Winlet 375

GMV Cranes and Handling

CE

Translation of the

Original User Manual

Local distributor & service partner:

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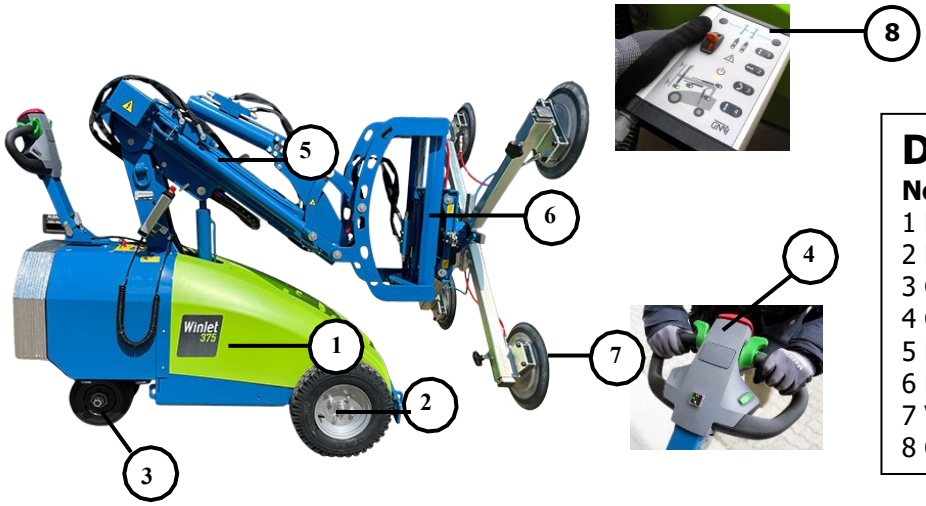
Important!

- **Read these user instructions carefully before use.**
- **Familiarise yourself with the machine's running and lifting characteristics**
- **and how it works, so that you can use it safely, securely and efficiently.**
- **Please remember that you as the user are responsible for the correct use of the window robot without endangering other persons or property.**

Index

Dear Customer,

Thank you for choosing a GMV A/S product. We have more than 25 years of experience in the construction, manufacturing and other industries. We develop, produce and sell equipment for materials handling designed for industrial use.
To find out more go to www.gmvas.dk



Description

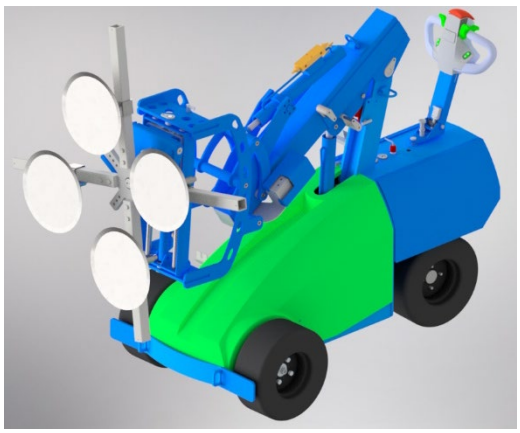
No. Name
1 Protective hood
2 High traction, terrain-friendly wheels
3 Guide wheel
4 Operating handle for running
5 Boom with telescopic arm
6 Lifting tower
7 Vacuum boom
8 Control panel

Description

The Winlet 375 is a battery-powered window robot with a lifting capacity of 400 kg. The machine is designed by GMV A/S to facilitate conveying and mounting of window elements or similar sealed objects. Winlet 375 can also be equipped with other specially designed lifting and handling attachments to enable the conveying and handling of other types of heavy loads. Winlet 375 is propelled by the machine's front, terrain-friendly wheels and has an advanced, electro-hydraulic system for handling the objects to be lifted. Winlet 375 can be configured with two different basic frames, compact and terrain, two different arms with 500 and 1000 mm extensions, two different front sections with hydraulic fine lift or side shift and two different types of steering.

The machine is supplied with an integrated vacuum system as standard. Please contact us concerning your needs in relation to transporting objects requiring special lifting and handling attachments.

Preferred direction of travel



Driving direction for transport with or without load.
Preferred direction of travel

Direction of travel when picking up or setting down a load.
Secondary direction of travel

Safety instructions

General

The window robot must be used as described in these instructions and in accordance with the general safety regulations applicable in the workplace and in the country where the Winlet 375 is used.

Always wear steel-capped safety footwear when working with the Winlet 375. Depending on the workplace and the type of load, a helmet and protective gloves may also be required.

To prevent unauthorised personnel from using the window robot, never leave the key in the ignition.

Never leave the window robot on an inclined surface. The truck may begin to roll away even though it is equipped with a parking brake.

Before use, check that the Winlet 375 is not damaged in any way that could impair safety.

Never use the Winlet 375 when the battery indicator glows red, as this could ruin the battery. Before use, charge as described elsewhere in this manual.

Do not store Winlet 375 outdoors in rainy weather. The machine is designed for use in the temperature range from -10°C to + 40°C.

Driving

- The user must be aware of his surroundings when using the window robot, and must allow a generous safety margin in case unexpected situations arise.
- Plan your route and make sure it is unobstructed and negotiable. Avoid surfaces where there is a risk that the window robot could overturn or slide. Exercise great care at corners and junctions.
- To avoid danger of overturning, the window robot's right-hand wheel set must always be at the same level as its left-hand wheel set.
- Always drive with the load lowered. Drive in preferred direction of travel.
- Remember that high speed in confined spaces is a major safety risk.
- Never make sharp turns at high speed. Turning reduces the stability of the window robot.
- Only use the Winlet 375 in locations with adequate lighting.
- Always keep both hands on the steering handle when manoeuvring.

Vacuum

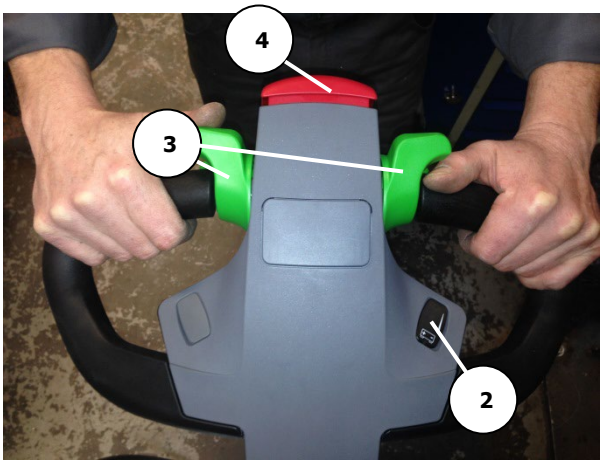
- The Winlet 375 is designed to transport and mount window elements and other sealed elements as well as other materials using the specialist equipment supplied.
- Always lift the object at its centre of gravity and in the middle; otherwise, the object may break free from the suction plates.
- Only activate the vacuum function when the suction cups are placed on a sealed, dry, clean surface. Any other use can damage the vacuum system.

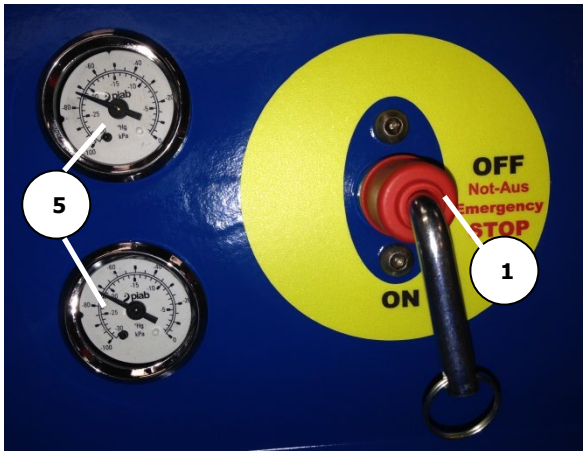
Lifting and handling

- The Winlet 375 has moving parts which could give rise to a risk of crushing injuries; accordingly, when lifting and lowering loads, it is important to ensure no one is in the hazard zone where crushing could occur.
- Never lift an object until a sufficient vacuum has been achieved. If the vacuum level diminishes, set the object down immediately.
- Exercise great care when lifting and handling lifted objects, as sudden movements or jolts can cause the object to break away from the suction cups.
- Be particularly aware of the capacity limitations of the machine (as stated elsewhere in this manual). The machine's capacity is reduced when objects are handled with the lifting arm extended or when lifting at the side of the machine. Pay attention to the warning signals from the machine indicating when maximum capacity is reached.

