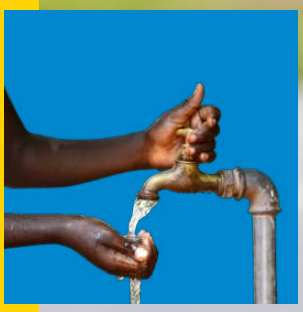
LORENTZ

S1-200

Solar powered submersible water pump







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SOLAR WATER PUMPING MADE SIMPLE



A small system with big performance

S1-200 pump systems have market-leading efficiency, delivering more water for your off-grid application using only the power of the sun. You can pump more than 27,000 liters [7,100 US gal] per day with one 200 Wp PV module. Motor and pump end are made of high quality materials for durability and reliability.



Quick and easy self install

S1-200 is a complete system in a box. Installation is very easy, just connect the plugs and start pumping water. Even the pipe connection fits standard 1“ hoses, so no special connections to contend with.



Portable and flexible in use

S1-200 is compact and lightweight, ready to take away and carry under your arm. The system can be permanently installed or used in applications where it is moved everyday. The submersible pump is self- priming and can be used in open water or wells. Just drop in the pump and start pumping.



App control & monitoring

With the LORENTZ S-Connect App you can control and monitor your pump system. S-Connect gives you advanced settings such as speed control, daily amount targets and timers to automate pumping schedules. The app also monitors performance over time and assists with product support.

GET IT ON Google play

Download on the App Store



The S1-200 system includes

- helical rotor pump with high efficiency DC brushless motor
- pre-attached 15 m [50 ft] motor cable to plug into the controller
- S1-200 mini controller with accessory inputs for dry run protection and tank full switch or remote tank switch
- PV module adapter to use any standard PV module (max. 55 VDC)
- a hose clamp
- one pair of screws for mounting the controller to the PV module.

Pump water from any source







Pump water for any application







Solar Pump System S1-200

S1-200 is a highly efficient and flexible solar pumping system that is suitable for various applications. This system is designed for easy and quick self-installation and control anywhere.

Benefit from solar energy for constant water supply in small irrigation applications, drinking water for households, in water systems for livestock in a reliable, sustainable and at the same time money-saving way.

You can install it by yourself without any technical expertise or special tools, besides you can pump up to 27,000 liters [7,100 US gal] of water per day and reach heights of up to 40 meters [130 feet], depending on installation conditions.











Let's clear up doubts!

Why Use Solar Energy?

We use solar energy because is **free** and **abundant** source of energy that allows cost savings. You can generate your **own electricity** through solar PV modules and contribute to a sustainable future.



Is it possible to rely on solar energy?

Yes, it is possible to **rely on solar energy** to meet energy needs, despite unpredictable weather conditions. Accurate **prediction** of solar radiation based on the **time of day** and **location** is essential when designing a solar pumping system. In addition, well-sized water storage tanks ensure a reliable water supply.

What about the water supply during the night?

Solar water pumping systems are designed to meet **water demand** during **daylight hours** and **store water** for nighttime use, ensuring **24-hour** water supply. Elevated tanks are commonly used for gravity water distribution or you can also use AC power from the grid or a generator for nighttime pumping.

When is solar water pumping a viable solution?

