



Blue Dragon Jet®

Technical and operational documentation
User manual

Cable blowing machine Blue Dragon Jet Standard / Extended / NEXT / MAX





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Read the manual before using the device!

The operating manual must always be with the machine!

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The version history of the operating instructions

Version	Date	Comment	Author
1.0.1	2025.04.16	Second version of the manual	PK

• Introduction

These instructions apply to the Standard / Extended / NEXT / Max microcable blowing machine manufactured by GAMM-BUD Sp. z o.o. The manual contains information on the correct operation of the device.



Please read this manual carefully before using the device. Knowing and following the recommendations, comments and proposed solutions contained in the manual will allow you to avoid damage resulting from improper use of the device and enable long-term and trouble-free operation

Not following the instructions and safety notes in this manual may lead to damage to the device and dangerous situations for the operator or other people.

the GAMM-BUD company is not responsible for any damage to the device or any other damage resulting from failure to comply with the instructions of this manual.

Symbols used in the manual



Information essential for the correct installation and operation of the device



Information essential to ensure the safety of people and protection of the environment



Warning, danger of moving parts

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• Device description

The Blue Dragon Jet Standard / Extended / NEXT / Max microcable blowing machine is used for introducing optical fiber micro cables to microducts with the use of compressed air. During blowing, the fiber optic cable is moved through the machine feeder and the blowing head equipped with seals.

Two elastic belts ensure that the driving force is transferred to the blown cable. The top bar can be raised and lowered using the handwheel. Both belts are driven by air motors. The belts pressed against the cable force it to move forward.

The thrust force transmitted by the belts to the cable is assisted by a stream of compressed air introduced into the microducts via the blowing head.

The blowing speed can be regulated by the knob of the air valve supplying the air motors. The mechanical length counter shows the length of the blown cable.

A stable aluminum frame ensures high rigidity of the machine while maintaining low weight.

The machine is available in 4 different versions depending on the customer's needs:

- 1) **Blue Dragon Jet Standard** - a machine designed for microducts with diameters of 5, 7, 10, 12, 14 and 16 mm
- 2) **Blue Dragon Jet Extended** - a machine designed for microducts with diameters of 5, 7, 10, 12, 14, 16 and 20 mm with the possibility of changing the direction of operation of air motors
- 3) **Blue Dragon Jet NEXT** - a machine designed for microducts with diameters of 7, 10, 12, 14, 16 and 20 mm with the possibility of changing the direction of operation of air motors
- 4) **Blue Dragon Jet Max** - a machine designed to work with 32, 40 and 50mm secondary pipes

Due to the modular structure of the machine, it is possible to equip the above machines with additional blowing heads in order to extend the scope of work

Intended use of the device

BDJ Standard / Extended / NEXT / Max is designed for blowing cables up to 110m/min at a distance of up to 2500m in standard conditions. The scope of blown microcables:

	Standard	Extended	NEXT	MAX
Cable diameters	4-10 mm	2,5-12 mm	2,5-12 mm	6-15 mm
Microduct diameters	5-16 mm	5-20 mm	7-20 mm	32-50 mm

Using this device for blowing other types of microcables will void the warranty and may cause irreparable damage.



All activities related to the disassembly, assembly and service of the device should be performed with the power off and by qualified personnel or the manufacturer's service.



Before operating, read the operating instructions for the device carefully and pay particular attention to the safety instructions. **In addition to the instructions in the operating manual, the general health and safety regulations must also be adhered to.**

- **Construction and specification of the device**

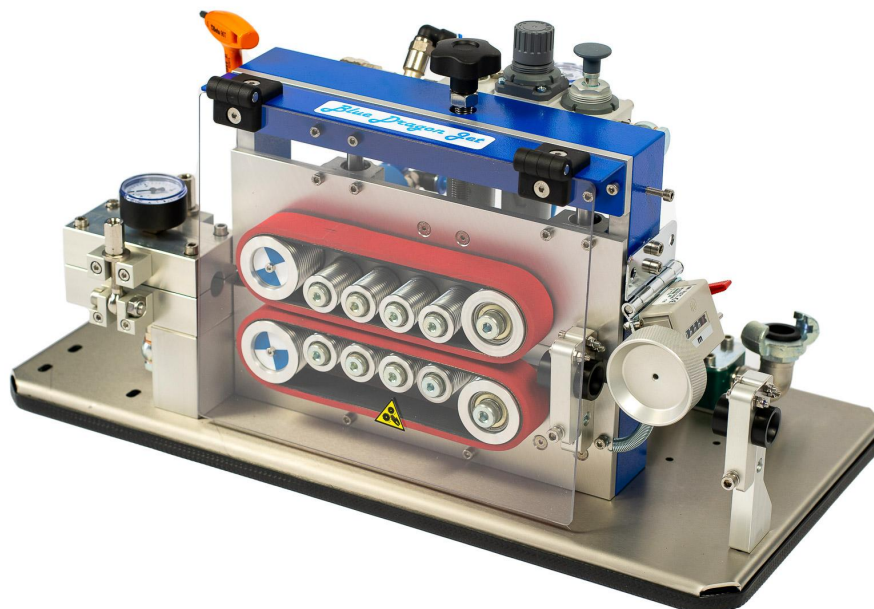


Fig. 1 Reference photograph Blue Dragon Jet Standard cable blowing machine

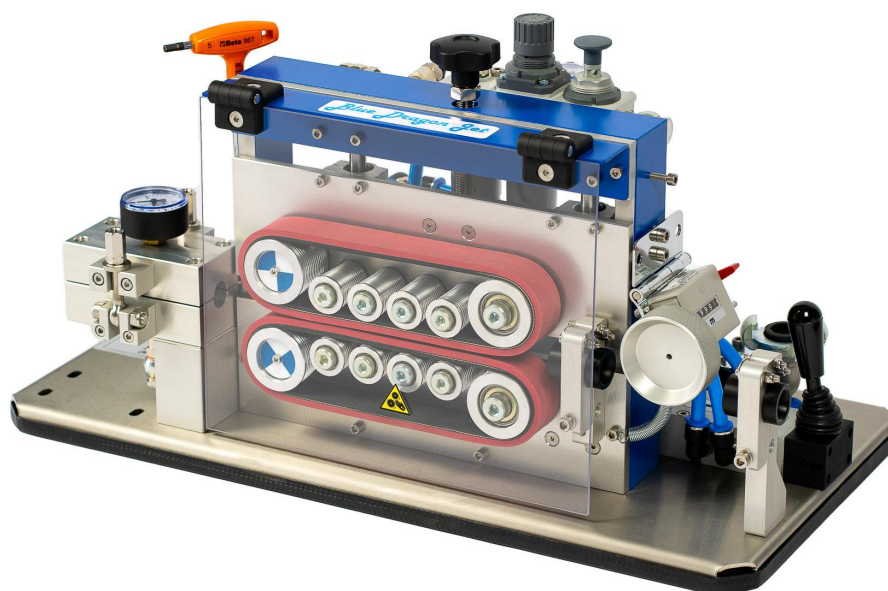


Fig. 2 Reference photograph of Blue Dragon Jet Extended cable blowing machine

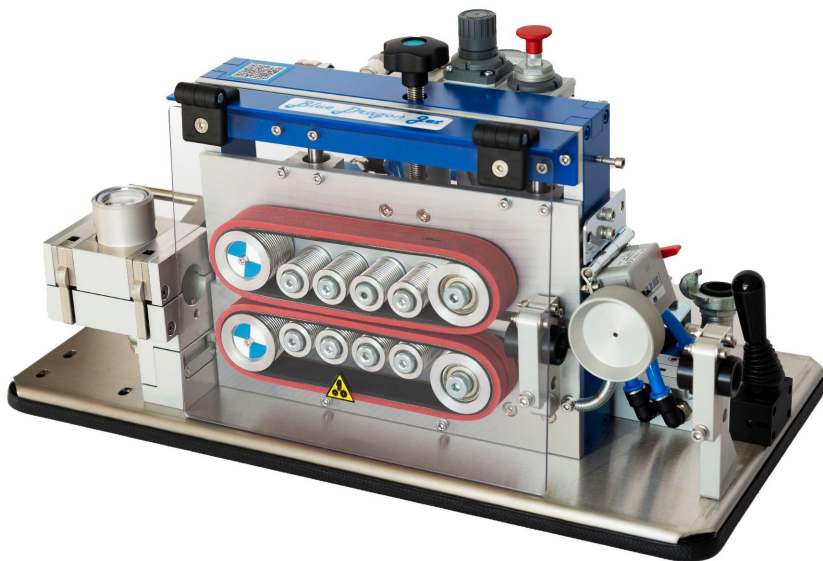


Fig. 2a Reference photograph of Blue Dragon Jet NEXT cable blowing machine

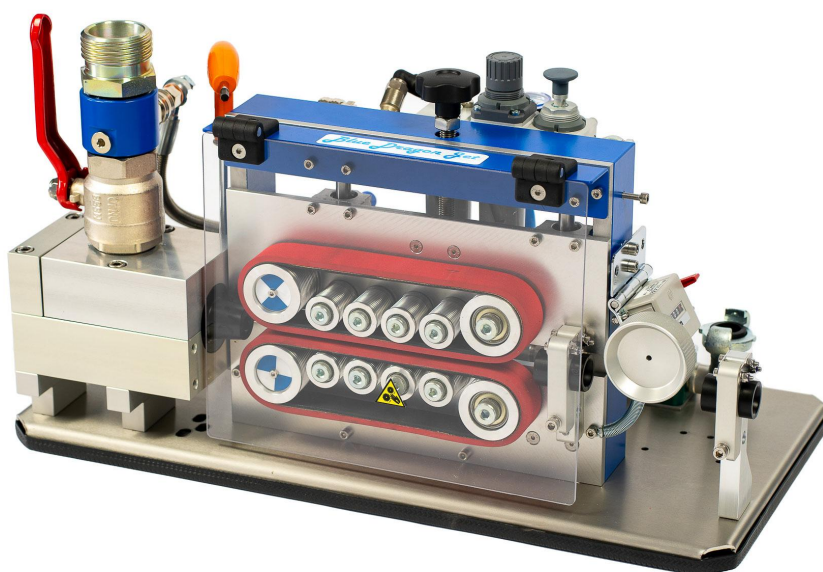


Fig. 3 Reference photograph of Blue Dragon Jet MAX cable blowing machine (with an optional direction switch)



