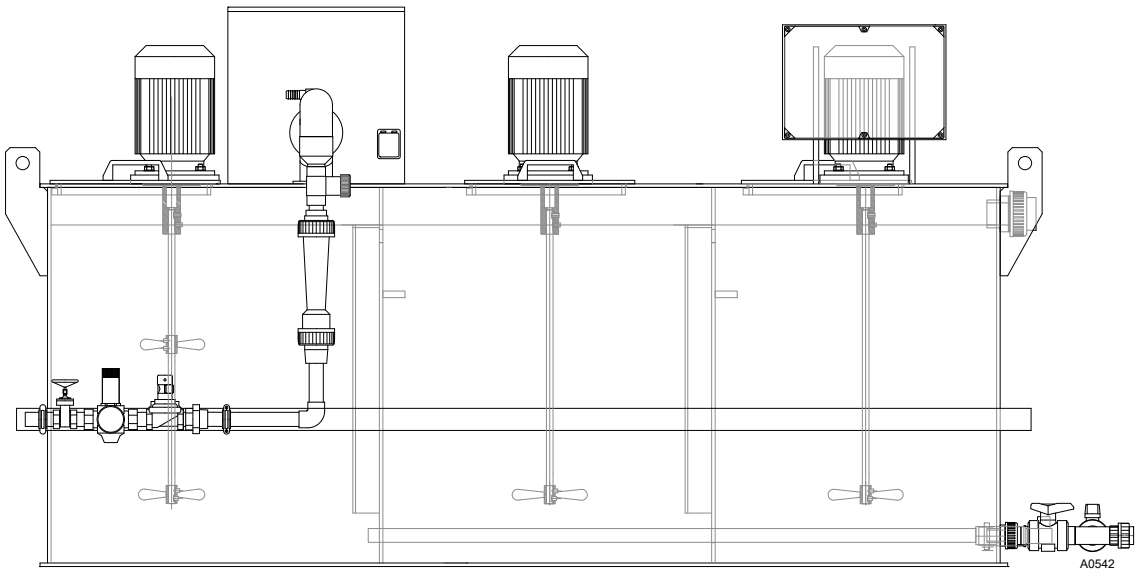
Assembly and operating instructions

Ultromat® AF and ATF
with Terminal Boxes and Pressure Sensor



Please carefully read these operating instructions before use! · Do not discard!
The operator shall be liable for any damage caused by installation or operating errors!
Technical changes reserved.

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1 Ultromat® product identification

1.1 Ultromat® AF with Pressure Sensor product identification

Ultromat AF	1037294	1037295	1037296	1037297	1037298	1037299
Type	AF 400	AF 1000	AF 2000	AF 4000	AF 6000	AF 8000
Reservoir content (litre)	400	1000	2000	4000	6000	8000

1.2 Ultromat® ATF with pressure sensor product identification

Ultromat ATF	1037300	1037301	1037302	1037303	1037314	1037315
Type	ATF 400	ATF 1000	ATF 2000	ATF 4000	ATF 6000	ATF 8000
Reservoir content (litre)	400	1000	2000	4000	6000	8000

1.3 Front view Ultromat® AF/ATF with pressure sensor

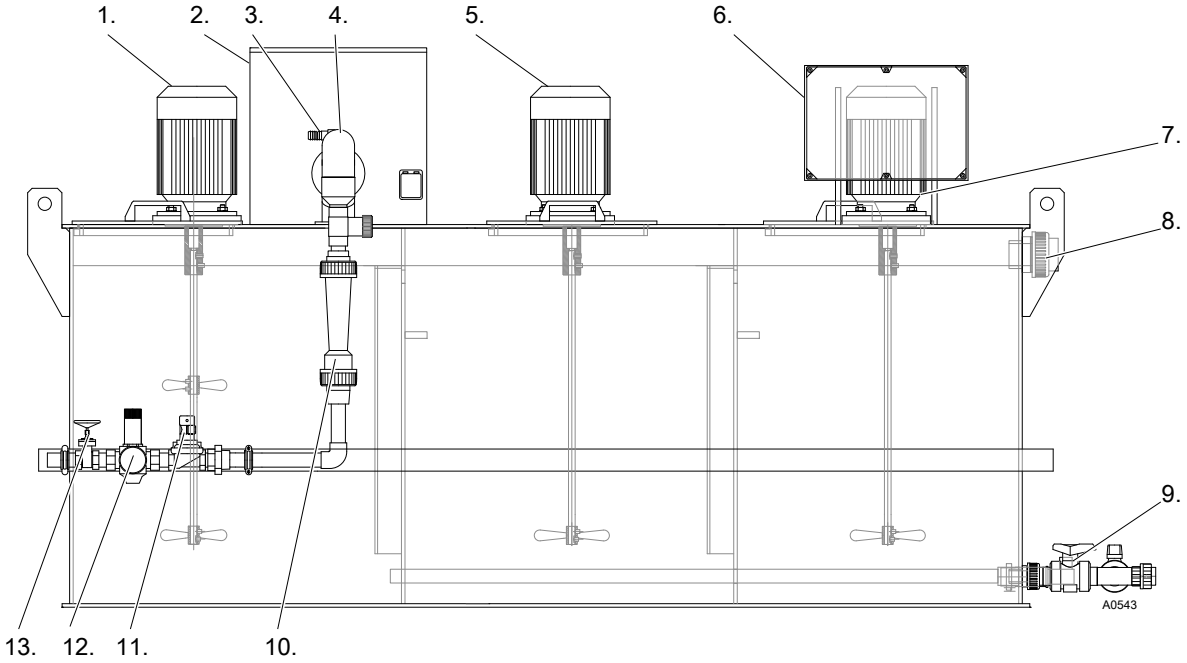

Fig. 1: Front view Ultromat AF/ATF with pressure sensor

1. Agitator for chamber 1	8. Overflow
2. Dry material feeder (ATF)	9. Stopcock
3. Liquid polymer connection	10. Flow meter
4. Y-Flush inlet	11. Solenoid valve
5. Agitator for chamber 2	12. Pressure reducer
6. Terminal box	13. Shut-off valve
7. Agitator for chamber 3 (optional)	

