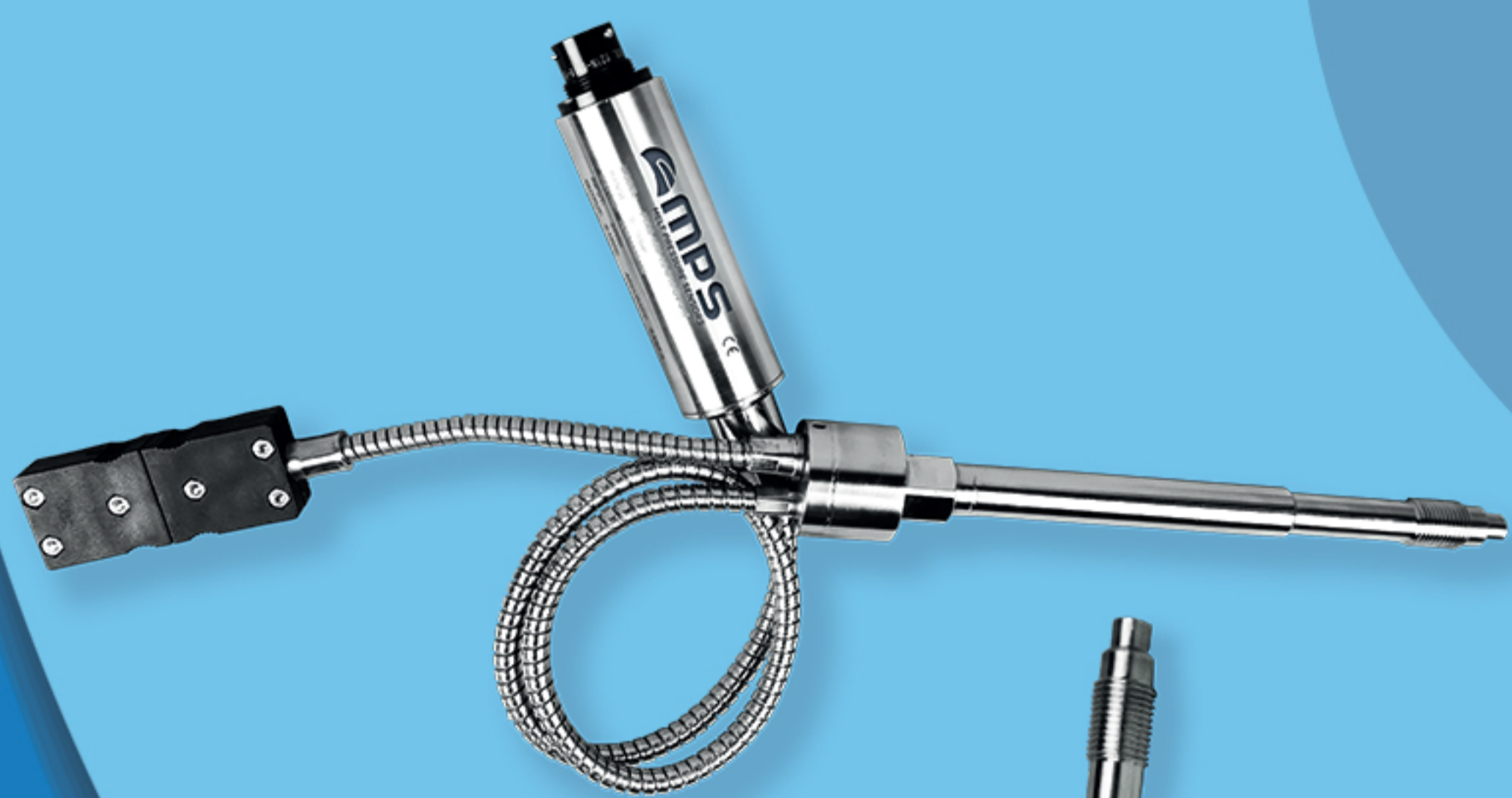




# **mps**

**MELT PRESSURE SENSORS**

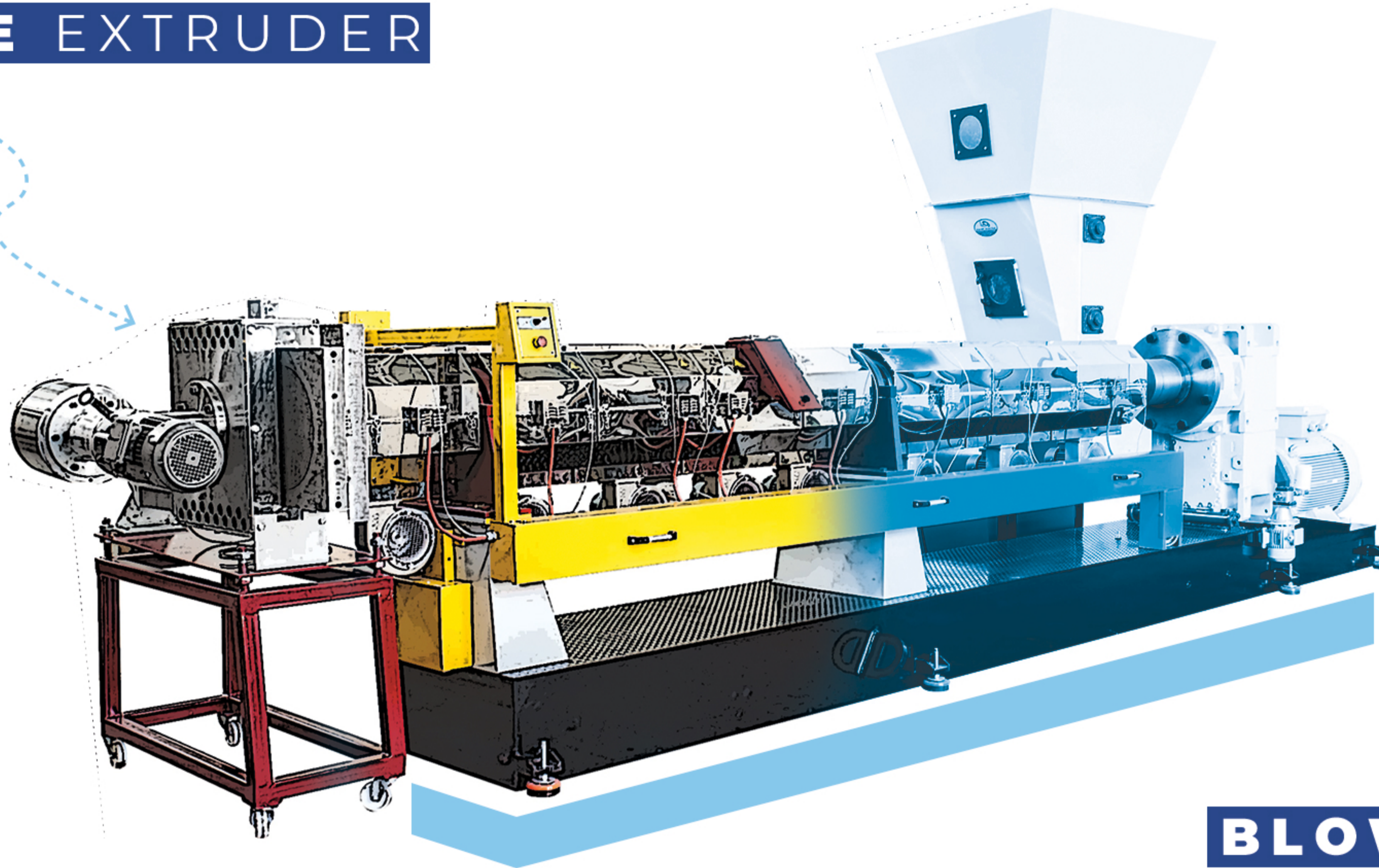


**PRESSURE AND TEMPERATURE MEASUREMENT**

