

2017

Clever Irrigation



Micro-Drip-System



GARDENA Micro-Drip-System

Carefree and water-saving irrigation.

From now on, the Micro-Drip-System can water your plants! The system is a modular, extendible system for water-saving, targeted irrigation of your garden. Ideal for flower pots, troughs, vegetable patches and flower beds, as well as hedges and shrubs.



● Rows of plants
(hedges/shrubs)



● Flower pots
(patios/balcony)



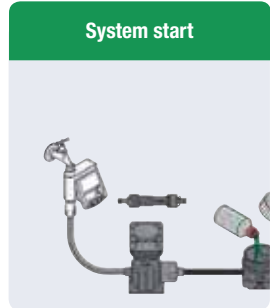
● Planted areas
(flower beds/vegetable patches)



System overview

Dispensers for different applications

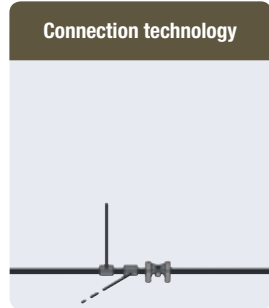
System start



System start

Pressure-reducing basic unit and centralised fertiliser addition

Connection technology



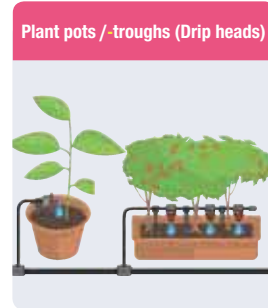
Connection technology

Individual design encompassing patented Quick & Easy connection technology

Terrace/balcony

Plant pots

Terrace/balcony



Drip heads

Precise drip irrigation at the roots

Beds

Planted areas

Flowers/kitchen garden beds

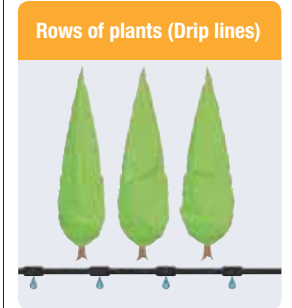


Spray nozzles

Soft, fine-spray irrigation

Rows of plants

Hedges/sensitive edible crops



Drip lines

Precise root irrigation for hedges and sensitive plants



Patented Quick & Easy connection technology

The patented Quick & Easy connection technology ensures a durable, water-tight connection and enables the Micro-Drip-System to be quickly and easily installed and converted. The Micro-Drip system can therefore be tailored to any garden or balcony. For drip heads, drip lines and spray nozzles, the Micro-Drip-System connection technology means that you can combine all system components (planning ideas can be found from page 44, or online using the Micro-Drip-System planner).



Automatic control

The GARDENA Micro-Drip-System can be operated automatically using a GARDENA water controller, also in combination with the GARDENA sprinkler system or the GARDENA smart system (see page 26).

TIPS AND TRICKS

The most common watering mistake that people make is watering plants – lawn plants as well as bedding plants – "just a little bit now and again". Instead, you should water your plants less often and more thoroughly.



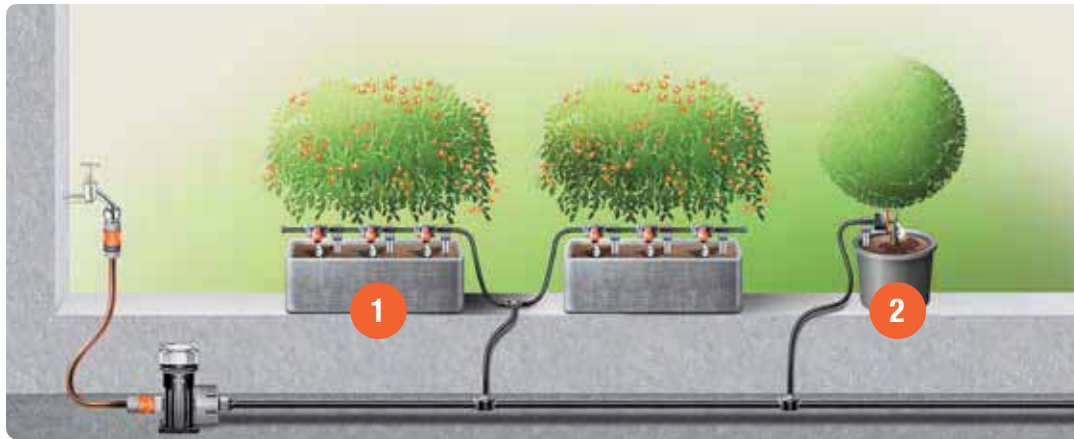
Drip irrigation has numerous benefits:

Water is able to penetrate the soil with pinpoint accuracy and seep into the ground with ease, there will be no fluctuations in your water costs, you will save water and your plants will be kept well-tended.

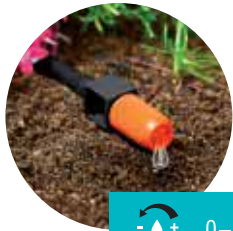


Plant pots on patios and balconies

Patio and balcony plants can be ideally watered using drip heads. Depending on the size of the pot, endline drip heads are used for plant pots, and rows of inline drip heads for troughs. The plant is watered directly at the roots, which promotes the fertility and attractiveness of the plant.

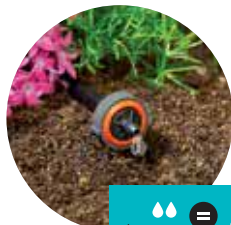


- 1 Planters**
Inline drip heads for planters and flower boxes
- 2 Flower pots**
Endline drip heads for irrigation of individual plants



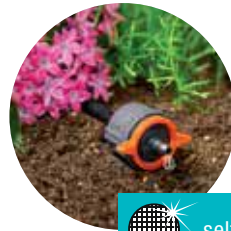
0–10l/h

Flexibility for different water requirements is guaranteed by drip heads with a constant or adjustable delivery amount.



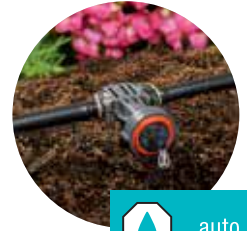
Consistent water delivery

The consistent delivery of water over the whole system is enabled by a special pressure-equalizing membrane in the drip head.



self clean

Self cleaning – a labyrinth technology in the drip head prevents limescale.

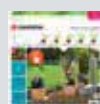


auto stop

More precise dosing of the water volume is enabled by the self-closing drip head, which prevents drips and overflows when the system is switched off.

TIPS AND TRICKS

Because the soil in pot plants is loose, the water quickly drains away. You should therefore check the soil quality, and rather water for a shorter time but more frequently.



Set

Starter set Plant pots S

For 5 plant pots

Art. No. 13000

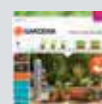


Set

Starter set Plant pots M

For 7 plant pots and 3 plant planters

Art. No. 13001



Set

Starter set Plant pots M, automatic

For 7 plant pots and 3 plant planters

Art. No. 13002



Planted areas

Vegetable patches and flower beds

Vegetable patches and flower beds are ideally watered with gentle, fine spraying nozzles, or square patches can be watered with a sprinkler. Especially for plants in vegetable patches with short vegetation times, spray nozzles offer the necessary flexibility.

Spray nozzles can be used flexibly for the most diverse areas



Demand-based regulation of flow and range, and greater coverage of higher plants are enabled by accessories such as the extension hose and control valve



Further application areas



For sensitive seedlings in the greenhouse
Micro mist nozzle



For watering limited areas such as shrubs, bushes or tree beds
Small area spray nozzle



**Starter set
Planted areas**

Set

For 40 m² flower /
kitchen garden beds

Art. No. 13015

Alternative for watering beds and raised beds

The flexible 4.6 mm (3/16") drip line is particularly suitable for beds with sensitive plants such as tomatoes. The drip heads are installed in the pipe at fixed 30 cm intervals; 1.5 l/hr is delivered per drip head.





Rows of plants in beds

Drip lines are used for rows of plants. The pipes with fixed integrated drip heads at 30 cm intervals provide finely-tuned doses of water to the plants and save water. You benefit from the easy set-up of the system, and you need almost no planning.

