CATCH SHIFT
Catch fast. Shift easy.

OPERATING MANUAL

FUEL-POWERED MACHINE FOR LIFTING CONCRETE SLABS

VACUUM LIFTER

WOLF 2000/4000

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SATISFACTION 100% GUARANTEED

VER_04_02_2020

1 General Information

Follow the Manual to ensure safe and effective use of the machine. The Manual contains safety information that all persons must rigorously observe. The operating personnel must have a complete copy of the Operating Manual and adhere to the provided information and instructions.

2 Safety

2.1 Definitions

Operator: A person who operates or uses the vacuum equipment.

Load: An object to be handled or lifted using the vacuum equipment.

Safe Working Load: The maximum weight of the load that the vacuum equipment can safely handle.

Suction: Sucking the suspended load to the suction cup as a result of valve actuation.

Sucking off: Releasing the load by allowing air to enter the suction cup due to valve actuation.

Service Technician: A professional responsible for the inspection, maintenance, and repair of the vacuum lifting equipment.

Load Factor: The ratio of the maximum design load that the device can lift to the safe working load indicated on the device.

Test Factor: The ratio of the load used in the static test of the vacuum lifter to the safe working load indicated on the equipment.

Static Test: A test in which the vacuum lifter should withstand a static force of twice the safe working load without permanent deformation or visible damage after the force is removed.

Holding time test: Once the suction cup is horizontal, lift a (non-porous) load equal in weight to the safe working load. Next, switch off the vacuum pump using the main switch. In this state, the vacuum lifter holds the load for one second.

2.2 General Safety Instructions

- Upon commissioning, the machine is a state-of-the-art piece of equipment considered safe for use.
- The machine may pose hazard to people or other equipment. There is also a risk of its damage if:
  - unqualified persons operate the machine,
  - it is misused.
- Visually inspect the machine at least once a day for any signs of visible external damage and verify the operation of the safety and protection equipment.
- If the operator notices any defects, unusual noises, or other changes in the machine operation, she/he must immediately switch off the machine and report it to the authorized service technician.
- Tidiness at the workplace is crucial for safe work. Clean the working surfaces of grease, oil, and unnecessary parts.
- It is forbidden to install additional accessories, make alterations or modifications to the machine. Nevertheless, if it is necessary to modify the device, please contact the manufacturer.
- Every person who uses the machine must observe all the safety instructions and comply with all the regulations, specifications, guidelines, and general health and safety rules at work. The user is obliged to pass on the information mentioned above to the person using the machine to prevent damage to the device and ensure safe operation.

2.3 Detailed Safety Instructions

You must strictly observe the following safety instructions:

- Only trained personnel may use the device.
- All work related to the inspection and maintenance of the device may be performed only by the authorized service center.

All persons operating or using this device must read this Manual carefully, understand it entirely, and strictly adhere to the information contained in it.

- This equipment is intended for outdoor use in temperatures ranging from 0°C to +40°C, and temperatures ranging from -10°C to 0°C with extreme caution.
- The device is not intended for use in special-purpose rooms, such as explosive hazard zone (ATEX), etc.
- Before starting any service work, please switch off the machine.
- Stop using the machine if the method of work can compromise its safety or expose people or property to any danger.

The user is obliged to do the following:

- Notify a Catchshift representative of any changes that directly or indirectly affect the safety of use.
- Only use the machine when it is fully operational.
- Always inspect the machine looking for visible damage or missing equipment and immediately report any changes when handling loads other than those for which the device is intended!
- Do not make any changes that could affect the safety of the device. Catchshift is not responsible for any consequences of such changes.
- Use only the manufacturer's original spare parts. In the case of using parts made by other manufacturers, Catchshift takes no responsibility for the operational safety of the device.
- In case of a sudden loss of vacuum in the system, the handled load must be immediately put down or otherwise prevented from falling off the suction cups.

IT IS FORBIDDEN TO STAND UNDER THE HANDLED LOAD!

IT IS FORBIDDEN TO PLACE LIMBS (ARMS AND LEGS) UNDER THE HANDLED LOAD!

The safety instructions listed above are supplementary to the local health and safety regulations.

2.4 User Safety Measures

The rules for observing the safety measures are as follows:

- Through appropriate in-house instructions and inspections, ensure that the workplace environment is always clean and tidy.
- Only qualified service personnel can conduct installation, initial start-up, maintenance, repair, other works, and interventions on the machine.

Please pay special attention to:

- Technical data and information about the authorized use of the machine and its accessories.
- General and specific local building and safety regulations.

- Use of personal protection equipment.
- The proper use of handling tools, lifting, and auxiliary equipment.
- Specific risks associated with using the machine under unusual conditions, not mentioned in the Operating Manual, and not expressly prohibited. It includes, for example, the use in disabled facilities by operators whose physical and mental qualities are not taken into account by the general standards. In such situations, it is necessary to consult the factory and the relevant professional associations.
- Use fencing tape, construction fencing, or similar to cordon off the construction site.

Sources of danger to humans and the environment:

- Tripping hazard due to scattered packing material, tools, machines, and their accessories.
- The risk of jamming, crushing, and death resulting from overturning the machine or its drop during the setup. Falling down of the device due to the use of unsuitable transport and lifting equipment or accessories. Technical defects, circumstances, or human error.

Protective measures and operating principles

- Work may only be performed by authorized personnel, following information given in the Operating Manual.
- Use the required personal protective equipment.
- Use only suitable means for transport, lifting, and positioning.
- Always keep your body and limbs away from the danger zone.
- Unauthorized persons should stay away from the danger area.

Do not lift the load when the pressure gauge indicator is in the red area, and the red control light is on!

Lower the lifted load as quickly as possible if the pressure gauge indicator is in the red area and the visual alarm system is on. From when the vacuum drops below the required level (-0.60 Bar), the machine will hold the load for 1 second to 4 minutes, depending on the porosity of the load!

To work safely with the device:

- The operator should have and use hearing protection.
- While lifting, the operator should be within a hearing and seeing distance from the equipment so that he/she can hear and see its operation.
- The machine operator should remain in constant contact with the lifting equipment operator, relying on pre-established, precise methods of communication.

Precautions when working in temperatures ranging from -10°C to 0°C.

The suction cup and the load must be dry and clean to ensure adequate friction between the suction cup and the load suction surface. To achieve this, please remove all moisture, snow, and ice.

IT IS FORBIDDEN TO PLACE HANDS OR FEET UNDER THE RAISED LOAD

2.5 Occupational safety during vacuum pump operation

GENERAL RULES

Read this Manual before switching on the pump.

The main rules of conduct to be observed for safe operation are as follows:

- Only qualified and trained personnel may perform any installation, operation, maintenance, and other activities.
- Wear the necessary personal protective equipment at all times without exception.
- Consistently perform all cleaning, adjustment, and maintenance operations with the power equipment disconnected.
- Do not use water to extinguish fire on electrical parts, even if protected by a housing.
- Do not smoke during operation or maintenance, especially when using solvents or flammable materials.
- It is forbidden to damage nameplates and pictograms located on the pump. If they are accidentally damaged, replace them immediately with identification plates.

D.V.P. Vacuum Technology s.p.a. is not liable for any damage resulting from improper use of the pump through improper interference with the operation of the pump, which compromises safety, or non-compliance with safety standards.

JOB HAZARD

The design of the pump minimizes any residual risk to the personnel. However, we firmly insist that you exercise utmost care and attention when conducting maintenance operations. Never underestimate even the slightest danger.

Elevated temperature

The surface of the pump may heat up to more than 70°C. Conduct maintenance only when the pump has stopped and cooled down.

Risk generated by pressure

The pump tank is under pressure. Do not open or leave open the oil filler plug or the drain plug during operation.

Danger due to emission of harmful substances

Exhaust fumes are harmful. Faulty or worn seals can cause lubricating oil to leak. Avoid spillage into the soil and contamination of other materials. Dispose of used oil following the regulations in force in the country of use.

The danger of electrical shock

The electrical equipment in the pump includes live parts that can cause severe injuries or damage when touched. Only qualified personnel may perform repairs to the electrical system.

Fire hazard

Use of the pump for any application not provided for in this manual and lack of proper maintenance may cause malfunction, with risk of overheating and fire. In a fire, use dry chemicals, CO^2, or other substances to extinguish fire caused by electricity instead of water.

Risk of slipping and falling

"L" series vacuum pumps are oil pumps. The use of improper oil, not conforming to the instructions, can damage seals or cause the lubricant to be spilled on the floor, creating a risk of slipping or falling for the personnel.

Risk of entanglement

There is a constant danger of entanglement or entrapment of hair and clothing in the cooling fan inside the guard near the fan housing on the electric motor. Therefore, tie up long hair and do not wear loose clothing, long shoelaces, or other objects that the motor can pull in.

2.6 Safety Pictograms

All safety instructions have a uniform structure:

Pictogram	(describes the type of risk)
Signal word	(describes the degree of risk)
Text of the tip	(describes the risk and informs how to avoid it).

Safety instructions on the machine

Warning!

Attention: Electrical device!

Use hand protection

Attention: Hand jamming hazard

Attention: Protect your head

Attention: Use hearing protection

Attention: Hot surface

Keep all the safety instructions on the machine in a legible state and replace them if necessary.

2.7 Intended use

Pressure device **WOLF2000/4000:**

- is designed only for lifting objects with the maximum weight of 2000/4000 kg;
- is designed for lifting paving materials (slabs, concrete slabs, paving stones, non-standard paving stones, curbs, etc.);
- must be used only under operating conditions specified in this Operating Manual;
- must be used only within the given performance limits.

It is possible to use the machine in the following fields of application:

- Paving (slabs, concrete slabs, road, paving stones, curbs, etc.)
- Construction (pre-tensioned concrete, floor slabs, vibro-pressed concrete, sandblasted concrete, architectural concrete, decorative concrete, prefabricated building elements, cast-in-place stairs, concrete planks, concrete benches), including works on the construction or repair of highways (concrete barriers, slabs for access roads to construction sites) and construction warehouses (unloading of bulky goods on-site)
- Production (unique solutions, e.g., taking elements out of molds, transporting between different production stages, moving concrete parts during production)

- Melioration (concrete circles, cast septic tanks, culvert pipes under roads).

Every time before lifting a new type of material, perform the trial leakage check as described:

1. Position the machine on the item to be raised.
2. Start the engine and switch on the suction.
3. Check that the material is suctioned (the vacuum meter pointer is in the green area).
4. Lift the material by no more than 1 cm.
5. Switch off the machine and check the time at which the pressure gauge pointer enters the red field.

THE TIME IT TAKES FOR THE POINTER OF THE PRESSURE GAUGE TO MOVE FROM THE GREEN TO THE RED AREA IS AN INDICATION OF THE SAFE TIME AFTER POWER FAILURE

The intended use also includes:

- observing all instructions given in the Operating Manual;
- conducting inspection and maintenance works.

Any other use, exceeding activities mentioned above, is considered to be non-intended. In particular, it is unacceptable to use the machine:

- for flammable, inflammable, or explosive materials,
- for aggressive, infectious, or toxic materials,
- for hazardous materials in any other way,
- during rain or snowfall,
- to lift living organisms and materials, the processing of which violates any statutory provisions, the accepted rules of conduct, or good manners.

In particular, you may not use damaged suction cups. Any violation of the **intended use** excludes the manufacturer's liability for consequential damages. The operator/user, responsible for adhering to the intended use, bears the sole risk. The risk is held solely by the operator/user accountable for observing the intended use.

IT IS STRICTLY FORBIDDEN TO LIFT LOADS WITHOUT THE RESTRAINT STRAPS

2.8 User, qualified personnel

User

The user is every natural or legal person who uses the machine or upon whose instructions the device is used. The user must ensure:

- to comply with all the relevant laws and instructions;
- that only trained and instructed persons work with the machine;
- that the Operating Manual is available to the personnel during work;
- that any training is confirmed in writing;
- that the trained personnel only work with the machine under the supervision of an experienced person;
- that all safety equipment is checked regularly.

Qualified personnel

Persons / **Activity**	Operator	Supervisor	Service Technician
Packing, transport	x	x	x
Start-up		x	x
Use	x		x
Troubleshooting	x	x	x
Eliminating mechanical faults		x	x
Eliminating electrical faults			x
Adjustment, preparation	x		x
Maintenance	x		x
Minor repairs		x	x
Shutdown, storage		x	x

Qualified personnel include persons, who through their knowledge, appropriate education, experience, and training in the standards and rules of the machine use, as well as knowledge of safety regulations and working conditions, have been assigned by a person responsible for maintaining continuous operational safety of the machine, to ensure the correct functioning of the device, and remove any problems that could compromise the safety of the machine's operators.

2.9 Emissions

Occupational exposure assessment			
Standard hygienic (w.g. T.j. Dz.U. 2017,poz 1348)	Rating indicator	Stanadard	Occupational exposure
	Daily noise exposure level Lex.8h(dB)	85	87,8 (+2,2)
	Maximum sound level LA max.(dB)	115	94,0 (+2,5)
	Peak sound level LC peak.(dB)	135	109,5 (+2,5)
Action threshold value (wg. Dz.U. nr 157 z 2005 r.,poz. 1318)		80	

3 Transport, Shipment

Danger!

