

PROTOCOL No. 07/2025
INTERNAL STAFF TRAINING
Aquaphor Water-Professional SRL
ON AQUAPHOR PROFESSIONAL WATER TREATMENT SYSTEMS

Approved:

This protocol has been approved and confirmed by the technical department of AQUAPHOR TECHNOLOGY (Narva, Estonia) represented by the authorized specialist who conducted the training.

Training Supervisor:

Full Name: Maxim Tubelsky

Position: Director of Sales Department

General Information

Training organizer – manufacturer: Aquaphor International OU

Receiving party: Aquaphor Water-Professional SRL

Format: In-person training (theory + practice)

Venue: Tallinn , Katusepapi tn 44

Dates: June 23–27, 2025

Instructors: Technical experts and lead engineers of Aquaphor

This protocol records the completion of in-person training by the technical and management personnel of Aquaphor Professional Kazakhstan LLP as part of the professional development program and implementation of AQUAPHOR PROFESSIONAL equipment maintenance standards at all levels of the company.

TRAINING OBJECTIVE

The objective of the training is for participants to acquire in-depth technical knowledge and practical skills in industrial water treatment systems under the Aquaphor Professional brand. The training covers all stages of equipment operation: from water treatment theory to installation, commissioning, and diagnostics.

2. TRAINING PARTICIPANTS

The following departments participated in the training:

- Company management (Director, Chief Engineer)
- Heads of structural and production departments
- Assembly and installation specialists
- Commissioning and maintenance engineers
- Production supervisors and adjusters
- Service and warranty support personnel

✦ The training was conducted in an in-person format with practical equipment demonstrations, analysis of typical failures, and commissioning algorithms. Participants had the opportunity to ask questions to AQUAPHOR INTERNATIONAL technical specialists and share hands-on experience.

Based on the above, this protocol confirms the completion of training by all participants listed herein. The knowledge and skills acquired are recommended for application in current and future company projects, with records kept in personal development plans.

3. EQUIPMENT SERIES COVERED DURING TRAINING

- AFS – mechanical and sorption filtration units (cartridge and backfill)
- AFS-S – automatic softeners with Clack, Runxin, Siata control valves
- AFS-I – iron removal systems based on catalytic media (Birm, Ecomix, Centaur, Pyrolox, etc.)
- AFS-C – comprehensive water treatment systems (softening + iron removal + organics)
- RO-PRO – reverse osmosis units with capacity from 250 to 10,000 L/h
- UF-PRO – ultrafiltration systems for potable and process water preparation
- Dosing stations – metering pumps (Etatron, SEKO), reagent preparation and dosing systems
- Pre-filtration systems – inline filters, hydrocyclones, sand filters
- UV disinfection stations – UV reactors of various capacities (for potable and process water supply)
- Pressure filtration systems – with automatic control by time, volume, or differential pressure
- Booster pump stations – for boosting pressure in water supply systems, operation with flow sensors and pressure switches
- Water preparation systems for steam boilers and boiler rooms – softening, degassing, TDS monitoring
- Antiscalant and biocide dosing stations – for water pre-treatment before membrane systems
- Automated control panels – PLC/relay, operator panels, remote monitoring systems (GSM, Modbus, cloud solutions)

✦ Additionally, principles of equipment selection based on source water analysis, piping layout design, and service requirements were covered.

**Training conducted with the participation of technical specialists from
AQUAPHOR INTERNATIONAL**
(Narva, Estonia)

**ANNEX No. 1 to the Training Completion Certificate
for production department employees
of Aquaphor Water-Professional SRL**

EQUIPMENT SERIES COVERED DURING TRAINING

The training included theoretical and practical preparation of production department employees in the following areas and equipment series:

 **1. AQUAPHOR PRO**

Installation and commissioning of modular water treatment systems
Configuration of control units, pressure, drainage, and backwash
Connection of pump and dosing systems
Installation of sorption filters, softeners, and membranes
Fault diagnostics and automation maintenance