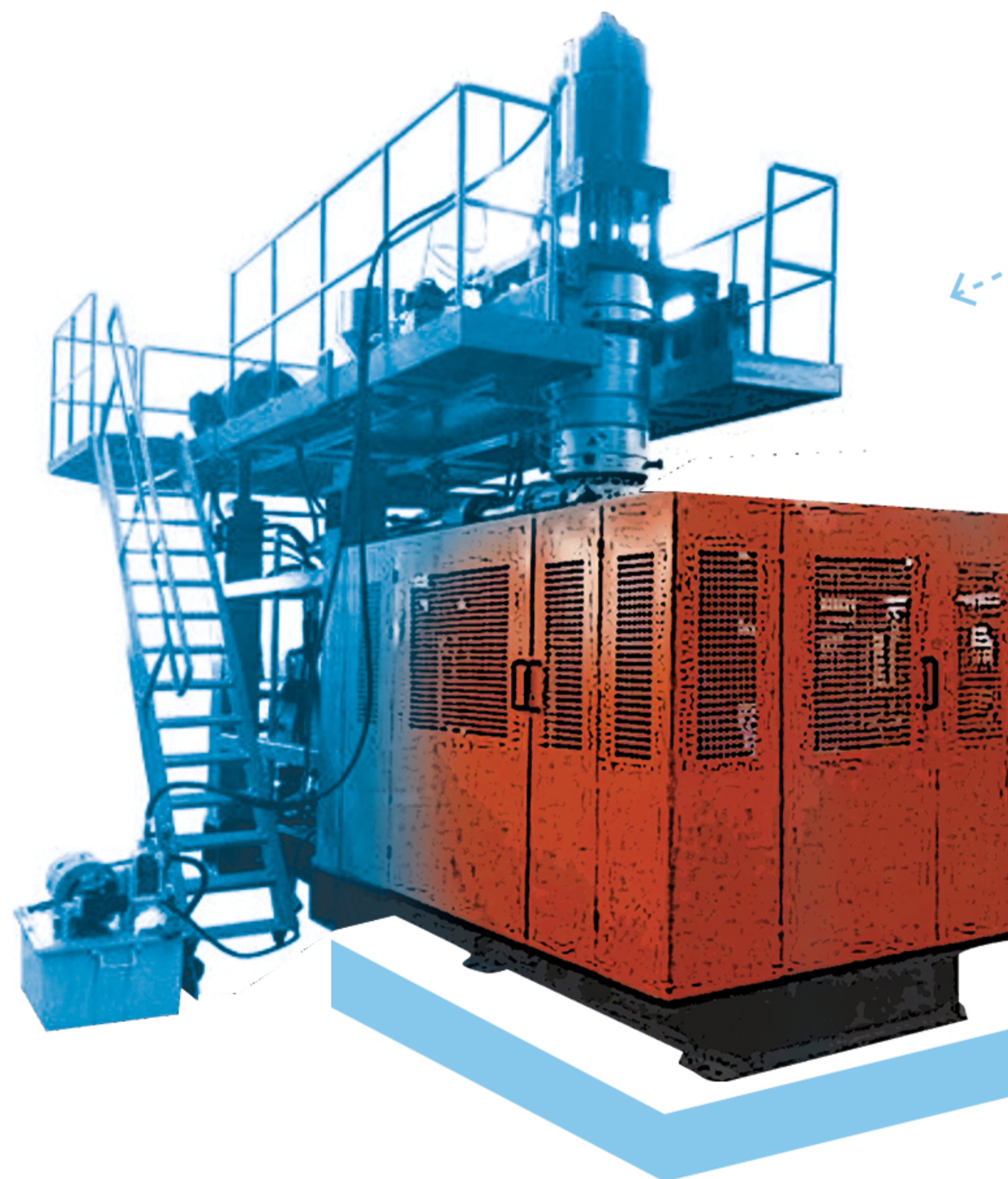
**FOR EXTRUSION PROCESSING**

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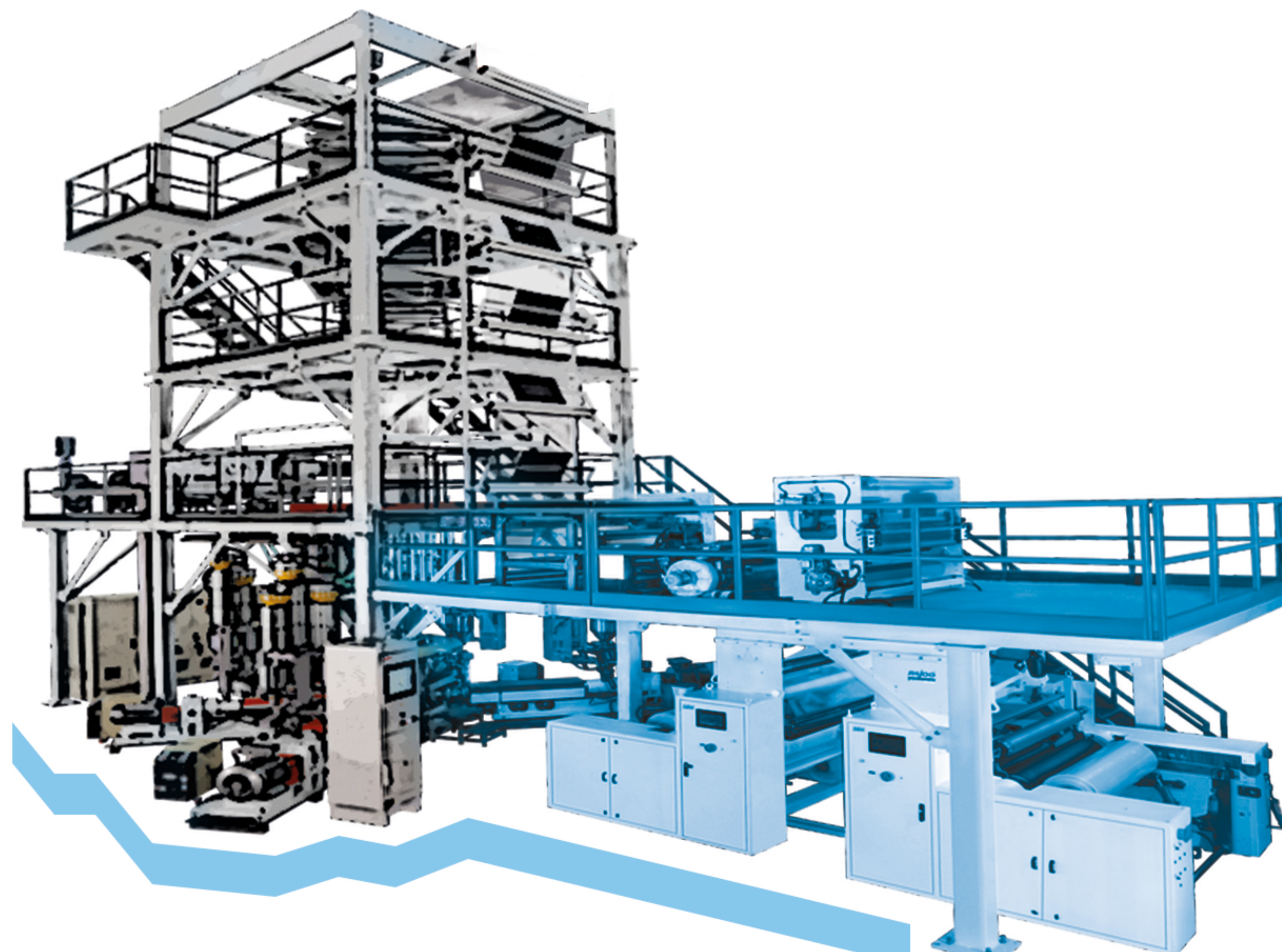
**GRANULE EXTRUDER**