	Standard	Extended	NEXT	MAX
Cable diameters	4-10 mm	2,5-12 mm	2,5-12 mm	6-15 mm
Microduct diameters	5-16 mm	5-20 mm	7-20 mm	32-50 mm
Motor powers	320 W	320 W	320 W	320 W
Machine dimensions L x W x H	610 x 300 x 320 mm	610 x 300 x 320 mm	610 x 300 x 320 mm	610 x 300 x 320 mm
Box dimensions L x W x H	680 x 400 x 420 mm	680 x 400 x 420 mm	680 x 400 x 420 mm	680 x 400 x 420 mm
Weight	20 kg	20 kg	20 kg	24 kg
Weight with accessories	37 kg	37 kg	37 kg	45 kg
Air volume for motors	3,3 l/s (0,2 m³/min)	3,3 l/s (0,2 m³/min)	3,3 l/s (0,2 m³/min)	3,3 l/s (0,2 m³/min)
Max air pressure (head)	15 bar	15 bar	15 bar	10 bar
Max air pressure (motors)	7 bar	7 bar	7 bar	7 bar
Speed	ca. 110 m/min	ca. 110 m/min	ca. 110 m/min	ca. 110 m/min



Construction and description

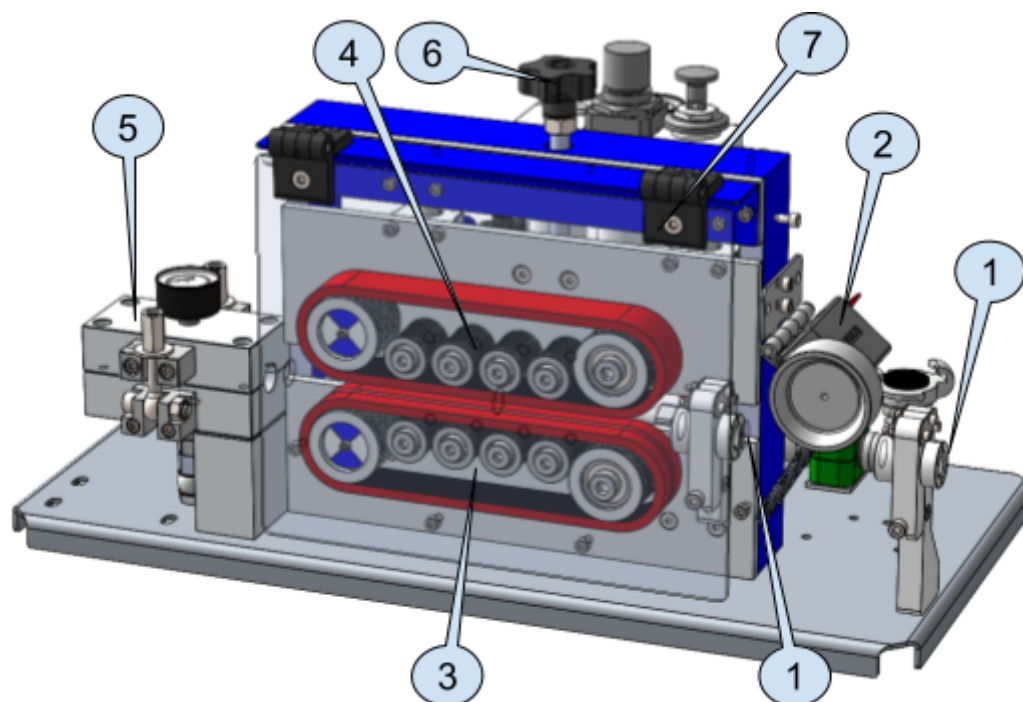


Fig. 4 Front view of the machine

1. cable routing,
2. distance measurement counter,
3. lower drive unit,
4. upper drive unit,
5. head,
6. height adjustment knob,
7. cover,

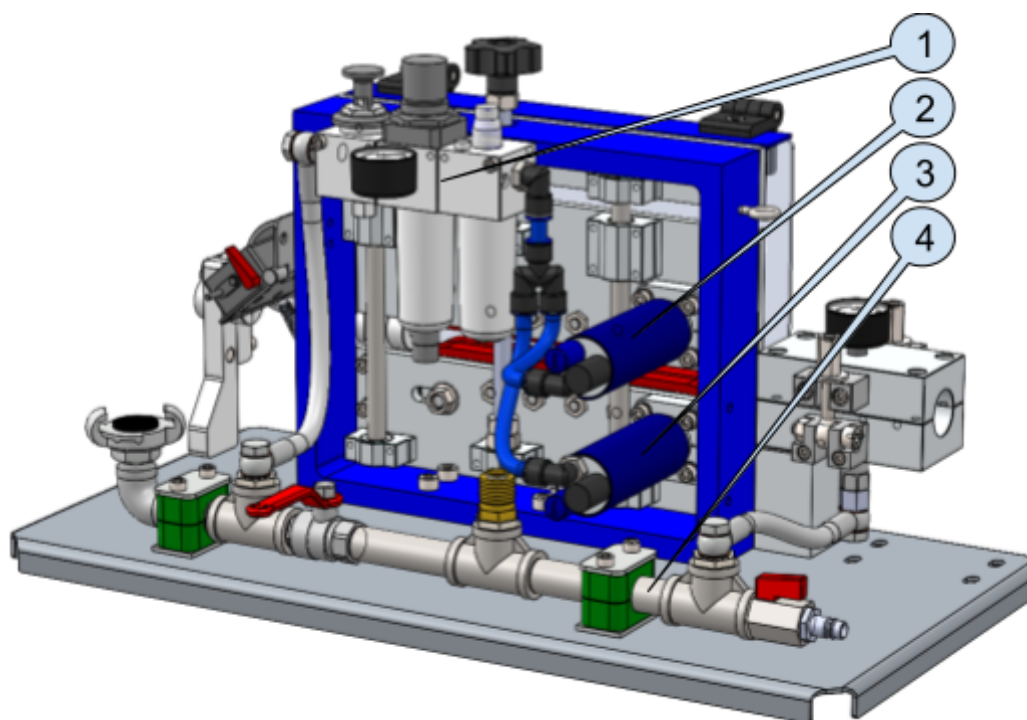


Fig. 5 Rear view of the machine

1. air preparation unit,
2. upper motor of the power unit,
3. lower motor of the power unit,
4. pneumatic mains.

• Service



Check the condition of the consumables. Before first use, the oil level in the air preparation unit must be topped up!

Safety of use



It is forbidden to start up or use the device if any component or part is defective or has been damaged.



The machine may only be operated by trained personnel!

- The workplace of the device operator is the space around the device.
- The person using the device should not be under the influence of alcohol or other intoxicants.
- The device must not be operated in the vicinity of flammable, toxic and highly corrosive substances



- Damaged parts should be replaced with new, original ones.
- All activities related to the disassembly and assembly of the device should be performed with the power turned off.
- The temperature of the air supplying the machine should be in the range of 20-30 degrees Celsius, and the humidity in the range of 40-60%. If the air and humidity level is not within this range, use a cooler and air dryer.

Preparation of the blowing head

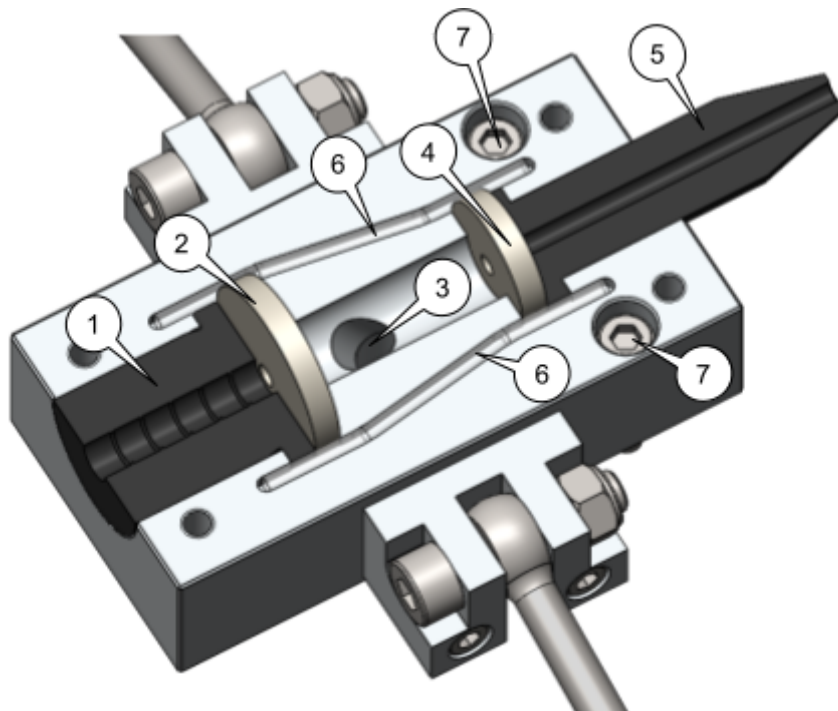


Fig. 6a The inside of the blowing head for microducts

Preparation of the head for microducts:

1. Fix the casing tube into which the cable is to be blown in to the head with a replaceable clamping sleeve (1 fig. 6a).
2. The microduct compression sleeve should be selected according to the diameter of the microduct being used. Make sure that the gasket (2, Fig. 6a) is in its seat in the head, and that the tube does not obstruct the air inlet to the head (3, Fig. 6a).
3. The cable seal (4 Fig. 6a) and the cable guiding sleeve (5 Fig. 6a) should be selected according to the diameter of the blown cable.
4. Make sure that the line gasket (6 fig. 6a) is correctly positioned on both sides in the groove.



