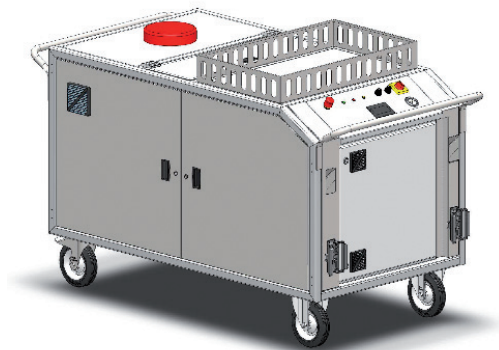




OSPREYFRANK
STEAM TECHNOLOGY

Dry Steamer iS54

MADE IN GERMANY



Vor Inbetriebnahme die Betriebsanleitung und Sicherheitshinweise lesen und beachten!



Read the instruction sheet and the safety instructions before putting into operation and observe them!



Safety instructions

1. Do not operate machine in fire and explosion hazard areas.
2. Always wear protective clothing and gloves, ear protector and goggles when using the Dry Steamer.
3. Do not allow children or untrained personnel to operate the machine.
4. Do not use in areas being used by other operators.
5. The electric supply connection must be installed by experts and must comply with IEC 364.
6. If extension cords are used, plug and socket must be of water-tight construction. The quality of the cord and the cross-section of the conductor must comply with the instructions and the electrical requirements of the machine.
7. The thread connection for the steam hose located at each end and the thread connection at the spray lance must be screwed pressure-tight.
8. Do not open the cover during operation. To open first disconnect the machine from the power source.
9. **DANGER: HOT AREAS:** Do not touch hot parts - especially the non-insulated parts of the steam spray lance and non-insulated steam hose couplings.
10. Do not direct the steam jet at people, electrical components or the machine itself.
11. The operator must supervise the machine at all times during operation.
12. Set main switch to "0" and lock "Emergency OFF Key switch" for prolonged stoppage, for maintenance and repair purposes.
13. Be aware of the kickback force of the spray lance. The operator must have a safe stand and hold the gun with the lance with both hands.
14. Do not use the machine if there is damage to the supply cord or other important parts - for example connecting cable, steam hose or jet lance.
15. Disconnect the machine from the electrical power supply for maintenance purposes. Maintenance may only be carried out by qualified personnel.
16. When descaling the steam cleaner, use only a descaling agent approved by the supplier.
17. Wear protective clothing when descaling the steam machine.
18. Only use original spare parts and accessories approved by the manufacturer.

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1. Use of application

The hot steam jet of this electrically heated machine removes rough grime, oil, grease, graphite and other dirt from industrial and production machines, plant equipment and can be used for decontamination and disinfection.

2. Technical Data

Water pump pressure	max. 140 bar
Steam pressure	max. 16 bar
Volume flow	
	DRY 72 kg/h
	WET 150 kg/h
Main connection	400 V 3AC 50 Hz
Remote control, protective low voltage	24V DC
Nominal consumption	55 kW 78 A
Heat capacity	54 kW
Noise emission, sound level	max. 72 dB (A)
Measured outside at a distance of 1 m from the machine surface and 1,6 m above the ground.	
Dimensions	
Length with trolley	2000 mm
Length without trolley	1600 mm
Width	950 mm
Height	1200 mm
Weight	390 kg

3. Description

3.1 Configuration

The steam cleaner is a mobile, electrically heated machine consisting of:

- Basic frame
- Steam generator
- Water pump with electrical motor
- Detergent dosing pump
- Electrical housing
- Water storage tank
- Anti-scale protection system
- Steam jet lance with remote control gun

The water storage tank is equipped with level monitors.

On the pressure side of the pump the machine is equipped with a flow monitor, a non-return valve and a pressure gauge.

