

Users Guide

DEHACO

Water management systems



This guide is for models:

WFS 45 - WMS 50 - WMS 85

Specifications-Safety-Usage-Maintenance



NOTE!

Persons concerned with usage, operation and maintenance of this product should have a copy of these instructions present at all times !!!

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1. Preface

This users guide has been composed for all those concerned with usage, operation and maintenance of the water management systems.

All those concerned with usage, operation and maintenance must:

- have the needed knowledge and qualifications for their task.
- have read and understood this users guide.
- follow all safety restrictions.
- have ample tools of good quality if necessary

Save these instructions carefully and supply with a possible resell.

These instructions contain the following symbols and scripts:



WARNING!

This text gives information about safety! Not following instructions can cause direct bodily harm and/or damage to machinery.



NOTE!

This text gives directions, tips and information for optimal use.

In the index underneath please write down the information provided on the tag plate of your water management system. You will need the type and serial number for eventual ordering of parts from Dehaco or an official Dehaco dealer.



Model
Serial no.
Volt
Year
Freq./Curr.
Tank
Weight

2. Introduction

Thank you for purchasing a Dehaco water management system. You now have a machine at your disposal with the latest technology which will give you, with proper care, years of use without problems.

This guide is intended to help you familiarize with operation, give instructions on safety issues and periodical maintenance.



NOTE!

Make sure you read these instructions before use.



This users guide, the tag plate and the attached safety stickers contain important information about the water management system and are in that qualification part of delivery. These are required to be replaced in case of damage or loss. These can also be provided by Dehaco or an official Dehaco dealer.



NOTE!

The safety regulations in this guide are minimal instructions that need to be followed. These regulations are usually complemented and supervised by local authorities. Not complying with safety regulations can be hazardous for your health.

3. General description

Dehaco supplies a wide range of water management systems. This so called water provision unit is used in decontamination units for delivery of clean warm water for showering and for pumping out dirty water. This water is drained through a triple-tap filter system.

This system consists of a water tank with built in heating component that enables heating according to the set temperature of the thermostat. Depending on the type, the tank can hold up to 45, 50 or 85 litres. The water level is controlled by floats. For showering and drainage two small pumps have been installed. The dirty water is extracted through an external 3-stage water filter system. A charlock link is used to connect the water hoses.

Operation of the system is done through an air pressured switch in the decontamination unit. The water management system is electronically regulated and guarded by a programmed control relay. A circuit breaker has been installed for maximum safety.

The complete water management system is built up with reliable parts placed in a solid polypropylene casing.

Optional is a legionella control system that kills legionella bacteria through the use of a UV-light thus making the use of chemicals redundant.



3-way filter system



4. Intended use

The Dehaco water management systems have been developed for:

- a) The provision of warm shower water in the decontamination units.
- b) The extraction of dirty water out of the decontamination units.

The water management systems are developed for outside use but needs to remain dry at all times.



WARNING!

The appropriate filter unit that is used for cleaning drainage water is not part of the standard package and needs to be ordered separately.

- Usage suitable only for:
 - Asbestos removal
 - Chemistry and Bacteriology



WARNING!

The Dehaco water management systems have not been fitted out with explosion-safe components and should never be used in a hazardous environment!!!



NOTE!

Dehaco does not take any responsibility if used improperly!

5. Technical specifications

	WMF45	WMS50	WMS85
Capacity water tank	45l	50l	85l
Water temperature	Variable, max 50°C	Variable, max 50°C	Variable, max 50°C
Hose connections	Camlock ¾	Camlock ¾	Camlock ¾
Warm up time at half full	20 min	20 min	40 min
Warm up time at full	50 min	50 min	90 min
Weight empty	30 kg	40 kg	50 kg
Weight full	75 kg	90 kg	135 kg
Measurements (lxwxh - cm)	72x33x71	52x65x71	57x67x96
Power supply	220V/14A	220V/14A	220V/14A
Protection degree	IP54, class1	IP54, class1	IP54, class1
Temperature control	Thermostat I+20A magnet relay		
Safety	Circuit breaker		

Working area:

- Casing should remain dry at all times
- Suitable temperature range +5°C till 40°C

6. Safety



AVERTISSEMENT!

*Nearly all accidents happen due to :
Lack of concentration, inattention, negligence, misconception*

Work calmly and concentrated. You are warned!



NOTE!

You should always follow the local regulations as well!



WARNING!

With inexperienced usage there is always a danger to bodily harm, damage to machines and endangerment of the environment!

Keep spectators at a distance.



WARNING!