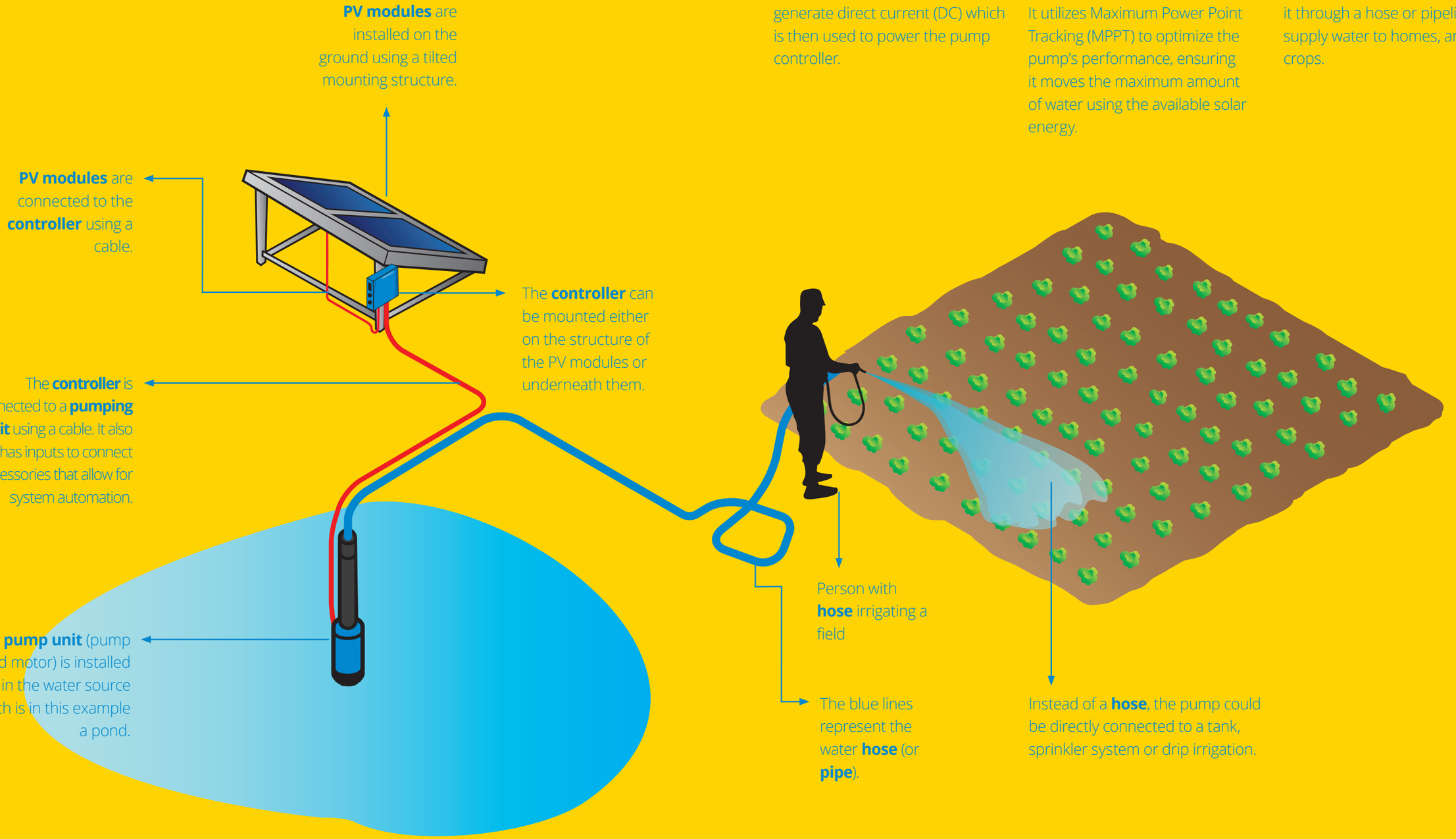
Solar water pumping is a viable solution and **suitable for projects of any scale**. It works effectively even in areas with limited sunlight due to its **high efficiency** and is ideal for locations with unreliable grid electricity, prioritizing **cost-effectiveness** and sustainability.





How does a solar pumping system work?

The following image shows a simple example of a submersible pumping system supplying water to irrigate a field.
The farmer is using a hose to irrigate crops.



1

A solar pumping system works by using **PV modules** to capture sunlight and convert it into electricity. These PV modules generate direct current (DC) which is then used to power the pump controller.