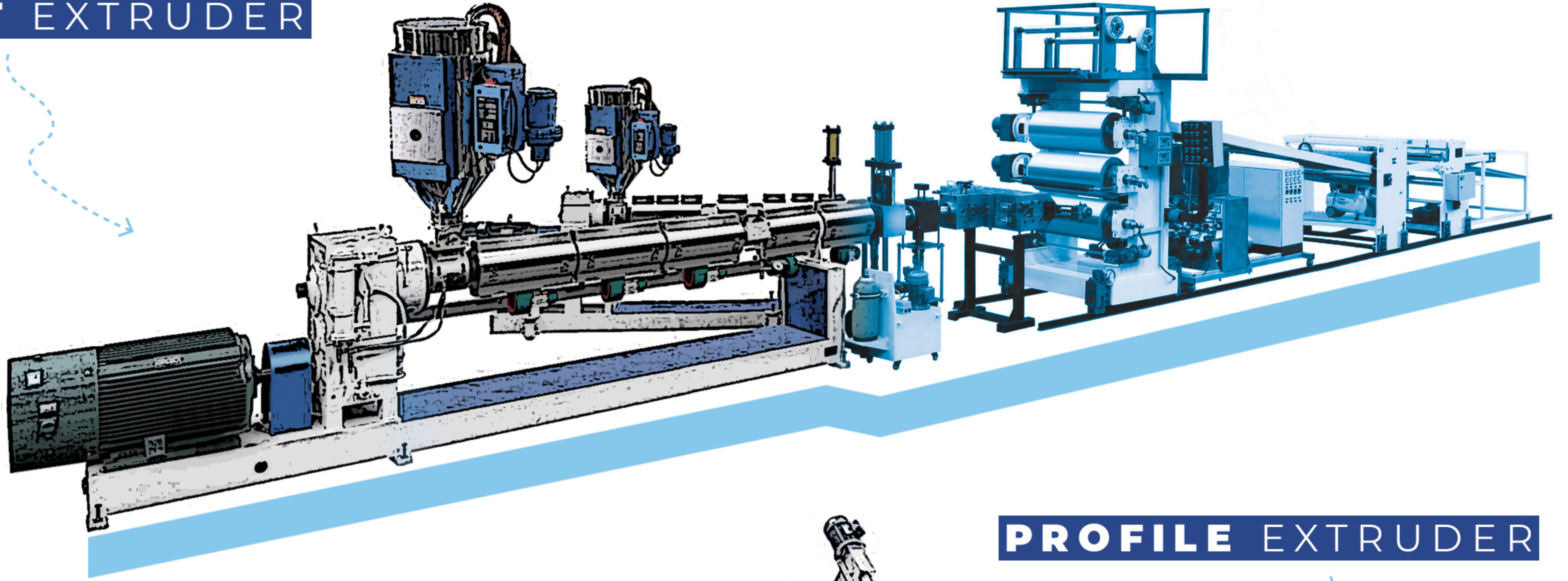
**BLOWING EXTRUDER**



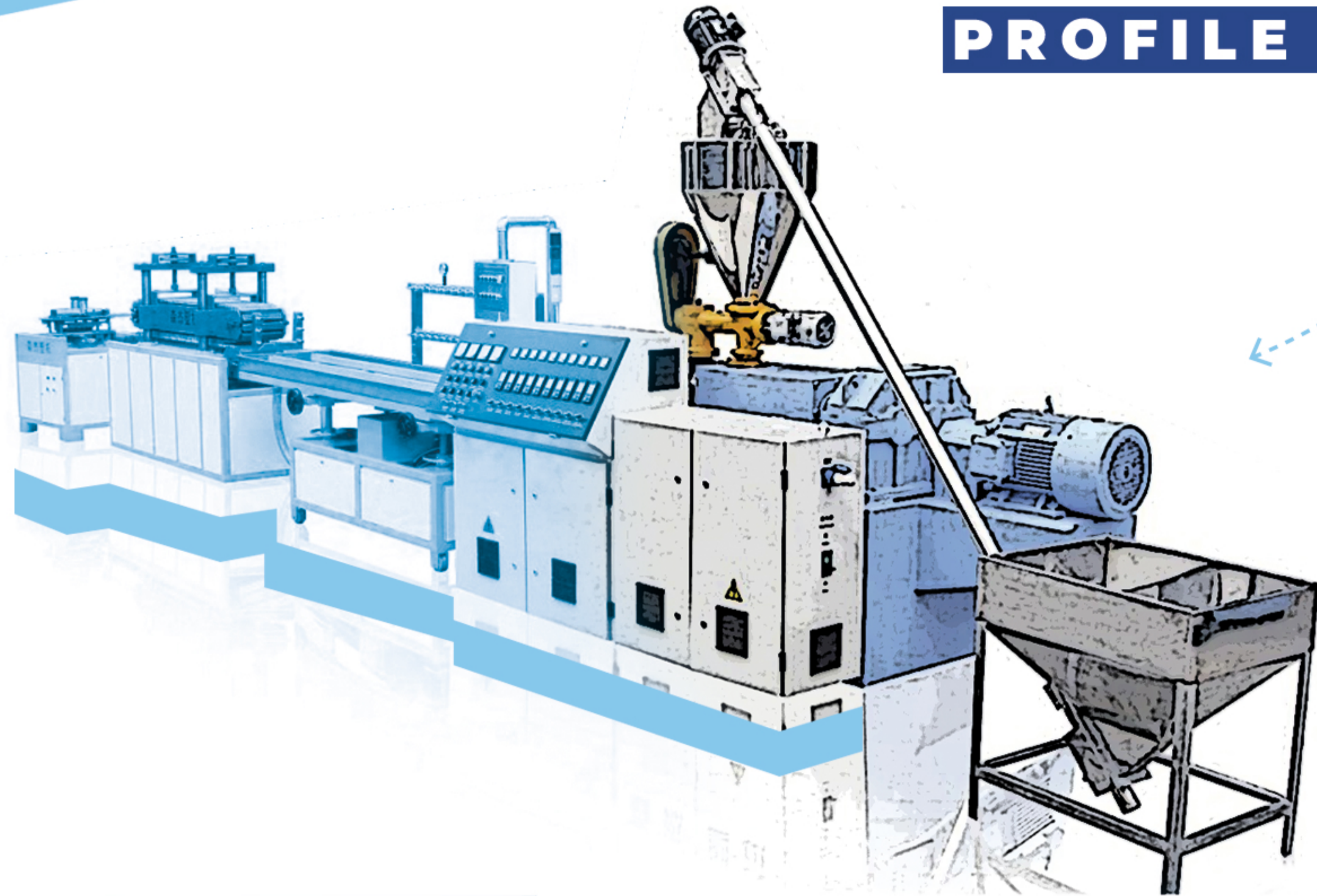
**PACKING EXTRUDER**



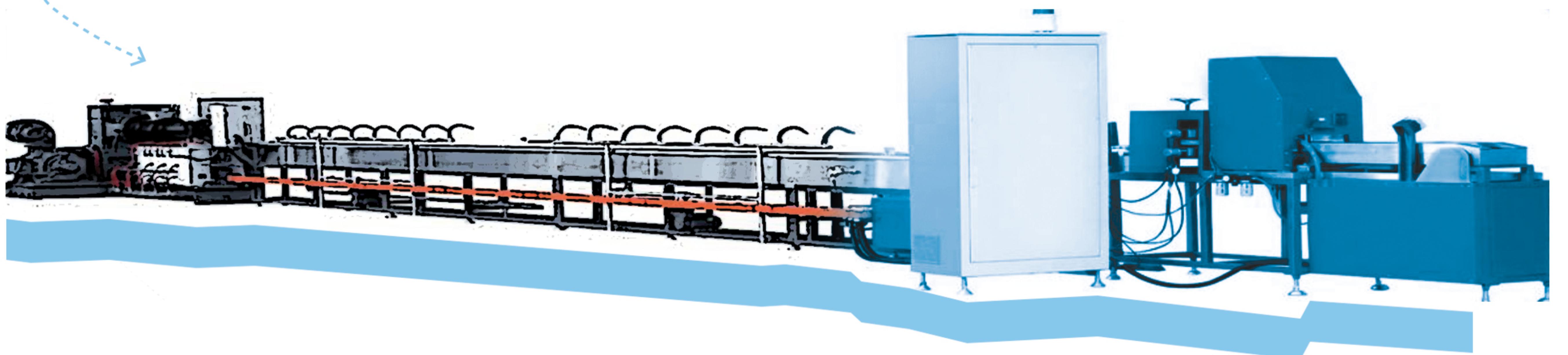
**SHEET EXTRUDER**



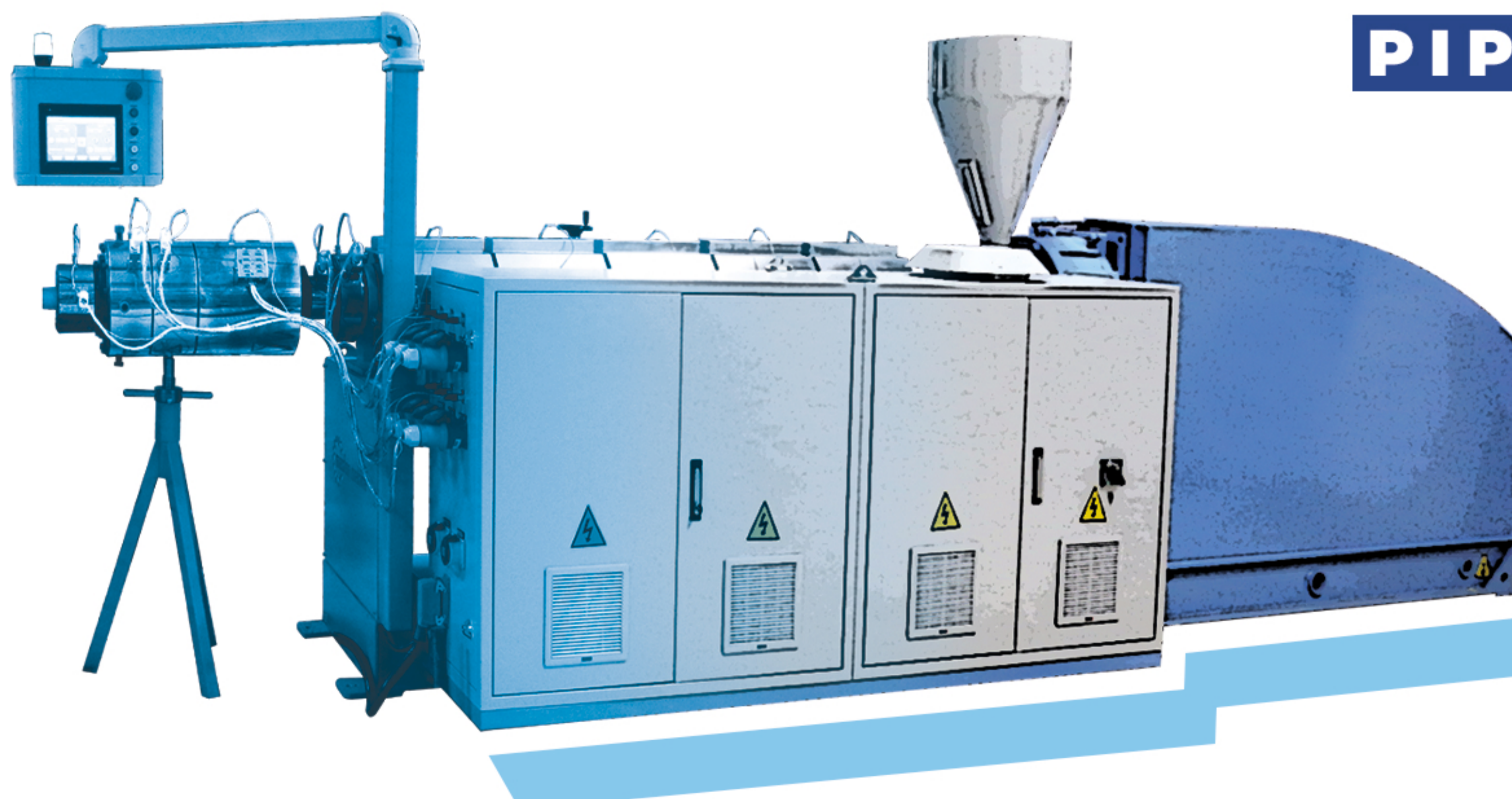
**PROFILE EXTRUDER**



**RUBBER EXTRUDER**



**PIPE EXTRUDER**



## WHAT IS MELT PRESSURE SENSOR?

### Melt Pre Transducer Definition

#### Definition

Melt pressure transducer is a device for measuring pressure and temperature (optional) of molten fluids in processes where the fluids can reach high temperatures.

High temperature (up to more than 900 °F) is the key requirements in this type of measurements.

### Reasons Why Melt Pressure Transducer Needed

Almost all extruders use at least one melt pressure transducer because the melt pressure/temperature control is requested to improve the quality of the extrusion process in terms of:

- Safety
- Higher Productivity
- Equipment Protection
- Higher Product Quality