The lubricant should be applied directly to the protective tube before it is attached to the blowing head.

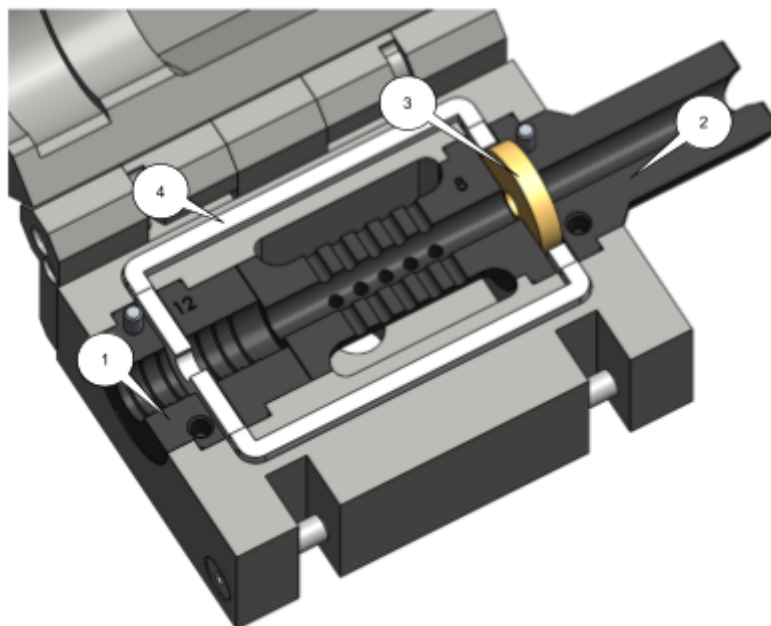


Fig. 6b The inside of the blowing head NEXT for microducts

Preparing the NEXT head:

1. Fix the protective tube into which the cable is to be blown in the head with a replaceable clamping sleeve (1, fig. 6b). The microduct seal is integrated with the microduct mounting sleeve. Select the clamping sleeve for the outer diameter of the microduct.
2. Fix the cable insertion sleeve (2, fig. 6b) to the outer diameter of the microcable and secure it in the head.
3. Fix the cable seal (3, fig. 6b) to the outer diameter of the cable and secure it in the cable insertion sleeve.
4. Make sure that the linear seal (4, fig. 6b) is positioned correctly on both sides in the groove.
5. Before closing the head, insert the cable through the head into the microduct.
6. Insert the other half of the sleeve securing the tube and guiding the cable and close the head using the lever.

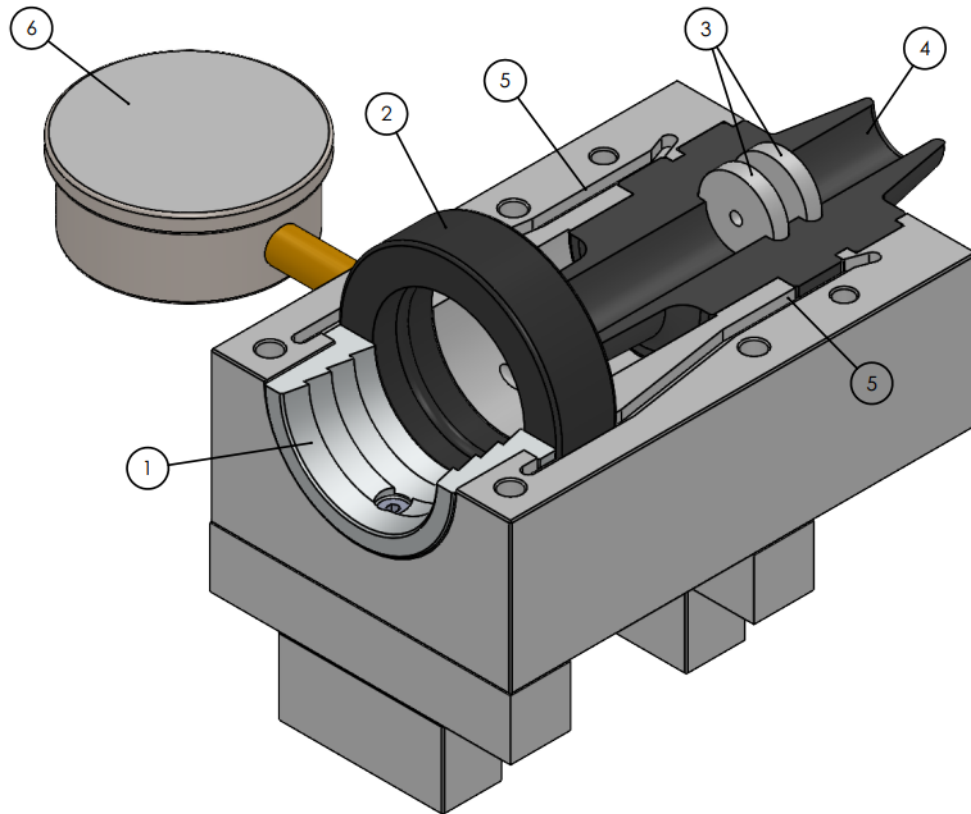


Fig. 6c Inside of a large blowing head for secondary pipes

Preparing a large head for secondary pipes:

Fix the secondary pipe into which the cable is to be blown in with the replaceable collet (1 fig. 6c) in the head.

1. Select the secondary pipe compression sleeve according to the pipe diameter used. Make sure that the gasket (2 fig. 6c) is in its seat in the head and that the pipe does not obstruct the air inlet to the head.
2. The cable seals (3 Fig. 6c) and the cable guiding sleeve (4 Fig. 6c) should be selected accordingly to the blown cable.
3. Make sure that the line gasket (5 fig. 6c) is correctly positioned on both sides in the groove

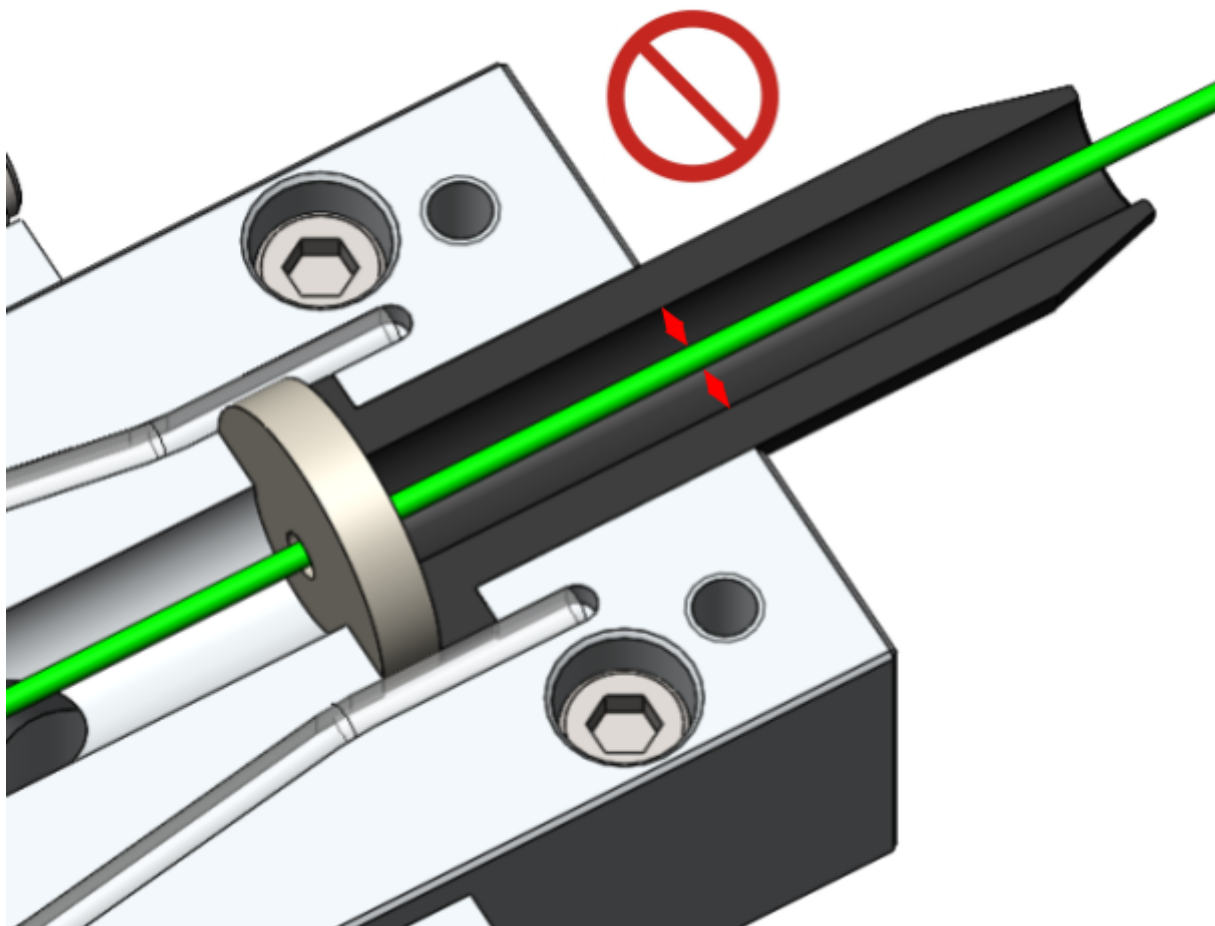


Fig. 7 Incorrectly selected ferrule for the cable diameter

⚠ WARNING If the cable (Fig. 7) has a diameter much smaller than the inner diameter of the guide sleeve, the cable may be damaged by the feeder at the entrance to the head. In this case, a sleeve with a smaller internal diameter should be selected. The cable should slide freely inside the sleeve.