Example models: APRO 100, APRO I-500, AP-UF, AP-EDI, APRO Monoblock 6000

 **2. AQUAPHOR RO (Reverse Osmosis Systems)**

Installation of membrane modules
Mounting and testing of pump, pressure reducer, and valves
Membrane and filter replacement, housing maintenance
TDS sensor monitoring and calibration, commissioning

Models: RO-203, RO-206M, RO-STOM

 **3. AQUAPHOR Crystal**

Installation of under-sink domestic systems
Leak testing, flushing
Quick cartridge replacement, scheduled maintenance
Working with mineralization, ultrafiltration, UV variants

Models: Crystal K5–K7, K7M, K2–K7B

 **4. AQUAPHOR GROSS and Big Blue**

Installation of inline filters
Wall-mount and floor-mount installation
Cartridge selection by contamination type (PP, carbon, sorption)
Replacement under pressure, pressure gauge maintenance

Models: GROSS 10, GROSS 20, Big Blue 20"

 **5. AQUAPHOR ECO**

Budget systems: assembly, installation, inspection
Installation with flexible hoses or bypass
Domestic-use maintenance

Models: ECO-Z, ECO-H, ECO-W


 **6. AQUAPHOR PROFESSIONAL LINE**

Configuration and assembly of custom treatment stations
Connection of post-filters and sterilization systems
Pressure and flow rate setting, flow measurement
Working with DI, RO, UV lamp, and ionizer units

Models: STOM-Line, RO-Clinic, DI-MINI

 **Skills practiced during training:**

- Equipment connection in compliance with safety standards
- Use of TDS meter, pH meter, pressure gauges
- Chemical membrane flushing, module replacement
- Scheduled maintenance procedures
- Maintenance of filter element replacement logs

 The knowledge gained enables the production department to competently carry out installation, commissioning, and service maintenance of AQUAPHOR equipment in accordance with manufacturer requirements.

ANNEX No. 2 to the Training Completion Certificate
Training Program for Production Department Specialists
of Aquaphor Water-Professional SRL
5-Day Course

#	Section	Description	Duration
Day 1			
1	Introduction. General principles of water treatment	Physicochemical fundamentals. Contaminant classification. Water quality standards and requirements.	2 hours
2	Source water analysis and technology selection	Practice reading test reports. Choosing water treatment schemes for specific tasks.	2 hours
3	Overview of AQUAPHOR PRO equipment range	Cartridge and backfill filters, softeners, iron removal systems, comprehensive treatment systems.	2 hours
4	Introduction to documentation	Technical data sheets, installation diagrams, questionnaires, service manuals.	2 hours
Day 2			
5	Equipment installation: theory	Piping principles, specifics of Clack, Runxin valve connections, hydraulic schematic.	2 hours
6	Equipment installation: practical	Hands-on piping work, factory assembly, installation from drawings.	4 hours
7	Working with control valves	Menu structure, basic and advanced settings, regeneration, error reset.	2 hours
Day 3			
8	RO-PRO and UF-PRO stations	Design overview, membrane elements, components, pumps, automation.	2 hours
9	RO system installation and start-up	Module connection, filtration and drainage, membrane flushing, initial commissioning.	3 hours
10	Dosing stations and reagents	Tank assembly, metering pump configuration, flow check, safety procedures.	3 hours
Day 4			
11	Filtration system maintenance	Backfill replacement, valve servicing, cartridge filter maintenance.	2 hours
12	Chemical membrane flushing	Methodology, operation sequence, safety, reagent calculation.	2 hours
13	Diagnostics and troubleshooting	Valve, membrane, and pump failures. Search and repair algorithms.	4 hours
Day 5			
14	Customer and service documentation	Commissioning act, maintenance log, reporting forms.	1.5 hours
15	Knowledge and skills assessment	Written test + practical tasks (commissioning, programming, installation).	2 hours
16	Case study review	Field errors, maintenance experience, real-world tasks, recommendations from technical specialists.	2 hours
17	Wrap-up and feedback	Q&A, certification, professional development recommendations.	1.5 hours

Total training duration: 32 hours