The machine may fall during transport, causing severe injuries or death.

Transport the machine slowly and as low as possible using sufficiently robust transport equipment.

(⇒ See technical data: weight and outer dimensions of the machine).

Please observe the health and safety regulations for the corresponding cranes, loading, and gripping parts!

Operating personnel

- Only instructed persons who are familiar with the safety regulations;

⇒ refer to the section "User, qualified personnel".

Before transportation

- Switch off the unit
- Remove any mounted accessories
- Pack loose equipment separately
- Protect against weather conditions

Figure 1

Transport with forklifts or hand pallet trucks with sufficient load capacity

- Lift at the center of gravity.

4 Machine Description – Design and Operation

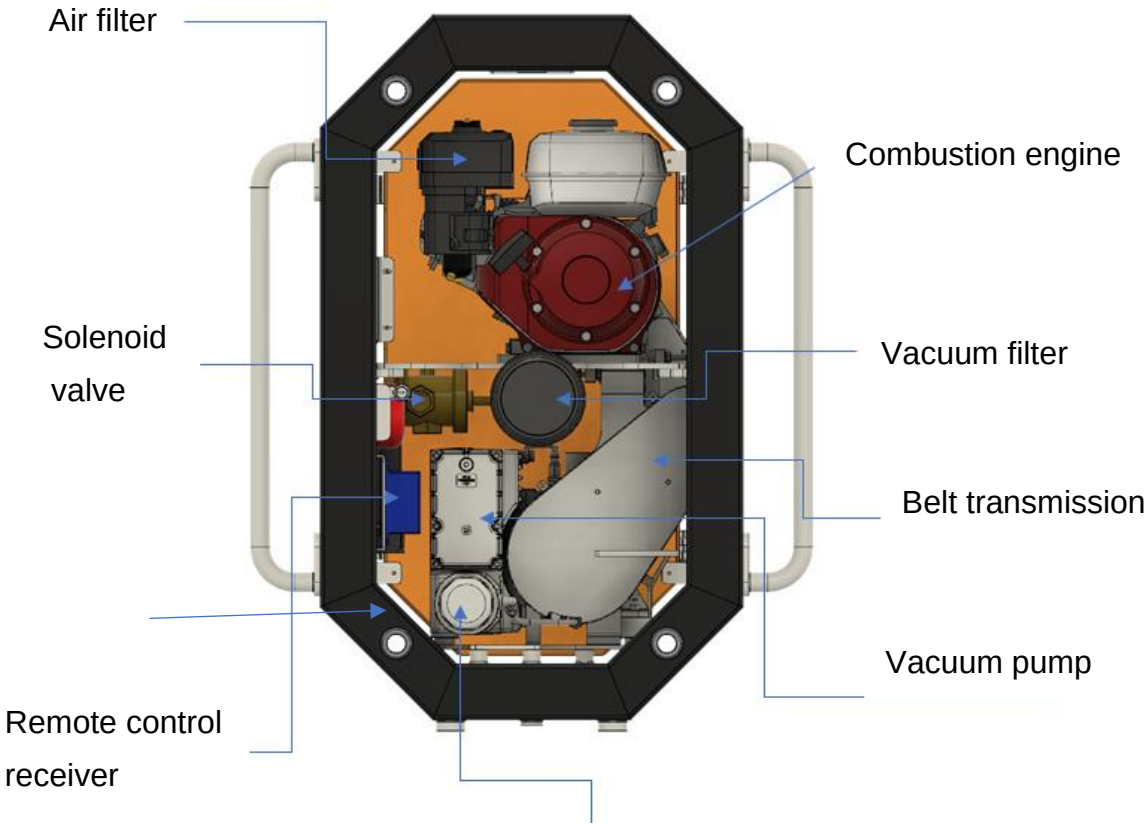
4.1 Before work

The machine is delivered ready for direct start-up. Before starting it up, however, please check the device for any signs of damage that may have occurred during transport. Before starting work:

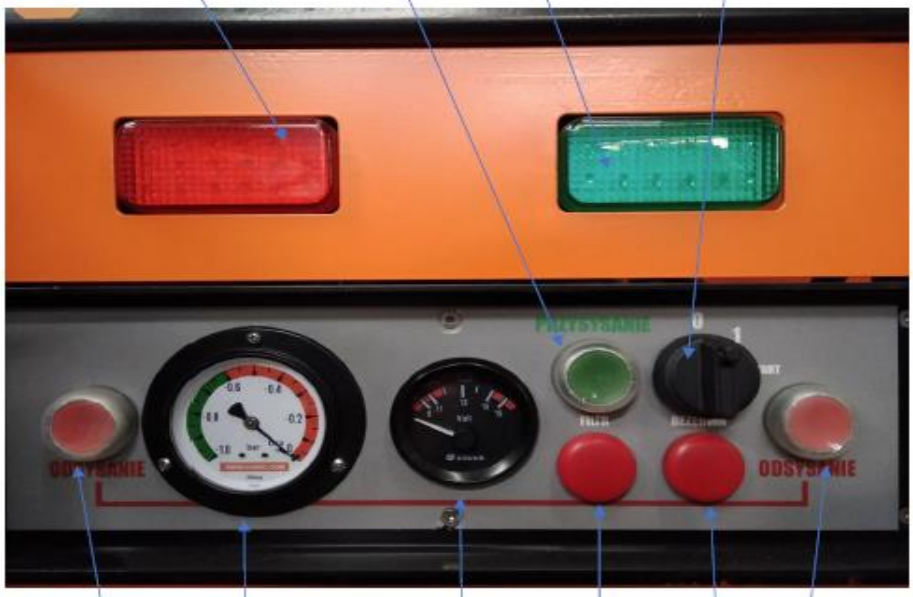
1. Check that the machine is complete;
2. Have an adequate supply of precast units ready for placement;
3. Attach the suitable suction cup;
4. Check that the weight of the precast elements does not exceed the machine's load capacity according to the material specification;
5. Check the external appearance.

4.2 Construction

Description of the main components

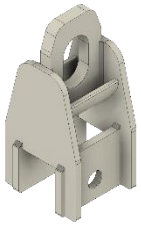


4.3 Description of the control panel

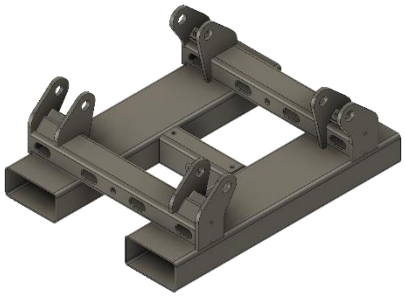


4.4 Algorithm of work WOLF2000 / WOLF4000

1. Choose the proper machine attachment, depending on the type of the lifting equipment you have
   a) Top-mounted (hook or belt mounting).



b) Forklift attachment (forklift truck, telehandler). You can mount it on top of the machine or underneath it.



2. Mount the machine on a lifting device.

3. Before work, select a suction cup that is suitable for the material to be lifted. Install the suction cup under the machine. Connect the suction cup connector to the vacuum connection of the machine.
4. Check the condition of the suction cup seal (that it is not torn). Make sure that the machine or its components do not have any cracks/damages.
5. Check and refill the machine's fuel tank.
6. Open the fuel valve.

7. Open the engine choke valve

8. Turn the ignition switch to "1" and check the battery charge level.

9. If you intend to use the remote control, activate it by pressing the green "A+B" buttons AT THE SAME TIME.

Start the machine:

a) Turn the ignition to "Start" position”

b) press buttons "A+4"

or

10. Once the engine is warmed up, turn off the "choke".

11. Lift the machine and place the suction cup on the component you want to lift.
12. Suction:

a) Press the green button

b) Press button "3"

or

13. Check the indication of the pressure gauge located on the machine's manipulator.
    If the gauge indicator is in the green area, lift the load by 10 cm.
14. Put on the restraint straps.

Move the load to the designated place, then lower it to a height of 10 cm above the point of installation.

15. Remove the restraint straps.
16. Place the load at the target location.
17. Sucking off:
    a) Control panel on the machine - press the two outermost (red) buttons

or

b) Remote control - press buttons 1 and 5.

18. When you finish work, turn off the combustion engine:

a) Turn the ignition to "0" position

b) press the "B+4" buttons (to completely turn off the machine turn the ignition key to „0" position

or

19. Disconnect the suction cup from the machine.

20. Clean the vacuum filter to ensure trouble-free operation during the subsequent use of the device.

21. Place the machine in a safe place, away from flammable substances, because the engine is hot.

4.5 Fitting the accessories

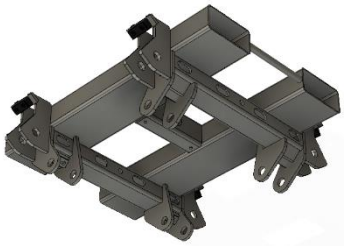
Algorithm for mounting a Wolf 2000/4000 fork adapter

1. There are two ways to install the fork adapter on a Wolf machine:

on the machine or under the machine

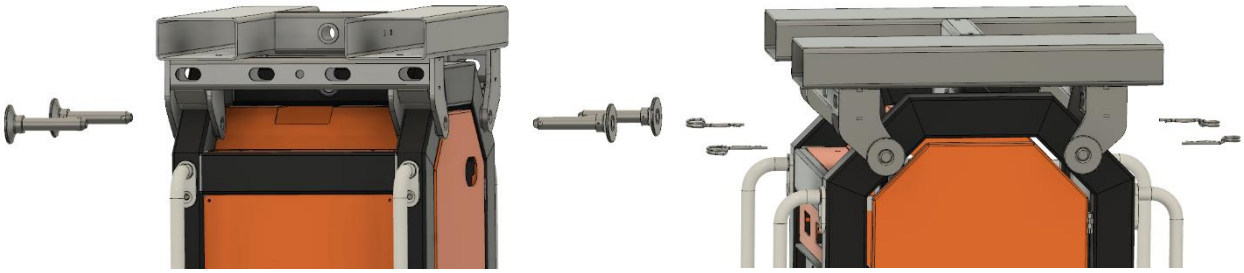
Installing the adapter on the machine

1. Turn the adapter over with the mounting brackets facing downwards.

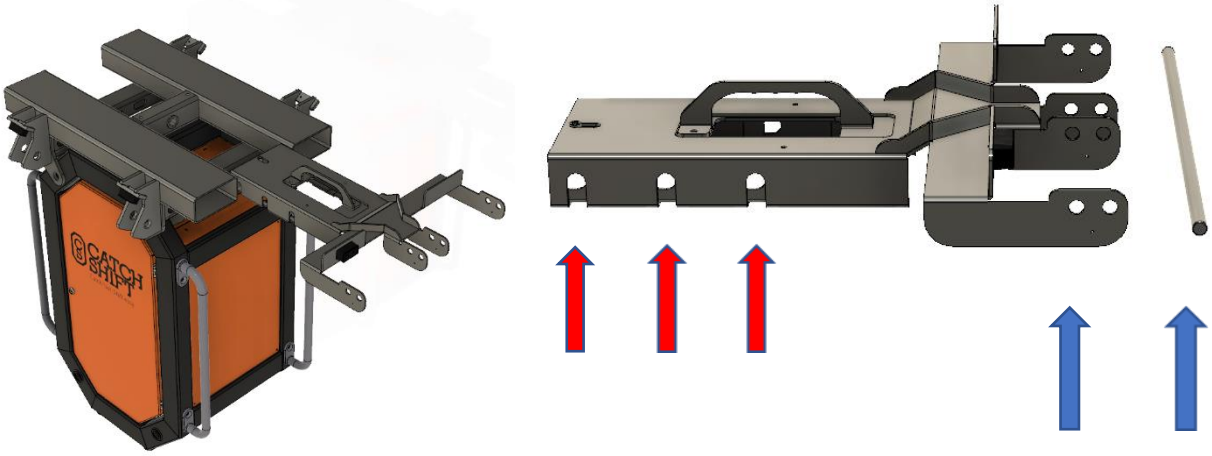


2. Place the adapter on the machine. **In this configuration, adapters for the restraining straps are placed underneath the device or other element which will be suspended underneath it.**

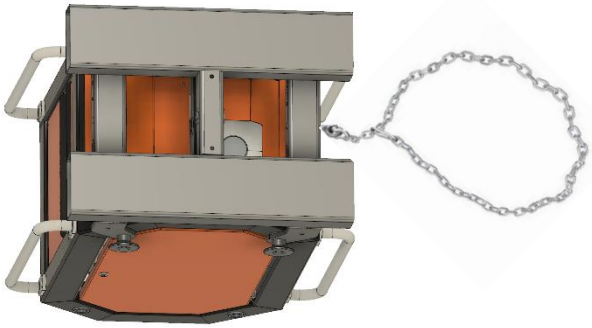
3. Insert four pins and secure them with the locking pin.



4. Mount a connector on the adapter; this is the element that connects the machine to the forklift. There are three holes in the adapter every 10 cm (red arrows), allowing a sufficient distance between the device and the forklift truck. Next, secure the adapter to the forklift truck with a pin (blue arrow).

