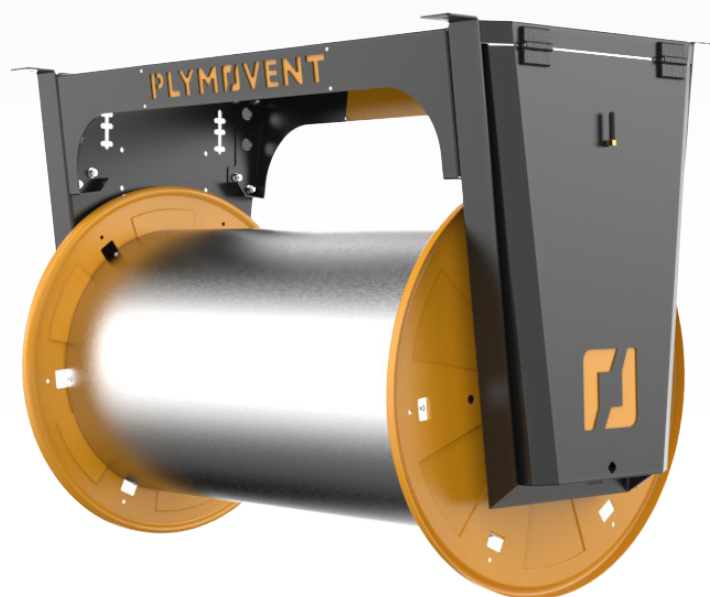


MHR MOTORIZED HOSE REEL



EN – ORIGINAL INSTRUCTION

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To improve comprehension for people whose first language is not English, we have written parts of this manual in Simplified Technical English (STE). STE is a controlled language originally developed for aerospace industry maintenance manuals. It offers a carefully limited and standardized subset of English, along with specific writing rules.

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PREFACE

Using this manual

Pictograms and symbols

The following pictograms and symbols are used in this manual:

	TIP Suggestions and recommendations to simplify carrying out tasks and actions
	ATTENTION A remark with additional information for the user. A remark brings possible problems to the user's attention.
	CAUTION! Procedures, if not carried out with the necessary caution, could damage the product, the workshop or the environment.
	CAUTION Denotes risk of electric shock.
	WARNING! Fire hazard! Important warning to prevent fire.
	WARNING! Explosion hazard! Important warning to prevent explosions.
	Personal protective equipment (PPE) Instruction to use respiratory protection when you do service, maintenance and repair jobs, as well as during functional testing. We recommend to use a half-face respirator according to DIN EN 141/143, protection class P3.
	Personal protective equipment (PPE) Instruction to use protective gloves when you do service, maintenance and repair jobs.

Text indicators

Listings indicated by "-" (hyphen) concern enumerations.
Listings indicated by "•" (bullet point) describe steps to perform.

Service and technical support

For information about specific adjustments, maintenance or repair jobs which are not dealt with in this manual, please contact the supplier of the product. He will always be willing to help you. Make sure you have the following specifications at hand:

- product name
- serial number

You can find these data on the identification plate.

Product indications

Unless specifically stated, the contents of this manual applies to the MHR.

1 INTRODUCTION

1.1 Identification of the product

The identification plate contains, among other things, the following data:

- product name
- serial number
- supply voltage and frequency
- power consumption

1.2 General description

The Motorized Hose Reel (MHR) is used in vehicle exhaust removal systems to retract and protract hoses by means of an electrical motor. It prevents extraction hoses from trailing over the workshop floor. MHR takes up a small space and can be mounted to the ceiling or on a wall or swing boom arm. MHR is ideal for workshops with small and medium-sized working areas, as it excels at higher ceiling heights and can be mounted high enough to allow a crane passing below it.

1.3 Technical specifications

■ Physical dimensions and properties		
Material		
• frame	• textured powder coat galvanized steel	
• drum	• textured powder coat galvanized steel and galvanized steel	
Colour	yellow (RAL 1004) and basalt grey RAL (RAL 7011)	
■ Performance		
Power supply	110/120V	230V
Phase	Single phase	Single phase
Current	2.5A	1.25A
Frequency	60 Hz	50/60 Hz
Output	270W	290W
Speed	14 rpm	12/14 rpm
Lifting capacity (at hose diameter 6 in. (150 mm))	40 lbs (18 kg)	40 lbs (18 kg)
■ Ambient conditions		
Operating temperature:		
• min.	• 32°F (0°C)	
• nom.	• 68°F (20°C)	
• max.	• 104°F (40°C)	
Max. relative humidity	80%	
Outdoor use allowed	no	
Storage conditions	• 32 - 68°F (0 - 40°C) • relative humidity max. 80%	
■ Options and accessories		
Automatic damper MSR-24/2 switch for automatic fan start and/or damper control		