Using the device

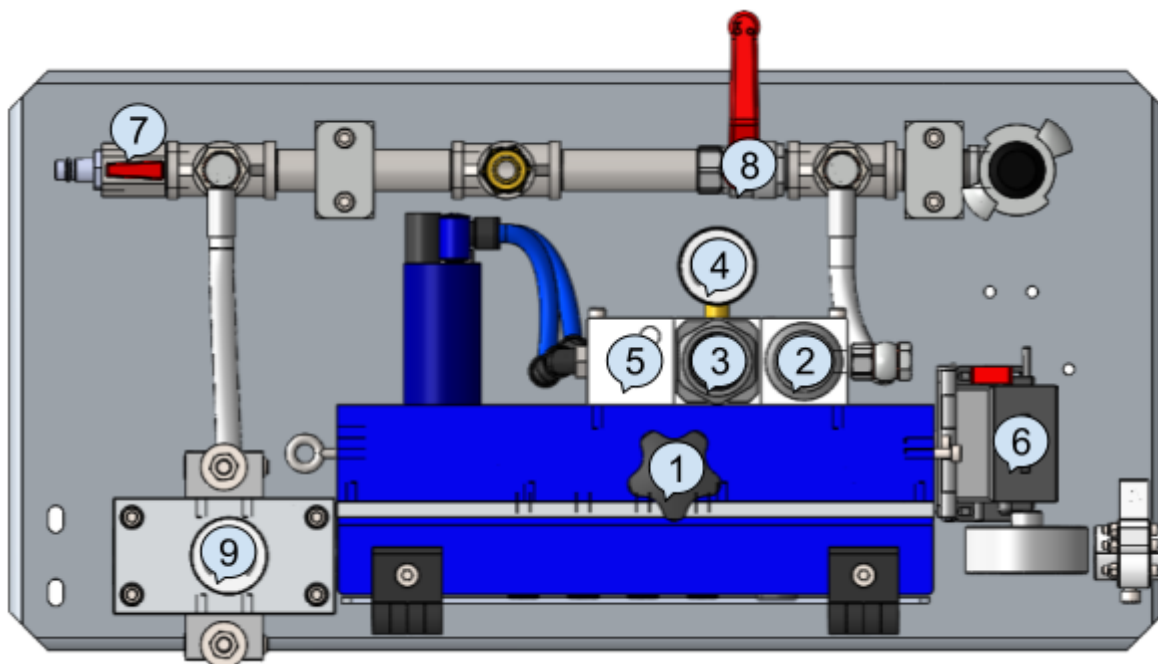


Fig. 8 View of the device from above

- Use the knob to lift the upper drive belt (1 Fig. 8).
- Lead the cable between the drive belts and insert a few meters into the conduit. Before that, put a properly selected gasket on the cable (4 Fig. 6a)



If the cable is blown in in two directions, cut the gasket. Then you can put it on and take it off at any time.

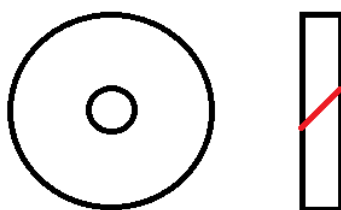


Fig. 9 The best way to cut the seal. At an angle of 45 degrees to the middle of the seal.

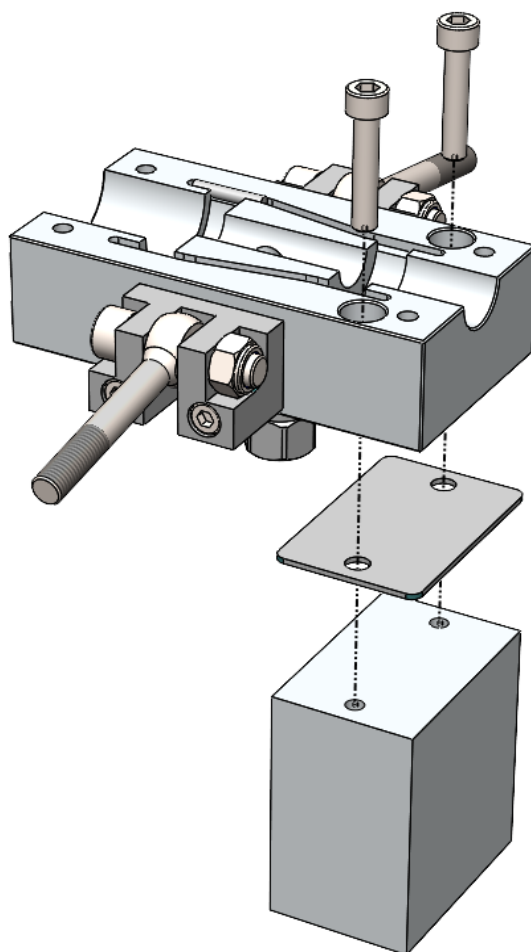


Fig. 10a Installation of the calibration plate

- Replace the top of the head and tighten the mounting screws. The head can be closed in two ways. The first one uses side eye bolts (recommended for microducts up to 10 mm outside diameter). The second one uses 4 bolts in the corners of the head. The second method ensures greater tightness of the head.
- Make sure that the cable is led centrally to the head. If necessary, adjust the head height. To adjust the position of the head, unscrew the fixing screws (Fig. 10a), then align the head by inserting the calibration plates and tighten the screws.
- Lower the top drive belt with the knob until the initial pressure is set on the cable. The pressure should not be too tight. If, during operation, the drive belts slip and lose contact with the cable, adjust the pressure by making about half a turn of the pressure adjustment knob.



Adjusting the Height of the M Head on the BDJ NEXT

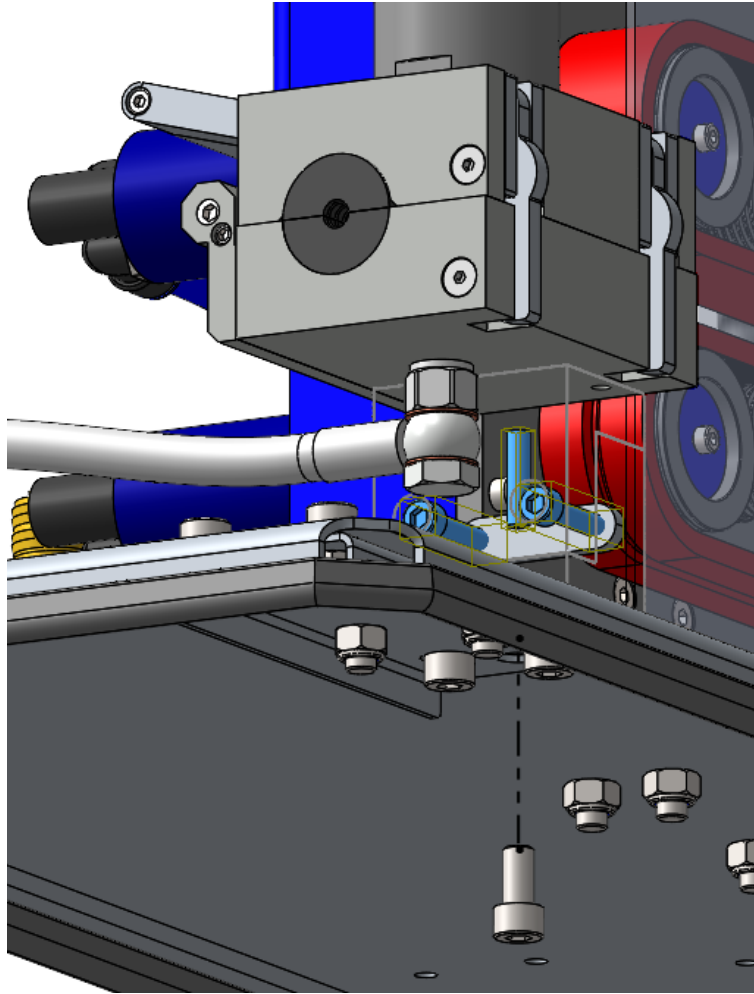


Fig. 10b Height adjustment components on the BDJ NEXT

- Loosen the two screws that clamp the head support (marked in blue in Fig. 10b).
- Unscrew the middle screw that secures the support to the base.
- The hole from which the screw was inserted contains a lower adjustment pin that can be used to adjust the head position (marked in blue in Fig. 10b).
- After making the adjustment, tighten the loosened screws to lock the head position and tighten the lower screw that secures the support to the base.

Settings

- Reset the cable length measurement counter (6 fig. 8)
- Connect the air hose to the blowing machine and to the compressor. Make sure that the couplings are properly fitted and secured.
- Open the air valve on the compressor. **The supply pressure must not exceed 15 bar.**
- Both drive motors are started by pressing the gray valve (2 fig. 8).
- Use the regulator knob (3 fig. 8) to set the required pressure and, at the same time, the speed of the cable feeding. The maximum supply pressure for motors should be determined by carrying out a „**crash test**” for the given type of cable. Working below the



maximum pressure protects the cable in case it encounters a blockage inside the microduct.



The maximum pressure applied to the air motors is 7 bar. Exceeding this value can damage the air motors.

- Unlock the regulator knob by lifting it up. Turn left first to relieve weight. Then set the required pressure by turning clockwise. Push the knob in to prevent it from rotating. **It is recommended to set the speed in the range of 60-110 m/min.**



The current value of the air supply pressure to the engines can be read from the pressure gauge next to the regulator. (4 fig. 8)



Make sure that the dropper in the lubricator gives about 1 drop of oil per minute. If necessary, adjust with a small screwdriver from the top of the sight glass (5 fig. 8).



Blowing the cable

In order to start blowing

- Use the valve (2 fig. 8) to start the drive motors. The cable will be pushed into the conduit
- With a significant drop in speed, gradually turn on the air supply to the blowing head with the valve. It is recommended to increase the pressure gradually by about 1-2 bar.

Make sure the device is in a stable position, if necessary secure it with a securing belt.



Pay special attention to ensure that nothing gets caught between the drive belts during operation. The protective glass must not be removed under any circumstances!



Applying all pressure to the blowing head at the beginning will create a backflow that can push the cable out of the device



The cable should unwind freely from the drum. If necessary it may be unwinded manually.