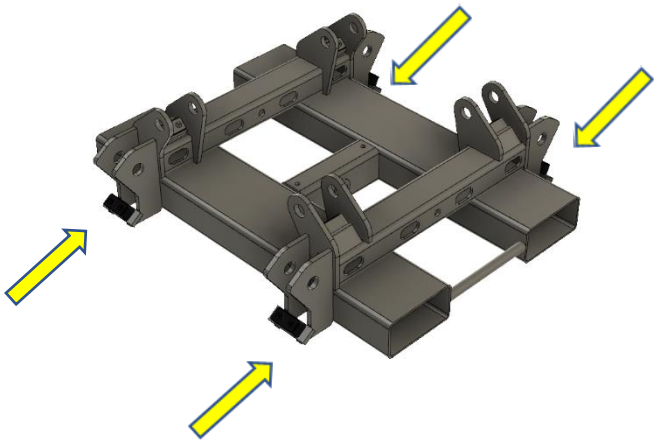


5. Attach the adapter chain safety device to a fixed part of the lifting device.



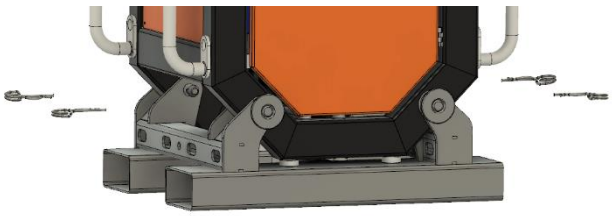
Installing the adapter under the machine

1. Turn the adapter over with the mounting brackets facing upwards. **In this configuration, the adapters for the restraining straps are attached to the adapter.**



2. Place the machine on the adapter.

3. Insert four pins and secure them with the locking pin.



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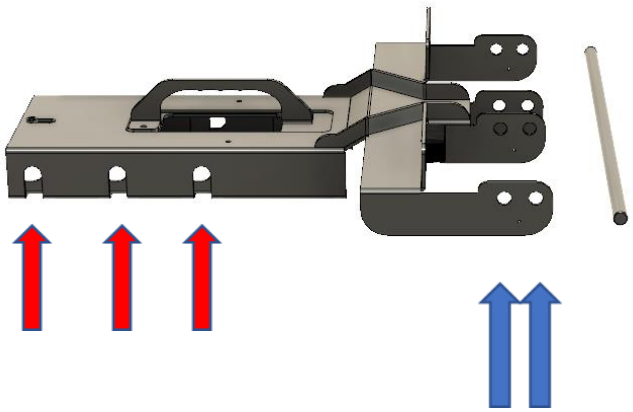
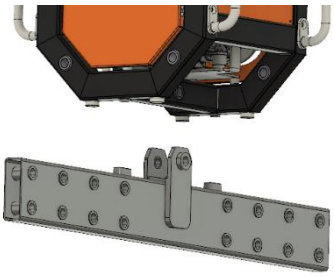
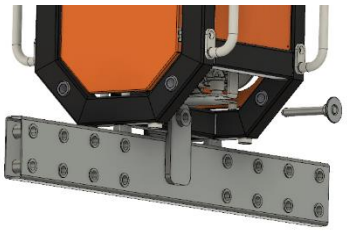


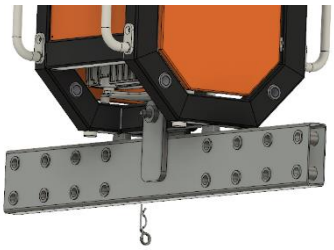
5. Attach the adapter chain safety device to a fixed part of the lifting device.

Algorithm for attaching a beam under the Wolf machine

1. Place the beam under the machine. Insert the pin and secure it with the locking pin.

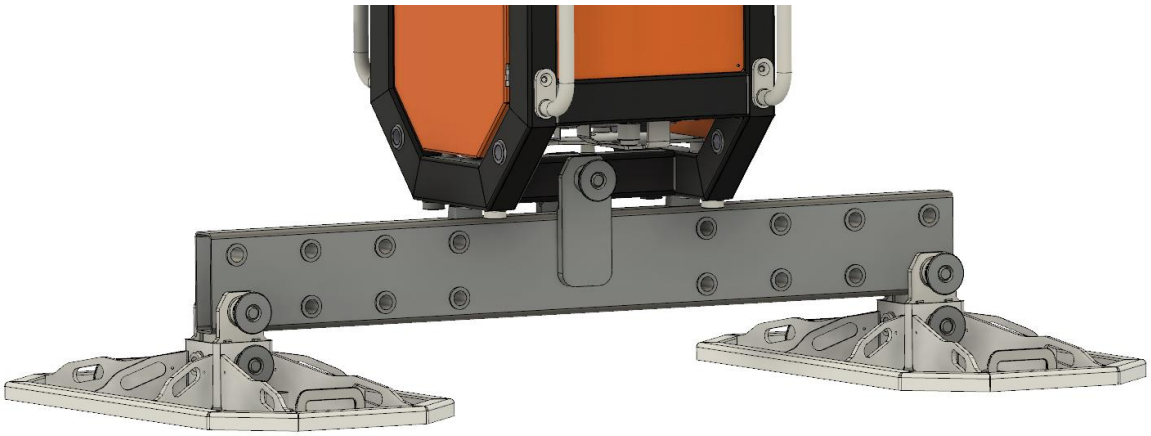






2. Attach the intermediate clamps and the appropriate suction cups (see the suction cup installation algorithm).

Make sure that the suction cups are mounted on the beam symmetrically to the machine axis!

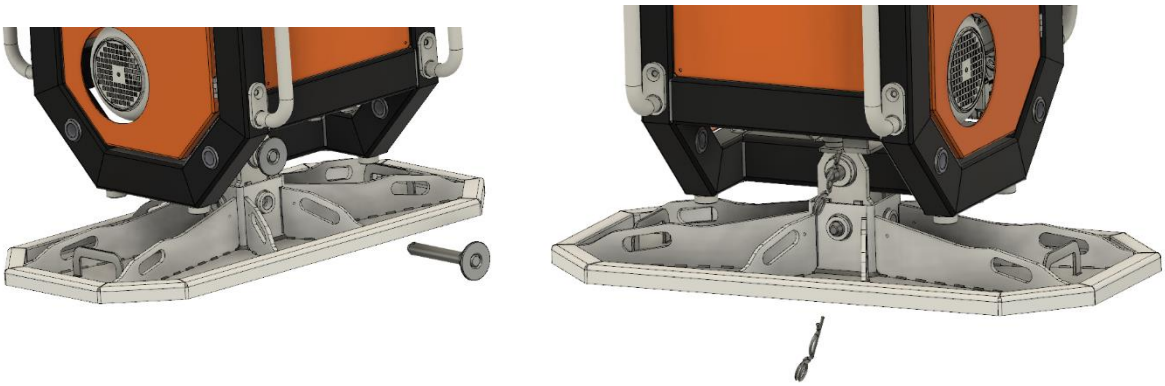


3. Connect and secure all the vacuum connections.

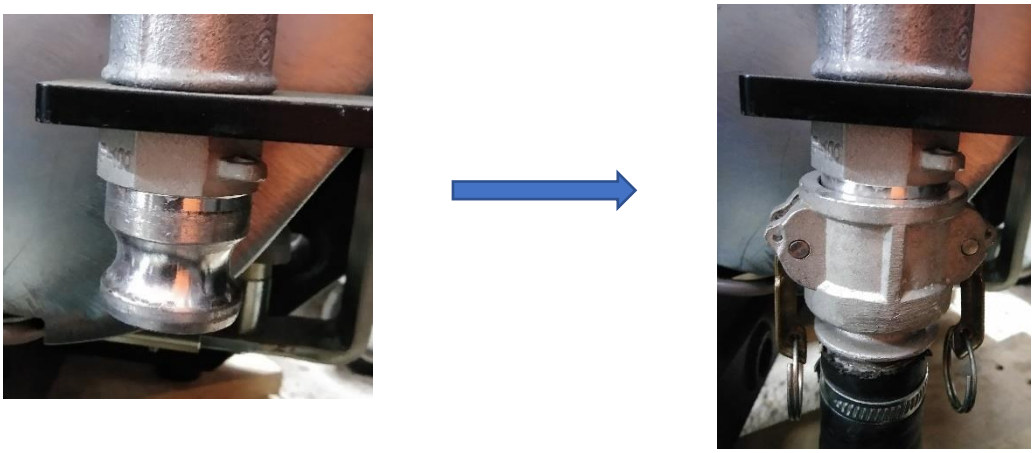
Suction Cup Mounting Algorithm for Wolf

1. Attach the intermediate mount underneath the machine. Insert the pin and secure it with the locking pin.

2. Choose a suction cup, matching it to the weight and surface area of the load to be lifted.
3. Attach the suction cup to the previously mounted intermediate mount under the machine. Insert the pin and secure it with the locking pin.

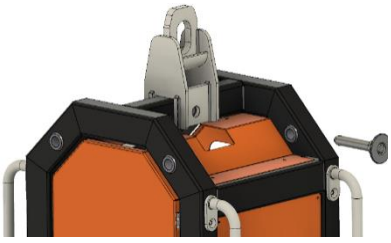


4. Connect the vacuum hose of the suction cup to the machine connector and secure it.



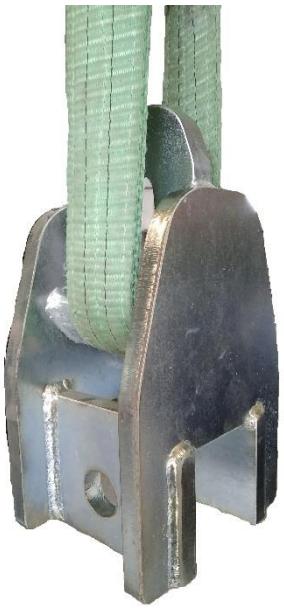
Top Holder Mounting Algorithm

1. Mount the top holder on the machine. Insert the pin and secure it with the locking pin.


2. There are two ways of attaching the machine to the lifting device:

using a hook or using a belt sling

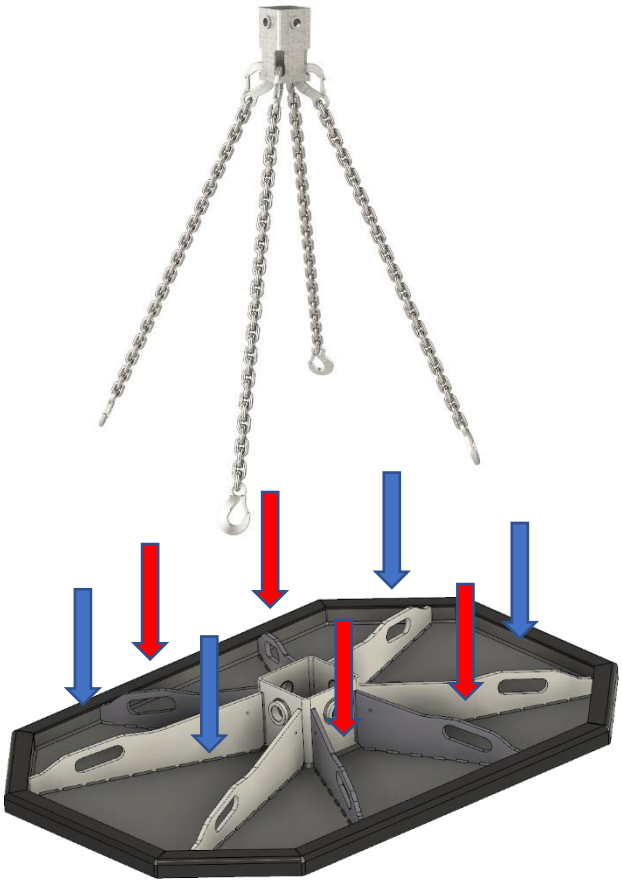



Chain Adapter Mounting Algorithm

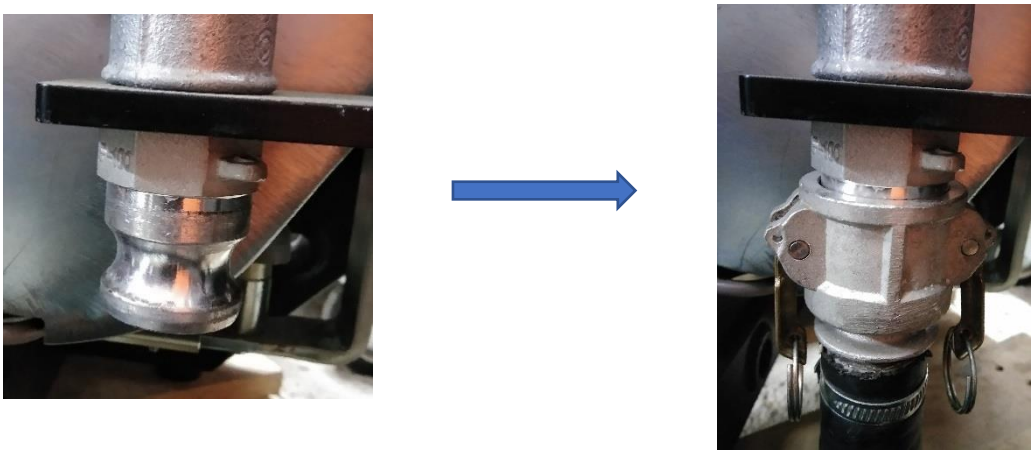
1. Fasten the intermediate holder underneath the machine. Insert the pin and secure it with the locking pin.