1.4 Plan view Ultromat® AF/ATF with pressure sensor

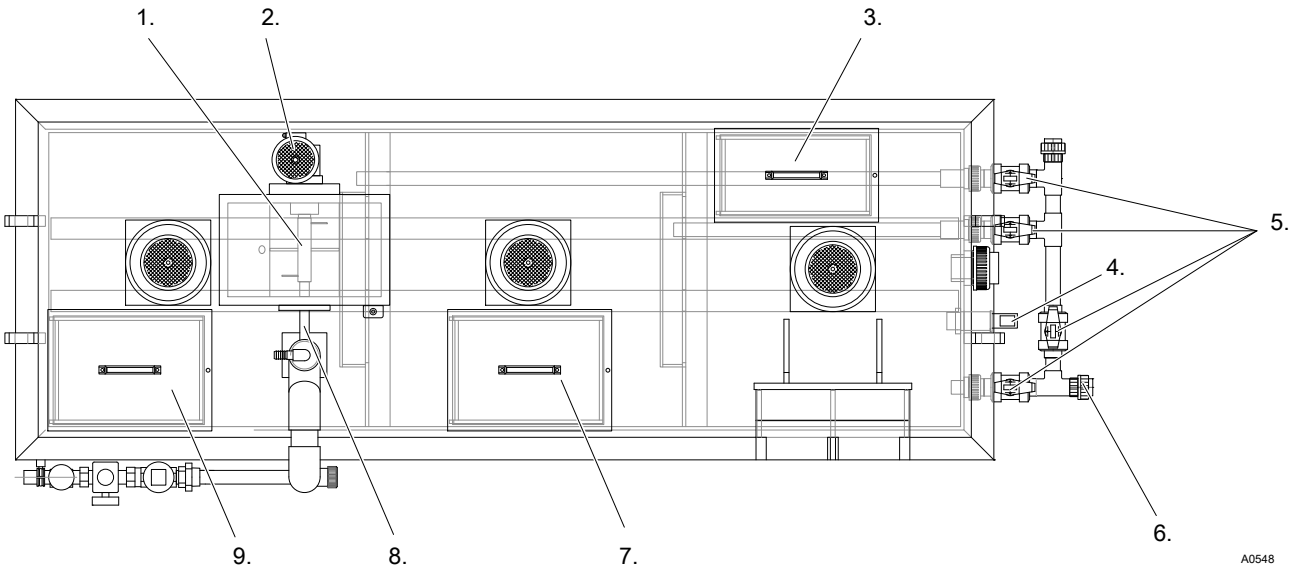

Fig. 2: Plan view Ultromat® AF/ATF with pressure sensor

1. Dry material feeder (ATF)	6. Discharge pipework (optional)
2. Motor for dry material feeder (ATF)	7. Inspection opening for chamber 2
3. Inspection opening for chamber 3	8. Metering pipe heating (ATF)
4. Pressure sensor level measurement chamber 3	9. Inspection opening for chamber 1
5. Shut-off valves	

1.5 About This Product

The Ultromat® AF/ATF from ProMinent is a preparation system for polyelectrolytes for connection to an external control.

The Ultromat® AF can be used in any application where synthetic liquid polymers have to be prepared for working solutions.

The Ultromat® ATF can be used in any application where free-flowing synthetic powder polymers or liquid polymers have to be prepared for working solutions.

2 Safety Chapter

Ultromat® AF/ATF

2.1 Explanation of the safety information

Introduction

These operating instructions provide information on the technical data and functions of the product. These operating instructions provide detailed safety information and are provided as clear step-by-step instructions.

The safety information and notes are categorised according to the following scheme. A number of different symbols are used to denote different situations. The symbols shown here serve only as examples.

DANGER!

Nature and source of the danger

Consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger

Danger!

– Denotes an immediate threatening danger. If this is disregarded, it will result in fatal or very serious injuries.

WARNING!

Nature and source of the danger

Possible consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger

Warning!

– Denotes a possibly hazardous situation. If this is disregarded, it could result in fatal or very serious injuries.

CAUTION!

Nature and source of the danger

Possible consequence: Slight or minor injuries, material damage.

Measure to be taken to avoid this danger

Caution!

– Denotes a possibly hazardous situation. If this is disregarded, it could result in slight or minor injuries. May also be used as a warning about material damage.

NOTICE!

Nature and source of the danger

Damage to the product or its surroundings

Measure to be taken to avoid this danger

Note!

– Denotes a possibly damaging situation. If this is disregarded, the product or an object in its vicinity could be damaged.

Type of information

Hints on use and additional information

Source of the information, additional measures

Information!

– *Denotes hints on use and other useful information. It does not indicate a hazardous or damaging situation.*

2.2 Correct and Proper Use

WARNING!

Danger caused by incorrect use!

Incorrect use of the Ultromat® can result in hazardous situations.

– The Ultromat® is only designed to produce a polymer solution as a flocculent from powdered polymer or liquid concentrate and with drinking water.
– All other uses or a modification of the system are only permitted with the written authorisation of ProMinent Dosiertechnik GmbH, Heidelberg!
– The system is not designed for use in areas at risk from explosion!
– The correct and proper operation of the system cannot be guaranteed if non-genuine parts or third party accessories are used.
– Please observe the relevant national regulations and the information provided in the operating instructions at all phases of the system's life!
– The Ultromat® may only be operated by adequately qualified personnel

2.3 Users' Qualifications

WARNING!

Danger of injury with inadequately qualified personnel!

If inadequately qualified personnel work on the unit or loiter in the hazard zone of the unit, this could result in dangers that could cause serious injuries and material damage.

- All work on the unit should therefore only be conducted by qualified personnel.
- Unqualified personnel should be kept away from the hazard zone.

