

Renewable energies
meeting

Derek Lu

MADE FOR REAL[®]

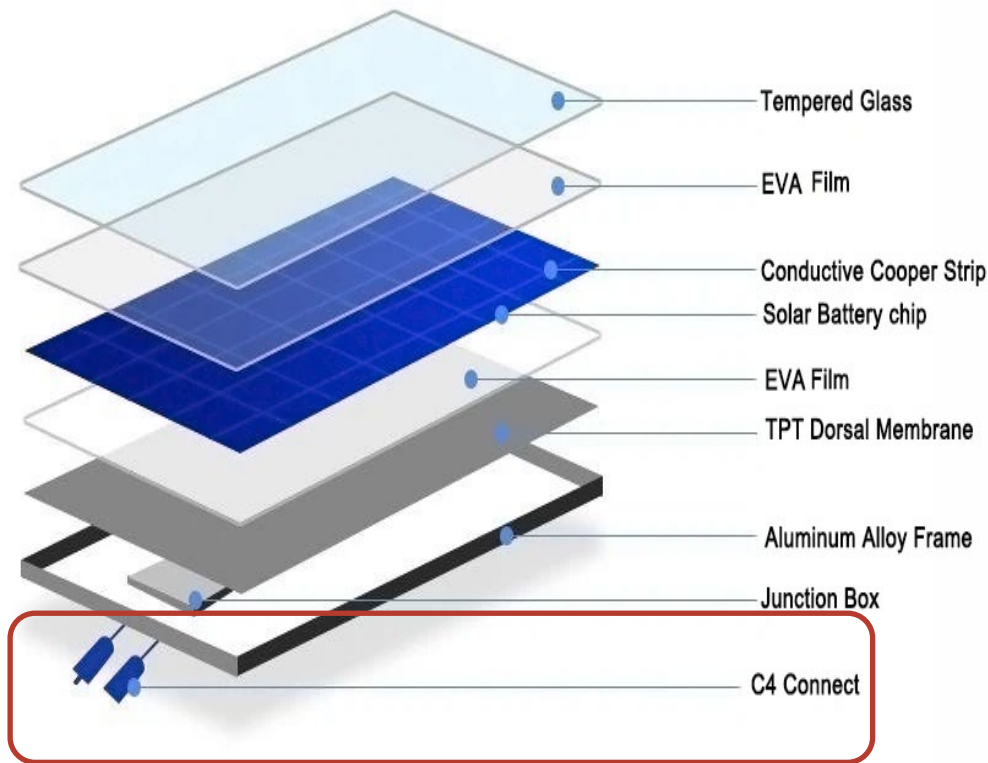
2024



China

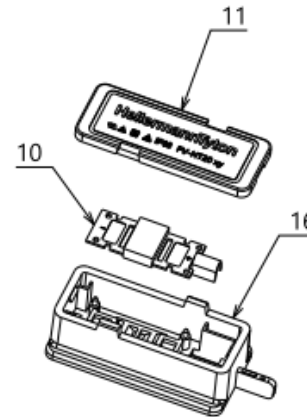
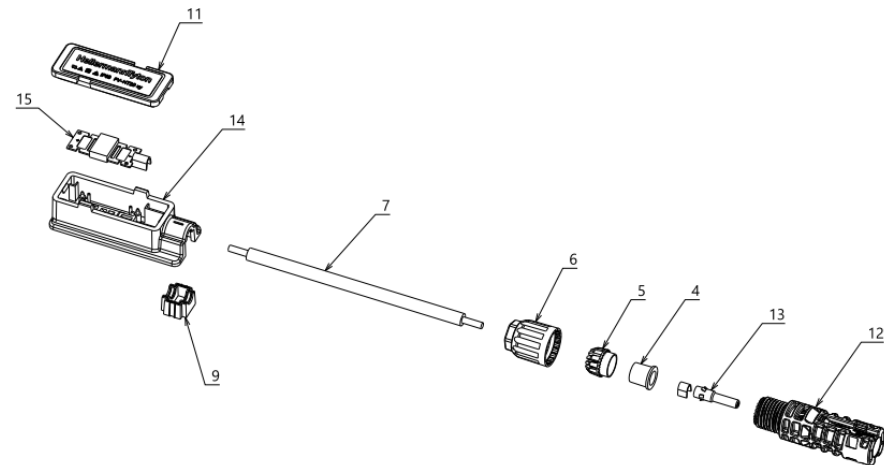
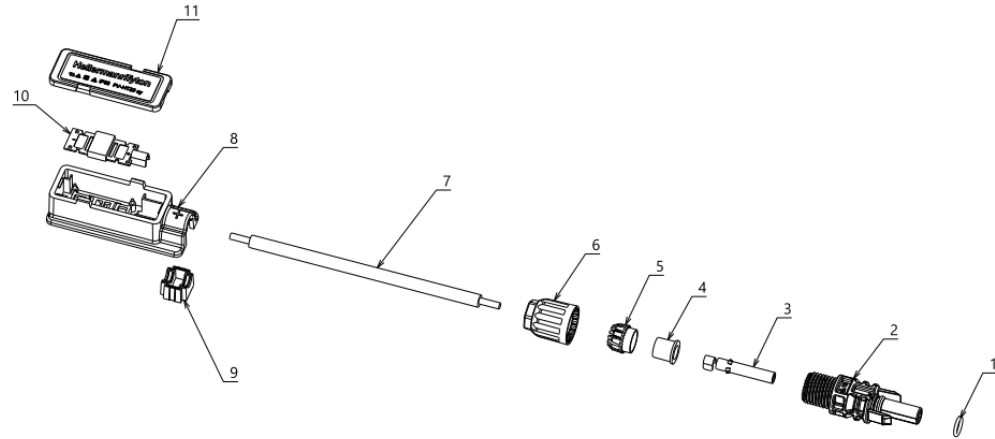
Photovoltaic

◆ PV-Junction box application principle



- PV junction box is a connecting device between the solar cell array composed of solar cell modules and the solar charging control device.
- Its main function is to connect and protect the solar photovoltaic modules, connect the power generated by the solar cells with the external lines, and conduct the current generated by the photovoltaic modules.
- Products include three parts, lower plate of pressing line, upper cover of sealing and diode.

