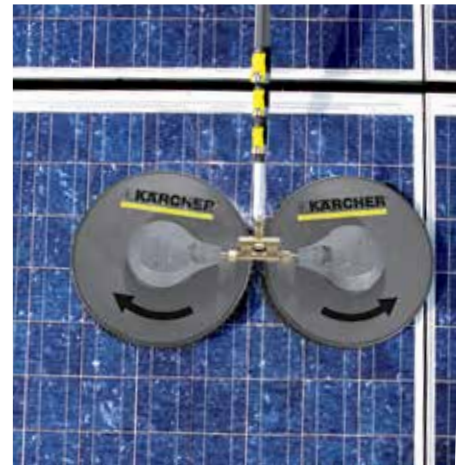


# Clean technologies – higher output.

Cleaning systems for photovoltaic and solar units.



## Making way for the power of the sun.

Photovoltaic and solar units harness solar radiation and convert it to energy. Debris from dust, soot and pollen can reduce their output by up to 20%, negating some of their efficiency, and the natural power of rain, condensation and wind are not strong enough to clean the units effectively. These systems require a thorough washing in order to produce a consistently high level of power.



Due to the large, enclosed surfaces of the units, thorough cleaning with water and a sponge is not feasible, and it would also be far too dangerous, given that the panels are often positioned at an angle of 30 to 45 degrees on top of the roof. With iSolar, Kärcher has developed innovative accessories for professional pressure washers to solve this problem. iSolar is a modular system that enables safe and efficient cleaning of solar and photovoltaic systems of any size. This system includes: rotating brushes that attach to telescopic lances of various lengths and are supplied with water from a pressure washer. The brushes operate at low pressure – eliminating the risk of damage to the panels. The iSolar's accessory system also offers full protection for on the roof, and RM 99 Solar Cleaner, designed specifically

for cleaning solar and photovoltaic systems. As the first system for cleaning solar and photovoltaic units, Kärcher iSolar has been thoroughly tested by the DLG (German Agricultural Society) and excelled in their focus test.



# iSolar – wherever the sun is shining.

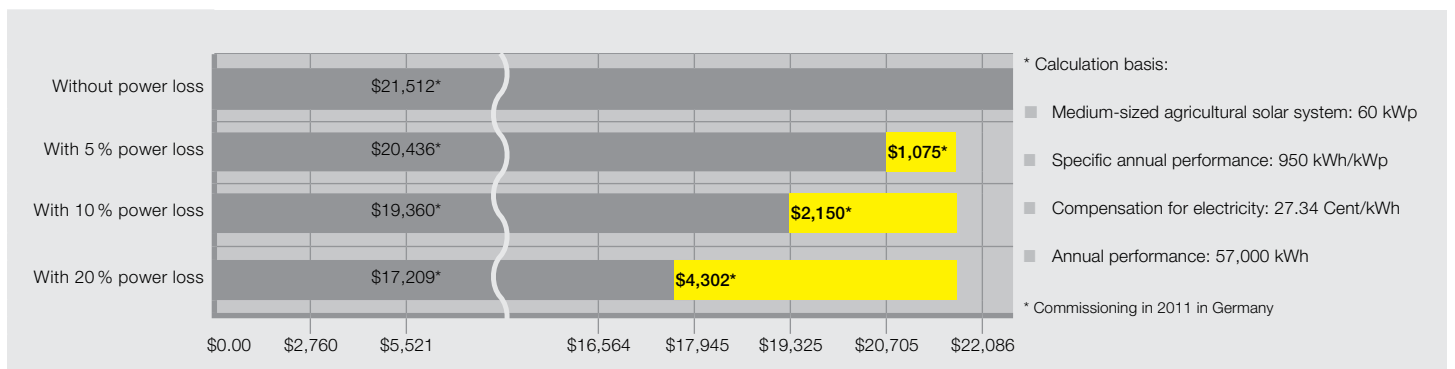
There are practically no limitations on how iSolar can be used. Wherever solar and photovoltaic systems are installed – agriculture, trade, industry or in the home – the sun’s energy can be properly harnessed with the use of iSolar. This is particularly helpful in areas exposed to heavy soiling, such as agriculture, where dust from neighboring fields and waste air from stables is a constant hindrance to cleanliness. Kärcher’s iSolar represents an economical choice for both system operators and cleaning service providers.