The instructions in this user guide are meant only for the water management system, therefore you are also obliged to look into the personal safety requirements for your specific work environment.

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7. Storage

If the water management system is not being used for a longer period of time, empty out the water tank, clean the outside of the machine and then store inside in a dry environment.

8. Transportation

The water management systems, when empty, are fairly light in weight and have swivelling wheels with brakes and handgrips.



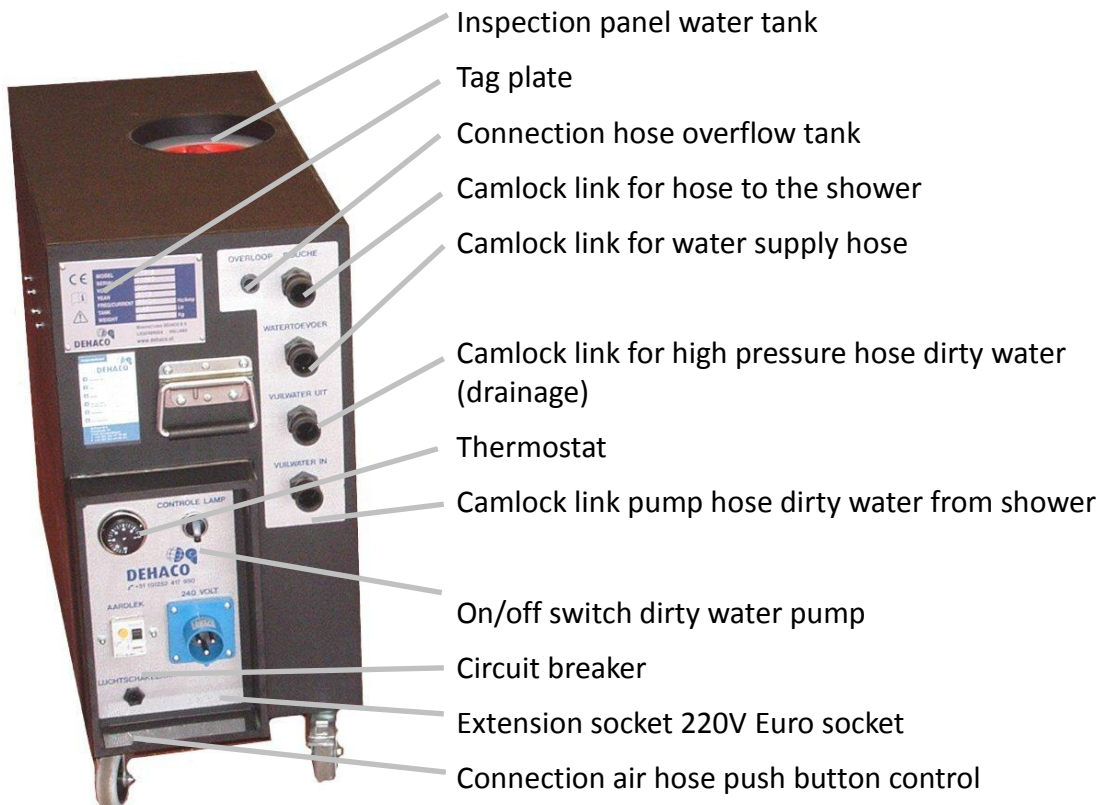
WARNING!!

Prevent damage! Always be careful when transporting a Dehaco water management system. Always have damages repaired immediately.

In case of transport on a truck or trailer always fasten with ample use for transport.

