facade BRUSH h-line

Operating and Assembly Instructions

Status June 2025

Contents

1.General

1.1.Foreword

These operating instructions form part of the machine **facadeBRUSH h-line**. Furthermore they are an important aid for a successful and riskless handling of your **facadeBRUSH h-line**. It contains important notes on how to use your **facadeBRUSH h-line** safely and properly. Their observance helps to avoid dangers, minimise repair costs and down-times and increase the reliability and service life of your **facadeBRUSH h-line**.

All figures and drawings in these operating instructions serve for general illustration of the **facadeBRUSH h-line** and are not decisive for its construction in the details.

IMPORTANT NOTE!

The operating instructions always have to be available at the machine and be maintained and updated there throughout the whole service life. They are to be read, understood and used by every person who is commissioned to work with the **facadeBRUSH h-line**.
This refers to the following works:

a. Operation
b. Troubleshooting during the work flow
c. Maintenance
d. Servicing
e. Upkeep
f. Repair
g. Professional transport

This is to be confirmed in writing by the respective persons acting.

The **facadeBRUSH h-line** is an exchangeable equipment within the meaning of the EU Machinery Directive. It can only be put into operation with the provided lifting mechanism (e.g. elevating work platform) with a frame which is specially adapted to the machine.

1.2.Warnings

The following warnings are used in the following operating instructions:

	**DANGER** **Danger to life!** **Consequences in the case of non-observance ...** ⇨ **Avoidance 1** ⇨ **...**

A warning of this danger level marks an imminent, dangerous situation.
If the dangerous situation is not avoided, it will lead to death or severe injuries.
The instructions in this warning are to be followed in order to avoid the danger of death or severe damages to persons.

	**WARNING** **Risk of injury!** **Consequences in the case of non-observance ...** ⇨ **Avoidance 1** ⇨ **...**

A warning of this danger level marks a potentially dangerous situation.
If the dangerous situation is not avoided, it could lead to death or to severe injuries.
The instructions in this warning are to be followed in order to avoid the possible danger of death or severe damages to persons.

	**CAUTION** **Personal injury due to ...** **Consequences in the case of non-observance ...** ⇨ **Avoidance 1** ⇨ **...**

A warning of this danger level marks a potentially dangerous situation.
If the dangerous situation is not avoided, it could lead to light or moderate injuries.
The instructions in this warning are to be followed in order to avoid damage to property.

Note

Explanatory text ...

A note marks additional information which facilitates the handling of the machine **facadeBRUSH h-line**.

1.3.Scope of delivery

a.	**facadeBRUSH h-line**	1 piece	Article No.: 952.005
b.	Operating instructions	1 piece	
c.	Declaration of conformity	1 piece	
d.	Hydraulic plan with bill of materials	1 piece	

1.4.Legal notes

1.4.1.Copyright protection

These operating instructions shall be treated confidentially: They may only be used by the intended group of people. The transfer to third parties may only be effected with written approval of the manufacturer.

All documents are protected within the meaning of the German Copyright Act.

Passing on, as well as reproduction of these documents - also in extracts -, utilisation or communication of their content are not admitted, unless expressly allowed.
Non-compliance shall be liable to prosecution and lead to compulsory compensation for damages.

The manufacturer shall reserve all rights of executing industrial property rights.

1.4.2.Warranty

These operating instructions have to be carefully read before commissioning of the facadeBRUSH h-line!

The manufacturer does not take any liability for damages and failures resulting from the non-observance of the operating instructions.

The operator is responsible for supplementing the operating instructions with operating instructions due to existing national provisions on accident control and environmental protection.

Apart from the operating instructions and the legally binding accident prevention provisions applicable in the individual countries and regions and the place of use, the recognised technical regulations for safe and proper work must also be observed.

The warranty shall expire in the case of:

a. Improper use
b. Use of inadmissible equipment
c. Faulty connection
d. Non-use of original spare parts or accessories
e. Refittings which have not been agreed upon with the manufacturer
f. Failure to implement prescribed maintenance works

1.4.3.Obligations of the operator

The **facadeBRUSH h-line** can cause dangers, if it is used improperly or in an improper state.
The operator shall be obliged to operate the machine and its lifting mechanism only in sound condition. Danger areas occurring between the **facadeBRUSH h-line** and the installations provided by the customer shall be secured by the operator.

The operator shall appoint and instruct responsible persons in order to

a. only use trained and instructed personnel.
b. Determine responsibilities of the personnel for the operation, servicing and repair.
c. control on a regular basis the work of the personnel with regard to safety and awareness of the dangers and the observance of the operating instructions.
d. keep the operating instructions and valid provisions in such a way that they are always available for the operating and servicing personnel.
e. determine responsibilities.
f. Personnel who are commissioned to carry out works with the **facadeBRUSH h-line** have to have read the operating instructions and especially the chapter "safety", as well as the applicable regulations before the beginning of the work!

WARNING

The facadeBRUSH h-line has to be kept away from children!

In the case of non-observance the operator shall be completely liable for all damages resulting thereof!

Note

Observe and instruct general legal and other binding accident prevention provisions and environmental protection in addition to the operating instructions!

1.4.4.Disclaimer

All technical information, data and notes on the operation of the **facadeBRUSH h-line** contained in these operating instructions correspond to the latest version at the time of printing and take into consideration the present experience and knowledge of the manufacturer to the best of our knowledge.

Subject to technical changes by the manufacturer within the framework of the further development of the **facadeBRUSH h-line** described in these operating instructions. No claims can be derived from the data, figures and descriptions of these operating instructions. The manufacturer is liable for possible failures or defaults on the part of the manufacturer to the exclusion of further claims within the framework of the warranty obligations concluded in the contract.
Claims for compensation shall be excluded, no matter from which legal ground they derive. Translations shall be carried out to the best of the translator's knowledge. The manufacturer cannot take over liability for translation errors, not even if the translation has been made by the manufacturer or on his behalf. Only the original text in the German language shall be legally binding. The textual and graphic representations do not necessarily correspond to the scope of delivery and / or a possible spare parts order. The drawing and graphics are not true to scale.

The **facadeBRUSH h-line** is only to be used in the countries and regions which require a CE marking or expressly abstain from it.
The **facadeBRUSH h-line** is only to be used in the countries and regions where the machine technology is not contrary to their regulations.
The **facadeBRUSH h-line** is especially not yet approved for the North American and the Canadian market.

1.4.5.Manufacturer's address

Manufacturer of the **facadeBRUSH h-line** is:

hyCLEANER GmbH & Co. KG
Maybachstraße 6
D-48599 Gronau

Tel: +49 2562 99254 0
Fax: +49 2562 99254 10

Email: info@hycleaner.de
Web: www.hycleaner.de

Managing directors:
Celina Kneiber, Josha Kneiber

The manufacturer shall provide a warranty of 12 months delivery ex works Gronau.

2.Safety

2.1.Safety sign on the product

Since the **facadeBRUSH h-line** is a non-electricity / line-commutated machine, no safety sign is necessary.

2.2.Safety sign in these operating instructions

See under point "1.2 Warnings".

2.3.Basic safety guidelines

Note

For reasons of protection of the operating personnel, warning and hazard notes are attached to the facadeBRUSH h-line. These signs are to be observed.
Damaged and illegible warning and hazard notes are to be renewed by the operator immediately.

2.3.1.Behaviour in case of emergency

In the case of emergency the facadeBRUSH h-line has to be stopped by operating the emergency stop switch at the operating platform!

The emergency stop switch is located at the control cabinet of the operating platform and is clearly visible.

An emergency occurs in the case of overrunning persons and objects and in the case of objects and parts of the body entering the brushing system (705.040).

2.3.2.Observing the operating instructions

The successful and riskless use of your **facadeBRUSH h-line** is described in these operating instructions. They have to be read and understood by every person who is commissioned with works at or with the machine. In the case of non-observance of the operating instructions, the manufacturer's liability for personal and property damage shall expire.

DANGER

Danger to life due to falling components!

In the case of non-observance of the operating instructions, falling components of the facadeBRUSH h-line can lead to the death of uninvolved persons or other creatures!

- ⇨ **Read and understand the operating instructions!**
- ⇨ **Use the operating instructions!**

WARNING

Risk of injury due to tearing components!

In the case of non-observance of the operating instructions, tearing components of the facadeBRUSH h-line can lead to severe injuries of the operating personnel!

- ⇨ **Read and understand the operating instructions!**
- ⇨ **Use the operating instructions!**

2.3.3.Personnel requirements / due diligence

Note

Works at / with the facadeBRUSH h-line may only be carried out by persons who are authorised due to their education and qualification. Furthermore these persons have to be commissioned by the operator.

