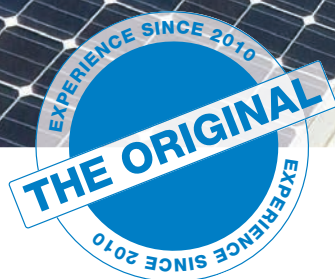




# SOLA-TECS F



MADE  
IN  
GERMANY

Cleantecs®

**SOLA-TECS FOR  
SOLAR PARKS.**



# SOLA-TECS F - AN INVESTMENT THAT PAYS OFF.

It is no longer a secret that solar and photovoltaic systems need regular cleaning. Almost every facility needs to be cleaned regularly. For some installations, the loss of revenue can be up to 25%. Particularly in the case of agricultural and industrial areas, and roads which carry a lot of traffic, heavy pollution is to be expected. This means that the plant produces 25% less electricity and thus generates 25% less in feed-in tariffs. Only a clean system brings you full returns.



## COST-BENEFIT CALCULATION FOR A 1,500 KWP SYSTEM.

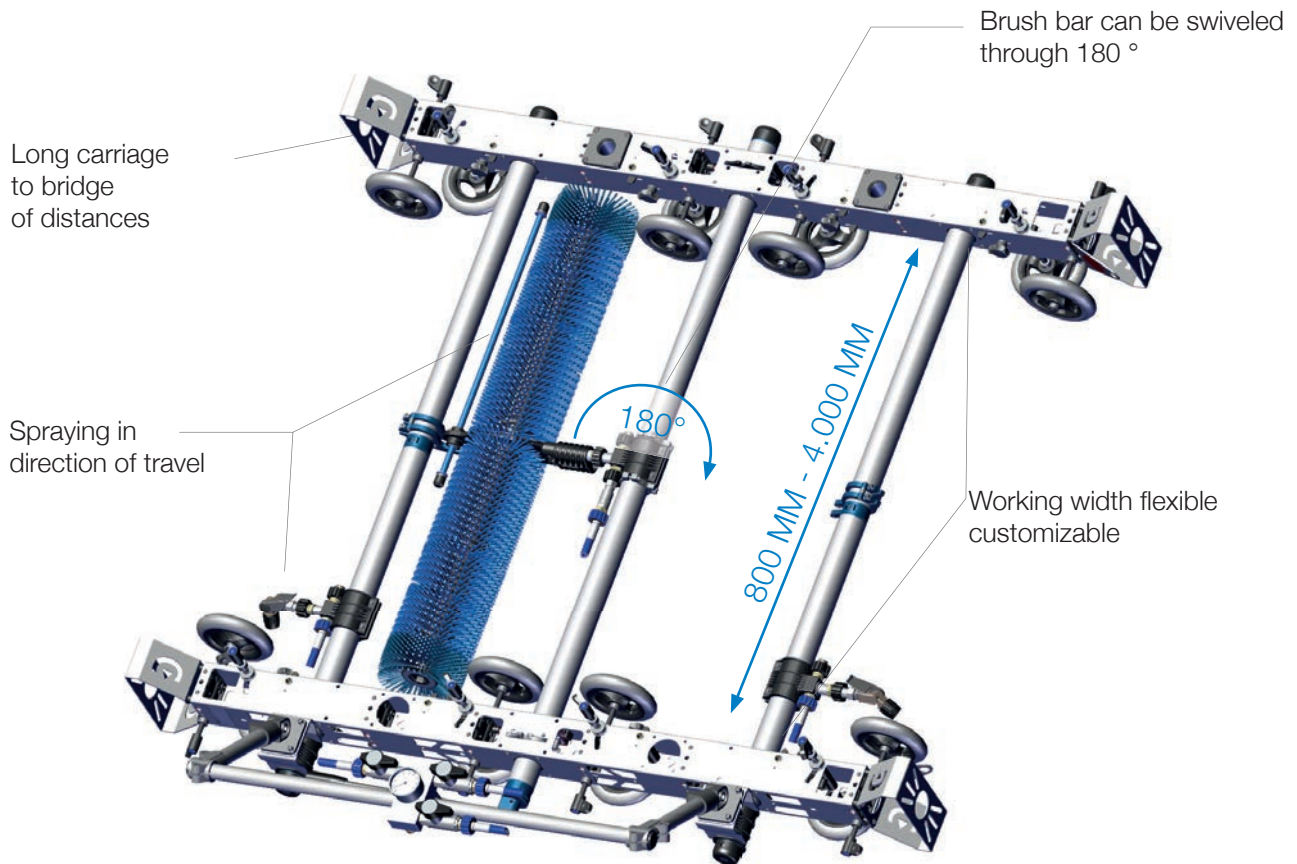
The basis for our example calculation is a plant with 1.5 million kWh and a payment rate of 0.08 cents / kWh (approx. €120,000 annually).