Above Ground Drip Irrigation Line for hedges



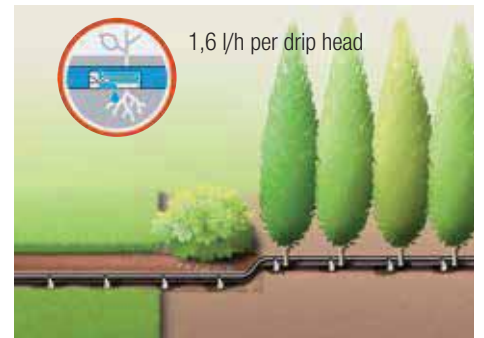
With 13 mm (1/2") diameter, an easy-to-install solution for e. g. hedges and plants at the edge of the garden. The max. pipe length is 100 m – when the Master Unit is fitted in the middle of the line. Channelling and extensions are possible with the Micro-Drip-System components.**

Above-ground drip irrigation line for small hedges



If you need a small solution for smaller hedges, the Micro-Drip-System at just 4.6 mm (3/16") might be exactly what you need. The maximum pipe length is 30 m. You can add extra branches and extensions using the Micro-Drip-System connection technology.**

Underground drip line for hedges or borders



The 13.7 mm drip line can be invisibly installed underground, e. g. in planted borders. Pressure-equalizing drip heads ensure a constant delivery volume along the whole pipe, which is ideal if your planted bed is on a slope. Self-closing drip heads prevent contamination of the drip head. The integrated root barrier prevents roots from penetrating the drip line. Max. pipe length up to 200 m. Laid depth in planting area approx. 20 cm. Can also be used above ground.***



Starter set Rows of Plants M With Water Computer, Master Unit and pipe pegs

Art. No. 13012

25 m Extension Pipe

Art. No. 13131

Set



Starter set Rows of Plants S With Master Unit and pipe pegs

Art. No. 13010

15 m Extension Pipe

Art. No. 1362

Set



Starter set Underground drip line, 50 m with Master Unit

Art. No. 1395

Set

Alternative for watering rows of plants

Endline drip heads installed along the pipe can be used for the irrigation of hedges and beds. Simply use a pipe with a base unit and install the required endline drip head in the pipe using the installation tool.





Drip irrigation without a tap

Takes care of your plants even without a water connection.

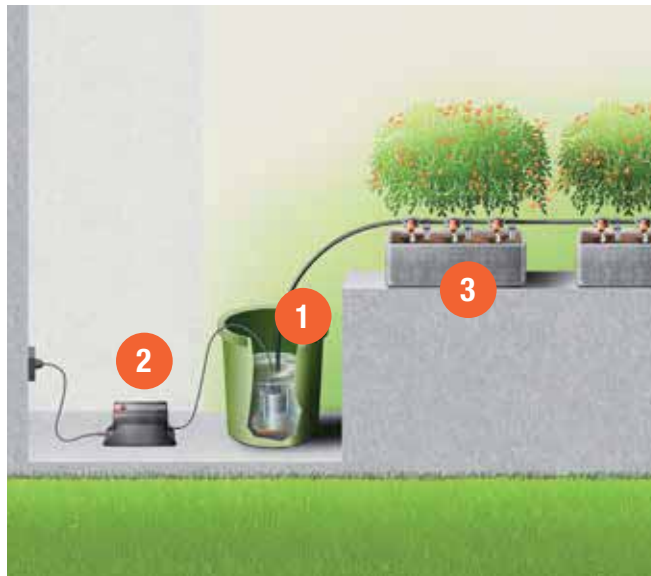
Not all balconies and patios have access to a tap or a tap connection is not wanted. In such cases, you will love the intelligent GARDENA Complete Sets for automatic irrigation of your plants. You can water your plants precisely how you need – even when you are on holiday.

Fully Automatic Flower Box Watering

For watering up to 5–6 m of flower boxes. The water is supplied independently of a tap using a water container with **Pump 1**. The **Pump Transformer 2** features 13 pre-set watering programmes for fully automatic irrigation.

3 Inline Drip Heads supply water to your plants accurately and help to conserve water (2l/hour).

You can also connect the GARDENA Rain Sensor electronic, Art. No. 1189 or Soil Moisture Sensor, Art. No. 1188 to the transformer to help conserve even more water. You can enhance your initial setup with further products from the Micro-Drip-System.



Complete Set Set

Without water container.
Fully automatic flower box watering

Art. No.	1407
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Automatic irrigation while you are away on holiday

For up to 36 pot plants and house plants. Irrigation is activated for one minute each day via a **1** transformer and **2** pump. **3** drip heads ensure precisely dosed irrigation.

The accompanying **4** hose brackets allow up to three drip lines to be fixed per pot.



Complete Set Set

with 9 l water container

Art. No.	1266
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Without water container

Art. No.	1265
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Planning Micro-Drip-System

The GARDENA Irrigation Planner.



5 steps to the Micro-Drip-System

This is how to proceed.

Using a garden as an example, we will show you step by step how to create your own individual drip irrigation plan. Your area of use can be found on pages 10–15. You can choose the ideal products for your system and create a complete shopping list to ensure that your plants are supplied with the right amount of water. The self-created plan will help you when you come to install your system.*



A Do-it-yourself design

You create your own irrigation plan with the help of the instructions on the following pages (and some simple aids). We will show you step by step how to.

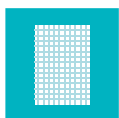
What you need



**Pencils and
coloured pens**



Ruler



Graph paper

B Online planning

You can make out your shopping list with the help of the GARDENA Irrigation Planner on the GARDENA website:

www.gardena.com

The online planner helps you with other separate watering tasks such as watering hedges, balcony boxes or potted plants. The Irrigation Planner in this brochure will help you to combine several different watering tasks.

* If you want to install the system yourself, please be aware that we cannot accept any liability for any costs and damage that could occur as a result.



1. Draw a sketch of your garden

This is how you can create a sketch of the areas to be watered and mark the water sources.

Let's get started.

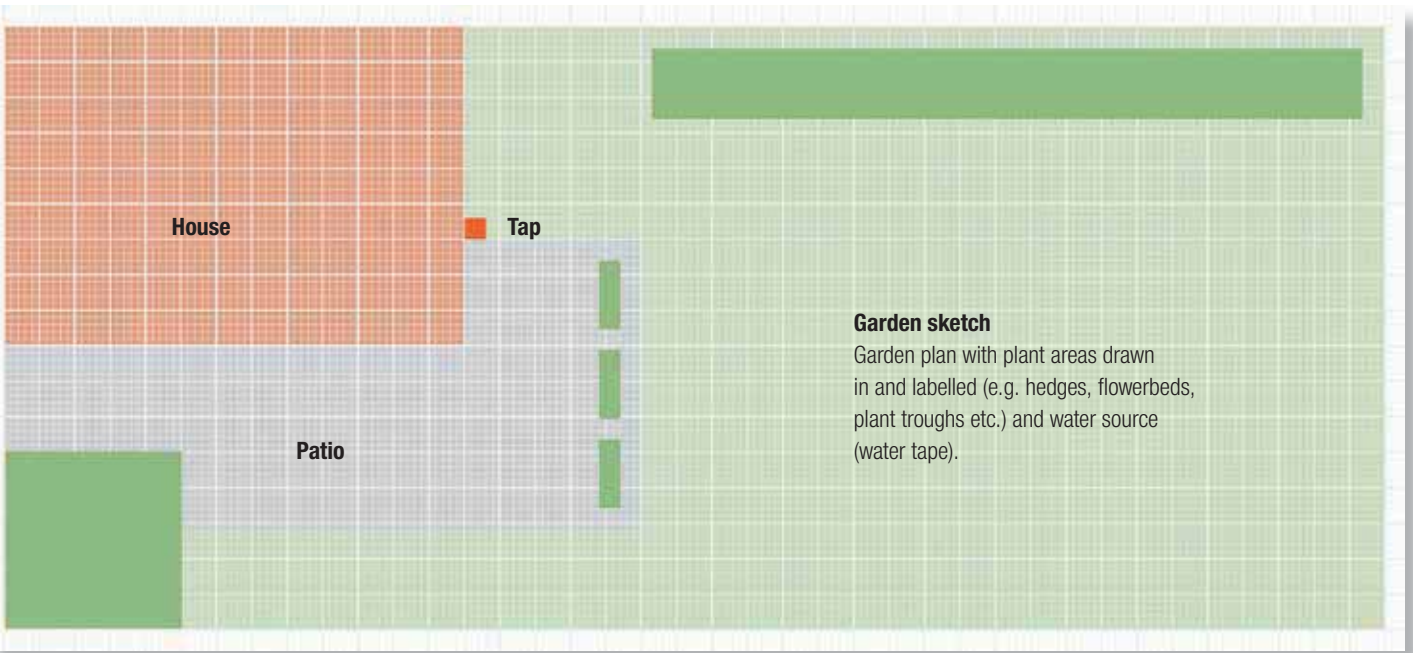
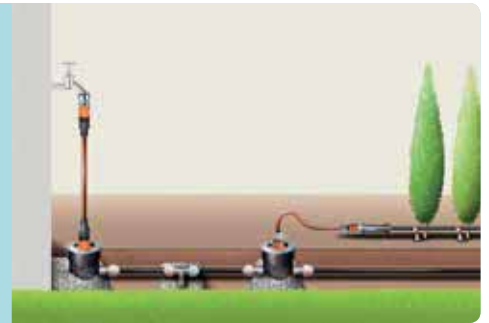
Draw a plan of your land – ideally on graph paper with mm squares – on a scale of 1:100 (1 cm = 1 m) or 1:200 (1 cm = 2 m).



