

# THE B2 AIR HAND-HELD DE-BURRING SYSTEM

ORDER NO. 24 200



## Manual for operating the equipment

CHANGES RESERVED

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**Always carefully study the operating manual before using**

## **1. General Information**

Thank you for buying one of our machines and we hope you will be fully satisfied with it.

This manual contains all the instructions for installation, adjusting, operating and maintaining the machine of B2 AIR in accordance with valid safety norms.

**Information and data in this handbook can be the subject of changes as a result of further improvements to the machines. Please contact the company of N.KO Machines in case of discrepancies to remove any doubts.**

Don't perform any operations with the machine before you read the instructions in the manual and understand them. A substantial number of accidents that occur at the workplace are caused by not upholding instructions and the recommendations contained in the handbook.

Graphical symbols in the handbook are used to emphasize important information pertaining to the safety and operation of the machine.



**Caution:**

**Important information for the personal safety of the operator.**



**Caution:**

**Instructions that must be upheld to ensure the correct operation of the machine.**

## **2. Description of the B2 AIR**

**The B2 AIR device is only intended for the following activities:**

The B2 AIR is solely intended for de-burring metal materials at the shop or the manufacturing plant.

This entails a manual, hand-operated machine. The main advantages of this machine are its ability to machine straight as well as shaped pieces, opening and pipes. The B2 AIR can also perform the rounding of edges of pieces. A special cutting blade is necessary - see the text below - for this application.

Use the machine only in an environment protected against rain, snow, and other unfavorable effects of the environment.

### **3. Identifying Data**

Identifying data of the B2 AIR machine are stated on the label attached to the body of the machine.

### **4. Tests**

The machine for removing corners is tested in our technical laboratory.

During this test, the correct function of de-burring of sheet metal and profiles of various types and sizes.

### **5. Warranties**

The B2 AIR bevelling system provides the seller with a guarantee that the goods will be free of material and production defects for a period of 12 months from the day of the delivery of the goods.

A warranty is provided for a period of 12 months from the day of the delivery of goods for flawless functioning of goods and materials used.

The seller is bound to ensure the removal of any eventual flaws for which the warranty is valid, free of charge and without unnecessary delay so as for the buyer to be able to properly use it.

If the buyer exercises his rights stemming from responsibility for flaws to which the guarantee doesn't apply, he will reimburse the seller the costs related to this service.

#### **The producer consider the guarantee to be invalid in case:**

- Of wrongful use of the machine
- Use at odds with national or international norms
- Incorrect installation
- Flawed connection to compressed air or of poor quality
- Serious shortcoming in upkeep
- Unauthorized modifications or interventions
- Using other than original and producer approved spare parts and accessories for a given model
- Full or partial non-compliance with the instructions of this manual
- Extraordinary events, natural calamities, or others

## 6. Safety Regulations



### Caution:

#### To prevent an incident of injury by not upholding the following

Before machining, check whether the machine is or isn't mechanically or otherwise damaged. **Commission the machine only in case that the intake pressure hose is in no way damaged.**

**The pressure hose and air connectors** are to be regularly checked. In the case of damage, have them immediately replaced at the service center which is authorized to perform such repairs. Contact your supplier.

The machine has a so-called lower exhaust system via the cutting device. This solution has the advantage of cooling the device and expulsion of chips and it is, however, necessary to pay attention to a heightened awareness and wear protective glasses.

**The chips may catapult out against your face.**

### Personal Protection Preventing Injury

Use protective glasses while working, firm work footwear, protect hearing, suitable head cover, respectively a protective helmet.

- Connect machine to pressurized air lines only in the case that the release valve of the machine is in the off position.
- Before each use, check whether the equipment or the pressurized air input is damaged. Don't use machine in the case it is damaged in any way.
- Protect the machine from humidity and don't use in a damp environment.
- Ensure good lighting at the worksite so as to prevent risk of possible injury or damage to sight.
- Caution, the machine (milling cutter) is sharp, with a risk of the danger of injury. When replacing, use protective gloves, **never touch the milling cutter when it is in motion.**
- The material machined must always be firmly attached and in a horizontal position. The optimal height of a workpiece is 900mm above the ground.
- Watch the intake hose while working; it should always freely lay on the floor away from the material being worked on, or other sharp objects.
- After finishing work, disconnect the equipment from the input of pressurized air.
- Don't overload the motor of the machine. The machine works best when it isn't overloaded.
- Hold the equipment firmly in hand - palm while working.
- Beware of danger from injury by hot metal shavings.