2. Mount the adapter together with the chain sling. Insert the pin and secure it with the locking pin.

3. Attach the suction cup to the pre-mounted chain adapter (insert the chain hooks into the ribs of the suction cup). Be sure to mount the chains symmetrically on the suction cup (ribs marked with a blue arrow or a red arrow). **Failure to follow these guidelines may result in deformation of the suction cup and consequently in the load falling off!**



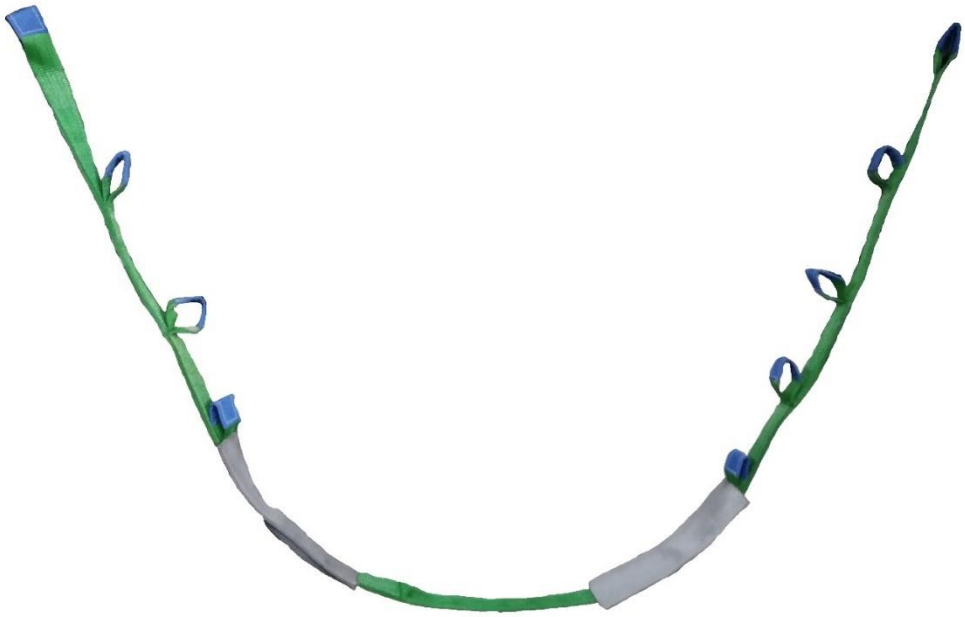
4. Connect the vacuum hose of the suction cup to the machine connector and secure it.



Algorithm for attaching restraining straps to the machine or its components

The restraining straps are used to protect a lifted load from falling in case of leakage in the suction cup.

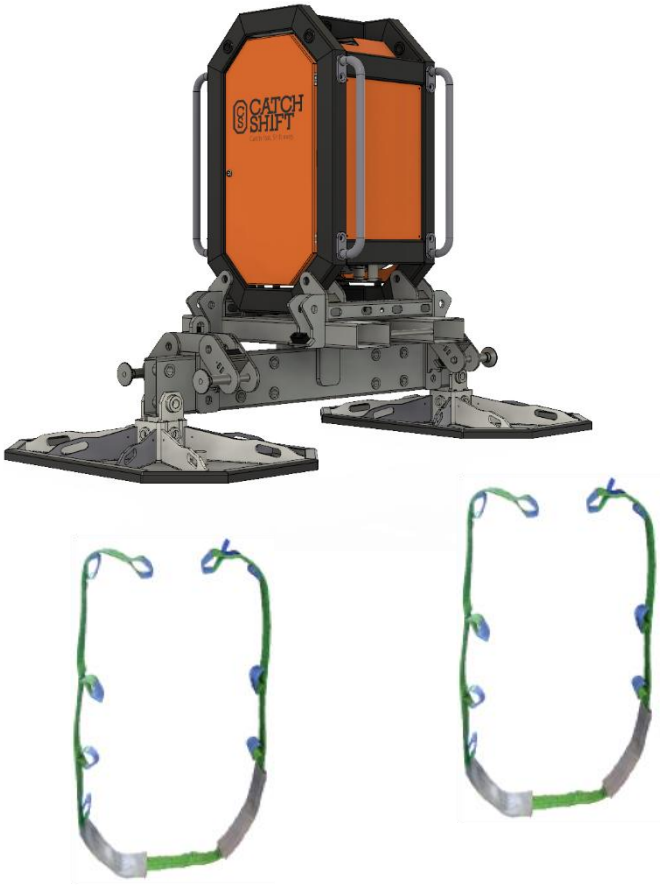
The strap has shortening loops so that we can mount it on the lifting device. Lift the suctioned load to a small height, then pass the strap underneath and secure it to the device. **Remember to fasten the strap at the shortest possible distance, as it will eventually shorten the path of a falling load**. The sleeves on the straps should be placed on the corners of the load, as this will prolong the strap's life. The minimum number of straps used for securing is two pieces, which will prevent the load from slipping (**remember that the length of both straps should be the same**). The maximum load capacity of a strap is 2T; if the load’s weight exceeds 4T, use more straps.



1. Mount the straps directly under the machine using appropriate adapters. First, place the adapters on the device, then slide the straps under the raised load and secure them.

2. Mount the restraining straps directly under the fork adapter with suitable adapters. First, place the adapters on the fork adapter, then slide the straps under the raised load and secure them.

3. Mount the restraining straps directly on the beam with suitable beam/strap adapters and belt adapters. First, place the adapters on the beam and slide the straps under the raised load and secure them.



5 Operation

Executing personnel

- Only instructed persons who are familiar with the safety regulations
  ⇒ refer to chapter: "Operator, qualified personnel".

Maintenance operations:

Only technically trained specialists (operator, supervisor) may undertake inspection and maintenance activities. For repairs and annual servicing, contact **Catchshift Sp. z o.o**. or an authorized service center. The replacement parts must be original. They are supplied by **Catchshift Sp. z o.o**. who guarantees suitable characteristics and high quality. Modifications to the machine are not allowed as they may impair safety during operation.

A reliable and safe operation cannot be guaranteed if these guidelines are not followed. Catchshift Sp. z o.o. is not responsible in such cases.

General remarks

For proper maintenance, please:

- Immediately check the causes of malfunctions (excessive noise, overheating, etc.);
- Pay special attention to safety devices;
- Use all documentation provided by the manufacturer (operating manuals, wiring diagrams, etc.);
- Use only appropriate tools and original spare parts.
- If you do not understand information or procedures in this chapter, contact D.V.P or Catchshift.
- Do not perform any type of operation, modification, or repair except as listed in this Manual.
- Perform all maintenance with the pump disconnected from the power supply.

Suppose pump maintenance has been performed in a manner not in keeping with the instructions or with the use of non-original spare parts or in any other manner not recommended. In that case, the equipment supplier will be held harmless from any liability relating to the safety of persons and the failure of the pump and the vacuum equipment.

Periodic inspections and tests

The following steps and maintenance intervals are included as a minimum. More frequent maintenance is recommended when circumstances require, e.g., in case of intensive use resulting in increased wear, corrosion, or damage.

DAILY

a) Check the suction cup gasket for wear and tears (replace if necessary);
b) Check the vacuum system for leaks;
c) Check the mechanical condition of the lifting handle;
d) Check the operation of the pressure gauge;
e) Clean the filter.

MONTHLY

a) All activities of the daily maintenance schedule;
b) Check the vacuum pump's control system.

ONCE A YEAR

Attention: We recommend the annual service by Catchshift or an authorized service center

a) All activities of the monthly maintenance schedule;
b) Static test;
c) Check pump performance;
d) Check pressure gauge indications for correctness;
e) Check the controls' operation;
f) Replace the seal profile between the machine and the suction cup;
g) Check the condition of the power and control cables;
h) Replace the filter;
i) Thoroughly check other elements of the device.

In addition, you must perform all the mandatory inspections. In this respect, please observe the regulations of the country in which the device is used. The unit has no moving parts requiring lubrication. Please maintain the vacuum pump following the Operating Manual → Appendix 3.

Never use solvents, petrol, or other chemicals to clean the rubber part of the suction cup.

You must document the inspections and repairs in writing. The following forms, attached as Appendices to this Manual, should be used for this purpose:

- Inspection and Maintenance Report;
- History of Maintenance

6 Servicing the vacuum pump

6.1 Maintenance and inspections

Activity	Time interval	Performer
Check the level of oil	24 h	Operator
Change the oil every 500 h	500 h	Service
Clean the radiator, motor fan cover, and the pump	1000 h	Service
Replace the oil filter (only if present)	1000 h	Service
Replace the exhaust filter	2000 h	Service
Replace the blades	10000 h	Service

6.2 Troubleshooting when using the LC60 vacuum pump

Problem	Cause	Action
The pump cannot reach the declared vacuum range (B)	Low level of oil in the tank	Top up the oil
	Oil contaminated	Replace the oil
	Clutch worn out	Replace the clutch
	Worn/broken belts	Replace the belts
Noisy pump operation (C)	Exhaust air filter clogged	Replace the exhaust air filter
	Damaged bearings	Contact Service
	Damaged engine clutch	Contact Service
	Worn blades	Contact Service
High temperature of the pump housing (D)	The wrong type of oil	Change to the correct oil type
	Damaged engine fan	Contact Service
	Clogged outlet	Unblock the outlet
High oil temperature (E)	High oil consumption	Running at high vacuum
	Exhaust filter clogged	Replace the filter
The pump does not maintain the vacuum	Non-return valve damaged	Contact Service
Oil leaks from the pump	Tank bolts loose	Tighten the bolts
	Damaged tank gaskets	Contact Service
	Oil sight glass leaking	Tighten the sight glass

6.3 Spare and quick-wearing parts (LC60 pump)

No	Part name	Number of pieces
1	Air filter element LC60 K9601068	1
2	Set of spare parts K9601068/1	1
3	Oil filter DVP P/N 1809001	1
4	Oil sight glass 1105004	1
5	Oil BV68 (SW60) –	1,5 liter

7 Servicing the GX 200 engine

7.1 Maintenance and inspection of the GX 200 engine

Activity		Before each start-up	Monthly or every 20 Rh	Every six months or 100 Rh	Every twelve months or 300 Rh
Engine oil	Inspection	X			
	Replacement		*	X(2)	
Air filter	Inspection	X			
	Replacement			X(1)	
Engine revolutions	Inspection / Adjustment				X(2)
Spark plug	Inspection / Replacement				X(2)
Ignition system	Inspection / Adjustment				X(2)
Valve clearance	Inspection / Adjustment				X(2)
Fuel tank	Inspection / Cleaning				X(2)
Fuel lines	Inspection	X(2) Check every 24 months, replace if necessary			

X - Action to be performed at the indicated time.

X(1) - Perform more frequently if the engine is operated in a dusty environment.

X(2) - Have it serviced.

* - Replace after the first 20 Rh, but not later than six months from the date of purchase.

Recommended engine oil: SAE15W40

Oil quantity: 0,6 liter

7.2 Troubleshooting when using the GX 200 engine

Problem	Cause	Action
The engine does not start	Empty tank	Fill up the tank
	Clogged fuel system	Clean the fuel system
	Battery discharged	Charge battery
	Fuel faucet closed	Move the faucet to the ON position
	Engine switch in the OFF position	Set the switch to ON
	A cold engine started without a choke	Turn on the choke
	Incorrect spark plug electrode spacing or broken insulator	Check the spark plug, adjust the electrode gap if necessary
	Clogged air filter	Clean and replace with new if necessary
	Low engine oil level	Top up oil to the correct level
	Other	Contact Service
Incorrect engine rpm	Incorrect spark plug electrodes gap	Check the spark plug and adjust the electrode gap if necessary
	Deposits or carbon deposits on the spark plug electrodes	Check the spark plug and replace it if necessary
	Accelerator lever jammed	Clean the accelerator lever
	Clogged air intake	Clear the air supply
	Incorrect carburetor adjustment	Contact Service

7.3 Spare and quick-wearing parts (GX 200 engine)

No	Part name	Number of pieces
1	Spark plug NGK BP6ES or BPR6ES DENSO W20GP-U or W20EPR-U BOSCH WR7DC+	1
2	Air filter	1
3	V-belt A 871/841 / A 830/800	1

8 Remote control SAGA1-V6

8.1 Overview of the remote control

1 - Function button
2 – STOP button.
3 – Start button A/ Start button B
4 – LED indicator
5 – Bottom housing
6 – Belt clip

8.2 Handling the remote control

1. Unscrew the transmitter's bottom cover, install two new AA-size batteries in the battery compartment (make sure the batteries are correctly installed as indicated by "Positive" & "Negative"), and firmly attach the lower transmitter cover.
2. Press and hold "Start Button A" and "Start Button B" on the transmitter at the same time (factory setting) to turn on the system.