Activity	Training
Assembly / Installation	trained qualified personnel
Commissioning	technical experts
Operation	instructed personnel
Maintenance / Repair	Customer service department
Decommissioning / Disposal	technical experts
Troubleshooting	instructed personnel

Explanation of the terms:

- A technical expert is deemed to be a person who is able to assess the tasks assigned to him and recognise possible hazards based on his/her technical training and experience, as well as knowledge of pertinent regulations.

  Note: A technical qualification is typically proven by the required completion of a technical training course. The assessment of a person's technical training can also be based on several years of work in the relevant field.
- A qualified employee is deemed to be a person who is able to assess the tasks assigned to him and recognise possible hazards based on his/her technical training, knowledge and experience, as well as knowledge of pertinent regulations.

  Note: The assessment of a person's technical training can also be based on several years of work in the relevant field.
- An instructed person is deemed to be a person who has been instructed and, if required, trained in the tasks assigned to him/her and possible dangers that could result from improper behaviour, as well as having been instructed in the required protective equipment and protective measures.
- Customer service department refers to service technicians, who have received proven training and have been authorised by ProMinent to work on the system.

Note for the system operator

The pertinent accident prevention regulations, as well as all other generally acknowledged safety regulations, must be adhered to!

2.4 Information in the Event of an Emergency

WARNING!

Information in the Event of an Emergency

Possible consequence: Fatal or very serious injuries.

Switch off the system with the red-yellow mains switch.

External control and control cabinet!

The red-yellow mains switch is located on the operator's side. Its precise location depends on the layout on site. The operator is responsible for labelling this switch.

2.5 Description and Testing of the Safety Equipment

CAUTION!

Propellers are rotating in the reservoirs!

Slight or minor injuries.

Switch off the system and only then remove the screwed cover of an inspection opening!

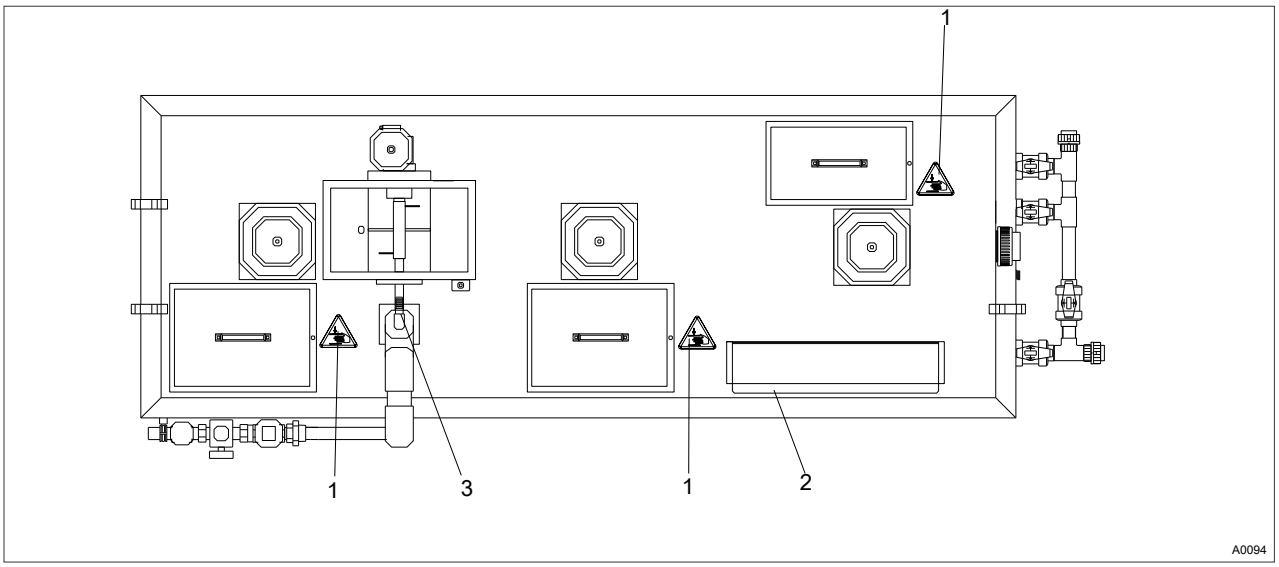

Fig. 3: Safety equipment

Warning labels

- 1 Warning label "Warning of injury to hands"
- 2 Warning label "Warning of hazardous electrical voltage"
- 3 Warning label "Warning of hot surfaces" (ATF)

Test: Check whether the labels are still affixed and legible.

2.6 Ultromat® Safety Information

WARNING!

Qualification of personnel

Danger due to incorrect operation of the system

The operating personnel must be instructed by a ProMinent service technician" (When the system is first operated)

The operating instructions must be available by the system!

WARNING!

Danger of electric shock!

Possible consequence: Fatal or very serious injuries

The control cabinet must always be closed during operation.

The mains switch must be set to "0" and secured against restart before any installation or maintenance work can begin.

CAUTION!

Propellers are rotating in the reservoirs!

Slight or minor injuries.

Switch off the system and only then remove the screwed cover of an inspection opening!

CAUTION!

A screw conveyor and a loosening wheel are located under the safety guard of the dry material feeder.

Slight or minor injuries. Material damage.

Do not reach into the dry material feeder.

CAUTION!

Hot surface!

Incorrectly set heating on the metering pipe may become hot!

Ensure that the metering pipe heating is correctly set!

2.7 Sound Pressure Level

The sound pressure level is < 70 dB (A) for powdered polymer, according to EN ISO 11202:1997 (Acoustics - Noise emission from machinery and equipment)

3 Transport and Storage of the System

3.1 Transport and Storage of the System

CAUTION!

Fractures in plastic material may result from incorrect loading

- Only move the Ultromat® system when empty
- The reservoir wall may not be subjected to point loads
- Avoid heavy vibrations and impact loads
- Only move the system with suitable hoisting and lifting equipment
- When using forklift trucks, use long forks, which extend across the entire depth of the three-chamber reservoir
- If a crane is used, fit the transport belts such that shear stress is avoided, even if lifting lugs exist
- The support must be able to carry the weight of the system

Ambient conditions for storage and transport

Permissible ambient temperature: -5 °C to +50 °C

Humidity: none

Other: No dust, no direct sunlight

4 Information on the system

4.1 Application

The Ultromat® AF/ATF manufactured by ProMinent is a polyelectrolyte preparation system.

