

### Water Stills

GFL Water Stills produce ultra pure, bacteria free and pyrogen free distillate with very low conductivity. The distillate quality complies with DAB regulations and with international pharmacopeia requirements. Energy is saved through distillation of the heated cooling water. The distillate is needed e.g. for the preparation of bacteriological and medical samples.

Four product ranges are available, with 14 models of user-friendly and easy-to-service units.

#### Water stills for single distillation without and with storage tank:

Models 2001/2 and 2001/4, bench units, and models 2002 to 2012, suitable for both bench and wall mounting. Conductivity of the distillate approx. 2.3  $\mu\text{S}/\text{cm}$  at 25°C.

#### Water stills for double distillation:

Models 2102 to 2108 (fully automatic), suitable for both bench and wall mounting. Conductivity of mono distillate approx. 2.2  $\mu\text{S}$ ; conductivity of bi-distillate approx. 1.6  $\mu\text{S}/\text{cm}$  at 25°C

#### Glass water stills for single and double distillation:

Models 2202 to 2304 (fully automatic), suitable for both bench and wall mounting. Models 2202 to 2208 (single): Conductivity of the distillate. 2.2  $\mu\text{S}/\text{cm}$  at 25°C. Models 2302 to 2304 (double): Conductivity of the distillate approx. 1.6  $\mu\text{S}/\text{cm}$  at 25°C.

#### Water stills for single distillation without storage tank, models 2001/2 and 2001/4

- Evaporator, condenser (cooler) with baffle and heating element made of stainless steel
- Thermostatic low water cut-off
- Thermometer to display the temperature of the cooling water
- Distillate withdrawal through drain tube on the front of the unit
- Cooling water inlet and outlet on the right-hand side of the unit\*
- Water connection: cooling water inlet ½ inch (inner Ø 12.7 mm)
- Cooling water outlet ½ inch (inner Ø 12.7 mm)
- CO<sub>2</sub> degassing aperture at the condenser
- Housing made of electrolytically galvanised sheet steel, electrostatically powder-coated with epoxy resin.

#### Water stills for single distillation with storage tank, Models 2002, 2004, 2008 and 2012

- Evaporator, condenser (cooling coil), heating element and storage tank made of stainless steel
- Storage tank for distillate accepts double the hourly capacity of the unit
- Water supply through an integrated solenoid valve with connection for pressure hose ½ inch\* (inner Ø 12.7 mm), water pressure required: > 3 bar to max. 7 bar
- Thermostatic low water cut-off
- Cooling water outlet with hose connection ¾ inch\* (inner Ø 19 mm)
- Distillate withdrawal at the front
- An electronic level switch switches the still off when the storage tank is full and restarts it automatically when distillate is withdrawn
- Automatic cleaning indicator
- Drainage of the evaporator through drain cook on the right-hand side of the unit
- CO<sub>2</sub> degassing aperture at the condenser
- Double-walled housing. Housing is made of electrolytically galvanized sheet steel, electrostatically powder coated with epoxy resin

#### Water stills for double distillation, Models 2102, 2104 and 2108

- Evaporator, condensers (coolers): 1st stage and heating element made of stainless steel. Condenser 2nd stage including baffle made of Duran®/borosilicate glass 3.3
- Water supply through an integrated solenoid valve with connection for pressure hose ½ inch\* (inner Ø 12.7 mm), water pressure required: > 3 bar to max. 7 bar
- Cooling water outlet with hose connection ¾ inch (inner Ø 19 mm)
- Distillate withdrawal: stop valve made of borosilicate glass 3.3 with PTFE plunger for single distillate, outlet with dust shield made of borosilicate glass 3.3 for double distillate
- Low water cut-off: 1. float switch, 2. thermostatic safety switch
- Electronic impurity detector
- CO<sub>2</sub> degassing aperture at the condensers
- Two-part housing made of electrolytically galvanized sheet steel, electrostatically powder coated with epoxy resin; upper part easily removable through quick-release catches

#### Glass water stills for single distillation, Models 2202, 2204 and 2208

#### Glass water stills for double distillation, Models 2302 and 2304

- Extremely low level of metal ions in the distillate
- Visible distillation process through easily removable, unbreakable front screen that does not steam up
- Evaporators, condensers and overflows made of Duran®/borosilicate glass 3.3. Condensers with dribble guard
- Water supply through an integrated solenoid valve with connection for pressure hose ½ inch\* (inner Ø 12.7 mm), water pressure required: > 3 bar to max. 7 bar
- Cooling water outlet with hose connection ½ inch\* (inner Ø 12.7 mm)
- Heating elements with quartz sheathing
- Sterilisation of the condensers by steam
- Electronic level control during the whole distilling process



- Water level control in the condenser with automatic power cut-off in case of water shortage
- Electronic impurity detector induces automatic water change to rinse and clean the condenser
- CO<sub>2</sub> degassing aperture at the condenser
- Distillate withdrawal through hose connection at the right-hand side
- Housing made of electrolytically galvanized sheet steel, electrostatically powder coated with epoxy resin

\*Tubes for water inlet and outlet can be supplied as accessories.