TIPS AND TRICKS

Tap too far away?

If you do not want the system to start from the tap, the areas of the garden can be connected underground with the GARDENA Pipeline.



Garden sketch

Garden plan with plant areas drawn in and labelled (e.g. hedges, flowerbeds, plant troughs etc.) and water source (water tap).



Water source

Enter the location of the water source on the drawing (water tap, well, underground tank).



Sprinkling areas

Mark all the individual plants and plant areas that have to be watered.



2. Select your delivery devices and add to the plan

Overview of delivery devices

2a. Terrace/balcony



- 1 Flower pots**
Endline drip heads for irrigation of individual pot plants
- 2 Planters**
Inline drip heads for irrigation of planters or larger pot plants



2b. Planted areas



- Spray nozzles / sprinklers**
For irrigation of vegetable patches and flower beds of different sizes



2c. Rows of plants



- Irrigation line**
For watering hedges, bushes and planted borders



2d . Other applications



Sensitive new seedlings
Micro mist nozzle



Lawns
Underground drip line
13.7 mm



Area around a tree
Small area spray nozzle



Large container plants
Ring line with 4.6 mm drip line (3/16")

2a. Watering plant pots on patios and balconies

To water containers on your balcony, patio or in the conservatory, endline or inline drip heads are used. Depending on the number of plants to be watered, the 4.6 mm (3/16") supply pipe might be enough – or you may also need the 13 mm (1/2") connecting pipe.

Pot plants



Pot plants are supplied with controllable endline drip heads. These are installed in the end of the supply pipe using the installation tool. The T-joint is used to connect the supply pipe to the connecting pipe. Pipe holders fix the drip heads in place and align them in the plant pot. Controllable endline drip heads are also available in pressure-equalizing and self-cleaning versions.



Plant troughs / flower boxes



Plant troughs or larger containers are supplied using inline drip heads. These are installed along the supply pipe. Depending on the size and plants used, we recommend 3–5 drip heads per meter of plant trough. The pipe is fixed in the trough using 2–3 pipe guides. You can use a maximum of 25 inline drip heads.



For larger installations, you'll need to use the 13 mm (1/2") connecting pipe as the supply pipe. Here you can branch off using the reducing T joint and connect a maximum of 25 drip heads to the 4.6 mm (3/16") supply line. With this configuration you can connect up to 500 inline drip heads, if the base unit is installed in the middle of the system.

Watering without a tap



If you do not have a tap on your balcony for example, we recommend using the fully automatic GARDENA Flower Box Watering. You can find more information on page 7.



TIPS AND TRICKS

For pot plants, we recommend short watering times and short watering cycles, e. g. 3 minutes every 8 hours (depending on the size of the pots).



Step 2 of 5



2b. Watering vegetable patches and flower beds

The GARDENA Micro-Drip-System offers a wide range of different spray nozzles to water your flowerbeds and borders. The suitable nozzle can easily be found to suit a wide variety of plant combinations.



Gentle mist irrigation

Planted borders can be watered below foliage level with **spray nozzles**, which are installed directly in the **pipe 5** using the **installation tool 4**. If you want the fine spray to fall from above (e.g. in planted borders), you'll need an **extension pipe 18**, in order to reach the required height. To do this, install the **extension pipe 18** on the **T joint for spray nozzles 17** and then connect the spray nozzle. T joint **17** is fixed in the ground using the **pipe guides 10**. On solid ground, secure the T joint using **pipe clips 8**. The spray range of the spray nozzles can be adjusted using the **control valve 19**.

Capacity with Master Unit 2000 installed in the middle (direct installation in 1/2" connecting) pipe)



Spray nozzle 360°* – max. 20 pieces
Spray nozzle 180°* – max. 26 pieces
Spray nozzle 90°* – max. 32 pieces



Micro Strip Sprinkler and
Endline Micro Strip Sprinkler –
max. 30 pieces



Micro Rotor Sprinkler
– max. 25 pieces



6-Pattern Spray
Nozzle
– max. 34 pieces

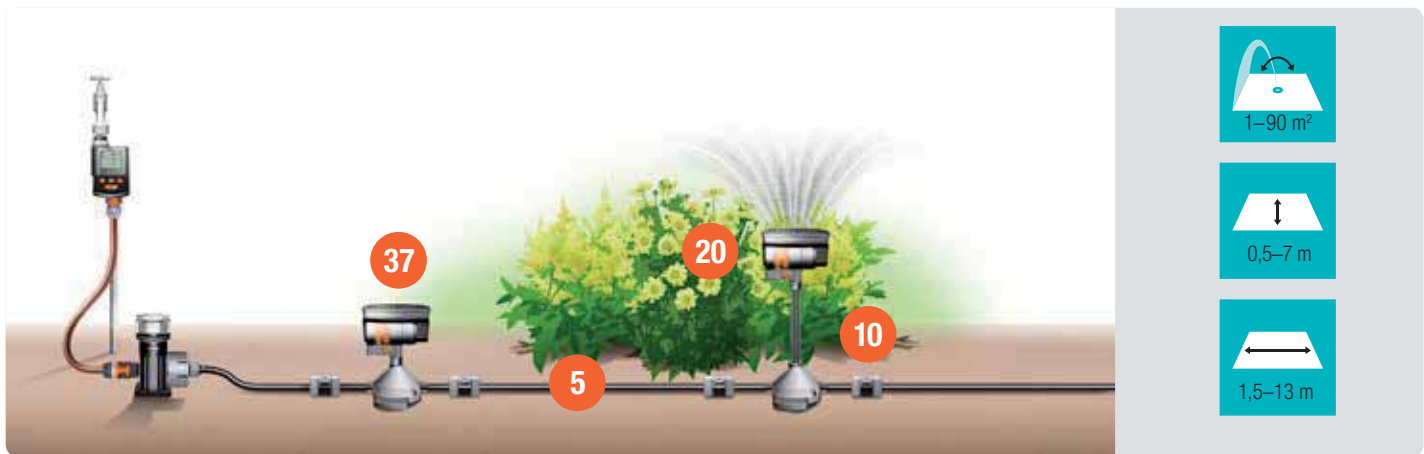
34 Spray Nozzles	30 Micro Strip Sprinklers	29 Endline Micro Strip Sprinklers	32 Micro Rotor Sprinklers	31 6-Pattern Spray Nozzle
90° min. 2 m (3 m ²), max. 3 m (7 m ²)			360° min. 1.5 m (7 m ²), max. 3.5 m (38 m ²)	90° max. 2.5 m
180° min. 2 m (6 m ²), max. 3 m (14 m ²)				180° max. 2.5 m
360° min. 1.5 m (7 m ²), max. 3 m (28 m ²)				270° max. 2.5 m
				360° max. 2 m

* The stated capacities refer to the base unit 2000.