4.2 Design

Almost all commercially available polymers can be used.

Concentrations of 0.05 to 0.5 % can be set. The viscosity of the polymer solution produced may not exceed 1500 mPas. Please refer to the application data sheets of the polymer suppliers for information about the viscosity of the different polymer solutions.

Adjust the flow rate of the preparation water to make full use of the preparation chamber. Concentrations of greater than 0.5 % can reduce the capacity of the preparation performance.

The maturing time available for the production of a polymer solution depends on the discharge quantity and the volumetric capacity of the Ultromat® and is approximately 60 minutes at a maximum discharge rate.

4.3 System dimensions

System dimensions
Please refer to the dimensions sheet for the precise dimensions of the individual Ultromat® system!

Ultromat AF	400	1000	2000	4000	6000	8000
Reservoir content (litre)	400	1000	2000	4000	6000	8000
Chamber volume (l)	133	333	666	1333	2000	2666
Discharge rate (l/h)	400	1000	2000	4000	6000	8000
Maturing time (min)	60	60	60	60	60	60
Dimensions LxWxH (mm)	1742x905x876	2396x970x1226	3095x1155x1377	3081x1433x1923	3936x1682x1924	4377x1895x1929
Net weight (kg)	140	350	400	550	850	1150
Total weight (kg)	540	1350	2400	4550	6850	9150
Overflow connection	DN 40	DN 50	DN 50	DN 65	DN 65	DN 80
Discharge connection	DN 25	DN 25	DN 32	DN 40	DN 40	DN 50
Water supply for redilution	1"	1"	1"	1 1/2"	11/2"	2"

Ultromat AF	400	1000	2000	4000	6000	8000
Liquid concentrate pipework	DN 15	DN 15	DN 15	DN 20	DN 20	DN 20
Max. water supply	1,500 l/h	1,500 l/h	3,000 l/h	6,000 l/h	8,000 l/h	12,000 l/h
Elec. power input	1.5 kW	2.6 kW	3.2 kW	5.0 kW	5.0 kW	9.5 kW
External fuse	25 A	25 A	25 A	25 A	25 A	40 A
Agitator 1						
Power	0.25 kW	0.55 kW	0.75 kW	1.10 kW	1.10 kW	2.20 kW
Speed (50 Hz)	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm
Enclosure rating	IP 55	IP 55	IP 55	IP 55	IP 55	IP 55
Agitator for chambers 2 + 3 (optional)						
Power	0.18 kW	0.55 kW	0.75 kW	1.10 kW	1.10 kW	1.10 kW
Speed (50 Hz)	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm
Enclosure rating	IP 55	IP 55	IP 55	IP 55	IP 55	IP 55

Ultromat ATF	400	1000	2000	4000	6000	8000
Reservoir content (litre)	400	1000	2000	4000	6000	8000
Chamber volume (l)	133	333	666	1333	2000	2666
Discharge rate (l/h)	400	1000	2000	4000	6000	8000
Maturing time (min)	60	60	60	60	60	60
Dimensions LxWxH (mm)	1742x905x916	2396x970x1266	3095x1155x1416	3081x1454x1953	3936x1682x1953	4377x1895x2000
Net weight (kg)	180	390	440	590	890	1190
Total weight (kg)	580	1390	2440	4590	6890	9190
Overflow connection	DN 40	DN 50	DN 50	DN 65	DN 65	DN 80
Discharge connection	DN 25	DN 25	DN 32	DN 40	DN 40	DN 50
Water supply for redilution	1"	1"	1"	1 1/2"	11/2"	2"

Ultromat ATF	400	1000	2000	4000	6000	8000
Liquid concentrate pipework	DN 15	DN 15	DN 15	DN 20	DN 20	DN 20
Max. water supply	1,500 l/h	1,500 l/h	3,000 l/h	6,000 l/h	8,000 l/h	12,000 l/h
Elec. power input	1.5 kW	2.6 kW	3.2 kW	5.0 kW	5.0 kW	9.5 kW
External fuse	25 A	25 A	25 A	25 A	25 A	40 A
Agitator 1						
Power	0.25 kW	0.55 kW	0.75 kW	1.10 kW	1.10 kW	2.20 kW
Speed (50 Hz)	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm
Enclosure rating	IP 55	IP 55	IP 55	IP 55	IP 55	IP 55
Agitator for chambers 2 + 3 (optional)						
Power	0.18 kW	0.55 kW	0.75 kW	1.10 kW	1.10 kW	1.10 kW
Speed (50 Hz)	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm	750 rpm
Enclosure rating	IP 55	IP 55	IP 55	IP 55	IP 55	IP 55
Powder feeder						
Type	TGD 18.13	TGD 18.13	TGD 18.13	TGD 30.13	TGD 30.13	TGD 38.13
Maximum metering output at 50 Hz	9 kg/h	9 kg/h	9 kg/h	28 kg/h	28 kg/h	55 kg/h

5 Design and function

Description of the Component Assemblies

5.1 Three-chamber reservoir

The PP reservoir is divided into three separate chambers, so that a sufficient maturing time for the polymer solution can be ensured. The division of the reservoir largely prevents the matured and freshly prepared solution from mixing and ensures continuous discharge.

The fill level of reservoir 3 is measured by a pressure sensor (4 to 20 mA). An additional sensor is optionally available for overflow protection.

Water pipework

The water pipework supplies the system with the required preparation water. The pressure reduced with strainer ensures that the correct operating pressure is limited and maintained. A solenoid valve opens and closes the water inlet. A manual shut-off valve also shuts off the supply of water for maintenance work.

5.2 Flush fitting

The flush fitting ensures that the polymer is intensively wetted with preparation water.

