GARDENA Watering Systems 2013



GARDENA Pipeline Water like electricity from the mains



Contents



PipelinePage 2-3The easy way to transport water



Sprinklersystem Page For watering areas of all shapes and sizes with ease

Page 4-5



Micro-Drip-SystemPage 6–18Accurate, metered garden irrigation
to help reduce water consumption



Automatic Irrigation Control Page 19-23

Do you need water at different places around your house and garden and have you had enough of winding and unwinding yards and yards of garden hose?

Then the **GARDENA Pipeline**, permanently installed below ground, is the perfect solution for you.



Extremely comfortable! Just click your hose to a Water Connector or Water Plug in the garden and

you've got water fast.

For watering your flowerbeds, to supply water for a GARDENA sprayer, for water-saving irrigation using the GARDENA Micro-Drip-System, for showering, or cleaning using the Original GARDENA Cleansystem.

Water Plug

With pivotable and rotating stop valve for easy above-ground water extraction

an Vice a later Vice

Connector 25 mm x 3/4"

Connecting Point For supplying water from underground Connecting Pipe 25 mm

Drain Valve

Spiral Hose Box Especially easy to use, including 10 m Spiral Hose and Classic Adjustable Spray Nozzle Water Connector An integrated stop valve prevents water flowing as soon as you disconnect the hose



Cold weather in the winter? No problem! The automatic drain valves protect the system against frost.

GARDENA Sprinklersystem Easy watering using pop-up sprinklers





Pop-up Sprinkler S 80/300

For watering over the top of taller plants. Sprinkler piston length: 30 cm

Adjustable range

Infinitely variable sector setting

Turbo-driven Pop-up Sprinklers and Oscillating Pop-up Sprinklers can be used together in one irrigation line because they distribute a similar amount of water. For easy system planning and installation. Detailed planning and installation descriptions you will find in the enclosed "Sprinklersystem Planning Guide".

Cold weather in the winter? No problem! The automatic drain valves protect the system against frost.

*Memory function: sprinkler automatically returns to the set sector position if the sprinkler head is turned accidentally or intentionally.

The performance data given is that obtained with an operating pressure of 2 bar at the sprinkler.

GARDENA Micro-Drip-System Accurate, metered irrigation helps reduce water consumption





"Quick & Easy" connection technology

For connecting, disconnecting and rearranging components of your irrigation system with great ease.

Connecting:	Simply push on the pipe.
Disconnecting:	Pull back the stainless steel clip and remove the pipe.

The ideal way to promote growth and conserve water

Flowerbeds and borders, vegetable plots, shrubs, hedges, delicate seedlings in the greenhouse, potted plants on the patio and hanging baskets will all flourish drop by drop.

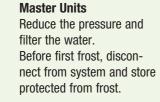
The wide range of Micro-**Drip-System components** makes it easy to create

the ideal irrigation system for your garden that is perfectly adapted to the individual needs of your plants:

From continuous drops to a slight drizzle, to a gentle mist spray – this kind of irrigation system helps to conserve water and you can throw away your watering can!

With the Micro-Drip-System Fertilizer Dispenser and the Universal Liquid Fertilizer concentrate, you can supply your plants with necessary nutrients in a targeted way.





Fertiliser Addition Targeted nourishing of plants (36/37)

Endline Drip Heads e.g. for flowerpots

Inline Drip Heads e.q. for flower boxes



New!

Automatically create a purchase list for your individual Micro-Drip-System with the Micro-Drip-System Planner at www.gardena.com.

An overview of all the components with the appropriate numbering can be found on pages 16 and 17.

for terraces

for flower boxes





Accurate, metered garden irrigation

The soil is watered gently and evenly preventing too much precious water from evaporating, seeping or flowing away.

This water-efficient type of irrigation system supplies the roots of each plant with exactly the right amount of water.

Less is more: more growth, more efficient and more convenient.

You can also connect a **GARDENA Water Computer** for fully automatic garden irrigation. It doesn't get any easier than this!