2

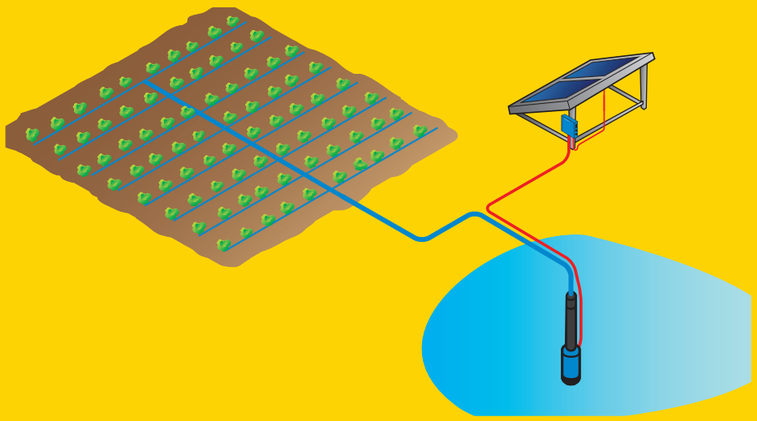
The **controller** serves as the brain of the entire system, managing the pump-motor assembly, accessories, and power sources. It utilizes Maximum Power Point Tracking (MPPT) to optimize the pump's performance, ensuring it moves the maximum amount of water using the available solar energy.

3

The **pumping unit**, consisting of a pump-motor assembly, extracts water from a source such as a well, river, pond, or lake, and sends it through a hose or pipeline to supply water to homes, animals, or crops.

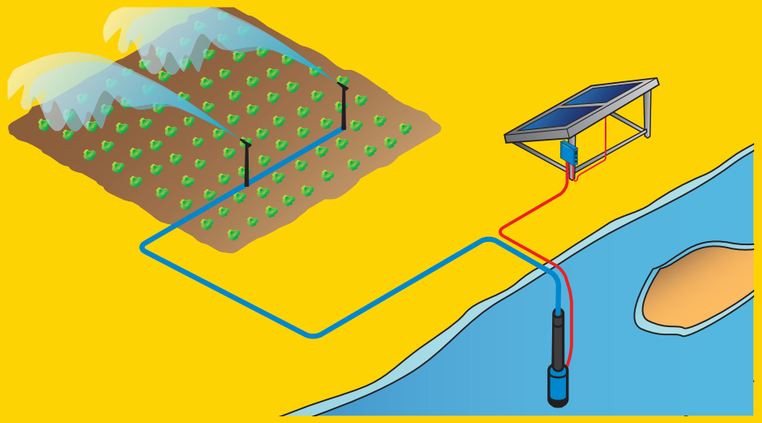
Example installation with basic components

Make the most of the S1-200 pumping system by exploring its versatile installation options using only its basic components (**PV modules, controller**, and **pump unit**) for irrigation and water supply applications.



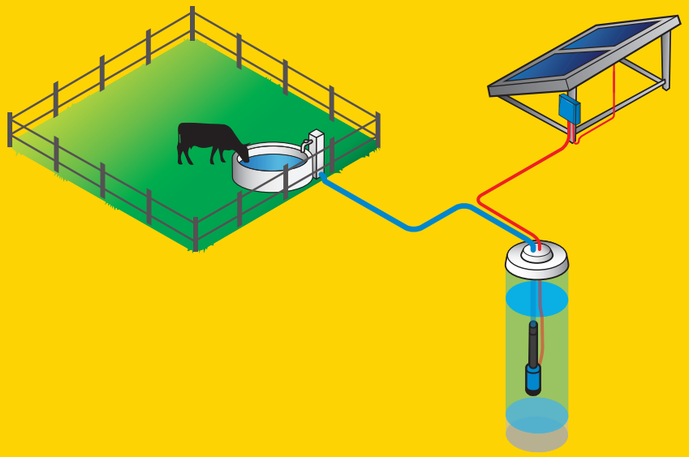
S1-200 used in drip irrigation

The pump is installed in a pond, serving as the water source for irrigating a field through a drip irrigation system.



S1-200 used to irrigate a field using sprinklers

The pump is installed in a river, and will be used to irrigate a field under pressure using a sprinkler irrigation kit.



S1-200 used to fill a water reservoir

The pump is installed in a well and will be used to fill a water trough for livestock.