The blowing speed can be regulated by the pressure of the air supplied to the drive motors. Depending on the stiffness of the cable, the pressure can be regulated up to 7 bar.



The pressure value in the casing tube is shown by the pressure gauge on the head.

After blowing in

- turn off the air motors by lifting the gray valve (2 fig. 8),
- close the air supply to the blowing head (8 fig. 8),
- open the vent valve (7 fig. 8)
- wait until the pipe connected to the blowing head is deaerated.



Before opening the blowing head, make sure that there is no air pressure inside!



• Transport



The device must be transported in a enclosed transport box. The total weight of the device is 37 kg (45 kg for BDJ Max). The device can be lifted by the aluminum frame using the handle included in the set.

• Device maintenance

Before each use

- Check the engine lubrication unit: check the oil level in the oil reservoir and refill if necessary, use only ISO V6-10 oil according to ISO 3948
- Drain the collected water from the clarifiers.
- After each use, thoroughly clean the machine, especially the drive belts, the head and the hoses using compressed air
- If the machine has been operated in the rain, it should be thoroughly wiped, cleaned and the pneumatic motors supplied with dry air with oil to remove any residual water and protect the inside of the motors against corrosion.



Leaving the machine with water in the motors (e.g. after operating in wet conditions) may cause corrosion inside the motors and cause them to fail. Such blockage of motors requires repair in the service center and is not subject to warranty repair.



Regulating and lubricating unit

The service life of the engine depends primarily on the correct preparation of the air supply. Therefore, the machine is equipped with a regulating and lubricating unit consisting of a reducer, filter and lubricator. Their condition must be checked regularly

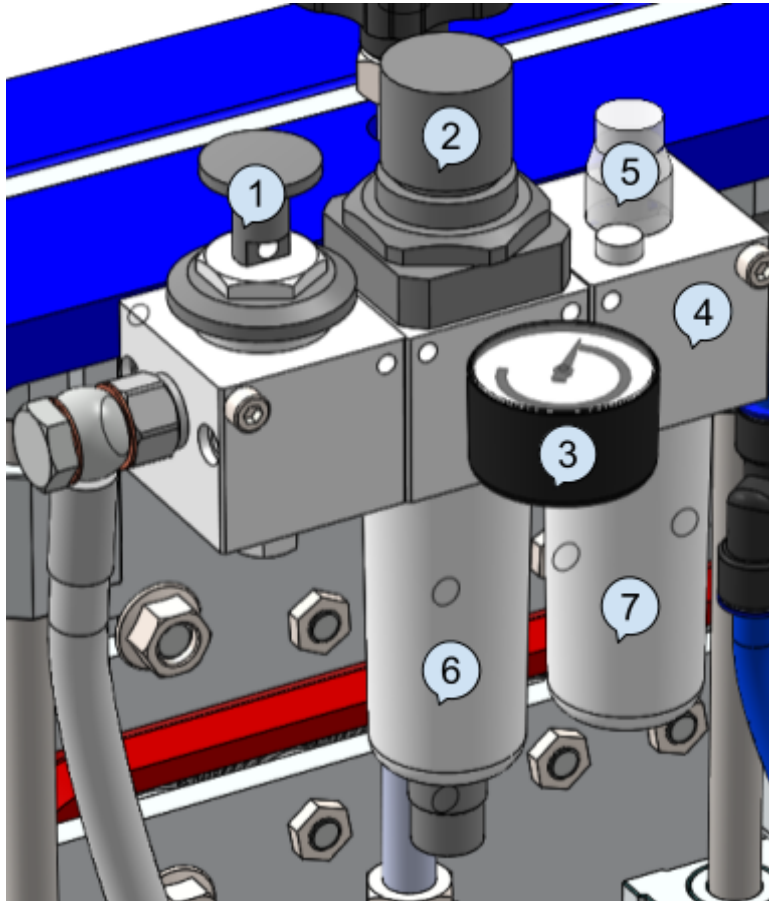


Fig. 11 Air preparation unit consisting of a switch, pressure regulator with pressure gauge and water separator, and a grease gun for air motors.

- 1. Shut-off valve
- a. Filter and pressure reducer
- b. Manometer
- c. Lubricator
- d. Lubricator sight glass
- 2. Water tank
- a. Pneumatic oil tank



After each use of the machine, remove the water from the decanter.



At least once a year, the reducer should be dismantled, cleaned and lubricated.



At least once a year, dismantle the lubricator, clean and lubricate.

It is essential to keep the oil level in the tank at the correct level.



Do not clean the device with direct water jet, solvents or caustic substances, it may permanently damage the device.

Tensioning the drive belts

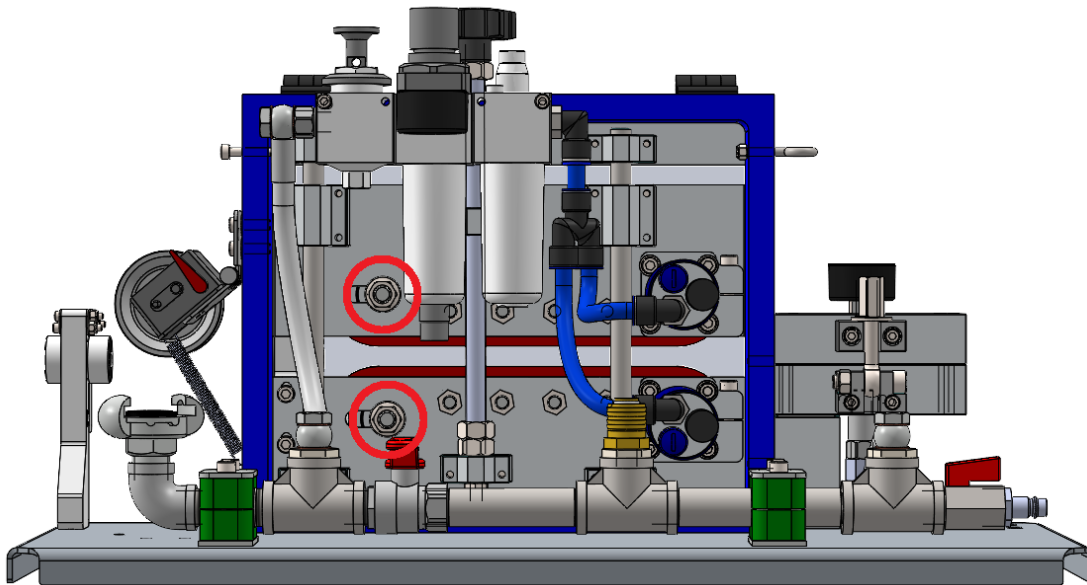


Fig. 12 Elements for tensioning the feeder belts.



Drive belts should always be properly tightened. Too little tension may cause the belt to fall off and damage the belt and cable.

To tension the belt:

- loosen the fixing bolt and move the roller to tighten the belt.
- then tighten the screw.

Air motor with planetary gear

The air motor must not be operated at a pressure higher than 7 bar. During operation, it must be lubricated with oil mist generated in the regulating and lubricating unit. The planetary gear of the engine and all rolling bearings must have sufficient lubricant for the operation between maintenance services.



The engine inspection must be performed every 1000 operating hours or at least once a year



- **Optional accessories**

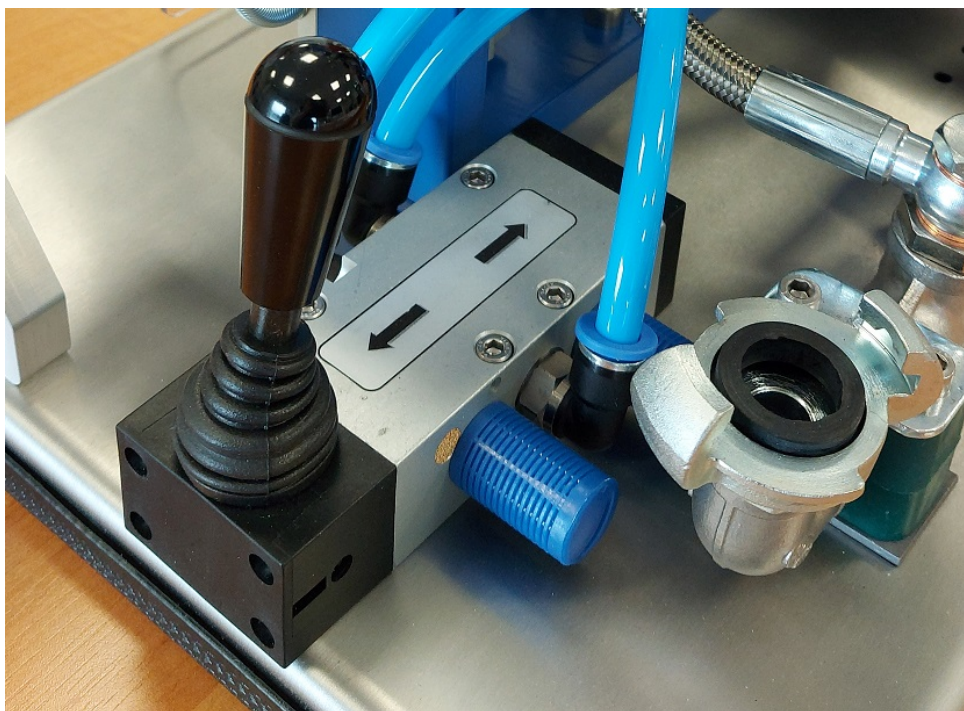


Fig. 13 Direction switch for air motors.

It is possible to equip the machine with a switch for the direction of operation of the air motors (option pre-installed in the BDJ Extended). With this equipment, you can withdraw the cable if it hits an obstacle. However, it should be remembered that it will not be possible to withdraw the cable in every situation. If a large amount of cable is already inside the microduct then it will be necessary to change the direction of air flow. The machine should then be connected at the other end of the planned route and the cable should be blown out.



Fig. 14 Electronic counter



Operation of the electronic counter:

To start counting, the measuring wheel must be set in motion. If the display is blank, the measurement starts automatically and the display turns on.

