



Advanced  
Automation  
Systems

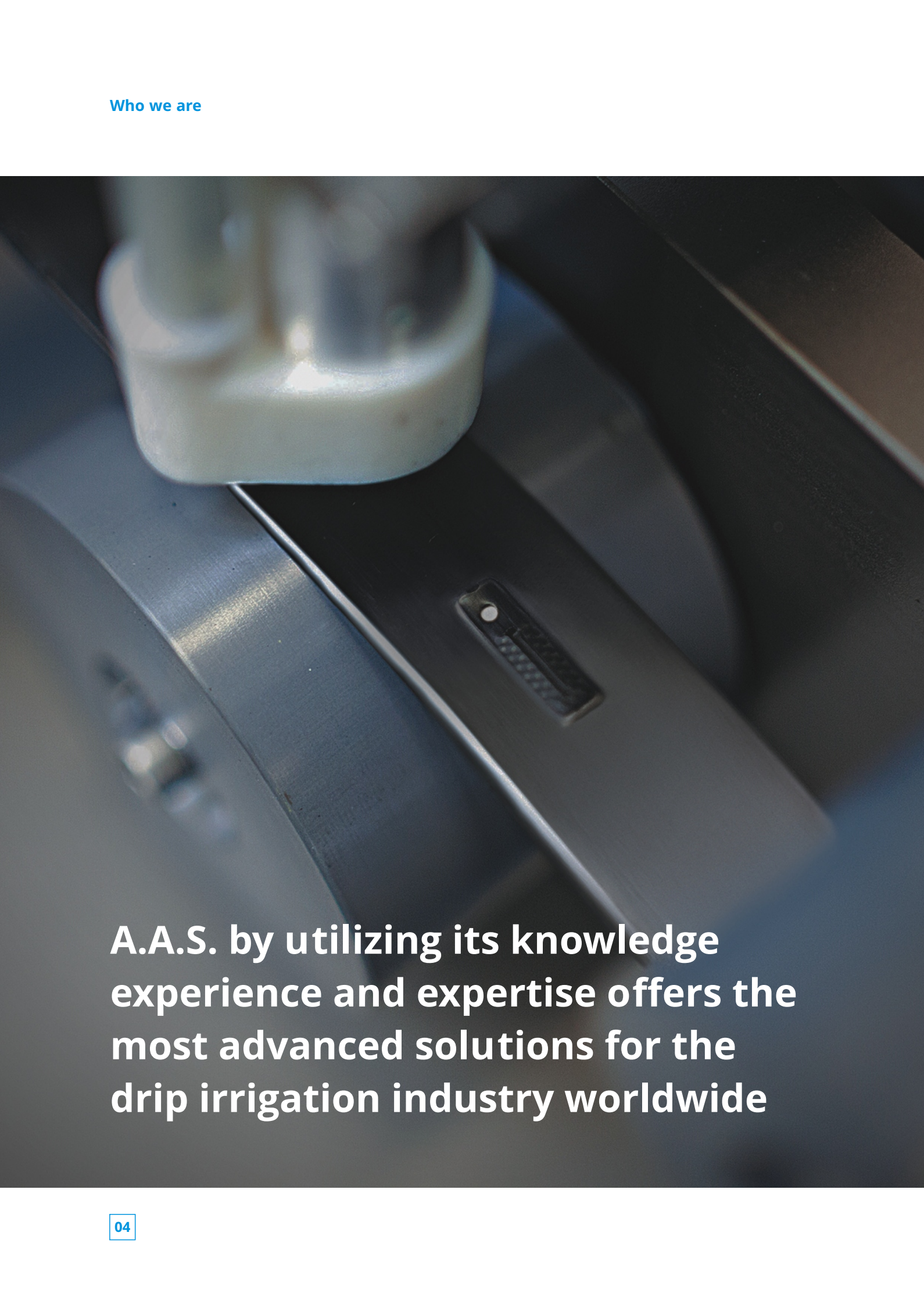
We Know Drip



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A close-up photograph of a drip irrigation emitter. The emitter is a white, cylindrical plastic component with a textured surface, mounted on a dark, metallic-looking metal arm. The background is dark and out of focus, showing other parts of the irrigation system.

**A.A.S. by utilizing its knowledge  
experience and expertise offers the  
most advanced solutions for the  
drip irrigation industry worldwide**



# Who we are

**A.A.S. by utilizing its knowledge experience and expertise offers the most advanced solutions for the drip irrigation industry worldwide. We constantly grow because we are committed to the continuous improvement of our products and services, which create value to our partners.**

## Mission - Vision

Our mission is to provide value to our partners by offering the most technically advanced solutions in the industry of drip irrigation.

Our vision is to combine our knowledge, experience and expertise with the cutting-edge technology.

## Our brand attributes

Our knowledge experience and expertise are offered to our partners through comprehensive drip irrigation solutions and services. Those elements add value to our partners and position A.A.S. at the high end of the industry.

Knowledge is a key factor for our success and an important element for growth in the drip irrigation industry. The knowledge of our team members combined with new ideas and current technology trends enables us to configure the optimal solution for all drip irrigation needs.