Its accessories system can be applied to an extremely broad range of roof and system types and is easily adaptable to meet specific requirements. Roofs easily accessible can be cleaned using the full protection system from the roof itself. Roofs with difficult access are washed using a cherry picker. Systems of all sizes can

be cleaned with the aid of telescopic lances – available in lengths of up to 45 feet. For elevated solar and photovoltaic systems, we recommend using the iSolar 400 brush in combination with standard spray lances.

Because dirt build-up leads to a loss of power that translates to lower electricity production, iSolar pays for itself in no time.



## Comprehensive, modular and compatible.

The iSolar accessories system is a complete modular solution that offers all the necessary products for your cleaning needs, from water connections to brushes. This system is also compatible with many Kärcher pressure washers, meaning, existing pressure washers can usually be used to operate iSolar. Because the system is modular, we can build a custom solution to fulfill any requirement.



The iSolar 400 and iSolar 800 brushes have standard Kärcher interfaces and can be used with various telescopic lances and standard spray lances. The RM 99 Solar Cleaner is the perfect solution for washing special solar and photovoltaic surfaces and ideal for removing heavy grease and dirt. included with the iSolar accessory system

is the a fall arrestor, a guided piece of equipment on a kernmantle rope (used by climbers and high-altitude rescuers) that locks immediately in the event of a potential fall, for operator safety. An integrated shock absorber effectively cushions the fall.

## Gentle but thorough: the iSolar 800/400.

The iSolar 400 and iSolar 800 offer superior and safe cleaning, thanks to brushes powered by a pressure washer's water jet. The mechanical action of the bristles, made of nylon for scratch-free surface cleaning, operate at low pressure, eliminating any danger of the panels being damaged. The rotating brushes are also fitted with robust ball bearings to guarantee exceptionally long service life.



### 1 iSolar 800

Contra-rotating disc brushes ensure:

- Excellent cleaning performance and area coverage
- Optimal handling with balancing of transverse forces
- Pre-rinsing of adjacent panels

### 2 Comfortable in every position

Stable articulated joint offers:

- Convenient and flexible working positions
- Limit stop to protect panels from damage
- Robust brass design for maximum durability

### 3 iSolar 400

Entry-level model for smaller areas:

- Particularly suitable for elevated systems
- Pre-rinsing of adjacent panels

### 4 Safety Kit

For safe rooftop work:

- Safety harness with quick-release fasteners
- Guided fall arrestor with integrated shock absorber and lengthy guide rope
- Stop band for fastening

## Technical Data and Equipment

	iSolar 400	iSolar 800	Safety Kit
	<ul style="list-style-type: none"> <li>■ Water-powered disc brushes with ball bearing</li> <li>■ Compact entry-level model for smaller areas</li> <li>■ Connection M 18 x 1.5; compatible with standard HD/HDS devices</li> </ul>	<ul style="list-style-type: none"> <li>■ Contra-rotating disc brushes with ball bearings</li> <li>■ Robust brass articulated joint for flexible working angle</li> <li>■ Connection M 18 x 1.5; compatible with standard HD/HDS devices</li> </ul>	<ul style="list-style-type: none"> <li>■ Certified, standard-compliant safety system</li> <li>■ Guided fall arrestor with shock absorber</li> <li>■ Rugged metal box for storage and transport</li> </ul>

### Technical Data

Weight	lbs	6.2	15.4	–
Working width	inches	15.7	31.5	–
Device flow rate	GPM	4.85-5.72	> 4.84	–
Connection		M 18 x 1.5 IG	M 18 x 1.5 IG	–
Order No.		6.368-457.0	6.368-455.0	6.988-152.0
List Price		\$690.47	\$1,532.21	\$796.08

# No place is unreachable.

Large solar and photovoltaic systems require cleaning solutions with a large range. Kärcher's iSolar telescopic lances, with an extension length up to 45 feet, are constructed from full carbon or glass/carbon fiber composites and offer maximum rigidity with minimal weight. Quick-release fasteners allow the length to be adjusted easily during use, while the pressure hose inside feeds automatically when retracted or deployed. Integrated into the handle is a ball tap that allows the brushes to be activated easily and frees the operator's hands to guide the lance. The handle is also electrically insulated for operator safety.