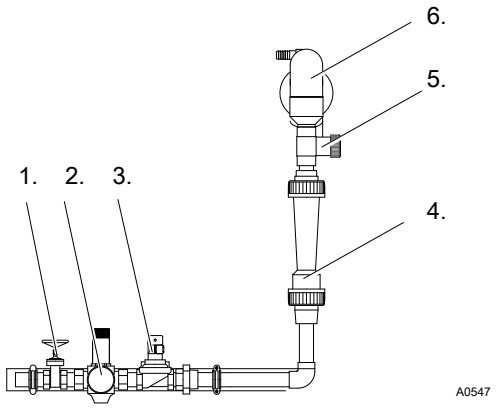

Fig. 4: Flush fitting

1. Shut-off valve
2. Pressure reducer
3. Solenoid valve
4. Flow meter float
5. Control valve
6. Y-Flush inlet

5.3 Dry Material Feeder (ATF only)

Please refer to the separate operating instructions entitled "Dry material feeder" in this documentation for detailed information about the design and function of the equipment. The heating for the metering pipe and the minimum fill level sensor for the dry material hopper are supplied as standard.

A loosening wheel is fitted directly about the feeder screw for the continuous discharge of the powdered polymer. A metering pipe heating unit also removes any penetrated moisture and thus prevents any caking of the powdered polymer.

5.4 Agitators

The Ultromat® is fitted with two electrical agitators as standard. A third agitator for chamber 3 can be supplied as an option. The electrical agitators ensure that the polymer solution is gently agitated. The electrical agitator 1 has two propellers. The agitators can start up suddenly as soon as they are supplied with mains power!

5.5 Power Socket for the Connection of a Conveyor (only ATF)

The Ultromat® has a power socket for the connection of a conveyor. The power socket is attached to the side of the terminal box and is secured electrically by a circuit breaker.

5.6 Terminal Box

The Ultromat® has a terminal box for connection to an external control. The control is provided by the operator.

5.7 Crane Lifting Lugs

A suitable hoisting can be attached to the four crane lifting lugs.

5.8 Ultromat® options

The following options are available for the Ultromat®.

5.8.1 Agitator for Chamber 3 (Agitator 3)

The Ultromat® is fitted with two electrical agitators as standard. A third agitator for chamber 3 can be supplied as an option.

5.8.2 Overflow Protection for the Ultromat®

The overflow protection signals that the Ultromat® is overflowing

5.8.3 Vibrator

The vibrator helps to prevent bridging in the dry material feeder so that the powdered polymer matures better.

5.8.4 Discharge pipework

The discharge pipework serves to combine the 3 reservoir outlets. This enables the Ultromat® to be emptied and its contents to be fed into a drain.

6 Assembly and Installation

The system is fully pre-assembled ex works. The cabling between the terminal box and the electrical power units is fully installed.

6.1 Assembly

WARNING!

High fill weight in the system

Possible consequence: Fatal or very serious injuries.

Ensure that the position of the system can bear the weight of the system when full.

Accessibility of the system

The system must be easily accessible at all times for operation, maintenance and filling.

Ambient conditions:

Permissible ambient temperature: 5 °C to 40 °C

The system may not be exposed to condensation or rain.

The system may not be exposed to direct sunlight.

6.2 Installation - Hydraulic

CAUTION!

Damage to the environment by the polymer solution is possible!

Observe the safety data sheet for the polymer and statutory regulations for disposal when draining the discharge lines and the overflow line!

NOTICE!

Prerequisites

- The preparation water must be of drinking water quality
- It must be free of solids and suspended particles
- Inlet water pressure: 3 bar - 5 bar
- The preparation water, overflow and discharge lines must have the correct dimensions

The overflow and discharge lines must be laid on a gradient and be operable without counter-pressure!

1. Connect the line for the preparation water to the water fitting.
2. Connect the feed pump to the discharge line.
3. Connect up the discharge lines and lead into a suitable drain.
4. Connect the overflow line to the overflow union and lead into a suitable drain.

6.3 Installation - Electrical

WARNING!

Danger of electric shock!

Possible consequence: Fatal or very serious injuries

- The electrical installation may only be performed by a qualified electrician
- Always disconnect the system from the mains power supply and prevent it from being re-connected before undertaking any installation work in the electrical connections
- Ensure that the cross-section of the cable is adequate
- Ensure that the terminals are assigned correctly when connecting the units

CAUTION!

Danger of malfunction!

Material damage

Ensure that the motors are rotating in the right direction ... when connecting the agitators, powder feeder and motor pumps

7 Controller

The Ultromat® AF and ATF are not equipped with a controller. The controller is to be provided by the operator.

7.1 Terminal boxes AF/ATF

The following electrical devices are assigned to terminals in the terminal boxes:

Terminal boxes

- Agitator 1, 400 VAC
- Agitator 2, 400 VAC
- Agitator 3, 400 VAC
- Dry material feeder, 230/400 VAC, 0,18 kW
- Liquid concentrate pump, 230/400 VAC, 0,37 kW
- Separate fan liquid concentrate pump 230 VAC
- Heating dry material feeder, 230 VAC, 28 / 34 / 45 W
- Solenoid valve process water, 24 VDC, 8 W
- Pressure sensor for filling level sensor, 4 ... 20 mA, 0 ... 160 mbar
- Min-contact process water (flow monitor water)
- Overflow protection

8 Commissioning

8.1 Assembly, Preparatory Work

CAUTION!
Initial commissioning
Possible material damage

- It is essential that the mechanical and electrical connections are checked to ensure that they are correct prior to initial commissioning
- Ensure that the voltage, frequency and current type applied in the terminal box matches the data on the specification label
- Observe the handling and set-up information contained in the previous chapters when commissioning for the first time

Assembly

1. Preparation water, discharge and overflow lines must be fitted and checked for leakage and correct operation.
2. Provide adequate resources in the aforementioned quality.