Spray Nozzles e.g. for vegetable gardens **Oscillating Sprinkler** e.q. for flowerbeds

NEW

Easy to get started: With complete sets supplied ready for installation that contain everything you need for particular watering applications

for greenhouses



as universal set



GARDENA Micro-Drip-System Extremely versatile garden irrigation

... for hedges,

Easy watering for the entire hedge

Route the 13 mm (1/2'')Connecting Pipe (3) along the bottom of the hedge. Plan to install one Endline Drip Head (16/17) for each plant. Install the drip heads in the Connecting Pipe using the Installation Tool (2). Attach the Master Unit (1) to the input side of the Connecting Pipe. Close off the end of the pipe with a Plug (14).

Pipe Guides (6) are used to secure the pipe in the ground. We recommend using 1 Pipe Guide for each metre of Connecting Pipe. You can also install 4.6 mm (3/16") Inline Drip Heads (20/21) in a Supply Pipe (4) for watering shorter rows of plants up to a maximum of 15 m in length. You can install up to 25 2 l/h Inline Drip Heads in the Supply Pipe.

Note:

every 30 cm, this corresponds to a total length of 120 m. Additionally: As an alternative to the 13 mm (1/2") Connecting- and 4.6 mm (3/16") Supply Pipes, the GARDENA Drip Irrigation Lines (please also see page 15) can be used with set drip heads spaced at 30 cm.

If the drip heads are installed

The Master Unit 2000 can supply up to 400 2 l/h Inline Drip Heads from the centre of the 13 mm (1/2") pipe system.

Pipe (4) can be installed inside boxes for watering flowers and plants and containers and pots on patios. Five 2 I/h Inline Drip Heads (20/21) are installed in the Supply Pipe for every metre of flower box. For an effective irrigation put the drip heads as close as possible to the plants. The pipe is secured in

place using 2-3 Pipe Guides (6/7) for each box. The Master Unit (1) is installed at the inlet side of the irrigation system.

Inline Drip Head

... patios and potted plants

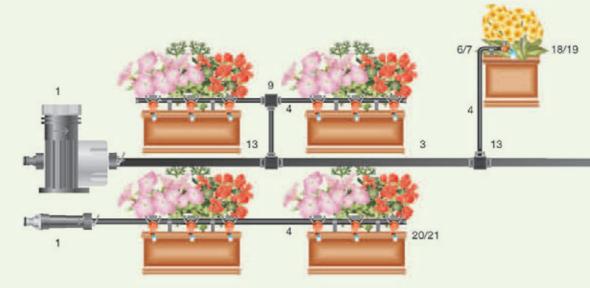
Note:

Patio irrigation made easy

The 4.6 mm (3/16") Supply

If you are installing an irrigation system for more than 5 m of flower boxes, route the 13 mm (1/2") Connecting Pipe (3) alongside the boxes and then branch off the pipe every 5 m to the 4.6 mm (3/16") Supply Pipe (4) installed inside the individual flower boxes. Connect the pipes using Reducing T-Joints (13) and 4.6 mm (3/16") T-Joints (9).

If you do not have a tap on your patio, we recommend using the fully automatic **GARDENA Flower Box** Watering set (see Page 14).



Adjustable Endline Drip Head

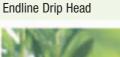






16/17

20/21







Accurate drip irrigation in plant pots

Water potted plants on your patio with Adjustable Endline Drip Heads (18/19). Install these drip heads in the end of the Supply Pipe (4) by hand using the Installation Tool.

Connect the Supply Pipe to the central Connecting Pipe (3) using Reducing T-Joints (13). You can position and secure the drip heads in the plant pot using Pipe Pegs (7). Install the Master Unit (1) at the start of the Connecting Pipe.



An overview of all the components with the appropriate numbering can be found on pages 16 and 17.

GARDENA Micro-Drip-System Extremely versatile

... for greenhouses

Irrigation suitable for greenhouses

Seedlings flourish best in the greenhouse when watered by a fine mist from Micro Mist Nozzles. You should therefore install Micro Mist Nozzles (29) approximately 50 cm apart in the 13 mm (1/2")Connecting Pipe (3) and secure the pipe at the top of the greenhouse (to the roof truss, for example) using Pipe Clips (5) and T-joints (15). Water-sensitive plants such as tomatoes benefit more from drip irrigation at the roots of the plants.

5/15

Install Inline Drip Heads (20/21) in the 4.6 mm (3/16") Supply Pipe (4) according to the spacing of your plants and secure the Supply Pipe in the ground with Pipe Guides (6). Use a Plug (14) to seal off the end of the pipe.