Extending uses with simple accessories

S1-200 used to fill a tank

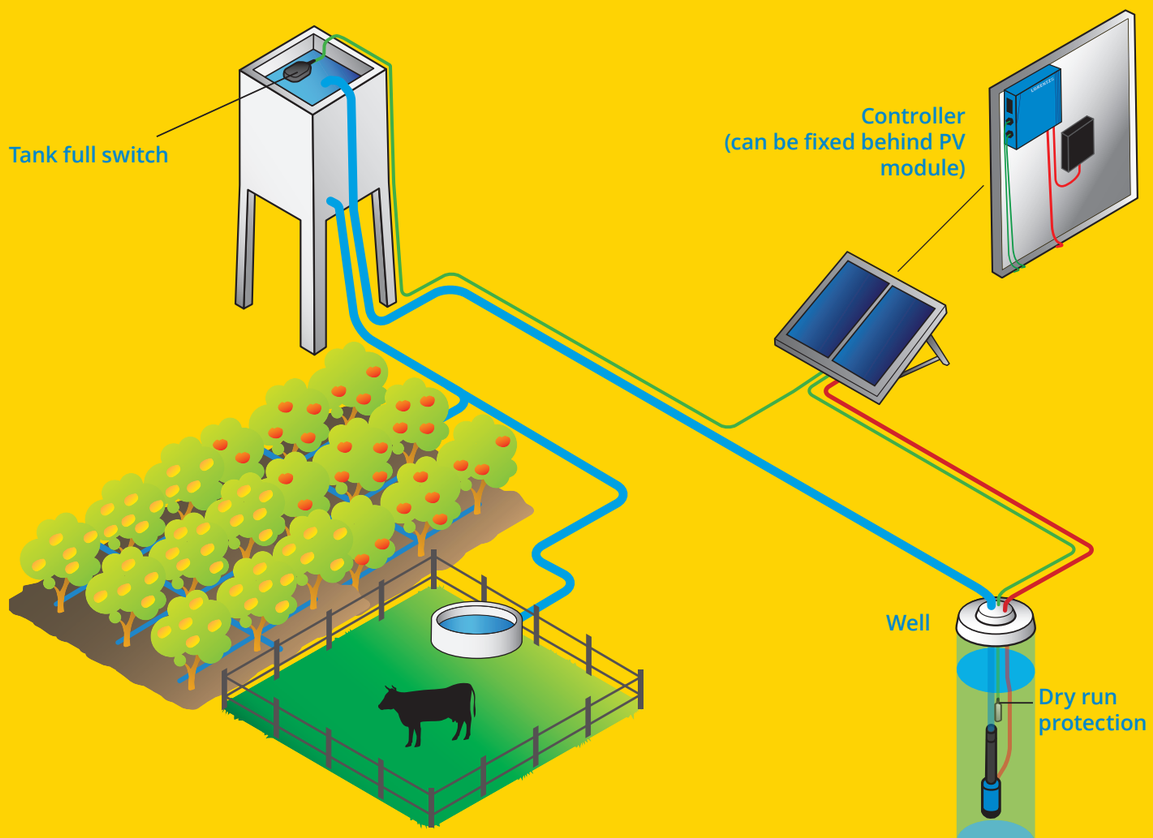
The picture below shows an S1-200 pump system pumping water to a tank. The tank stores water, and as it is elevated provides water throughout the day and night.

This system has the addition of two accessories. These accessories plug into the S1-200 system, no wiring is required.

As the pump is installed in a deep well a dry run protection accessory is installed. This will switch off the pump if the well has no water.

A tank full switch accessory is installed in the tank. This will stop the pump when the tank is full, avoiding wasted water.

Additionally, it is possible to automatically control the filling of remote tanks using the remote tank switch accesory. This is used when the tank being filled is too far away to use a tank full switch accessory.



Accessories

S1-200 pumping system offers a range of accessories that enable you to achieve a fully automated installation. These accessories feature convenient plug-in connections, making the installation process quick and simple, without the need for complicated splicing or procedures.

The dry run accessory prevents the pump from running dry. The tank full switch allows control of the pump when a tank is filled, and if the tank is too far away, the remote tank switch accessory can be used.