⑥



Type	Flow rate l/h	Cooling water requirement approx. l/h	Outer dimensions W × D × H mm	Storage tank l	Connection kW	Voltage <sup>1)</sup> 50/60 Hz	Weight kg	Order No.
① 2001/2	2	20	280×250×490		2.0	230 V	7.5	94 11 11102
② 2001/4	4	40	280×250×490		3.0	230 V	7.5	94 11 11104
2002	2	30	540×290×420	4	1.5	230 V	15.4	94 11 15001
③ 2004	4	48	620×330×460	8	3.0	230 V	20.2	94 11 15003
2008	8	72	780×410×540	16	6.0	400 V/3 ph/N/PE three-phase current	35.3	94 11 15008
2012	12	198	780×410×670	24	9.0	400 V/3 ph/N/PE three-phase current	43.0	94 11 15010
2102	2	72	500×260×470		3.5	230 V	18.0	94 11 12001
④ 2104	4	120	550×280×570		7.0	400 V/3 ph/N/PE three-phase current	23.0	94 11 12004
2108	8	198	700×390×700		11.5	400 V/3 ph/N/PE three-phase current	39.0	94 11 12006
⑤ 2202	2	48	650×200×390		1.5	230 V	16.0	94 11 12202
2204	4	96	650×200×390		3.0	230 V	17.0	94 11 12204
2208	8	144	650×365×390		6.0	400 V/3 ph/N/PE three-phase current	24.0	94 11 12208
⑥ 2302	2	96	650×365×390		2.9	230 V	24.0	94 11 12302
2304	4	144	650×365×390		5.8	400 V/3 ph/N/PE three-phase current	24.0	94 11 12304

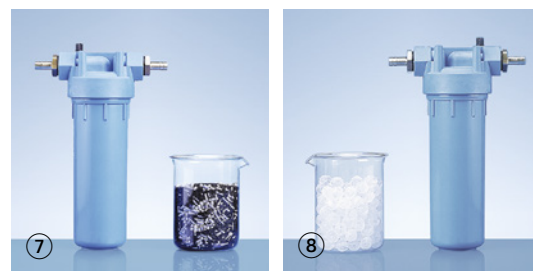
<sup>1)</sup> Other voltages available on request.

#### ⑦ Dechlorite filter for water stills

For all GFL water stills. Eliminates chlorine particles in the tap water added by the local water works. Complete with connection for pressure hose ½ inch\* (inner Ø 12.7 mm), including first filling. The filling should be exchanged every six month.

\*Hoses for water in-and outlet are not included.

Article	Type	Order No.
Dechlorite filter	2904	94 11 16903
Spare filling	2905	94 11 16904

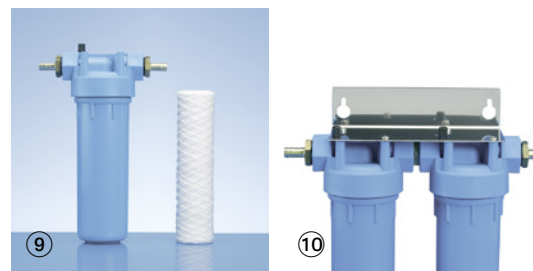


#### ⑧ Phosphate cartridge for water stills

For all GFL water stills. Prevents scale formation in the condenser by phosphatising the tap water. Can be used from 4-15 °dH (German hardness). Complete with connections for pressure hose ½ inch\* (inner Ø 12.7 mm), including first filling. The filling should be replaced according to the consumption.

\*Hoses for water in-and outlet are not included.

Article	Type	Order No.
Phosphate gate 2906	2906	94 11 16905
Spare filling for phosphate gate 2907	2907	94 11 16906



#### ⑨ Pre-filter 1 µm for water stills

For all GFL water stills. For pre-cleaning the tap water, and to protect the unit from premature contamination. Food safe according to FDA regulations. Complete with connections for pressure hose ½ inch\* (inner Ø 12.7 mm), including filter candle. The candle should be replaced every six months.

\*Hoses for water in-and outlet are not included.