You can also combine drip irrigation and spray nozzle irrigation in one system. Install shut-off valves (8) 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.

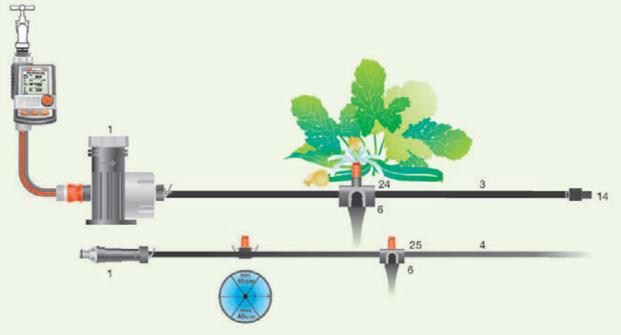
Note:

... and plant troughs, bushes, and shrubs

Accurate watering for smaller areas

More awkward areas of your garden such as plant troughs or around trees can be watered using Small Area Spray Nozzles (24/25). The irrigation diameter of this type of nozzle can be adjusted from 10 to 40 cm. In irrigation systems up to a maximum of 15 m in length you should install the nozzles along the 4.6 mm (3/16") Supply Pipe (4).

You can use up to 4 Small Area Spray Nozzles in an irrigation system of this size. If your irrigation system is longer than this, however, use the Installation Tool (2) to install the nozzles directly in the 13 mm (1/2") Connecting Pipe (3) instead. You can install a maximum of 30 nozzles. Position the Small Area Spray Nozzles exactly where you need them using Pipe Guides (6). Seal off the end of the pipe using a Plug (14).



Micro Mist Nozzle

20/21

Inline Drip Head

Small Area Spray Nozzles





An overview of all the components with the appropriate numbering can be found on pages 16 and 17.

GARDENA Micro-Drip-System Extremely versatile



Watering tip:

We recommend watering your garden for a prolonged period once to twice a week. This will ensure that water penetrates the soil to the deeper roots of your plants. The Oscillating Sprinkler OS 90 or each Spray Nozzle distributes approximately 5 litres per square metre per hour. This corresponds to a seeping depth of approximately 5 cm/hour depending on the type of soil in your garden.

... for vegetable plots, flowerbeds and borders

Accurate, metered irrigation for areas of all shapes and sizes

The best way to water the square and rectangular areas in vegetable plots and flowerbeds is to use the Oscillating Sprinkler OS 90 (32). The range and width of spray can be adjusted as required. The area covered can be selected from between 1 m² and 90 m². You can change the height of the sprinkler according to the growth of your plants using the Extension Pipe (33).

NEW

The Oscillating Sprinkler is installed in the 13 mm (1/2") Connecting Pipe (3) and secured in the ground using Pipe Guides (6). You can connect up to 2 sprinklers if they are spaced 10 m apart.

0,5 - 7 m

1,5 - 13 m

Gentle mist irrigation

Spray Nozzles (26/27/28/30/31) installed directly in the Connecting Pipe (3) using the Installation Tool (2) are ideal for watering vegetable plots, flowerbeds and borders below the leaves of plants. If you need to water your plants in flowerbeds, for example, with a fine mist from above, install the Spray Nozzles on a T-Joint with nozzle connection (15) and use Extension Pipes (34) to raise the nozzles to the correct height.

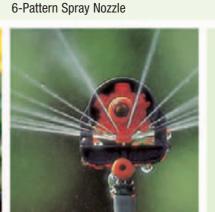
Oscillating Sprinkler OS 90







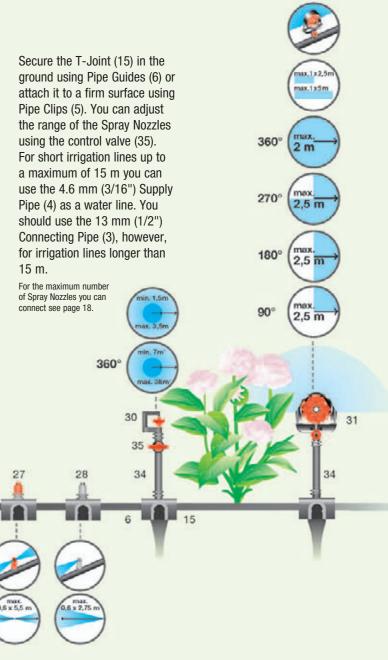
Spray Nozzle



26

26

12



An overview of all the components with the appropriate numbering can be found on pages 16 and 17.