◆ PV-Junction box component introduction

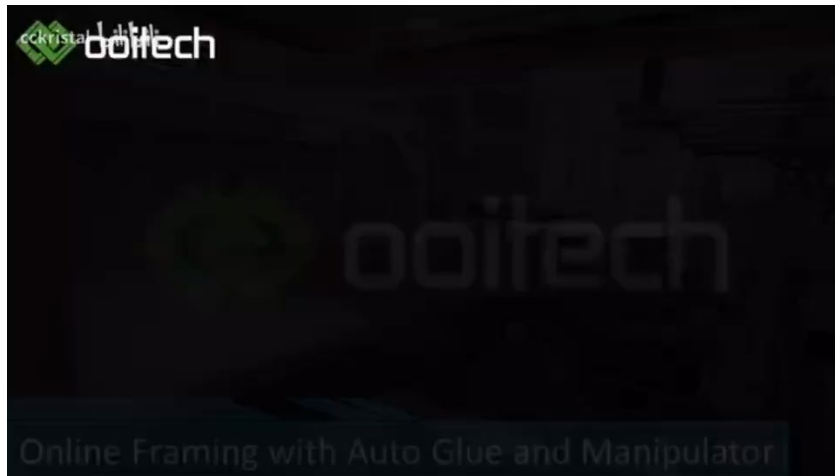


No.	Product Type	Name	Material	Color	Qty	Remark
1	PVP-HT20_SR	Sealing Ring 密封圈	Silica Gel	RD	1	
2	PVP-HT20_PP	Positive Plug 正极连接器	PA66	BK	1	
3	PVP-HT20_MS	Metal Socket 金属插套	-	-	1	
4	PVP-HT20_SP	Sealing Plug 密封堵头	Silica Gel	RD	2	
5	PVP-HT20_CR	Clamping Ring 夹紧卡爪	PA66	BK	2	
6	PVP-HT20_CC	Connector Cap 紧固螺帽	PA66	BK	2	
7	PV-HT20_CB	Cable 线缆	-	BK	2	
8	PV-HT20xy_PB	Positive Bottom 正极接线盒	PPE	BK	1	
9	PV-HT20xy_PSB	Pressing Block 压线块	PPE	BK	2	
10	Diode A	HellermannTyton GFT4050SM	-	-	2	25A
		HellermannTyton GFT5050CT	-	-		30A
11	PV-HT20xy_JC	Junction Cover 接线盒盖	PPE	BK	3	
12	PVP-HT20_NP	Negative Plug 负极连接器	PA66	BK	1	
13	PVP-HT20_MP	Metal Pin 金属插针	-	-	1	
14	PV-HT20xy_NB	Negative Bottom 负极接线盒	PPE	BK	1	
15	Diode B	HellermannTyton GFT4050SM	-	-	1	25A
		HellermannTyton GFT5050CT	-	-		30A
16	PV-HT20xy_MB	Middle Bottom 中间接线盒	PPE	BK	1	

China

Photovoltaic

◆ How to use PV-Junction box



A: Photovoltaic module

- **Grey part**

B: The battery in the component, and the copper cable in the battery

- **Smaller white parts**

C: Junction box and modular Schottky diode

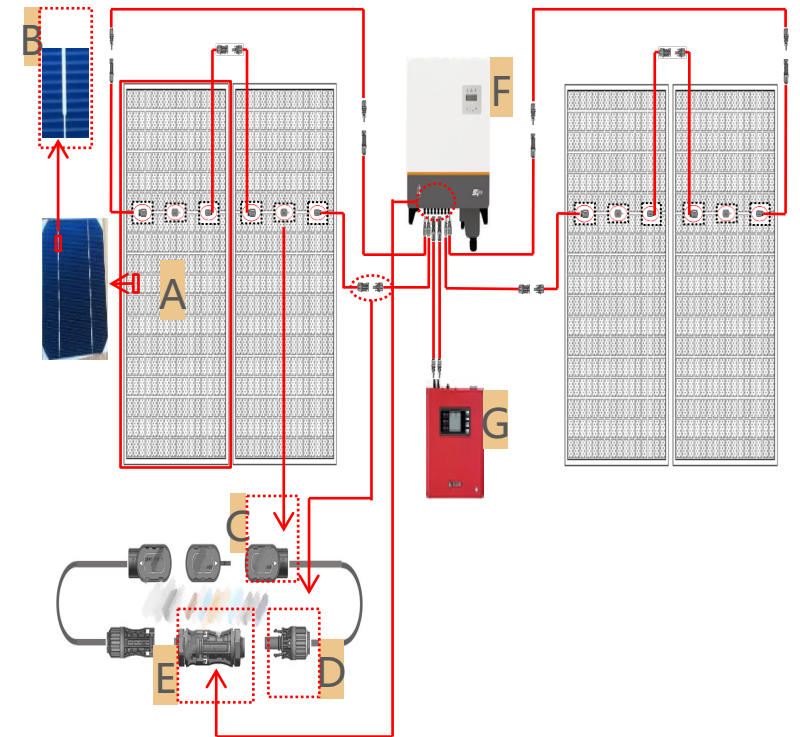
D: Terminal junction box

E: board terminal box

F: Bus box

- **The role of combining the electricity generated by many photovoltaic modules**