2 PRODUCT DESCRIPTION

2.1 Product components

The product consists of the following main components and elements (figure 2.1):

- A Mounting beams
- B A-frame drive side
- C A-frame air side
- D Drum

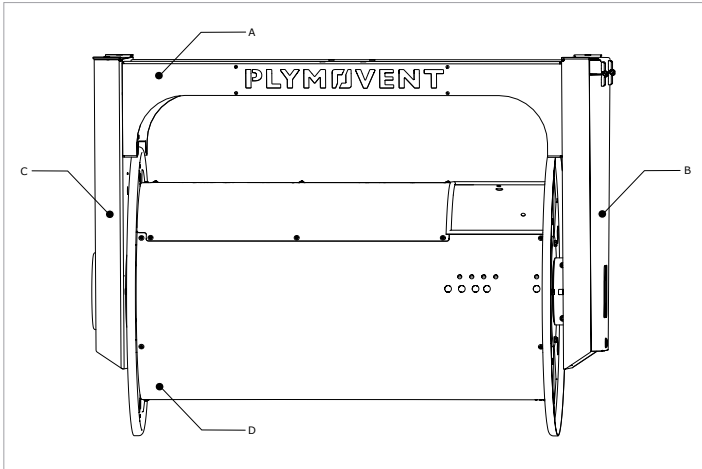


Fig. 2.1 Product components

3 SAFETY INSTRUCTIONS

General

The manufacturer does not accept any liability for damage to the product or personal injury caused by ignoring of the safety instructions in this manual, or by negligence during installation, use, maintenance, and repair of the product mentioned on the cover of this document and any corresponding accessories. Specific working conditions or used accessories may require additional safety instructions. Immediately contact your supplier if you detect a potential danger when using the product.

The user of the product is always fully responsible for observing the local safety instructions and regulations. Observe all applicable safety instructions and regulations.

User manual

- Everyone working on or with the product, must be familiar with the contents of this manual and must strictly observe the instructions therein. The management should instruct the personnel in accordance with the manual and observe all instructions and directions given.
- Do not change the order of the steps to perform.
- Keep the manual with the product.

Users

- The use of this product is exclusively reserved to authorised, trained and qualified users. Temporary personnel and personnel in training can only use the product under supervision and responsibility of skilled engineers.
- Stay alert and keep your attention to your work. Do not use the product when you are under the influence of drugs,

alcohol or medicine.

- The product is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children must be supervised not to play with the product.

Technical specifications

Do not change the specifications given in this manual.

Modifications

Modification of (parts of) the product is not allowed.

Installation

- The installation of this product is exclusively reserved to authorised, trained and qualified engineers.
- The electric connection must be executed in accordance with the local codes and requirements. Ensure compliance with the EMC regulatory arrangements.
- During installation, always use Personal Protective Equipment (PPE) to avoid injury. This also applies to persons who enter the work area during installation.
- Use sufficient climbing gear and safety guards when working on a higher level than 2 metres (local restrictions may apply).
- Do not install the product in front of entrances and exits which must be used for emergency services.
- Mind any gas and water pipes and electric cables.
- Make sure that the workspace is well illuminated.
- Stay alert and keep your attention to your work. Do not install the product when you are under the influence of drugs, alcohol or medicine.
- Air containing particles such as chromium, nickel, beryllium, cadmium, lead etc., should never be recycled. This air must always be brought outside the working area.

Use

- Inspect the product and check it for damage. Verify the functioning of the safety features.
- Check the working environment. Do not allow unauthorised persons to enter the working environment.
- Protect the product against water and humidity.
- Make sure the room is always sufficiently ventilated; this applies especially to confined spaces.
- Make sure that the workshop, in the vicinity of the product, contains sufficient approved fire extinguishers (suitable for fire classes ABC).

