PERMON
® Made in Czech Republic

ISO 9001:2008 Certificate

CE

PNEUMATIC PICK HAMMER

SKA 12

OPERATION MANUAL

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www.permon.cz

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 hammer 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 and vibrations hazard

Prolonged exposure to noise and vibrations produced by hammer operation puts the operator at risk of health issues. Do not stay in a noisy environment without effective ear defenders.

⚠ WARNING Electricity

The design of the product does not provide protection from electric shock hazard.

⚠ WARNING Dust hazard

Operation may be accompanied by high dust nuisance.

- The product has been designed and constructed to comply with CSN EN 1127-2+A1 and CSN 33 2030 standards on use in locations of dangerous atmospheric conditions 2, category M2, group I (mines).
- The construction of the product complies with requirements of Directive 98/37/EC of the European Parliament and of the Council, as amended by Czech technical regulation – Government Regulation No. 24/2003 Coll., as amended, requirements of harmonized Czech technical standards - CSN EN ISO 12100, standards on group I (mines), category M2 machinery in accordance with Directive 94/9/EC of the European Parliament and of the Council, as amended by Czech technical regulation – Government Regulation No. 23/2003 Coll., as amended, and harmonized Czech technical standards – CSN EN 13 463-1, and conforms to standards on use in „dangerous atmospheric conditions 2“ in compliance with CSN EN 1127-2+A1 to the extent limited by national regulation - CBU Decree No. 22/1989 Coll., § 232, section (1) c) of up to 1,5% methane concentration.
- Source of the supplied compressed air must be stationed in a nonhazardous area.

Supply hoses

• Fire-technical properties of hoses used for supplying compressed air must comply with CBU Decree No. 22/1989 Coll., § 185, section (1), as amended.
• Supply hoses used in group I (mines) areas of higher explosion risk I M2 must meet requirements set by CBU Decree No. 22/1989 Coll., § 232, section c), as amended, and comply with requirements of enactments CSN EN 1127-1 and CSN EN 1127-2+A1 6.4.7, CSN EN 13 463-1 7.4.3, CSN 33 2030.

SAFETY INSTRUCTIONS

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

- Do not touch the trigger until you are ready to operate.
- Always hold the hammer with both hands while operating.
- Stay on a safe and stable platform while operating.
- Do not put the hammer close to your face and do not rest it on your leg.
- Do not use your leg to push the hammer 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 hammer with recommended, approved tools. Work with the recommended air pressure and avoid heavy impacts.
- 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 hammer aside and uncover the object carefully to identify it.
- If you cannot produce sufficient thrust on the hammer (e.g. while operating horizontally or upward), choose another type of machine or technology. Insufficient thrust increases vibrations and risk of injury.

Air pressure

SKA pick hammers are constructed for operating air pressure of 0.4 – 0.7 MPa.

0.4 – 0.7 MPa

MATERIAL AND CONSTRUCTION

Main parts of the hammer are constructed of SAE grade 11, 12 and 14 carbon steels. No materials susceptible to ignition spark formation are used on external parts. The hammer is also free of materials with hazardous electrostatic charging properties. The galvanized steel surface also meets all of the requirements above.

APPLICATION

The pick hammer is a versatile tool. It is designed for breaking up low to medium strength rock and material (concrete, bituminous roadways, coal etc.), in construction works and mining or surface operations.

The SKA line is designed to reduce vibrations, putting less stress on operator's hands.

Technical data and main dimensions	ISO unit	12-B	12-D	12-DZ
Weight	kg	13	13	15
Impact energy	J		38	
Impact frequency	Hz		18	
Air consumption	m^3min^{-1}		1,0	
Operating air pressure	MPa		0,4 – 0,7	
Effective value of weighted acceleration	$m.s^{-2}$		3,79	
Measured sound power level	dB		101,3	
Guaranteed sound power level	dB		102	
Length	mm	635	635	644
Width	mm		180	
Supply hose	mm		Js 13, 16, 20	
Connecting thread	"		G 3/4" RS	
Tool shank size	mm	Ø25x75	#22x82	#22x82

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

TECHNICAL DESCRIPTION

The hammering section (cylinder, distribution and piston) is slidably mounted to a controlling section (handle, nut, pipe) and does not come into contact with hands of the operator. A pneumatic and a mechanical springs are positioned axially inbetween the controlling and hammering sections. The two sections are prevented from relative rotation by a pen and held together by a nut. Compressed air is in turns filling spaces below and above a floating piston head in the hammer cylinder, setting piston into linear reciprocating motion. In power stroke, piston transfers its kinetic energy to a tool that disrupts the material. Exhaust air leaves the hammer through a series of holes in silencer. The silencer can be rotated into arrested positions, directing the exhaust air to ensure safety and comfort. The sliding mounting of the cylinder to the handle and the two springs inbetween prevent vibrations from transferring onto the handle in full force. An integrated oiler ensures proper lubrication.

