

# Operating Instruction

Origin language: German

Product group: injectors

Product code: 200163185

ST-163.1



The choice of perfection

Vers. November 21

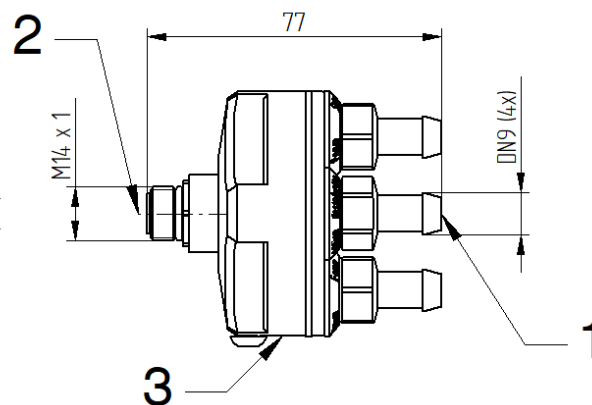
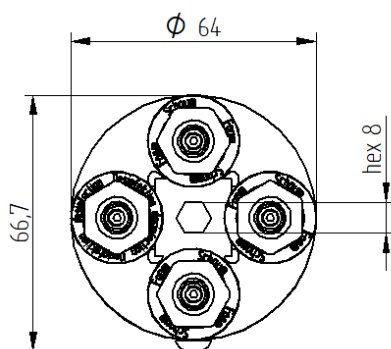
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## Technical data

Maximum permissible pressure	350.0 bar / 35.00 MPa
Water temperature permanently	60°C
Water temperature temporary	max. 90°C
Ambient temperature	up to. 60°C
Inlet connector	4 hose barbs ( each DN9 )
Outlet connector	M14x1
Weight	0,700 kg
Material Housing Parts	1.4305, 1.4034, 1.4404
Material Seals	FKM ETP, EPDM, FEPM
Max. size of solids	50µm

Abbreviations and symbols	
fm; m	Female thread; male thread
M	Metric thread
kg	Kilogram

	<p>The intake manifold is designed for permanent use up to approx. 60°C. In any case, the user must wear appropriate protective clothing, for example, in the form of gloves, shoes and goggles. The local safety regulations currently in force should always be observed.</p>
	<p>Please read these Operating Instructions carefully before using the equipment! Keep the Operating Instructions in a safe place for future use or for the next user! These Operating Instructions were prepared with great care. However, SUTTNER GmbH cannot be held responsible for any possible errors in the Operating Instructions or for any consequences arising thereof!</p>



- 1 inlet (4x DN9 )
- 2 outlet
- 3 selector ring

# Description

## The intake manifold

With the intake manifold, you can quickly and easily choose between four different dosing media. The distributor housing is made of stainless steel. The intake manifold has four individually selectable inlets. The intake manifold is designed so that the four hoses do not twist and the locking system ensures that the selected hose barb is optimally positioned.

The intake manifold can be attached to a wall or a trolley (bracket available as an accessory). The intake manifold can also be mounted directly on an ST-167/168 injector using an adapter.

## Intended use

The intake manifold is designed for suctioning cleaning and disinfection agents. For further details, please refer to Guideline 67/548/EEC.

Use only fluids Group 2 ( e. g. water ) according 2014/68/EU.

All safety regulations and rules for high-pressure washers apply as well, e.g. DIN EN 60335-79-2 and DIN EN 1829-1.

Use intake manifold only with **easyfoam365+** Injectors.

The intake manifold must only be used in a technically perfect condition, unmodified in any way, for the purpose intended, in the awareness of safety requirements and potential hazards in compliance with these Operating Instructions. Only adults trained in handling high-pressure washers may use the intake manifold.

The intake manifold must not be used with abrasive substances. To avoid damaging the intake manifold, install a fine filter with a recommended mesh size of 50 into the water inlet to the high-pressure washer. Install a suitable fine filter into the suction line.

Please also comply with the operating instructions for equipment and accessories connected to the intake manifold and with the applicable regulations for cleaning agents.

## Normative references

- The product is classed as a pressure-maintaining component within the terms of Pressure Equipment Directive 2014/68/EU. Due to the operating parameters, it comes under the scope of Article 4 / Paragraph 3 of this guideline ("good engineering practice") and therefore no Declaration of Conformity and CE marking are allowed!
- The product must not be installed in equipment complying with the Pressure Equipment Directive 2014/68/EU.
- The product is a standard part within the terms of Machinery Directive 2006/42/EC!