Article	Type	Order No.
Pre-filter 2912	2912	10 11 02912
Spare candle 2913	2913	10 11 02913

#### Accessories for types 2904, 2906, 2912

**Wall bracket 2921:** for one filter, with screws to fix the filter to the wall bracket

**Wall bracket 2922:** for two filters, with one sleeve to connect the filters and screws to fix the filters to the wall bracket

**Wall bracket 2923:** for three filters, with two sleeves to connect the filters and screws to fix the filters to the wall bracket

Article	Type	Order No.
Wall bracket 2921	2921	10 11 02921
⑩ Wall bracket 2922	2922	10 11 02922
Wall bracket 2923	2923	10 11 02923



### Separate water supply for water stills

to feed the evaporator with softened or desalinated water (pressure > 1 bar) and the cooling coil (pressure > 3 bar) with phosphate-treated or normal tap water.

2901: When the storage tank is full, the pre-treated water is not switched off automatically. Assembly must be one in the factory.

Efficiency of the still is reduced by approx. 10 – 15 %.

Article	Type	Order No.
Separate water supply for 2002 – 2012	2901	94 11 16901

### Separate water supply with solenoid valve for water stills

to feed the evaporator with softened or desalinated water (pressure > 1 bar) and the cooling coil (pressure > 3 bar) with phosphate-treated or normal tap water.

2902: The unit automatically controls the supply of cooling and pre-treated water.

2903: The unit automatically controls the supply of cooling and pre-treated water.

2909: The solenoid valve switches the pretreated water off when the storage tank is full.

Efficiency of the still is reduced by approx. 10 – 15 %.

Article	Type	Order No.
Separate water supply with solenoid valve for 2202 – 2304	2902	94 11 16900
Separate water supply with solenoid valve for 2102 – 2108	2903	94 11 16902
Separate water supply with solenoid valve for 2004 – 2012	2909	10 11 02909

### 11 Level control switch for an external storage tank for water stills

to switch off power and water when the external storage tank is full (not comprised in our product range). Must be factory-mounted. If level switch 2910 is installed, the internal storage tank will be disabled.

Article	Type	Order No.
Level switch for 2202 – 2208, 2302 and 2304	2908	94 11 16908
Level switch for 2004 – 2012 and 2102 – 2108	2910	10 11 02910

### Heating with thermostat for the internal storage tank for water stills

To maintain sterility of the distillate. Must be factory-mounted.

Article	Type	Order No.
Heating with thermostat for 2008 – 2012	2911	10 11 02911

### Hose sets for water stills

**For water stills 2001/2 and 2001/4:** Type 2940, consisting of hoses for water inlet and outlet (1.5 m) and hose clips

**For water stills 2002 to 2012, 2102 to 2108:** Type 2941, consisting of hoses for water inlet and outlet (1.5 m) and hose clips

**For water stills 2202 to 2208:** Type 2943, consisting of hoses for water inlet and outlet (1.5 / 1.0 m), distillate withdrawal (0.5 m) and hose clips

**For water stills 2302 and 2304:** Type 2944, consisting of hoses for water inlet and outlet (1.5 / 1.0 m), distillate withdrawal (0.5 m) and hose clips

Article	Type	Order No.
Hose Set for 2001/2 and 2001/4	2940	10 11 02940
12 Hose Set for 2002 – 2012, 2102 – 2108	2941	10 11 02941
Hose Set for 2202 – 2208	2943	10 11 02943
13 Hose Set for 2302 and 2304	2944	10 11 02944

### Hose sets for water stills with separate water supply

**For water stills 2002, 2004 to 2012:** Type 2946, consisting of hoses for water inlet and outlet (1.5 m) and hose clips, in connection with Separate Water Supply 2901 (type 2002), 2901 or 2909 (types 2004 to 2012)

**For water stills 2102 to 2108:** Type 2947, consisting of hoses for water inlet and outlet (1.5 m) and hose clips, in connection with Separate Water Supply 2903

**For water stills 2202 to 2208:** Type 2948, consisting of hoses for water inlet and outlet (1.5 / 1.0 m), distillate withdrawal (0.5 m) and hose clips, in connection with Separate Water Supply 2902

**For water stills 2302 and 2304:** Type 2949, consisting of hoses for water inlet and outlet (1.5 / 1.0 m), distillate withdrawal (0.5 m) and hose clips, in connection with Separate Water Supply 2902

Article	Type	Order No.
14 Hose Set for 2002, 2004 – 2012	2946	10 11 02946
Hose Set for 2102 – 2108	2947	10 11 02947
Hose Set for 2202 – 2208	2948	10 11 02948
15 Hose Set for 2302 and 2304	2949	10 11 02949