### Important:

In case of damage, have the machine repaired at a service center which is authorized to perform such repairs. Contact your supplier for more information.

## 7. Technical Specifications

Angle of deduction	45°
Width of cut	0 to 2 mm < 400N/mm <sup>2</sup> 0 to 1 mm > 400N/mm <sup>2</sup>
Rounding	R 1.5mm
Motor	pneumatic
Revolutions	23 000 rpm
Air consumption	320L/min
Working pressure	6bar (5.5bar)
Weight	400g
Number of blade plates	3 ks
Dimensions	112x60x48mm
Feed	manual

## 8. Accessories

Blade plates, tri-plate, for de-pinning (10pc pack)	24 201
Blade plates, tri-plate, pro odjehlení, povlakované TiN (10 pc pack)	24 204
Blade plates for rounding edges R 1.5mm tri-plate (10 pc pack)	24 202
Pneumatic set – (pneumatic hose complete including quick connectors, filtrating, regulating and supplemental greasing units)	24 203

## 9. Unpacking Equipment

Unpack the machine from the box and check to see whether all is well and the machine is undamaged. Contact the seller in case of questions.

**The B2 AIR device is furnished along with necessary tools for operating, without the equipment or quick connectors for air input.**

Devices, pressure hoses, necessary connectors, filtering and regulating units can be bought later.

Have a look at the catalogue of N.KO Machines company and contact your supplier.

## 10. Control features of B2 AIR

Pick.10.0.1



- A. Start-up valve
- B. Connecting pressurized air
- C. Body of the motor
- D. Arresting screw of the socket of the pressure plate – Securing the setting of the cut
- E. Pressure plate with socket

## 11.Use

### ● Important:

The equipment may only be used if it is fitted with blade plates that are equipped by our supplier, respectively The maker of the equipment. These are 3-sided blade plates. The equipment is fitted with 3X blade plates. It is strongly recommended to never use other than original plates.

### 11.1 Setting the size of the cut

### ⚠ Caution:

**When adjusting use work gloves and additional means of personal protection. Operations must be performed with the machine at rest and upon disconnection from lines of pressurized air.**

- Disconnect the machine from the input of pressurized air.
- Loosen the arresting screw setting (pic.10.0.1 position D)
- Turn the guide plate (pic.10.0.1 position E) for setting the size of the cut. The current setting can be subtracted from the integrated scale. The scale is only orientational and the resulting cut may differ.
- Upon setting, again tighten the screw (pic.10.0.1 position D).

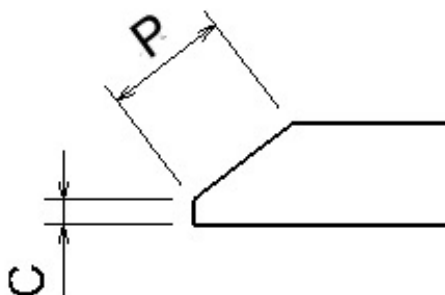
### ● Important:

The maximum cut is 2mm wide (the spot height P pic.11.1.1). This cut must be attained via several steps. It depends on the firmness of the material. We recommend performing a test.

Start with a smaller cut and gradually raise the value up to the moment that work with the machine is still comfortable, and the plates retain the ability of a smooth cut without increased vibrations.

We recommend starting a work journal in which it is possible to record the measured values and your own procedure for machining.

pic. 11.1.1





 **Important:**

The machine was made for manual de-burring. Precision machining depends on the corresponding preparation of machined edges. Unfortunately the material is often so-called underburned or undercut. This imprecision will also certainly appear in the results of the machining.

 **Important:**

If it is difficult to cut a workpiece in one step, we recommend dividing the process into several chips. The reason may be excessive wear of the cutting plates or more difficult machine-ability of the material.