8.2 Settings for Commissioning

Setting parameter for feed pipe heating

When delivered the timer relay in the terminal box is set to the following default values:

Parameter	Default values	Range
Heating switch-on time	5 s	1 - 10 s
Heating switch-off time	35 s	30 - 100 s

The parameters can be adapted to the process during commissioning.

8.3 Water Supply Setting

The water supply should be set to the following values.

Type	Water supply
Ultromat® 400	1500 l/h
Ultromat® 1000	1500 l/h
Ultromat® 2000	3,000 l/h
Ultromat® 4000	6,000 l/h
Ultromat® 6000	9,000 l/h
Ultromat® 8000	12,000 l/h

8.4 Calibrating the Dry Material Feeder

Required material:

- Weighing scales
- PE bag (capacity min. 500 g)

Calibration

1. Loosen the screw couplings to dismantle the flush fitting.
2. Hold the PE bag (capacity min. 500 g) under the metering pipe and fill for 1 minute.
   ⇨ Weigh the volume of discharged powder. This is the volume of "Grammes per minute when the potentiometer is set at 100%".
3. Refit the flush fitting once the powder feeder has been calibrated.

8.5 Adjusting the Concentration

8.5.1 Adjusting the Concentration of the Polymer Solution in the Ultromat® AF / ATF

The metering rate for the dry material feeder or the concentrate pump can be calculated from the water supply setting and the concentration required. Example:

Water supply	Concentration	Metering rate of dry material feeder / concentrate pump
AF / ATF 400, AF / ATF 1000		
1500 l/h	0,1 %	1.5 kg/h
1500 l/h	0,2 %	3.0 kg/h
1500 l/h	0,3 %	4.5 kg/h
1500 l/h	0,4 %	6.0 kg/h
1500 l/h	0,5 %	7.5 kg/h
AF / ATF 2000		
3,000 l/h	0,1 %	3.0 kg/h
3,000 l/h	0,2 %	6.0 kg/h
3,000 l/h	0,3 %	9.0 kg/h
3,000 l/h	0,4 %	12.0 kg/h
3,000 l/h	0,5 %	15.0 kg/h
AF / ATF 4000		
6,000 l/h	0,1 %	6.0 kg/h
6,000 l/h	0,2 %	12.0 kg/h
6,000 l/h	0,3 %	18.0 kg/h
6,000 l/h	0,4 %	24.0 kg/h
6,000 l/h	0,5 %	30.0 kg/h

Water supply	Concentration	Metering rate of dry material feeder / concentrate pump
AF / ATF 6000		
9,000 l/h	0,1 %	9.0 kg/h
9,000 l/h	0,2 %	18.0 kg/h
9,000 l/h	0,3 %	27.0 kg/h
9,000 l/h	0,4 %	36.0 kg/h
9,000 l/h	0,5 %	45.0 kg/h
AF / ATF 8000		
12,000 l/h	0,1 %	12.0 kg/h
12,000 l/h	0,2 %	24.0 kg/h
12,000 l/h	0,3 %	36.0 kg/h
12,000 l/h	0,4 %	48.0 kg/h
12,000 l/h	0,5 %	60.0 kg/h

8.6 Adjusting the Capacitive Sensor

The capacitive sensor for reporting a shortage of powder in the dry material feeder must be checked and possibly adjusted.

The sensor has a yellow LED at its cable end to indicate the switching state and also a sunken adjustment screw to adjust its sensitivity.

The sensor is checked and adjusted in 2 steps:

With an empty dry material feeder

1. The yellow LED on the sensor is not illuminated - the setting is correct.
2. The yellow LED on the sensor is illuminated:
   ⇨ Reduce the sensitivity on the adjustment screw (turn anti-clockwise) until the LED goes out.

With a filled dry material feeder

1. The yellow LED on the sensor is not illuminated - the setting is correct.
2. The yellow LED on the sensor is not illuminated:
   ⇨ Increase the sensitivity on the adjustment screw (turn clockwise) until the LED is illuminated.

8.7 Operation of the System

CAUTION!

Large volumes of water of polymer solution can escape from the system!

– Ensure that the discharge values are closed before starting the preparation process!

CAUTION!

Monitor the operation of the system in the start-up phase!

– Monitor in particular the correct switching operation of the level sensor when they first reach their respective switching points!

Prerequisites:

1. Correct and proper assembly and installation of the system has been checked.
2. The discharge valves are closed.
3. All the operating parameters have been set.
4. All of the necessary equipment has been calibrated.
5. Start up the system

   ⇨ the system starts up and begins the automatic preparation process.

9 Operation of the System

9.1 Prerequisites for Correct and Proper Operation

NOTICE!

Instructed personnel

– The system may only be operated by instructed personnel!

Prerequisites:

→ Correct setting of the operating parameters.

9.2 Feeding the Dry Material Feeder with Powdered Polymer (ATF)

CAUTION!

Danger of slipping!

Mixtures of polymer and water are slippery!

– Ensure that you have a secure foothold when filling the dry material feeder
– Immediately remove any spilled powdered polymer or leaked polymer solution

If the dry material feeder is not automatically filled, the supply of powdered polymer has to be continuously checked and refilled in time. This can be done while the system is operational.

9.3 Behaviour When Switching on Mains Power and in the Event of Mains Power Failure

Behaviour when switching on mains power and in the event of mains power failure is dependent on the external control and is the responsibility of the operator.

9.4 Decommissioning

For more than two days

1. → Completely empty the dry material feeder and/or liquid concentrate feed.
2. → Empty the reservoir through the connections on the individual chambers provided for this.
3. → Carefully flush the reservoirs with water.
4. → In addition, rinse the flushing fitting.
5. → Carefully flush the line between the reservoir and the feed pump.

9.5 Disposal

NOTICE!

Regulations

– Please observe the currently applicable local regulations (specifically with regard to electronic waste)
– Please also read the operating instructions for the other equipment (dry material feeder, pumps ...)

For Germany: The cleaned used parts can be disposed of at municipal waste collection points.