Qualification:	product-specific training as well as training with the operation of the lifting device
Minimum age:	majority
Training:	instruction by qualified personnel

2.3.4.Disposal

Material of the **facadeBRUSH h-line** which is no longer needed has to be disposed of safely and in an environmentally responsible way.

The **facadeBRUSH h-line** can for instance be disposed of at a receiving office for metal scrap.

When disposing of the **facadeBRUSH h-line** the national provisions of the country of use have to be observed.

2.4.Intended use

WARNING

Risk of injury due to non-intended use!

The facadeBRUSH h-line can cause dangers in the case of non-intended or different use!

- ⇨ **Only use the facadeBRUSH h-line as intended!**
- ⇨ **Observe the procedure described in the operating instructions!**

2.4.1.Field of application

The **facadeBRUSH h-line** can be used...

a. up to a distance of 900 mm (2.95 ft) between operating platform (frame and basket) and the wall.
b. in the case of obstructions on the surface to be cleaned up to 50 mm (0.16 ft) height.
c. in the case of a traffic load of the wall of at least 82 kp/m² (16.87 lbf/ft^2).
d. on glass surfaces according to DIN 4426.

2.4.2.Operating conditions

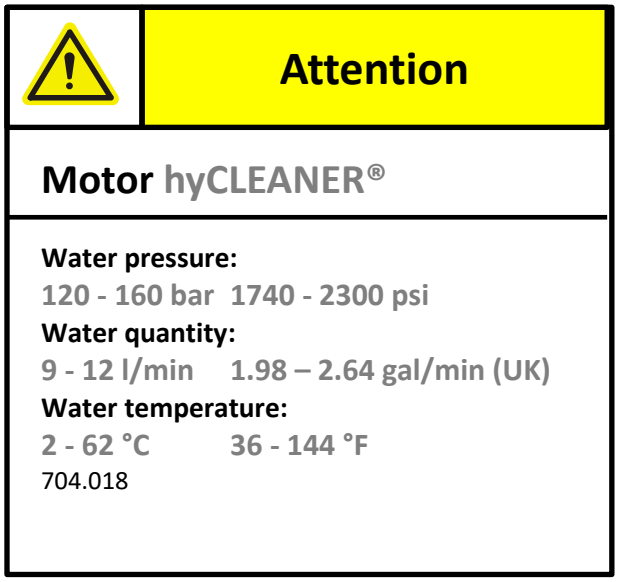
The device can be commissioned in

a. outside temperatures of at least 5°C (41°F) and maximum 60°C (140°F).
b. a maximum wind force up to 6 Beaufort (≈28 mph).

2.4.3.Connecting conditions

Operating medium:

a. Only use operating water according to DIN 4046 (analysis according to EU directive 76/160/EEC)!
b. Only use additives allowed by the manufacturer!



Connection to high-pressure pump with hose routing e.g. to the work basket:

a. with maximum amount of water: 12 l/min (2.64 gal/min (UK)).
b. with minimum amount of water: 9 l/min (1.98 gal/min (UK)).
c. with maximum water pressure: 160 bar (2300 psi).
d. with minimum water pressure: 120 bar (1740 psi).

Structural specifications:

a. Frame adapted to work basket or existing lift system.

2.5.Improper use

a. Do NOT use in electrical installations!
b. Do NOT use in explosive atmosphere!
c. Do NOT use as a means of transport for persons or other creatures!
d. Do NOT use as a traction mechanism!
e. Do NOT use as a means of transport for objects!
f. Do NOT use as a clearing vehicle for snow, sand etc.!
g. Do NOT use under water!
h. Do NOT use for watering green areas!
i. Extension of the hose system only with hose extensions which are approved by the manufacturer!
j. Do NOT operate with any fluid-technical media other than water!

DANGER

Danger of life due to suffocating!

Do not wrap hose around persons or other creatures.

This can lead to considerable injuries or even death.

2.6.Residual risks and safety measures

By wearing protective clothing and observing the present operating instructions you will minimise the dangers which can occur when handling the **facadeBRUSH h-line**. In spite of this you should be aware of the following residual risks:

DANGER

Danger of life due to suffocating!

Loose work clothes can be drawn in by rotating components. This can lead to considerable injuries or even death!

- ⇨ **Wear tight-fitting working clothes when handling the facadeBRUSH h-line!**
- ⇨ **Keep away from rotating components!**
- ⇨ **Tie back long hair!**

CAUTION

Personal injury due to rotating components!

Rotating components cause a risk of injury!

- ⇨ **Keep away from rotating components!**
- ⇨ **Tie back long hair!**

CAUTION

Personal injury due to crushing hazard!

The crushing between facadeBRUSH h-line and fixed objects results in a risk of injury!

- ⇨ **Do not remain at the facadeBRUSH h-line and / or between the machine facadeBRUSH h-line and fixed objects!**
- ⇨ **Do not reach into components of the facadeBRUSH h-line!**

CAUTION

Personal injury due to stumbling!

The rolled out hose causes a risk of injury!

- ⇨ **Please observe objects lying around when handling the facadeBRUSH h-line!**

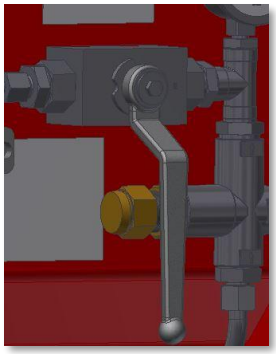
	**Notice** **Wear eye protection when handling the facadeBRUSH h-line!**

	**Notice** **Wear ear protection when handling the facadeBRUSH h-line!**

The working area has to be blocked off in a suitable way.

Upon commissioning and during operation of the **facadeBRUSH h-line**, no persons must remain under the brush system and the work basket!

If you are in a danger situation, press the emergency stop switch of the working platform immediately and stop the water flow at the operating lever!!
(Switch control handle to vertical position)



3.Technical data

Machine

Brush width:	maximum 800 mm	(2.62 ft)
Brush diameter:	maximum 400 mm	(1.28 ft)
Motion compensation:	maximum 500 mm	(1.64 ft)
Track wheel∅:	500 mm	(1.64 ft)
Total weight:	≤ 65 kg	(≤ 143.30lb)
Traffic load:	minimum 20 kp/m^2	
	197 N/m^2	(4.12 lbf/ft^2)
	maximum 82 kp/m^2	
	807 N/m^2	(16.87 lbf/ft^2)
maximum wind force:	6 Beaufort	(28 mph)
Ambient temperature:	minimum 5°C	(41 F)
	maximum 60°C	(140°F)