## 2. Machining

- Connect the machine to the lines of pressurized air and set the value on the pressure regulator to 5 - 6bar. Upon setting the optimal values we recommend conducting a test.
- Set the complementary greasing the the middle setting.
- Upon careful setting of the first cut, see section 11.1, firmly grip the equipment, release the safety on the release valve and commission the machine.
- Set the machine upon the material so that the pressure/contact plate (pic. 10.0.1 position E) is in contact with the material in the maximal possible surface area.
- Slowly move the machine to the material, and you will feel that the milling cutter is coming into the range of the cut. Caution!!! At this moment a jerking motion may occur, so be careful.
- Move the machine further in the direction towards the material up to the point when the milling cutter is sunken into the material at the full profile of the set chipper. The contact sheave must now touch the edge of the workpiece. The pressure plate´s surface must lie on the material.
- Now you must initiate machining in the direction from left to right. Slide the machine gradually and only at such speed as for the milling cutter to be able to smoothly remove the material in the set profile of the chipper. Otherwise the milling cutter will be pushed from the material and the cut will be uneven.

 **Caution:**

**While working use work gloves and additional means of personal protection.**

**Operations maintenance must be performed with the machine at rest and upon disconnection from lines pressurized air.**

 **Important:**

**The slide, while machining, is always from left to right.**

 **Caution:**

**The operator of the equipment must always hold the equipment firmly in hand.**

## 11.2 Replacing the Milling Cutter Head

Replacing the head is only possible by using special tools.  
For more information, contact your supplier.



### Caution:

**Při adjusting use work gloves a additional means of personal protection.  
Operations must be performed na the machine at rest and upon disconnection od  
lines pressurized air.**

## 3. Replacing the Cutting Plates



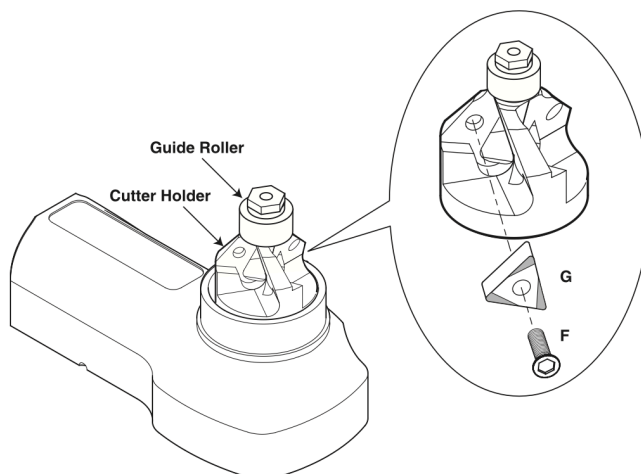
### Important:

**Work only with sharp and undamaged cutting plates. You will thereby avoid  
damaging the machine.**

**If the blade plates are worn or broken, replace them.**

- Securing the wrench loosen the screws (pic. 11.3.1 position F) by which the blade plates are attached.
- Blade plates (pic. 11.3.1 position G) are to be replaced by new, others or just turned so that all cutting edges are utilized. Caution! Keeping in mind their specific shapes, pay special attention to this process.
- Again thoroughly tighten the screws of the blade plates (pic. 11.3.1 position F).
- Mount the set of guide plates according to section 11.2

pic. 11.3.1



## 12. Maintenance and Operation

The B2 AIR machine is equipped with a pneumatic drive. For problem-free operation it is necessary to ensure sufficient quality of pressurized air.

Filtration and supplementary grease units serve this purpose.

For the correct choice of a unit of air preparation consult your supplier or directly the maker of B2 AIR equipment, the company of N.KO Machines.

Choose the appropriate oil for greasing pneumatic drives during supplementary greasing. Set the greasing cycle to the middle setting.

### Important:

**Moving parts, threading and air connections must be regularly cleaned, preferably using pressurized air and then preserved (greased).**

### Caution:

**When using pressurized air for purposes of cleaning, wear protective glasses and never use pressure exceeding the value of 2 bar.**

