



ISO 9001:2008 Certificate



PNEUMATIC ROCK DRILL

VKA 17

OPERATION MANUAL

TABLE OF CONTENTS .....1

LABOUR SAFETY - WARNINGS .....2

SAFETY INSTRUCTIONS .....3

TECHNICAL DESCRIPTION.....4

APPLICATION .....4

MODEL LABELLING.....5

MAINTENANCE PRINCIPLES .....6

LUBRICATION .....6

STORING .....7

DELIVERING .....7

PARTS LIST .....8

AXONOMETRIC VIEW .....10-11

## Equipment

Do not blindly follow the rules.



Read through the chapter to learn why personal protective equipment is important.

## LABOUR SAFETY - WARNINGS

Every person to work with or service the drill must read or be familiarized with these instructions so as to understand them completely.

Always wear safety shoes, goggles, ear defenders, gloves and other safety equipment prescribed for the given task.

### **⚠ WARNING Noise hazard**

Prolonged exposure to noise produced by drill operation puts the operator at risk of health issues.

- ▶ Do not stay in a noisy environment without effective ear defenders.

### **⚠ WARNING Vibrations**

Frequent use of hand-held vibrating tools may trigger onset of the Hand-Arm Vibration Syndrome (HAVS).

- ▶ Take short breaks from work and always keep your hands warm.
- ▶ Immediately report any issues like numbness in fingers to your superior.

### **⚠ WARNING Dust hazard**

The drill operation may be accompanied by high dust nuisance.

- ▶ Use respirators where dust nuisance exceeds levels prescribed by relevant hygienic regulations.

### **⚠ WARNING Flying debris**

Rock chips and debris can be projected in at high velocities as the drill operates.

- ▶ Wear safety goggles.

### **⚠ CAUTION Heavy object**

- ▶ Assure that the drill will not harm anyone by falling and always keep in mind its weight to prevent injury.

## SAFETY INSTRUCTIONS

The priority of labour safety always prevails over any other operation demands.

As the following instructions cannot cover all possibly occurring cases, sound common sense must be employed when working with the drill and in the vicinity of this machine.

- ▶ Do not touch the trigger until you are ready to operate.
- ▶ Always hold the drill with both hands while operating.
- ▶ Stay on a safe and stable platform while operating.
- ▶ Do not put the drill close to your face and do not rest it on your leg.
- ▶ Do not use your leg to push the drill down while operating. The tool can break and cause serious injury.
- ▶ Stand with your legs safe out of the way of the tool while maintaining balance.
- ▶ Compressed air is dangerous! Do not aim an air hose at yourself or other people. Do not use pressurized air to clean the site or your clothing.
- ▶ Make sure all hose connections are firm and airtight and secure hoses to prevent loss of air or injury if a hose gets loose or bursts.
- ▶ Secure hoses using the prescribed number of recommended hose clips and sockets prescribed for the type of hose.
- ▶ Do not release any joints that are under pressure. Always switch off the air supply and bleed hoses first.
- ▶ Only operate the drill with recommended, approved tools. Work using the recommended air pressure and avoid heavy impacts.
- ▶ If you use a cleaning agent or a solvent to clean the drill, make sure it meets all relevant safety regulations and that its application does not cause environmental damage.
- ▶ When cleaning, observe instructions provided by the manufacturer of the cleaning agent.

### Tips

- Do not get distracted – risk of accident is always present.
- Make sure there is no plumbing or wiring (electricity, gas, ...) in place of operation.
- If you come across a foreign object while operating, put the drill aside and uncover the object carefully to identify it.

### Air pressure

VK and VKA rock drills are constructed for operating air pressure of 0.4 – 0.7 MPa.



0.4 – 0.7 MPa

## TECHNICAL DESCRIPTION

The rock drill is powered by compressed air. Turning the triggering lever rotates the slide-valve, allowing supply elbow to forward compressed air to the distribution system. The air in turns filling spaces in cylinder, setting piston into linear reciprocating motion. In power stroke, piston transfers its kinetic energy to drill rod, which disrupts drilled material. On its way back, the piston rotates the drill rod. This is made possible by a rifle bar with carrier nut and four latches, a ratchet, and a chuck with carrier. Drill rod is secured by a kick-latch retainer.