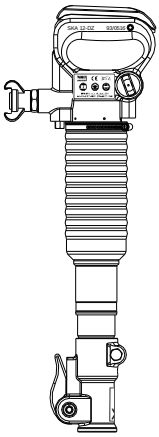
MODEL LABELLING

Machines 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.

- The 'CE' symbol states that the product is EC-approved (see EC-Declaration of conformity).
- Maximum permitted compressed air pressure is stated in the top right corner.
- 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 effective ear defenders.
- The last symbol reminds user to wear safety goggles.

Machine type and serial number are embossed on the handle.



SKA 12-B, 12-D and 12-DZ vary in tool shank and tool retainer.

12-B	12-D	12-DZ
		
Ø27x75	#22x82	#22x82

Tool shanks and tool retainers

Thrust

With regards to vibrations and manipulation of the hammer, the optimal thrust is between 150 – 200 N. The thrust must prevent the hammer from working idly, which increases wear and chance of breakdown.

Tool insertion

Unscrew retainer with ring. Always check the state of rubber ring. Insert tool into cylinder and screw retainer back on.

The SKA 12-DZ version with latch retainer comes without a ring. Insert tool by tilting the latch and then close the retainer.

Never start a hammer without a tool inserted!

Guaranteed noise level in accordance with Directive 2000/14/EC is indicated by a label under silencer, and a mark on the silencer marks the group and category the machinery falls under in accordance with Directive 94/9/EC – ATEX.

MAINTENANCE PRINCIPLES

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

All repairs are to be performed by the manufacturer or authorized 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 meters in length (in case of a Js16 hose). If necessary, hose of a larger diameter can be used over greater distances.
- Protect the hammer from dirt and other harmful particles getting in. Always keep the input and output openings clean.
- Blow the hose clear to get rid of potentially harmful particles before attaching it to the hammer.
- Properly tighten all joints and re-tighten after 3-5 hours of first operation.
- Check-up on the state of the hammer regularly.
- Hexagonal chuck in SKA 12-D and 12-DZ makes use of chisel type tools possible. The open screw retainer can be used for wider chisels and facilitates faster tool replacement. If the hammer operates without sufficient thrust, the screw retainer can crack under heavy impacts of the tool!

LUBRICATING

Lubricate the hammer properly to secure maximum service life of sealing rings of the handle. Damaged rings let air escape the handle body, limiting vibration dampening or rendering it virtually ineffective. Sufficient lubrication is secured with an oiler integrated in the handle. The oiler needs to be re-filled before every work shift.

Alternatively, pour about 100 cm^3 of oil into the air supply hose (at the entry point) by the compressor unit and 5 cm^3 into the air inlet at the beginning of each work shift and repeat every 2-3 hours of operating.

- Do not use hydraulic oils or unstabilized coleseed oils for lubrication.
- Before storing the tool for over three weeks, conserve it using mineral oil (see Storing).
- Do not use ecological oils for conservation.

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 hammer by pouring cca. 50 cm^3 (0.5 dcl) 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.
- Store the hammer in dry conditions – protected from weather factors and relative humidity below 75%.
- Do not store the hammer close to corrosive chemicals or gases.

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

DELIVERING

The hammer is delivered separately, including this manual and a certificate of warranty.
By default, we deliver the **¾'' Quick Coupling** as the joint for the supply hose. Alternatively, the quick coupling can be replaced by a cap nut with a socket, which can be attached to the ¾“ threaded socket.

The cap nut (item no. 319 257) can be combined with:

- Ø13 socket (item no. 319 264)
- Ø16 socket (item no. 319 255)
- Ø20 socket (item no. 319 256)

Low temperatures

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

Add an AOV 6 water separator or the SOOR unit before the hammer and as far away from the compressor unit as possible (min. 20 m).

Ordering spare parts

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

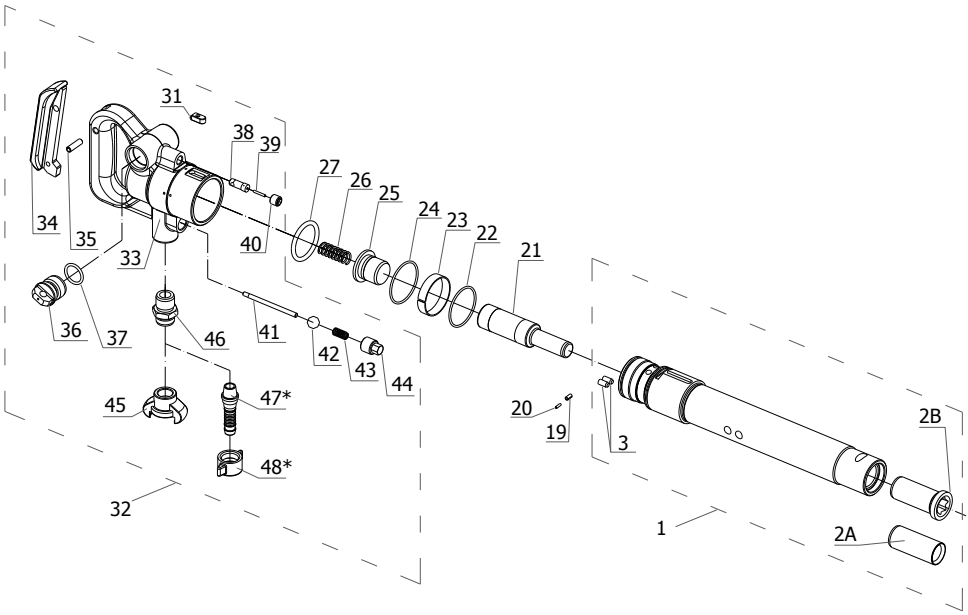
Please state the hammer type, name, quantity and item no. of the desired component in your order form.