Operation and safety

Safety functions when driving





Description

No. Name

1 Power key switch/EMERGENCY STOP

2 Battery indicator

3 Drive direction/speed regulator

4 Safety cut-out switch (stomach switch)

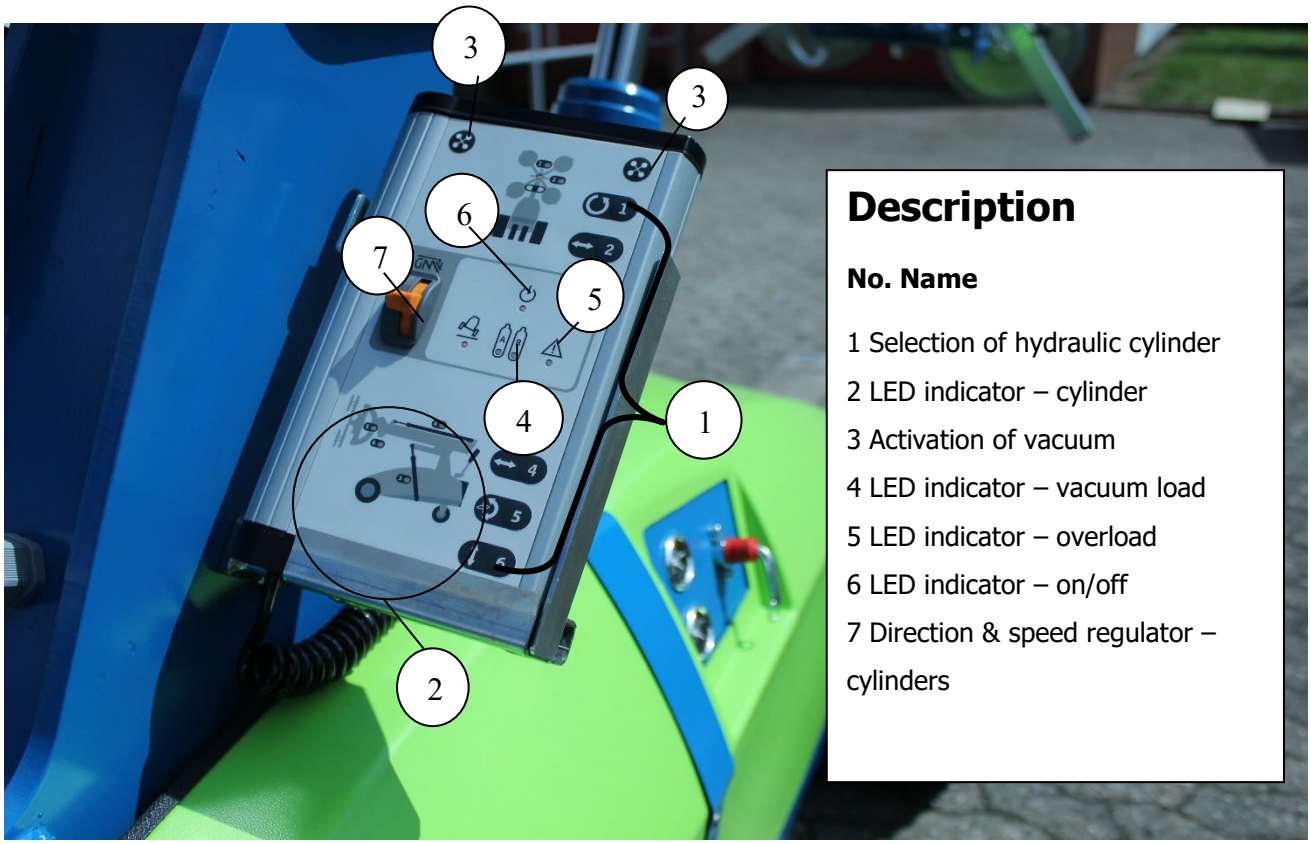
5 Vacuum meter

Winlet 375 is equipped with a standard manoeuvring handle. The handle incorporates a number of safety features.

- Safety switch ("stomach switch"); when activated, stops the movement of the window robot. Once the window robot has stopped, it moves in the opposite direction to avoid risk of crushing.
- Dead-man function, which ensures all functions are deactivated if the operating handle is moved to the very top position.

Winlet 375 is equipped with a standard manoeuvring handle. As soon as the switch is turned to the "OFF" position, the power supply to all machine functions is cut off. The key switch is spring loaded so that when turned to the OFF position it remains in OFF. Both the drive with hydraulic cylinders or the drive motor then come to an immediate halt. If the switch is turned to OFF, there is ALWAYS negative pressure in the suction head - special vigilance is therefore required as the vacuum pump also loses power. Both vacuum circuits are equipped with separate vacuum tanks to ensure sufficient vacuum for a min. of 5 minutes provided that the system is free of leaks. The actual vacuum level in the suction cups can always be read on the 2 vacuum meters. When the vacuum level is 60% or more, the machine is at full lift capacity.

Safety functions when lifting and handling



Description

No. Name

1 Selection of hydraulic cylinder

2 LED indicator – cylinder

3 Activation of vacuum

4 LED indicator – vacuum load

5 LED indicator – overload

6 LED indicator – on/off

7 Direction & speed regulator – cylinders

The Winlet 375 is equipped with an operating panel from which all vacuum and hydraulic functions are controlled. The integrated safety functions are:

- 2-button safety operation of the machine's vacuum system. Both buttons must be activated at once either to pick up or to set down a load.
- The machine's double-circuit vacuum system monitored by two vacuum regulators, which indicate via LEDs if the vacuum is insufficient for safe lifting.
- LEDs show which cylinder is active. (single action controller)
- Intelligent overload protection shows when the machine reaches its capacity limits.

Note that lifting loads at the side of the machine reduces the machine's stability, and that these risks are **not** monitored by the machine's overload monitoring system. Always use the support wheel when handling loads at the side of the machine. **Always exercise particular care when handling loads at the side of the machine and, as the operator, always consider whether safety is assured and ensure that the capacity of the machine is not exceeded.**

The control panel is equipped with an emergency stop.

The emergency stop disconnects the power supply for the drive and hydraulic pump, but leaves the control current and supply for the vacuum pump switched on.
The valves that control the vacuum do not close so the vacuum on the suction plates is discharged.

If the machine is to be switched off, the main switch must be turned to the OFF position.

Safety test (before driving or lifting)

The window robot must be safety tested every day before use. This test must be carried out without load.
NOTE! If any of the below points do not pass the safety test, the machine may not be used!

When performing the visual part of the check, the main switch must be in the OFF position

When the machine is turned on at the main switch, the vacuum circuit to the suction plates will be open. Press the two vacuum buttons on the control to close the vacuum circuits of the suction plates.

- Carry out a visual inspection to ensure that the mechanical parts of the window robot are not worn or damaged to such an extent that the safety of the machine is impaired. See under inspection page 19.

- Hold the operating arm down in the normal position and drive the Winlet 375 back and forth. Move the unloaded operating arm to the top position and try driving the machine forwards and backwards. This should not be possible.

- Drive the Winlet 375 towards you and depress the safety switch on the handle. The machine must stop immediately and then move off in the opposite direction.
  NOTE! This test must be carried out in an open space where there is no risk of your being crushed between the window robot and any objects or walls.

- Drive the Winlet 375 away from you and release the operating arm. The spring force in the operating arm must take the operating arm to the no-load top position, after which the machine must stop after approximately 0.5 m and the machine functions must not be usable until the operating handle is returned down to the operating position.

- Check the window robot vacuum system for leaks:
  An airtight suction pad must be used.
  Starting point: the machine is switched on and the vacuum circuits to the suction plates are closed (no suction)

  1. Drive the machine to the suction pad so that the suction plates almost reach the pad.
  2. Open the vacuum circuits so that the vacuum pump starts.
  3. Apply to the vacuum pad.
  4. When full vacuum has been reached (approx. 75%) and the vacuum pump has stopped, the vacuum levels in both circuits are read.
  5. Turn the machine off at the main switch.
  6. The vacuum level may not fall by more than 10%, e.g. from 75% to 65%, in 5 min. If the vacuum level drops faster, the leakage in the vacuum system must be rectified.
  7. If 70% vacuum is not obtained during suction, but the pump stops before, sensors must be recalibrated or replaced.
  8. If the vacuum pump cannot reach a vacuum level above 70% (running constantly), it must be replaced.