9. Operation

Overview WFS45



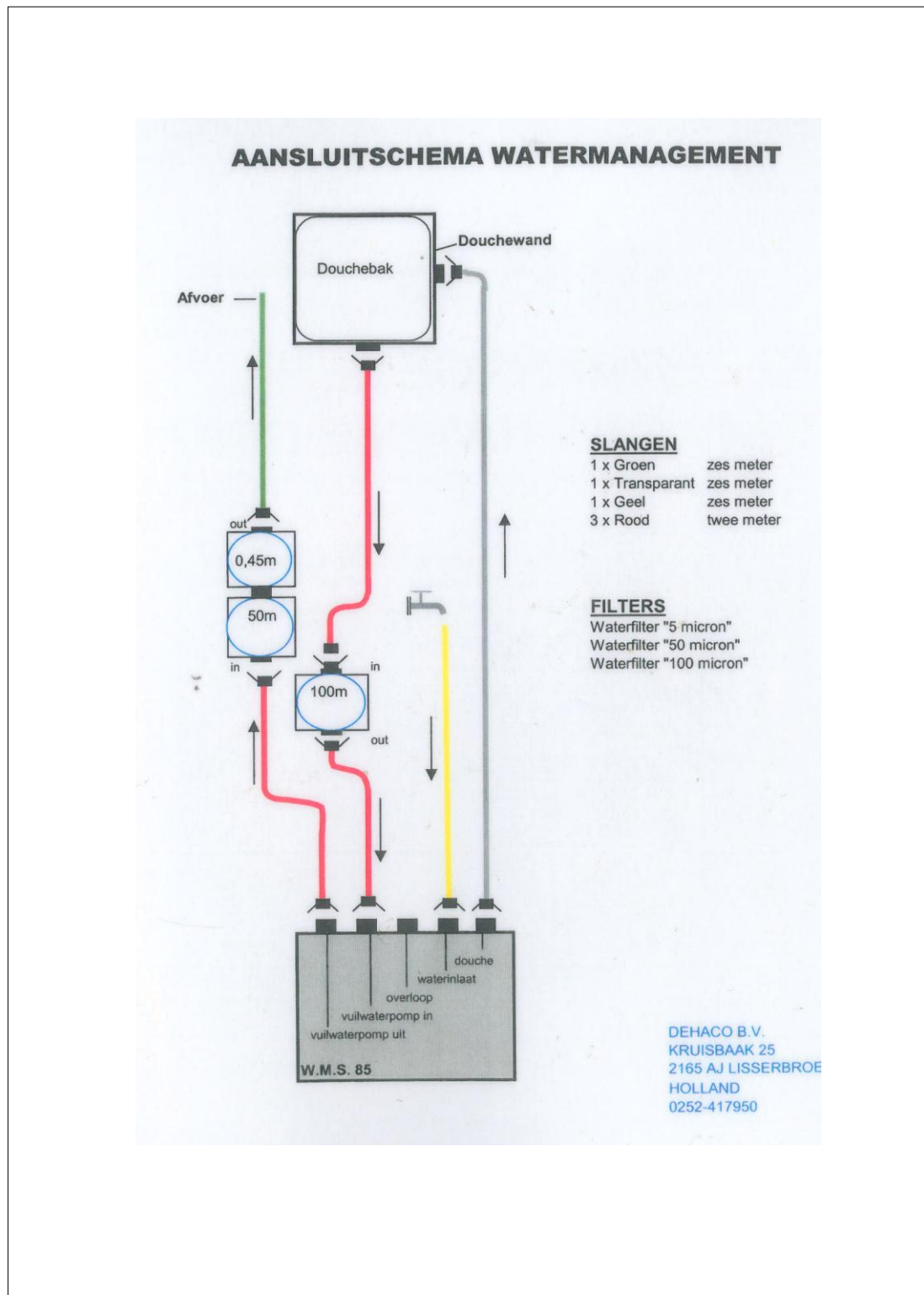
Overview WMS50 & WMS85



1. Connection air hose push button control
2. On/Off button
3. Thermostat
4. Inspection panel water tank
5. Pilot safety light
6. Camlock link for hose to the shower
7. Camlock link for water supply hose
8. Camlock link for overflow tank hose
9. Camlock link for pump hose dirty water from shower
10. Camlock link pressure hose dirty water(drainage)
11. Extension socket 220V euro socket
12. Circuit breaker

Connecting system

Connect the system according to the summary below:



Before starting



NOTE!!

Check to see if the hoses are connected according to the diagram for your own safety and protection!

- *Stabilize the WMS and lock the wheels.*
- *Connect the power supply (230V/16A earthed)*
- *Turn the WMS on*
- *Adjust the thermostat to the desired temperature. The thermostat in the heating element is present to a maximum of 50 degrees. Even though the adjustable thermostat might give a different impression the water temperature will never exceed 50 degrees. We recommend the thermostat to never be adjusted higher than 40 degrees.*
- *Open the water supply tap. The WMS starts to fill up half the storage tank automatically. This section will be heated to the desired temperature. When the desired temperature has been reached the WMS will continue to fill up and heats the rest of the tank.*
- *The WMS50 and WMS85 are fitted with a safety pilot which will flash if the water temperature exceeds 50 degrees or in case it has not reached the desired temperature. It will stop flashing as soon as the desired temperature has been reached.*
- *The WMS is now ready for use.*



NOTE!!!

Never fill the tank through the inspection panel but always use the hose with the camlock link!!!