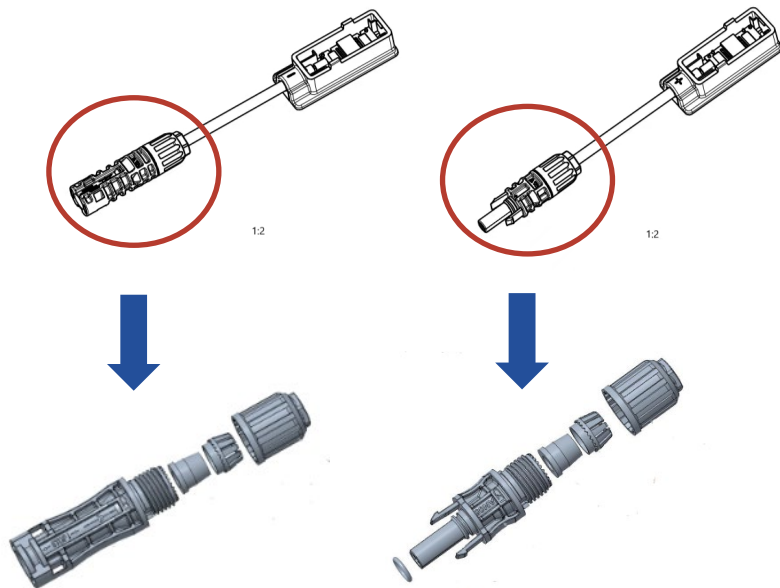
G: inverter



China

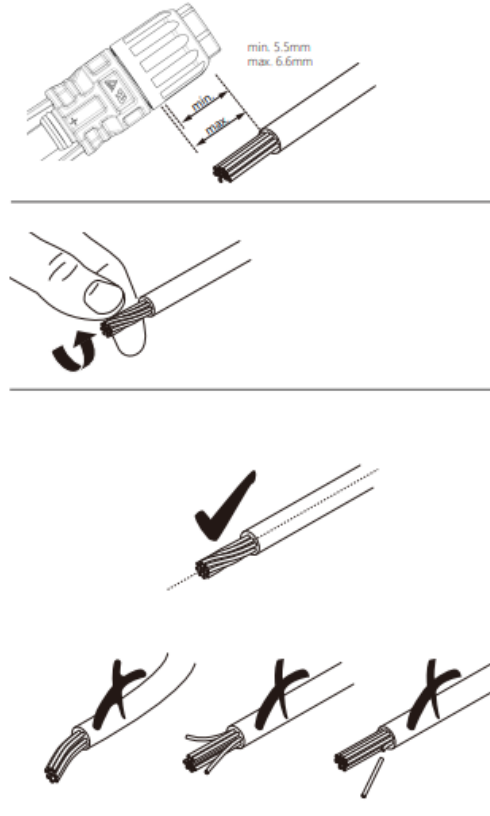
Photovoltaic

◆ PV-connector

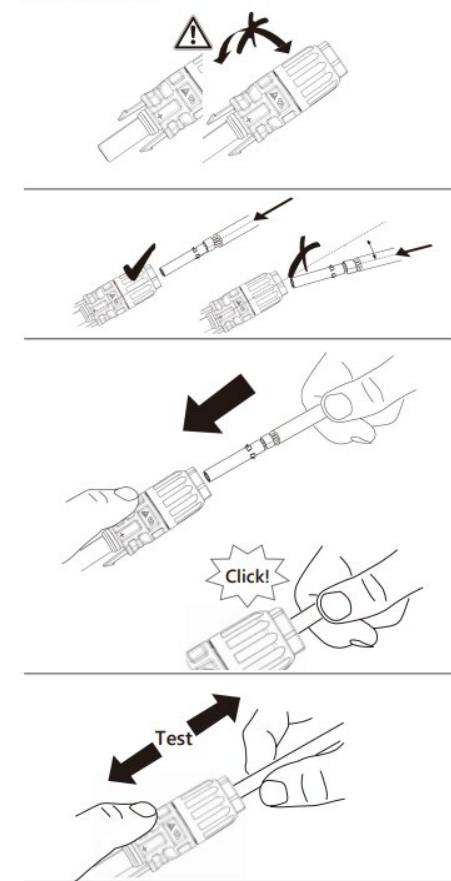


PV-HT20 Connectors can be sold separately.