Alternative for spraying square areas

This is how to water larger areas in vegetable plots.

The GARDENA Oscillating Sprinkler OS 90 is ideal for the effective and wide-coverage watering of flowerbeds and vegetable plots. The range and width of spray can be adjusted to suit the size of the area to be watered and the plant height.



Precise area irrigation

The best way to water the square and rectangular areas in vegetable plots and flowerbeds is to use the **Oscillating Sprinkler OS 90** **37**. The range and width of spray can be adjusted as required. The area covered can be selected from between 1–90 m². You can change the height of the sprinkler according to the growth of your plants using the **Extension Pipe** **20**. The Oscillating Sprinkler is installed in the **13 mm (1/2") Connecting Pipe** **5** and secured in the ground using **Pipe Guides** **10**. You can connect up to 2 sprinklers if they are spaced 10 m apart.

TIPS AND TRICKS

Irrigation

To ensure that water reaches even the deepest root zones in your garden, it is best to water between once and twice a week, every week. Both the oscillating sprinkler OS 90 and a spray nozzle deliver approximately 5 litres of water per square metre. Depending on the type of ground, this corresponds to a seepage depth of approx. 5 cm in one hour.

Alternative solution

If you have plants that are sensitive to being watered from above, the 15 m drip line 4.6 mm (3/16") is suitable. The flexible pipe is the ideal alternative to the spray nozzles: drip head distance of 30 cm and extendible to a maximum of 30 m if the master unit is installed in the middle.



For an overview of the components of the GARDENA Micro-Drip-System labelled with numbers on this page, see pages 20-23.

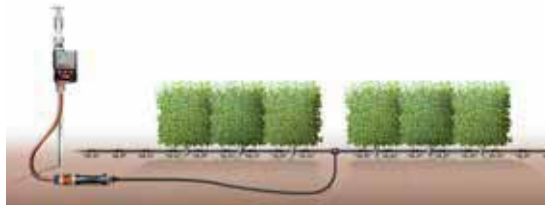


2c. Irrigation of hedges and planted borders

Easy and economical watering of planted borders and hedges

Which pipes you need for the irrigation of planted borders and hedges depends on the length of your hedge. The 13 mm (1/2") drip line is suitable for longer hedges, while you'll need the 4.6 mm (3/16") drip line if your hedge is smaller (up to 15 m). Simply lay the pipe, install the master unit and end plugs, and connect to the tap.

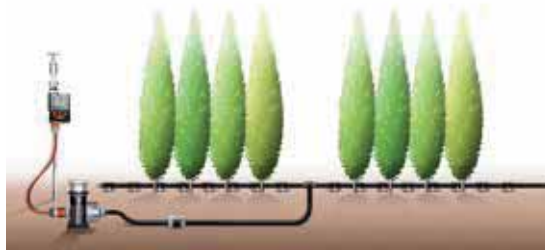
Short hedges



If you need a small solution for smaller hedges, the Micro-Drip-System at just 4.6 mm (3/16") might be exactly what you need. A **drip head** is pre-installed every 30 cm (delivery quantity 1.5 l/hr), the maximum pipe length is 30 m with a centrally installed **master unit**. The Micro-Drip-System connection technology enables you to add branches and extensions.



Longer hedges

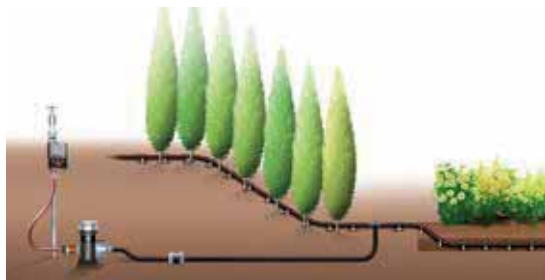


With a diameter of 13 mm (1/2"), this is an easy solution to lay, e. g. for hedges and planted borders. A **drip head** is pre-installed every 30 cm (delivery quantity 4 l/hr), the maximum pipe length is 100 m with a centrally installed **master unit**. The Micro-Drip-System connection technology enables you to add branches and extensions.



The **pipe guides 9** are used to fix the pipes in soil. We recommend that you use one pipe guide per metre of drip line.

Hedges on a slope or planted borders



The 13.7 mm drip line can be installed invisibly underground or also above ground. It is ideal if your garden is on a slope

- Pressure-equalizing drip heads ensure a constant delivery volume along the whole length of the pipe.
- The integrated root blocker prevents roots from entering the drip heads.
- The self-closing membrane prevents contamination of the drip heads.

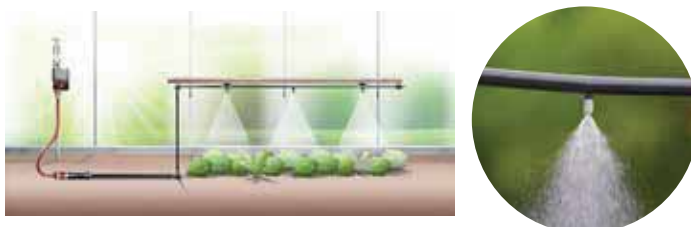
Max. pipe length up to 200 m. Laid depth in planting area approx. 20 cm. Distance between drip heads 30 cm. Caution: the underground drip line cannot be combined with the Micro-Drip-System connection technology.

2d. Other applications

In addition to irrigation of the three main application areas, the Micro-Drip-System can also help you with other, more specialist tasks.

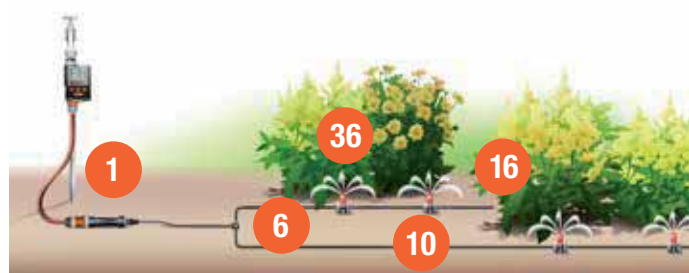
Spraying seedlings with mist nozzles

Use the GARDENA installation tool to install the mist nozzles approximately 50 cm apart in the 13 mm (1/2") pipe, and secure in place above your plants/seedlings using pipe clips and T joints. Also ideal for irrigation in your greenhouse. You can install a maximum of 50 mist nozzles in this system.



Irrigating tree beds, shrubs and bushes

You can select the irrigation diameter from 10–40 cm to set the nozzle according to your irrigation needs.



Up to 15 m pipe length

In irrigation systems up to a maximum of 15 m in length, the **Small Area Spray Nozzles 36** should be installed along the 4.6 mm (3/16") **Supply Pipe 6**. Up to 4 Small Area Supply Nozzles can be installed with a **Master Unit 1** when it is connected with a T-piece in the middle of the pipeline. Position the Small Area Spray Nozzles exactly where you need them near the plants using **Pipe Guides 10**. Seal off the end of the pipe using a **Plug 16**.

From 15 m pipe length

If your irrigation system is longer than this, however, use the **Installation Tool 4** to install the **Small Area Supply Nozzles 35** directly in the 13 mm (1/2") **Connecting Pipe 5** instead. You can install a maximum of 30 Small Area Supply Nozzles (when using the **Master Unit 2000 2**). Position the Small Area Spray Nozzles, connected with a T-joint in the middle of the pipeline, exactly where you need them near the plants using **Pipe Guides**. Seal off the end of the pipe using a **Plug 16**.