## 13. Spare Parts and accessories

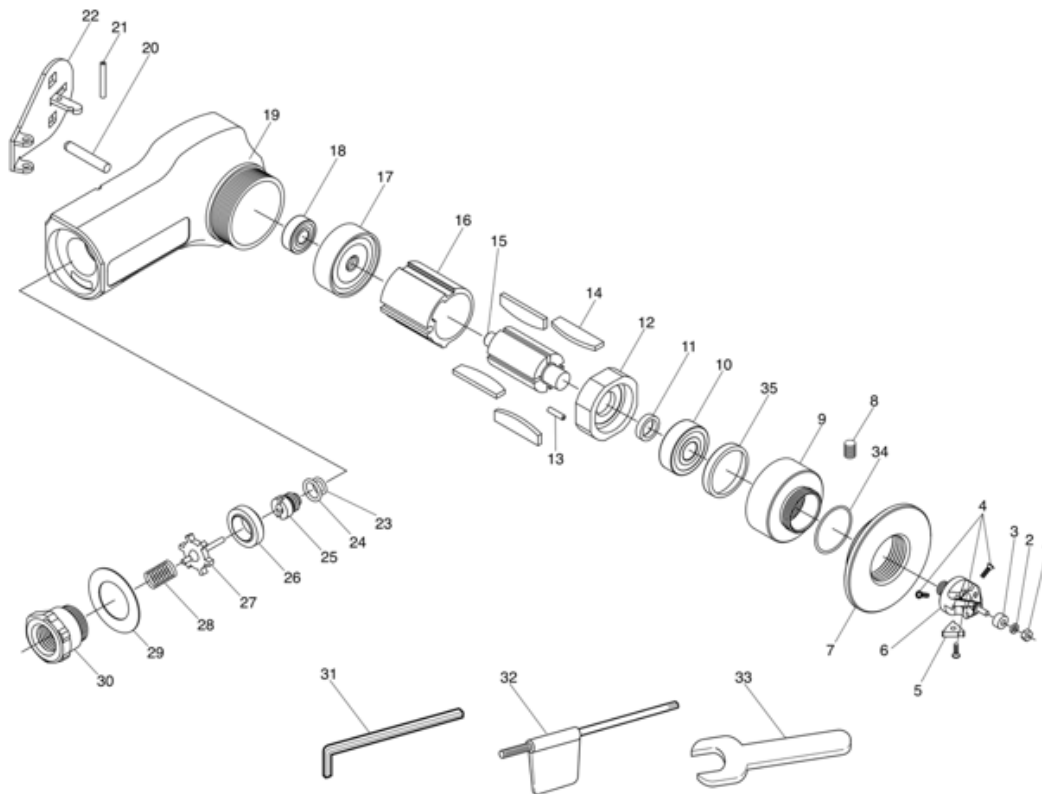
Orders of spare parts must include the following information:

- Type of the machine
- Serial number
- Description of the requested part and its number
- Quantity

### 1. Accessories

Order.Nr.	description	picture
<b>24 203</b>	FRL Filter, regulator and oiler unit with hoses and couplings needed	
<b>24 201</b>	Insert standard	
<b>24 204</b>	Insert premium	
<b>24 202</b>	Insert radius R1,5mm	

## 13.2 List of Spare Parts



B2 AIR SPARE PARTS				drawing no. 24200			
Number	Fig.	Part name	Pcs	Number	Fig.	Part name	Pcs
24200_01	1	Hex. Nut	1pc	24200_18	18	Ball Bearing	1pc
24200_02	2	Spring Washer	1pc	24200_19	19	Body	1pc
24200_03	3	Ball Bearing	1pc	24200_20	20	Valve Shaft	1pc
24200_04	4	Insert Screw	3pcs	24200_21	21	Roll Pin	1pc
24204	5	Cutting Inserts (deburring)	3pcs	24200_22	22	Safety Level	1pc
24202	5	Cutting insert R1.5mm (0.06")	3pcs	24200_23	23	O-Ring	1pc
24205	6	Milling Head (No inserts and screws included)	1pc	24200_24	24	O-Ring	1pc
24200_07	7	Flange	1pc	24200_25	25	Inner Bolt	1pc
24200_08	8	Screw	1pc	24200_26	26	Valve Seat	1pc
24200_09	9	Lock Ring	1pc	24200_27	27	Valve	1pc
24200_10	10	Ball Bearing	1pc	24200_28	28	Valve Spring	1pc
24200_11	11	Collar	1pc	24200_29	29	Rear Gasket	1pc
24200_12	12	Front Plate	1pc	24200_30	30	Inlet Bushing	1pc
24200_13	13	Roll Pin	1pc	24200_31	31	Hex. Wrench	1pc
24200_14	14	Rotor Blade	4pcs	24200_32	32	Flat Torx Wrench	1pc
24200_15	15	Rotor	1pc	24200_33	33	Spanner Wrench	1pc
24200_16	16	Cylinder	1pc	24200_34	34	O-Ring	1pc
24200_17	17	Rear Plate	1pc	24200_35	35	Lock Washer	1pc

A print of this manual is supplied with each B2 AIR machine.

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