Service, maintenance and repairs

- Obey the maintenance intervals given in this manual. Overdue maintenance can lead to high costs for repair and revisions and can render the guarantee null and void.
- Always use Personal Protective Equipment (PPE) to avoid injury. This also applies for persons who enter the work area.
- Make sure the room is sufficiently ventilated.
- Use tools, materials, lubricants and service techniques which have been approved by the manufacturer. Never use worn tools and do not leave any tools in or on the product.
- Use sufficient climbing gear and safety guards when working on a higher level than 2 metres (local restrictions may apply).
- Clean the area afterwards.

4 INSTALLATION

4.1 Tools and requirements

You need the following tools and requirements to install the unit:



- philips screwdriver
- wrenches
- FCC approved transmitter 434 MHz (such as the Remote Control Fobber or Wall Mount Remote) (might be ordered separately).

4.2 Unpacking

The package contains:



- MHR
- square key
- antenna
- manual

4.3 Mounting the hose

To assemble the MHR, complete the following steps referring to figures 4.1 & 4.2:

- Remove the edge trim (A) and drum lid (B).
- Place the O-ring (E) into the groove of the outlet (D).

for MAP 75, 100, 125:

- Mount the MAP reducer (F) to the outlet (D).
- Mount the hose on the MAP reducer (F) by fastening the clamp (G).

for MAP 150:

- Mount the hose to the outlet (D) by fastening the clamp (G).
- Bend the hose into a natural soft curve outwards. Fasten it using the U-clamp (C).
- Re-mount the drum lid (B).
- Re-mount the edge trim (A).

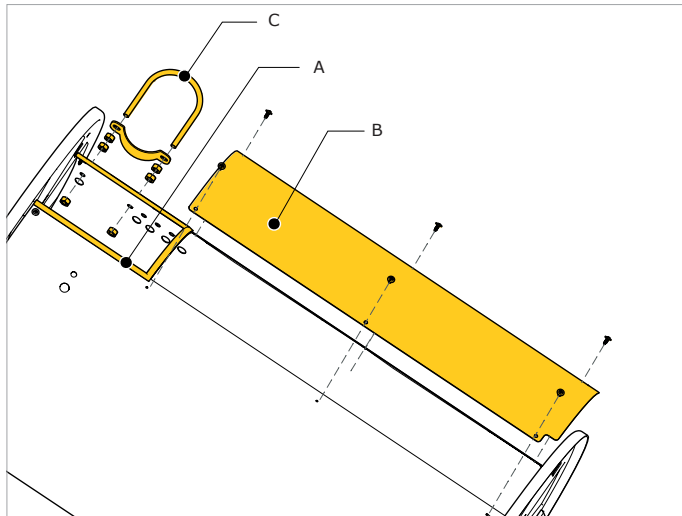


Fig. 4.1 Mounting the hose

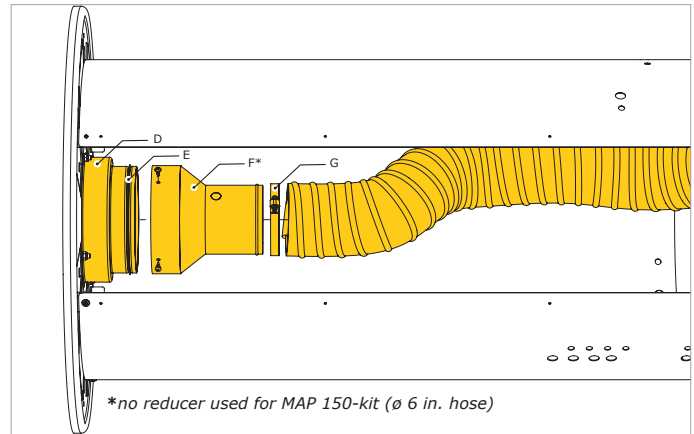


Fig. 4.2 Mounting the hose

4.4 Electrical connections



CAUTION

Electric connection to be executed in accordance with local requirements. Ensure compliance with the EMC regulatory arrangements.

Mount the antenna

To install the antenna for the remote control receiver, complete the following steps referring to figure 4.3 & 4.4:

- Open the MHR side panel (A) using the included square key.
- Detach the antenna (C), and attach it to the hole (B) on the outside of the side panel.
- Attach the antenna extension cable (D) to the antenna on the inside of the panel. Attach the other side of the extension cable (D) to the threaded connector (E) on the PCB.

Wire the power supply

- Power the MHR motor and wireless receiver by wiring 1-phase/230V/60Hz or 1-phase/120V/60Hz input power to the PCB as seen in figure 4.4.
- Close the MHR side panel (A) by pushing it closed and turning the square key.