Preparing the cable



Inserting the cable

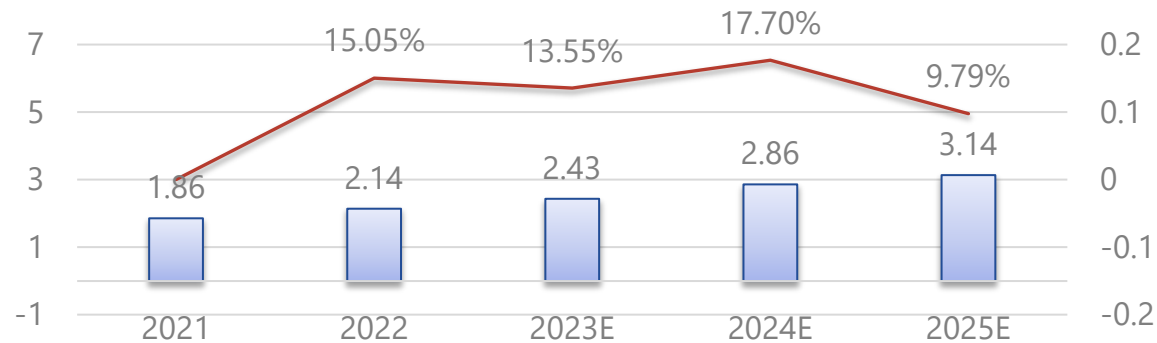


Operating instructions for connectors

Photovoltaic

◆ PV-Junction box market situation

Forecast of domestic junction box market demand
(100 million sets)



◆ Why we want to develop this business

- The market demand for junction boxes has maintained a growth of over 10%
- Important auxiliary materials Relatively
- Low equipment investment
- Common to Laboratory equipment
- Main end customers are located near HTC
- Large market capacity and rapid market growth

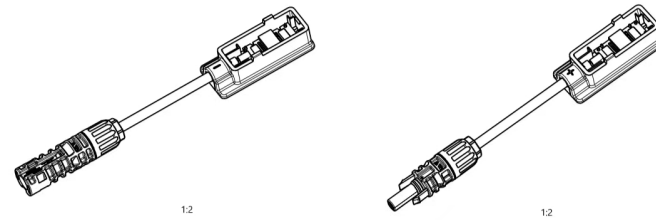
China

Photovoltaic

◆ Existing products

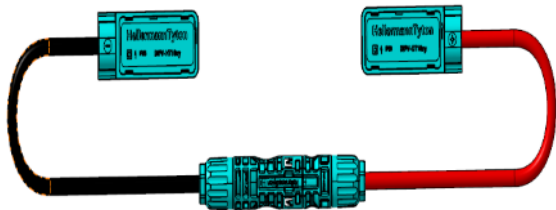


Purchased parts(Continuous 1-2years)
PV-HT10 TUV Certification
Used to develop new customers

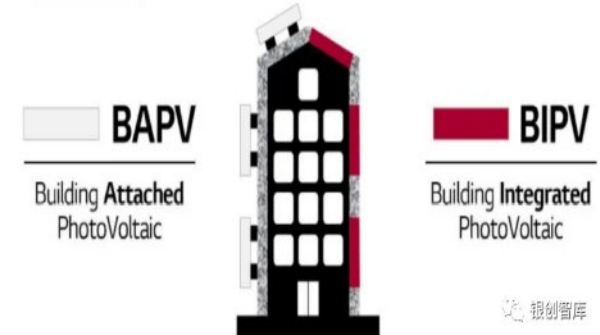


Self-produced parts
PV-HT20 TUV,UL Certification
Equipment testing

◆ 2024 New Product development -- BIPV Junction Box



Self-produced parts
Y24 plan Self-produced parts
PV-HT30
BIPV&Low-cost scheme



China

Photovoltaic

◆ 2023 completed -- TUV Certification



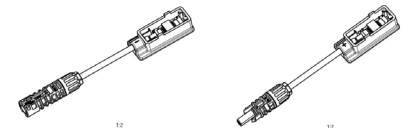
Test program requested:

- IEC 62790:2020 (Junction box for PV modules)
- IEC 62852:2014/AMD1:2020 (Connector for PV systems)
- IEC 62852:2014 (Connector for PV systems)

◆ 2024 -- TUV&UL Certification

PV-HT20

- PV-HT20 TUV Rheinland certification – have completed
- PV-HT20 UL certification – will complete in Q2
- Looking for partners within the HT group, and some customers are supplied by overseas factories.



China

Photovoltaic

◆ PV-Junction box project existing customers



New Customers	Area	Y23.Oct-Dec A YTD	Y24 Potential demand(kset)
Tianyi(Xinyu)添翼新能源(新余)	CN	85,882	200
Reesun(yancheng)瑞晶(盐城)	CN	109,179	800
KinseSolar(Maanshan)晶盛(马鞍山)	CN	110,365	200
Ziguang(Chuzhou)紫光(滁州)	CN	184,071	120
Reesun(lishui)瑞晶(丽水)	CN	725,734	1,600
TopSolar(Xuancheng)宏润泰阳(宣城)	CN	770,528	800
		CNY ¥ 1,985,759	Total 3,720
		USD \$ 276,020	

China

Photovoltaic

◆ PV-Junction box project potential customers



Customers	Area	Y24 potential demand(kset)
Lessosolar Indonesia Hope HT SG deliver and provide COO	CN/ID	1,600
Yingli Group	CN	1,200
AE Solar Hope HT EMEA deliver and provide COO	CN/EMEA	600
CC-SOLA	CN	600
Helios-power	CN	500
GREEN WING SOLAR	CN	500
Ronma Soalr	CN	800
Jiangsu Green Power Technology	CN	500
Ningbo OSDA Solar	CN	500
Total		6,800

China

Photovoltaic

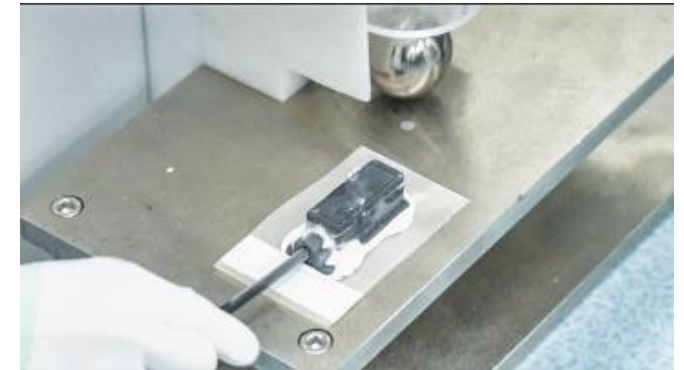
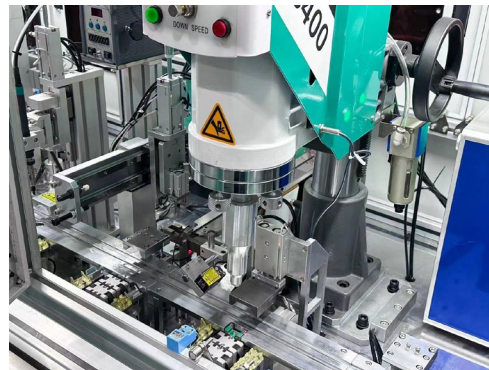
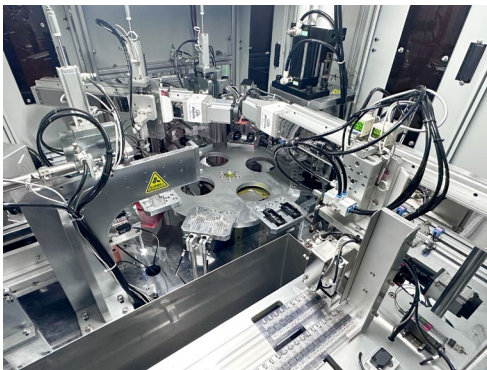
◆ PV-Junction box production line