Irrigating lawns with underground drip lines

Sitting invisibly 10 cm below the surface of your lawn, with a pipe distance of 30 cm, the drip line is installed in the same way as underfloor heating in a house.

- Pressure-equalizing drip heads ensure a constant delivery volume along the whole length of the pipe.
- The integrated root blocker prevents roots from entering the drip heads.
- The self-closing membrane prevents contamination of the drip heads.
- Max. pipe length up to 200 m.



TIPS

You can also set up your watering system with a combination of drip and mist nozzles. Use shut-off valves to help control the individual water requirements of the planted areas.

Large container plants

The 4.6 mm (3/16") drip line can be used as an alternative for the irrigation of large container plants. You install a ring pipe around the root of the plant and connect it to the distributor pipe using a T joint.





3. Determining consumption values (for larger/combined systems)

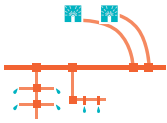
Irrigate several areas of the garden in combination. Combine your different applications.

Basic building block: The base unit

- The master unit defines the connection value and the amount of water available in the system.
- The connection value of the system must be greater than the consumption value.
- There are three possible installation types. The consumption value of the drip heads and nozzles changes depending on the type of installation.

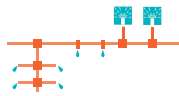
Installation type 1

The delivery device is installed in the 4.6 mm pipe and the supply is enabled via the 13 mm pipe.



Installation type 2

The delivery device is installed in the 4.6 mm pipe, supply via the 4.6 mm pipe.



Installation type 3

The delivery device is installed directly in the 13 mm pipe.



— 13 mm (1/2") Verlegerrohr — 4,6 mm (3/16") Verteilerrohr

Connection values

		Installation of the base unit at the start of the pipe		Installation of the base unit in the centre of the pipe*	
		Master Unit 1000	Master Unit 2000	Master Unit	Master Unit 2000
Installation type 1	Recommended connection value Pipe length**	500 13 mm max. 40 m 4.6 mm max. 15 m	1000 13 mm max. 40 m 4.6 mm max. 15 m	1000 13 mm max. 2 x 30 m 4.6 mm max. 15 m	2000 13 mm max. 2 x 30 m 4.6 mm max. 15 m
Installation type 2	Recommended connection value Pipe length**	50 max. 15 m	50 max. 15 m	100 max. 15 m	100 max. 15 m
Installation type 3	Recommended connection value Pipe length**	500 max. 40 m	1000 max. 40 m	1000 max. 2 x 30 m	2000 max. 2 x 30 m

EXAMPLE CALCULATION



Recommended installation type 1

Determine connection value

1. Determine the number and type of delivery devices (spray nozzles/drip heads/drip line)
2. Determine the consumption values of the system (delivery device x consumption value in the table)
3. Add the values to obtain the sum total of the consumption values.

If the consumption value of the system is less than the connection value, the system can be operated smoothly

Consumption values

Art. No.	Designation	Accessory consumption values			Planned number	Total consumption value
		M1	M2	M3		
Installation						
1340/8310	Endline Drip Head	2	2	5		
1391	Adjustable Endline Drip Head	10	10	25		
8316	Adjustable Endline Drip Head	8	8	20		
8343/8311	Inline Drip Head	4	4	—	12	46
8392	Adjustable Inline Drip Head	20	20	—		
8317	Adjustable Inline Drip Head	16	16	—		
8320	Small Area Spray Nozzle	—	—	70		
8321	Small Area Spray Nozzle	70	25	—		
1365	Spray Nozzle 360°	125	100	100		
1367	Spray Nozzle 180°	110	100	80		
1368	Spray Nozzle 90°	85	50	65		
1370	Micro Strip Sprinkler	70	50	70		
1372	Endline Micro Strip Sprinkler	70	50	70		
1371	Micro Mist Nozzle	40	25	40		
1369	Micro Rotor Sprinkler 360°	110	100	80	1	80
1396	6-Pattern Spray Nozzle	125	50	60		
8361	Oscillating Sprinkler OS 90	—	—	1000		
13010/1362	Drip line 4.6 mm (3/16")***	4	4	—		
13001/13002 13013/13131	Drip line 13 mm (1/2")***	—	—	10	7,5 METRE	75
Total						203

* The connection value of each half of the line is half the connection value when the base unit is installed in a central position

** Specification of the maximum pipe length is used as a guideline value only. It is dependent on the number of connected delivery devices in each case.

*** Consumption value per metre of drip line

4. Drawing important basic components

Decide on water connection, master unit, pipelines and connectors and draw them on your plan.

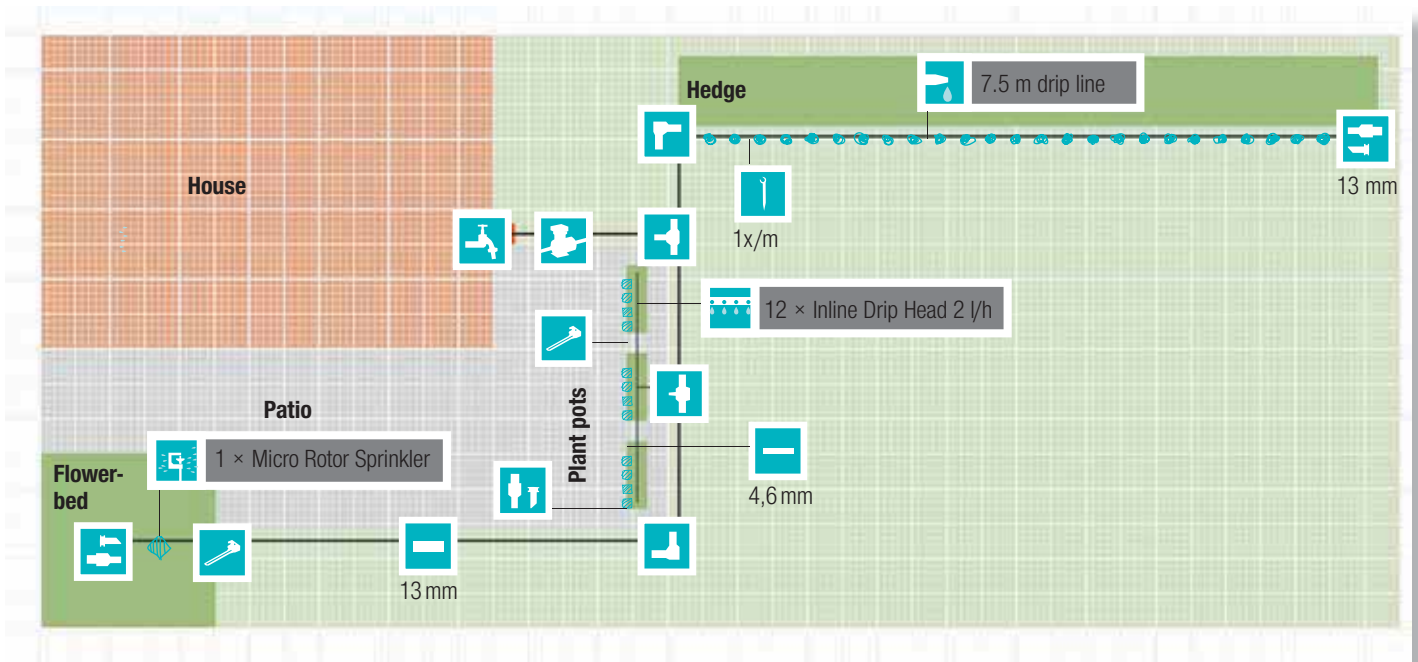
You calculated your system's entire consumption value in step 3.

Now continue by:

- Draw the master unit in the middle or at the start of your system (see page 16)
- Use the supply line and distributor line to connect the base unit with your selected delivery devices (see page 10–15)
- Decide which system components you need and then the required connection parts, pipe pegs or pipe guides and draw these components in the garden plan
- Use the connection set to connect the base unit to the tap



Add the delivery devices you want to include to your garden sketch and enter the products in the shopping list on page 24.