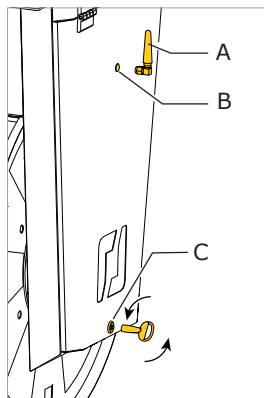


Fig. 4.3 MHR side panel

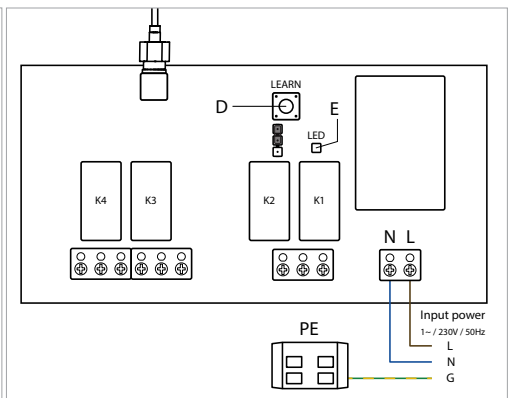


Fig. 4.4 MHR power and receiver PCB



ATTENTION

Do not use long tack screws when installing ductwork to the optional HR-AD. Protruding screws could prevent the automatic damper from opening properly.

4.4.1 Adjusting the limit switch

The limit switch stops the motor from rotating past the set range. Make sure to set the limit so that the motor stops when the hose is fully extended on one side, and fully retracted on the other side. Refer to figure 4.5:

- Use the limit-adjusting pole (A) to set the hose's range of motion according to the motor's direction (B and C).
" +" means increasing the hose's moving space,
" - " means reducing the hose's moving space.
To adjust the drum a full rotation, rotate the limit-adjusting pole (A) ± 5 times.

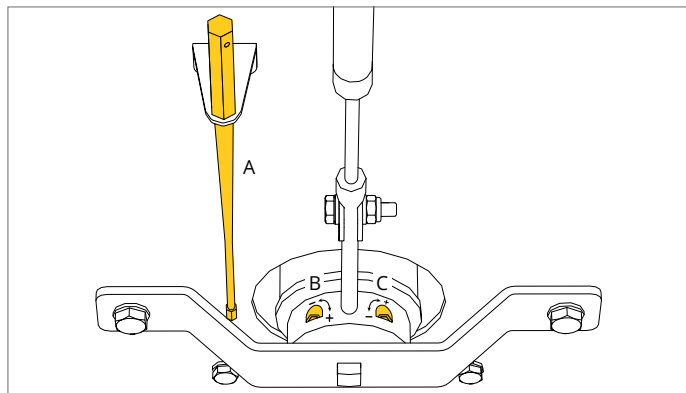


Fig. 4.5 Adjusting the limit switch

4.5 Remote control

When ordered together, the remote transmitter and receiver are pre-installed and ready to be used.
By default buttons 1 and \blacktriangle are paired to relay 1 (K1, fig. 4.4), buttons 2 and \blacktriangledown to relay 2 (K2, fig. 4.4).

4.5.1 Reset receiver

Refer to figure 4.4.
To reset the receiver, press and hold the LEARN (D) switch for 10 seconds. The LED (E) on the receiver blinks 3 times to confirm that the memory has reset.

4.5.2 Pair remotes

To pair a remote control transmitter follow the steps and refer to fig. 4.4.

- To pair relay 1, press the LEARN (D) switch on the PCB once. The receiver LED (E) will blink once.
- Press the button on the remote that you want to pair. The LED (E) on the receiver blinks to confirm pairing.
- To pair relay 2, press the LEARN (D) twice. The receiver LED (E) will blink twice.
- Press button on the remote that you want to pair. The LED (E) on the receiver blinks to confirm pairing.

4.6 Mounting on wall or ceiling

	ATTENTION The cover on the drive side of the MHR opens up 23 in. (600 mm) to the side. Please take this service distance in account when mounting the hose reel.
	ATTENTION Please consult the table heights and dimensions in paragraph 4.6 before to determine the mounting height of the hose reel before installation.