GARDENA Micro-Drip-System Watering without a tap

... for flower boxes and balcony planters Fully automatic flower box

watering

For watering up to 5-6 m of containers. The water is supplied independently of a tap using a water container and pump (A). The pump transformer (B) features 13 pre-set programmes for fully automatic irrigation.

Inline Drip Heads with a flow rate of 2 I/h (C) supply water to your plants accurately and help to conserve water. You can also connect the GARDENA Rain Sensor electronic, Art. No. 1189 or Soil Moisture Sensor, Art. No. 1188 (Page 19), to the transformer to help conserve even more water.

Complete Set (without water container) Art. No. 1407.

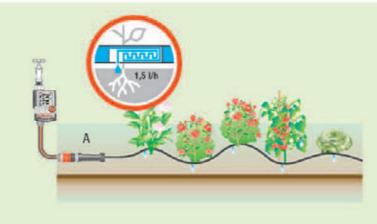




Drip Irrigation Line - intelligent, conserves water

The GARDENA Drip Irrigation Lines are permanently installed with the drip heads at intervals of 30 cm which direct the water, precisely metered, to the root area of the plants thus conserving water.







... for potted and indoor plants

Automatic irrigation while you are away on holiday

For watering up to 36 potted plants. The transformer (A) and the pump (C) activate the irrigation system for 1 minute per day. 3 drip distributors (B), each with different water flows and 12 outlets ensure accurate watering.

The pipe pegs (D), which are also included in the set, secure up to 3 drip pipes per flowerpot. Complete Set with 9 I water container Art. No. 1266 without water container Art. No. 1265.

Additional parts are available on request from GARDENA Customer Service.





Above Ground Drip Irrigation Lines

With **13 mm (1/2")** diameter, an easy-to-install solution for e.g. hedges. The max. pipe length is 100 m (when Master Unit (A) is fitted in the middle). Starter Set 50 m incl. Master Unit Art. No. 1385 Extension pipe 50 m Art. No. 1386.

With **4.6 mm (3/16")**, it is particularly suited for flexible installation in, e.g., vegetable and flower beds. Max. pipe length is 30 m (when Master Unit (A) is fitted in the middle). Starter Set 15 m with Master Unit Art. No. 1361 Extension pipe 15 m Art. No. 1362.

Channeling and extensions for both pipe diameters are undertaken with Micro-Drip-System units.

Below and Above Ground Drip Irrigation Lines

Ideal for non-visible, subterranean installation, e.g. in rows of plants or in lawns with **13.7 mm** diameter. Max. pipe length up to 200 m (when Master Unit (A) is fitted in the middle). Installation depth in plant area approx. 20 cm, in lawns approx. 10 cm. Pipe spacing for lawn irrigation approx. 30 cm. Starter Set 50 m with Master Unit Art. No. 1389 Extension set 50 m Art. No. 1395.

Can also be installed above ground. Required additional parts may be obtained from GARDENA customer service.

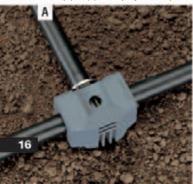
GARDENA Micro-Drip-System The components at a glance





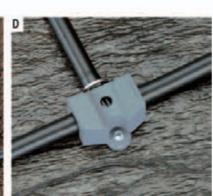
Multi-functional pipe-guiding technology:

Exact pipe- (A) and spray nozzle positioning (B). Watering high plants and beyond (C). Fixation in ground or on solid foundation (D).