An accesory extension cable is also available which extends the cable lengths and uses high quality plugs for a weatherproof connection.

The motor cable can also be extended when the installation requires long distances between the pump unit and the controller, without the need for connection boxes, joints, or cable splicing.

Dry run protection
Includes 15 m [50 ft] of cable



Tank full switch
Includes 10 m [33 ft] of cable



Remote tank switch
Includes 3 m [10 ft] of cable



Accessory extension cable
Includes 20 m [65 ft] of cable





Motor extension cable
Includes 20 m [65 ft] of cable



Amazing Performance

S1-200 pump systems range offers three different pump-ends to choose depending on the installation depth of the pump and the amount of water needed.

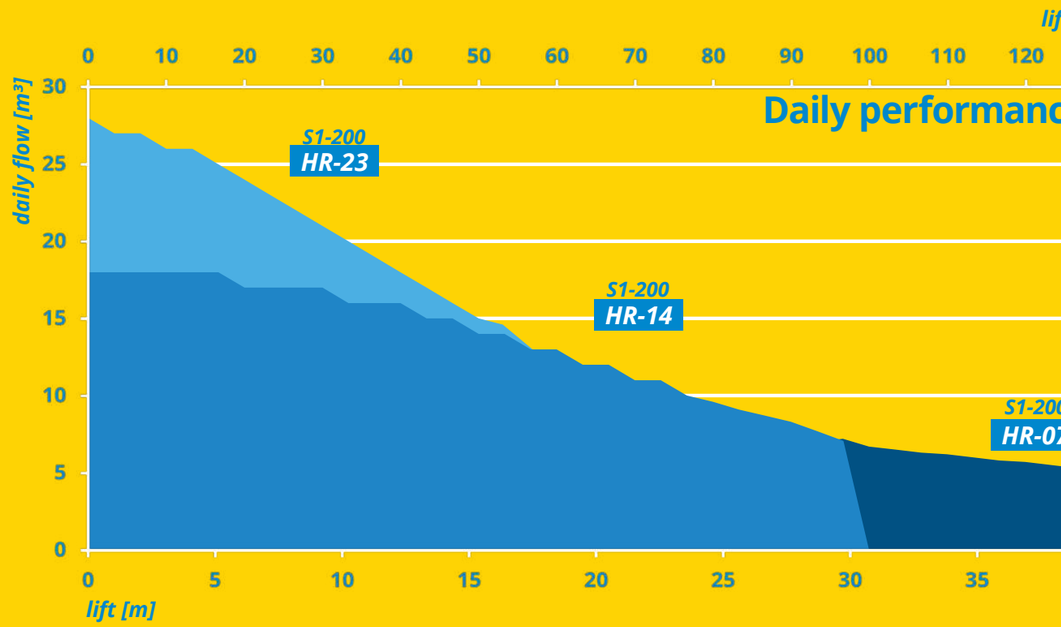
The following table shows the three different pump-ends sizes. With the maximum design values of flow per day and lift:

Pump type	Max. daily flow	Max. Lift
HR-07	11,000 L [2,900 Gal]	40 m [130 ft]
HR-14	18,000 L [4,750 Gal]	30 m [100 ft]
HR-23	27,000 L [7,130 Gal]	17 m [55 ft]

Select your own system according to your needs using our easy-to-use sizing tool available at:

www.lorentz.de/s/sizing

You can also access here:



Data provided is the annual daily average based on using a single 375 Wp PV module at location 15N 0E.

Built by LORENTZ

LORENTZ is the global market leader in solar powered water pumping solutions.

Founded in Germany during 1993 LORENTZ has pioneered, innovated and excelled in the engineering and manufacturing of solar powered water pumping.

Today LORENTZ is active in over 130 countries through a dedicated network of professional partners.

LORENTZ S product range is specially designed to bring solar pumping to the widest audience. LORENTZ S products take the experience, quality, reliability and efficiency of LORENTZ world leading solar pumps and simplifies them for self installation.

Millions of people, their animals and crops rely on LORENTZ pumps every day.



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