  Points 6, 7 and 8 are approval criteria for the suction / leak test.

Driving

Forward/reverse

The speed is infinitely adjustable and is controlled by turning the regulator to a greater or lesser extent.

- Keep the operating arm in the normal position and then turn the drive direction and speed regulator to the desired position. Release the regulator to stop the machine.

Braking

- When the speed regulator is released, the window robot brakes and stops. Releasing the speed regulator slowly produces gentle braking. This is the normal braking method.

- Turning the speed controller opposite the direction of travel increases the braking force.

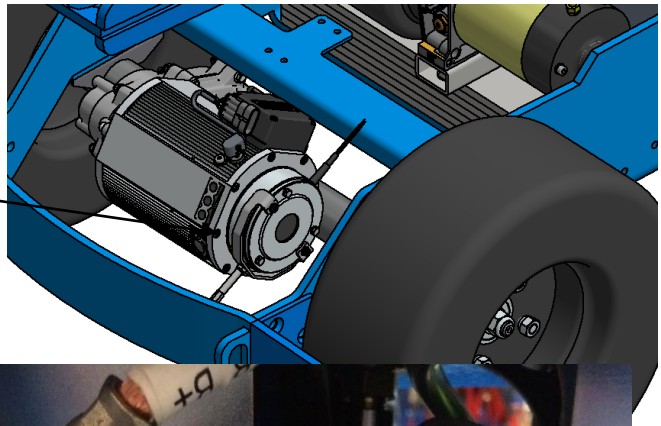
- When the operating arm is released, the truck stops suddenly and the parking brake kicks in. This function is only intended for use in an emergency.
  NOTE! To maximise the service life of the Winlet 375, it is recommended to release the speed regulator first, and only to release the operating arm once the machine has stopped.

- When driving with raised objects, all lifting cylinders must always be in the inner position.

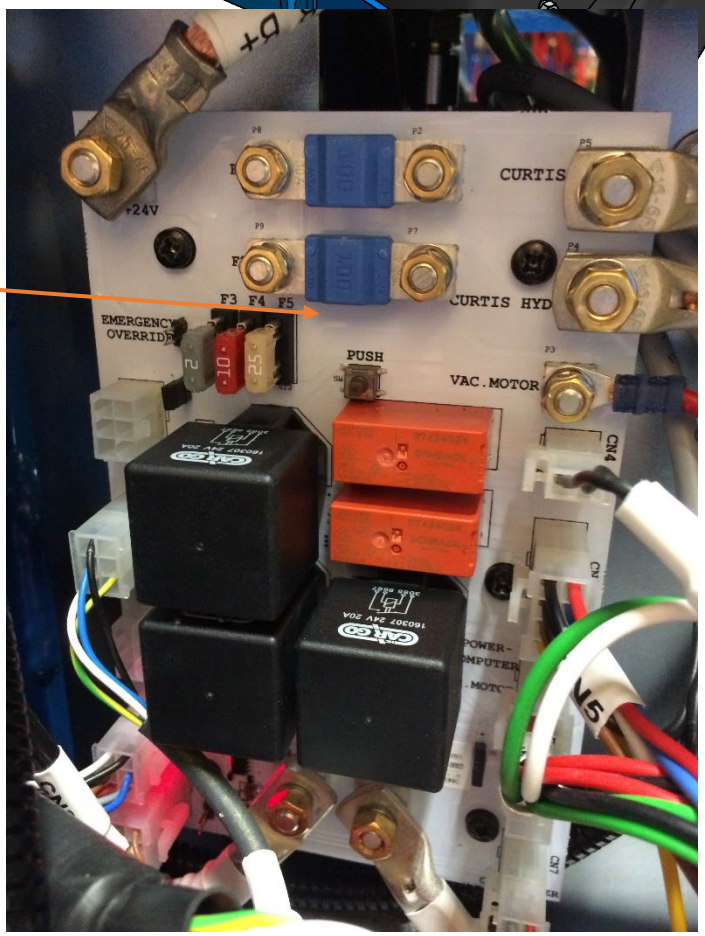
Manual pull/push of the machine in the event of breakdown of the electrical drive

The electrically-powered drive shaft, which powers the front wheel-set of the machine, can be disengaged in the brake. This is useful in the event of a breakdown of the machine.
There are two methods that can be used depending on the operating conditions of the machine.

1. Manual mechanical lifting of the brake on the drive
   a. Remove the green front hood.
   b. Push the bracket on the brake against the drive wheel.



2. Manual electric lift of the brake on the drive.
   a. Remove the left side panel at the rear end.
   b. Press the "push" button on the PCB.



Emergency lowering of hydraulic arm.

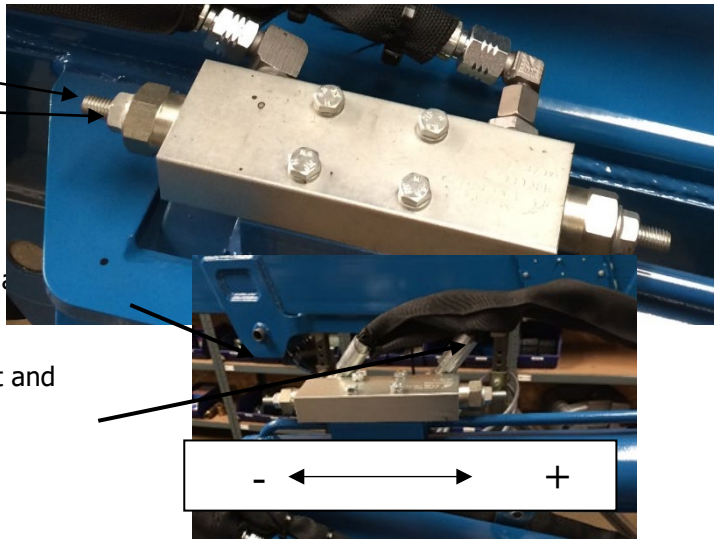
Arm with load can be emergency lowered manually in case hydraulic pressure cannot be obtained for the system. Note the arm cannot be raised without the use of a crane or similar.
It is important to consider the order in which you lower the load, as it is gravity that is used to push the hydraulic oil back into the tank. If the arm is close to horizontal, a lashing strap can be used to draw the arm in.

An OverCenterValve (OCV) is located on or in the immediate vicinity of all cylinders.
The appearance of the OverCenterValve may vary between models, but the safety nut and the adjusting screw are common, whereby the safety nut can in some cases act as a protective cap.

Loosen / remove the lock nut.
Use an Allen key to loosen the adjusting screw.
The adjusting screw typically needs to be loosened between 1 and 7 turns.
Note your starting point on the adjusting screw so that after lowering it can be screwed back in place and secured again.

Be careful when loosening the adjusting screw so the lowering can be controlled.

When the adjusting screw feels loose, do not loosen it any
The internal friction is then greater than the effect of gravit
A lashing can provide additional security.



If the cylinder is in the - direction, there is a nut a
screw at this end

If the cylinder is in the + direction, there is a nut and adjusting screw at this end

Lifting and handling

Vacuum lift

The Winlet 375 is equipped with an integrated **double circuit** vacuum system with intelligent vacuum monitoring, which gives an alarm to indicate insufficient vacuum level. The vacuum pump is equipped with Power Save, to save the batteries when there is sufficient vacuum.

Using the vacuum function
Start the Winlet 375 with the on/off button. Press both buttons for the vacuum function on the operating panel and wait a moment until both red LEDs go out. During this time, a vacuum of at least 60% has been created in the vacuum system.

Picking up a load
Place the suction plates on the object. Press both buttons at the same time on the operating panel. The object is firmly held by suction once both vacuum meters show more than 60% and the red LEDs have gone out; only then can lifting and transporting proceed!

! Make sure the vacuum level is above 60% in both circuits.

! Always lift the object at its centre of gravity and in the middle; otherwise, the object may break free from the suction plates.

! If the object is to be rotated, it is also important that suction is applied with the centre of gravity in front of the axis of rotation.