Our experience in the drip irrigation industry provides the ability to better understand the needs of both the dripline producer and the end user. That gives us the edge in developing state-of-the-art production lines and producing the most advanced emitters in the industry.

Our team of experts is always available to provide the optimal solution for your needs, consult you in every step of your investment and support you whenever its needed. Every team member is an expert in its field in order to deliver the best possible outcome for all our operations.

## Our core values

### Trust

Our brand is trusted worldwide from the largest companies in the irrigation industry.

### Confidence

Our partners are confident that we will deliver the best possible solution for their needs.

### Commitment

We are committed in constant development of our products and services by using the cutting-edge technology.

A close-up photograph of a drip irrigation emitter. The emitter is a dark, cylindrical component with a hexagonal base. A bright, glowing ring of small LEDs is visible around the central opening. The background is blurred, showing other parts of the irrigation system.

**A.A.S. is a global leader  
in designing and developing  
comprehensive solutions for  
the drip irrigation industry**



# What we do

**A.A.S. is a global leader in designing and developing comprehensive solutions for the drip irrigation industry. By utilizing our knowledge experience and expertise, we offer turnkey custom-made solutions for all manufacturing processes involved in drip irrigation. From the most advanced emitters and state of the art production lines, to a complete feasibility study for a production startup and market of the final products.**

## **Production Lines and Equipment Upgrades**

All parts of our production lines are designed by our R&D team and produced by carefully selected suppliers according to proprietary mechanical designs. Moreover, the operating software is developed 100% in-house by our dedicated R&D software department. That offers the benefit of constantly improving it and enables us to provide bespoke solutions to our partners.

## **Emitters**

We design and produce the most advanced emitters in the drip irrigation industry. We offer a wide range of emitters in order to address all market needs. All emitters are designed by our in-house R&D design department and produced in our Cyprus factory in the most advanced and well-maintained injection machines.

## **Services**

We offer unmatched services for the drip irrigation industry since we can consult on any project, no matter the size of the investment. From a simple production line upgrade for the use of our emitters to a comprehensive feasibility study for a complete factory setup.



**A.A.S. is active in the most advanced  
and fastest growing segment of the  
irrigation industry**



# Why we do it

**A.A.S. is active in the most advanced and fastest growing segment of the irrigation industry. The vast population growth leads to constantly increasing needs for freshwater and agricultural commodities. The sustainability of drip irrigation systems lays on the fact that saves water and nutrients and at the same time increases the quality and overall crop production.**

## What is Drip irrigation

Drip irrigation enables farmers to save water and nutrients by allowing water to drip slowly directly to the roots of plants. There are two methods of installing a drip irrigation system, either on the soil surface or buried below the surface which is called Subsurface Drip Irrigation "SDI". The main idea is to place water directly into the root zone and minimize evaporation.

## Drip irrigation efficiency

Drip irrigation systems are far more efficient and effective than any other irrigation type, such as surface or sprinkler irrigation. Moreover, the fact that all plants receive the same amount of water and nutrients, enables crops to grow evenly and the losses are minimized. Therefore, a drip irrigation system not only saves water and nutrients, but also increases the quality and overall production of crops.

## Factors driving the vast increase in drip irrigation demand

According to recent studies of United Nations and The World Bank, only 2,5% of worlds water is freshwater, from which less than 1% is accessible. By 2050, nearly half of the world's population will be living in areas where water is scarce and 90% of all population growth will happen in regions where there is currently no sustainable access to water.

The earth's population is constantly growing and putting further strain on water resources and food supplies. Population growth amounts to around 83 million annually. The global population has grown from 1 billion in 1800 to 7,6 billion in 2018. It is expected to keep growing, and estimates have put the total population at 8,6 billion by 2030 and 9,8 billion by 2050.



