

## Technical description

### JAZIKA 1600 | JAZIKA 3000

*The fully automatic all-rounder in water purification*

**JAZIKA 1600RO** 1.237-101.0

**JAZIKA 1600 G** 1.237-102.0

**JAZIKA 1600GT** 1.237-103.0

**JAZIKA 3000RO** 1.237-110.0

**JAZIKA 3000 G** 1.237-111.0

**JAZIKA 3000GT** 1.237-112.0

## Content

1. General description .....	1
1.1. Description of the water purification system .....	1
1.2. Technical description of the generator .....	3
1.3. Technical description of the all-terrain trailer .....	3
2. Technical Data .....	4
3. Product scope .....	5
3.1. Scope of delivery .....	5
3.2. Optional Accessories .....	6

## 1. General description

### 1.1. Description of the water purification system



**JAZIKA 1600 RO**

**JAZIKA 3000 RO**



**JAZIKA 1600 G**

**JAZIKA 3000 G**



**JAZIKA 1600 GT**

**JAZIKA 3000 GT**

These water purification systems make the processing of raw water from almost all natural raw water sources into drinking water possible. Contamination can be natural or caused by disasters or human influence (e.g. discharge of sewage water, accidental chemical spillages, and armed conflicts involving nuclear, biological and chemical weapons). Salt water is not suitable for human consumption either. The JAZIKA purifies raw water continuously and fully automatically to produce drinking water for people who need it.

## Water

The system is equipped with an extremely sturdy, field-proven programmable logic control unit (PLC) which reacts automatically to any changes in the essential raw water parameters. Operating pressures and drinking water output are continuously adjusted to the optimal value without the intervention of the operator. In this way, the purification process always runs in the best possible and safest way.

Set-up, operation, maintenance and decommissioning require only one trained person. This person must not necessarily be a water expert. The time needed for setting up and preparing the system for operation is approx. one hour, depending on the local conditions.

The system is designed in such a way that it can be operated with extremely little effort which is mainly limited to easy tasks such as changing the pre-filters and replenishing with operating materials. In emergency and disaster relief missions an operation of 24 hours per day over a period of 7 days can be possible.

The purification system operates as follows:

### 1.1.1. Prefiltration

In the first step (essential accessories), solid matter is removed from the raw water by means of a filter. The filter has a fineness of 0.5  $\mu\text{m}$  (nominal).

### 1.1.2. Anti-scaling

If the raw water has a high mineral content, an 'anti-scaling' extension kit can be integrated into the JAZIKA 1600 system against a surcharge. By means of this extension kit, a complexing agent can be added to the raw water before the membrane purification process (RO membranes). This agent reduces the precipitation of certain agents (e.g. lime) on the membrane's surface in contact with the raw water. These precipitations can reduce the drinking water output considerably and increase the maintenance required on the RO membranes (increased cleaning time).

### 1.1.3. Reverse osmosis

In the second step, the raw water is treated by means of a reverse osmosis membrane which represents the core of the water purification system. The reverse osmosis membranes (RO membrane) are able to retain almost all organic compounds, salts and bacteria/viruses. The JAZIKA plant technology ensures easy operation at the highest process safety level. Chemicals are not required for the purification process itself, so there are less resulting waste chemicals.

The JAZIKA allows one-step (single-pass) and two-step (double-pass) reverse osmosis. For example, the two-step (double-pass) reverse osmosis is absolutely necessary if the raw water is contaminated with radionuclides (e.g. fallout). The double-pass function is available as an optional extension kit against extra price.

The concentrate produced during the reverse osmosis process can be drained off into a waste water channel or back to the source (a hydraulic 'short circuit' to the raw water pump should be avoided).

### 1.1.4. UV

In the third step, a UV lamp (optional extension kit against extra price) disinfects the water by inactivating bacteria/viruses. UV disinfection is only an additional safety step because the reverse osmosis membranes already retain the bacteria and viruses present in the raw water and the chlorination will also kill bacteria/viruses but furthermore have a storage effect.

### 1.1.5. Chlorination

In the fourth and last treatment step, the permeate (filtered water) is fed with calcium hypochlorite, via a dosing pump, in order to disinfect and extend the storage time of the drinking water under field conditions. By means of the dosage unit used for this purpose, the drinking water can also be fed with minerals (e.g. calcium chloride) if necessary. This option is particularly interesting when fresh water is purified to produce drinking water.