### Melt Pressure Transducer Applications

The main market for melt pressure transducers is the plastic and rubber processing as plastic or rubber materials are melted and processed at high temperatures.

The main process where the pressure (and temperature) of melt plastic or rubber materials need to be monitored is extrusion.

**Extruder types:** Blown film extruder, plastic raw material pelletizer, rubber extruder, chemical fiber extruder, PVC pipe extruder, sheet extruder, packing material extruder, cast film extruder, etc.

### Transducer Installation Position on the Extruder

#### Installaton on the barrel

**Purpose:** Screw design research & development plastic material evaluation.

#### Installation before and after the screen changer

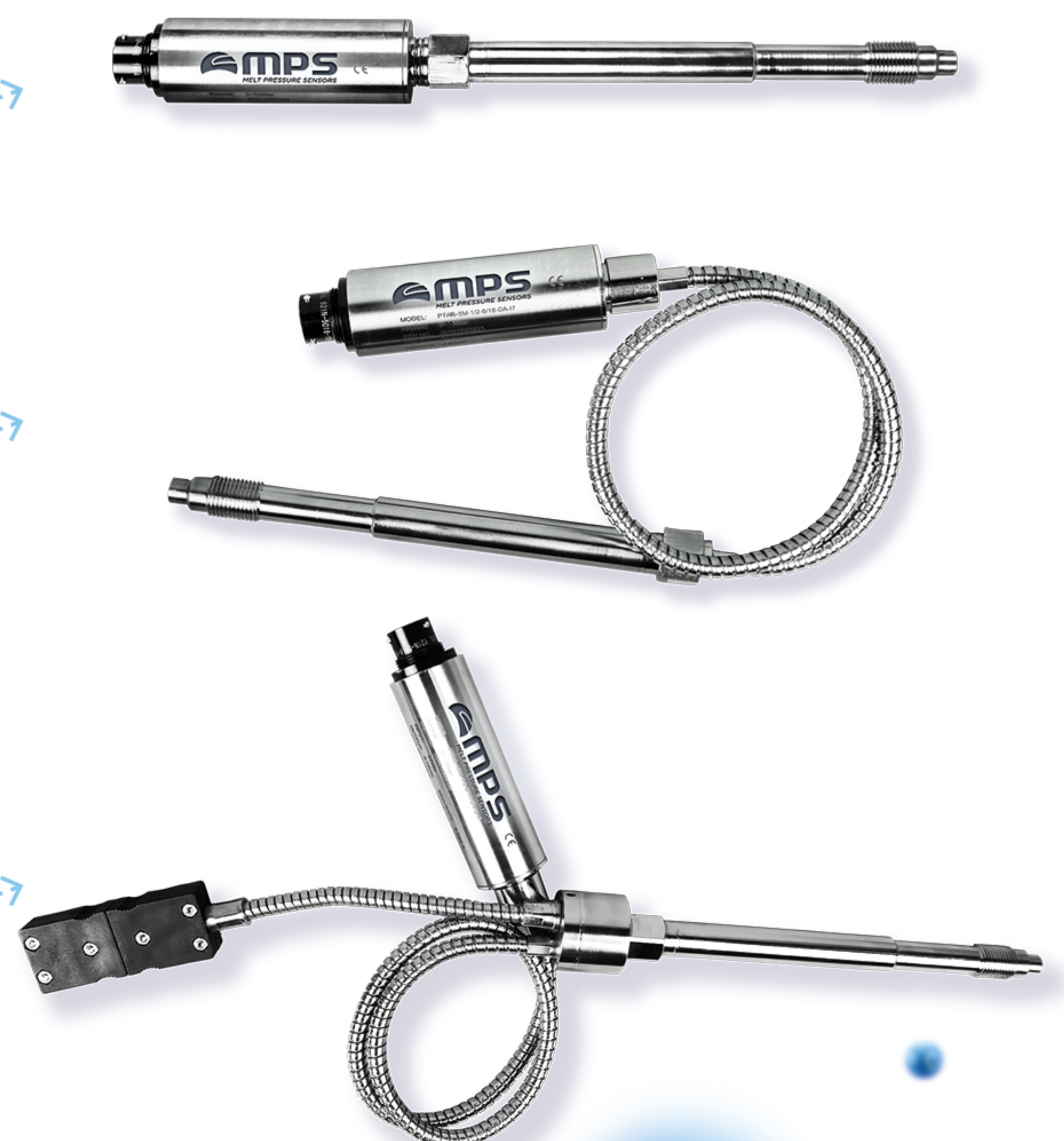
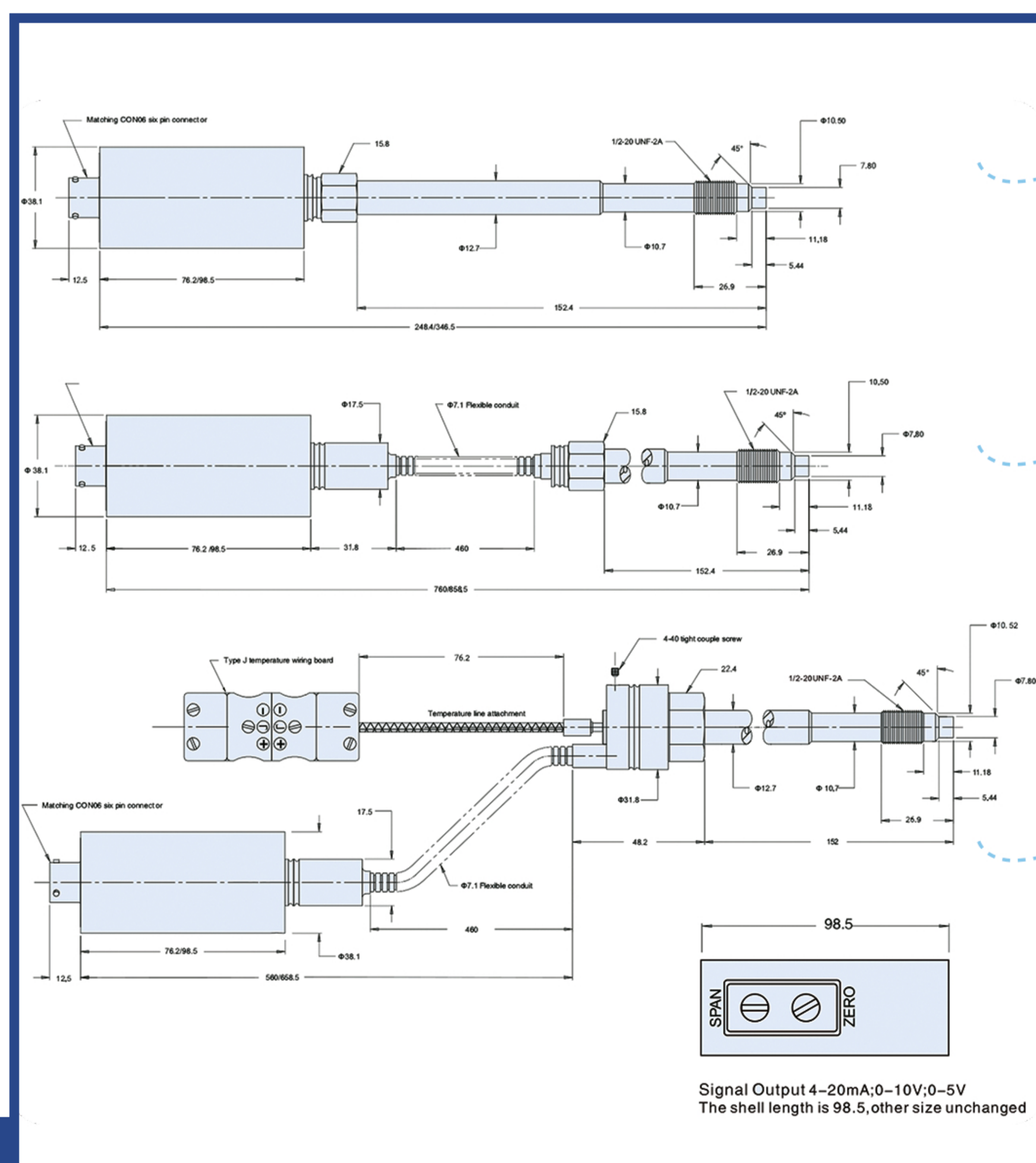
**Purpose:** Monitoring possible contamination that can clog the screen changer and cause pressure drop at the die and, consequently, a bad product result in terms of dimensions (for this reason the pressure is measured before and after the screen changer).

