange	2
40	D	O-Ring	2
41	V	Rubber foot	13
42		6121010000 Lifting eye	2
		Drive	
43		5299880000 Fan housing	1
44		Pin	2
45		Key	1
46		Coupling element	1
47		Fan	1
48		Disc	1
49		Lock washer	1
50		Motor flange, part 1	1
51		Motor flange, part 2	1
52		Washer	4
53		Lifting lug	1
		Cover	
54		Cover cpl.	1

ITEM NO.	PART TYPE	DESCRIPTION	QTY
54.1		Bottom plate cpl.	1
54.2		Top cover cpl.	1
54.3		Front cover cpl.	1
54.4		Back cover	1
54.5		Base cover front	1
54.6		Base cover back	1
54.7		Base connection	1
55	V	Rubber foot	5
56		Washer	1
57		Nut	1
		Base cpl.	
58		Base	1
59		Washer	4
60		Nut	4
61	V	Vibration absorber	4
62		Washer	4
63		Nut	4
		Parts on suction side	
64		Mesh filter	1
65		Vacuum limitation valve ZBS 80	1
66		Flange	1
67	D	Gasket	1
		Silencer	
68		Silencer	1
69	D	Gasket	1
70		Washer	4
71		Nut	4
72		Holder	1
73		Washer	2
74		Flange	1
75	D	Gasket	1
76		Washer	8
77		Nut	8
		Labels	
101		Data plate	1
102		Oil type plate	1
103		Warning label hot surface	2
104		Label max. back pressure	1
105		Label manual	1
		Screws	
201		Allen bolt	2
202		Allen bolt	16
203		Allen bolt	4
204		Allen bolt	4
205		Allen bolt	16
206		Allen bolt	10
207		Allen bolt	4
208		Allen bolt	4
209		Hexhead screw	4
210		Allen bolt	2
211		Allen bolt, with locking ribs	18
212		Cap screw	13
213		Cap screw	11
214		Allen bolt	2
215		Stud screw	4
216		Hexhead screw	4
217		Hexhead screw	8

REPLACEMENT KITS

AVAILABLE AFTERMARKET
OIL, GEAR, KV 150, QUART
OIL, GEAR, KV 150, 5 GALLON
REBUILD KIT, KVC 100
REBUILD KIT, KVC 150
REBUILD KIT, KVC 60
REBUILD KIT, KVC 301
REBUILD KIT, KVC 401
REBUILD KIT, KVC 501
REBUILD KIT, KVC 1000
REBUILD KIT, KVC 251
NOTE: Rebuild kit includes bearings, sealing elements, sleeves and coupling spider

WARRANTY – VACUUM PRODUCTS

Subject to the terms and conditions hereinafter set forth and set forth in General Terms of Sale, Kinney (the Seller) warrants products and parts of its manufacture, when shipped, and its work (including installation and start-up) when performed, will be of good quality and will be free from defects in material and workmanship. This warranty applies only to Seller's equipment, under use and service in accordance with Seller's written instructions, recommendations and ratings for installation, operating, maintenance and service of products, for a period as stated in the table below. Because of varying conditions of installation and operation, all guarantees of performance are subject to plus or minus 5% variation. (Non-standard materials and KVC Claw pumps are subject to a plus or minus 10% variation).

PRODUCT TYPE	WARRANTY DURATION
New (Non-Piston Pumps)	15 months after date of shipment or 12 months after initial startup date, whichever occurs first
New (Piston Pumps)	30 months after date of shipment, on all units sold after June 1, 2014.
KVC Claw Pumps	24 months after date of shipment.
Repair	6 months after date of shipment or remaining warranty period, whichever is greater
Remanufactured	9 months after date of shipment or 6 months after initial startup date, whichever occurs first

THIS WARRANTY EXTENDS ONLY TO BUYER AND/OR ORIGINAL END USER, AND IN NO EVENT SHALL THE SELLER BE LIABLE FOR PROPERTY DAMAGE SUSTAINED BY A PERSON DESIGNATED BY THE LAW OF ANY JURISDICTION AS A THIRD PARTY BENEFICIARY OF THIS WARRANTY OR ANY OTHER WARRANTY HELD TO SURVIVE SELLER'S DISCLAIMER.

All accessories furnished by Seller but manufactured by others bear only that manufacturer's standard warranty.

All claims for defective products, parts, or work under this warranty must be made in writing immediately upon discovery and, in any event within one (1) year from date of shipment of the applicable item and all claims for defective work must be made in writing immediately upon discovery and in any event within one (1) year from date of completion thereof by Seller. Unless done with prior written consent of Seller, any repairs, alterations or disassembly of Seller's equipment shall void warranty. Installation and transportation costs are not included and defective items must be held for Seller's inspection and returned to Seller's Ex-works point upon request.

THERE ARE NO WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS OF PURPOSE.

After Buyer's submission of a claim as provided above and its approval, Seller shall at its option either repair or replace its product, part, or work at the original Ex-works point of shipment, or refund an equitable portion of the purchase price.

The products and parts sold hereunder are not warranted for operation with erosive or corrosive material or those which may lead to build up of material within the product supplied, nor those which are incompatible with the materials of construction. The Buyer shall have no claim whatsoever and no product or part shall be deemed to be defective by reason of failure to resist erosive or corrosive action nor for problems resulting from build-up of material within the unit nor for problems due to incompatibility with the materials of construction.

Any improper use, operation beyond capacity, substitution of parts not approved by Seller, or any alteration or repair by others in such manner as in Seller's judgment affects the product materially and adversely shall void this warranty.

No employee or representative of Seller other than an Officer of the Company is authorized to change this warranty in any way or grant any other warranty. Any such change by an Officer of the Company must be in writing.

The foregoing is Seller's only obligation and Buyer's only remedy for breach of warranty, and except for gross negligence, willful misconduct and remedies permitted under the General Terms of Sale in the sections on CONTRACT PERFORMANCE, INSPECTION AND ACCEPTANCE and the PATENTS Clause hereof, the foregoing is BUYER'S ONLY REMEDY HEREUNDER BY WAY OF BREACH OF CONTRACT, TORT OR OTHERWISE, WITHOUT REGARD TO WHETHER ANY DEFECT WAS DISCOVERED OR LATENT AT THE TIME OF DELIVERY OF THE PRODUCT OR WORK. In no event shall Buyer be entitled to incidental or consequential damages. Any action for breach of this agreement must commence within one (1) year after the cause of action has occurred.

June, 2014

OPERATING DATA FORM / PRODUCT REGISTRATION

It is to the user's advantage to have the requested data filled in below and available in the event a problem should develop in the vacuum booster, vacuum pump or the system. This information is also helpful when ordering spare parts.

Model No. _____ Serial No. _____

Startup Date _____ Type of Lubrication _____

Pump RPM _____ Operating Vacuum _____

Pump Sheave Diameter _____ Any other Special Accessories Supplied or in use:

Motor RPM _____ HP _____ _____

NOTES: _____

_____

_____

_____

IMPORTANT

All vacuum boosters and vacuum pumps manufactured by Kinney are date coded at time of shipment. In order to assure you of the full benefits of the product warranty, please complete, tear out and return the product registration card. You may also register your product online at www.kinneyvacuum.com or contact Customer Service.

KINNEY®

For Service & Repair, Technical Support, or Product Sales contact:

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MEMBER OF CAGI Compressed Air & Gas Institute

AVEM Association of Vacuum Equipment Manufacturers

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