   To deactivate the transmitter's operation:

   Press the stop button to deactivate the transmitter operation and turn off the receiver.

Transmitter's LED indicator

Transmitter's status:

Locked button indication

1. Red (fast blinking): The transmitter is not working correctly.

2. Red (slow blinking): The transmitter is activated, but the receiver is not working correctly.

3. Green (slow blinking): Both the transmitter and the receiver have been successfully activated.

Transmitter's charge indicator

1. Green (full power): Works as usual.

2. Yellow (half-power): Stop operation until new batteries are installed to turn off the receiver.

3. Red (low power): Stop signal will automatically be sent to the receiver to avoid interruption during operation; check battery power frequently.

9 Methods for checking the operation

9.1 Vacuum system tightness

Plug the connection with a blanking plug. Next, start the suction and wait for the pump to switch off. Then switch off the main switch and check the level to which the vacuum has dropped after one minute.

9.2 Static test

With the suction cup in the working position, lift a non-porous load of twice the permitted working load.

The load must be held, and after its release, the device should not show any visible signs of permanent deformation.

9.3 Hold time test

One second to four minutes

9.4 Inspection and Maintenance Report

Machine no: ……..
Type: ……
User: ……..
A person conducting the inspection/maintenance: ……

No.	Device	Description of activity	Limit value	Daily	Monthly	Once a year
1	Suction cup	Check the sealing profiles for cracks and wear		x	x	x
		Replace the sealing profile - as required				
2	Mechanical elements	Check lifting handle and pins		x	x	x
		Check the condition of the pins (against falling out)		x	x	x
3	Filter	Clean as instructed		x	x	x
4	Tests	Static load test	2x working load			x
		Check suction cup gasket for wear and tears (replace if necessary)		x		
		Check the vacuum system for leaks		x		
		Check the mechanical condition of the lifting handle		x		
		Check the performance of the pressure gauge		x		
		Clean the filter		x		
		All activities of the daily maintenance plan			x	
		Check the vacuum pump control			x	
		All activities of the monthly maintenance plan				x
		Perform the static test				x
		Pump performance				x
		Correctness of pressure gauge readings				x
		Correctness of control buttons indications				x
		Replace the sealing profile between the machine and the suction cup				x
		Condition of the power supply and control cables				x
		Replace the filter				x
		Detailed inspection of other machine components				x

Signature **Date**

10 Troubleshooting the WOLF 2000/4000 vacuum device

10.1 Mechanical faults

Executing personnel

Only instructed persons who are familiar with the safety regulations;

⇒ see chapter "User, qualified personnel".

Trouble	Probable causes	Remedy
The machine is not working	Defective fuse	Replace the fuse
	No fuel	Top up fuel in the engine tank.
Insufficient vacuum level – the pressure gauge indicator is in the red area	A defective suction cup seal	Replace the seal
	The load is too porous	Move the load using other means
	Reduced capacity of the vacuum pump	• Replace the vacuum pump. • Replace the blades • Change oil

Only instructed personnel may remove malfunctions. If you cannot identify the cause of the fault, notify the technical service. Always handle the machine or equipment with care. The device should be thoroughly cleaned after production to ensure smooth and trouble-free operation.

10.2 Cleaning

Always clean the machine at the end of the operation.

11 Shutdown, storage

Executing personnel

- Only instructed persons who are familiar with the safety regulations;
  ⇒ see chapter: "Use, qualified personnel".

Taking the machine out of service

- Switch off the machine with the main switch.
- Secure the machine against unauthorized operation.

Storage conditions

Storage period up to one year	Climate conditions similar to working conditions.	It is not necessary to undertake any particular actions.
	High humidity. Aggressive composition of air.	Protection against corrosion is necessary. Airtight packaging.
Storage period – longer than one year	All climate conditions.	Protection against corrosion is necessary. Airtight packaging.

12 Disposal

Executing personnel

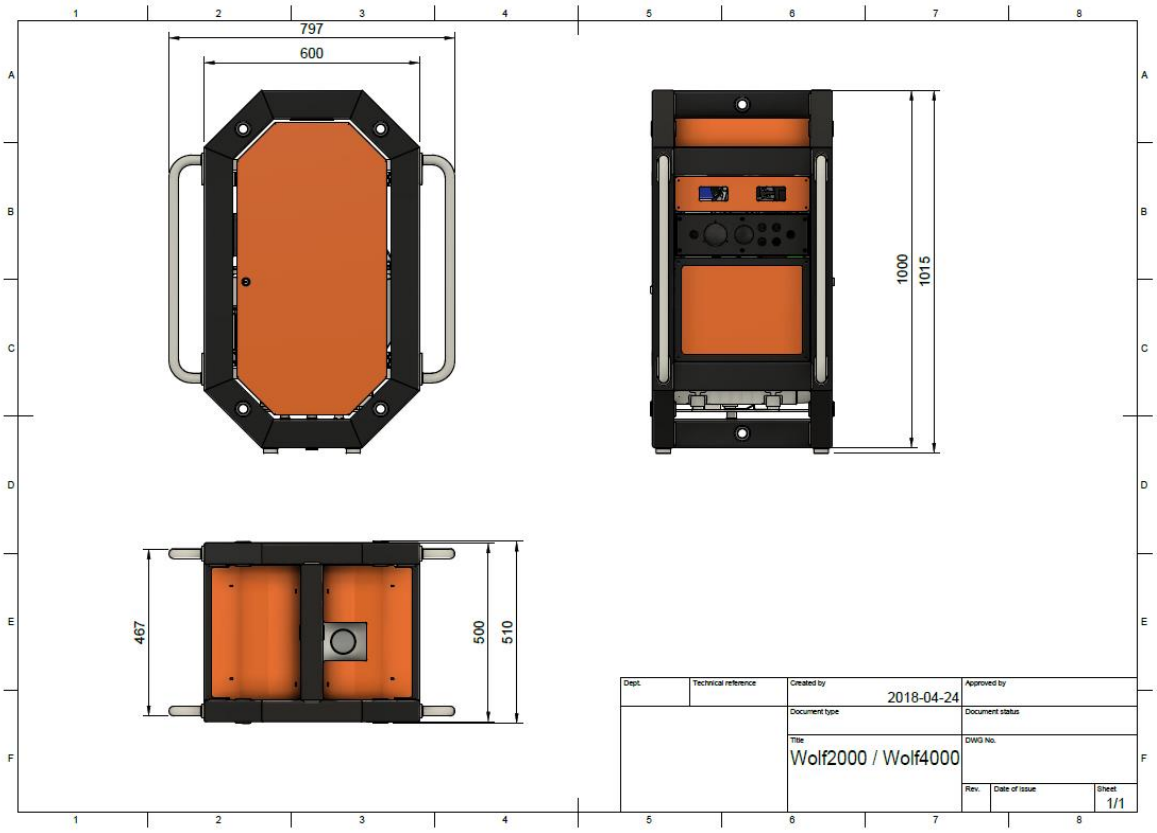
- Only instructed persons who are familiar with the safety regulations;
  ⇒ see chapter: "User, qualified personnel",
  ⇒ see chapter "Transport, shipment".

What?		Where?
Transport materials	Pallets	Dispose of following the valid legal regulations
	Packaging	Plastics for recycling or disposal
Lubricants	Oils, grease	Dispose of following the statutory regulations in force
Elements of construction	Steel, aluminum, drivers, insulation materials	Dispose of by material type

Do not dispose of tools, machine parts, or machinery with other household waste.

Dispose of these items at a designated electro-waste recycling facility. Electro-waste (or Waste Electrical and Electronic Equipment) includes broken, long unused, unwanted electrical and electronic equipment powered by electricity or batteries - broken computers, toys, and electronic gadgets, old washing machines, refrigerators, and used fluorescent lamps. They are classified as hazardous waste because they contain poisonous substances.

13 Technical data



Weight of the machine	
Type of pump	LC60 D.V.P. Vacuum Technology spa. 9601068; 60m³/h
Effective power	4,0 kW
Type of combustion engine	Honda GX200 ut2sxe5
Type of engine fuel	E95
The capacity of the engine fuel tank	3,6 liter
Fuel consumption – operation	<2,0 l/h
Type of oil	SAE15W40
Load dimensions (maximum)	Recommended dimensions 1mx3mx0,15m Hoisting of slabs with other dimensions after consultation with the machine manufacturer!
Capacity	2000 kg/4000 kg
Maximum vacuum	-0,95 Bar
Weight of the machine	180 kg

Attention!
Each time before lifting a load, check if it is appropriately sucked. Also please check the stability and firmness of the load.

14 Appendices

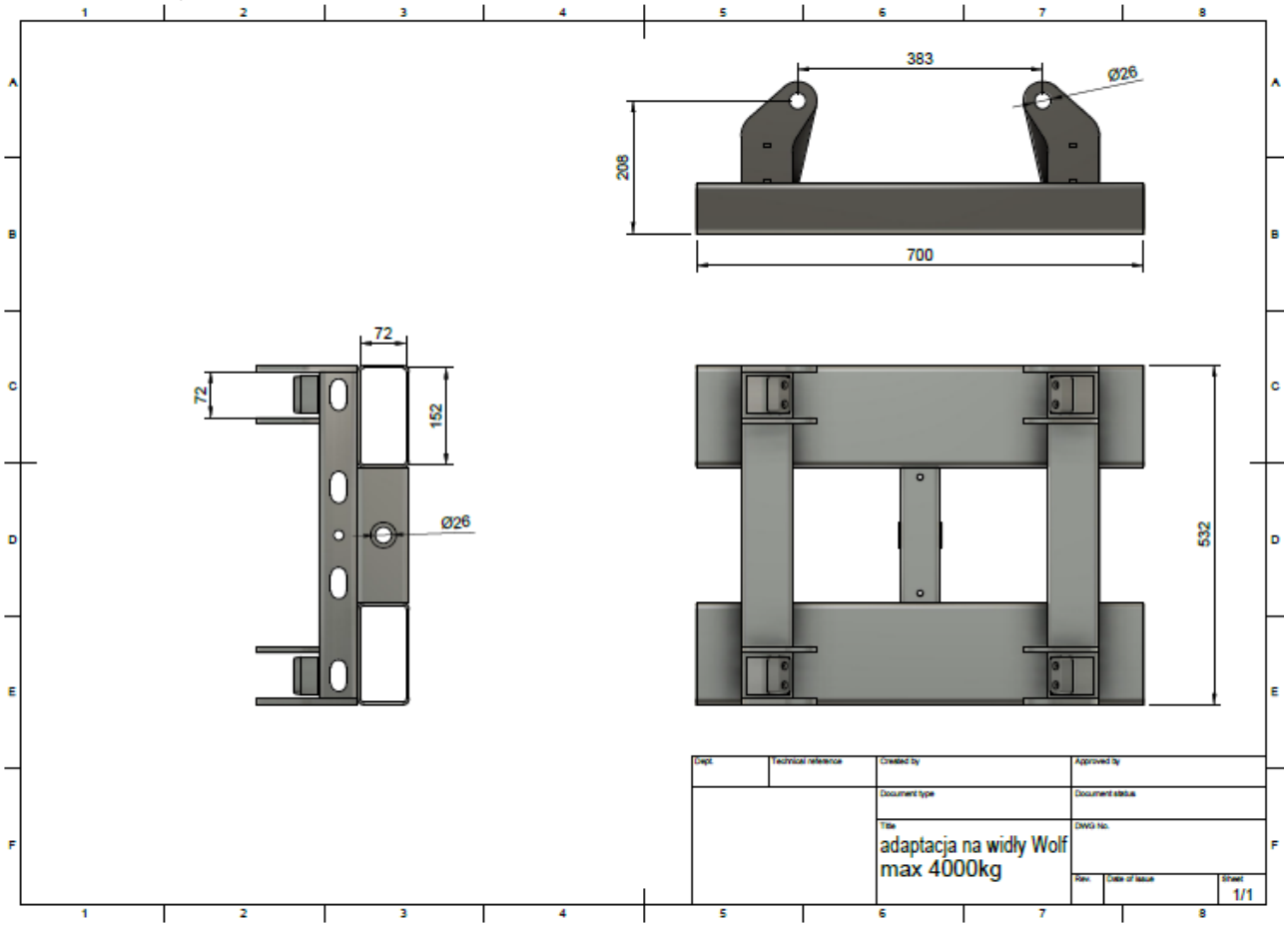
1 Wiring diagram.