## 1 Lightweight and easy to guide

The iSolar brushes are easy to use and can be safely guided from a roof or a cherry picker with the help of telescopic lances. The use of high-quality materials makes this system lightweight and stable.

## 2 Working range of up to 45 feet

Ultra lightweight and stable full carbon construction ensures that the longest telescopic lances offer maximum stability, even under extreme stress.

## 3 Perfect ergonomics

The ergonomically shaped handle with integrated ball tap allows the iSolar brushes to be activated easily and comfortably. Once the brushes have been activated, both hands are free to guide the telescopic lance. A rubber buffer on the bottom allows the lance to be safely set aside during breaks.

## 4 Secure connection and maximum comfort

High-quality aluminum telescopic clamps guarantee strong clamping force and minimum wear. The quick-release fasteners make retracting and deploying telescopic lances effortless.

## Technical Data and Equipment

	iSolar TL 7 H	TL 10 C	iSolar TL 14 C
	<ul style="list-style-type: none"> <li>■ Glass/carbon fibre composite for high rigidity and strength with low weight</li> <li>■ Ergonomic handle with ball tap for operating comfort</li> <li>■ Easy deployment thanks to quick-release fasteners and internal high-pressure hose</li> </ul>	<ul style="list-style-type: none"> <li>■ High-quality telescopic lance in hybrid or full carbon version</li> <li>■ Ergonomic handle with ball tap for operating comfort</li> <li>■ Easy deployment thanks to quick-release fasteners and internal high-pressure hose</li> </ul>	<ul style="list-style-type: none"> <li>■ Full carbon material for maximum rigidity, high strength and extensive working range</li> <li>■ Ergonomic handle with ball tap for operating comfort</li> <li>■ Easy deployment thanks to quick-release fasteners and internal high-pressure hose</li> </ul>
<b>Technical Data</b>			
Weight	lbs 7.7	8.2	11
Rod elements	5	5	7
Required accessories, internal HP hose	6.392-978.0	6.392-977.0	6.392-976.0
Length	ft 5-23	7-33	7-45
Connection	M 18 x 1.5 AG / M 22 x 1.5 AG	M 22 x 1.5 AG	M 18 x 1.5 AG / M 22 x 1.5 AG
Material	Hybrid	Carbon	Carbon
Order No.	4.107-054.0	4.107-055.0	4.107-052.0
List Price	\$1,297.18	\$2,671.97	\$3,871.92

## Limescale and heavy dirt: safely dissolved.

Hard water can lead to lime residue, resulting in a significant reduction in the solar and photovoltaic system's performance. The RM 99 Solar Cleaner offers reliable protection against lime stains. When water alone is not enough (e.g., when tackling heavy or greasy dirt), the RM 99 Solar Cleaner removes the dirt and binds the dissolved limescale so no lime stains are left behind.



RM 99 Solar Cleaner: On heavy soiling and for hard water

### 1 RM 99 Solar Cleaner: gentle and effective

RM 99 was specially formulated for cleaning solar and photovoltaic systems, and it's perfectly adapted to their unique surfaces.

RM 99 is highly efficient, gentle on materials, biodegradable and removes even stubborn and greasy stains. It prevents the formation of limescale and maximizes the effectiveness of the system at minimum cost.

## Technical Data and Equipment

### RM 99 Solar Cleaner

- Removes even the most stubborn dirt gently and effectively
- Prevents limescale at all water hardness levels
- Biodegradable

#### Technical Data

Dosage total	800:1
Consumption	.02-.03 oz./ft <sup>2</sup>   5-10ml/m <sup>2</sup> (dep. on device and acc.)
Application temperature	max. 104 °F
Label	Hazmat product and cannot be shipped via UPS
pH value	8 at 1% (mild)
Order No.	8.698-094.0 (5 gallon/18.9 L)
List Price	\$110.00



**makes a difference**

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