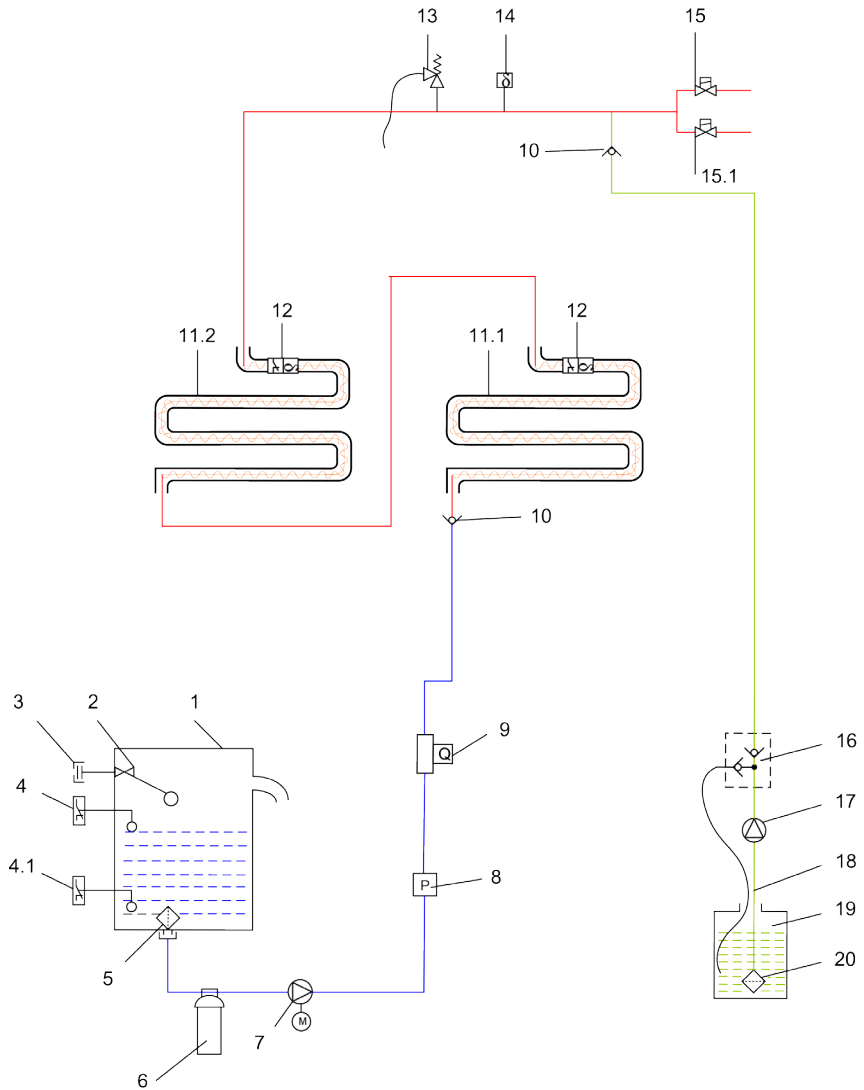
- The steam outlet at the steam generator is equipped with:
- Safety valve
- Temperature gauge for the control of heating elements and for the signal "READY FOR OPERATION"
- Temperature limiter for failure control
- Solenoid valve

Cleaning and preserving agents can be added to the steam in different concentrations by the dosing pump.

3.2 Function

3.2.1 Functional diagram

Funktionschema / Functional diagram
54 kW Steam Machine



Parts list - functional diagram Dry Steamer iS54

Pos.	Beschreibung	Description
1	<i>Wasserbehälter</i>	Water tank
2	<i>Schwimmerventil</i>	Float valve
3	<i>Anschluß Wasserzulauf</i>	Water inlet connection
4	<i>Füllstandsgrenzschalter max.</i>	Level limit switch max.
4.1	<i>Füllstandsgrenzschalter min.</i>	Level limit switch min.
5	<i>Wasserfilter</i>	Water filter
6	<i>Kalkschutzfilter - Kartusche</i>	Anti-scale filter cartridge
7	<i>Wasserpumpe mit Motor</i>	Rotary vane pump with motor
8	<i>Drucksensor</i>	Pressure sensor
9	<i>Durchflusswächter</i>	Flow meter
10	<i>Rückschlagventil</i>	Check valve
11.1	<i>Heizelement 36 kW</i>	Heating element 36kW
11.2	<i>Heizelement 18 kW</i>	Heating element 18kW
12	<i>Sicherheitstemperaturbegrenzer</i>	Safety temperature limiter
13	<i>Sicherheitsventil</i>	Safety pressure valve
14	<i>Temperatursensor</i>	Temperature sensor
15	<i>Dampf-Magnetventil Ausgang 1</i>	Steam solenoid valve outlet 1
15.1	<i>Dampf-Magnetventil Ausgang 2</i>	Steam solenoid valve outlet 2
16	<i>Rückschlag-/Entlüftungsventil</i>	Non return valve / Air relief valve
17	<i>Dosierpumpe Reinigungsmittel</i>	Dosing pump detergent
18	<i>Ansaugschlauch für Reinigungsmittel</i>	Suction hose for detergent
19	<i>Behälter für Reinigungs-/Pflegemittel</i>	Container for detergents
20	<i>Filter am Ansaugschlauch</i>	Filter at suction hose

3.2.2 Water and chemical system

The incoming water from the mains water supply flows past the float valve into the water tank. The water is then pumped to the steam generator. The water volume flow is regulated by a frequency converter. The generated steam is supplied to the steam jet lances 1 and 2 by the remote control gun. The nozzle at the front of the steam spray lance then creates the steam jet.