## Water

### 1.2. Technical description of the generator

(Applies only for: JAZIKA 1600 G, JAZIKA 1600 GT, JAZIKA 3000 G, JAZIKA 3000 GT)

The system is fully independent of an external power source thanks to the integrated diesel operated power generator. The electrical power generator is suitable for various fuels, and noiseencapsulated.

### 1.3. Technical description of the all-terrain trailer

(Applies only for: JAZIKA 1600 GT, JAZIKA 3000 GT)

The complete system has been developed by JAZIKA to be mounted on a single-axle trailer for use in heavy terrain. The successful introduction and operation of the trailer by the most varied armies and relief organizations confirms its outstanding quality. During transport, the trailer is protected by a protective covering which includes a central part and four frame constructions with tarpaulins on all sides. Together with the central part, the unfolded side parts form an overhanging roof which protects both the system and the working area against sunlight and rain.

## 2. Technical Data

JAZIKA 1600 = JAZIKA 1600 RO, JAZIKA 1600 G, JAZIKA 1600 GT

JAZIKA 3000 = JAZIKA 3000 RO, JAZIKA 3000 G, JAZIKA 3000 GT all data approximately

<b>Purification capacity (at 25°C) depending of the salinity of the raw water</b>		
	<b>JAZIKA 1600</b>	<b>JAZIKA 3000</b>
<b>5000 ppm</b>	max. 1600 l/h	max. 3000 l/h
<b>32000 ppm</b>	max. 1200 l/h	max. 1800 l/h
It is possible to purify raw water with a salt content of max. 55000 ppm		
1 ppm = 1 mg/l; 1000 ppm = 1 g/l		
<b>Max. daily output</b>	Up to 38400 l/day	Up to 72000 l/day

<b>Dimensions (incl. trail Ɂr)</b>			
	<b>JAZIKA 1600 RO JAZIKA 3000 RO</b>	<b>JAZIKA 1600 G JAZIKA 3000 G</b>	<b>JAZIKA 1600 GT JAZIKA 3000 GT</b>
<b>Length [mm]</b> (at GT depending from drawbar position)	1900	2800	5460-5900
<b>Width [mm]</b>	1600	1600	2170*
<b>Height [mm]</b>	1050	1050	2490*
<b>Clearance height [mm]</b>			340
<b>Admissible total weight [kg]</b>			200
<b>Total weight [kg]</b>	1000 1100	1700 1800	3500 3500

# Water

\* Roof extracted LxWxH: 6.460-6900x4220x3430 mm

## Energy requirementsf

Max. 15 kW (400 V, 32 A, 50 Hz, 3P+N+PE)

## Monitoring / display of

Conductivity, temperature, operating hours, pressure, drinking water output, UV lamp (option)

## Hose connections

Storz D

## 3. Product scope

NSN JAZIKA 1600 GT: 4610-12-349-5841

### 3.1. Scope of delivery

Qty	Description
	<b>Purification</b>
2	High-pressure pump
1	Chlorination pump
1	Anti-scalant dosing pump (for JAZIKA 1600 only optional)
1	Chlorine storage tank
1	Control displays
1	Power cable
1	Tool kit
1	CIP (Cleaning in Place) system
8   10	RO membranes d=4", l= 40" (JAZIKA 1600   JAZIKA 3000)
1	Operating manual in German, English, French or Spanish (other languages on request against extra price)

	<b>Raw water supply</b>
1	Raw water pump, 4m <sup>3</sup> /h, 3.8 bar, stainless steel
1	Swim ring
1	Power cable, 30 m

	<b>Hoses</b>
1	Hose (raw water), 25 m, couplings: Storz D
1	Hose (concentrate), 25 m, couplings: Storz D

## Water

2	Hose (drinking water), 3 m, couplings: Storz D
---	--

	<b>Further accessories</b>
10	Pre-filter bags 0.5 µm (nominal)
1	Transport box, safety glasses, safety gloves, hand lamp, tool kit, measuring cup, balance

Applies only for JAZIKA 1600 G, JAZIKA 1600 GT, JAZIKA 3000 G, JAZIKA 3000 GT

	<b>Multi Fuel or Diesel generator</b>
1	Electrical power generator, 20 kVA (16kW)
1	Diesel tank, 110 liter