HellermannTyton

Production Line



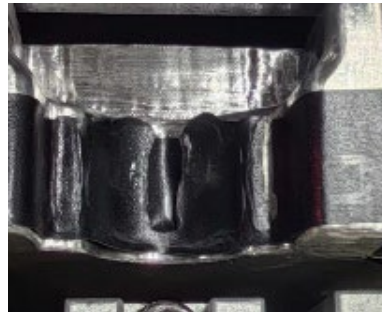
- PV-HT20
- Target Capacity: 8000set/day(8H)
- Actual Capacity: 3000-5000set/day



China

Photovoltaic

◆ PV-Junction box production line-problems we meet

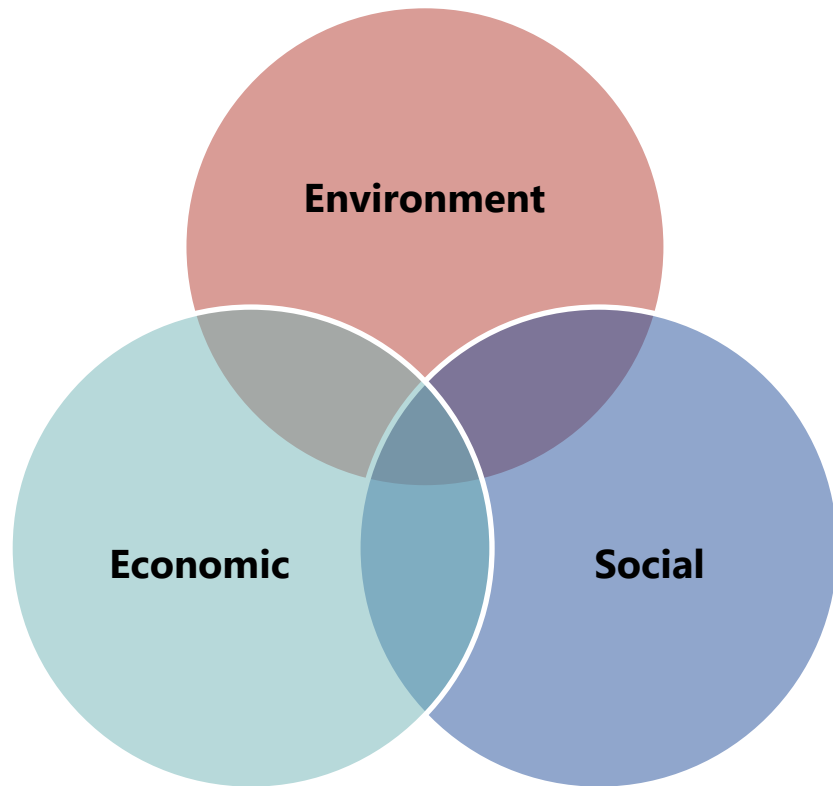


- When the vibrating disc releases materials, it will get stuck and needs to be adjusted.
- When assembling finished products, the base fixture may cause scratches on the surface of the shell.
- After the feeding machine feeds, the product tilts, causing a shortage alarm.
- We are new to this type of product and require continuous testing in production

China

Sustainability

◆ What Does Sustainability Mean?