The counter displays the current distance in meters [m] and the average speed in [m/min]. To reset the current distance, briefly press the button. Longer pressing of the button displays the total distance from the beginning of the counter's production (this value cannot be reset).

The blowing speed is averaged over time, so when the measuring wheel is stopped, the average speed will be displayed for a while.

• List of tools supplied with the machine

- SOCKET WRENCH (13)
- CYLINDER HEAD WRENCH (5MM)
- MICROTUBE KNIFE/CUTTER

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• RISK OF INJURY! Residual risk



After carrying out any repairs or adjustments, check the correct tightening of bolts and nuts.



Check all connections and air lines regularly, repair any damage immediately.



When replacing drive belts, pay special attention to mounting the wheels so that they do not rub against the covers or the housing.



During the warranty period, the machine must be inspected by an authorized service center (after 12 months or 1000 operating hours)!



The condition for the warranty repair is the possibility of identifying the machine on the basis of the nameplate. Removal of the nameplate makes it impossible to identify the machine and the warranty repair costs will not be recognized!



Noise emission

Air motors generate noise during operation which may exceed 85 dB. The machine operator should wear noise-reducing ear muffs. We recommend that the operator wears ear muffs even with noise levels below the value of 85 dB.

The risk of noise and hearing damage are related to the intensity of the noise source and the duration of the exposure to it. Noise-related risk should be assessed on a case-by-case basis taking these two factors into account. Take measures to prevent hearing damage in accordance with the applicable occupational health and safety regulations.

Personal protection equipment

The machine operator should be equipped with the following personal protective equipment:

- 1) Hearing protection - noise-reducing ear muffs
 - a) Limb protection equipment - safety footwear
 - b) Protective clothing
 - c) Hand protection equipment

Diagnosing and removing malfunctions

Repairs should be commissioned to the service of GAMM-BUD Sp. z o.o. The most common failures, malfunctions and their causes are described below which can be verified by the user of the device and, if necessary, corrected. Only original spare parts or parts recommended by the manufacturer should be used for replacement.

Issue:	Description of the issue:	Solution method:
1	Leaking head	- check the size of the gaskets - choose a smaller cable gasket - check the head line seals
2	The cable rubs against the sleeve at the entrance to the head	- check the height of the head - use appropriate calibration plates
3	Cannot get pressure on the head	- check the tightness of the head - use a compressor with a greater efficiency
4	The cable is pushed out of the head at the start of blowing process	- do not apply pressure to the head at the beginning of blowing process - use feeder only
5	The tray does not catch the cable	- check the condition of the feeder belts - replace belts if worn
6	Oil is spilling from the engines	- adjust the amount of engine oil supplied with the screw in the sight glass
7	The engines do not start simultaneously	- motors should be started after pressing them to the cable. It is normal for them to start unevenly without being pressed against the cable

Manufacturer's warranty and liability.

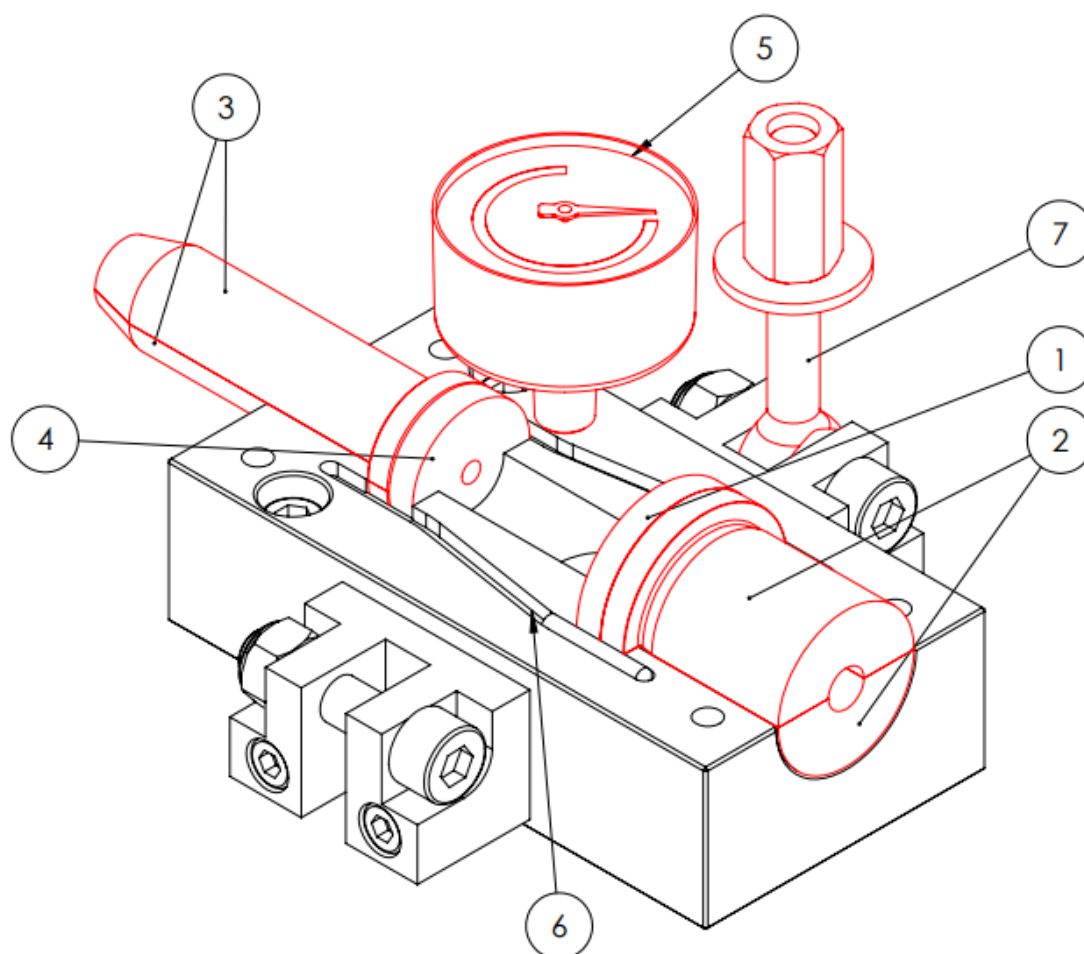
The warranty period is 12 months. The basis for the warranty is the purchase invoice and the visible serial number of the device on the nameplate. It is possible to extend the warranty by another 12 months in the event of a paid warranty inspection. The inspection must take place within the warranty period. The maximum duration of the guarantee may not exceed 36 months.

Unless explicitly stated otherwise, the general terms of sale and delivery of GAMM-BUD Sp. z o.o. apply. Any liability for material and personal damage is excluded if the damage is a result of one or more of the following reasons:

- using the machine inconsistently with its intended use and manual
- incorrect assembly, commissioning, operation or service of the machine
- operating the machine with damaged or incorrectly fitted, missing protective covers
- Unauthorized design changes or incorrect machine operating parameters
- allowing excessive wear of machine parts
- improperly carried out repairs or servicing of the machine
- accidents as a result of external factors or force majeure.
- missing nameplate making it impossible to identify the machine



• Spare parts



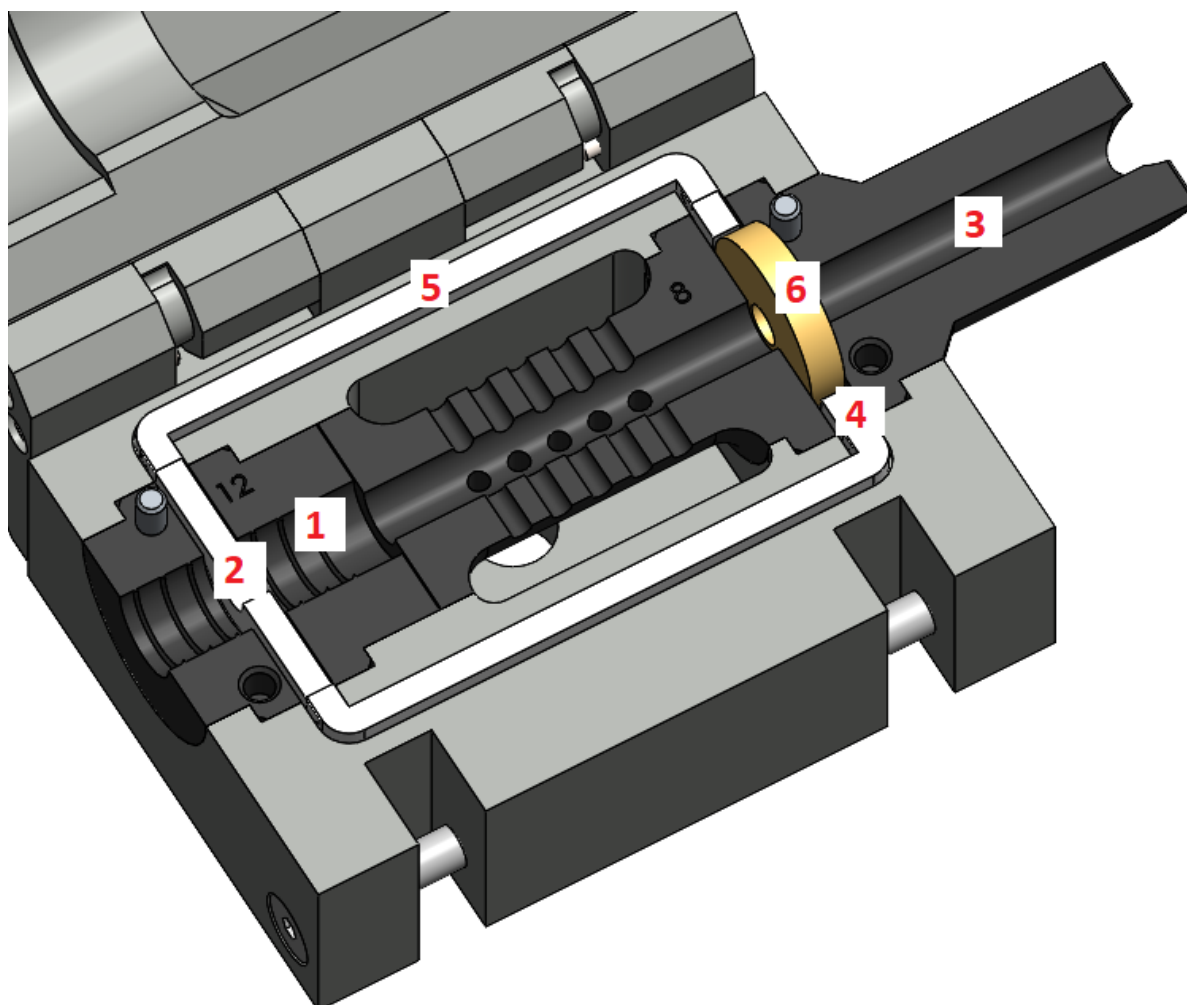
Nr	Code	Head diameter
1.1	UM-D35X5-4,5	Gasket for microduct D35x5 fi 4.5
1.2	UM-D35X5-6,5	Gasket for microduct D35x5 fi 6.5
1.3	UM-D35X5-9,5	Gasket for microduct D35x5 fi 9.5
1.4	UM-D35X5-11,5	Gasket for microduct D35x5 fi 11.5
1.5	UM-D35X5-13,5	Gasket for microduct D35x5 fi 13.5
1.6	UM-D35X5-15,5	Gasket for microduct D35x5 fi 15.5
1.7	UM-D35X5-17	Gasket for microduct D35x5 fi 17
1.8	UM-D35X5-18	Gasket for microduct D35x5 fi 18
1.9	UM-D35X5-19	Gasket for microduct D35x5 fi 19.5
1.10	UM-D35X5-19,5	Gasket for microduct D35x5 fi 19.5
1.11	UM-D35X5-20	Gasket for microduct D35x5 fi 20
2.1	GLO-POW-TUL-MOC-RUR-5	POW head - Half tube mounting sleeve - 5
2.2	GLO-POW-TUL-MOC-RUR-7	POW head - Half tube mounting sleeve- 7