Moving a load
After picking up the object by suction, move the object to the desired position by driving the Winlet 375.

See page 5 for preferred direction of travel

Note the following points:

! No persons and/or objects may be present in the working area.
Danger of collision damage/injury!

! No-one may be present under a raised load!
Danger of falling loads!

! If the vacuum level even in only one of the 2 vacuum circuits drops below 60%, set down the load **immediately**!

! If one of the red LEDs lights up, set the load down **immediately**!

Setting down the load.
Convey the lifted object to the desired destination and set it down. When the load has been set down securely, press both buttons on the operating panel simultaneously. Air can now flow to the suction pads. The load is released immediately. A new task can now be carried out.

! Make sure the load is securely positioned and that it cannot slide after being set down!

Manipulating load (use of hydraulic cylinders)

The Winlet 375 is equipped with an electro-hydraulic system which makes it possible to move the lifting arm of the machine in 6 different axes:

1. Rotation (manual)
2. Side shift (manual/hydraulic)
3. Main cylinder, which positions the object roughly in the vertical position. (hydraulic)
4. Telescopic cylinder, which moves the object forward along the longitudinal axis of the machine. (hydraulic)
5. Tilting cylinder, which lifts objects from a horizontal floor – to a horizontal ceiling (180 degrees). (hydraulic)
6. Fine-adjustment cylinder for parallel movement of the object. (hydraulic/ N/A)

The front section of Winlet 375 can also be rotated to the side of the machine and thus facilitate access through doors and narrow openings.

Use of hydraulic cylinders

There are 2 different types of hydraulics, each with its own control panel.

Single action controller
Select the desired cylinder on the operating panel. An LED will now indicate the selected cylinder. The cylinder can then be moved in the desired direction at the desired speed by engaging the direction and speed regulator (slider).

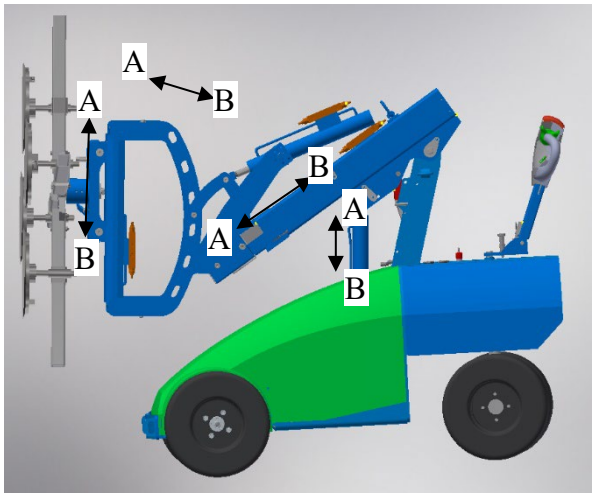
Multi axis controller.
The MAC control allows you to use 2 hydraulic movements at the same time.
Select speed level, this can only be done when the machine is stationary.

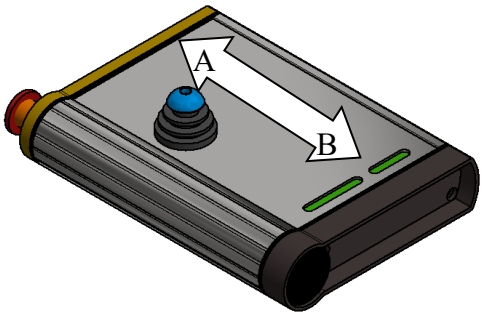
Move the arm by pressing the respective buttons.
The functions can be used simultaneously in this way:

Functions 1 and 2
Function 1 and 3 or 4 or 5
Function 2 and 3 or 4 or 5

Movement of arm

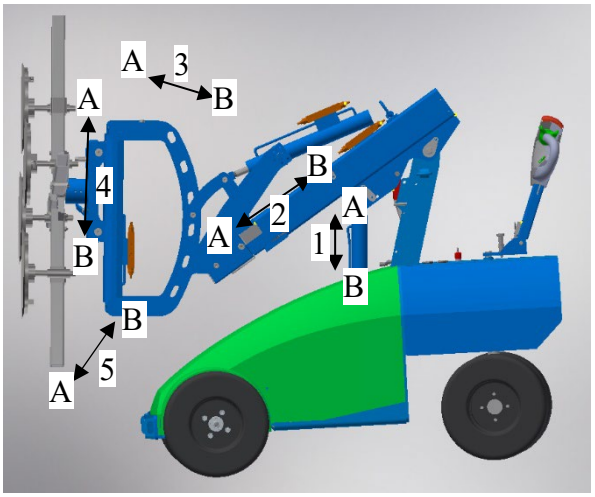
Control of arm with single action controller



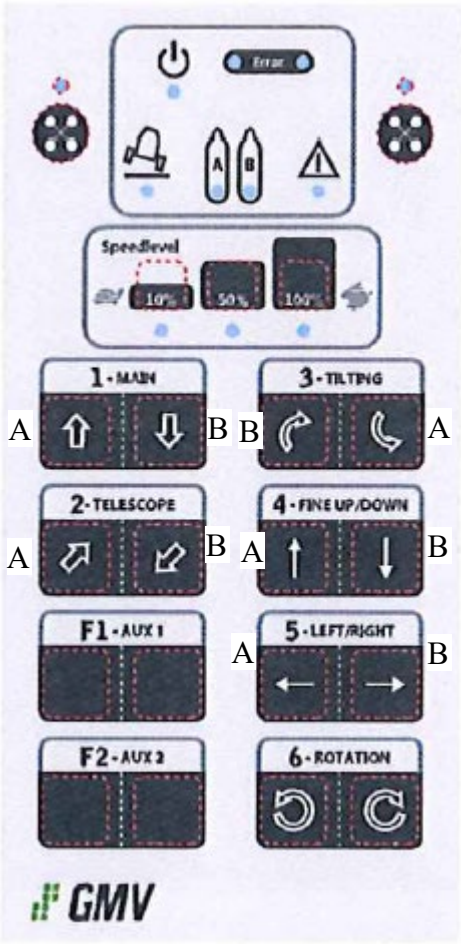


Directions of movement on slider compared to movement on Winlet

Control of arm with Multi Axis Controller (MAC)



Push button and direction can be seen from the graphics above.



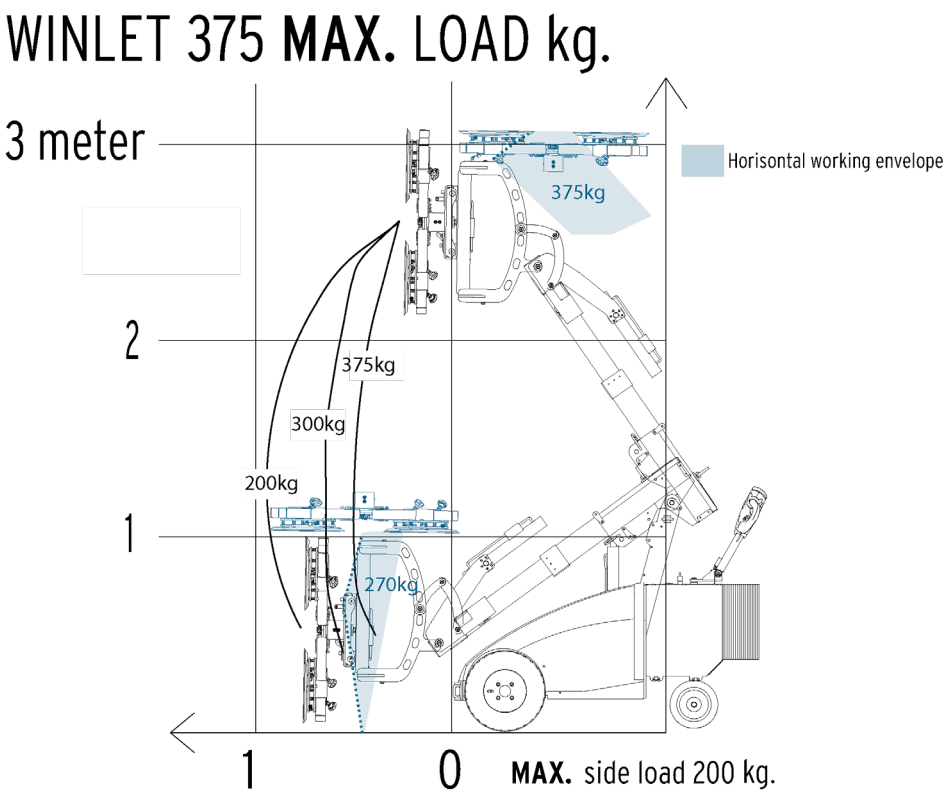
Note the following points:

- **!** No persons and/or objects may be present in the working area.
  Danger of collision damage/injury!