# INTRODUCING A NEW SYSTEM.

Cleantecs GmbH has extended its SOLA-TECS system with an additional water-powered product. The SOLA-TECS F system was developed for cleaning PV modules on mounted systems. With this system, it is possible to clean from 800 mm to the entire height of a mounted system.



## HIGH CLEANING RATE

Cleaning the entire height of the panels results in a high cleaning rate, which can not be achieved with a manual brush or with a cleaning robot.

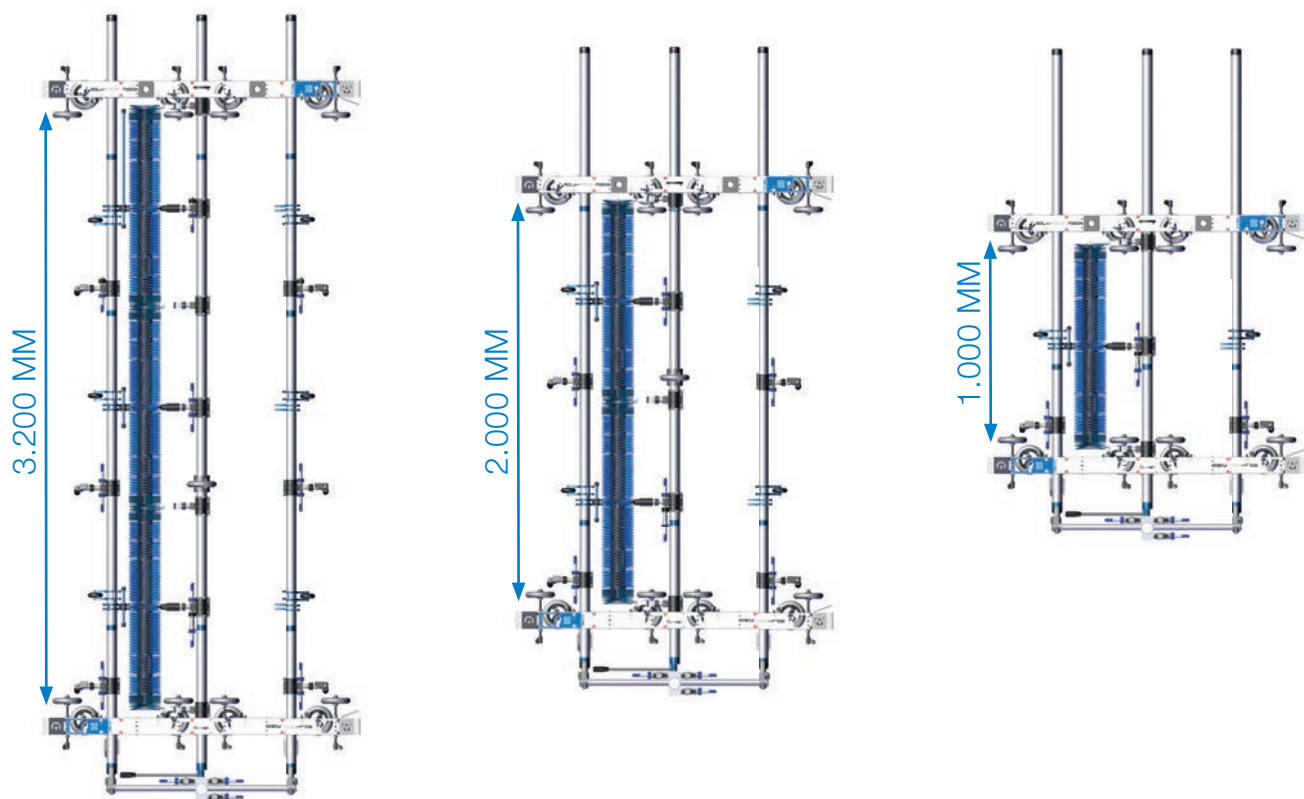
## CLEAN RIGHT UP TO THE EDGE

The brush bar can be turned through 180°, so cleaning up to the edge can be achieved without additional cleaning work.



## FLEXIBILITY

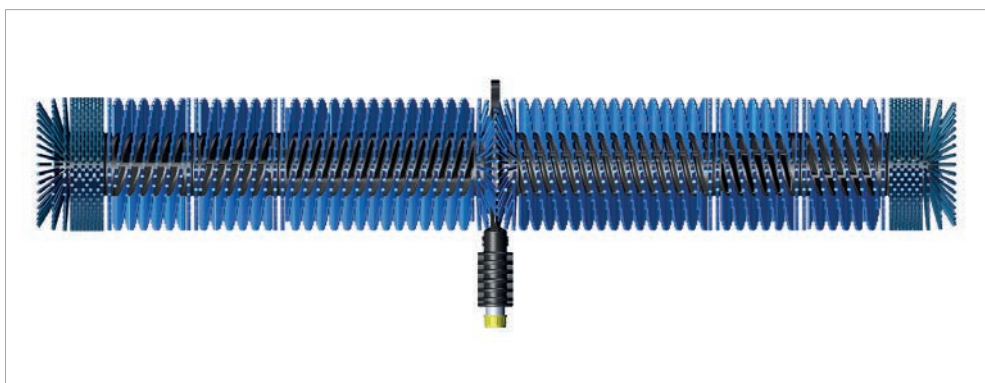
We designed the system as a modular construction kit. This means that you can adjust the length of the system on site from 800 to 4000 mm, as needed. Here, for example, is our F3200.



The carriages of the SOLA-TECS F are designed so that gaps of 400 mm between the PV panels are bridged. This way, you can clean long stretches uninterrupted.