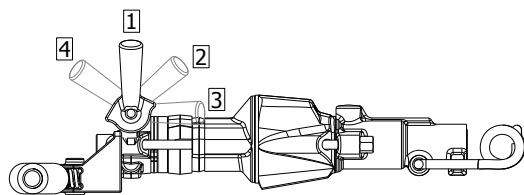
## APPLICATION

The hand-held pneumatic rock drill is a light weight tool used for drilling holes for secondary breaking in blasting operations in quarries, construction works, railways etc. It can drill holes of 29-62 mm in diameter and 1.5 m in depth.

Technical data and main dimensions	ISO unit	VK 17-B,C	VKA 17-B,C
Weight	kg	16	17.5
Length	mm	542	643
Width	mm	430	455
Impact rate	Hz		37
Air consumption	m <sup>3</sup> min <sup>-1</sup>		2.8
Torque	Nm		5
Impact count per rod rotation			12
Effective value of weighted acceleration	m.s <sup>-2</sup>	16.6	8.6
Measured sound power level	dB		115.7
Guaranteed sound power level	dB		117
Supply hose	mm		Ø16-20
Connecting thread	"		G 3/4"

Mean values (±10% tolerance) at 0.6 MPa air pressure.

A slide-valve inserted into cylinder head features four detents used for controlling the rock drill:



- Position 1 – shut off
- Position 2 – slow mode for commencing holes
- Position 3 – full power
- Position 4 – borehole flushing

## MODEL LABELLING

VKA breaking drills are equipped with spring-dampened handles. Solid, one-piece handle is available with the VK series.

Drills are fitted with labels containing important information. Keep these labels clean and readable at all times and order new ones as necessary.



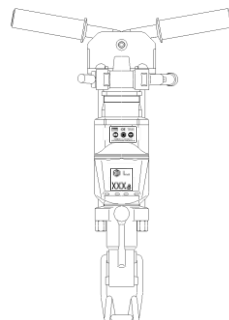
The main label should be found on the handle.

- Maximum permitted compressed air pressure is stated in the top left corner.
- The 'CE' symbol states that the product is EC-approved (see EC-Declaration of conformity).
- The opened book symbol states that user has to read and understand the manual before using the machine for the first time.
- The headset symbol reminds user to wear ear defenders.
- The last symbol reminds user to wear safety goggles.

The label on the silencer indicates guaranteed noise level in accordance with Directive 2000/14/EC.

See Technical data for more information.

Machine type and serial number are embossed on the cylinder.



Subtypes 17-B and 17-C vary in tool shanks and borehole diameters.

VK(A) 17-B	VK(A) 17-C
#19x108	#22x108
Tool shank by type	
Ø26-32 (36)	Ø34-45 a Ø62
Borehole diameters	

### Inserting tools

Before inserting the tool into drill, check up on the condition of the tool shank and that it matches the correct length (108 mm).

Insert the tool into front head and lock it in with kick-latch retainer spring.

### Lubricants

Do not use hydraulic oils or unstabilized colseed oils for lubrication.



Do not use ecological oils for conservation.

## MAINTENANCE PRINCIPLES

Always observe all relevant hygiene and safety regulations.

Only personnel properly acquainted with the structure and function of the drill can service the tool.

All repairs are to be performed by the manufacturer or authorised trained personnel.

- ▶ Dry, clear air of the appropriate overpressure (see Technical data) must be available in sufficient volumes.
- ▶ Supply hose must match the prescribed dimensions. To avoid excessive frictional pressure loss, do not use hoses of over 15 metres in length (in case of a Js16 hose). If necessary, hose of a larger diameter can be used over greater distances.
- ▶ Protect the drill from dirt and other harmful particles getting in. Always keep all openings clean.
- ▶ Blow the hose clear to get rid of potentially harmful particles before attaching it to the drill.
- ▶ Properly tighten all joints and re-tighten after 3-5 hours of first operation.
- ▶ Check-up on the state of the drill regularly.

## LUBRICATING

The drill must be in good condition and lubricated properly to provide maximum performance, service life and proper functionality.

- ◆ Alternatively, pour about 50 ml oil into the air supply hose (at the entry point) by the compressor unit and 10 ml into the air inlet at the beginning of each work shift and repeat every 1-2 hours of operating. Keep in mind, however, that this may negatively influence the service life of the drill.
- ◆ For VKA rock drills, lubricate the sleeve (39) of the handle with a drop of oil before every shift.

Before storing the tool for over three weeks, conserve it using mineral oil (see Storing).