36 Fertilizer Dispenser With level indicator Art. No. 8313

37 Universal Liquid Fertilizer Fully water-soluble fertiliser concentrate. 1 litre bottle Art. No. 8303



11 L-Joints Art. No. 8382 13 mm 1/2" Contents: 2 pieces Art. No. 8381 4.6 mm 3/16" Contents: 10 pieces





23 Adjustable Inline Drip Head ** pressure equalizing (a) with amount indicator, self-cleaning (b) Art. No. 8317 1–8 l/h Contents: 5 pieces



35 Control Valve for Spray Nozzles Art. 1374 Contents: 5 pieces



- Perfection in drip irrigation (a) Automatic pressure control for even water distribution (2 l/h) along the entire pipe
- b) Self-cleaning and with integrated filter for maintenance-free operation
- (c) Drip heads close automatically when the system is put out of operation for extra water conservation

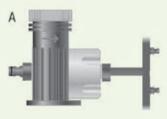
17

GARDENA Micro-Drip-System Basic planning

The number of outlets that can be operated in one supply line differs according to the type of drip heads and spray nozzles you choose to install.

The table shows the number of drip heads and nozzles you can connect to the Master Unit 2000 for different irrigation system installations.

For Master Unit 1000 you should half the number of Drip Heads and Spray Nozzles listed in the table. The table assumes that the Master Unit 2000 is installed in the centre of your irrigation system (Figure A).



If the Master Unit is installed at the start of the pipe network as shown in example B you must half the maximum number of Drip Heads and Spray Nozzles.



Connection capacity of Master Unit 2000			
Drip heads/nozzles	Number for	Number for	Number for
	installation 1	installation 2	installation 3
1340/8310 Endline Drip Head, 2-litre	400	50	1000
1341 Endline Drip Head, 4-litre	200	25	500
8343/8311 Inline Drip Head, 2-litre	-	25	500
8344 Inline Drip Head, 4-litre	-	12	250
1365 Spray Nozzle 360°	20	1	16
1367 Spray Nozzle 180°	26	1	18
1368 Spray Nozzle 90°	32	2	24
1369 Micro Rotor Sprinkler	25	1	18
1370 Micro Strip Sprinkler	30	2	30
1371 Micro Mist Nozzle	50	4	50
1372 Endline Micro Strip Sprinkler	30	2	30
8320 Small Area Nozzle	30	-	-
8321 Small Area Nozzle	-	4	30
8361 Oscillating Sprinkler OS 90	2	-	-

1 Direct installation in 13 mm (1/2") Connecting Pipe pray Nozzles . The table Master Unit in the centre system

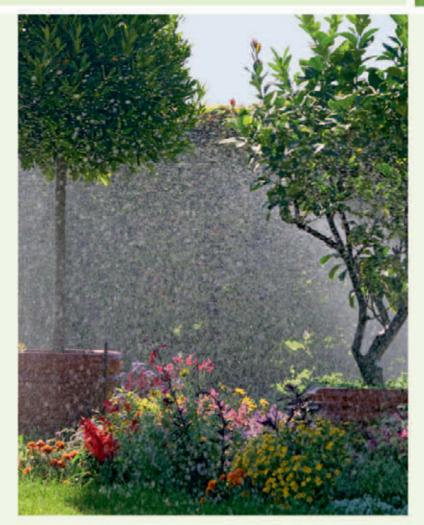


 ${\bf 2}$ Connected to a 4.6 mm (3/16") Connecting Pipe a maximum of 15 m in length

3 Connected to the end and along the 4.6 mm (3/16") Connecting Pipe, (13 mm (1/2") Connecting Pipe

installed in the centre of the system)

GARDENA Automatic Irrigation



Multi-channel control for larger irrigation systems







Water Timers for the tap



A light drizzle in the early morning? A short, refreshing shower late at night? Or do you need your garden to water itself while you are away on holiday? No problem at all! With the GARDENA Water Timers and

Computers you decide when and for how long it rains.

From Water Computers connected to the tap for controlling one irrigation line to larger irrigation systems with several irrigation lines, the GARDENA Water Timers and Computers water your garden automatically without you having to lift a finger. It doesn't get any easier than this!



Accessories that save water:

GARDENA Soil Moisture Sensor/Rain Sensor electronic. Prevents or interrupts automatic irrigation when it rains or when

soil is sufficiently moist.

That optimises irrigation in your absence and helps to save water. Suitable for the Water Timers T 1030 plus, T 1030 card, for the Water Computers, as well as for the GARDENA Controller and the Irrigation Control Systems 4030, 6030 and 4040 modular.

GARDENA Water Timers and Computers



Programmed fun in the garden

GARDENA Water Timers and Water Computers relieve you of watering. Operation using the rotary knob or the user guidance on a large LCD display make programming easy. You can select the starting time, watering duration and watering frequency for automatic irrigation of your garden right away!