4.6.1 Wall mounting

The package contains no mounting hardware for mounting the frame, since the required mounting hardware depends on the wall type. The hose reel can be mounted on e.g.:

- a thin brick or concrete wall (min. thickness 4 in. (120 mm), using four threaded rods;
- a thick brick or concrete wall, using four cotter bolts;
- a steel profile (e.g. H-profile), using four threaded rods.
For this purpose two square tubes (1.2x1.2x0.1 in. (30x30x3 mm)) need to be mounted to prevent bending.

Hose drop side

Refer to figure 4.6 below.

- Mount \varnothing 6 in. (150 mm) hose only so that it drops away from the wall (A).
- Mount \varnothing 4 or 5 in. (100 or 125 mm) hose on either side of the drum (A or B).

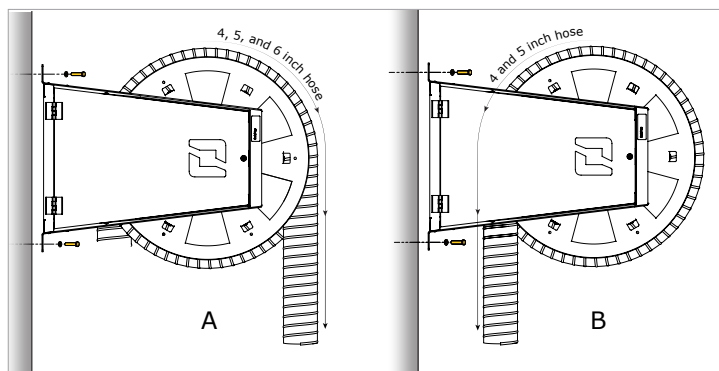


Fig. 4.6 MHR mounting on wall
A: drops away from the wall (4, 5, 6 in. hose)
B: drops close to the wall (4, 5 in. hose)

4.6.2 Ceiling mounting

The package contains no mounting hardware for mounting the frame, since the required mounting hardware depends on the ceiling type.

Refer to figure 4.7 below.