If necessary, the drive unit with the cleaning roller can also be used as a single cleaning device. In combination with a lance, it is almost as versatile as our SOLA-TECS C.

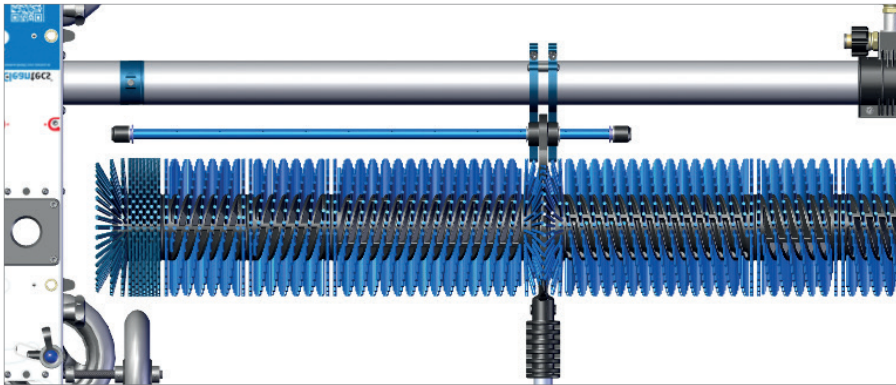




## EVEN, GENTLE CLEANING

To ensure uniform cleaning of the PV panels, the brush bar consists of individual drive units. Each drive unit has its own brush roller, which is flexibly connected to the neighbouring brush roller. Thus, the brush bar can be pressed onto the entire working area with constant pressure, ensuring uniform cleaning.

Thanks to our hydraulic water-driven system, which simultaneously wets the cleaning surface and enables the self-cleaning of the bristles, gentle cleaning is guaranteed. The gentle cleaning is supported by a spray, which consists of two components: firstly, reused water, which is sprayed from the hydraulic drive system across the entire width; secondly, a flat jet nozzle that reliably removes stubborn dirt from the edges of the panel's frame.