Cleaning and preserving agents are added by a dosing pump via a kick back valve/air valves – depending on the program selected at the gun.

The dosing quantity is to be set at the selector switch of the machine.

3.2.3 Steam jet lance with remote control gun

The remote control gun is equipped with an ON/OFF program switch and selector switch for detergent.



The steam jet lance with remote control gun is a safety device. Replacements and repairs may only be carried out by qualified personnel. In case of replacement, only parts authorized by the manufacturer may be used.

3.2.4 Anti-scale protection

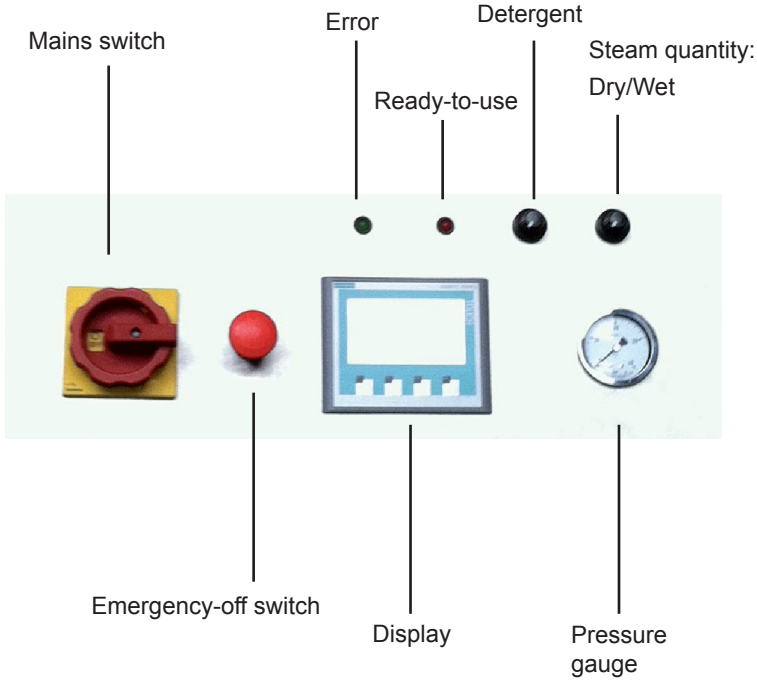
The water is decalcified by a special filter system - see separate instructions.

3.2.5 Switch on and off delays

When actuating the ON/OFF switch at the machine, the operational readiness is released. Thereafter the remote control gun can be used with the following functions:

- With the setting “Steam” or “Steam with detergents” the function of the switch lever is released.
- When activating the gun switch lever the following actions are released:
 - The water pump is switched on without delay. The solenoid valve at the steam outlet of the machine is opened. The operating counter is switched on.
 - The heating elements are switched on with delay.
- When releasing the gun switch lever the following actions are released:
 - The water pump, heating elements, dosing pump and operating hour counter are switched off without delay.

3.2.6 Switches and lamps in the machine operating screen

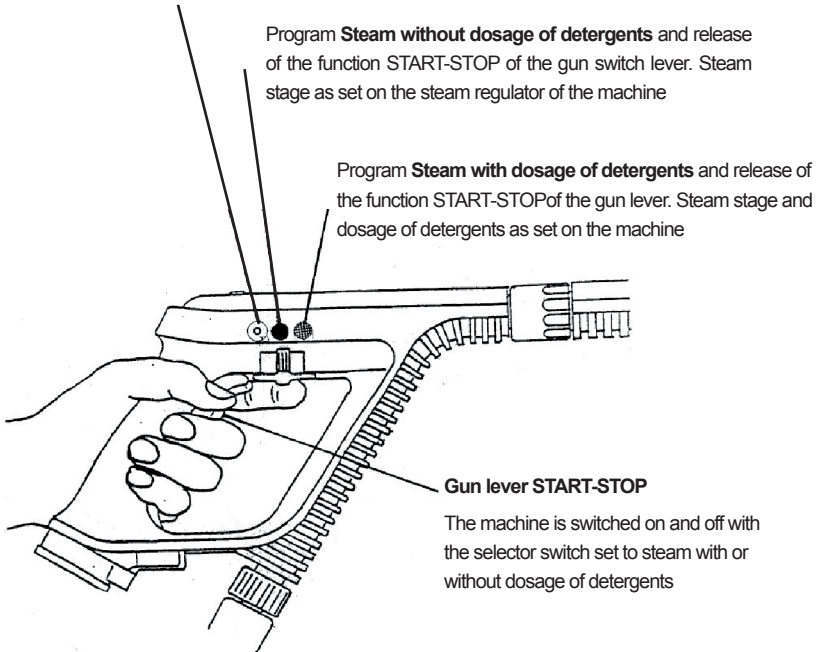


3.2.7 Remote control gun

Remote control with safety extra-low voltage 24 V AC

The gun is to be operated as follows:

Function of the gun switch lever is blocked



3.2.8 Display on machine

See operating manual “Display”.

3.2.9 Flow monitor

In case of low water flow the heating elements are switched off.

3.2.10 Safety valve

The safety valve protects the machine from inadmissible high pressure.

3.2.11 Temperature control

The temperature control switches to readiness for operation at a steam temperature of 125°C – indicated by a constant green lamp. At a steam temperature of 210°C a fault shutdown is released, by means of running interlock. See red lamp “Error”. For restarting the machine the unlocking process must be activated – see section 5.7. The temperature controller switches off the complete machine at a steam temperature of 230°C.

This is due to a fault and its cause must be clarified and remedied by an expert.

3.2.12 Lack of water

At low water level in the water inlet tank a fault-shut down is released by means of running interlock. See red lamp “Error”. Provide sufficient water level and activate the unlocking process - see section 5.7.

3.2.13 Operating hour counter

The operating hours of the water pump are counted.

4. Installation

4.1 Location

The machine is not restricted to any particular location. However, it must neither be installed nor operated in fire and/or explosion hazard areas.

5. Operation

5.1 Operating media

5.1.1 Cleaning, preserving and anti-scale protection agents



Only the cleaning, preserving and anti-scale protection agents approved by the manufacturer may be used since material compatibility can only be guaranteed in this case. Observe the instructions for the use of these agents.

5.2 Preparations for commissioning, factory settings

Compare the specifications on the machine label to the technical data of this operating manual.

Factory settings

In our factory the machine is set and tested for the values specified under section 2. Technical Data.

5.2.1 Electrical supply



The machine comes with a supply cable with mains plug. Insert plug into a properly earthed socket. The electrical supply with socket must conform to the latest issue of the applicable ICE standards and must be installed by a qualified electrician. The socket must be secured with a 125A slow fuse.

It is recommended to equip the electrical supply of the unit with a fault current monitor type B (AC/DC sensitive) breaking the circuit when the leakage current to the ground exceeds 30 mA .



When using an extension cable this cable must conform to HO7RN-F quality and have a grounded lead wire properly connected to the plug-in connections. The lead wires of the extension cable must have a minimum cross section of 20 mm². The plug-in connections must be splash-proof and must not be placed on wet ground.

ATTENTION!

Too long extension cables will cause a voltage drop and thus operating and start-up problems.

5.2.2 Steam hose with control cable and steam jet lance

Tightly screw-fasten the steam hose to the steam supply of the machine by the plug-in coupling in a way that it is sealed against pressure. Connect control cable to the machine by the plug-in connector. Tightly fasten the steam jet lance to the remote control gun in a way that it is sealed against pressure.

The steam hose and steam lance, which are both a part of the machine equipment, are

made of high-quality material, adapted to the operating conditions of the machine.



In case spare parts are needed, only those parts may be used which have been approved and marked by the manufacturer. The steam hose and steam lance must not be run over, excessively tugged at or twisted.

5.2.3 Water connection

The machine must be connected to the water supply using a 1/2" hose with an inner diameter of 13 mm suitable for supply pressure. A minimum intake corresponding to the maximum flow rate of the applicable machine type must be ensured. Flow pressure must be minimum 2 bar. Static pressure must not exceed 10 bar.

5.2.4 Cleaning and preserving agents

Fill suitable cleaning agent into a 5 l tank. Put full tank on the bracket holder. Insert appropriate suction hose with filter as deeply as possible into the tank.

5.2.5 Cover



The machine must not be operated without its cover and doors opened.

5.3 Winter operation

The machine must be installed in such a way that it is protected against frost, especially during operational interruptions.

5.4 Commissioning

Operating personnel must wear protective clothes, protective gloves, ear protectors and safety goggles.