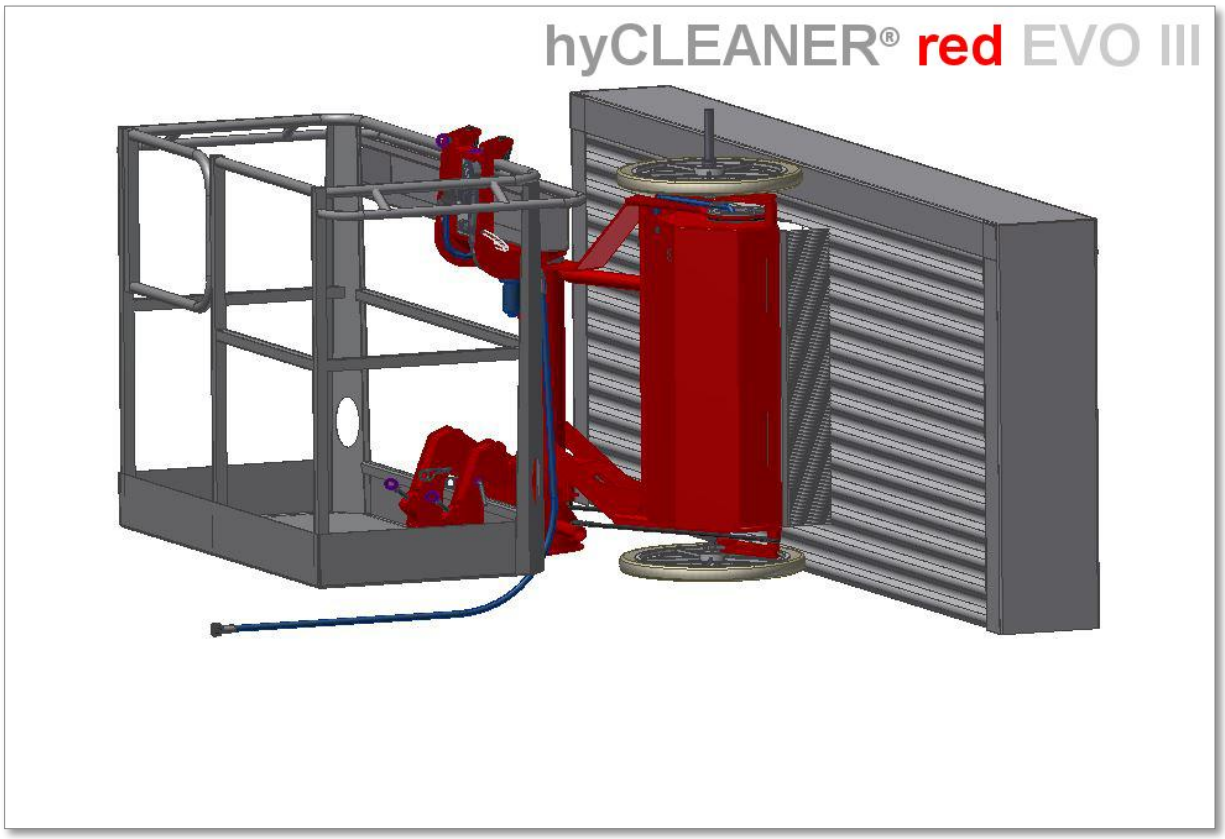
Drive

Water pressure:	minimum 120 bar	(1740 psi)
	maximum 160 bar	(2300 psi)
Amount of water:	minimum 9 l/min	(1.98 gal/min (UK))
	maximum 12 l/min	(2.64 gal/min (UK))
Water temperature:	minimum 2 °C	(36 °F)
	maximum 62 °C	(144 °F)
Revolutions per minute can be regulated via amount of water:	maximum 400	
Lowering speed:	maximum 24 m/min	(78.74 ft/min)
Ground coverage*:	maximum 9 m^2/min	(96.88 ft^2/min)

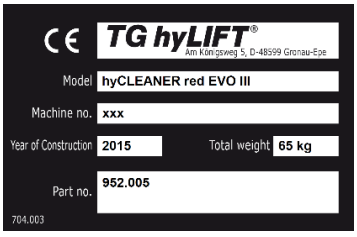
* depending on pollution

4.Structure and function

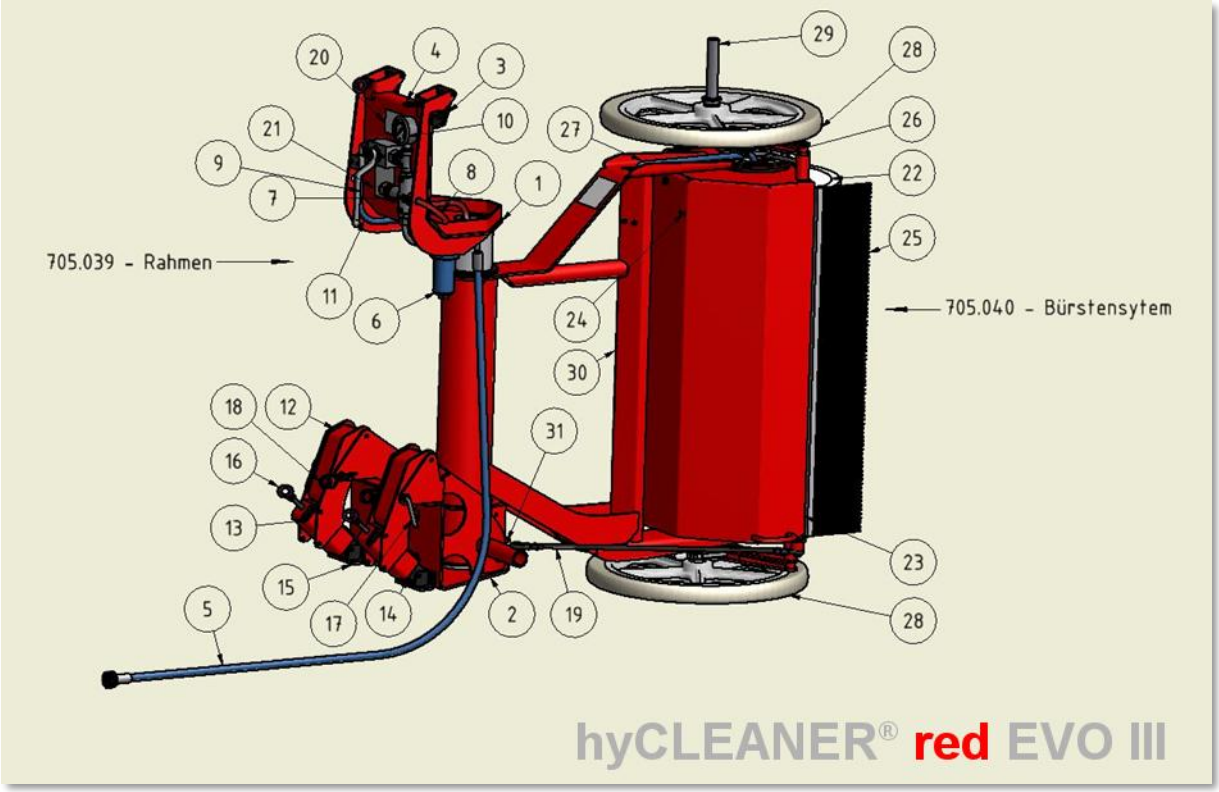
4.1.Graphic representation



4.2 Data plate

Label:	Article No.:	Position:	Type plate:
facadeBRUSH h-line	952.005	on the frame, above the ball valve	

4.3.Structure description



Parts of the frame (705.039):

(1) Top frame part
(2) Bottom frame part
(3) Top clamp
(4) Fixing bolt
(5) Supply hose
(6) Pressure filter
(7) Pressure control valve
(8) Bypass hose
(9) Manual control unit
(10) Pressure gauge
(11) Drive motor hose
(12) Bottom clamp
(13) Clamp slide-out bracket
(14) Slide-out clamp
(15) Clamp base
(16) Bottom clamp adjusting screw
(17) Socket pin
(18) Cotter pin
(19) Rubber rope
(20) Data plate
(21) Water quantity sticker

Parts of the brush system (705.040):

(22) Washing brush
(23) Splash hood
(24) Sprinkling pipe (below the splash hood)
(25) Splash guard brush
(26) Drive motor
(27) Hose to brush
(28) Pneumatic-tyred wheels
(29) Top wheel axle
(30) Brush arm
(31) Slide screw

The **facadeBRUSH h-line** (952.005) consists of the two main assembly groups brush system (705.040) and frame (705.039).

The frame (705.039) consists of the two main components, namely the top frame part (1) and the bottom frame part (2). These two parts are bolted together and represent the mechanical connection of the **facadeBRUSH h-line** with the carrier system (e.g. the work basket of a working platform).
The mechanical connection is established using a bolted clamp connection.

In the upper section of the top frame part (1) on the top each side a clamp (3) and the corresponding fixing bolt (4) are arranged.
Hereby the connection on the top part of the carrier system (e.g. work basket handrail) is established.

In the front section of the bottom frame part (2) on each bottom side a clamp (12) with the clamp slide-out bracket (13), the slide-out clamp (14), and the clamp base (15) are arranged.
These parts are used to establish the connection to the bottom part of the carrier system (e.g. work basket floor tray) is established.

Each of the two bottom clamps (12) are hinged in the top section and can be locked in two possible positions (depending on the geometry of the bottom carrier system sections) via socket pin (17) and the cotter pin (18).
By means of the two bottom clamp adjusting screws (16) the corresponding clamp bases (15) which are arranged on the slide-out clamps (14) are used to clamp the bottom section of the carrier system.

Alongside the water-bearing parts (see chapter 4.4.) the data plate (20) and the water quantity sticker (21) are arranged on the top frame part (1).

The brush system (705.040) is connected to the frame (705.039) via the brush arm (30). The brush arm(30) is vertically hinged on the frame (705.039) and can be moved approx. 70° to the right-hand side and approx. 70° to the left-hand side from the centre position. The splash hood and the pneumatic-tyred wheels (28) attached to it are also vertically hinged on the opposing end of the brush arm (30) an can be moved approx. 70° to the right-hand side and approx. 70° to the left-hand side as a unit.

On the bottom section, the brush system (705.040) is connected to the frame (705.039) by means of rubber ropes (19) on the right-hand side and the left-hand side. Due to the uniform distance of the rubber ropes to each other even during the lateral pendular movement of the brush arm (30) a parallel alignment of the splash hood (23) to the frame can be achieved.

The washing brush (22) is supported on the same bearing points to which the splash hood (23) with the brush arm (30) is connected.
The drive motor (26) for the washing brush (22) is arranged in the centre of the washing brush.

The splash guard brushes (25) arranged on both sides of the splash hood (23) prevent a lateral swirling of the water.

The self-weight of the brush system (705.040) is supported on the bottom frame part (2) on a trajectory with a corresponding pitch via a slide screw (31).