#### Installation before and after the gear pump

**Purpose:** The gear pump is used to grant constant flow rate to the die: The flow is adjusted depending on the measured pressure value (the pressure value is used to give feedback to the drive for the screw speed setting).

#### Installaton at the die

**Purpose:** The melt pressure is monitored to check the flow stability.



# MEASUREMENT TECHNOLOGY



Upgraded construction and non-mercury technology



Auto-Zero function performed in local or remotely

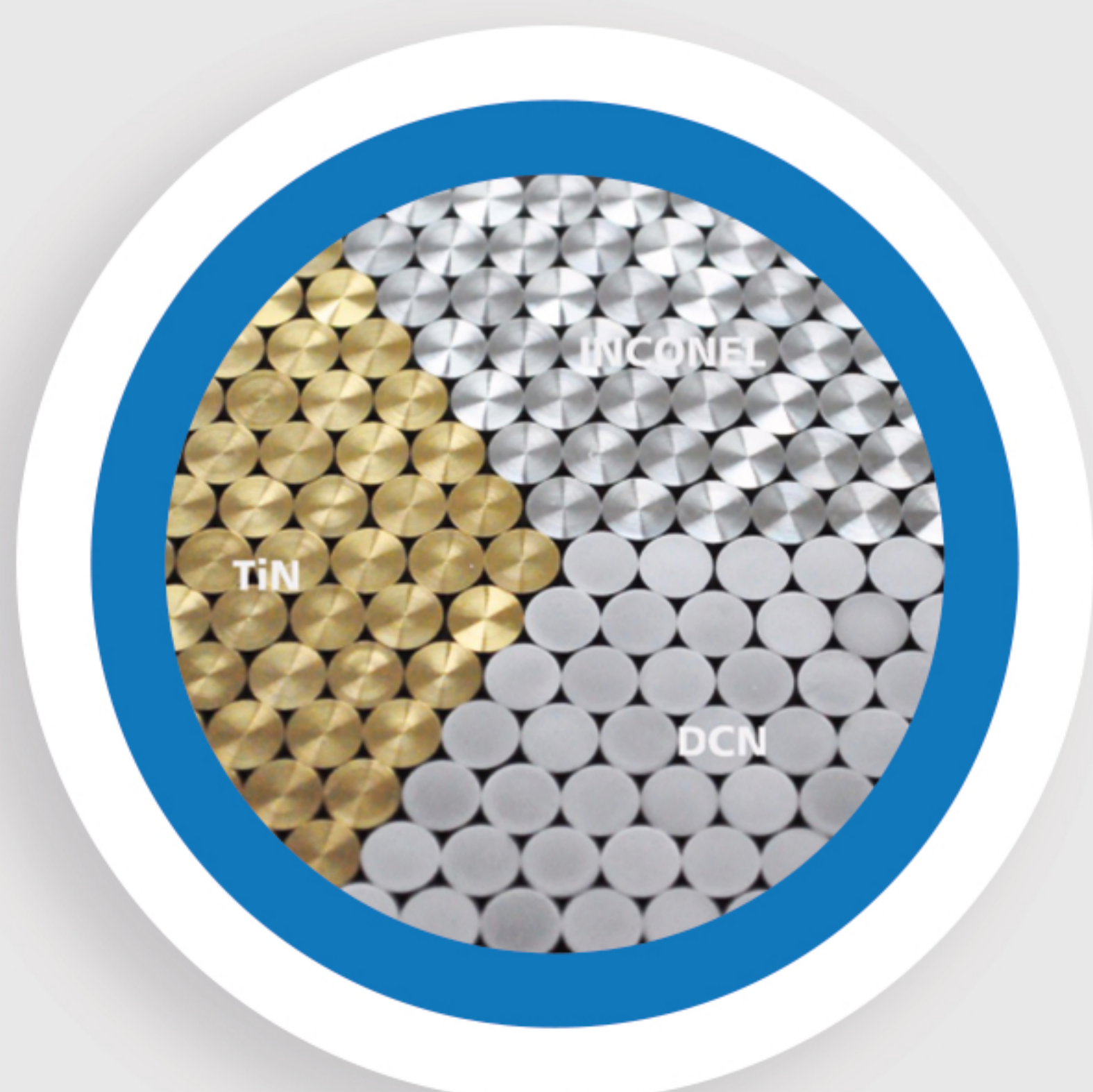
Thermocouple J, K, E, PT100



Robust, thicker Inconel diaphragm with protective coating



Excellent welding technology and integrated relay switch for processing safety



M12 x 1.5    1/2"-20UNF    M14 x 1.5    M18 x 1.5    M22 x 1.5    G3/4  
other size one request