- **!** No-one may be present under a raised load!
  Danger of falling loads!

- **!** If the vacuum level even in only one of the 2 vacuum circuits drops below 60%, set down the load **immediately**!

- **!** If one of the red LEDs lights up, set the load down **immediately**!



The stated values are for reference. And based on a 100% level surface.

The Winlet 375 is equipped with load monitoring, whereby a red LED flashes on the operating panel when approaching the max. capacity in a given position. When this warning is active, all cylinders must be moved "inwards".
If you continue to move the cylinders "outwards", the warning light will remain on constantly and the movement will stop. All cylinders can now only be run in "minus".

! It is always the responsibility of the operator to ensure that the machines used within the capacity limits. This also applies if the overload system is inoperative.

! **Note, overload protection is with oil pressure gauge, measured on changes in pressure in the master cylinder (cylinder 3). This means that use of the extension cylinder (cylinder 4) may result in situations in which the safety function may be "delayed". The user must therefore pay extra attention to the machine's capacity limits when the cylinder 4 is used. To ensure that the overload function operates, the user must always ensure that the cylinder 3 is activated within other hydraulic functions are used.**

Use of support wheel

Note that using the machine on non-level terrain/driving surface impairs the stability of the machine, and that these risks are **not** monitored by the machine's overload monitoring system. Always use the support wheel if the machine is not being operated on level terrain/driving surface. **Always exercise particular care where the machine is being used on non-level terrain/driving surface, and, as the operator, always consider whether safety is taken care of and ensure that the capacity of the machine is not exceeded.**

Using the multi-movable front

The machine's front section is locked against movement to the side of the machine. If it is desired to move the front section to the side of the machine, the two locks (top and bottom of the front section) are unlocked.

When the front section has been brought to the desired position, it must always be relocked.

! Be aware that the load or in certain situations the vacuum yoke may collide with other parts of the machine. This can damage the machine if the operator is not alert during use. Therefore, it is important that operators familiarize themselves with how the machine works, especially when the front section is turned to the side. This must be done before handling glass panes or windows.

Storage of the Winlet 375

- After use, check the charging level of the batteries via the battery indicator, and recharge as required. See below concerning instructions with regard to recharging.

- Never use the Winlet 375 when the battery indicator glows red.

  NOTE! Batteries stored for a prolonged period must have a maintenance charge (be fully charged) to avoid damage to the batteries.

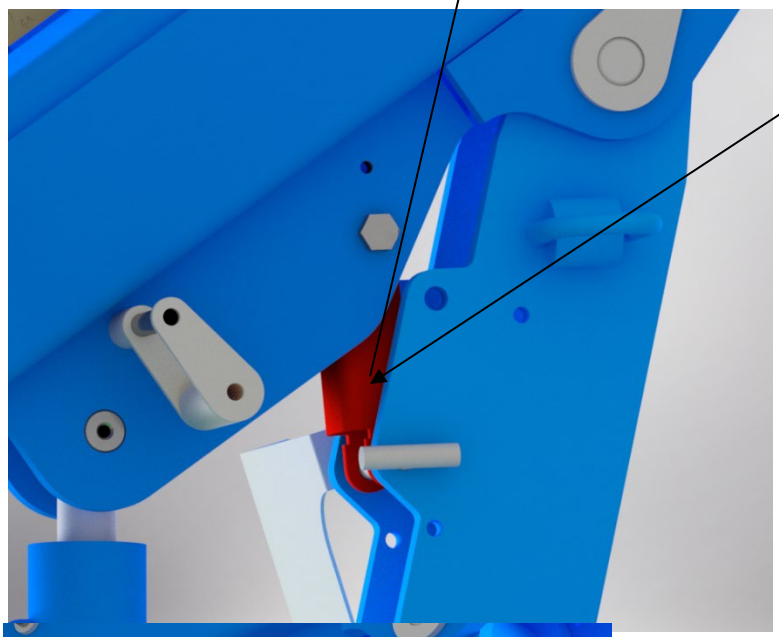
- Turn off the window robot. To do this, turn the main switch to the OFF position.

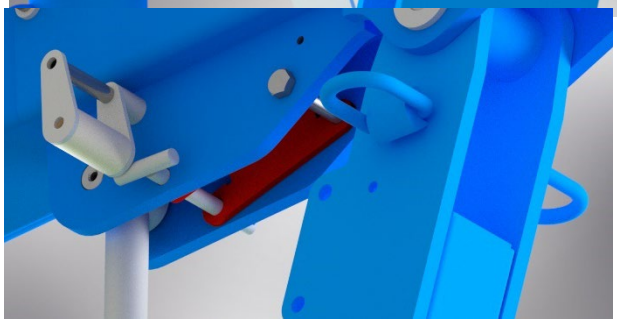
NOTE!
When storing for an extended period, turn off the machine to avoid damaging the batteries. This is because there is always a residual current flow as long as the ignition is on.

Slinging the Winlet 375

The machine is slung via the eye at the top of the arm. The arm is lowered and the extension is retracted and the front section is tilted so that it is vertical. The safety bracket (coloured red in the graphic) is turned down and attached to the tower. The machine is now ready to be slung. Note that the machine will tilt forward 12 - 15 degrees when it is slung, i.e. the front wheels / traction wheels will clear the ground last and touch it first.

<u>After lifting, the safety bracket must be returned to its standard position.</u>

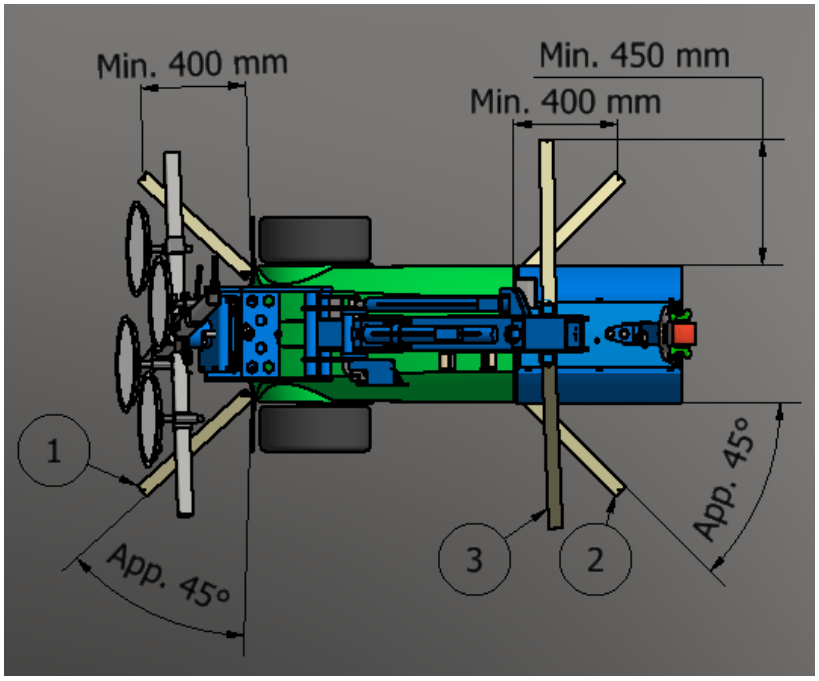




Safety bracket in standard position.