By pulling the top wheel axle (29) (shaped as a grip) to the right-hand side or left-hand side, the brush system (705.040) is guided upwards along the trajectory on the bottom frame part (2) via the slide screw (31). As a result a restoring force is established that is used the contact pressure of the washing brush (22) toward the surface to be cleaned.

4.4.Function of the high-pressure water drive

Via the carrier system or the supply hose (5) connected in the work basket of a working platform, the high-pressure water is directed through the pressure filter (6) mounted on the top frame part (1) and the downstream pressure control valve to the manual control unit (9).

If the manual control unit (9) is closed the high-pressure water is discharged via the bypass hose (8).
With the manual control unit (9) closed, the existing pressure of the high-pressure water can be read on the pressure gauge (10).
By slowly moving the manual handle on the manual control unit (9) the flow is enabled and the high-pressure water is directed to the drive motor (26) via the drive motor hose (11). In this way, the rotary movement of the washing brush (22) is initiated.
From the drive motor (26) the water is then directed through the brush hose (27) to the sprinkling pipe (24) (under the splash hood). The water is directed to the washing brush (22) through the nozzles of the sprinkling pipe (24).

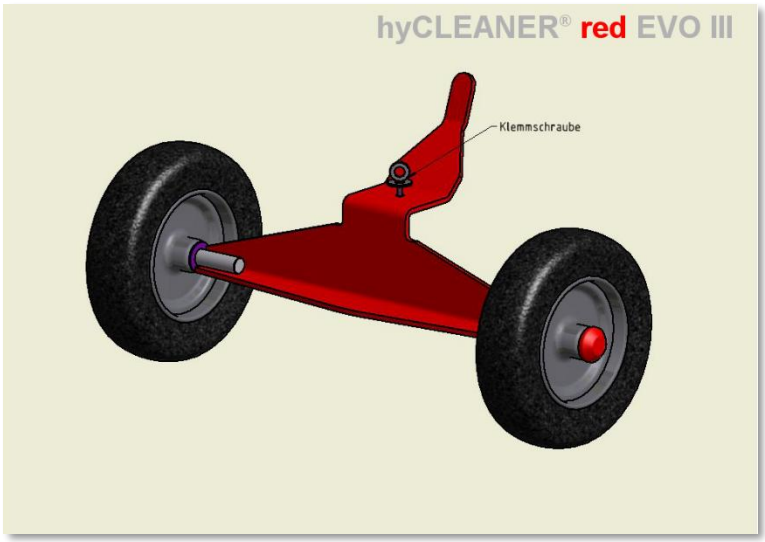
Attention:
The hoses must not be bent!
There is the danger that the water engine is damaged by bent hoses and blocking of the water drainage!

5. Transport

Since the **facadeBRUSH h-line** is operated without oil hydraulics, no dangerous fluids can leak. Therefore please ensure that the residual water is removed after commissioning of the machine.
This can be done by simple draining of the residual water.

5.1. Transport using a transport trolley (705.042)

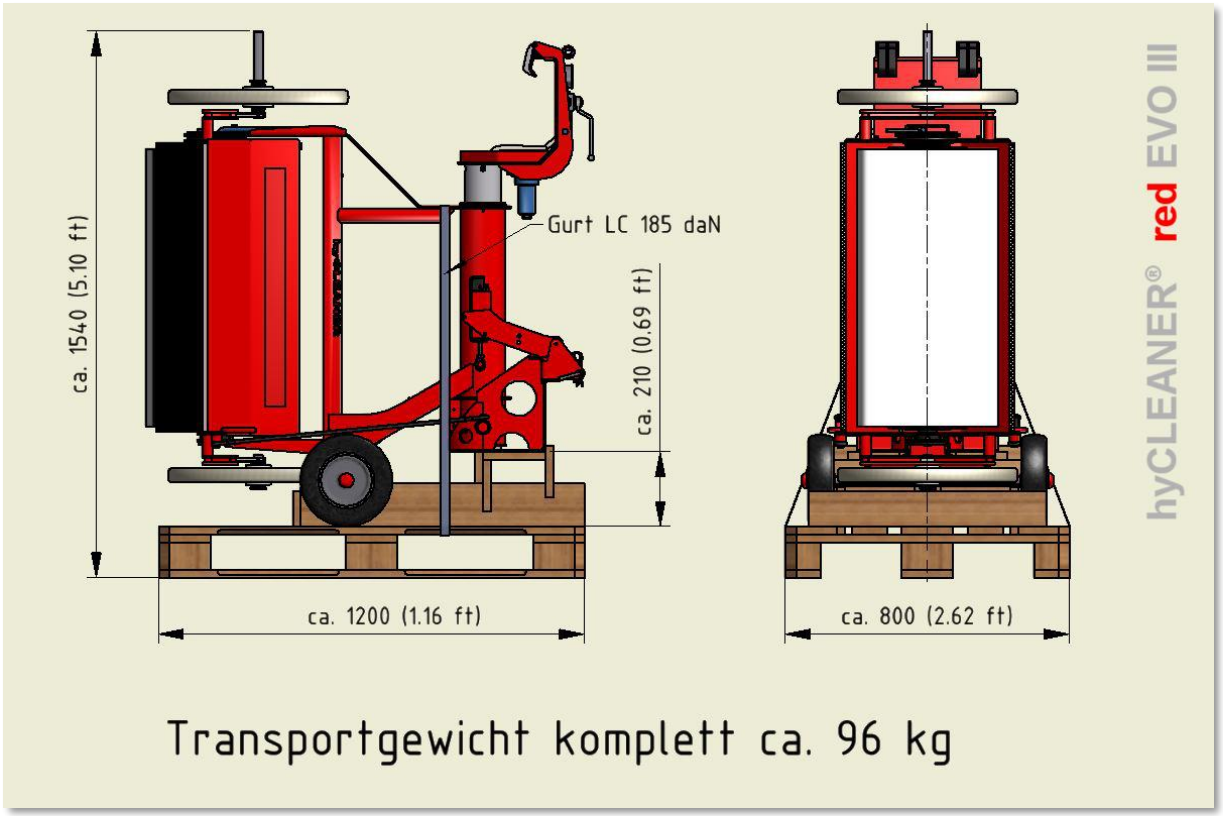
Transport of the **facadeBRUSH h-line** in the original transport trolley (705.042) is intended for a convenient on-site relocation without using public transport routes.



The transport trolley (705.042) is secured to the **facadeBRUSH h-line** on the brush arm (30) using the clamping bolt.

5.2. Transport using a pallet

The transport on a pallet (packaging material) is intended for journeys by means of a car trailer or lorry.
In this way, the **facadeBRUSH h-line** can be relocated on-site by using a lift truck.
The **facadeBRUSH h-line** is delivered with a pallet (packaging material) and an additionally build-in platform.



This platform is used to secure the **facadeBRUSH h-line** in the area of the brush arm and frame part.
When using the pallet (packaging material) with the platform, the **facadeBRUSH h-line** is lashed with the three metre long LC 185 daN strap at the position mentioned above only. Further lashing are not required as they might cause damage during the transport.