## EASY TO MAINTAIN

Our SOLA-TECS F has no electrical system and is made entirely of mechanical components, making it rugged and uncomplicated. This means that it is possible to carry out repairs on site.

## PATH WIDTHS ARE NO OBSTACLE

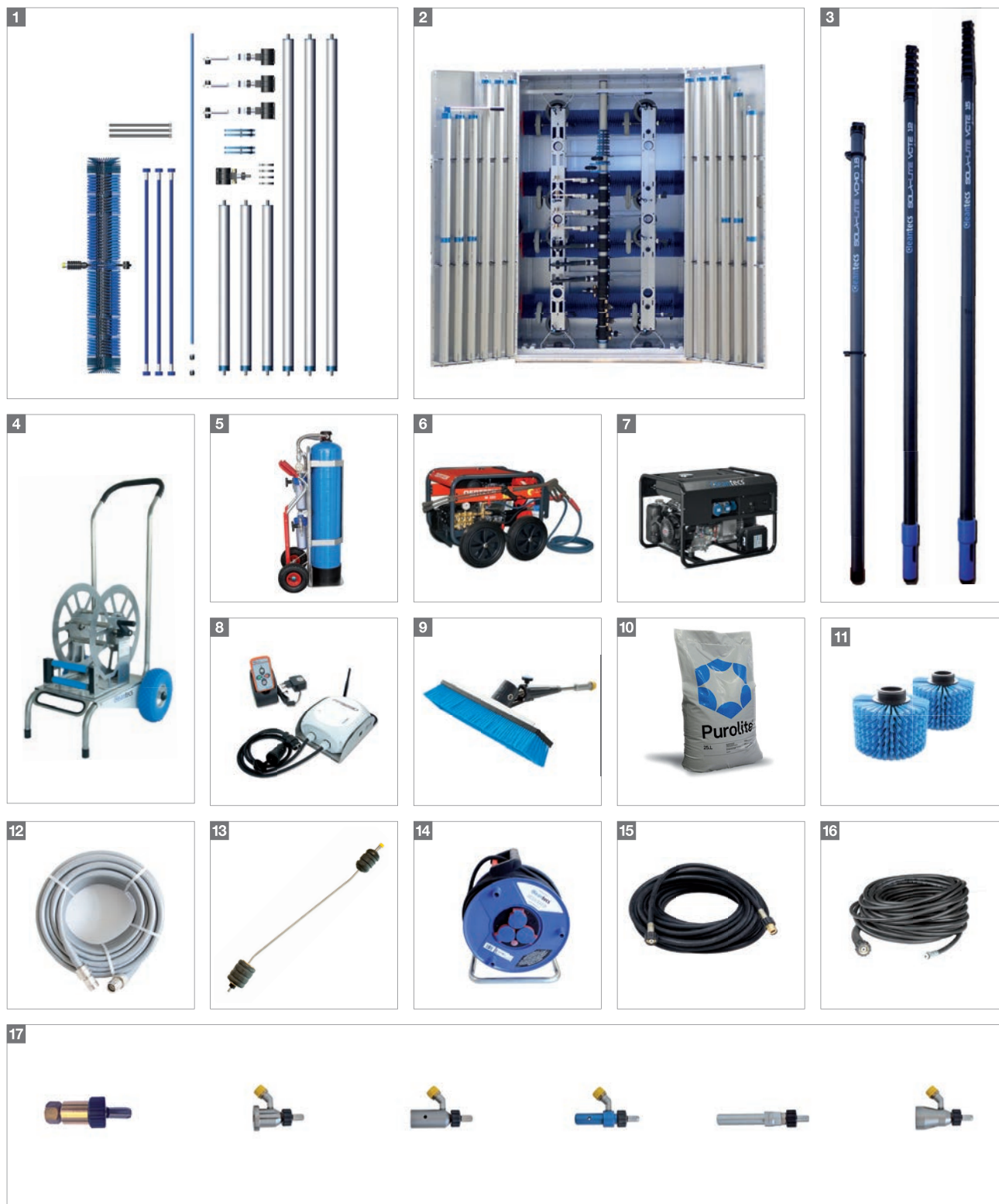
Now you can clean without having to worry about the width of the path. Our SOLA-TECS F system is hand-operated, so you can work at any width. The system can be adjusted on site in a range of 800 to 4,000 mm. This combination provides you with high flexibility and efficiency.