10. Use

WMS 50 or 85:

- Showering
Press the air pressure switch for 1,5 seconds. The shower will then be activated for 45 seconds. The drainage pump will also be activated for 75 seconds at the same time.
- Pumping only
For draining only, the air pressure switch must be pushed 3x quickly and the pump will be activated for 20 seconds. Repeat if there is more time needed to empty out the shower base.
- Emptying out the water tank.
When transporting the WMS the water tank must be emptied first. Press the air pressure switch and hold for 10 seconds. Now both pumps will start draining through the shower. When the tank has reached its lowest level the WMS can be disconnected. By draining a full water tank through the system, all presence of dirt will be released in the filters.

WFS 45:

- Showering
Press the air pressure switch once. The shower and drainage pump will both start. Press the switch again to stop both pumps. The drain pump in the WFS 45 does not have a set finishing time.
- Draining only
Use the switch at the front of the WMS for only pumping water through the shower. The pump will be activated for 20 seconds. If this time is too short, repeat action.



NOTE!!!

After switching of the system and in case of leaving the place of work always assure that the water and power supply are turned off.

11. Maintenance

Preventive maintenance



NOTE!!!

Regular preventive measures creates less risk of disorders during work. Confirmed damages or defects should be repaired first to prevent bigger damage.

- Check on a daily base to see if supply cables and hoses are not damaged.
- Check on a daily base for water leaks within the water circuit.
- Check on a daily base the filters from the drain.

Regular maintenance

Replacing the filters:

- After every job
- By noticeable decreasing water drainage

Legionella prevention

Water management systems provided by Dehaco (through sales, rental and maintenance) are disinfected and legionella bacteria safe. Preventive measures that reduce the growth of bacteria are:

- Use tap water
- Let water flow through the tap before connecting to the tank
- Avoid stagnant water. Empty the complete system after work.
- In case warm weather empty the tank every four hours and refill with fresh water.

You are advised to clean your WMS regularly with 'BIOREMOVE' (Annex 1). You can also have Dehaco do this for you. Dehaco can provide an optional legionella control system which kills bacteria by using UV-light.



WARNING!

Dehaco delivers a WMS without legionella bacteria infection. Prevention during use is at your own responsibility!

12. Problem solving

If your WMS is not functioning properly, follow the instructions below. If this still does not give you the solution, please contact Dehaco or an official Dehaco dealer.

There is no power
1. Check to see if the power cable is connected and not damaged.
2. Check to see if the power on/off switch is turned in the position 'on'.
3. Check to see if the circuit breaker is switched to position '1'.
4. The machine has a technical problem, contact Dehaco or an official dealer.
The water is not heating up
1. Check the water supply, the water level in the tank should be more than half full in order for the heating element to be activated.
2. The temperature switch is set to 'back', reset the switch to the desired temperature.
3. The machine has a technical problem, contact Dehaco or an official dealer.
The water tank is not filling
1. Check to see if the tap is open.
2. Check to see if there is no hitch in the hose and that the hose is connected to the correct link.
3. The machine has a technical problem, contact Dehaco or an official dealer.
The shower pump does not start or stops immediately after starting
1. Check to see if you have power supply.
2. Check to see if there is no hitch in the shower hose.
3. Check to see if the hose to the shower is not squashed.
4. Check to see if the air pressure switch works.
5. The machine has a technical problem, contact Dehaco or an official dealer.
The drain pump does not start or stops immediately after starting
1. Check to see if you have power supply.
2. Check to see if there is no hitch in the hoses.
3. Check to see if one of the hoses is not squashed.
4. The machine has a technical problem, contact Dehaco or an official dealer.

13. End of lifecycle

Electrical equipment, accessories and packaging should be available for reuse in an environmentally friendly way.



Never throw electrical appliances away together with household waste!

According to the European guideline 2002/96/EG about electrical equipment and the transmission to national law, old or unused electrical apparatus must be collected and be re-used in an environmentally friendly fashion.



NOTE!

You are always required to follow the local laws and guidelines in respect to safe working conditions and disposal of goods.

Proceed as follows:

- Clean the machine
- Dismantle the machine and sort in groups: steel/metal-plastics-electrical components.
- At your local recycling centre or local government the separate components can be handed in for reuse.

14. Warranty

Dehaco B.V. gives a warranty of 12 months upon delivery of the water management system, based on defect parts and faults in construction.

Dehaco B.V. does not take any responsibility for direct or indirect damages caused by temporary not functioning of the WMS, but will exert the non-functioning period to the utmost minimum!!

Dehaco cannot be held responsible for the damage caused by legionella contamination or other bacteria found in water that can be hazardous for people, animals and/or herbal life.

The warranty of the water management system will be considered terminated in case of:

- Modifications have been made without written permission from Dehaco.B.V.
- Instructions from this users guide have not been followed.
- Here is an indication of improper use.