10 Incorrect Operation of the System

- The incorrect position of the discharge valves can result in malfunction
- The incorrect position of the shut-off valves in the water supply line can result in malfunction
- Unauthorised persons must be prevented from entering or changing operating parameters
- The maximum viscosity of 1500 mPas may not be exceeded when setting the concentration on the external control
- The system will malfunction if the polymer supply is not refilled

11 Troubleshooting

CAUTION!
Danger of sudden start-up!
Possible consequence: Slight or minor injuries
– The agitators and propeller may start up suddenly

11.1 Unspecified Malfunctions

Should a problem occur, which is not included in this list or should a listed fault not be remedied by the suggested troubleshooting measures, please contact ProMinent Customer Services without delay.

11.2 Sensors

It should first be considered with every fault analysis that a capacitive proximity sensor may possibly be erroneously signalling a fault.

12 Maintenance

The following components have to be maintained regularly. The intervals should be based on operating conditions.

12.1 Dry Material Feeder

Inspect the dry material feeder

- Check the dry material feeder regularly during operation to ensure that it is working correctly
- Check whether the powdered polymer is being metered correctly

12.2 Cleaning the Screen Insert in the Pressure Reducer

Clean the screen insert at the latest when 2/3 of the throughput surface of the screen insert is dirty.

- Manually close the shut-off valve upstream of the pressure reducer
- Please refer to the manufacturer's instructions for further steps

12.3 Dismantling the Cover of an Inspection Opening

CAUTION!
Danger of sudden start-up!
Slight or minor injuries

– The agitators and propeller may start up suddenly

The system must only be operated in principle when the inspection openings are tightly screwed.

The covers may only be removed temporarily.

After the inspection work, replace all covers and screw closed!

12.4 Cleaning the Surface of the Ultromat®

CAUTION!
Material damage
Do not use cleaning agents containing solvents.

Clean the surfaces of the Ultromat® if needed, as a slippery film can form on them over time.

13 Spare Parts and Accessories

Source

Spare parts and accessories can be purchased from our Customer Service department.