## Symbols and their meanings



### Hazard!

If these instructions are not followed there is a danger of physical injury, danger to life and material damage!



### Please comply with the Operating Instructions!

Incorrect operation can lead to severe injury. Read the Operating Instructions before using the equipment.



### Wear safety gloves!



### Wear protective goggles!



### Use suitable respiratory protection!



### Hot surfaces!



Description of imminent hazard and failure to avoid hazard will result death



Description of hazard and possible resulting injuries or death.



Description of hazard that could result in minor or moderate injury.

## For your safety

This Suttner product is state of the art and complies with generally recognised health and safety regulations. Due to the high pressures and temperatures nonetheless there is the danger of material damage and injury for users and other persons. Please comply with these Operating Instructions at all times and the relevant regulations for liquid jet sprayers.

For details regarding personal protective equipment, refer to the German accident prevention regulations "Personal protective equipment" (VBG101, at present draft). Personal protective equipment includes for example overalls, head protection, easy-grip protective gloves and non-slip boots, metatarsal foot protection, respiratory protection, ear protection, eye or face protection.

- Do not use the equipment if persons without protective clothing are within range.
- Before starting work, check the high-pressure system (spray equipment, hoses, screw connectors, etc.) for signs of leakage and damage.
- Cease operation immediately if any leakage or malfunctions occur.
- The suction hoses must be installed without kinks.
- Check the height of the dosage.
- Rinse the cleaned surfaces with clear water.
- Read and observe the safety data sheets provided by the manufacturer of the cleaning agents.
- Check if the chemicals used are suitable for the surfaces to be cleaned.



### Risk of burning or scalding due to hot media!

Do not touch not insulated parts if you are working with fluids where the temperature exceeds 45°C. Wear protective gloves!



### Aerosol formation!

Foam and disinfection agents can produce an aerosol! To prevent inhalation, use suitable respiratory protection! Ensure there is adequate ventilation!

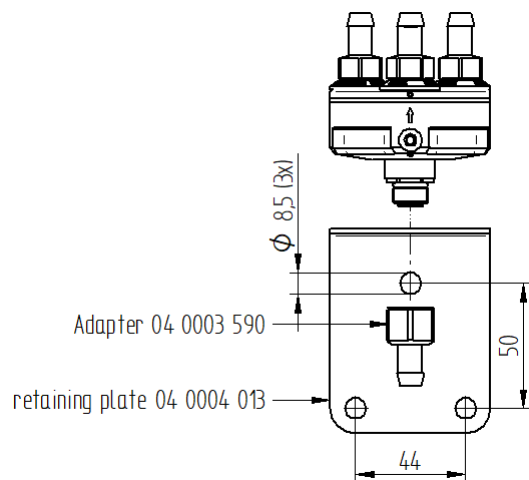
## Assembly

- Switch the high-pressure generator off before carrying out assembly work on the high-pressure system.
- Secure the high-pressure generator against being unintentionally switched on.
- Turn the water supply off.
- Ensure that system sections and lines to be opened are not under pressure.
- Seal the screw connectors in accordance with your intended use with an appropriate sealant such as Teflon sealing tape or a liquid sealant (see R+M Catalogue, Chapter 06, Adhesives and sealing materials).
- On the thread in the output (2) there is an O-ring, further sealants are not necessary.
- Install the intake manifold by using a hexagon socket wrench with 10Nm.

### Assembly with bracket and adapter

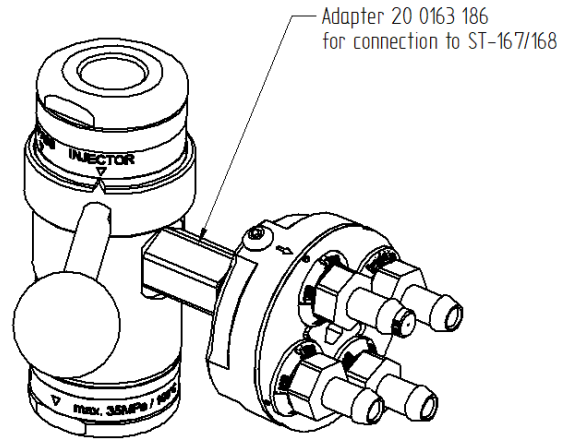
(absolutely necessary for ST-164)

- Screw the wall bracket firmly to the wall or a trolley and place the intake manifold there (see illustration)
- Insert the hexagon of the intake manifold through the hexagon in the bracket
- Screw the adapter firmly onto the intake manifold
- Secure the suction hoses (9mm ID) with hose clips.