# MELT PRESSURE TRANSMITTER

with V-mA output or mV/V

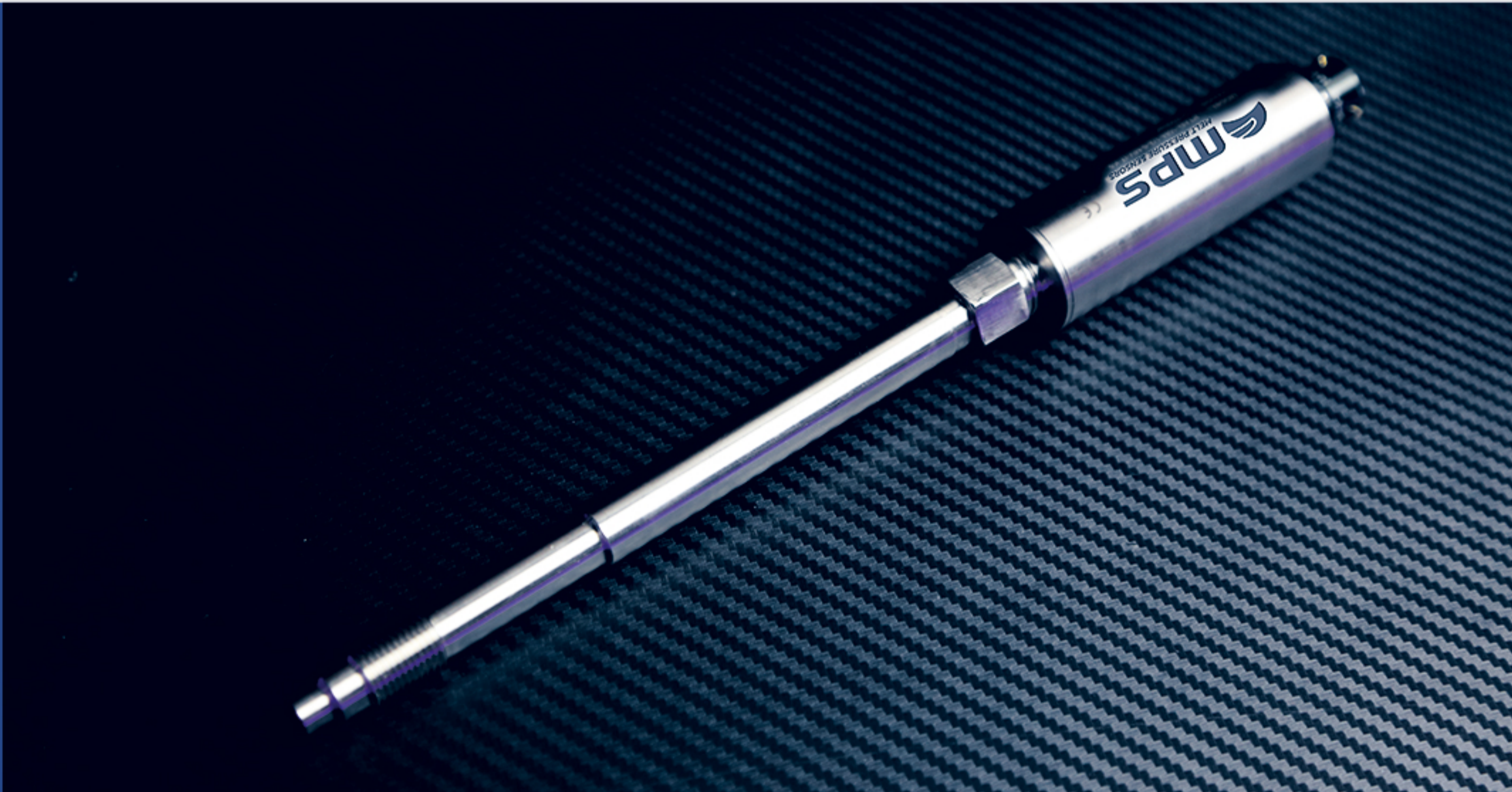
MPS melt pressure transmitters provide the amplified signal 0~10V or 4~20mA to work with DCS and PLC directly for further processing. Various functions are designed for our transmitters such as auto-zero function for local or remote configuration, integrated relay switch for safe protection and explosion proof type for hazardous locations.

## AKSESUARLAR



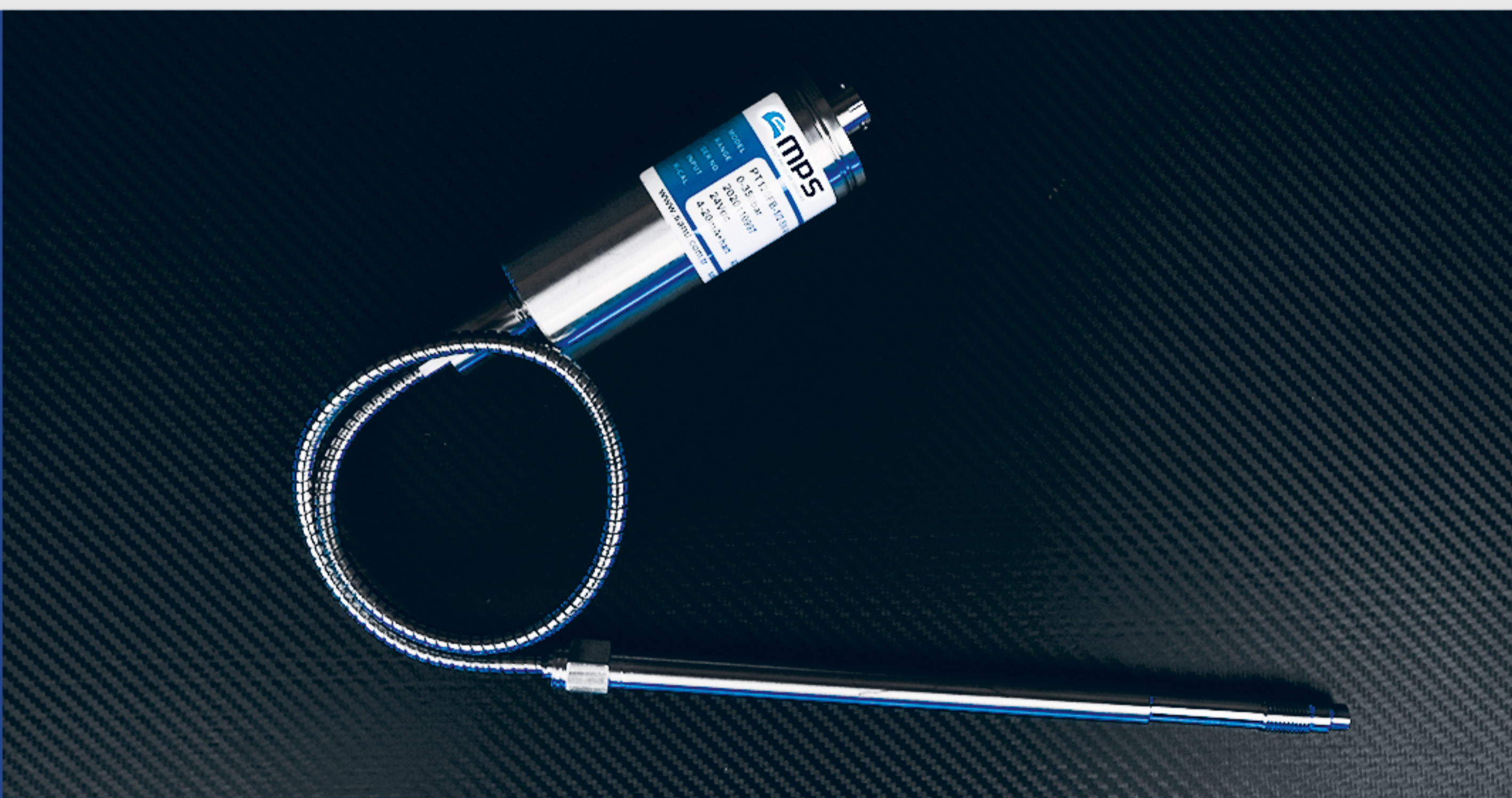
## Auto-zero function

As an option for 0~10V and 4~20mA or mV/V transmitters to eliminate zero variations which is activated by pressing the button located on the transmitter housing or performing remotely.



## Safe relay function

An optional function available for excess pressure protection. The integrated safe relay has an application specific pressure threshold setting that will put the production line in a safe mode.



## Explosion-proof

Designed for use in hazardous locations with all welded construction. ExiallBT6 approval.