2.3	GLO-POW-TUL-MOC-RUR-10	POW head - Half tube mounting sleeve - 10
2.4	GLO-POW-TUL-MOC-RUR-12	POW head - Half tube mounting sleeve - 12
2.5	GLO-POW-TUL-MOC-RUR-14	POW head - Half tube mounting sleeve – 14
2.6	GLO-POW-TUL-MOC-RUR-16	POW head - Half tube mounting sleeve – 16
2.7	GLO-POW-TUL-MOC-RUR-18	POW head- Half tube mounting sleeve – 18
2.8	GLO-POW-TUL-MOC-RUR-20	POW head - Half tube mounting sleeve – 20
3.1	GLO-POW-TUL-PRO-KAB-2,5	POW head - Half cable guide sleeve – 2,5
3.2	GLO-POW-TUL-PRO-KAB-4	POW head - Half cable guide sleeve – 4
3.3	GLO-POW-TUL-PRO-KAB-6	POW head - Half cable guide sleeve – 6
3.4	GLO-POW-TUL-PRO-KAB-8	POW head - Half cable guide sleeve – 8
3.5	GLO-POW-TUL-PRO-KAB-10	POW head - Half cable guide sleeve – 10
3.6	GLO-POW-TUL-PRO-KAB-12	POW head - Half cable guide sleeve – 12
3.7	GLO-POW-TUL-PRO-KAB-14	POW head - Half cable guide sleeve – 14
4.1	UK-D25X5-0	Cable seal D25x5 without hole
4.2	UK-D25X5-1	Cable seal D25x5 fi 1
4.3	UK-D25X5-1,5	Cable seal D25x5 fi 1.5
4.4	UK-D25X5-2	Cable seal D25x5 fi 2
4.5	UK-D25X5-10	Cable seal D25x5 fi 10
4.6	UK-D25X5-11	Cable seal D25x5 fi 11
4.7	UK-D25X5-12	Cable seal D25x5 fi 12
4.8	UK-D25X5-13	Cable seal D25x5 fi 13
4.9	UK-D25X5-14	Cable seal D25x5 fi 14
4.10	UK-D25X5-15	Cable seal D25x5 fi 15
4.11	UK-D25X5-16	Cable seal D25x5 fi 16
4.12	UK-D25X5-2,5	Cable seal D25x5 fi 2.5
4.13	UK-D25X5-3	Cable seal D25x5 fi 3
4.14	UK-D25X5-3,5	Cable seal D25x5 fi 3.5
4.15	UK-D25X5-4	Cable seal D25x5 fi 4
4.16	UK-D25X5-5	Cable seal D25x5 fi 5
4.17	UK-D25X5-5,5	Cable seal D25x5 fi 5.5
4.18	UK-D25X5-6	Cable seal D25x5 fi 6
4.19	UK-D25X5-6,5	Cable seal D25x5 fi 6.5
4.20	UK-D25X5-7	Cable seal D25x5 fi 7
4.21	UK-D25X5-7,5	Cable seal D25x5 fi 7.5
4.22	UK-D25X5-8	Cable seal D25x5 fi 8
4.23	UK-D25X5-8,5	Cable seal D25x5 fi 8.5



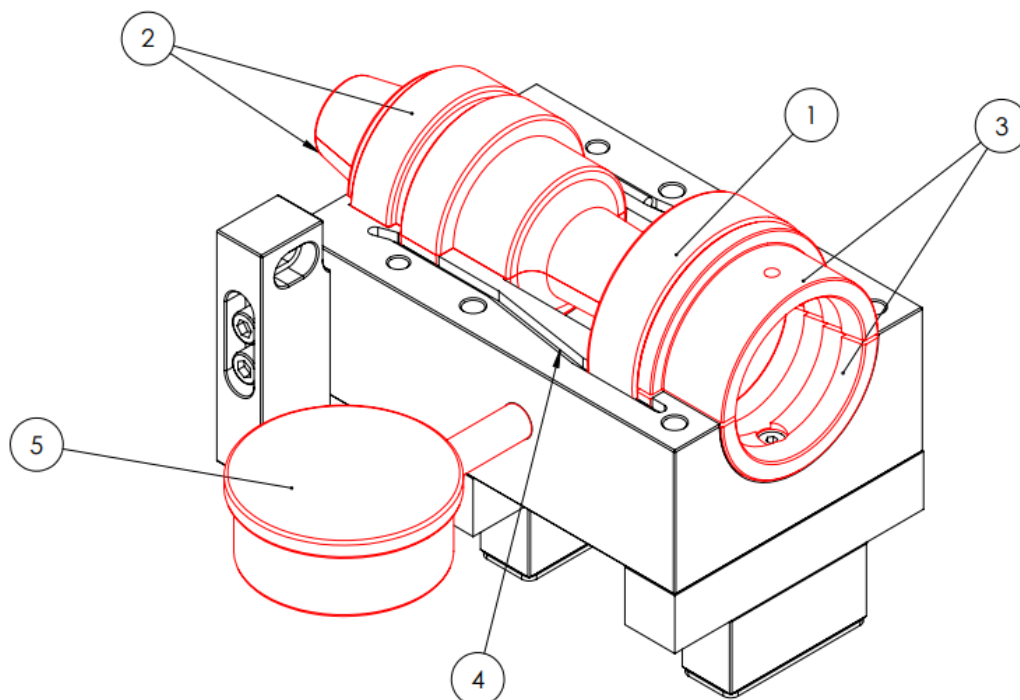
4.24	UK-D25X5-9	Cable seal D25x5 fi 9
4.25	UK-D25X5-9,5	Cable seal D25x5 fi 9.5
5	MAN-50MM-16-1/4GZ-AKS-TYL	Pressure gauge 0-16 BAR fi50mm 1/4 "GZ rear axial connection
6	USZ-SZN-SIL-FI3,5	Silicone cord (linear seal) fi 3.5 mm solid
7	SRU-NIE-OCZ-A2-DIN444-M8x60	Stainless steel eye bolt A2 DIN 444 - M8x60