**Recommended ecological oils:**

BP BIOHYD SE 46, ÖMV BIOHYD M 32,  
TOTAL HYDROBIO 46, TopOil BIO UNI

**Recommended mineral oils:**

PARAMO PNEUMAT 46

**STORING**

Before storing the tool for over three weeks, it needs to be conserved.

- ◆ Conserve the drill by pouring cca. 10 ml of mineral oil into the air inlet and running it shortly to coat its internal parts with oil.
- ◆ Oil may leak from the oiler during prolonged storing. Empty the oiler before storing the drill and re-fill it before using it again.
- ◆ Store the drill in dry conditions – protected from weather factors and relative humidity below 75%.
- ◆ Do not store the drill close to corrosive chemicals or gases.

In proper storage conditions, the drill can be stored for a year and spare parts for a year and a half without re-conservation.

**DELIVERING**

The drill is delivered separately, including this manual and a certificate of warranty.

Following items are also for sale:

- tools
- oilers, water separators
- recommended ecological oils
- hoses and hose ends
- adapters, nuts, sockets, clips

**Low temperatures**

Presence of condensate in air coupled with low temperatures can cause the drill to freeze up.



Add an AOV 6 water separator with an LR 3 oiler following it, or a SOOR unit before the drill and as far away from the compressor unit as possible (min. 20 m).

**Ordering spare parts**

All drills are manufactured in accordance with drawing documentation to ensure interchangeability of all components.

Please state the drill type, name, quantity and item no. of the desired component in your order form.

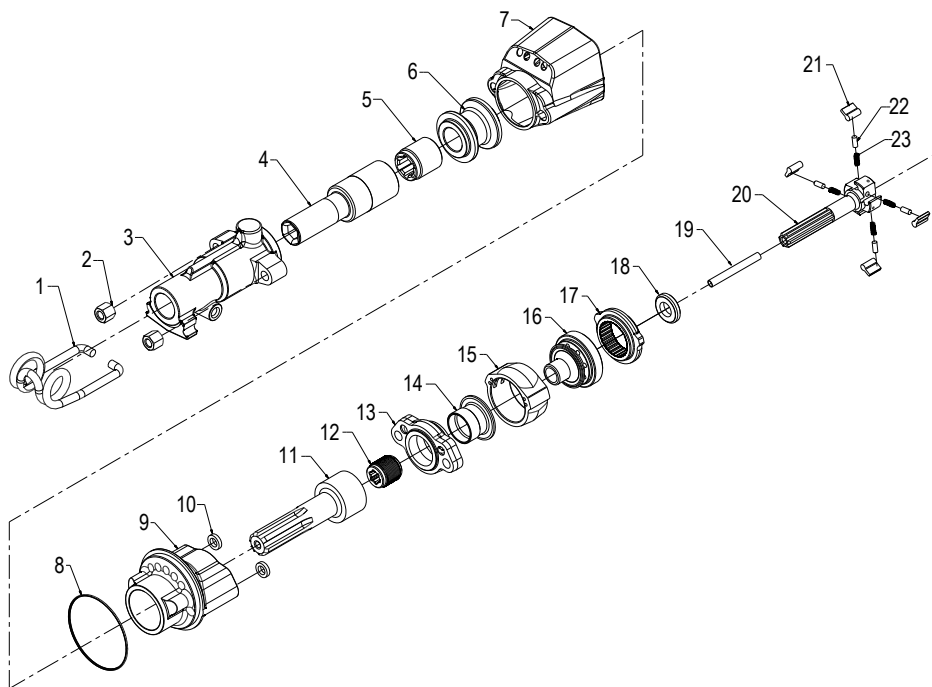
Example: VKA 17 – C  
Piston 5002-362 1pc