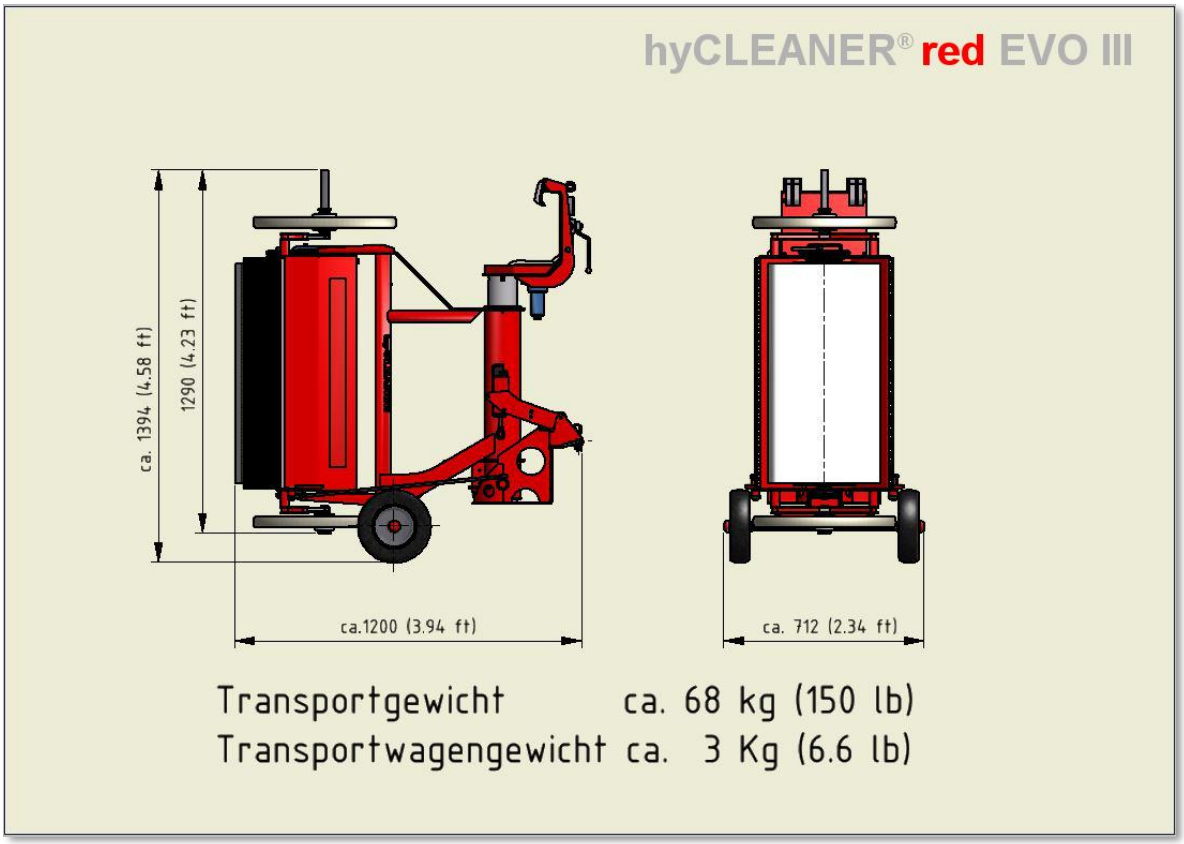
5.3. Transport without a pallet

If the pallet (packaging material) with the platform is not used for the transport by means of a car trailer, lorry or lift truck it should be ensured, when lashing the **facadeBRUSH h-line** that the machine parts remain braceless and without any permanent deformation.

6.Storage conditions

The **facadeBRUSH h-line** has to be stored properly and protected from frost and climatic influences.

Attention:
The brush must not lie on the floor during storage, since this might lead to deformation of the bristles!



Example for storage and transport possibility by means of transport trolley **facadeBRUSH h-line** (optionally) – article no. 705.042.

7.Local requirement

7.1.High-pressure pump

Customary high-pressure pump with the following characteristics:

Water pressure:	maximum 160 bar	(2300 psi)
Water pressure:	minimum 120 bar	(1740 psi)
Water flow:	maximum 12 l/min	(2.64 gal/min (UK))
Water flow:	minimum 9 l/min	(1.98 gal/min (UK))

No addition of additives!

7.2.Working platform

a) The working platform must have a lifting capacity of at least 200 kg (441 lb).
b) At the work basket, the working platform must absorb the following forces plus one operator:

max. horizontal forces:	333 N (75 lbf)
max. vertical forces:	618 N (139 lbf)
max. horizontal torques:	43 Nm (32 ft lbf)
max. vertical torques:	354 Nm (261 ft lbf)

8.Mounting and commissioning

8.1.Mounting

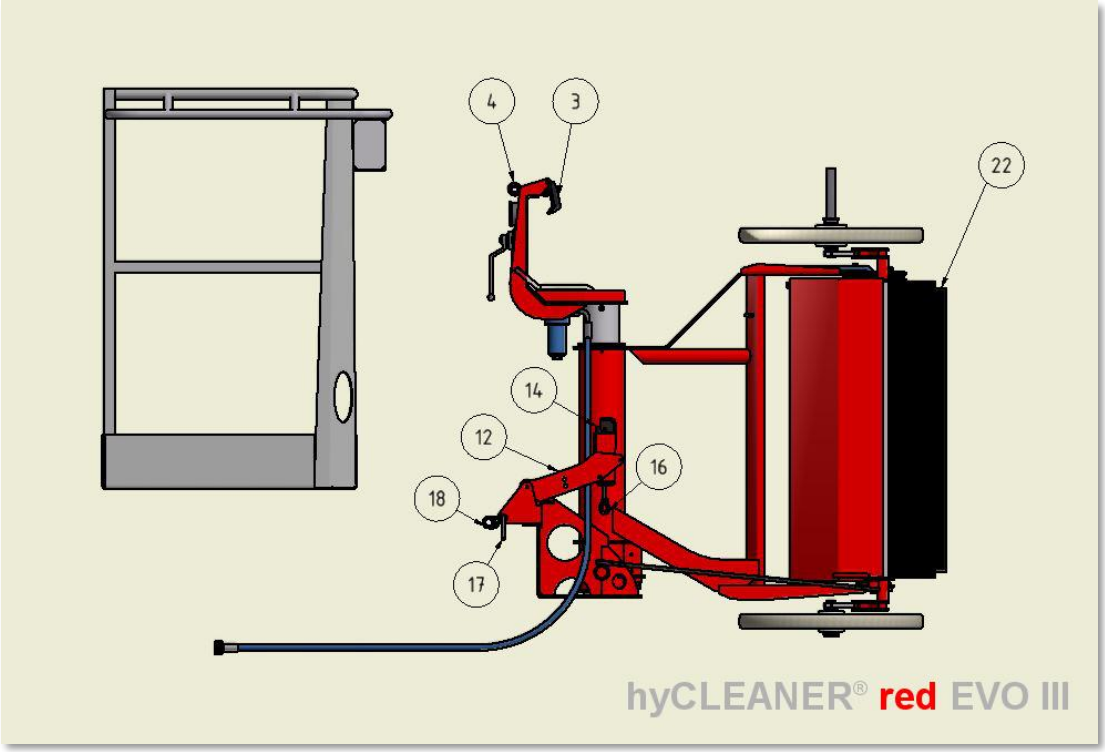
Notice

Have commissioning be carried out only by trained and authorised personnel.

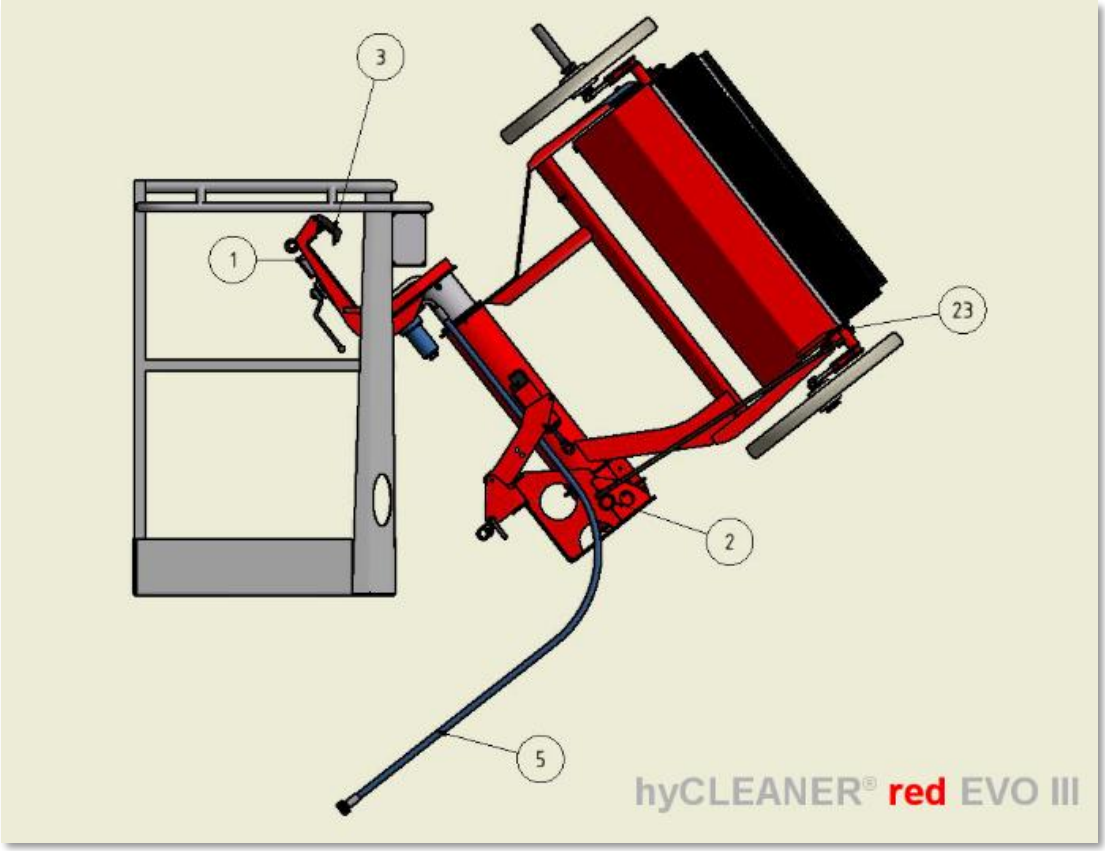
Before initial commissioning you should take some time and practise the mounting of your **facadeBRUSH h-line** at ground level and in a suitable environment.
Two persons are necessary for mounting.