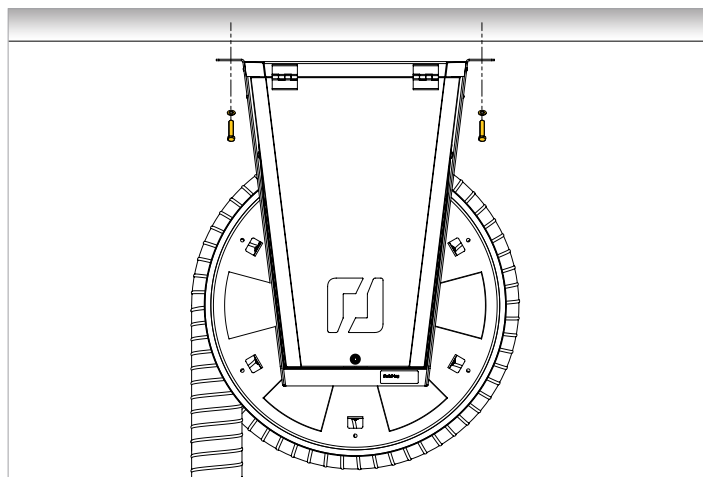


Fig. 4.7 MHR mounting on ceiling

4.7 Heights and dimensions

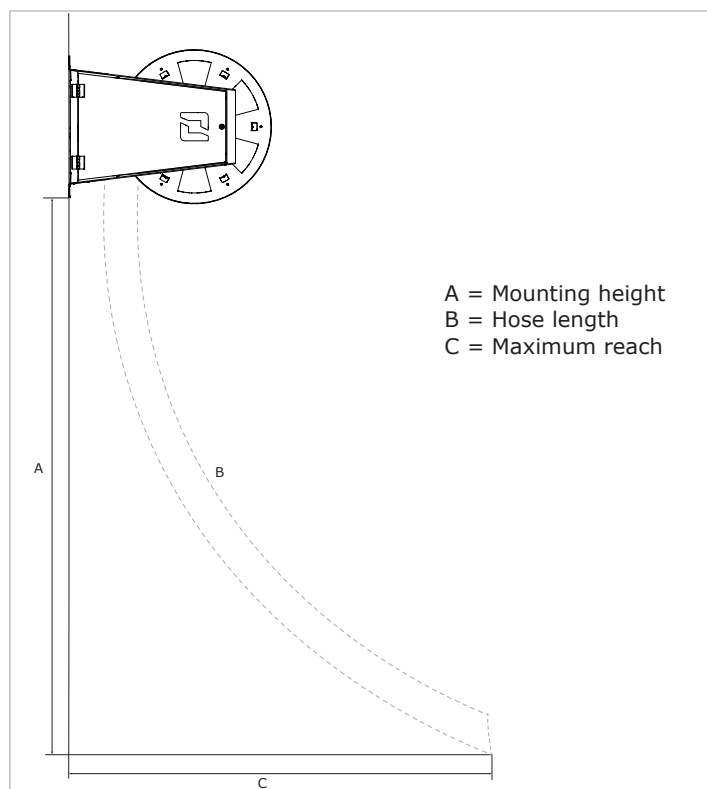


Fig. 4.8 Heights and dimensions chart

Hose length	Mounting height	Maximum reach
25 ft (7,5 m)	9.8 ft (3 m)	20.4 ft (6,2 m)
	11.5 ft (3,5 m)	19.4 ft (5,9 m)
	13.1 ft (4 m)	18 ft (5,5 m)
	15 ft (4,5 m)	17.1 ft (5,2 m)
	16.4 ft (5 m)	15.5 ft (4,7 m)
33 ft (10 m)	11.5 ft (3,5 m)	28 ft (8,5 m)
	13.1 ft (4 m)	27.3 ft (8,3 m)
	15 ft (4,5 m)	26.3 ft (8 m)
	16.4 ft (5 m)	25.3 ft (7,7 m)
	18 ft (5,5 m)	24.3 ft (7,4 m)
41 ft (12,5 m)	16.4 ft (5 m)	35 ft (10,6 m)
	18 ft (5,5 m)	34 ft (10,3 m)
	19.7 ft (6 m)	33 ft (10 m)
	21.4 ft (6,5 m)	32 ft (9,7 m)
	23 ft (7 m)	31 ft (9,4 m)

4.7.1 Dimensions

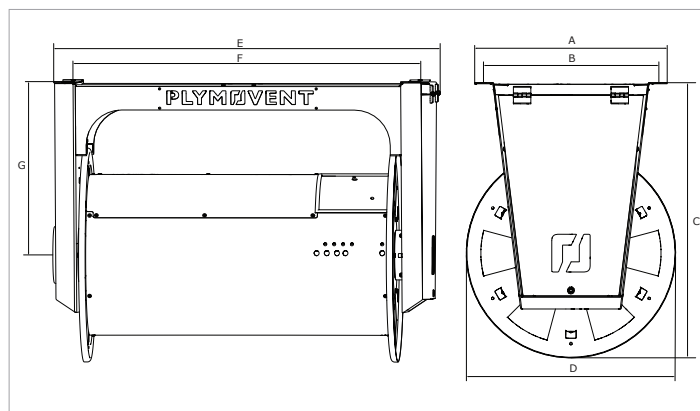


Fig. 4.9 MHR dimensions

	MHR-850 in. (mm)	MHR-1050 in. (mm)
A	21.7 in. (552 mm)	21.7 in. (552 mm)
B	19.7 in. (500 mm)	19.7 in. (500 mm)
C	31 in. (789 mm)	31 in. (789 mm)
D	23.6 in. (600 mm)	23.6 in. (600 mm)
E	42.3 in. (1075 mm)	50.2 in. (1275 mm)
F	38.4 in. (975 mm)	46.3 in. (1175 mm)
G	19.3 in. (489 mm)	19.3 in. (489 mm)

4.8 Options and accessories

4.8.1 Micro switch MSR-24/2

For installation of the MSR-24/2, refer to MSR-24/2 instruction sheet.

4.8.2 Automatic damper

When a MHR with automatic damper has been ordered the damper will be preinstalled on the unit.

5 USE

The MHR hose reel is operated up and down with the wall mounted or handheld remote controls.

The best flow performance can be achieved when the hose reel is completely wound down (minimized static pressure).

6 MAINTENANCE

6.1 Periodic maintenance

The product has been designed to function without problems for a long time. In order to guarantee this some simple, regular maintenance activities are required which are described in this chapter.

The maintenance activities in the following table can be carried out by the user.



Component	Action	Frequency: every X months	
		X=6	X=12
Service hatch	Inspect if the motor is still secured properly. Check motor bracket.		X
	Wind the motor up and down. Check for sounds indicating wear or tear.		X

Replacing the hose

Refer to figure 6.1 and figure 6.2 below.