## Explosion proof with flange type

Designed for use in hazardous locations with flange configuration. ExiallBT6 approval.



ceramic  
isolation

conical  
tip

diamond  
tip

## Technical specifications

Pressure range	0~35bar to 2000bar 0~500psi to 30000psi 0~3.5MPa to 200MPa
Accuracy	0.25%FS,0.5%FS,1.0%FS
Repeatability	0.2%FS,0.4%FS,0.8%FS
Input excitation	24VDC (10~36VDC)
Output signal	V or mA or mV/V
Electrical connection	5PIN,6PIN,7PIN,8PIN
Internal Shunt Calibration	80% FSO
Process connection	1/2"-20UNF,M18X1.5
Diaphragm material	Standard, Hastelloy, TIN, DCN, Inconel 718
Max. diaphragm temperature	550 °C (1000°F)
Zero shift due to temperature changes	≤1.5bar/100°C ≤10psi/100°F
Max. ambient temperature	85 °C (185°F)
Overpressure	1.5xFS (<1000bar) 1.2xFS (≥1000bar)
Max Torque	30Nm (22 lbf ft)
Thermocouple	Type J(Standard unit), E, K

## MELT TEMPERATURE SENSOR

MPS manufactures a variety of robust melt temperature sensors which are especially designed to measure temperature in the melt steam for the extrusion and polymer processing industries.

Sensors feature the quick response time, high accuracy and stable measurement with the robust construction and the special design of the measuring element. An selectable advanced ceramic insulation measuring tip provide the high-performance and precise temperature measurement.