8.1.1. Positioning and connecting the facadeBRUSH h-line with the work basket of a working platform

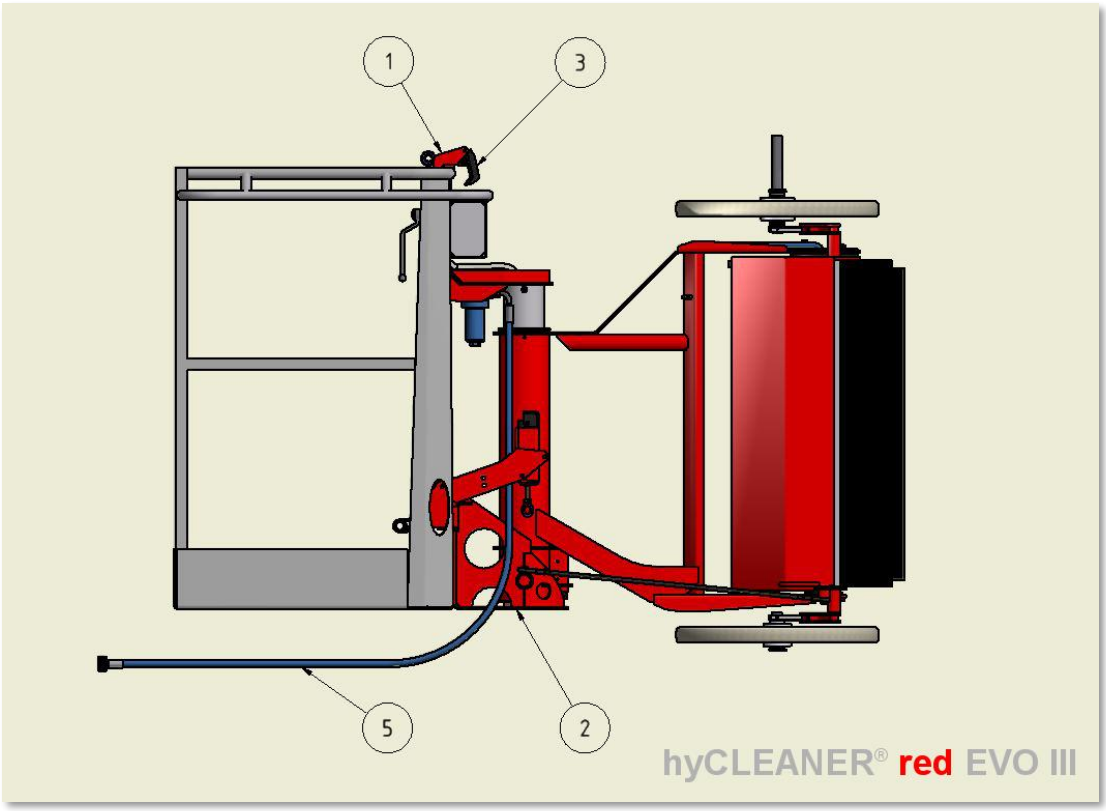
a) Position the work basket as low as possible to the ground.
Loosen the two top clamps (3) with the fixing bolts (4) until the opening gap is larger than the width or the diameter of the basket railing. Screw in the two slide-out clamps (14) as far as possible using the bottom clamp adjusting screws (16).
Loosen the tow socket pins (17).
Pivot the two bottom clamps (12) towards the brush.



b) Two persons position themselves on the right-hand side and left-hand side next to the **facadeBRUSH h-line.**
The grip on the bottom of the splash hood (23) and the rubber rope take-up pipe on the bottom frame part (2) are used to lift.
After the simultaneous and uniform lifting the top frame part (1) is tilted to the front as far as possible to thread it in between the central strut and the railing of work basket.



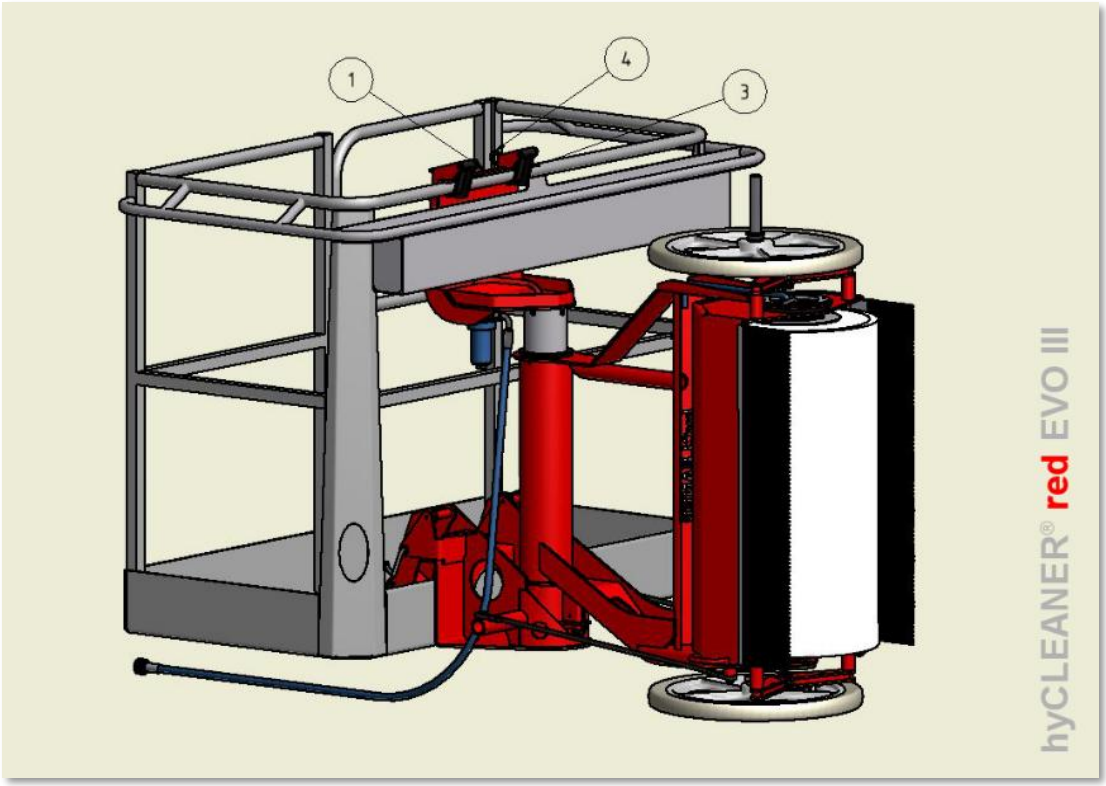
c) Subsequently, the **facadeBRUSH h-line** is positioned horizontally in a way that the top clamps (3) embrace the work basket railing, the front face of the top frame part (1) is in contact with the railing and the front face of the bottom frame part (2) is in contact with the outer area of the work basket foot end.
Ensure that the supply hose (5) is not jammed between the bottom frame part (2) or the top frame part (1) and the parts of the work basket during the connection process!
Finally, the supply hose (5) is connected to the high-pressure hose in the work basket. As standard the screw connection is designed as manually operated sealing cone screw connection M22x1.5.