Basic components

- | | | | | |
|------------------|------------------------|------------------------|----------------------------|--------------------------|
| Water connection | Master Unit (2000 l/h) | Master Unit (1000 l/h) | Connecting Pipe 13 mm 1/2" | Supply Pipe 4.6 mm 3/16" |
|------------------|------------------------|------------------------|----------------------------|--------------------------|

Connection parts available 3/16" for 4.6 mm or 1/2" for 13 mm

- | | | | | |
|-----------|------------|----------------|------------------|-------------------------------|
| Pipe Clip | Pipe Guide | Plug | Pipe Peg | Regulator and Shut-Off Valve* |
| T-piece | L-piece | 4-Way Coupling | Reducing T-Joint | Connector |

TIPS AND TRICKS

Multifunctional pipe-laying technology

Our pipe guides **10** allow you to position pipes and drip heads exactly in place. To irrigate over taller plants, you can also use the extension pipe for spray nozzles **18** (installed directly on the pipe guide).

If you can't or don't want to fix your pipe in the soil, you can also use pipe clips **8** to fasten the pipe on solid ground (D). For an overview of all components of the GARDENA Micro-Drip-System, see pages 20-23.



* Install shut-off valves in the individual irrigation lines before the drip heads and nozzles so that the individual plant areas are supplied with exactly the right amount of water.

5. Automatic control

Once you've planned your system, you can select the correct type of controller.

GARDENA watering computer



With an automatic irrigation control system, you can let the Micro-Drip-System water your garden fully automatically. You can choose the watering computer that best fits your requirements.

–
For more information visit www.gardena.com/uk

GARDENA smart system

Any place, any time.



The GARDENA smart system enables you to control the watering and mowing of your garden via an app. The standard equipment includes the app and the GARDENA smart gateway. You also have the option of adding additional components in the form of the smart Sensor, the smart Water Control, the smart SILENO, the smart Pressure Pump and the smart Battery, which are available in sets or as special irrigation sets.

–
For more information see page 26
and www.gardena.com/smartsystem



GARDENA Micro-Drip-System and Sprinklersystem

Combine and control automatically.



The GARDENA Micro-Drip-System and the GARDENA Sprinklersystem can be controlled together using a multichannel controller. This means that your garden can be controlled automatically from a single controller.



DID YOU KNOW ...

that you can program the irrigation control system flexibly?

GARDENA offers three categories depending on the complexity of your watering solution:

Classic – for first-time users

Comfort – for users with more complex demands

Premium – for experts



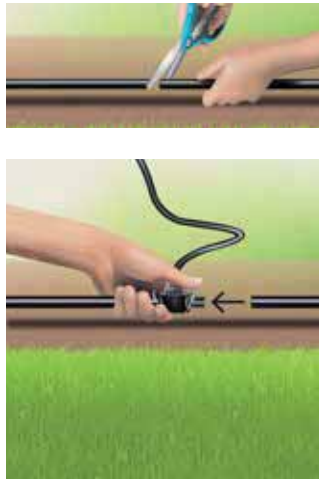
Installation instructions

It is so easy to install your new irrigation system*



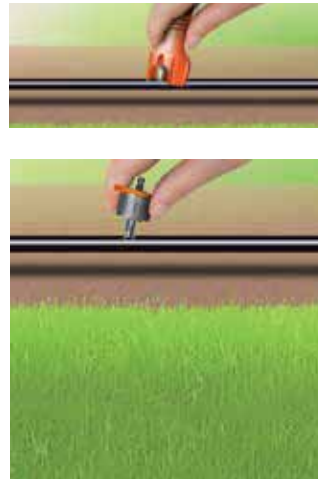
1. Connect Master Unit to the water source

Connect the Master Unit to the water supply (tap, pump, water connector) using GARDENA hose and the Original GARDENA System.



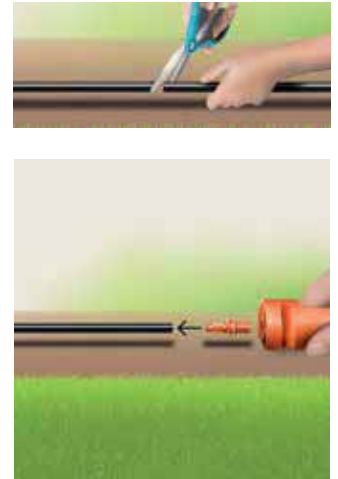
2. Lay the connecting pipes, attach and shorten

Lay the 1/2" connecting pipe, shorten if necessary. After assembling, secure the connectors and drip heads with pipe pegs, pipe clips or pipe guides.



3. Make holes in the connecting pipe and connect accessories

Make holes in the connecting pipe at the positions designated for the accessories and then attach drip heads, nozzles or sprinklers that you have planned on the connecting pipe.



4. Install supply pipes – and you are done!

Shorten the supply pipes to the right lengths, attach the accessories to the supply pipe, fix pipe with pipe pegs, pipe clips or pipe guides and connect to the connecting pipe, if necessary.

* If you want to install the system yourself, please be aware that we cannot accept any liability for any costs and damage that could occur as a result.



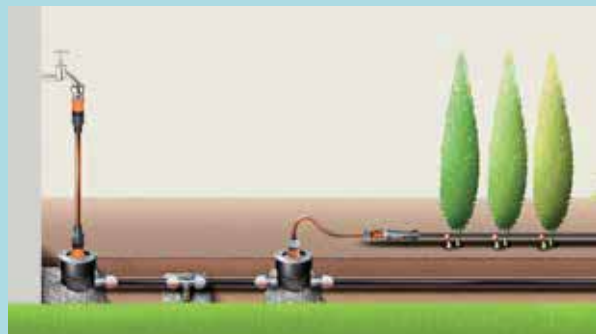
Winter frost? No problem

You can prepare your GARDENA Micro-Drip-System ready for winter in just a few simple steps. All you have to do is store the Master Unit somewhere safe from frost, drain the Fertilizer Dispenser, close off the system with taps and adjust the Control Valve to water flow – and you are finished!

TIPS AND TRICKS

Is the tap too far away?

If you don't want your system to start immediately next to the tap, it can be connected to the GARDENA pipeline underground at any point in your garden.



System parts at a glance




For your planning: The basic components of the GARDENA Micro-Drip-System.






System start accessories

 <p>1 Master Unit 1000 I/h To operate the GARDENA Micro-Drip-System.</p>	 <p>2 Master Unit 2000 I/h To operate the GARDENA Micro-Drip-System.</p>	 <p>3 Fertilizer Dispenser With level indicator.</p>	 <p>4 Installation Tool Multi-functional tool for the easy installation of the GARDENA Micro-Drip-System.</p>
<p>Starting component for the micro-drip system; reduces pressure and filters water Durchfluss bis 1000l/h Art. No. 1355</p>	<p>Starting component for the micro-drip system; reduces pressure and filters water Durchfluss bis 2000l/h Art. No. 1354</p>	<p>Addition of a universal liquid fertiliser Art. No. 8313</p>	<p>Universal tool for installing various items and perforating the connecting pipe Art. No. 8322</p>




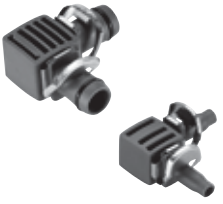
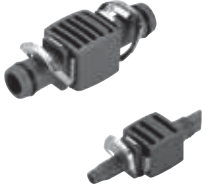
Pipes and accessories

 <p>5 Connecting Pipe</p>	 <p>6 Supply Pipe</p>	 <p>7 Shut-Off Valves The range of the spray nozzles can be infinitely adjusted.</p>
<p>Central supply line for the micro-drip system, can be laid above ground or underground 13 mm 1/2", 15 m Art. No. 1346</p>	<p>Feed pipe for drippers and spray nozzles, can be laid above ground or underground 4,6 mm 3/16", 50 m Art. No. 1348</p>	<p>Shut-off device for individual strands of the connecting pipe 13 mm 1/2" (For Art. No. 1346/1347) Art. No. 8358</p>
<p>13 mm 1/2", 50 m Art. No. 1347</p>	<p>4,6 mm 3/16", 15 m Art. No. 1350</p>	<p>4,6 mm 3/16", (For Art. No 1348/1350 and infinitely variable control of the range of the 360° spray nozzle) Art. No. 8357</p>