Meets your requirements

CLASSIC

For the beginner: With standard programming options. Easy operation with rotary knob.

COMFORT

For the demanding user: Variable programming option. Large LCD display with a good overview.

PREMIUM

For the specialist: Highly individual programming options through 6 watering programmes.

On-screen instructions with selectable languages explain programming steps. Top model with solar panel for self-sufficient energy supply.

	CLASSIC					COMFORT	PREMIUM		
	ē	Į.			Ū,				
Article	Water Timer	Water Timer T 1030 D	Water Timer Electronic T 1030 plus	Automatic Irrigation Set A 1020 Sensor	Water Timer T 1030 card	Watering Computer C 1030 plus	Watering Computer C 2030 duo plus	Watering Computer C 1060 plus	Watering Computer C 1060 solar plus
Art. No.	1169	1825	1860	1835	1830	1862	1874	1864	1866
auto on/off	auto off	yes	yes	yes	yes	yes	yes	yes	yes
Watering period	5–120 min	1–120 min	1–120 min	1–120 min	1-180 min	1 min – 7 h 59 min	1 min – 3 h 59 min	1 min – 9 h 59 min	1 min – 9 h 59 min
Watering frequency		every 8/12/24 hours weekdays can be selected	every 8/12/24 hours every 2nd/3rd/7th day	every 8/12/24 hours every 2nd/3rd/7th day	every 8/12/24 hours every 2nd/3rd/7th day	every 8/12/24 hours every 2nd/3rd/7th day free selection of watering days	every 8/12/24 hours every 2nd/3rd/7th day free selection of watering days	every 24 hours, every 2nd/3rd/4th/ 5th/6th/7th day free selection of watering days	every 24 hours, every 2nd/3rd/4th/ 5th/6th/7th day free selection of watering days
Start watering	when activated	can be selected at 1 h intervals	can be selected at 1 h intervals	when activated	can be selected at 1 h intervals	freely selectable	freely selectable	freely selectable	freely selectable
Sensor connection	-	-	yes	Soil moisture sensor included	yes	yes	yes, per outlet	yes	yes
Miscellaneous		With low battery display	With low battery display	With low battery display Use as sensor only is possible = watering when soil moisture is too low	With low battery display Simple card reader technology Childproof O bar function for pressure-free rain- water use	Battery level display Use as sensor only is possible = watering when soil moisture is too low	Battery level display Outlets can be pro- grammed indepen- dently of each other Battery-level display, exclusive sensor operation at night is possible: Watering when soil moisture too low	Battery level display as with C 1030 plus, additionally 6 independent pro- grammes, operation of up to 6 irrigation lines with the Water Distributor automatic (Art. No. 1197)	Battery level display as with C 1030 plus, additionally 6 independent pro- grammes, operation of up to 6 irrigation lines with the Water Distributor automatic (Art. No. 1197) energy-saving solar operation







JM



Water Distributor automatic.

In combination with a Premium model - you can use this to control fully automatic irrigation of up to 6 irrigation areas. Ideal for plant areas with varying requirements or when the water pressure is too low for simultaneous irrigation. If there are less than six areas, up to 4 outlets can be simply and easily deactivated. Art. No. 1197





Flexible – The Modular Multi-Channel Control



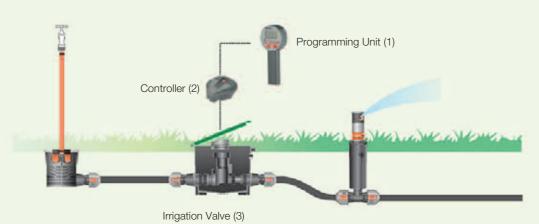
Cable-free – independent from the mains

Particularly when the water pressure is not sufficient to operate the whole system at once and you need to water in stages. But also if your plants have different water requirements.

GARDENA Direct Irrigation Valve Programming

Water up to 6 times a day with each GARDENA Irrigation Valve. Just enter the data into the Programming Unit (1) and press the button to transfer it to the Controller (2). Now fit the Controller to the Irrigation Valve (3). That's it. Battery operation renders GARDENA Irrigation Valves independent from the power supply. Thus you can control any number

of irrigation lines fully automatically and cable-free. If you have a fixed irrigation system such as the GARDENA Pop-up Sprinklersystem for watering lawns all over, you should rely on a GARDENA Multi-channel Control System.