**THE SYSTEM.**

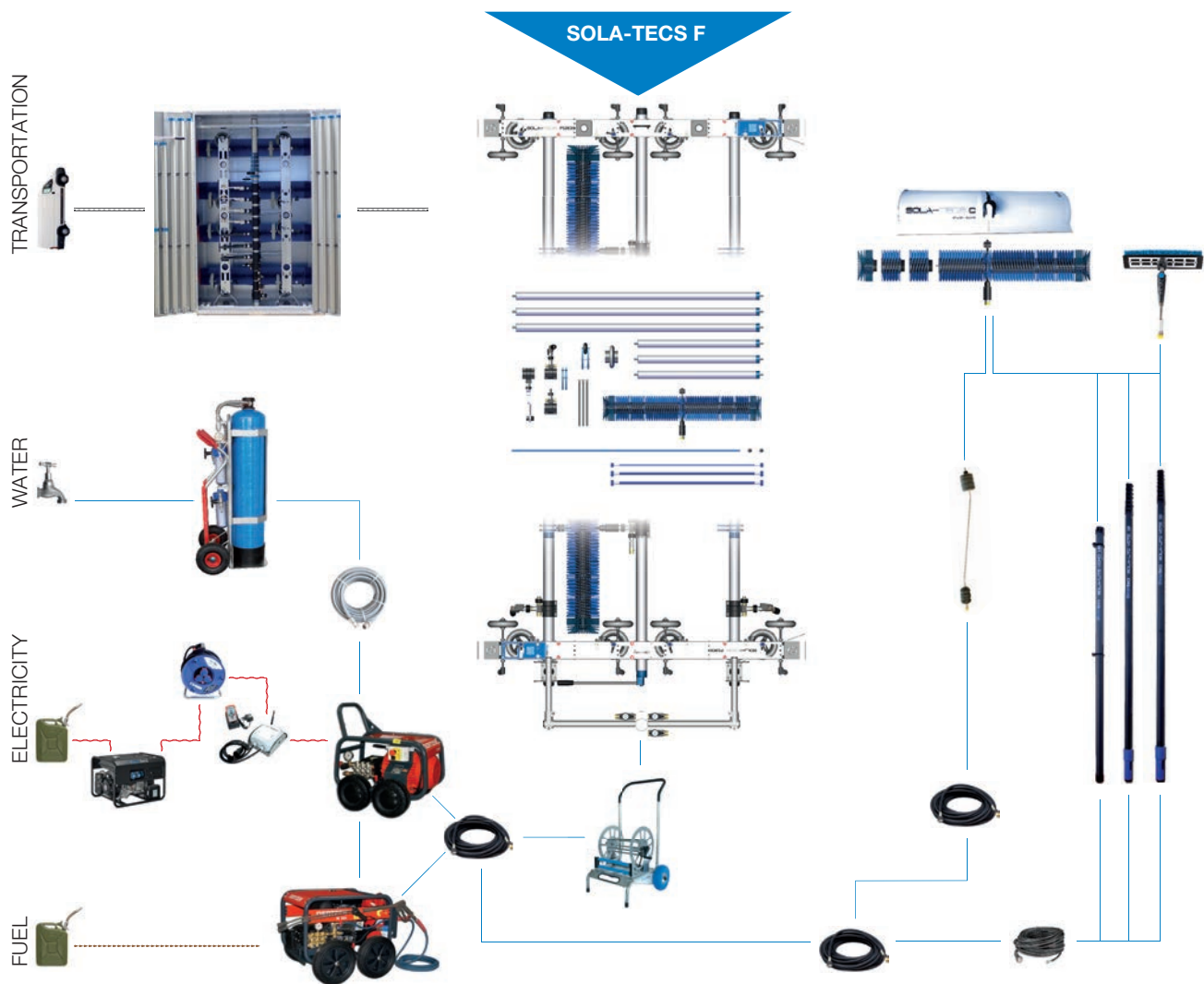
# SOLA-TECS ACCESSORIES OFFER YOU THE COMPLETE SOLUTION.