2 Vacuum diagram.

3 Technical and commissioning documentation (DTR) for the vacuum pump.

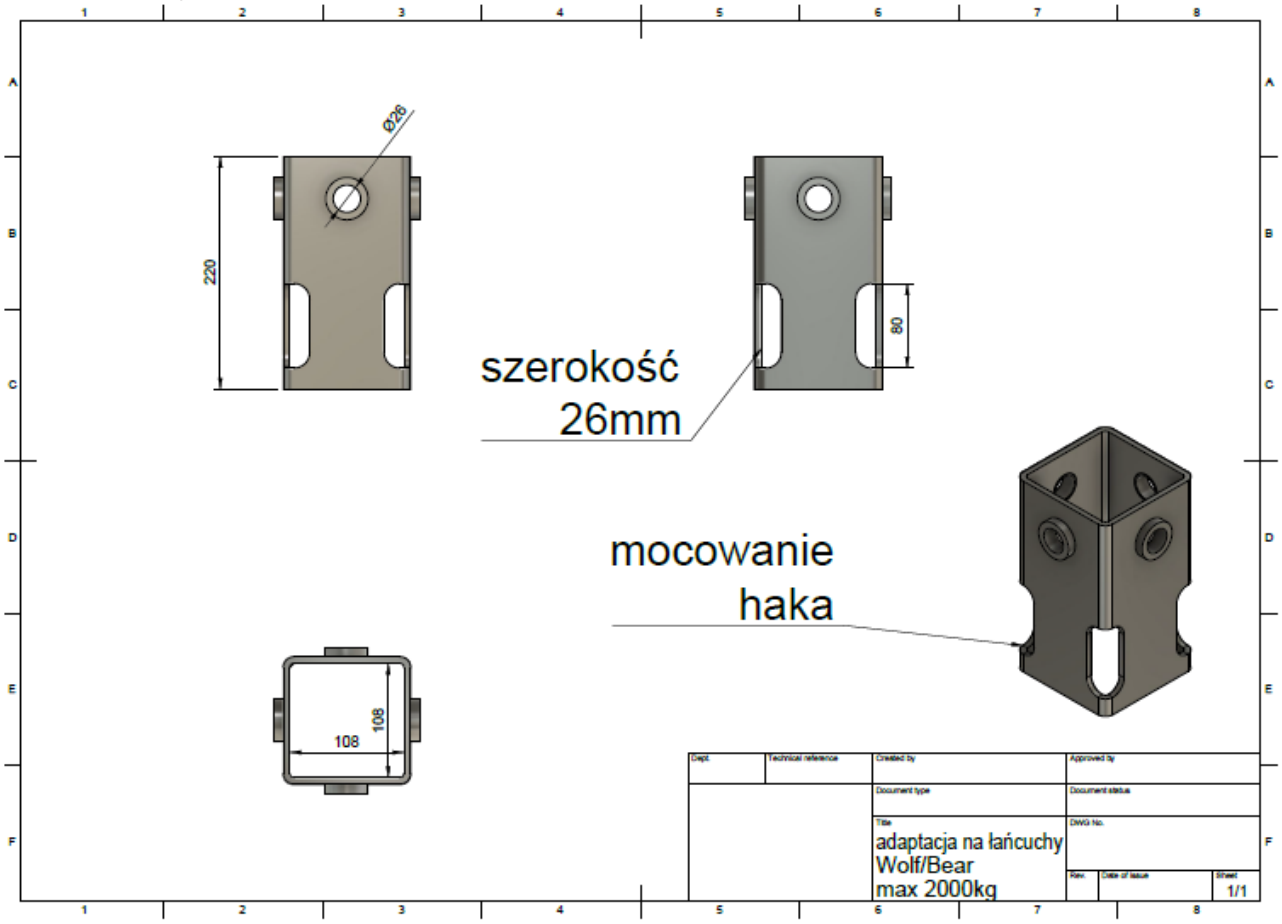
4 Technical and commissioning documentation (DTR) for the engine.

5 Accessories.



1_Forklift adaptation for WOLF2000/Wolf4000 DOR 4,0T; weight 37,6 kg

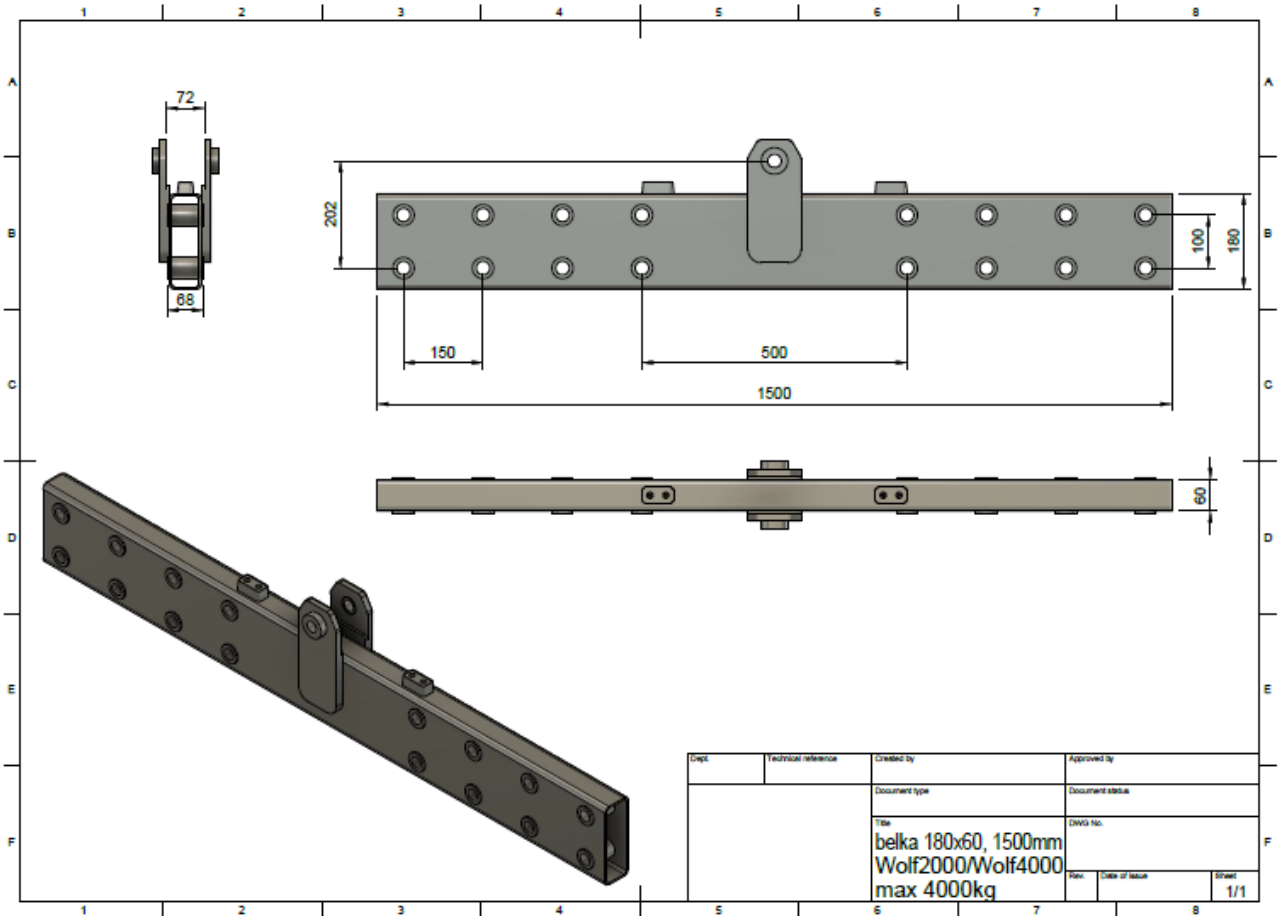
With this adaptation, you can lift the machine directly on a forklift truck or a telescopic loader.



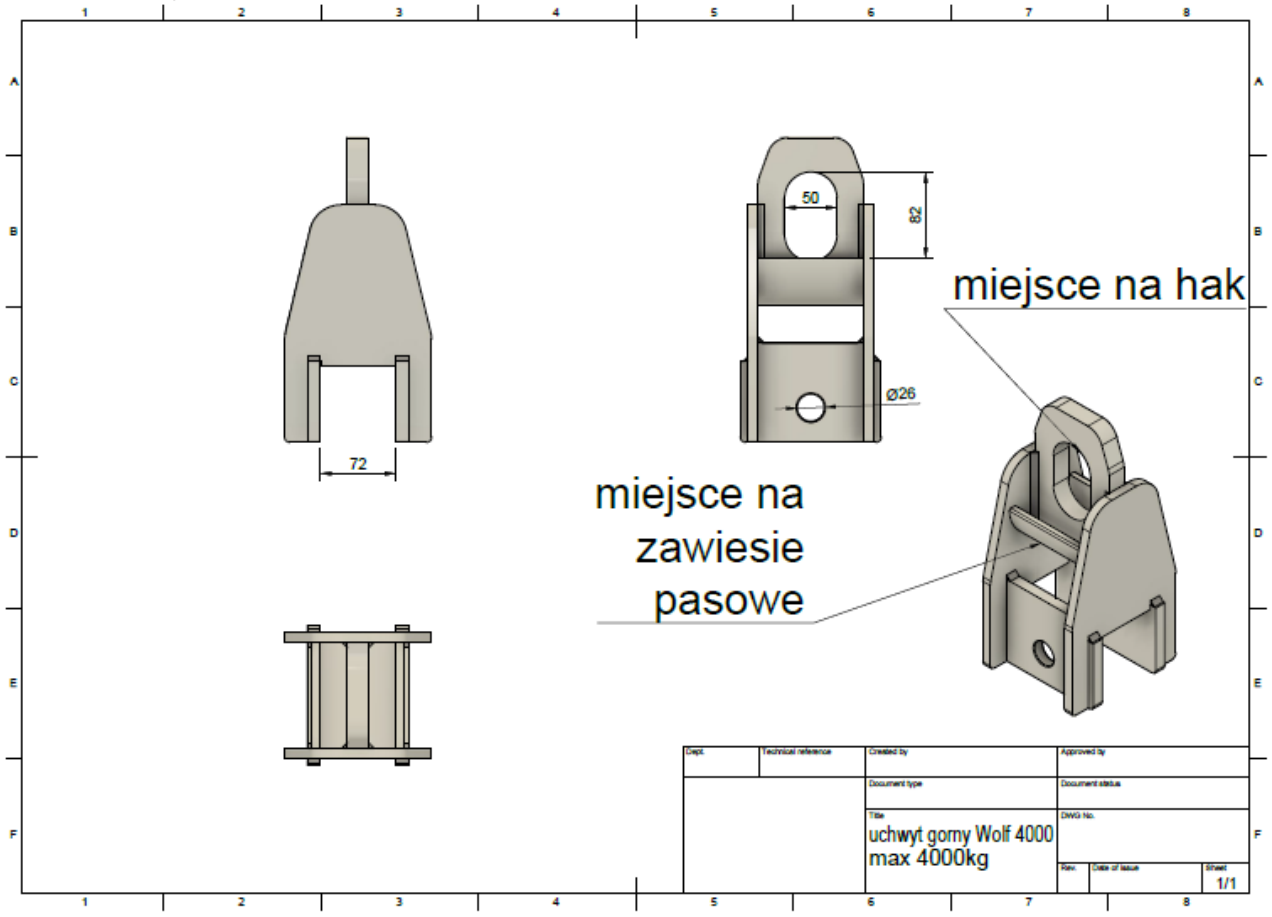
(Width, hook attachment)