15. EG Declaration of conformity

Appendix according IIA of the machinery guideline

We,

Dehaco BV
Kruisbaak 25
NL-2165 AJ Lisserbroek

Declare under our sole responsibility that the product

Dehaco Water Management System

Brand: Dehaco
Model: WFS45
WMS50
WMS85

This statement refers to and is in complete compliance with the regulation of the following guidelines :

2006/42/EG Machinerichtlijn
2006/95/EG Veiligheid Elektrisch Materieel
2002/95/EG RoHS richtlijn
2002/96/EG AEEA richtlijn
2004/108/EG EMC richtlijn

And is also in agreement with the following requirements and/or documents:

NEN-EN 12100-1 Safety machines, basis
NEN-EN 12100-2 Safety machines, technical
NEN-EN 60204-1 Safety machines, electrical equipment
NEN-EN 5509 Users guide

Done at:

Lisserbroek, date:

Dehaco B.V.
Ing. A. Doeswijk

Annex 1 - Text as on label BIOREMOVAL

THE GOVERNING BOARD FOR ADMISSION OF PESTICIDES.

**ANNEX I with the admittance a.d. April 20, 2007 of the product BIOREMOVE,
Admission number 12917 N**

A. OFFICIAL INSTRUCTIONS FOR USE

This product may only be used to control:

1. Bacteria (excluding mycobacterium and bacterial spores) and yeasts on surfaces in areas intended for human use.
2. bacteria (excluding mycobacteria and bacterial spores) en yeasts on surfaces that may come in contact with food or drink, smoking materials, cosmetic products and related raw materials, with the exception of farm milking equipment.
3. Bacteria (excluding Bacterial spores), yeasts and moulds on internal surfaces of installations that come in contact with water (drinking water abstraction, process water, storage and distribution and drink water installations.) process
4. Bacteria (excluding bacterial spores) yeasts and moulds produced as a result of immersion or filling tools, equipment or pipe systems in the food, tobacco or cosmetic industry.

B. TERMS OF USE

General

First clean surfaces, apparatus, materials and pipes well with a cleaning solvent and then rinse well. Remove access water.

a) General use:

Spray with 14% solution (1 litre product in 6 litres water, using a large droplet size).

Use as much liquid as required to keep the surface sufficiently wet during the application time. Allow to work in for at least 5 minutes, then rinse thoroughly with clean tap water.

a) Hospitals and other health care providers:

For use in hospitals and other healthcare providers it is recommended only for the following use:

USE	APPLICATION TIME	DOSAGE
Surfaces (walls, floors, furniture)	5 minutes	14% (1 litre product in 6 litres of water)
Surfaces and machines in kitchens	5 minutes	14% (1 litre product in 6 litres of water)

2. Surfaces, machinery and materials that come in contact with for, drink and raw materials

Spray with a 14% solution (Nozzle for large droplets). Use as much liquid to keep the surfaces wet during application time and allow to work in for 5 minutes. Rinse thoroughly with clean tap water.

Annex 2 - Additional information about Legionella

This is a very brief summary taken from Arbo informatie – Legionella (Health and Safety Information - Legionella; ISBN 90-12-09953-6). For more detailed information, please refer to this publication (in Dutch) or contact the supplier.

Legionella is a collective term for several Legionella bacteria that can cause Legionnaires' disease. Legionnaires' disease is caused by inhaling aerosols (a particle mixed with a gas, such as clouds, etc.). Drinking contaminated water therefore does not cause the disease. There are two forms of Legionnaires' disease: Legionella pneumonia and Pontiac fever.

Legionella pneumonia is a serious form of pneumonia. The time between infection and observance of the first symptoms is between 2 and 19 days. Symptoms are similar to those of severe influenza: tiredness, weakness, muscle ache, headache and a fever above 39° C, together with symptoms of pneumonia: chest pain, coughing and shortness of breath. It can be treated successfully using antibiotics, if detected in time.



WARNING!!!

If you have the symptoms described above and have used the De-Dust in the preceding three weeks, you may have become infected. Contact your general practitioner and inform him/her that you have used a water spray system.

Pontiac fever is a less severe form of influenza. The time between infection and observance of the first symptoms is between 24 and 48 hours. The symptoms are similar to severe influenza but there is no pneumonia. The illness will pass in a few days and treatment is not required.

Although Legionella is found in normal tap water, this is not dangerous. The bacteria grow under the following conditions:

- at a water temperature between 20°C and 50°C;
- in water that has stood still for a long time;
- in the presence of a biofilm, a deposit in pipe systems.

Try to avoid such situations wherever possible.