Lashing for transport - Winlet 375

The safe lashing of Winlet 375 for transport by truck is depicted and described below. Please note that these guidelines are in accordance with international rules for the secure lashing of loads according to. **EN 12195-1**

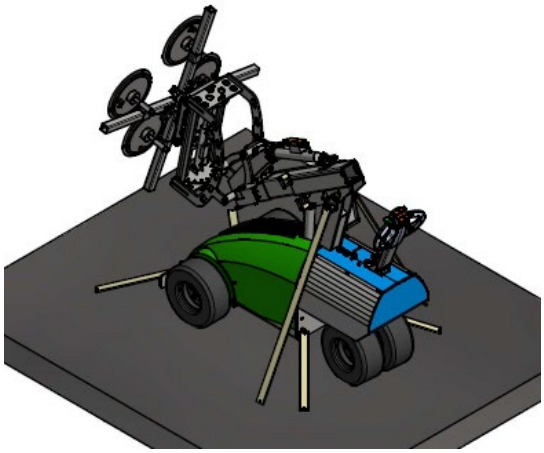


Front section (lashing 1)
At the front, the lashings are attached to the welded lugs. The sides (as shown) must be lashed at an angle of approx. 45 degrees in relation to the longitudinal direction of the machine, the distance forward to the fixing point of the lashing must be at least 400 mm in front of the machine. Each lashing must be tightened with a tensile load of approx. 250 kg.

Rear (lashing 2)
At the back, the lashings are attached to the welded lugs. The sides (as shown) must be lashed at an angle of approx. 45 degrees in relation to the longitudinal direction of the machine, the distance back to the fixing point of the lashing must be at least 400 mm behind the fix points on the machine. Each lashing must be tightened with a tensile load of approx. 250 kg.

Top (lashing 3)
These lashings hold the machine "top" - to prevent the machine from tipping sideways. The lashings must be done with the D-ring lashings at the side of the lifting tower. Each lashing must be tightened with a tensile load of approx. 250 kg. The distance from the side of the machine to the fixing point of the lashing must be at least 450 mm

Recommended load capacity of lashings
We recommend the use of 3 tonne web lashings. If lashings with greater lashing capacity is used, it is important to ensure that these are not tightened at a higher tensile load than recommended, as this subjects the machine to unnecessary strain.



Servicing

Carry out regular checks of the window robot to ensure that it is fault-free when it is to be used.

The main switch must be turned off during the visual inspection of the machine.

Check that:

- The mechanical parts of the window robot have not become worn or damaged so that the safety or performance of the machine is impaired.
  - No film must be noticeable in joints.
  - Paint damage can indicate overloading or cracks.
  - Bolts and nuts may not be loose, wheel bolts are tightened to 100 Nm

- The manoeuvring handle is securely seated and is not damaged.
- all functions on the manoeuvring handle are working correctly.
- the operating panel is not damaged.
- all functions on the operating panel are working correctly.
- the wheels are not damaged or worn to the extent that they need replacing.
- there are no leaks from the gearbox, hydraulic pump, cylinders or batteries.
- all visible electric cables and hydraulic hoses are intact.

Troubleshooting

If your Winlet does not work, check whether:

- the ignition key/switch is in the correct position.
- the batteries are flat.
- the operating arm is in the top position.

the safety bracket is not locked on the lifting tower.

Charging the batteries

General

- Never recharge the Winlet if damage is evident on the battery charger connection cable. This could cause fatal injuries!
- Charging must always be done at the designated location, which must be dry and well ventilated. At this location, there may be no sparks from angle grinders, open flames or smoking etc.
- Do not start charging the batteries immediately after the truck has been in use. Allow the batteries to cool first.
- Batteries stored for a prolonged period must have a maintenance charge (be fully charged), to avoid damage to the batteries.

Charging

- Always charge after use.
- Turn the machine off with the ignition key/at the off-button.
- Connect an earthed plug with voltage 230 V(110V) 10 A. The charging time is approximately 10 hours if the batteries are completely flat.

Charging instructions

Charging indicators 230 Volt:

First yellow LED:
Recharging starts with the maximum recharging power. Charging time is determined by how completely the battery is discharged.

Middle yellow LED:
80% battery capacity has been reached. The current will gradually decrease, at the same time the charging voltage will increase and approach the maximum voltage of 28.8V (temperature dependent).

Green LED:
The battery is fully charged, but the charger will maintain a high charging voltage for the next five hours to equalize the charge in the individual cells in the battery. This is done to avoid sulfation of the battery, which is very important in terms of battery life. Therefore, we recommend that the machine be left to charge continuously for at least 15 hours at least once a week. After the 5 hours of equalizing charge, the voltage will drop to 27.5V, again temperature dependent, during the maintenance charge.

Note! See 110 Volt Charging Indicators below.

230V battery charger error messages

If any of these error messages appear, the machine will not charge:

YELLOW	YELLOW	RED/GREEN	DESCRIPTION
○	○	✹	Low battery voltage or no battery connected.
○	○	✹	Battery temperature over 50°C
✹	○	✹	Charging time error (timeout), the battery is probably too big for the charger.
○	○	●	Error in connecting battery, polarity is not correct.

When installing / replacing a new charger
The charger has a built-in temperature sensor so that the charger can compensate for the temperature of the batteries. The sensor is integrated in the charger's minus charging cable (black cable), so this cable must not be shortened, but must be mounted as it is directly on the battery.

Charging indicators 110 Volt:

Yellow LED:
Recharging starts with the maximum recharging power. Charging time is determined by how completely the battery is discharged.
When 80% battery capacity is reached, the charging current will gradually decrease. At the same time the charging voltage will increase and approach the maximum voltage of 28.8V.

Green LED:
The battery is fully charged, but the charger will maintain a high charging voltage for the next five hours to equalize the charge in the individual cells in the battery. This is done to avoid sulfation of the battery, which is very important in terms of battery life. Therefore, we recommend that the machine be left to charge continuously for at least 15 hours at least once a week. After the 5 hours of equalizing charge, the voltage will drop to 27.5V, during the maintenance charge.

110V battery charger error messages

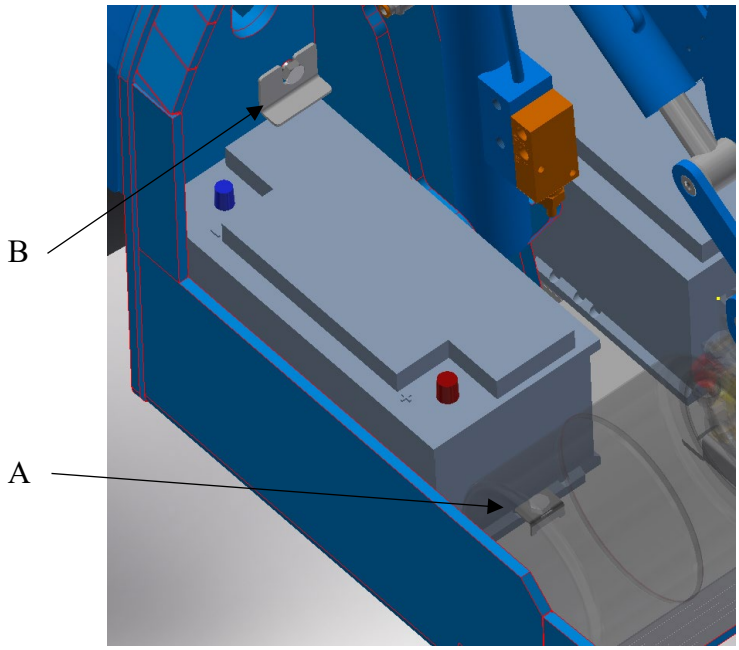
If any of these error messages appear, the machine will not charge:

YELLOW	GREEN	RED	DESCRIPTION
○	✹	○	Low battery voltage or no battery connected.
○	○	●	Charging time error (timeout), the battery is probably too big for the charger.
	○	✹	Error in connecting battery, polarity is not correct.

Replacement of batteries

When changing batteries, the main switch must be turned off
Make sure that the battery lugs do not touch the frame during disassembly and assembly.

1. Remove the green front hood.
2. First remove the old battery. Start by loosening the battery mount with a wrench.
3. Loosen the **- pole** and disconnect the cable. This is especially important as the power is completely cut off.
4. Only after removing the - pole the **+ pole** can be unscrewed. Failure to observe this order risks a short circuit.
5. Loosen the clamp bracket at the bottom (A) and possibly the clamp bracket at the end (B)
6. The batteries can now be replaced.
7. Clamp brackets are fitted so that the batteries are held in place.
8. The cables are now fitted in reverse order so that the connecting cable between the batteries is the last.
9. Fit the green hood again.



Service/maintenance

General

The Winlet 375 is designed to cope with the demands and the conditions on construction sites, but its service life and safety can be reduced considerably if the stated service/maintenance items are not complied with.