- Connect machine to electrical supply
- Connect machine to water supply
- Fill in detergents
- Set ON/OFF emergency switch to 1-ON. Display: green signal lamp is flashing
- Set selector switch to "Steam without detergent"
- Actuate gun lever - machine starts

Machine is ready for operation when the green signal lamp is on. After long operational

interruptions, with cold machine, the green lamp appears approx. 3 minutes after commissioning. Set steam regulator and dosage of detergents as required.

5.5 Operational interruptions

For short interruptions release gun lever. Set gun selector switch to 0 safety position.

5.6 Taking the machine out of operation

- Release gun selector switch
- Set gun selector switch to 0
- Set ON/OFF emergency switch on the machine to 0-OFF.
- EMERGENCY OFF– Lock key switch

5.7 Unlocking after shutdown

Set gun selector switch to 0.

6. Maintenance



Maintenance and repair works may only be done by qualified personnel.

6.1 Descaling

The integrated anti-scale protection system prevents limescale deposits in the steam generator and in the steam pipes. In case the anti-scale protection agent is not refilled in good time, there will be limescale deposits in the steam system if no softened water is used and descaling is required.



Descaling may only be carried out by experts. Only use anti-scale agents which are approved by the manufacturer. Observe the instructions for use of the descaling agent. Descaling dilution is corrosive. Protective clothes must be worn. Contact with skin must be immediately rinsed with water. After completion of the descaling process, the descaling dilution must be properly disposed of.

Fill descaling agent into 20 l tank and dilute it with hot water as per instructions for use. Unfasten suction connection on water pump. Connect a descaling hose to the water pump inlet and put the other end into the tank. Put steam jet lance with gun and steam hose into the tank in a way that the descaling dilution can flow into the tank.

Switch on machine as follows:

- Set steam regulator to "WET"
- Set ON/OFF switch to 1-ON
- Set gun selector switch to "Steam without detergents"

- Switch off the heater in the display.
- Actuate gun lever and fix position ON for the descaling process only.

The water pump pumps the descaling agent into the circuit system. The descaling process is completed as soon as the liquid does not foam any longer.

- Set selector switch to 0-OFF – water pump is switched off.

Empty tank. Dispose of descaling agent according to the regulations. Fill in approx. 16 l of clear, cold water and add 0.5 l of alkaline cleaning agent. Put descaling hose and steam lance back into the tank.

- Set ON/OFF Emergency switch to 1-ON and rinse the machine with the alkaline liquid for approx. 5 minutes.
- Set ON/OFF Emergency switch to 0-OFF. Reconnect suction hose of the water tank inlet of the machine to the water pump suction connection in such a way that it is sealed.
- Put dosing hose coming from the anti-scale protection pump into the water inlet tank.
- Remove fixation of gun lever.

For commissioning the machine, refer to section 5.4. For taking the machine out of operation refer to section 5.6.

6.2 High pressure pump

Change the pump lubricating oil at intervals of approx. 500 working hours, but at least after 6 months. For this purpose use only branded lubricating oil SAE 90. For oil changes the oil drain plug must be unscrewed and the oil must be drained. Then replace oil drain plug and refill through the oil funnel up to the upper mark of the oil dipstick.

Properly dispose of the drained oil.

Between oil changes regularly check the oil level. It must be in between the marks on the dipstick. Fill up oil, if necessary.

7. Maintenance

The machines must be checked by an expert in accordance with the “Guidelines for Liquid Spray Appliances (VBG87)”, but, if required, at least every 12 months to ensure that safe operation is still guaranteed. The test results have to be recorded.

8. Prevention of accidents

The machine has been designed as to exclude accidents if used properly. The “Guidelines for Liquid Spray Appliances” should be observed.

9. Safety, Quality

The manufacturer may only be responsible for effects on safety, reliability, and machine performance, if the machine is used in accordance with the operating instructions. These operating instructions should be made available to the operator.



EC Declaration of Conformity

FRANK®



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We declare that the construction of the below mentioned steam cleaner types complies with the following directives and standards:

Machinery Directive	2006/42/EG
Low Voltage Directive	2006/95/EG
EMC Directive	2004/108/EG

Applied harmonized standards:

EN 292
EN 61000 – 6 – 3 : 2001 + A11 : 2004
EN 61000 – 6 – 2 : 2005
IEC 335-2

Dry Steamer

iSteam iS18
 iSteam iS18 CIP
 iSteam iS 36
 iSteam iS 36 400V 50 Hz
 iSteam iS 80 OIL
 iSteam iS 80 GAS
 iSteam iS 144 CIP
 iSteam iS 72 CIP
 iSteam iS 54
 iSteam iS 30kW – 400V 50 Hz BBE Edition
 electrical heated 30 kW

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HESSEN





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