2_ Adaptation for chains WOLF2000/4000 and BEAR6000; DOR 2,0T

3_ Chain to connect the suction cup with the chain adapter

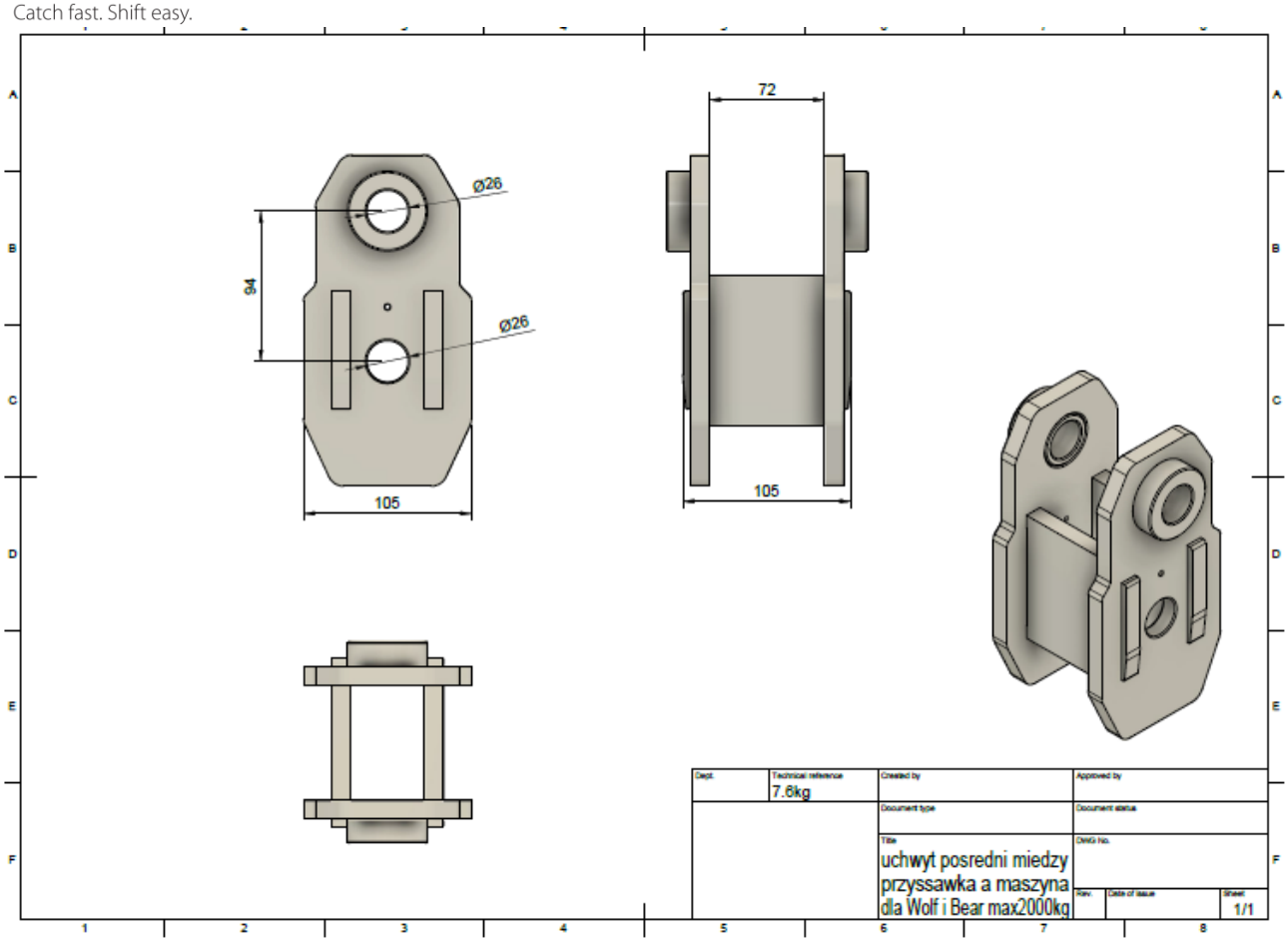


4_Beam for WOLF2000/4000 length 1,5 meter; DOR 4,0T; weight 30,6kg

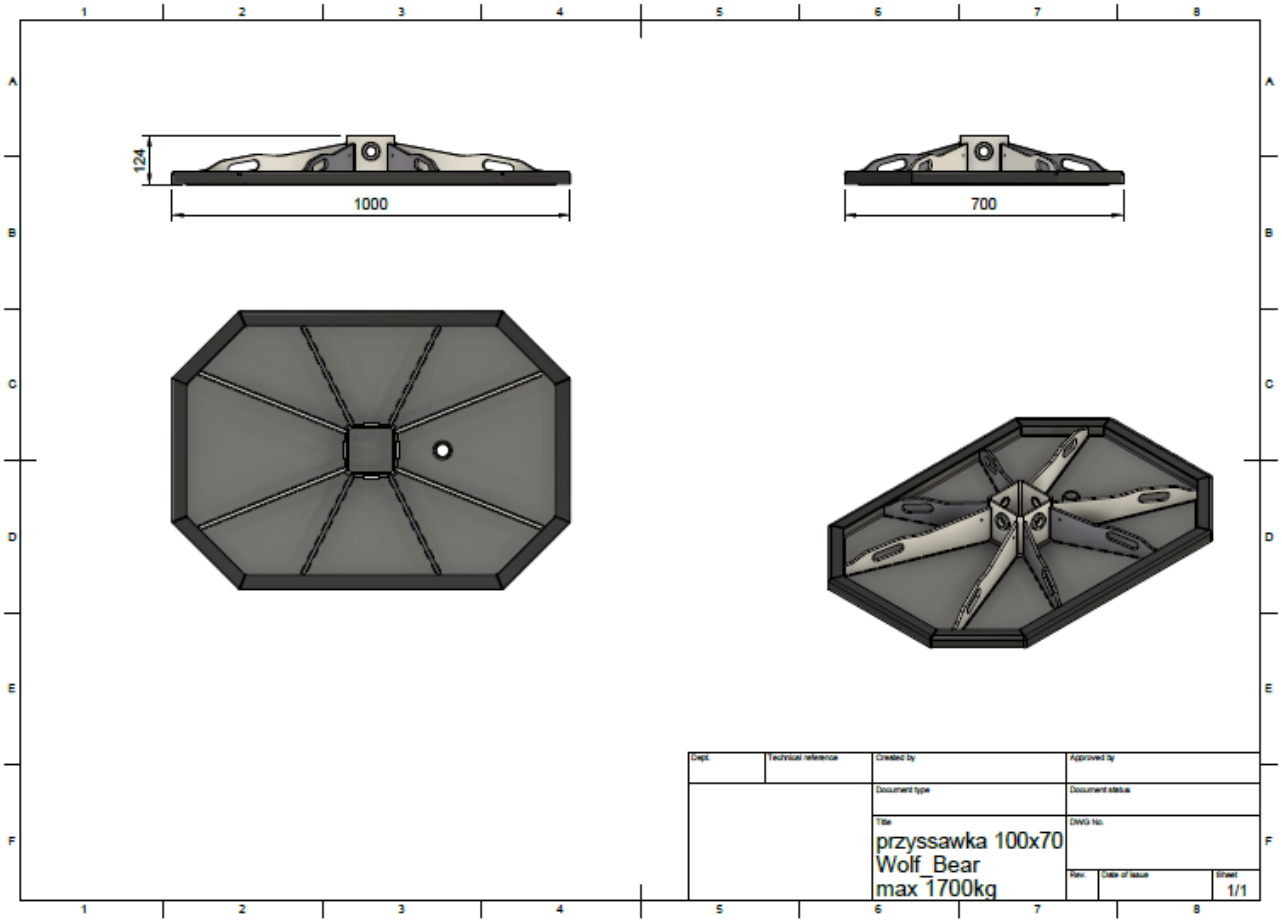


(Space for strap slings, space for hook)

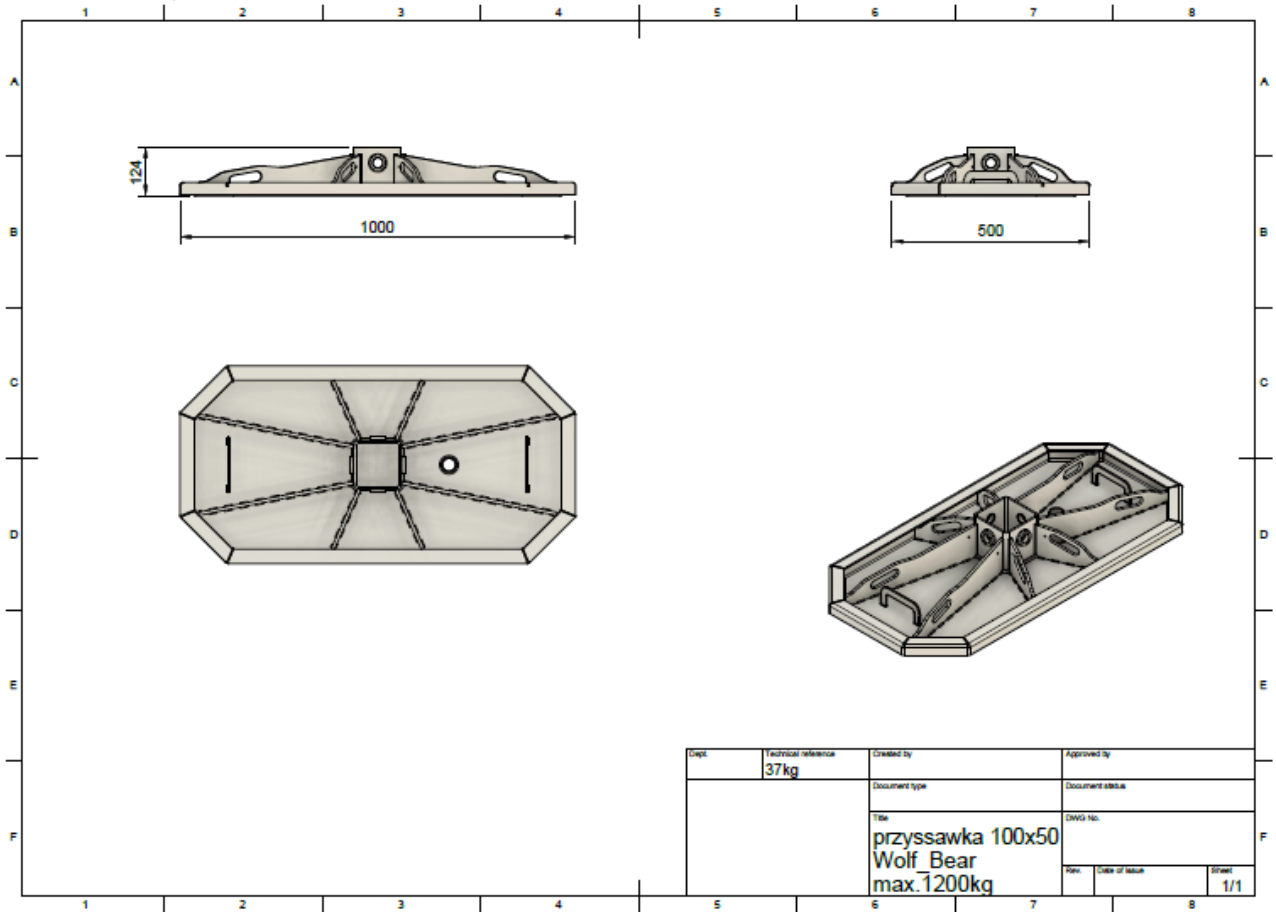
5_Top bracket for Wolf4000; DOR 4,0T; weight 8,2kg



6_ Intermediate bracket between the suction cup and the machine for WOLF and BEAR DOR 2,0T; weight 7,6 kg