- Uncoil the hose completely and lock reel in its most extended position.
- Dismantle edge trim (C), drum lid (A) and clamp (B).
- Loosen hose clip on the duct adapter (D) and remove the old hose.
- Attach new hose, bend it into a natural soft curve and fasten it using clamp (B).
- Re-mount the drum lid (A).
- Re-mount the edge protection (C) at the opening of the drum where the hose protrudes.
- The reel is now ready for use.

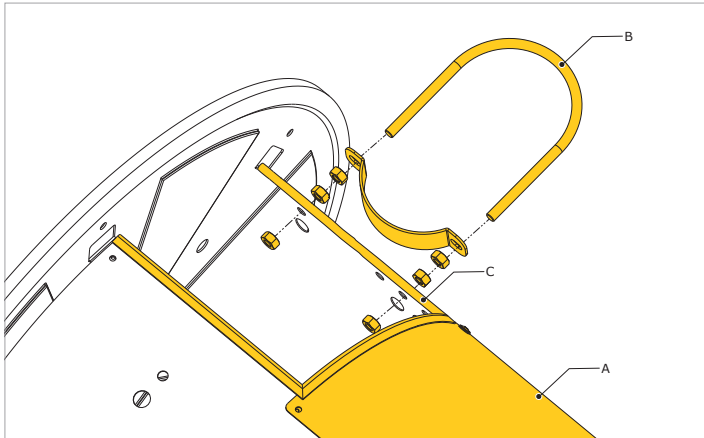


Fig. 6.1 Replacing the hose

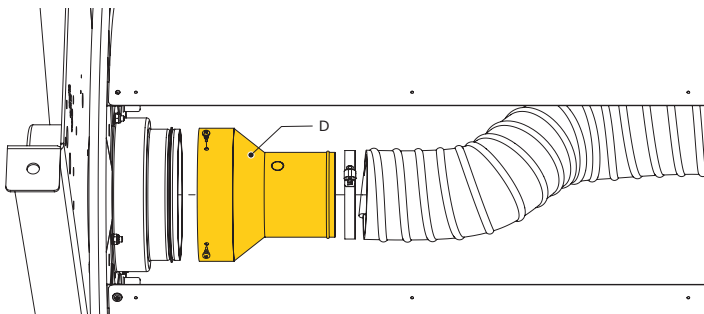


Fig. 6.2 Duct adapter

6.2 Replacing the motor



ATTENTION!

Maintenance should only be performed by authorised, qualified and trained persons (skilled) using appropriate work practices.



WARNING

Electrocution hazard

Disconnect mains before servicing. Failure to do so could result in serious personal injury or death.

Refer to figure 6.3 below.

- Open the motor compartment using the square key.
- Disconnect the motor electrically.
- Remove the motor bracket by unfastening the 2x M8 bolts.
- Pull out the motor and replace with the new one.
- Put the motor back in place and secure with the motor bracket by fastening the 2x M8 bolts.
- Connect the electrical wires from the motor to the remote control PCB according to figure 6.4
- Check the up and down functions of the motor.