## DRAWING

MT3011 Series conical tip  
with leadwire

MT3021 Series diamond tip  
with leadwire

MT3012 Series conical tip with  
standard thermocouple connector

MT3022 Series diamond tip with  
standard thermocouple connector

MT3013 Series conical tip with  
3PIN RTD connector

MT3023 Series diamond tip with  
3PIN RTD connector

## Technical specifications

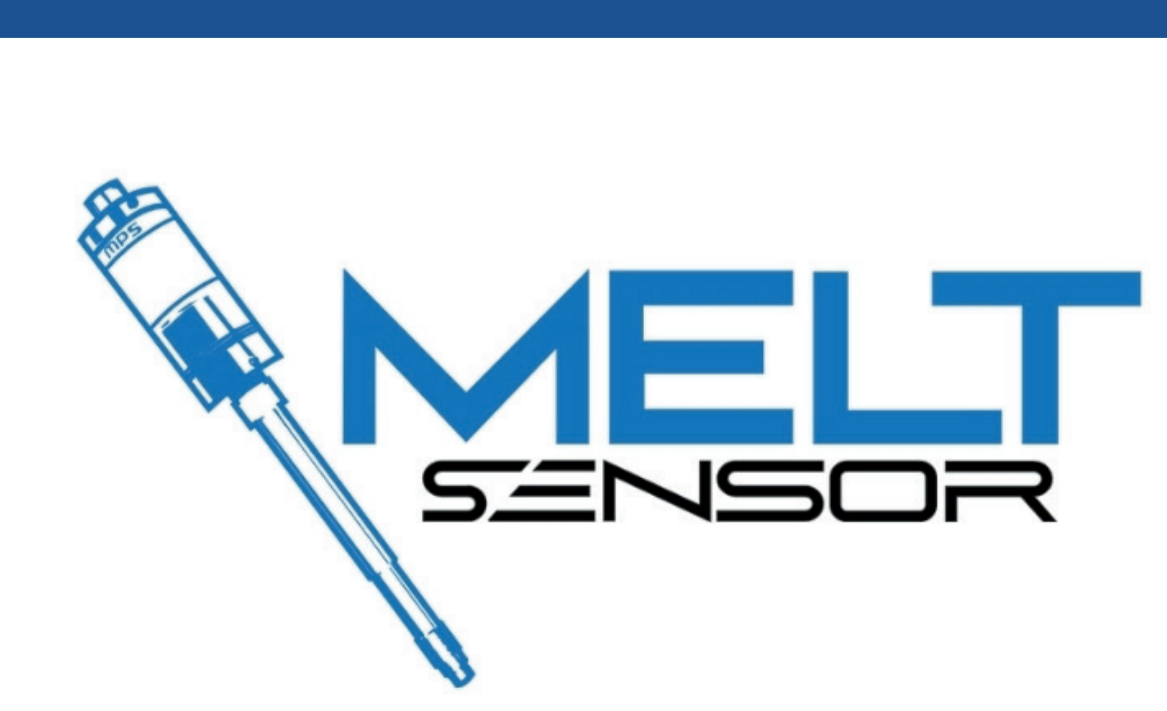
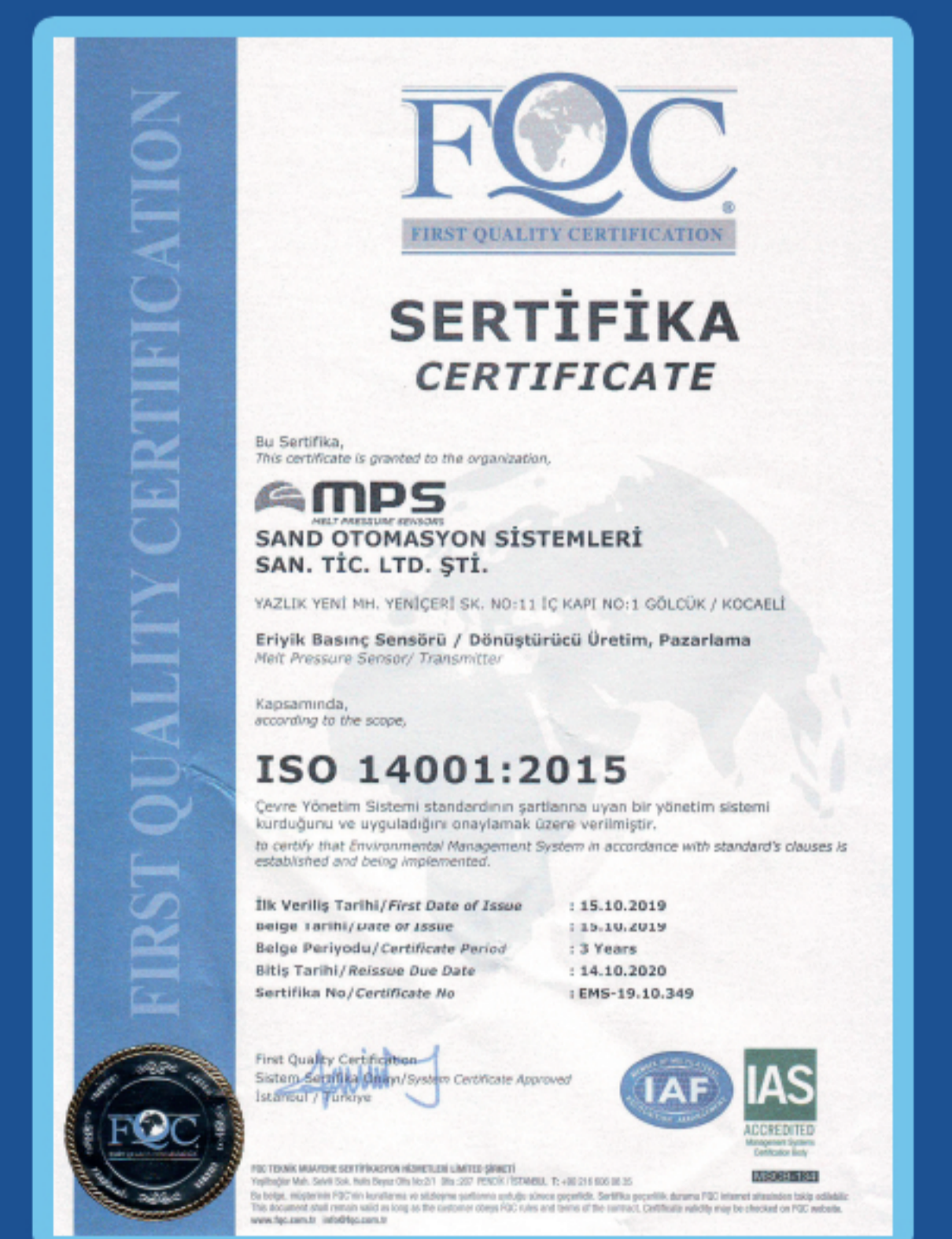
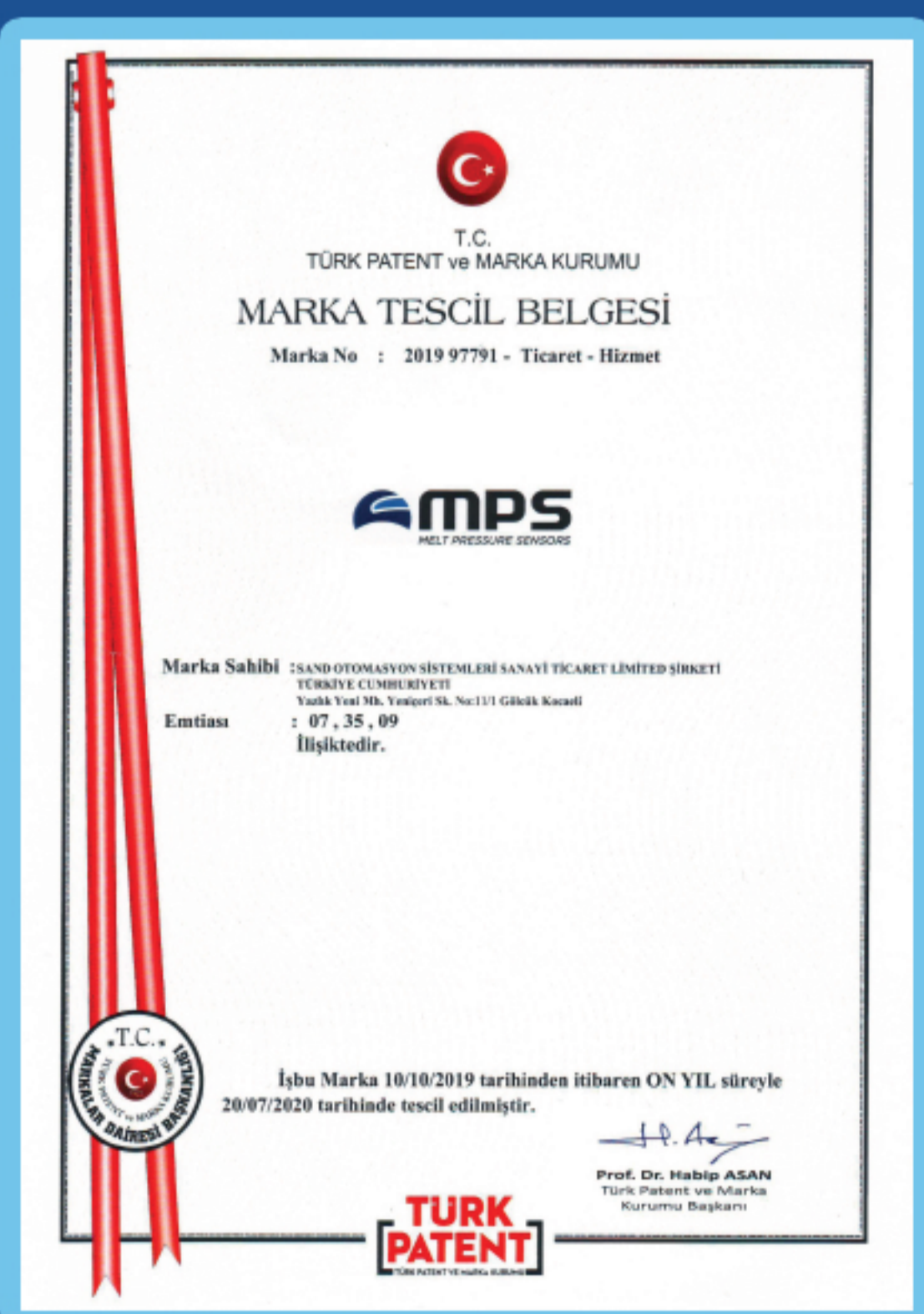
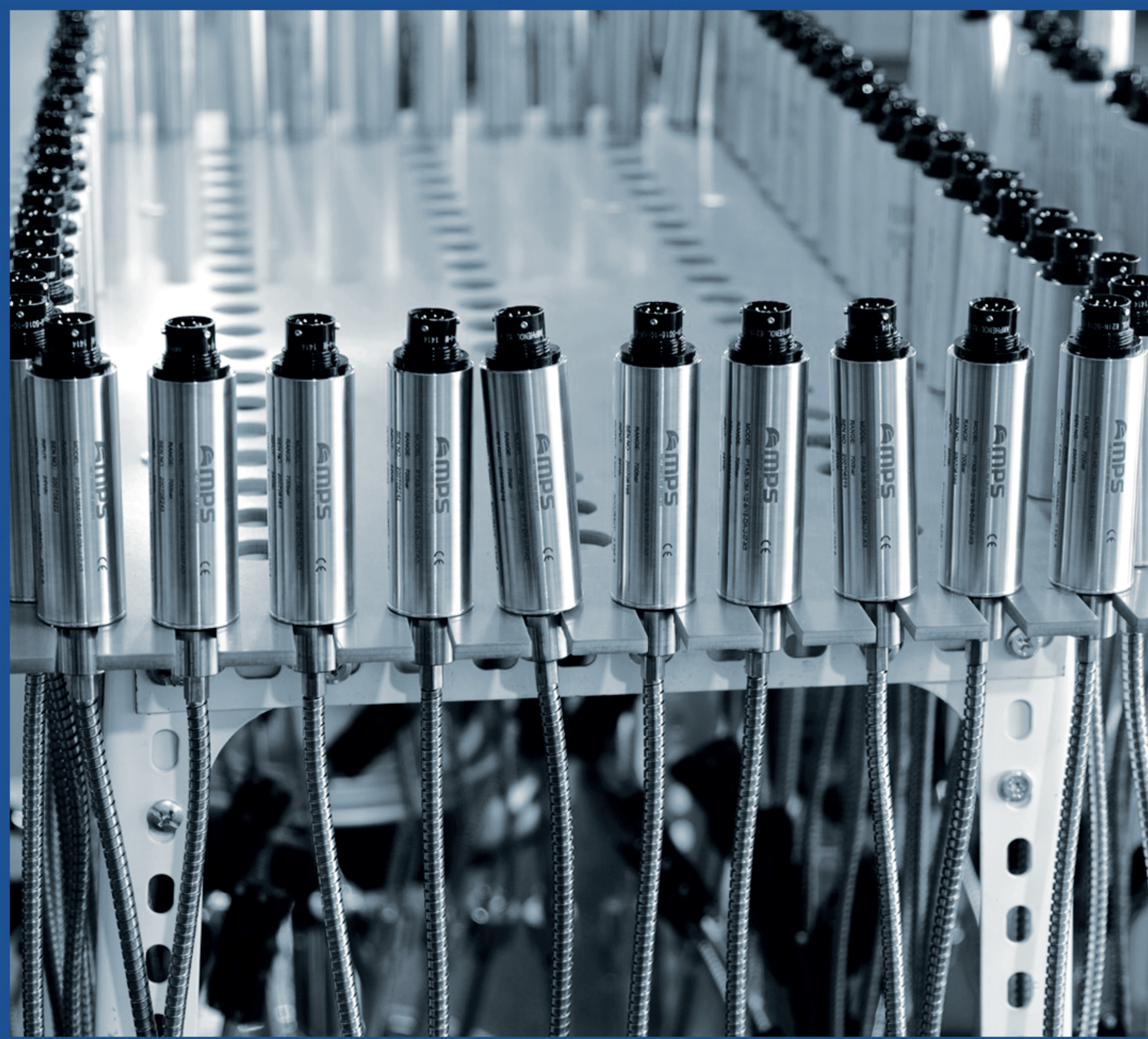
Range	0~550 °C (1000°F)
Accuracy	0.25%FS,0.5%FS
Temperature types	Thermocouple J, K, E RTD
Process connection	1/2"-20UNF,M18X1.5
Electrical connection	Direct cable connection 2PIN for thermocouple 3PIN for PT100,
Measuring tip length	0mm~30mm
Measuring tip shape	Conical style Diamond style (Optional ceramic isolation)
Rigid stem length	Standard 150mm Others on request(Max 450mm)
Flexible/lead cable length	Standard 50mm Others on request(Max 3000mm)



# AMPS

## MELT PRESSURE SENSORS

### PROFESSIONAL PRODUCTION, PROFESSIONAL SERVICE



Yazlık Yenimahalle Gaffar Okkan Sk. No: 16 Gölcük / KOCAELI

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