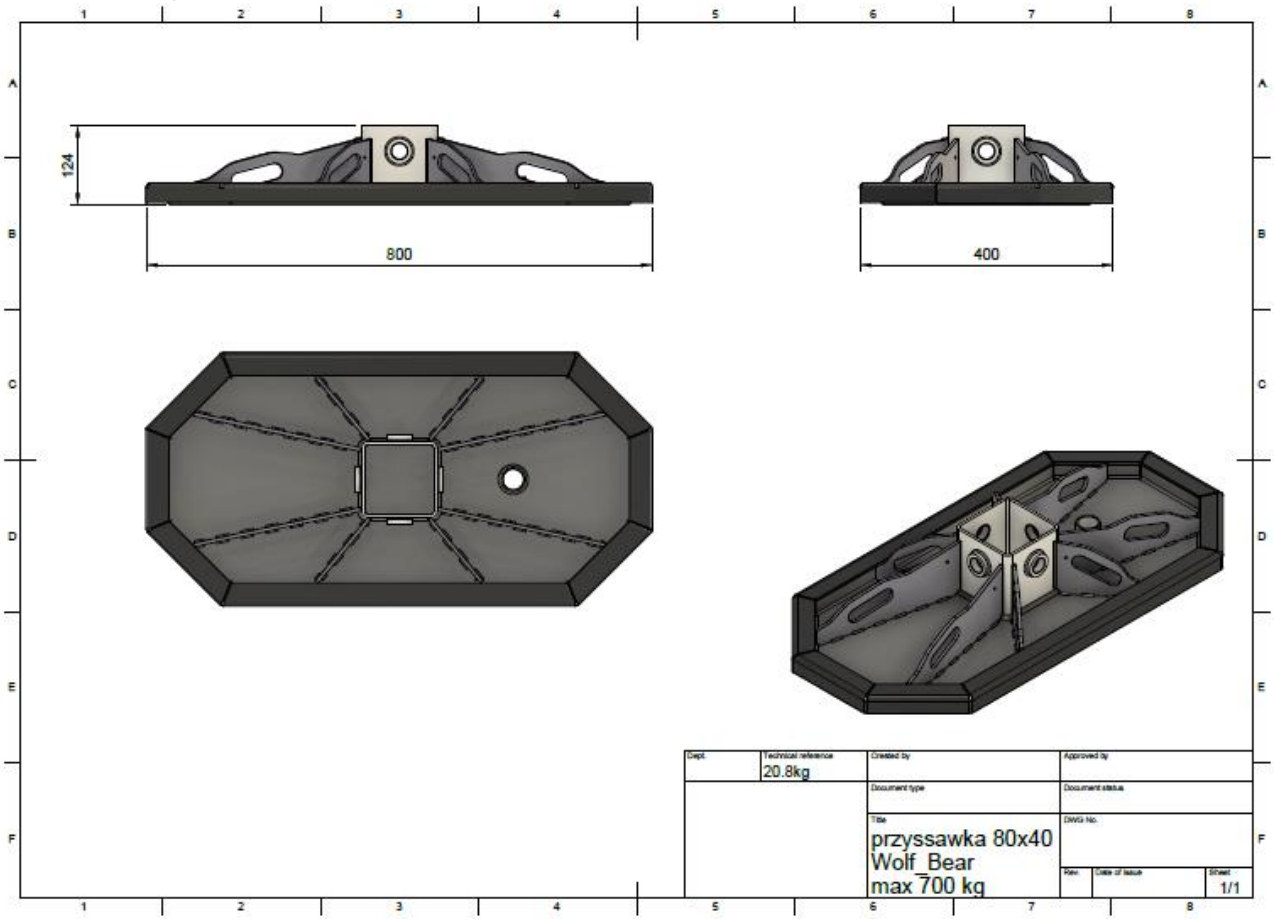


7_Suction cup 1000 x 700 for WOLF2000/4000 and BEAR6000 DOR 1,7T; weight 37kg



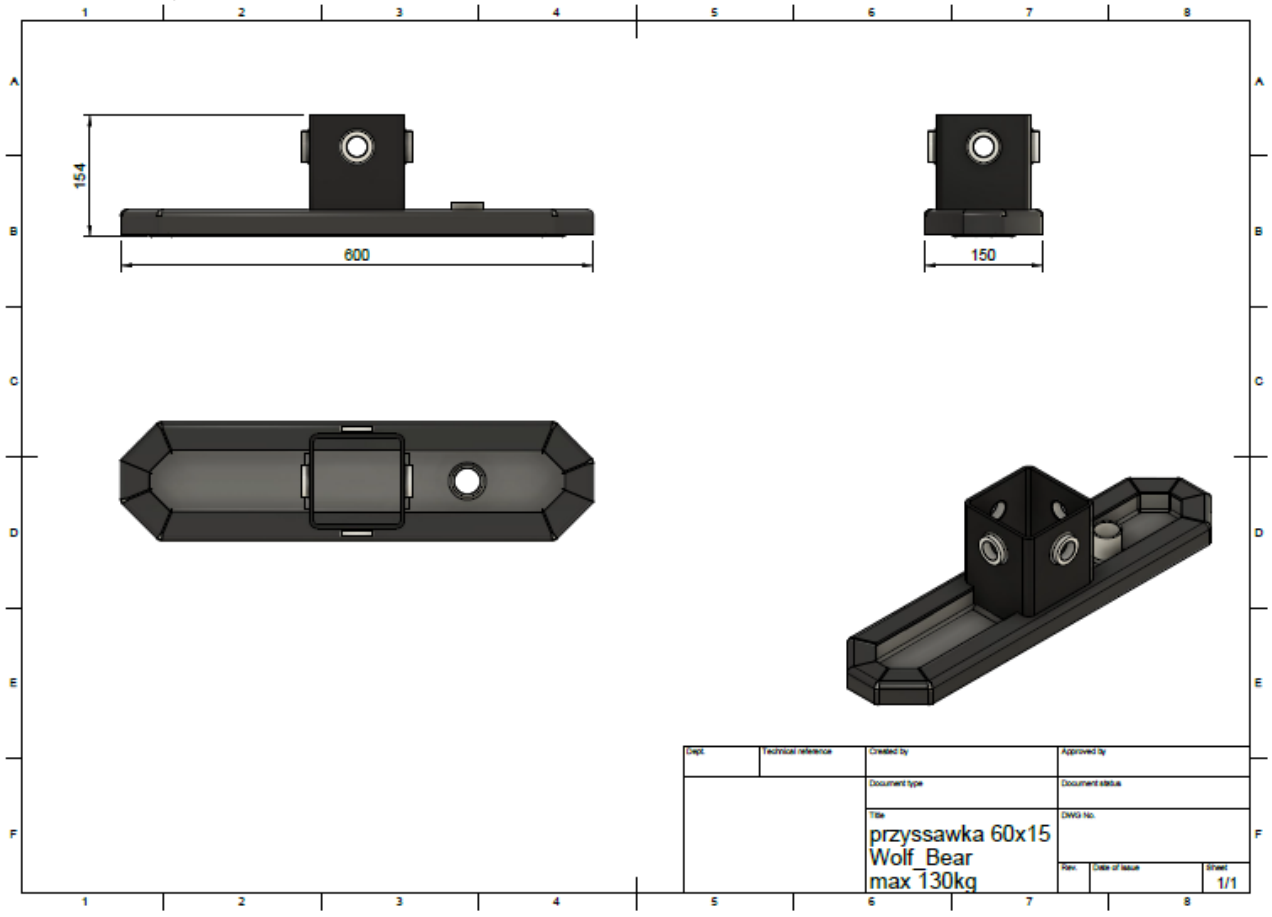
8_Suction cup 1000 x 500 for BEAR6000 and WOLF2000/4000;

DOR 1,2T; weight 37,0 kg

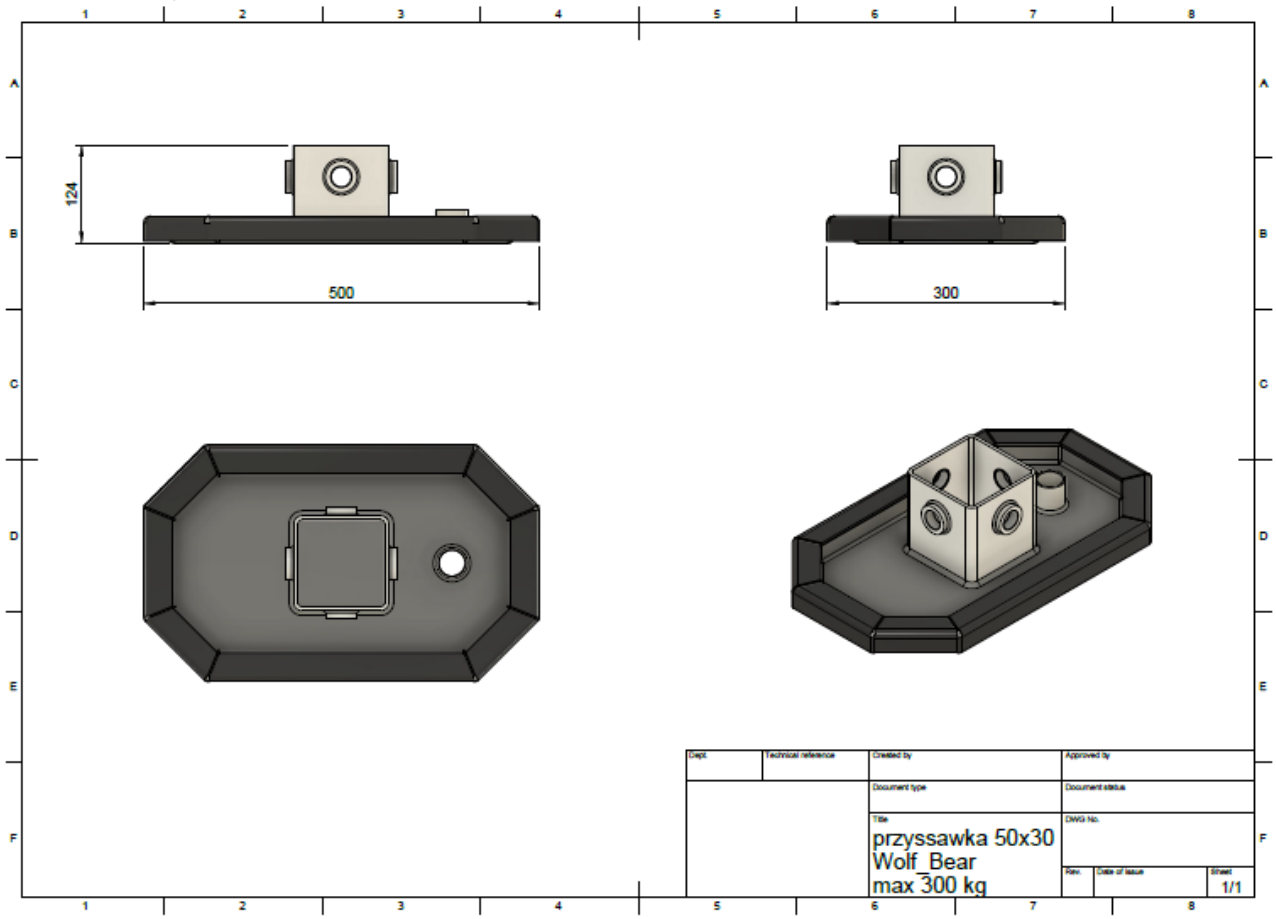


9_Suction cup 800 x 400 for BEAR6000 and WOLF2000/4000;

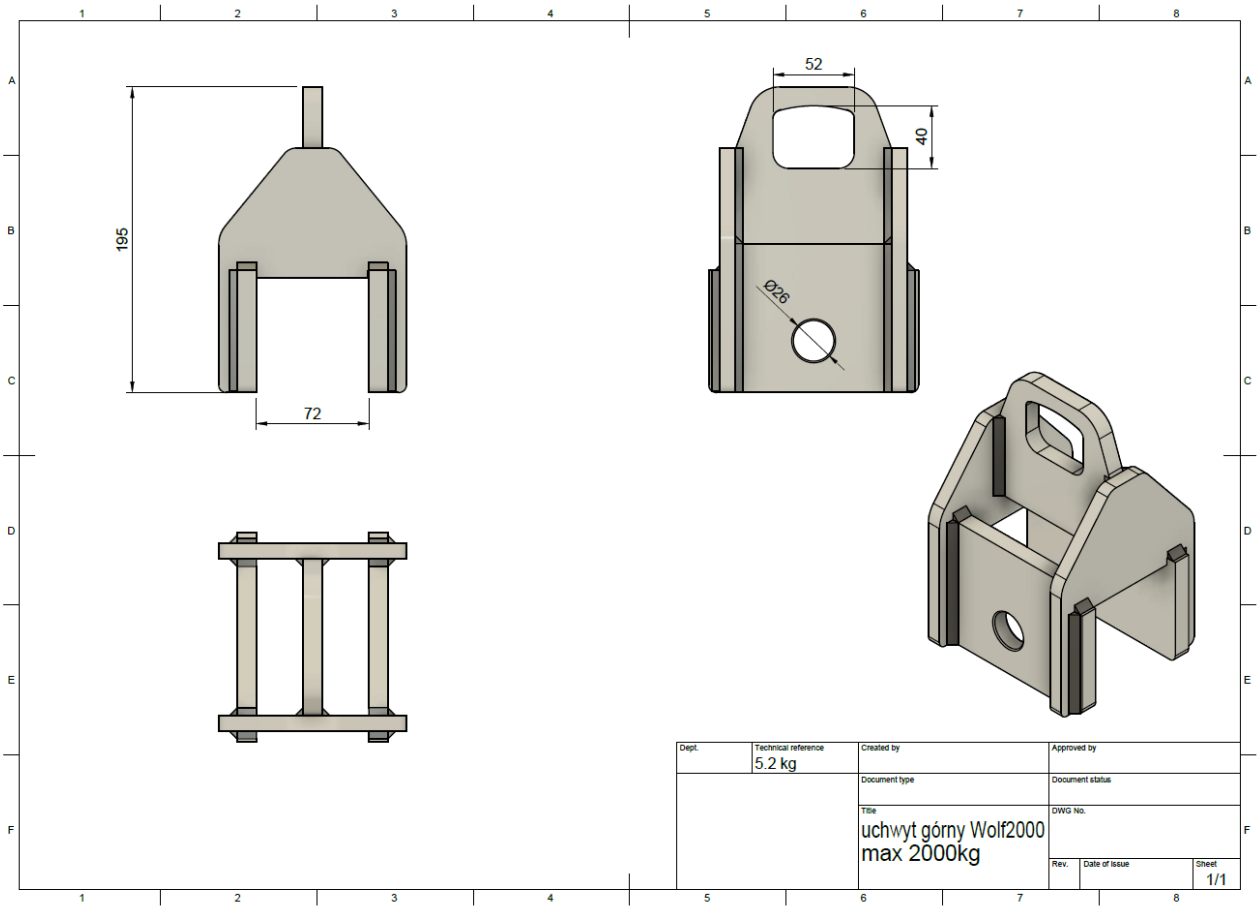
DOR 0,7T; weight 20,8 kg



10_Suction cup 150 x 600; DOR 0,13T; weight 7,2kg



11_Suction cup 500x300; DOR 0,3T; weight 9,8kg



12_Top bracket WOLF2000

DOR2,0T; weight 5,2 kg

CATCH SHIFT
Catch fast. Shift easy.

CE

Manufacturer:
CATCHSHIFT Sp. z o.o.
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64-200Wolsztyn
tel. +48 68 347 58 57
e-mail: kontakt@catchshift.com
NIP: 9231720420

With this, we declare that

- **Vacuum lifting device**
- **Type: Wolf2000/4000 (petrol)**

has been designed, constructed, and manufactured following:

- MACHINE DIRECTIVE 2006/42/WE
- CONSTRUCTION DOCUMENTATION NO. Wollf4000-x_W_b

and the relevant harmonized standards:

PN-EN 13155	Cranes - Safety - Removable load handling attachments
PN-EN 13557	Cranes - Equipment and control stations
PN-84/M-84702	Cranes. Special-purpose grab and hook slings General requirements and tests.
PN-EN 12100	Safety of machinery -- General principles of design -- Risk assessment and risk reduction.
PN EN 60204-32	Safety of machinery - Electrical equipment of machines - Part 32: Requirements for lifting devices
PN EN 13849-1	Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design

This EC Declaration is no longer valid after any modifications or retrofitting of any mechanical, electrical, electronic, controller(s), or software systems. The person responsible for drawing up the technical documentation: **Krzysztof Jokiel**

WOLSZTYN 01-04-2019 .....