Just the one contact - we offer you all the products you need, from the water connection to the cleaning brush. All high-pressure connections are equipped with a standard connection (M22 x 1.5). SOLA-TECS accessories can be adapted to your needs and requirements as needed.





# SOLA-TECS ACCESSORIES IN THE RIGHT PLACE.

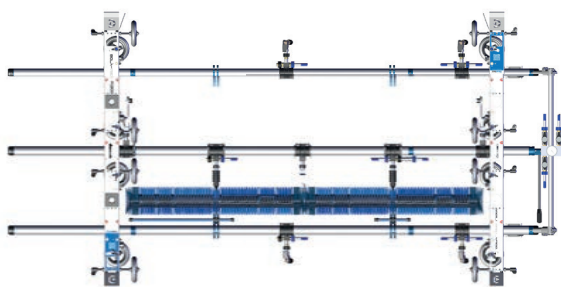


- 1 SOLA-TECS F extension
- 2 Transport cabinet
- 3 Modular rod or telescopic lance
- 4 Hose reel
- 5 DI resin filter system
- 6 High-pressure cleaner
- 7 Power generators
- 8 Radio remote control
- 9 SOLA brush
- 10 Mixed-bed resin
- 11 Brush expansion set

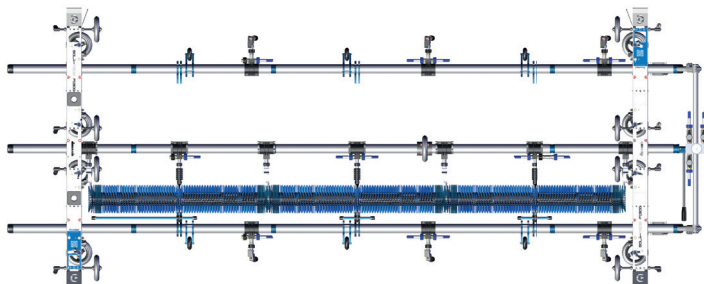
- 12 Low-pressure hose
- 13 Pendant tube
- 14 Cable drum 230 V / 400 V
- 15 High-pressure hose from 25 m to 50 m
- 16 High pressure hose for lances
- 17 Adapters (UNGER, STRATO, QLEEN, KÄRCHER)

# THE CONFIGURATIONS.

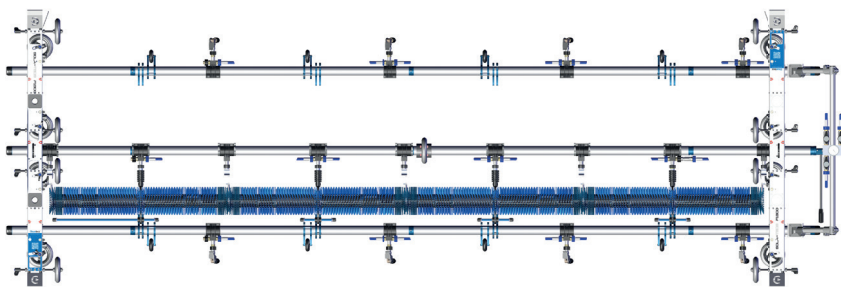
**F2000 – from 800 mm to 2000 mm.**



**F3200 – from 800 mm to 3200 mm.**



**F4000 – from 800 mm to 4000 mm.**



<b>SOLA-TECS</b>	<b>F2000</b>	<b>F3200</b>	<b>F4000</b>
Cleaning width	800 mm – 2.000 mm	800 mm – 3.200 mm	800 mm – 4.000 mm
Area capacity	312 m <sup>2</sup> /h	501 m <sup>2</sup> /h	625 m <sup>2</sup> /h
Operating pressure	100 – 120 bar	100 – 120 bar	100 – 120 bar
Weight	43 kg	49 kg	59 kg
Max. temperature	40 °C	40 °C	40 °C
Water consumption	10 l/min	15 l/min	20 l/min
Diameter	160 mm	160 mm	160 mm
Min. distance to panel base	150 mm	150 mm	150 mm
Max. bridging	400 mm	400 mm	400 mm
<b>Item No.</b>	<b>0201125</b>	<b>0201132</b>	<b>0201133</b>