## Mounting with Adapter on ST-167/168

- Screw the intake manifold with the adapter firmly into the injector (see illustration)
- Secure the suction hoses (9mm ID) with hose clips.



## Modification

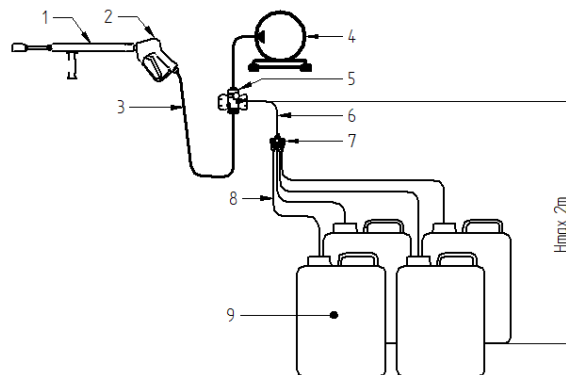
No modifications of any kind are to be made to the injector!

## Operation

Operate the injector only within the pressure, flow rate and temperature ranges indicated. Before starting work, check the values on the high-pressure generator and adjust these if necessary. Use the level setting to select from two types of chemical. The middle lever setting is used for rinsing (with no suctioning of cleaning agent). After you have read the safety instructions, the injector is remarkably easy to use:

- By turning the selector ring you can choose the individual color-coded hose barsbs
- The locking function ensures exact positioning of the hose barsbs
- The amount of foam and concentration can be adjusted using the dosing inserts

## Example for typical connector types



### setup: Lance with air injector

	Component	Specification
1	Foam lance	ST-72, ST-74, ST-75
2	Spray gun	ST-1500,ST-2300,ST-2700, ST-2320, ST-2315,ST-2615, ST-2620
3	High-pressure hose	min. DN 8mm L=20m / empf. DN 10mm L= 20m
4	High-pressure pump	
5	Injector	ST-160, ST-160.2, ST-160.3, ST-164, ST-167, ST-168
6	Suction line	max. length 1m (DN9)
7	Intake manifold	ST-163.1
8	Suction line	max. length 5m (DN9)
9	Container with chemicals	

## Transportation and storage

Please ensure the injector is cleaned and protected from contamination during transportation and storage. Protect the injector against frost. The effect of frost can damage the injector so badly that it no longer works perfectly.

## Cleaning

- To clean the outer surfaces, use a lint-free cleaning cloth and do not use any aggressive cleaning agents.
- Allow clear water to flow through the suction hoses to rinse the non-return valve.
- Rinse the intake manifold after use and prior to longer periods of inactivity (as from 1 hour).

## Maintenance

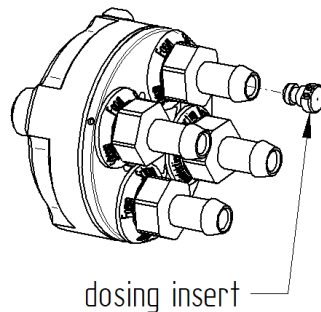


Assembly, maintenance and repair work may only be carried out by persons trained in maintenance and repair work on high-pressure systems. Use only spare parts approved by Suttner GmbH. Only use high-pressure components (hoses, connectors, etc.) approved for the respective pressure and temperature range.

- Every year, check that the injector is safe to use. Arrange to have any defects immediately rectified by an expert.
- Are the markings and inscriptions legible?
- Do the non-return valves close automatically?
- Does the injector show signs of mechanical damage?
- Check the dosing, depending on the chemicals and intended use, at regular intervals.
- Are the nozzles worn?
- Are the O-rings damaged?

**After max. 1000 operating hours** or a year or if hot water (exceeding 60°C) and chemicals are used after 500 operating hours or 6 months: Check valve parts (O-rings, support rings, hose clips) for damage and if necessary replace completely with a Suttner repair kit.

**After max. 3000 operating hours** or 3 years or if hot water (exceeding 60°C) and chemicals are used after 1500 operating hours or 18 months: Replace valve parts (O-rings, support rings, hose clips) completely with a Suttner repair kit.



### Nozzle change: Dosing insert set

Component	tool
Remove the suction pipe	by hands
Remove the dosing set	pliers

## Disposal



**Please dispose of old equipment in an environmentally friendly manner.**

Old equipment contains valuable recyclable materials which should be salvaged for recycling. Please therefore dispose of old equipment at suitable collection points.

## Manufacturer

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