Centrally controlled – everything in view

Watering Control

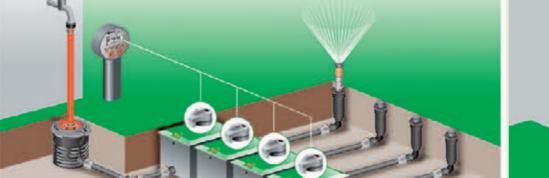
012224 10

The control technology enables you to control and monitor all irrigation from one point. All GARDENA Irrigation Valves (1) are connected to the central GARDENA Irrigation Control System by cables. You can connect up to 4 Irrigation Valves to the Irrigation Control System 4040 modular (2).

COMEODI

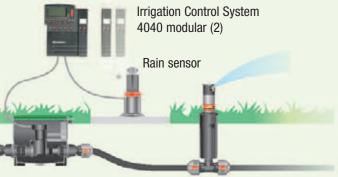
				GLASSIC	GOIMFURT			
P	Ø							
Art. 1242	Art. 1250	Art. 1251	Art. 1254	Art. 1255	Art. 1283/1284	Art. 1276	Art. 1277	Art. 1278
Programming Unit	Controller	Irrigation Valve 9 V	Valve Box V1 and V3		Irrigation Control Systems 4030/6030	Irrigation Control System 4040 modular	Expansion Module 2040	24 V Irrigation Valve
Watering duration: 1 min – 9 h 59 min, Watering frequency: up to 6 x daily per Irrigation Valve	The actual brain of the irrigation system. Can be connected to the Soil Moisture Sensor and Rain Sensor	Opens and closes an irrigation line at the command of the Controller. Energy- saving electromagnetic valve system	For underground instalment of $1-3$ Irrigation Valves, for 9 V or 24 V Irrigation Valves, telescopic screw fixing for easy valve assem- bly or dismantling, with Valve Box V3 water supply can be from any of 3 sides		For use indoors or in rain-protected areas for up to 4 or 6 Irriga- tion Valves 24 V. 3 programmes per valve possible.	For use outdoors for control of up to 4 Irrigation Valves 24 V. Can be extended up to 12 valves. 4 programmes per valve possible.	For the Irrigation Control System 4040 modular for additional connection of 2 Irriga- tion Valves 24 V	Connection to a GARDENA Irrigation Control System via cable







You can install up to 8 additional irrigation valves using the GARDENA Expansion Modules 2040. These are connected to the main unit. Thus you have a maximum capacity of 12 irrigation lines in total.



Valve Box Irrigation Valve 24 V (1)



Art. 1280 Connection Cable 24 V

For connection of up to 6 Irrigation Valves to the Irrigation Control System 4040 modular and the Expansion Module 2040



Art. 1282 24 V Cable Clip

For watertight connection of the Connection Cable to the Irrigation Valves for using the Valve Box V1



Art. 1273 24 V Pump Control System

For operating a pump in combination with the Irrigation Control System 4040 modular. Complete with 10 m cable. See illustration below on the right.

All you wanted to know about Watering Systems

Would you like an individual watering system in your garden and you're not sure what you need for this? Just use the planning brochure provided with this brochure. It will help you set up your watering system step-by-step.

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.
- refer to our GARDENA customer service for comprehensive information on Watering Systems.
- you can receive planning and installation tips, as well as live videos of the products from the DVD Watering Systems. This is available for 4.99 € (incl. VAT and shipping) through our spare part service at +49 (0)731 490-123 (Art.-No. 47200-00).

We won't leave you high and dry, and offer you several possibilities. Let us help at +49 (0)731 490-246, service@gardena.com or www.gardena.com.

More about GARDENA

Would you like to know more about gardens and GARDENA? Just take a look in our other brochures, look us up on the Internet at www.gardena.com or order our free newsletter at www.gardena.de/ newsletter.

GARDENA Deutschland GmbH 89070 Ulm Telefon + 49 (0)731 490-246 Telefax + 49 (0)731 490-389 E-Mail: service@gardena.com www.gardena.de

Changes, also product changes, may be made.



