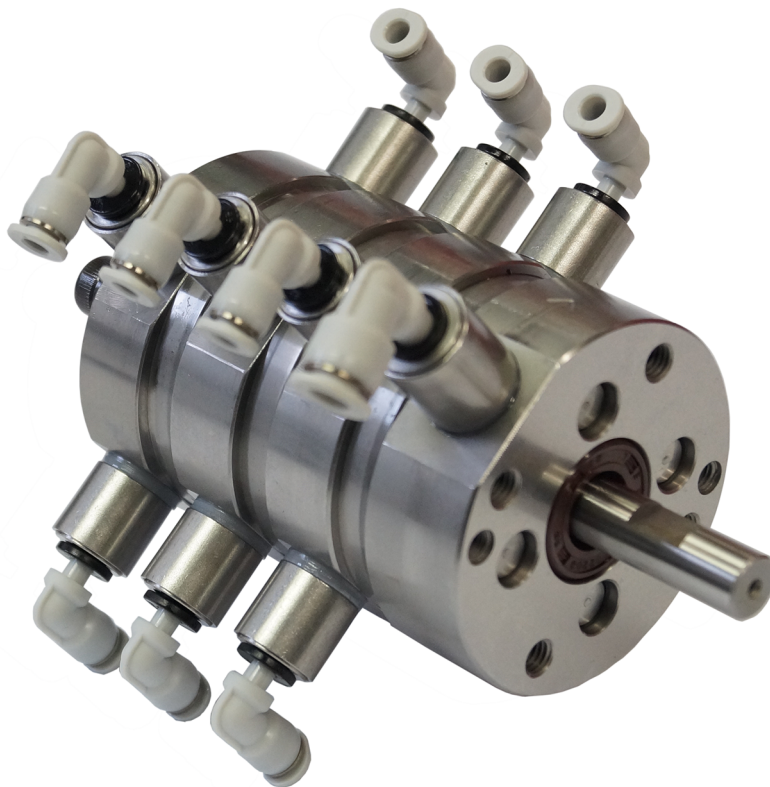


GF

Spin Finish Pump



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1 Translation of the Original Operating Instruction

1.1 Safety

1.1.1 Notes for the Operating Company

Read these operating instructions before commissioning the pump.

1.1.2 Safe Operation Instructions of the Operating Company

As employer you are obliged to draw up safe operation instructions for your company.

This applies especially when components, such as pumps / pump units, are supplied for a line / machine and the supplied operating instructions are component specific. The following sections should facilitate the production of your own safe operation instructions.

In addition, you can order a service book for any type of pump from Barmag. Barmag also supplies training for service activities.

1.1.3 Intended Use

The metering pump is intended for metering of liquid media (mainly spin-finish liquid) of up to approx. 40 cST.

Operate the pump only within the limits designated in the pump-data sheet (see information in [Section 1.7.1 \(page 12\)](#)).

For safety reasons, no other or additional use is allowed. Such use may lead to increased risks for the operating personnel.

Intended use includes observance of the operating instructions, especially of the repair instructions.

1.1.4 Qualifications of Personnel

Use only trained personnel for commissioning, operating, and maintenance of the pump / pump unit.

Maintenance or repair of electrical components must only be performed by qualified electricians.

1.1.5 Notes on Commissioning

After completing the installation and before each recommissioning of the pump / pump unit, you must carry out a test run including a check of the process parameters and all safety devices.

1.1.6 Operation and Maintenance

Do not change or convert the pump / pump unit without the explicit approval of Barmag. Failure to do so makes the entire warranty null and void. Inspection, maintenance, and repair activities may only be carried out by trained personnel.

Use Barmag auxiliary devices for professional maintenance and repairs. Order the corresponding catalogs.

Use only genuine Barmag parts.

1.1.7 Safety Instructions

The safety instructions are intended for anyone involved with the pump / pump aggregate within the scope of installation, commissioning, operating, and maintenance activities.

Carefully read the operating instructions formulated by your company and observe the following safety instructions and clarifications:

- Use the required personal protective devices (such as safety glasses, safety gloves, and safety clothes).
- Do not allow unauthorized persons access to the installation / machine.
- The safety data sheets of the pump and flushing media as well as of other chemical substances must be observed.
- Covers must not be removed.
- Do not reach into a running clutch.
- Before beginning repair and service work on the spin finish pump, the pump drive must be electrically switched off and allowed to run down to standstill.

Observe switch-off regulations!

Secure the switched off drive against unauthorized restart.