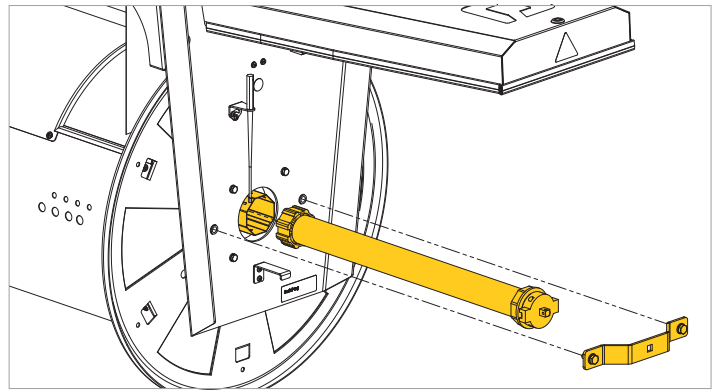


Fig. 6.3 Replacing the motor

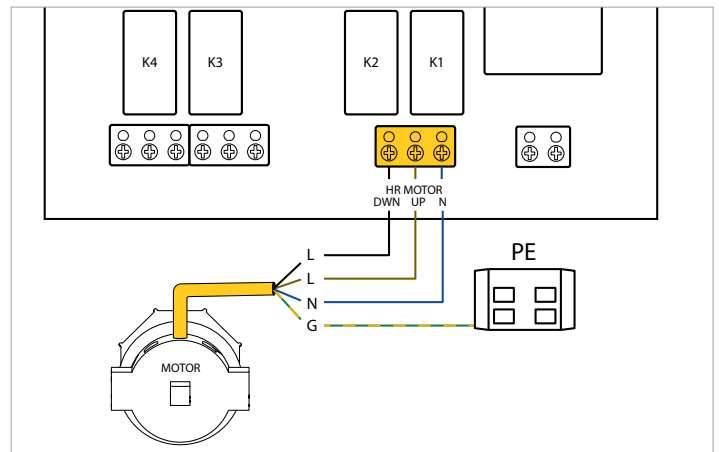


Fig. 6.4 Wire the motor to the PCB

7 TROUBLESHOOTING

If the system does not function (correctly), consult the checklist below to see if you can remedy the error yourself. Should this not be possible, contact your supplier.



Problem	Possible cause	Solution
There is no air flow	Fan is running, but obstacles may block the airflow	Inspect airflow path for obstacles
Reduced airflow	Fan runs in the wrong direction (3 ph only)	Switch two out of three wires (any two will do)
	Hose reel is not wound down completely	Make sure the hose reel is completely wound down
The hose does not move up or down	There is no mains supply	Check the electrical connection
	Thermal protection active	Try again after 4 minutes and inspect load on hose reel
	Wiring error in the controls	Inspect and adjust the controls
The hose reel does not move up	Too much weight on the hose reel	Inspect the hose reel for max. load

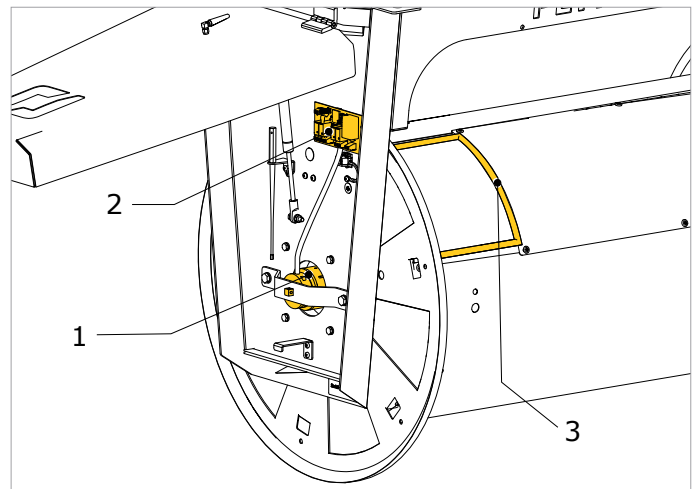


Fig. 8.1 Spare parts part 1

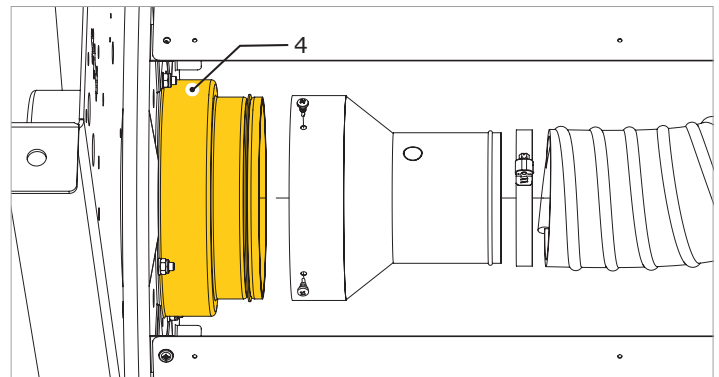


Fig. 8.2 Spare parts part 2

8 SPARE PARTS

Refer to figure 8.1 and 8.2 below.

Pos.	Article number	Description
1	0000301775	Tubular motor MHR 215/216 230V,1~50Hz/230V,1~60Hz
1	0000302271	Tubular motor MHR 116 120V,1~60Hz
2	0000304746	Remote Control Receiver 434 MHz PCB
3	0000116955	Edge cover
4	Inquire supplier	Bearing hose and drive side 160 mm (6.3 in.)

9 DISPOSAL

After life of the product, dispose it of in accordance with federal, state or local regulations.