# SOLA-TECS F - EXPANSION SETS UP TO 4000 MM.

For flexibility during use, the SOLA-TECS F has been developed as a modular kit. To adapt the system to your needs, we offer expansion kits for the F2000 and F3200.



## SAFE TRANSPORT.

For the safe transport of your SOLA-TECS F we have developed an aluminum cabinet designed for transporting a complete F4000 system.



## ROBUST HOSE REEL.

For use in the field we offer a robust hose reel. This can be statically mounted or flexibly positioned using a trolley. The hose reel is available in two sizes.



## POWERFUL HIGH-PRESSURE CLEANER.

Quality without compromise. For rugged deployment in the field, we offer extra-robust high-pressure cleaners. Both units have a 3-cylinder inline piston pump with a working pressure of 230 bar and a flow rate of 22 l/min.



## GENERATOR FOR HIGH PRESSURE CLEANERS.

In order to provide a trouble-free energy supply for electrical high-pressure cleaners, we have special power generators which have been designed and tested for this purpose.





# RESIDUE-FREE CLEANING WITH ULTRAPURE WATER.

With a SOLA-TECS C, deionised ultra-pure water is the perfect complement for gently cleaning your photovoltaic system. The resin filter instantly produces 100% pure water. Optimal for the residue-free cleaning of PV systems. A practical trolley with large rubber wheels and two fine filters to pre- and postfilter water are included in delivery. They ensure residue-free and clean modules.



## CONTROL AND REGENERATION

There are many names for artificially created “pure water”. Pure water is also known as demineralised water, or deionised water. Both terms describe the state of “pure water”, or more precisely: water with the lowest concentration of dissolved substances (ions), which might adversely affect its quality.

For a more accurate determination of the water quality, Cleantecs DI resin filters are equipped with a DM-1: DUAL INLINE TDS monitor. This monitor is able to precisely measure the conductivity of water at the water inlet and outlet points. To conserve battery power, the unit automatically turns off after 10 minutes of non-use. Conductance is displayed in the range of 0–999 ppm.

The demineralisation cartridge can be removed from the transport trolley and sent in for regeneration; or the mixed-bed resin is replaced with new or regenerated resin upon depletion.

# SOLA-TECS - EXPERIENCE SINCE 2010.

Only available here: We are one of the first companies to have developed and produced cleaning systems for photovoltaic cleaning, and have been doing so since 2010. Over the years, we have developed a flexible system to help you with day-to-day challenges. We were the first to have a hydraulic high-pressure water-driven brush and to also use the drive water to wet and wash the solar panels. The drive and brush system on which our cleaning equipment is based is developed and patented by us.



Cleantecs GmbH has been developing and producing accessories for high-pressure cleaning technology for more than 30 years. One of our focal points is the area of rotary nozzles - with over 30 years of experience in development and production. Our rotary nozzles are in use around the world, whether in the home or in the industrial sector. Ten years ago, the brush technology sector was added, with products for cleaning solar panels and sunblinds.

We look forward to working together in partnership; a partnership which strengthens both sides. Because, for us, quality goes without saying. In terms of service we always do our best. Innovation is in our soul. Because, for us, there is nothing more satisfying than a smiling customer.





# SOLA-TECS WORLDWIDE.



Mit Genehmigung von: Solar PLUS Cleaning – GERMANY | LUCICA Srl – ITALY | ProSolarClean LLC – USA |  
Remighty New Energy Technology Co., Ltd. – CHINA | Solar-Clean-Schroeder – GERMANY | Photovoltaik-  
REINIGUNG Wenzel Präger – GERMANY