All mechanical joints must be checked at regular intervals to ensure that no components have worked loose. In general, special attention is required after the first hours of operation when the machine is brand-new, as well as after the machine has been taken apart of after any repairs.

Servicing by specialist personnel

As a minimum requirement, a full overhaul must be carried out by specialist personnel every 12 calendar months. Contact GMV A/S for further information.

Cleaning

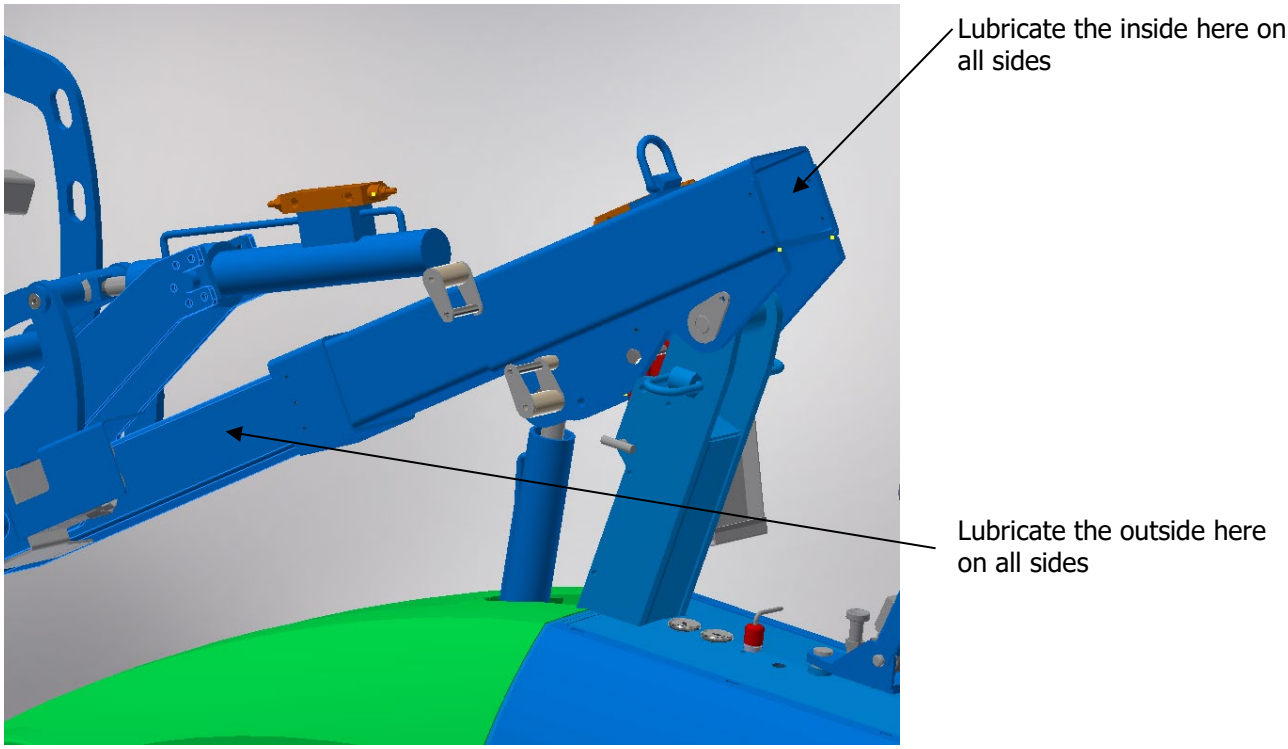
The outside of the machine can be rinsed with running water, brushed and rinsed. Wipe the inside of the machine with a cloth or use vacuum cleaner.
NOTE! The machine may not be washed with a high-pressure cleaner.

Lubrication

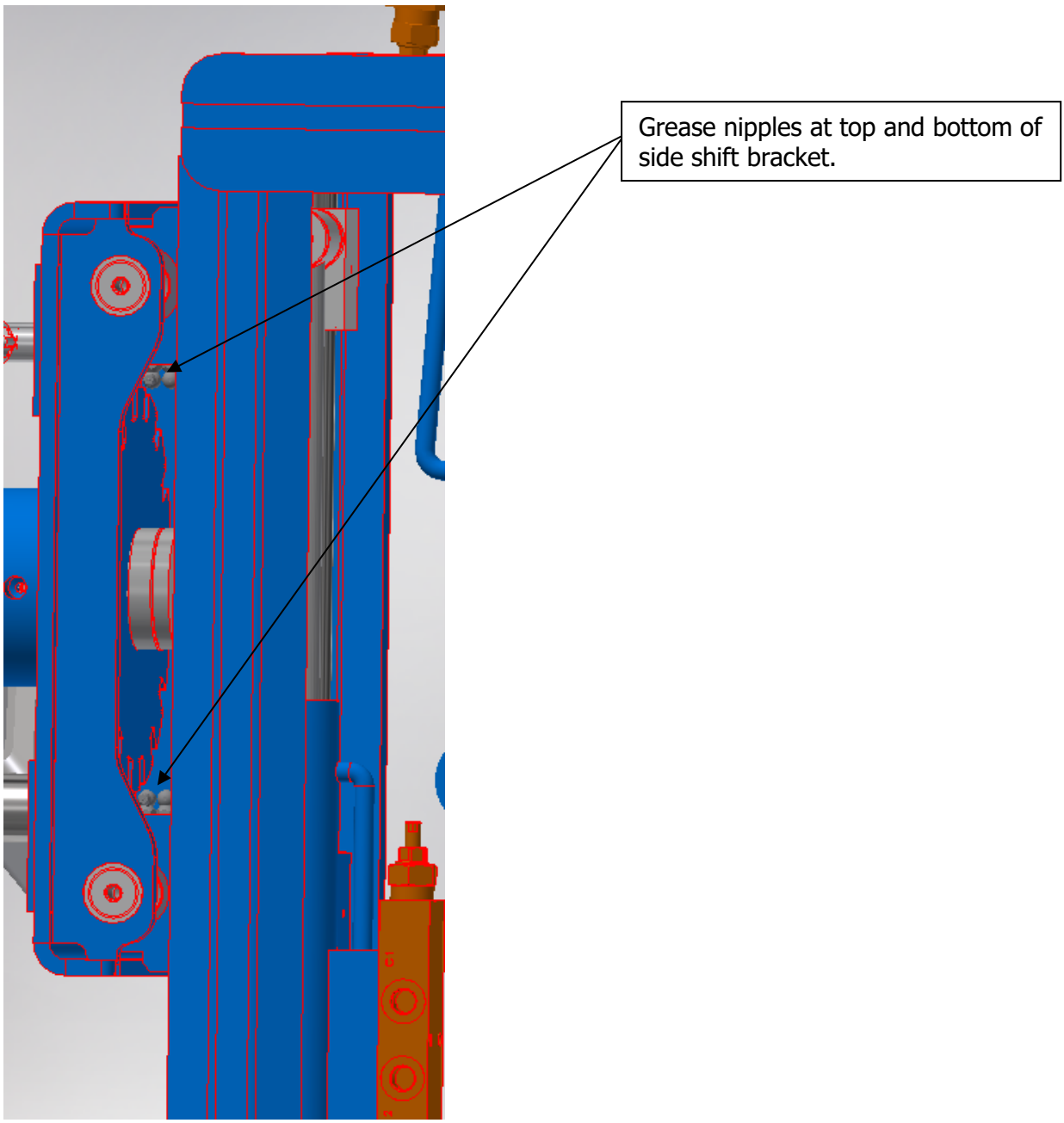
The Winlet 375 is primarily constructed with maintenance-free bearings in all moving parts. All these parts must be kept free of dirt, but lubrication is not required. This means the machine should only be lubricated with grease at the assemblies below if required:

Extension arm

The extension arm is fitted with plastic sliding blocks, these should not be lubricated under normal circumstances. If the arms no longer moves smoothly, the arms can be lubricated with grease as shown below. If the lubrication on the arm is already dusty, wipe the arm before relubrication.