1.1.8 Installation / Machine Specific Safety Instructions

- The failure of a spin-finish pump may cause hazardous malfunctions in the spinning line. Therefore, painstaking and regular maintenance and monitoring of the pump and drive are important.
- The operating party is required to carry out suitable tests with the pump and flushing media to establish the allowed operating values and ensure that neither the media themselves nor the media-specific operating conditions produce any risks.
- Pump, flushing, and sealing media may cause irritations of the skin and the airways. Wear suitable protective clothing.
- Check the connections of the pump medium.
Confusing of connections can lead to damage to the pump as well as to the installation.
- The pump is lubricated by the medium pumped. Dry runs must be avoided.
- The compatibility of the pump as well as flushing media and the gaskets as well as pump material must be ensured.
If necessary, contact the Barmag Pump Service.

1 Translation of the Original Operating Instruction

- Operation of the pump with aqueous pumping media must not be executed without the admixture of oil!

1.2 Machine Layout / Marking

1.2.1 Machine Layout

Consult the dimension drawings of the pump and of the pump unit (if included in Barmag's scope of delivery). The drawings can be ordered from Barmag, if not supplied.

1.2.2 Designations

Engraved characteristics:

- Number of pump
- Flow rate
- „Barmag“

1.3 Assembly / Disassembly








1.3.1 Designation of Packing

The machines or machine parts are supplied in stable packings.

The packings have been designated with letters and identification symbols that satisfy the international symbol standards. Observe these designations for the regular handling and transportation of the packed machine parts.

Structure of the designation

- Order No.
- Weight (gross)
- Addressee

Identification symbols used		
Meaning	Color	Symbol
Upper end	black	
Fragile	black	
Protect against dampness	black	
Center of gravity Center of gravity	black	
Attach lifting equipment here	black	
Sealed packing	black	
Do not pick up with forklift at this point	black	

1.3.2 General Information for Assembly / Disassembly

The assembly of the pump / pump unit including installation, alignment and connection must be carried out by the Barmag pump service or by the customer's own qualified personnel. If the customer prefers to carry out the assembly with his own personnel, Barmag is offering the corresponding training for this group of people. Furthermore, you can order service books from Barmag.

1.3.3 Assembly

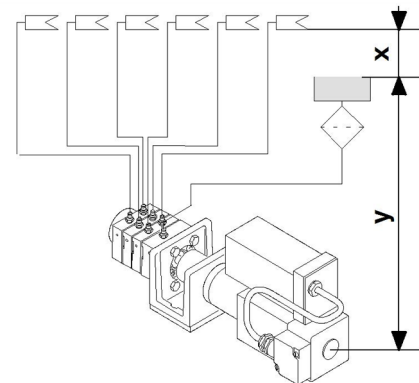
The assembly – including installation, alignment, and connection of the pump / pump aggregate must be handled by trained personnel.

- At the time of delivery, inlet and outlet holes will be sealed with protective plugs in order to prevent contaminations from entering the pump. Remove the protective plugs immediately before installing the supply pipe to the pump. Keep the protective plugs for reuse during any future disassembly.
- Be careful when transporting and assembling the pump / pump aggregate.
- Before the pump / pump aggregate is installed into the installation / machine, ensure that all parts that contact the product ahead of the pump (such as tanks, pipes, valves) are carefully cleaned. Contamination, metal particles, etc. lead to pump damage.
- Do not start-up the pump in dry state. If required, use a lubricant (such as fluid mineral oil) to manually rotate the pump before installing the pump into the installation / machine. Upon delivery, Barmag pumps are already equipped with a lubricating medium. While in operation, the pump is lubricated by the pump medium.

- In order to avoid that spin finish emerges from the nozzles at a pump standstill, the nozzles should always be higher than the liquid level in the container.

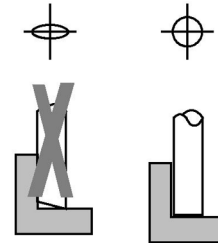
We do recommend to keep the differential pressure between the pump's suction and pressure side as small as possible. To this purpose, the spin-finish nozzles should be located max. 500 mm above the liquid level in the container (dimension "X"). The pump's intake height should be approx. 500 mm (dimension "Y").

The installation location of intake and outlet can be either at the side or on the top, however, preferential is the top installation.

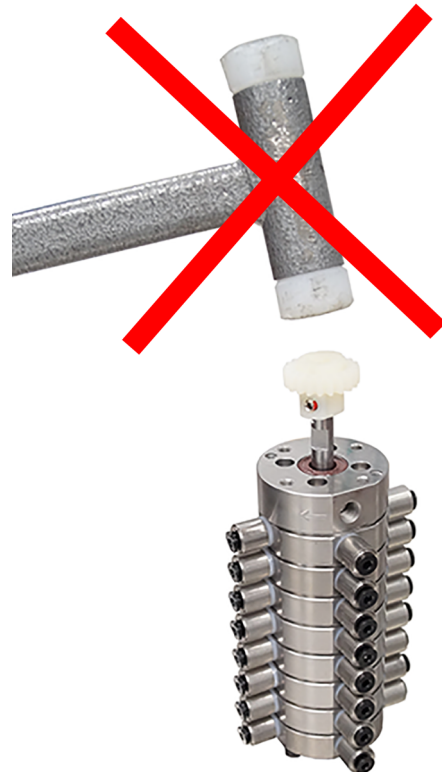


- Within one line, hoses of the same length and with the same inner diameter should be installed between the pump outlets and the spin-finish nozzles. In order to avoid the formation of air bubbles, the hoses from the pump to the nozzles are to be installed with constant rise. Hoses must not be bent or pinched.
- Filtering of spin finish before inflow into the pump is essential for troublefree operation and for protection of the pumps. Recommended filter fineness approx. 25 µm or finer.