Example: SKA 12-B
Piston 5003-691 1pc

Pos.		Item No.			Title	Qty	Standard
		9410 522			Pick Hammer SKA 12-B Ø27x75		
			9410 532		Pick Hammer SKA 12-D #22x82		
				9410 542	Pick Hammer SKA 12-DZ #22x82		
1		8323 890			Cylinder Subassy. Ø25x75	1	J
	1	5097 081			Cylinder	1	J
	2A	2001 610			Chuck Ø25x75	1	J
1			8323 900	8323 910	Cylinder Subassy. #22x82	1	J
	1		5097 081	5097 091	Cylinder	1	J
	2B		2090 751	2090 751	Chuck #22x82	1	J
	3	273 413	273 413	273 413	Rubber Plug 0901-960	2	J
4		273 330	273 330		Ring O 43x5,5	1	J
5		8021 060	8021 060	8021 070	Silencer Subassy.	1	J
	6	1730 142	1730 142	1730 142	Silencer	1	J
	7	2001 630	2001 630	2001 591	Pipe	1	J
8		273 129	273 129		Rubber Ring 4201-311	1	J
9		8042 230	8042 230		Screw Retainer	1	J
10				8330 041	Latch Retainer Subassy.	1	J
11				5132 230	Latch Retainer	1	J
12				309 331	Screw M 12x65	1	J
13				311 326	Nut M 12	1	J
14				311 406	Spring Pin 20x50	1	J
15				311 408	Pin 12x50	1	J
16				0900 950	Plunger Pin	1	J
17				315 138	Plunger Spring 4501-980	1	J
18				5256 102	Latch	1	J
19			311 411		Spring Pin 5x10	1	J
20			311 417		Spring Pin 3x10	1	J
21			5003 691		Piston	1	J
22			273 077		Ring O 60x2,5	1	J
23			3908 130		Distribution Ring	1	J
24			273 066		Ring O 57x2,5	1	J
25			722 089		Cover 1511-380	1	J
26			315 144		Spring 4503-030	1	J
27			273 014		Ring O 63x53	2	J
28			2010 261		Nut	1	J
29			311 184		Safety Ring 4770-450 Ø74	1	J
30			548 082		Clip Torro 80-100/9mm C7 W1	1	J
31			1122 291		Pen	1	J
32			8040 241		Handle Subassy.	1	N
	33		5260 010		Handle	1	J
	34		1411 172		Trigger	1	J
	35		311 038		Spring Pin 8x28	1	J
	36		0047 092		Oiler Plug	1	J
	37		273 030		Ring 33x25	1	J
	38		722 017		Wick Holder 3093-200	1	J
	39		722 018		Wick	1	J
	40		309 347		Screw M 14x12	1	J
	41		3081 371		Trigger Pin	1	J
	42		722 094		Ball 17 (Plastic)	1	J
	43		315 007		Spring 4500-240	1	J
	44		0047 080		Plug	1	J
	45		414 259		Quick Coupling 3/4“	1	J
	46		4087 330		Threaded Socket G 3/4“-3/4“	1	J
	*		319 264		Socket Js 13	1	N
	47		319 255		Socket Js 16	1	N
	*		319 256		Socket Js 20	1	N
	48		319 257		Nut 3/4“	1	N

J = Standard N = On Demand * = Replaces Quick Coupling (45)

SKA 12-B, D, DZ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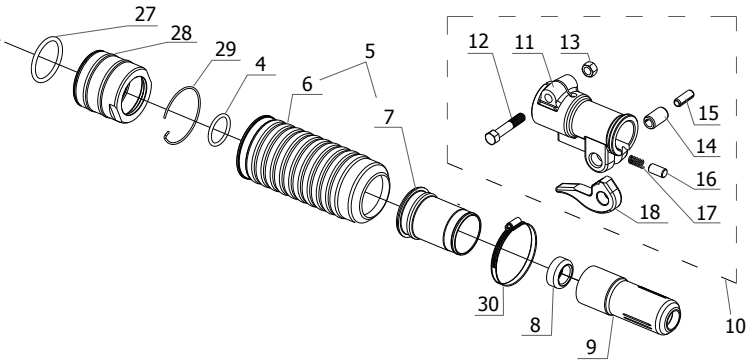
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