14 Appendix

MSR diagram: Ultromat RI flow diagram® AF/ATF with pressure sensor

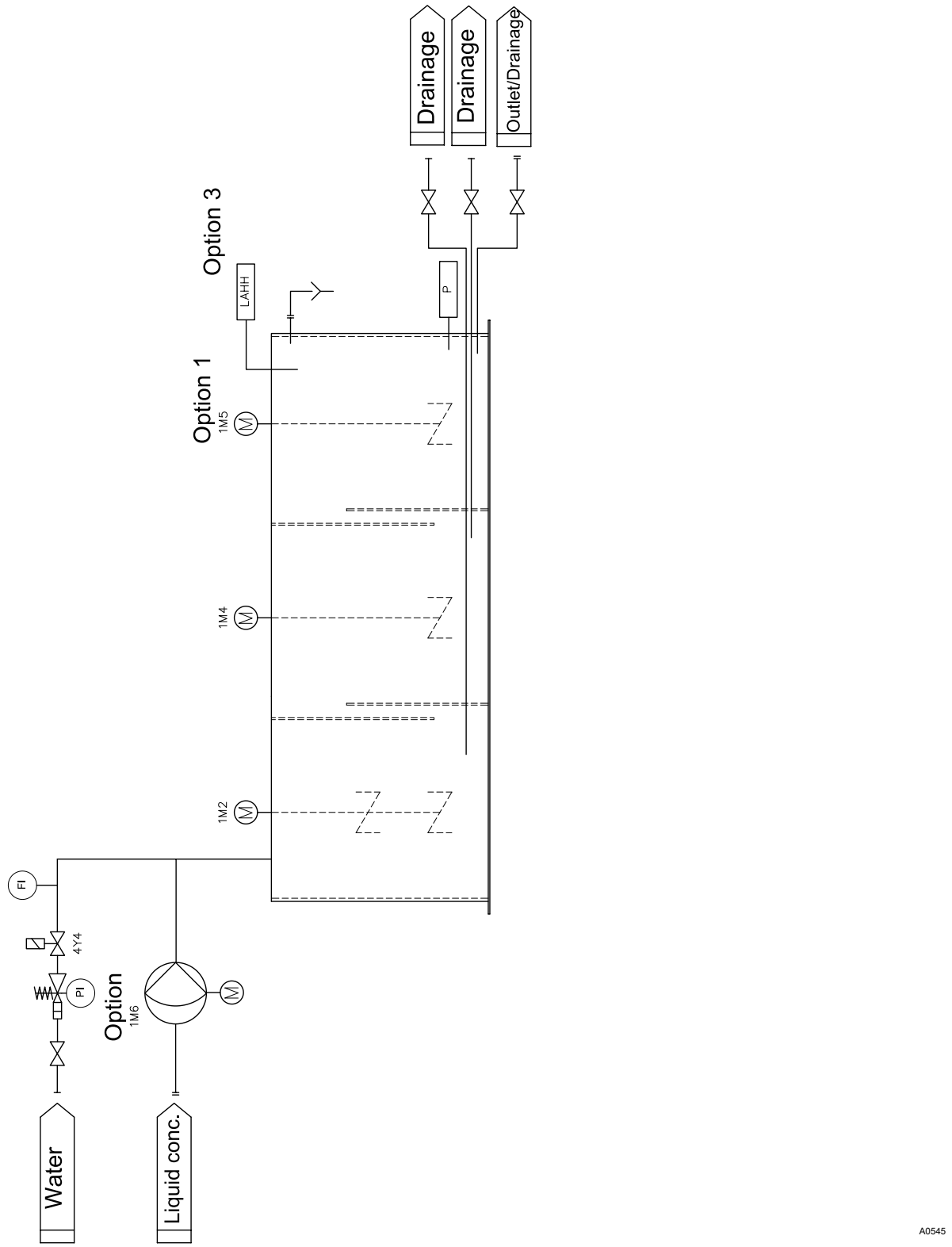

Fig. 5: Ultromat RI flow diagram® AF

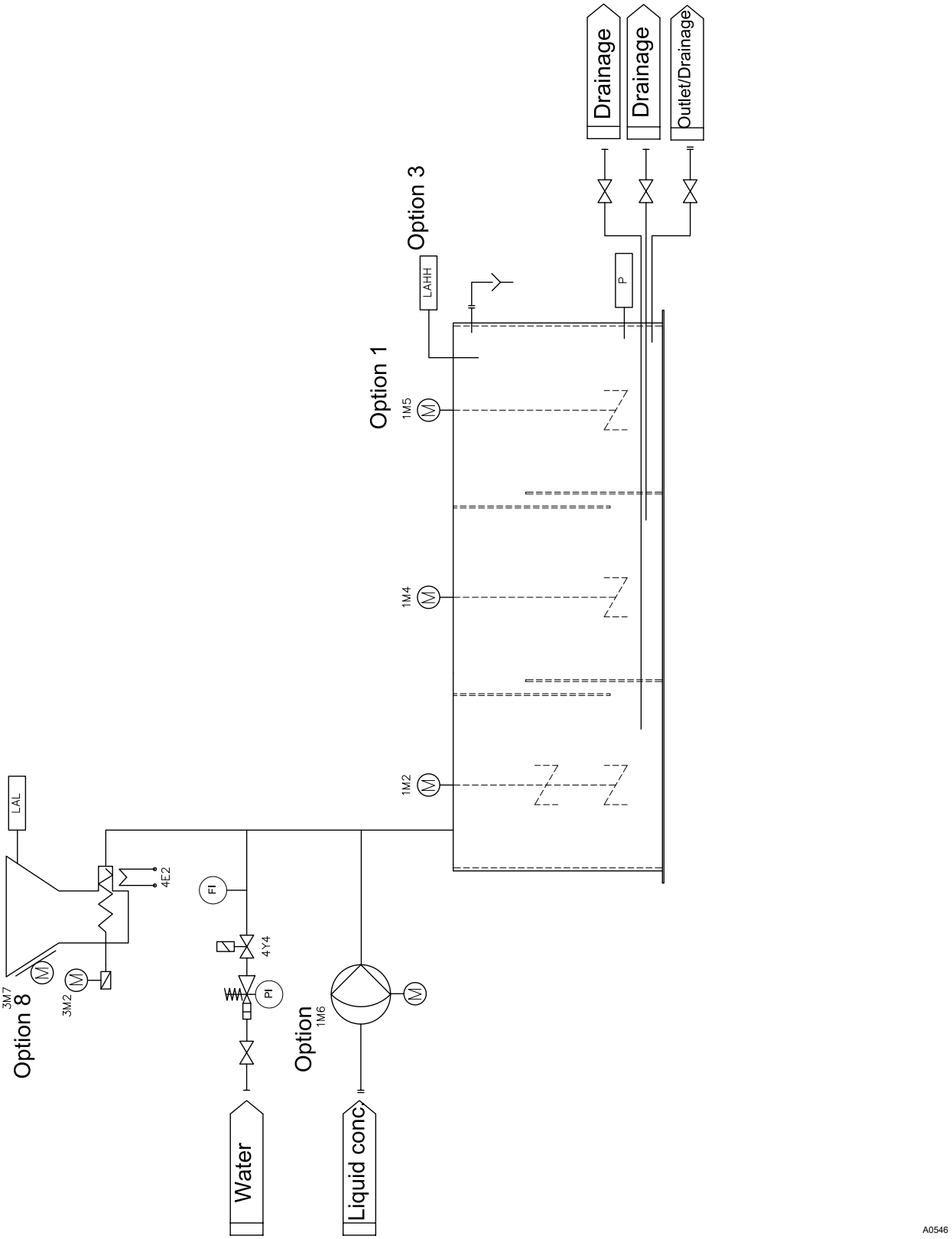

Fig. 6: Ultromat RI flow diagram® ATF

15 EC Declaration of Conformity

EC Declaration of Conformity

We hereby declare,

ProMinent Dosiertechnik GmbH
Im Schuhmachergewann 5 - 11
D - 69123 Heidelberg

that the following designated product complies with the pertinent fundamental safety and health requirements of the EC Directive in terms of its design and construction and in terms of the version marketed by us.
This declaration loses its validity in the event of a modification to the product not agreed with us.

Description of the product:	Polyelectrolyte preparation system, Ultromat
Product type:	ULTa…, AF, AT, ATF, AFP, ATP, ATFP, AFD, ATD, ATFD ATR, AFK, MT
Serial no.:	refer to nameplate on the device
Pertinent EC Directives:	EC Machinery Directive (2006/42/EC) EC Low Voltage Directive (2006/95/EC) EC EMC Directive (2004/108/EC)
Applied harmonised standards in particular:	EN ISO 12100-1, EN ISO 12100-2, EN 809, EN 60335-1, EN 60335-2-41, EN 50106, EN 55014, EN 61000-3-3, EN 61000-4-2/3/4/5/6/11, EN 61000-6-1/2
technical documents have been compiled by:	Norbert Berger Im Schuhmachergewann 5-11 DE-69123 Heidelberg
Date / Manufacturer - Signature :	04.01.2010
Details of the signatory:	Joachim Schall, Head of Research and Development

Fig. 7: EC Declaration of Conformity

16 Commissioning report

Commissioning report Ultromat® AF/ ATF

Ultromat® Type: AF 400, AF 1 000, AF 2 000, AF 4000, AF 6000, AF 8000

Ultromat® Type: ATF 400, ATF 1 000, ATF 2 000, ATF 4000, ATF 6000, ATF 8000

Project number (on type plate):

Calibration settings:

Powdered polymer:

Calibrated metering capacity g/min

Water supply l/h

Liquid polymer:

Calibrated metering capacity g/min

Water supply l/h

Settings for Commissioning

Commissioning parameters

Default setting

Setting

Setting powder mode

Heating

Switch-on time 5 s

Heating switch-off time 35 s

Powdered polymer trade name:

Supplier:

Liquid polymer trade name:

Supplier

Customer:

Date:

Installation place:

17 Index