- The connection of the hoses to the pump is realized by hose fittings. If these are not included in the scope of delivery, you can order them from Barmag. In case of client-procurement, only use VA-fittings (stainless austenitic steels). If using brass fittings, corrosion may occur. If using nickel-plated brass fittings, the nickel coat may spall. Both may cause a pump failure.



- Before pushing the hoses into the joint, they must have been cut neat and straight and must not be squeezed.
- The hub of the pump-drive clutch is to be mounted onto the pump shaft smoothly and without force. No axial forces may act on the pump shaft when mounting the hub as these would damage internal pump parts.



1.3.4 Disassembly



⚠ DANGER

Danger!

- ▶ Prior to removing the pump from the line / machine or dismantling the shaft sealing, it has to be ensured that all supply lines are unpressurized and shut. The drive motor has to be isolated from power supply and secured against accidental restart.

1.3.5 Storage of Installation Parts / Spare Parts

If the pump / pump aggregate is to be temporarily stored prior to mounting into the installation / machine, then it must be kept in the original packing.

The storage of the pump / pump aggregate or separate parts must satisfy the following conditions:

- Ambient temperature: 15 to 25 °C
- Rel. air humidity: max. 60 %

Pumps / pump aggregate that have been installed but not yet commissioned are subject to the same conditions.

If the pump is stored, the inlet must be filled with a low-viscosity mineral oil. Filling is to occur while the drive shaft is slowly rotated in the prescribed direction of rotation, until the medium can be seen to flow out of the outlet openings. Next, seal the inlet and outlet holes and the flushing holes (if present), using the appropriate protective plugs.

The pump body must in all cases be greased using a resin-free preservation oil or similar product.

1.4 Commissioning

1.4.1 General

The pump / pump aggregate may be commissioned only by the trained personnel of the operating party or by members of the Barmag pump service.

Check the direction of rotation of the drive before each recommissioning (see arrow on front side of pump for permissible direction of rotation). The wrong rotation direction can damage the pump and the installation.

Easy running of the spin-finish pump by manually turning the pump drive shaft into the mandatory sense of rotation.

Make sure that the corresponding hoses are connected to the pump intake and outlets.

1.4.2 Resuming Operation after Pump Standstill

Supply of spin-finish:

- In case a standstill of more than 1 day (according to the spin-finish type other periods are possible, too; see specifications of spin-finish producer) is to be expected, the pump must be rinsed for about 1 hour with max. 25 ¹/_{min.}. The rinsing medium is a mixture of demineralized water and about 3% of spin-finish oil. This procedure has to be repeated about every 3 days.

1.5 Maintenance

1.5.1 Carrying out Maintenance

Maintenance activities must be carried out by Barmag's Pump Service or the operating party's trained personnel.

For maintenance, Barmag provides pump workshops.

Barmag can provide relevant training for the operating party's personnel handling maintenance themselves. In addition, you can order a service book for any type of pump from Barmag.



⚠ DANGER

Danger!

For any work on the motor, this must be isolated from power supply and secured against restart.

- ▶ Periodically check the tight fit of the hose connection connected to the inlet and outlet of the pump.
- ▶ Periodically check the closeness of the shaft sealing. If the shaft sealing leaks excessively, the sealing ring must be replaced as specified in the spare-parts catalog (can be ordered from Barmag). The driving shaft of the pump must be checked for damage in the sealed part and replaced if necessary.

1.5.2 Spare Parts

The following information is required when ordering spare parts:

- Barmag pump No. (engraved on the pump)
- Exact identification of the parts as listed in the spare-parts catalog (can be ordered from Barmag)
- Quantity

Contact:

Pump Sales Dept.:

Tel. 0049 2191 / 67-1235

Fax: 67-3364

Pump Service Dept.:

Tel. 0049 2191 / 67-2815

Fax: 67-702815

1.6 Malfunctions

1.6.1 Faults

Any faults can be remedied by the Barmag Pump Service or the operating company's own trained personnel. In addition, the pump / pump unit can be sent to Barmag's Pump Service with a damage identification note serving as repair order.

1.7 Tables

1.7.1 Pump Data Sheet

The pump data sheet is supplied together with the Operating Instructions.