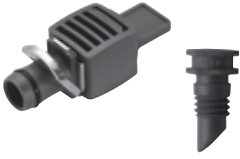
Pipe pegs

 <p>8 Pipe Clips</p>	 <p>9 Pipe Pegs The Pipe Peg is used to route and securely fasten the supply pipe in the ground.</p>	 <p>10 Pipe Guide To fasten the pipes in the ground.</p>
<p>For fastening pipes in hard ground; defined spray nozzle fastening in connecting pipes. Adjusts the height of the spray nozzles in connection with a T-piece for spray nozzles and extension pipes 13 mm 1/2" (For Art. No 1347/1346, 8331, 1377) Contents: 2 pieces Art. No. 8380</p>	<p>For guiding and fastening the connecting pipe 13 mm 1/2" (For Art. No 1347/1346, 8331, 1377) Contents: 5 pieces Art. No. 1328</p>	<p>For fastening pipes in soil; defined spray nozzle fastening in the connecting pipe Adjusts the height of the spray nozzles in connection with a T-piece for spray nozzles and extension pipes 13 mm 1/2" (For Art. No 1347/1346, 8331, 1377) Contents: 3 pieces Art. No. 8328</p>
<p>4,6 mm 3/16" (For Art. No 1348/1350, 8332, 1377) Contents: 5 pieces Art. No. 8379</p>	<p>4,6 mm 3/16" (For Art. No 1348/1350, 8332, 1377) Contents: 10 pieces Art. No. 1327</p>	<p>4,6 mm 3/16" (For Art. No 1348/1350, 8332, 1377) Contents: 3 pieces Art. No. 8327</p>

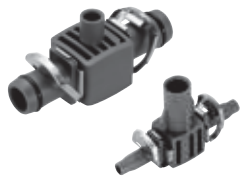



Pipe connectors

				
11 4-Way Couplings Junction for the connecting pipe	12 Reducing T-Joint Adapter from the connecting pipe to the supply pipe	13 T-pieces Junction for the connecting pipe	14 L-pieces For accurately changing the direction of the connecting pipe	15 Connectors For extending the connecting pipe
13 mm 1/2" Contents: 2 pieces Art. No. 8339	13 mm 1/2" Contents: 5 pieces Art. No. 8333	13 mm 1/2" Contents: 2 pieces Art. No. 8329	13 mm 1/2" Contents: 2 pieces Art. No. 8382	13 mm 1/2" Contents: 3 pieces Art. No. 8356
4,6 mm 3/16" Contents: 10 pieces Art. No. 8334		4,6 mm 3/16" Contents: 10 pieces Art. No. 8330	4,6 mm 3/16" Contents: 10 pieces Art. No. 8381	4,6 mm 3/16" Contents: 10 pieces Art. No. 8337

Pipe connectors


16 Plug For sealing off the connecting pipe
13 mm 1/2" Contents: 5 pieces Art. No. 8324
4,6 mm 3/16" Contents: 10 pieces Art. No. 1323





Accessories for spray nozzles and sprinklers

			
17 T-Joint for Spray Nozzles For defined spray nozzle fastening in the connecting pipe Combined with pipe guides or pipe clips for all spray nozzles, can be used to increase the height of the spray nozzles with an extension pipe	18 Extension Pipe for Spray Nozzles The height of the spray nozzles can be changed. Several pipes can be screwed together.	19 Control Valve for Spray Nozzles To control the water flow and range of the spray nozzles.	20 Extension Pipe for OS 90 To raise the height of the Oscillating Sprinkler OS 90.
13 mm 1/2" Contents: 5 pieces Art. No. 8331	Enables the spray nozzles to water taller plants Length 20 cm Contents: 5 pieces Art. No. 1377	Regulates water flow and spray nozzle range Contents: 5 pieces Art. No. 1374	Enables the OS 90 oscillating sprinkler to water taller plants Length 20 cm Contents: 2 pieces Art. No. 8363
4,6 mm 3/16" Contents: 5 pieces Art. No. 8332			

System parts at a glance

For your planning: The basic components of the GARDENA Micro-Drip-System.






Endline drip heads for plant pots

			
21 Endline Drip Head	22 Endline Drip Head	23 Adjustable Endline Drip Head	24 Adjustable Endline Drip Head
2 l/h Contents: 25 pieces Art. No. 1340	Pressure equalizing, self-cleaning, self-closing 2 l/h Contents: 10 pieces Art. No. 8310	0–10 l/h Contents: 10 pieces Art. No. 1391	Pressure equalizing, with amount indicator, self-cleaning 1–8 l/h Contents: 5 pieces Art. No. 8316

Inline drip heads for plant pots

			
25 Inline Drip Head	26 Inline Drip Head	27 Adjustable Inline Drip Head	28 Adjustable Inline Drip Head
2 l/h Contents: 10 pieces Art. No. 8343	Pressure equalizing, self-cleaning, self-closing 2 l/h Contents: 10 pieces Art. No. 8311	0–10 l/h Contents: 10 pieces Art. No. 8392	Pressure equalizing, with amount indicator, self-cleaning 1–8 l/h Contents: 5 pieces Art. No. 8317



Spray nozzles for planted beds

				
29 Endline Micro Strip Sprinkler	30 Micro Strip Sprinkler	31 6-Pattern Spray Nozzle	32 Micro Rotor Sprinkler 360°	33 Micro Mist Nozzle
Contents: 5 pieces Art. No. 1372	Contents: 5 pieces Art. No. 1370	90°, 180°, 360° Micro Strip, Endline Micro Strip Contents: 2 pieces Art. No. 1396	Ø 3–7 m Contents: 2 pieces Art. No. 1369	Ø 1 m Contents: 5 pieces Art. No. 1371






Spray nozzles and sprinklers for planted beds

			
34 Spray Nozzles	35 Small Area Spray Nozzle	36 Small Area Spray Nozzle	37 Oscillating Sprinkler OS 90
Spray Nozzle 90°	Ø 10–40 cm	4,6 mm (3/16") Ø 10–40 cm	
Contents: 5 pieces each	Contents: 10 pieces	Contents: 10 pieces	
Art. No. 1368	Art. No. 8320	Art. No. 8321	Art. No. 8361
Spray Nozzle 180°			
Art. No. 1367			
Spray Nozzle 360°			
Art. No. 1365			





Underground drip lines

	
Start-Set irrigation line for rows of plants, subterranean, 13.7 mm	Extension irrigation line for rows of plants, subterranean, 13.7 mm
For boundary planting of lawn areas	For the extension of the Below Ground Drip Irrigation Line for boundary plants or lawn areas
Art. No. 1389	Art. No. 1395

Above-ground drip lines for rows of plants

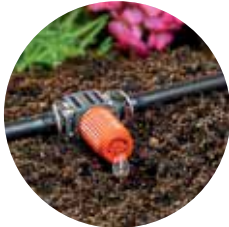
				
Starter set for plant rows S, Display	Drip line extension for rows of plants above ground 4.6 mm (3/16")	Starter set for plant rows M, automatic	Starter set for plant rows L	Above-ground extension drip line for rows of plants, 13 mm (1/2")
15 m row of plants or sensitive vegetables/ornamental plants	For extending the starter set for plant rows S, art. no. 13010	25 m plant row (e.g. hedges or planted borders)	50 m plant row (e.g. hedges) or planted borders	For extending the starter set for plant rows M, art. no. 13011/13012 and starter set for plant rows L, art. no. 13013
Art. No. 13010	Art. No. 1362	Art. No. 13011/13012	Art. No. 13013	Art. No. 13131

Starter sets

			
Starter Set Plant Pots S	Starter Set Plant Pots M	Starter Set Plant Pots M automatic	Starter set for planted beds
For 5 plant pots	For 7 plant pots and 3 plant troughs	For 7 plant pots and 3 plant troughs	For 40 m ² flower/kitchen garden beds
Art. No. 13000	Art. No. 13001	Art. No. 13002	Art. No. 13015

Micro-Drip-System shopping list

To make sure you do not forget anything when you go shopping.