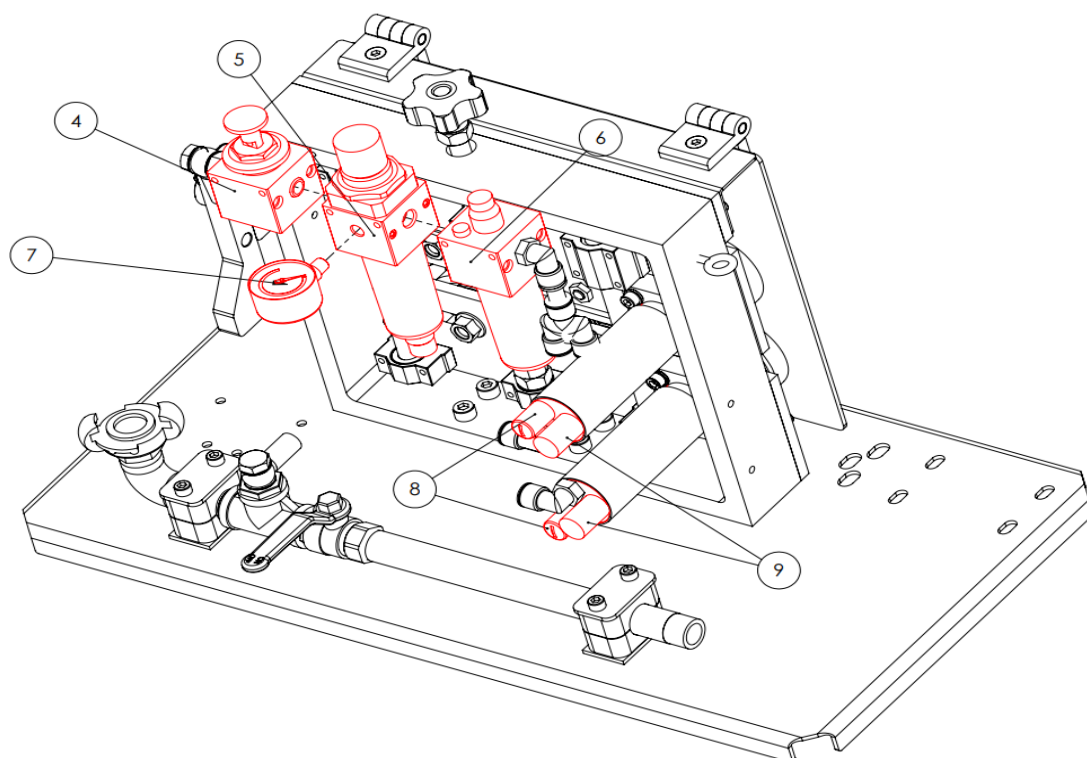
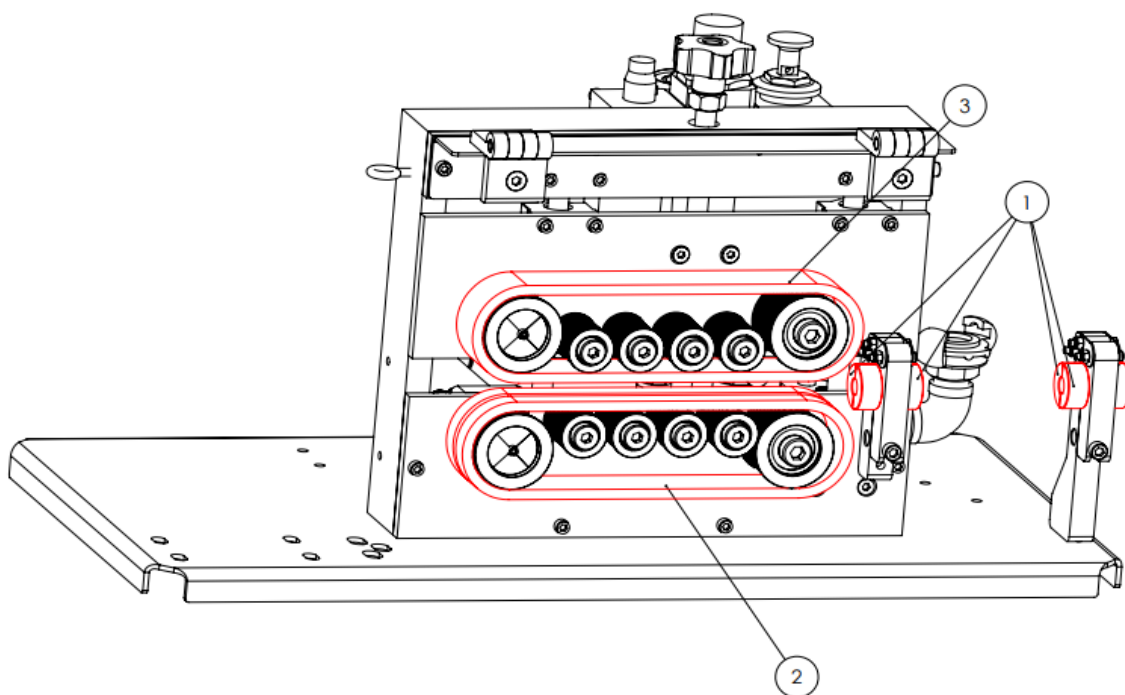
Nr	Kod	M Head - NEXT
1.1	GLO-M-WST-RUR-05	M head - tube insert 05 v1.3
1.2	GLO-M-WST-RUR-07	M head - tube insert 07 v1.3
1.3	GLO-M-WST-RUR-10	M head - tube insert 10 v1.3
1.4	GLO-M-WST-RUR-12	M head - tube insert 12 v1.3
1.5	GLO-M-WST-RUR-14	M head - tube insert 14 v1.3
1.6	GLO-M-WST-RUR-16	M head - tube insert 16 v1.3
1.7	GLO-M-WST-RUR-20	M head - tube insert 20 v1.3
2.1	GLO-M-USZ-WST-RUR-05	M head - tube insert gasket 05 v1.1 #4 SILICONE 60ShA
2.2	GLO-M-USZ-WST-RUR-07	M head - tube insert gasket 07 v1.1 #4 SILICONE 60ShA
2.3	GLO-M-USZ-WST-RUR-10	M head - tube insert gasket 10 v1.1 #4 SILICONE 60ShA
2.4	GLO-M-USZ-WST-RUR-12	M head - tube insert gasket 12 v1.1 #4 SILICONE 60ShA
2.5	GLO-M-USZ-WST-RUR-14	M head - tube insert gasket 14 v1.1 #4 SILICONE 60ShA
2.6	GLO-M-USZ-WST-RUR-16	M head - tube insert gasket 16 v1.1 #4 SILICONE 60ShA
2.7	GLO-M-USZ-WST-RUR-20	M head - tube insert gasket 20 v1.1 #4 SILICONE 60ShA
3.1	GLO-M-WST-KAB-025	M head - cable insert 025 v1.5



3.2	GLO-M-WST-KAB-040	M head - cable insert 040 v1.5
3.3	GLO-M-WST-KAB-060	M head - cable insert 060 v1.5
3.4	GLO-M-WST-KAB-080	M head - cable insert 080 v1.5
3.5	GLO-M-WST-KAB-100	M head - cable insert 100 v1.5
3.6	GLO-M-WST-KAB-140	M head - cable insert 140 v1.5
4	GLO-M-USZ-WST-KAB	M head - cable insert seal v1.2 #4 SILICONE 60ShA
5	GLO-M-USZ-KOR	M head - body gasket v1.0 #4 SILICONE 60ShA + GLUE
6.1	UK-D25X5-0	Cable seal D25x5 without hole
6.2	UK-D25X5-1	Cable seal D25x5 fi 1
6.3	UK-D25X5-1,5	Cable seal D25x5 fi 1,5
6.4	UK-D25X5-2	Cable seal D25x5 fi 2
6.5	UK-D25X5-10	Cable seal D25x5 fi 10
6.6	UK-D25X5-11	Cable seal D25x5 fi 11
6.7	UK-D25X5-12	Cable seal D25x5 fi 12
6.8	UK-D25X5-13	Cable seal D25x5 fi 13
6.9	UK-D25X5-14	Cable seal D25x5 fi 14
6.10	UK-D25X5-15	Cable seal D25x5 fi 15
6.11	UK-D25X5-16	Cable seal D25x5 fi 16
6.12	UK-D25X5-2,5	Cable seal D25x5 fi 2,5
6.13	UK-D25X5-3	Cable seal D25x5 fi 3a
6.14	UK-D25X5-3,5	Cable seal D25x5 fi 3,5
6.15	UK-D25X5-4	Cable seal D25x5 fi 4
6.16	UK-D25X5-5	Cable seal D25x5 fi 5
6.17	UK-D25X5-5,5	Cable seal D25x5 fi 5,5
6.18	UK-D25X5-6	Cable seal D25x5 fi 6
6.19	UK-D25X5-6,5	Cable seal D25x5 fi 6,5
6.20	UK-D25X5-7	Cable seal D25x5 fi 7
6.21	UK-D25X5-7,5	Cable seal D25x5 fi 7,5
6.22	UK-D25X5-8	Cable seal D25x5 fi 8
6.23	UK-D25X5-8,5	Cable seal D25x5 fi 8,5
6.24	UK-D25X5-9	Cable seal D25x5 fi 9
6.25	UK-D25X5-9,5	Cable seal D25x5 fi 9,5



Nr	Code	LARGE head
1.1	GLO-DUZ-USZ-GUM-32	LARGE head - Rubber gasket - 32
1.2	GLO-DUZ-USZ-GUM-40	LARGE head - Rubber gasket - 40
1.3	GLO-DUZ-USZ-GUM-50	LARGE head - Rubber gasket - 50
2.1	GLO-DUZ-TUL-PRO-MIK-10	LARGE head - Microcable guiding sleeve, half - fi 10
2.2	GLO-DUZ-TUL-PRO-MIK-12	LARGE head - Microcable guiding sleeve, half - fi 12
2.3	GLO-DUZ-TUL-PRO-MIK-16	LARGE head - Microcable guiding sleeve, half - fi 16
2.4	GLO-DUZ-TUL-PRO-MIK-20	LARGE head - Microcable guiding sleeve, half - fi 20
2.5	GLO-DUZ-TUL-PRO-MIK-23	LARGE head - Microcable guiding sleeve, half - fi 23
3.1	GLO-DUZ-UCH-ZAC-32	LARGE HEAD - Half clamp holder - 32
3.2	GLO-DUZ-UCH-ZAC-40	LARGE HEAD - Half clamp holder - 40
3.3	GLO-DUZ-UCH-ZAC-50	LARGE HEAD - Half clamp holder - 50
4	USZ-SZN-SIL-FI4	Silicone cord (linear seal) transparent fi 4 mm solid
5	MAN-GLI-63MM-16-1/4GZ-BOK	Glycerin manometer (0-16) Bar fi 63mm radial. 1/4 "GZ





Nr	Code	PNEUMATIC
1	PRO-KAB-TUL-DWU-MAX	CABLE ROUTING - Two-piece sleeve, half - Max
2	PNE-PAS-DOL	PNEUMATIC - Lower belt (grooved)
3	PNE-PAS-GOR	PNEUMATIC - Upper belt (flat)
4	ZPP-CAM-MC104-V01	3/2 G1 / 4 "valve type MC series
5	ZPP-CAM-MC104-D00	Filter and pressure reducer
6	ZPP-CAM-MC104-L00	Grease gun G 1/4 MC series
7	MAN-40MM-10-1/4GZ-RAD-BOK	Pressure gauge 0-10 BAR fi40mm 1/8 "GZ
8	TLU-SIL-PNE-1/8-GZ	1/8 "GZ Air Motor Muffler
9	TLU-SIL-PNE-1/4-GZ	1/4 "GZ Air Motor Muffler