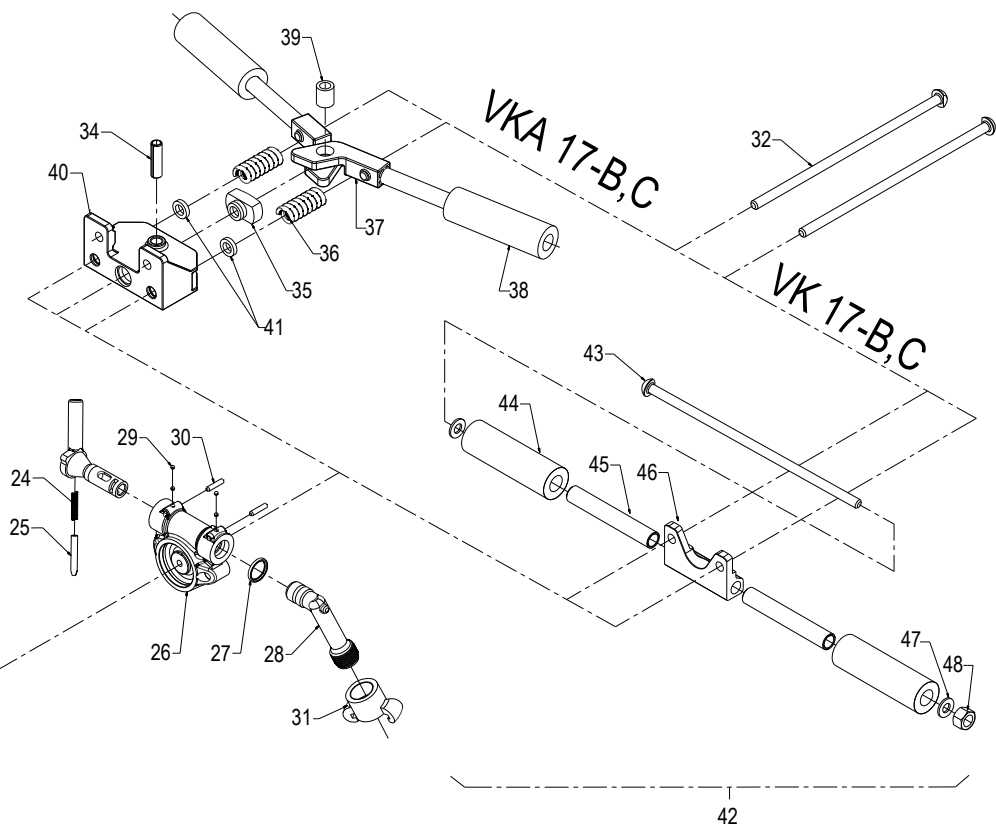
Pos.	Item no.		Title	Qty	
	9403 382		VKA 17-C #22x108		
	9403 392		VKA 17-B #19x108		
	9403 402		VK 17-C #22x108		
		9403 412	VK 17-B #19x108		
1	4760 151		Kick-latch retainer	1	
2	0600 250		Nut M12	2	
3	5132 250		Front head	1	
4	2089 920	2089 920	Chuck #22x108	1	
4	2089 900	2089 900	Chuck #19x108	1	
5	0441 050		Carrier	1	
6	2261 280		Chuck sleeve	1	
7	5230 150		Silencer	1	
8	273 102		O-Ring 100x3	1	
9	5091 503		Cylinder	1	
10	273 161		Rubber sealing 4200-020	2	
11	5002 362		Piston	1	
12	2068 360		Carrier nut	1	
13	3925 430		Bottom cover – valve	1	
14	3902 180		Ring – valve	1	
15	3924 151		Body – valve	1	
16	3925 421		Top cover – valve	1	
17	3782 240		Ratchet	1	
18	0911 690		Support ring	1	
19	4325 211		Tube	1	
20	5151 401		Bar – rifle	1	
21	3792 190		Latch	4	
22	3043 170		Pin	4	
23	315 264		Spring 4503-101	4	
24	4501 110		Spring	1	
25	3071 060		Arresting pin	1	
26	5255 370		Cylinder head subassy.	1	
27	273 030		O-Ring 33x25	1	
28	4424 411		Elbow inlet	1	
29	324 393		Ball 3/16"	28	
30	321 019		Pin 6x27 3040-740	2	
31	414 259		Claw coupling 3/4" D	1	
32	0562 440		Bolt	2	
33	8017 170	8017 170	Spring-dampened handle	1	
34	311 398	311 398	Pin	1	
35	0901 890	0901 890	Stop	1	
36	315 145	315 145	Spring 4503-060	2	
37	1418 370	1418 370	Handle lever	2	
38	1318 170	1318 170	Handle grip	2	
39	2001 580	2001 580	Sleeve	1	
40	1227 111	1227 111	Handle body	1	
41	311 361	311 361	Washer 13	2	
42		8017 200	8017 200	Fixed handle	1
43		0562 750	0562 750	Bolt	1
44		1318 150	1318 150	Handle grip	2
45		4301 990	4301 990	Tube	2
46		1227 071	1227 071	Handle body	1
47		311 133	311 133	Washer 17	2
48		311 037	311 037	Self-locking nut 16	1



## VK(A) 17-B, C



33



42