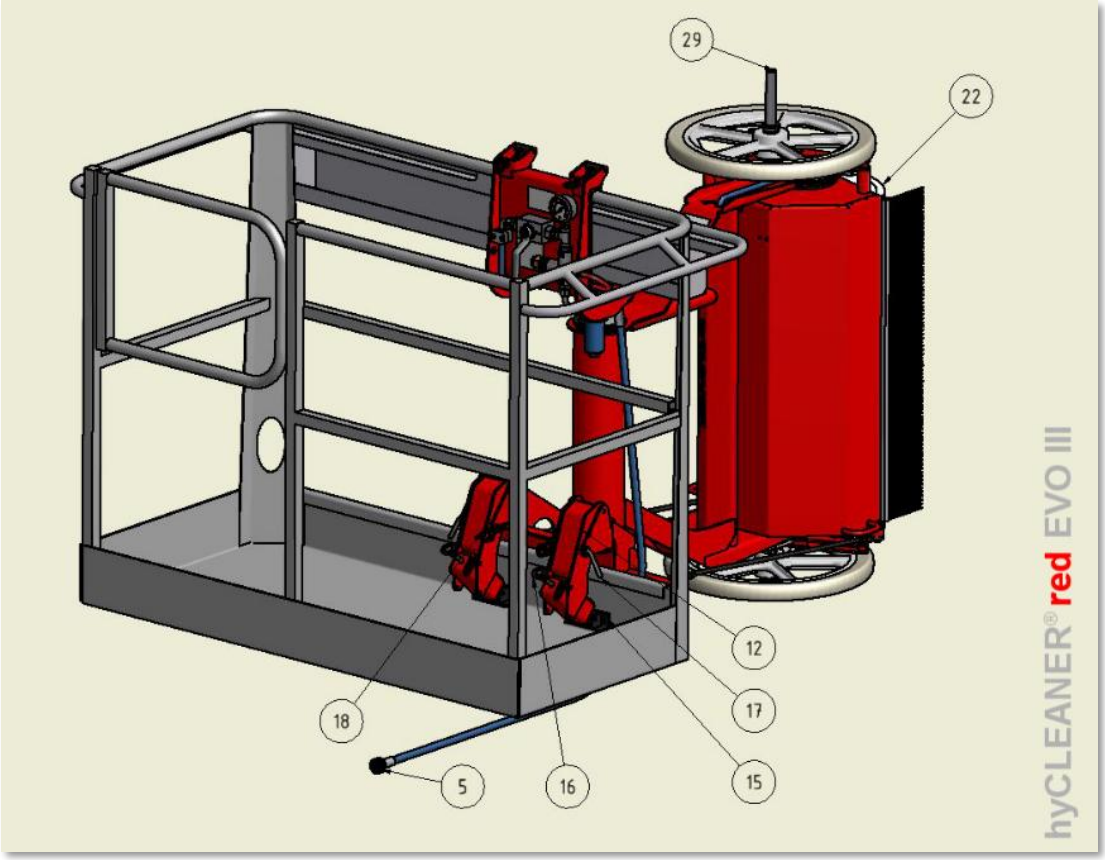
8.1.2. Fixing and securing the facadeBRUSH h-line with the work basket of a working platform

After connecting the **facadeBRUSH h-line** with the work basket according to point 8.1.1. the system is fixed and secured.

a) It is important that the top frame part (1) is fixed with the railing first. For this purpose, the frame should be laterally aligned so that the top frame part (1) on top and on the sides is uniformly in contact with the work basket railing on both sides. Subsequently, the top clamps (3) are tightened via the two fixing bolts (4).



b) After that, the two bottom clamps (12) are pivoted away from the brush (22) toward the work basket floor. Each of the two bottom clamps (12) is designed with two holes for the socket pins (17).
Depending on the width of the skirting board one of the two holes is chosen so that the suspension-mounted clamp bases (15) can be in contact with both the floorboard and the skirting board inner wall in the work basket.
The socket pin (17) is secured via the cotter pin (18). The clamp bases (15) are tightened with the corresponding bottom clamp adjusting screws (16).
Subsequently, the tight fit of the top clamps (3) and the bottom clamps (12) is checked by pivoting the brush (22) to the right-hand side and to the left-hand side (operated from within the basket by pulling up the top wheel axle (29)).
It is possible that the top clamps (3) and then the bottom clamps (12) must be retightened using the fixing bolt (4) and the bottom clamp adjusting screws (16) first.



DANGER

Danger to life due to falling components!

In the case of non-observance of the operating instructions, falling components of the facadeBRUSH h-line can lead to the death of persons or other creatures!

- ⇨ **Read and understand the operating instructions!**
- ⇨ **Use the operating instructions!**
- ⇨ **Carry out mounting only on plane, horizontal surfaces!**
- ⇨ **Secure facadeBRUSH h-line against falling!**

WARNING

Risk of injury due to components under high pressure!

Improperly mounted components under high pressure can cause considerable injuries of the operating personnel!

- ⇨ **Read and understand the operating instructions!**
- ⇨ **Use the operating instructions!**
- ⇨ **Check hose couplings for wear and tear!**
- ⇨ **Check hose couplings for solid fit before switching on the high pressure pump!**

8.2.Commissioning and operation

Notice

Have commissioning be carried out only by trained and authorised personnel.

Please ensure before every commissioning of the facadeBRUSH h-line that all screws are tightened and all connection safeguards are firmly locked!

Prerequisite for the commissioning is the proper mounting according to point 8.1.

The pneumatic-tyred wheels should be uniformly adjusted on the top and bottom side depending on the structure of the façade to be cleaned.

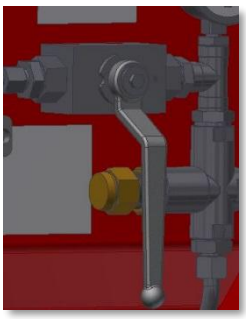
On homogenous and smooth façades a setup with a minimal centre offset towards the brush centreline is sufficient.
When cleaning deep and longitudinal trapezoidal or corrugated panels up to approx. 50 mm (0.16 ft) the track wheels can be shifted accordingly.
For this purpose, the retaining screws (spanner size 10 mm / (0.03 ft)) should be loosened. After setting the top and bottom wheels, the retaining screws should be fixed back in place with a tightening torque of 6 Nm (4.43 ft lbf).

Ensure that the working platform is as close to the façade as possible so that the work basket can be moved in longitudinal direction with rather the same distance.

It is recommended to always begin with the highest longitudinal tracks to avoid that the cleaned track is dabbled with dirt loosened by the water.

The high pressure pump has to be switched on. Furthermore, it is absolutely necessary that the personnel are trained and approved for the operation of the corresponding working platform.

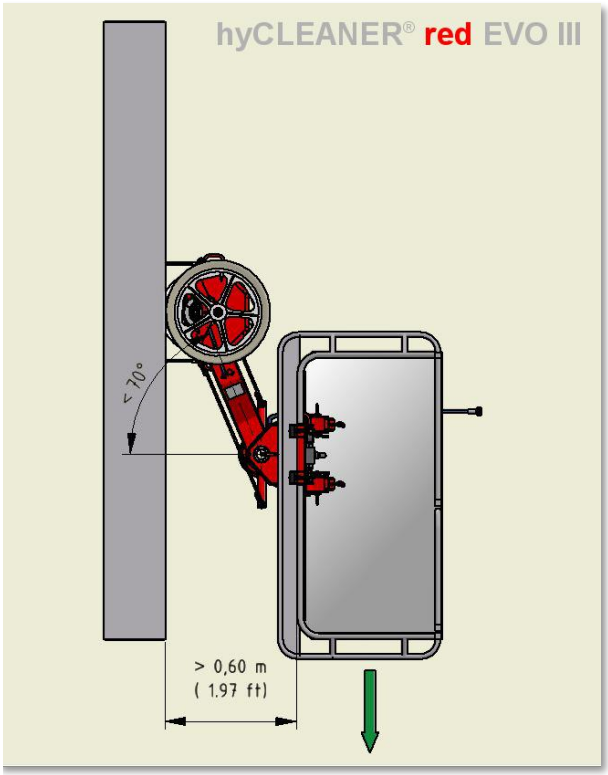
The pressure is checked on the pressure gauge once the high-pressure pump is switched on and the manual control unit is closed.

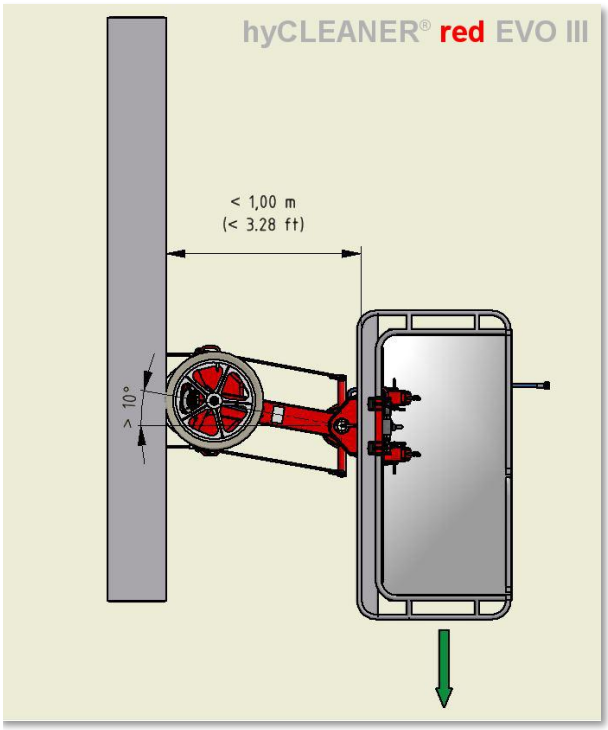


minimum water pressure: 120 bar (1740 psi)
maximum water pressure: 160 bar (2300 psi)

Open the operating lever carefully to initiate the brush movement.

The slow movement of the operating lever prevents disruptive forces from developing.