Side shift
The side shift on the front section with hydraulic fine lift has 4 lubrication nipples - 2 at the top and 2 at the bottom. If the side shift no longer moves smoothly, lubricate, otherwise top up with grease at each main inspection (minimum every 12 months)



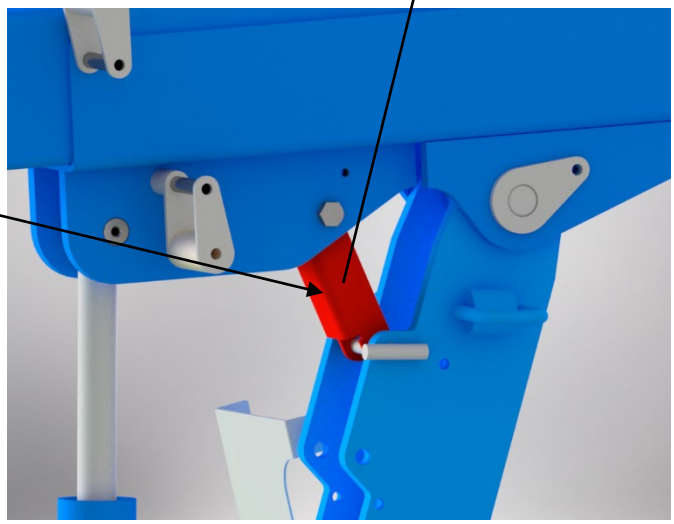
NOTE! Remember that all prolonged and repeated contact with oils and lubricants constitutes a risk to health; whenever necessary, wear protective gloves and goggles when implementing the points below.

Securing the arm during repair and maintenance.

The arm can be mechanically secured in a horizontal position to create better space for repair and maintenance of the Winlet's components under the front hood.

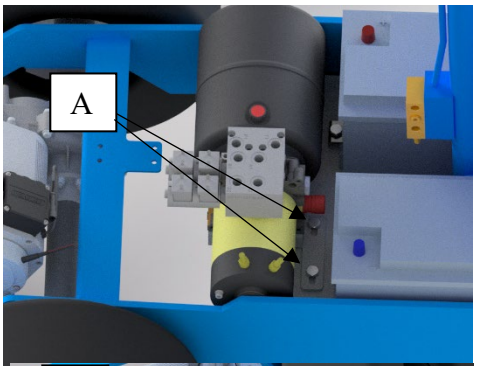
- The safety bracket is turned down and secured in the upper holes on the lifting tower.
- The locking pin is secured with a split pin.

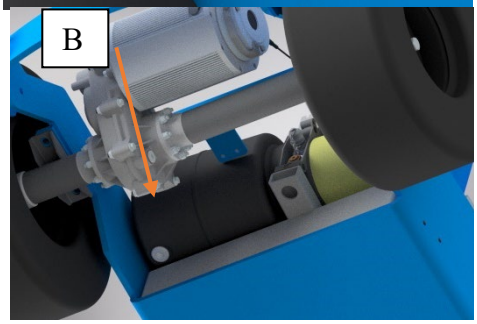
Remember to swing the safety bracket back into position after repair or maintenance



Maintenance of the hydraulic system

- Change the oil every 1500 operating hours or at least once a year (oil type Gulf Harmony ZF HVI 32 or similar).





- When changing the oil, all the cylinders should be fully retracted, so amount of oil in tank is maximised.
- The pump unit is loosened at the two bolts (A) so that it can be pulled forward whereby the bottom plug (B) comes free from the bottom.
- The oil can now be drained.
- Screw the bottom plug back on and refit the pump unit.
- Fill the tank with oil until the oil pump seen through the filling hole is immersed.
- Move all cylinders two - three times to full extension and check the filling again.

Maintenance of the vacuum system

- The vacuum pump contains wearing parts. If the pump cannot achieve a vacuum level of min. 70% (-70 kPa), it must be replaced or serviced by qualified personnel.
- Do not dismantle the vacuum pump while it is under warranty – this would invalidate the warranty.
- The vacuum system is fitted with a filter. The filter is located in the right rear compartment of the machine. The filter must be cleaned at appropriate intervals, depending very much on how clean and particle-free the objects being lifted are.
- The window robot's vacuum system must have all the hose clamps re-tightened as required.
  NOTE! The screwed-on fittings must not be re-tightened because they are sealed with floating, self-hardening thread sealant. Re-tightening them could give rise to a risk of leakage. If they are accidentally re-tightened, the error must be rectified immediately by re-sealing the fittings.

Drive shaft lubrication/maintenance

- Do not open up the drive shaft/motor while under warranty – opening it will invalidate the warranty.
- Service the brake function after every 500 hours of operation – the air gap must be 0.3–0.4mm.
- Check the oil level after every 500 operating hours.
- Service seals and re-tighten bolts after every 1000 operating hours.
- Change the oil after every 1500 operating hours or at least once a year (oil type SAE80W90 GL3).

Retightening bolts and nuts

- Bolts and nuts are tightened with the following torques:
  1. M6 = 11.3 Nm
  2. M8 = 27.3 Nm
  3. M10 = 54 Nm
  4. M12 = 93 Nm
  5. M12 wheel bolt = 100 Nm

- The M30 at the steering wheel bearings is tensioned so that the bearing is backlash free.

Specifications: Winlet 375	
Max. load	375kg
Width	690 mm
External length	1.545 mm
Intrinsic weight	578 kg
Min. extension	458 mm
Max. extension	958 mm
Max. height of centre lifting yoke	2.663 mm
Side shift	100 mm
Precision hoist in lifting tower	200 mm
Rotation	Endless
Suction cups	4 x ø310 mm
Motor	24 Volt
Speed	0–6 km/h
Raising-lowering function	Electric-hydraulic
battery	24 Volt - 95 Ah
Charging – integrated charger	230V AC (110v AC) 10 A

Acoustic pressure level

The acoustic pressure level of the machine has been tested during driving with the machine's driving gear, with the machine's vacuum pump running simultaneously. The following values were measured:

A-weighted acoustic pressure level: Under 80 dB(A)

CE – EU Declaration of conformity

Manufacturer

Company name: GMV A/S
Address: Industriparken 1
Post code: 7182 Bredsten, Denmark
Tel.: +45 7573 8247

Responsible for the technical dossier

Authorised to prepare the technical dossier:
Jesper Faurskov
GMV A/S
Industriparken 1
7182 Bredsten, Denmark
It is hereby declared that

Machine

Name: Winlet
Type: 375
Machine no.: 112824

a) Conforms to the following Directive:
   i. Machinery Directive 2006/42/EC
b) Has been manufactured in accordance with the following national/international standards and technical specifications:
   i. Danish Working Environment Authority, instructions concerning technical aids
   ii. Danish Working Environment Authority, notifications concerning technical aids
   iii. The Danish Working Environment Authority, guidelines concerning technical aids
c) Manufactured in partial accord with the following harmonised standards:
   i. EN 13000-2010
      4.1.2.3, 4.1.2.4, 4.1.2.5, 4.1.2.6.4, 4.1.2.6.2, 4.1.2.6.4, 4.1.3.2, 4.1.3.3, 4.1.3.4.1, 4.1.3.4.4, 4.2.1, 4.2.2.3, 4.2.5, 4.2.6.2.1, 4.2.6.2.2, 4.2.6.2.3, 4.2.9.1, 4.2.9.2, 4.2.9.5, 4.2.9.10, 4.3.2, 4.4,
   ii. ISO 13155
      A1, A2, 5.1.1.2, 5.1.2, 5.2.2.1 C9, 5.2.2.2 C1, 5.2.2.4 C3, 5.2.2.5 C4, 5.2.2.5 C6, 5.2.2.6 C5, 5.2.2.9 C7, 5.2.2.10, 5.2.2.11
   iii. ISO 3691
      4.1.4, 4.1.5, 4.1.6, 4.2.1, 4.2.2, 4.2.2.1, 4.2.3.1, 4.3.1, 4.3.5, 4.4.2.3, 4.4.2.4, 4.4.3, 4.4.3.2, 4.4.4.1, 4.4.5, 4.4.7, 4.6.3.1, 4.6.2.1, 4.6.4.1, 4.6.4.2, 4.6.4.3, 4.6.4.4, 4.8.1, 4.9.5.4, 4.9.5.5, 4.6.9, 4.6.8, 4.10.2

Signature

Name: Jesper P. Faurskov
Title: Director
Company: GMV A/S
Date: 05-07-2024

Signature:  ----------

Version: 2022-DK-1