Notes:

Art. No.	Designation	Quant
System start accessories		
1	1355 Master Unit (water flow up to 1000l/h)	
2	1354 Master Unit (water flow up to 2000l/h)	
3	8313 Fertilizer Dispenser	
4	8322 Installation Tool	
Supply Lines and Pipe Guides		
5	1346 Connecting Pipe (13 mm, 1/2"), 15 m	
5	1347 Connecting Pipe (13 mm, 1/2"), 50 m	
6	1350 Supply Pipe (4.6 mm, 3/16"), 15 m	
6	1348 Supply Pipe (4.6 mm, 3/16"), 50 m	
7	8358 Shut-Off Valve (13 mm 1/2")	
7	8357 Shut-Off Valve (4.6 mm 3/16"), contents: 2 pieces	
8	8380 Pipe Clip (13 mm 1/2"), contents: 2 pieces	
8	8379 Pipe Clip (4.6 mm 3/16"), contents: 5 pieces	
9	1327 Pipe Pegs (4.6 mm 3/16"), contents: 10 pieces	
9	1328 Pipe Pegs (13 mm 1/2")	
10	8328 Pipe Guide (13 mm 1/2"), contents: 3 pieces	
10	8327 Pipe Guide (4.6 mm 3/16"), contents: 3 pieces	
Connectors and Accessories		
11	8339 4-Way Coupling (13 mm 1/2"), contents: 2 pieces	
11	8334 4-Way Coupling (4.6 mm 3/16"), contents: 10 pieces	
12	8333 Reducing T-Joint (13 mm 1/2"), contents: 5 pieces	
13	8329 T-Joint (13 mm 1/2"), contents: 2 pieces	
13	8330 T-Joint (4.6 mm 3/16"), contents: 10 pieces	
14	8382 L-Joint (13 mm 1/2"), contents: 2 pieces	
14	8381 L-Joint (4.6 mm 3/16"), contents: 10 pieces	
15	8356 Connector (13 mm 1/2"), contents: 3 pieces	
15	8337 Connector (4.6 mm 3/16"), contents: 10 pieces	
16	8324 Plug (13 mm 1/2"), contents: 5 pieces	
16	1323 Plug (4.6 mm 3/16") contents: 10 pieces	
17	8331 T-Joint for Spray Nozzles (13 mm 1/2"), contents: 5 pieces	
17	8332 T-Joint for Spray Nozzles (4.6 mm 3/16"), contents: 5 pieces	
18	1377 Extension Pipe for Spray Nozzles, contents: 5 pieces	
19	1374 Control Valve for Spray Nozzles, contents 5 pieces	
20	8363 Extension Pipe for Oscillating Sprinkler OS 90, contents: 2 pieces	
Endline drip heads for plant pots		
21	1340 Endline Drip Head, 2l/h, contents: 25 pieces	
22	8310 Endline Drip Head (pressure equalizing), 2l/h, contents: 10 pieces	
23	1391 Adjustable Endline Drip Head, 0–10l/h, contents: 10 pieces	
24	8316 Adjustable Endline Drip Head (pressure equalizing), 1–8l/h contents: 5 pieces	
Inline drip heads for plant pots		
25	8343 Inline Drip Head, 2l/h, contents: 10 pieces	
26	8311 Inline Drip Head (pressure equalizing), 2 l/h, contents: 10 pieces	
27	8392 Adjustable Inline Drip Head, 0–10l/h, contents: 10 pieces	
28	8317 Adjustable Inline Drip Head (pressure equalizing), 1–8l/h, contents: 5 pieces	
Nozzles and Sprinklers		
29	1372 Endline Micro Strip Sprinkler, contents 5 pieces	
30	1370 Micro Strip Sprinkler, contents: 5 pieces	
31	1396 6-Pattern Spray Nozzle, contents: 2 pieces	
32	1369 Micro Rotor Sprinkler 360°, contents: 2 pieces	
33	1371 Micro Mist Nozzle, contents: 5 pieces	
34	1365 Spray Nozzle 360°, contents: 5 pieces	
34	1367 Spray Nozzle 180°, contents: 5 pieces	
34	1368 Spray Nozzle 90°, contents: 5 pieces	
35	8320 Small Area Spray Nozzle, contents: 10 pieces	
36	8321 Small Area Spray Nozzle (4.6 mm 3/16"), contents: 10 pieces	
37	8361 Oscillating Sprinkler OS 90	

GARDENA smart system



The whole garden in the palm of your hand. Any place, any time. Full control for perfect results. App-controlled and only available from GARDENA.

Keep everything in check and under control. Your garden will become your favourite place to sit back and relax, with time-consuming tasks such as mowing the lawn and watering all going on around you in perfect coordination. Always have up-to-date information on your plants and manage your smart system devices using the app as and when you need to, even when you are travelling. And when you return home – all the gardening tasks are complete.

Fully networked

The smart gateway can be placed in an unobtrusive location in the home and uses the user's router to establish a connection to the Internet. This device forms the very heart of the smart system and is responsible for the wireless communication that takes place between the user's smartphone and all GARDENA smart system devices in use in the garden.



Flexible application

With its powerful pump capacity, the new smart Pressure Pump is suitable for use as an automatic water supply system in the home as well as for mobile use when watering the garden. All pump functions are easy to operate using the app. Even individual watering times can be programmed for automatic garden watering.

Communication is key

Using the smart Water Control device, watering times can be conveniently programmed directly on the user's smartphone and coordinated with the mowing times of the smart Robotic Lawnmower as required. This system is ideal as an automatic irrigation solution for watering balconies, terraces, flower gardens and kitchen gardens using the Micro-Drip System or for watering lawns using a sprinkler system.

Complete control

The smart Sensor sends important information concerning factors such as soil moisture, light intensity and ambient temperature directly to the app. These values form the basis for a needs-oriented approach to watering that uses as little water as possible.

Maximum convenience

The smart Robotic Lawnmower delivers top-class mowing results and can independently manage lawns of up to 1300m² with gradients of up to 35% with ease. Mowing times can be programmed using the smart App and coordinated with the watering times of the smart Water Control system.

*The maximum output voltage without load is 40V, the nominal voltage 36V.



The free GARDENA smart app for iOS and Android always keeps you informed about the state of the plants in your garden. Wherever you may be, the app offers a convenient way to keep an eye on your garden, control your smart system devices and adjust features such as watering times and feeding times to suit your requirements.

40 V* System

The smart Battery seamlessly integrates GARDENA 40 V* products equipped with an interchangeable battery – such as lawnmowers – into the smart system. The app displays key data at all times – such as the charge level or the remaining operating time - and issues warnings in the event of extreme heat or cold. State-of-the-art lithium-ion battery technology ensures safety, a long service life and real power.





The simple way to your own watering system

Would you like a convenient watering system in your garden?

This brochure provides you with all the information you need to decide which system you require. You will find out which different systems and solutions are available – and which advantages they can offer you. You can also read about how easy it is to plan and install your watering system. Use the integrated planning aids to take you through the planning of your garden irrigation system step by step. Installation tips are also provided to help you install your new system.

We are also pleased to help you with the following options:

- On the GARDENA website you will find the watering planner with which you can arrange your own individual Sprinklersystem or create the shopping list for your Micro-Drip-System right away online.
- The GARDENA Customer Service is also available to answer any questions you may still have regarding the GARDENA watering systems.
- You can also find interesting and informative videos about our irrigation solutions on our YouTube channel (GardenaWorldwide).

More about GARDENA

Would you like to know more about gardens and GARDENA? Just take a look in our other brochures or visit our website at www.gardena.co.uk.

Customer Service

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We reserve the right to make changes, including product changes.

gardena.co.uk