Applies only for JAZIKA 1600 GT, JAZIKA 3000 GT

Qty	Discription
-----	-------------

	<b>Weather protection</b>
1	Weather protection tarpaulin
1	Set of side tarpaulins (for establishing a weather protection tent)

	<b>Trailer</b>
	Trailer chassis
	Single-axle chassis with torsion bar suspension axle, overrunning brake with automatic back-up lock, support wheel, hand brake, drawbar height adjustable from 520 to 960 mm, DIN towbar eye or NATO towbar eye mounted.
	Electrical equipment of the trailer
	3 chamber light, license plate light, triangle reflector, side marker lights, rear fog light, back-up light, Operating voltage 24 V with mounted 12 pole power supply plug (NATO)

\* The trailer will be delivered without official approval and homologation for road service. Approval should be carried out by the customer in its country. Against extra costs and an extension of the delivery time, if required, JAZIKA can arrange for a specific approval for driving on German roads to be issued by a certified registration office (e.g. TÜV). International customers should check whether this German approval will be accepted by the respective authorities in their home countries.

### 3.2. Optional Accessories

The following table shows some of JAZIKA available accessories. Their scope of delivery is presented in the separate enclosed individual offer. For any questions the corresponding JAZIKA sales manager will be pleased to assist you.

#### 3.2.1. Recommendation for JAZIKA 1600

## Water

Qty	Description	Part no.	NSN
	<b>Set of chemicals*</b>		
1	Transport box	6.464-754.0	
1	Membrane preservation agent sodium metabisulphite (5 kg)	6.769-040.0	6810-12-353-7057
1	Membrane cleaning agent RM Kleen MCT 511 (4x1 liter)	6.294-008.0	6850-12-365-5579
1	Membrane cleaning agent RM Kleen MCT 103 (4x1 liter)	6.294-009.0	6850-12-365-5578
1	Desinfektionsmittel (Anlage) RM 792 Desinfekt K3 (6 x 150 ml)	6.294-010.0	6840-12-365-2150
1	Disinfectant (system) RM 792 Desinfekt K3 (6 x 150 ml)	6.295-389.0	6810-12-376-0993

### 3.2.2. Recommendation for JAZIKA 3000

Qty	Benennung	Part no.	NSN
	<b>Set of chemicals*</b>		
2	Transport box	6.464-754.0	
1	Membrane preservation agent sodium metabisulphite (5 kg)	6.769-040.0	6810-12-353-7057
1	Membrane cleaning agent RM Kleen MCT 511 (4x1 liter)	6.294-008.0	6850-12-365-5579
1	Membrane cleaning agent RM Kleen MCT 103 (4x1 liter)	6.294-009.0	6850-12-365-5578
1	Disinfectant (system) RM 792 Desinfekt K3 (6 x 150 ml)	6.294-010.0	6840-12-365-2150
2	Disinfectant (drinking water) calcium hypochlorite (6 x 0.45 kg)	6.295-389.0	6810-12-376-0993
1	Scale inhibitor for raw water with a high mineral content (anti-scalant) RM 5000 (23 kg)	6.290-991.0	

\* If there is a risk of frost, an antifreezing agent must be used!

### 3.2.3. Amongst others following items might be ordered

Qty	Benennung	Part no.	NSN
-----	-----------	----------	-----

## Water

	<b>Antifreezing agent</b>		
1	monopropylene glycol, 1,2 propanediol (5 liter)	6.290-910.0	

	<b>Remineralisation</b>		
1	Calcium chloride dihydrate (25 kg)	6.290-936.0	

	<b>Pre-filtration</b>		
1	Set of 10 pre-filter bags, 0.5 µm (nominal)	6.414-546.0	4330-12-353-6395

	<b>RO membrane</b>		
1	RO-Membran d=4", l= 40"	6.640-526.0	

	<b>Water Analysis Set</b>		
	<p>The operator of a water purification system has to ensure, that the purified water is drinking water according to the local drinking water regulations (local law). Therefore, the operator might be obligated to analyze the drinking water.</p> <p>In case of reverse osmosis the hardness (for anti-scalant) and chlorine (chlorine damage the reverse osmosis membranes) has to be measured (Set I or higher)</p>		

	<b>Tanks, hoses, fittings, distribution</b>		
	<p>Several tanks, hoses, fittings or distribution devices might be requested. To get more information what you want to order, please refer to your sales contact for support.</p>		