- ❖ The definition of sustainability is to ***“meet our own needs without compromising the ability of future generations to meet their own needs”*** - Brundtland Commission (1983)
- ❖ A sustainable organisation is one that is able to balance its financial performance and growth while managing the long-term impact on the environment and society.
- ❖ **HellermannTyton is committed to reducing the emissions** generated by our business operations, actively **supporting our customers ambitions** and the communities in which we operate.

Sustainability

◆ HTC Sustainability Framework

Making Positive Differences

Sustainability is an integral part of our mission, we have committed to making a positive impact.



PEOPLE



**Foster equal opportunities
and wellbeing**

PLANET



**Minimise our
environmental impact**

PRODUCT



**Driving the innovation
of sustainable solutions**

GOVERNANCE



**Maintain high ethical
business standards**

China

Sustainability

◆ Product

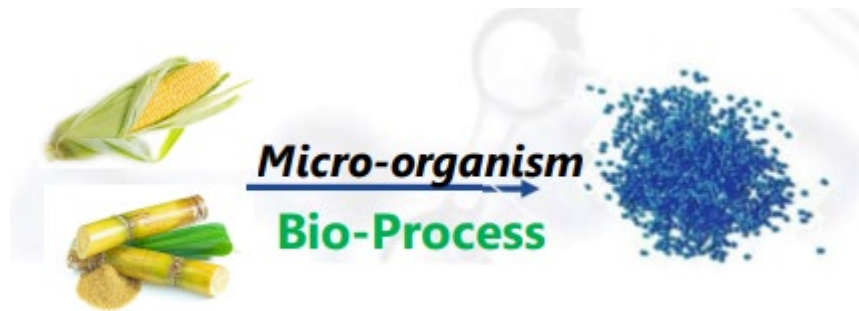
Provide more sustainable solutions!

❖ PA56/Bio-base material

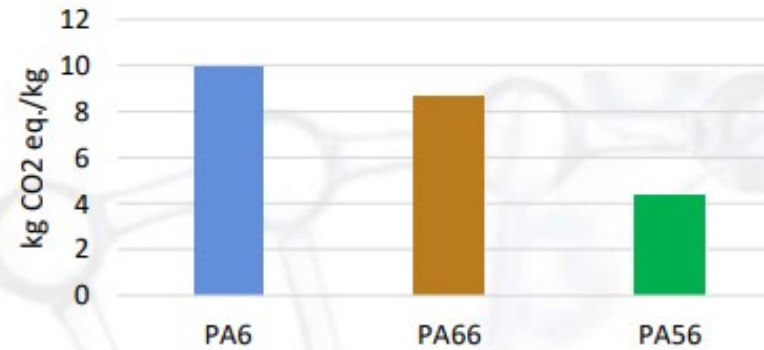
PA56 HIRHS for Clips

OEM: Xiaopeng (China NEV)

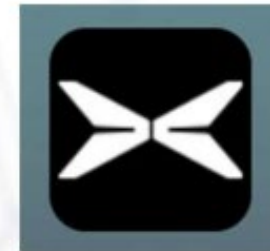
Current Status: Mass Production



Global Warming Potential



Biobased Content: 45%



Sustainability

◆ Activities-China International Petroleum & Petrochemical Technology and Equipment Exhibition(CIPPE)

- We participated in this exhibition from March 25th to 27th. We pasted cards in the blank space of the booth display board as booth decorations.
- The cards are made of renewable and environmentally friendly paper and contain seeds.
- Cards are distributed as small gifts for exhibitions, conveying environmental protection concepts.



China

Sustainability

◆ Activities-The World Earth Day

- In response to World Earth Day, we will hold a spring plant "adoption" event in mid April, aiming to promote the concept of low-carbon environmental protection, encourage everyone to participate in environmental practice activities, participate in plant planting and maintenance, cultivate awareness of caring for plants, and work together to add greenery to the earth.
- We are preparing various small plants for everyone to adopt. You can receive one plant and an adoption agreement card by posting likes on your social media. After a period of time, we will collect photos of your plants and your maintenance experience.



MADE FOR REAL[®] 