- Move the work basket parallel to the façades until the brush almost touches the façades.
- Pivot the brush system by pulling the top wheel axle towards the work basket (as illustrated) so that a "towing movement" is ensured when subsequently moving the basket in the direction of the green arrow.
- With the brush system pivoted, move the basket towards the wall so that the work basket is in a distance between 0,6 m (1.97 ft) and 1,0 m (3.28 ft) to the façade, which corresponds to an angle between 70° and 10° to the start position of the brush arm.
- In practice, the required angle position of 10° can be detected as follows: When pivoting the brush system (705.040) by pulling up the top wheel axle a considerable resistance is perceptible at 10°. In this area the trajectory starts at the bottom frame part where brush system (705.040) is lifted via the slide screw and, thus, delivering the required contact pressure to the washing brush.
- In practice, the maximum angle position of <70° can be detected as follows: When pulling up the top wheel axle the stop between the bottom frame part and the brush system is perceptible at an angle of 70°. In this state, there is a space of approx. 100 mm between the work basket railing and the top pneumatic-tyred wheel.
- If the work basket is to be moved in the opposite direction (opposite to the direction of the green arrow) we recommend to also pivot the brush system in the opposite direction so that again a "towing movement" is carried out. In this way, a uniform cleaning result is achieved.

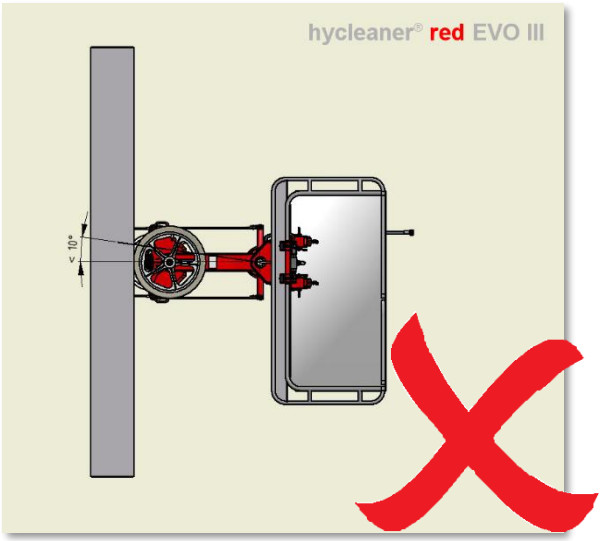
Attention:
When moving the brush system (705.040) to the next lower track, the brush system (705.040) should be moved away from the wall to prevent the washing brush or the pneumatic-tyred wheels from damaging.

If stopping a movement for longer than 5 minutes the washing brush should be stopped to prevent damage to the façade.

In the case of emergency the facadeBRUSH h-line has to be stopped by operating the emergency stop switch at the operating platform!

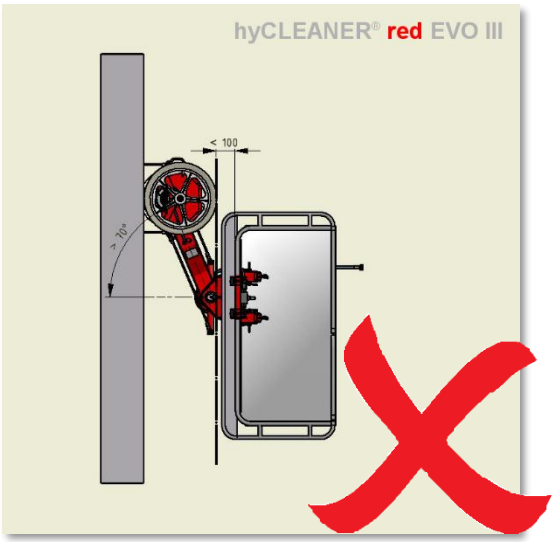
8.2.1. Not permitted work positions

a) Approaching the façade with the brush while the washing brush is moving or stationary is only permissible if the brush system has been pivoted towards the work basket in an angle of 10° to the left-hand side or right-hand side.



A non-observance may cause excessive forces that can damage the **facadeBRUSH h-line**, the work basket or other parts of the carrier system and the façade.

b) If the brush system maximum right-hand side or left-hand side pivot angle of 70° is reached a further approach of the work basket or carrier system towards the façade is not permitted.



A non-observance may cause excessive forces that can damage the **facadeBRUSH h-line**, the work basket or other parts of the carrier system and the façade.

8.3.Special safety guidelines

	**DANGER** **Danger of life due to suffocating!** **Loose work clothes can be drawn in by rotating components. This can lead to considerable injuries or even death!** ⇨ **Wear tight-fitting working clothes when handling the facadeBRUSH h-line!** ⇨ **Keep away from rotating components!** ⇨ **Tie back long hair!**

	**CAUTION** **Personal injury due to rotating components!** **Rotating components cause a risk of injury!** ⇨ **Keep away from rotating components!** ⇨ **Tie back long hair!**

9.Dismounting / decommissioning

Before every decommissioning the washing brush is to be thoroughly freed from dirt particles by means of a high pressure pump, in order to avoid damages to the surface with the next use of the machine due to adhering dirt particles.

The dismounting of the **facadeBRUSH h-line** is carried out in reverse order to the mounting according to point 8.1.

Attention:
No screw connection may be loosened which connects the frame to a work basket.

	**DANGER** **Danger to life due to falling components!** **In the case of non-observance of the operating instructions, falling components of the facadeBRUSH h-line can lead to the death of uninvolved persons or other creatures!** ⇨ **Read and understand the operating instructions!** ⇨ **Use the operating instructions!** ⇨ **Secure dismounted units against falling!**

	**WARNING** **Risk of injury due to components under high pressure!** **Improperly dismounted components under high pressure can cause considerable injuries of the operating personnel!** ⇨ **Read and understand the operating instructions!** ⇨ **Use the operating instructions!** ⇨ **Switch off the high pressure pump before the dismounting of the facadeBRUSH h-line , release high pressure and separate both from one another!**

10.Maintenance and inspection instructions

The maintenance of the **facadeBRUSH h-line** is kept to a minimum.

No maintenance is required for the friction bearings. Corrosion-resistant materials, such as aluminium alloys, stainless steel and diverse plastics are used.

Nevertheless minimum maintenance and inspection is required for a safe operation and a long service life of the components.

List of maintenance and inspection works, as well as their intervals:

Maintenance and inspection work	Interval	Measure in case of defects	Operator	Dealer
Check rubber ropes for wear of the outer skin and the individual heddles	Prior to each commissioning	Order and install original ropes; further operation only allowed after correction of defects!	X	X
Contamination of the washing brush and the bracing brush	After and before every assignment	Clean with water!	X	
Air pressure check: of Wheels: Min. 2.5 bar (36 psi) Max. 3.0 bar (44 psi)	Once per week	Correct air pressure	X	
Check for solid fit of all screw connections, as well as the function of the locking mechanisms (spring splint pin, safety nut ...)	Prior to each commissioning	Retighten loose screw connections and create locking mechanisms.	X	
Check for deformations and cracks at machine components	Prior to each commissioning	In the case of damages further operation is not allowed! Repair by dealer!		X
Pressure filter	Every 6 months	Clean filter cartridge	X	
Check water hoses and tyres for porosity	Yearly	Renew as required		X
	Due to ageing we recommend the renewal of all tyres, hoses, water hoses and rubber buffers no later than every 6 years			X

11.Troubleshooting

Error	Assembly group	Measure	Operator	Dealer
Brush doesn't rotate	Brush system 705.040	Check supply line water high pressure; check high pressure pump	X	
Brush rotates only slowly or stops automatically after a short period	Brush system 705.040	Check cross section water high pressure hose and connection element; Check filter, clean or exchange cartridge, if necessary	X	
Leakage in the hose system or screw connection	Brush system 705.040 Frame 705.039	Retighten screw connection; inform dealer, if necessary	X	X

12.Distributer addresses (country-related)

Distributor of **facadeBRUSH h-line**:

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13.EC - Declaration of conformity

Original document

According to 2006/42 EC dated 09/06/2006, art. 2b for an exchangeable equipment

hyCLEANER GmbH & Co. KG, Maybachstraße 6, D-48599 Gronau, Germany hereby declares that the following exchangeable equipment corresponds to the basic requirements of the directive 2006/42/EC.

Product designation:	**facadeBRUSH h-line**
Serial number:	10xxx
Year of construction:	20xx
Authorised representative for the technical documentation:	Robin Sprakel / project engineer
Applied norms and guidelines:	Pressure equipment directive 97/23 Safety requirements regarding fluid-technical units DIN EN 982 EN 280 elevating working platforms (partly)

Conformity evaluation method annex VI

Sound power level: Noise directive 2000/14/EC is adhered to

This exchangeable equipment may only be commissioned, if it is attached as intended to the machine which conforms to the directive 2006/42EC.

This declaration of conformity will no longer be valid, if the product is reconstructed or changed without approval.

This is to certify that we are the authors of the above-mentioned data.

Gronau, 03. June 2025

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Project engineer/ signature

14.Hydraulic plan