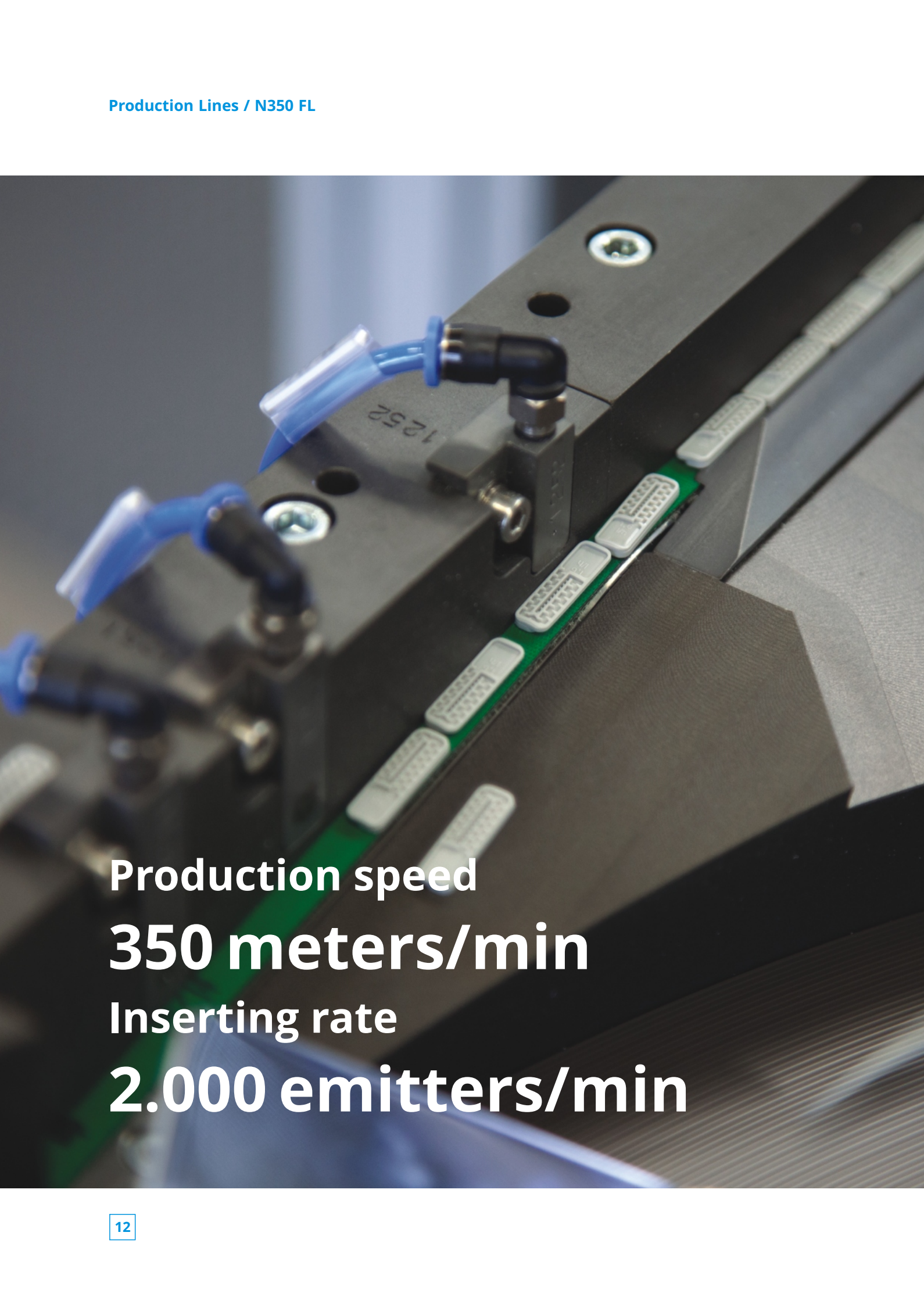
**We are a global leader in developing  
state of the art production lines for  
the drip irrigation industry**



# Production Lines

We are a global leader in developing state of the art production lines for the drip irrigation industry. We combine the knowledge, experience and expertise of our R&D department with the cutting-edge technology to deliver the best possible solution. The manufacturing of our production lines is conducted according to proprietary mechanical designs perfected by continuous strive for excellence and upgrade. Our dedicated in-house R&D software department designs, develops and constantly upgrades the software of our production lines. The electrical design and panel construction takes place in the new modern facilities of A.A.S. with high tech precision and testing equipment.



A close-up photograph of a production line machine. The machine has a dark grey metal body with several blue connectors and a green strip. The number '1252' is visible on the machine. The background is blurred.

**Production speed**  
**350 meters/min**  
**Inserting rate**  
**2.000 emitters/min**



# N350 FL

**Drip irrigation production line for the production of flat dripline in thin and medium wall, with the integration of A.A.S. Nano emitters. Production speed up to 350 meters per minute and 2.000 emitters per minute inserting rate.**

## Feeder and inserting unit for flat emitters

The feeder unit consists of two pre-feeders with hopper storage for the emitters, two centrifugal feeders, a buffer of emitters for approximately one minute back up at the maximum inserting speed and a conveyor. The capacity of the feeder with A.A.S. Nano flat emitters is up to 2.000 emitters per minute at operating speed. The inserting unit encompasses a programmable controller which enables inserting of flat emitters at user selected spacing. Inserting unit's capacity with Nano flat emitters is up to 2.000 emitters per minute.

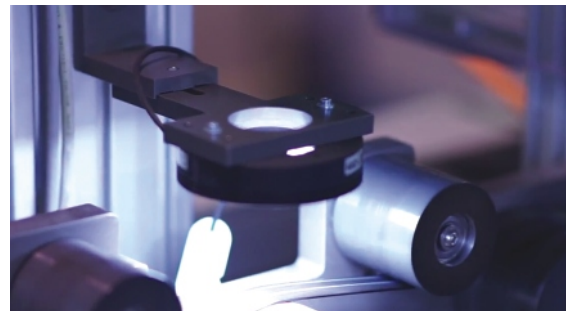


## Drilling system

The drilling unit design along with fast motion robotic algorithms enables industry leading production speeds, combined with minimum vibration and high mechanical strength. Drilling capacity of the unit with Nano flat emitters is up to 2.000 holes per minute at a line speed of up to 350 meters per minute.

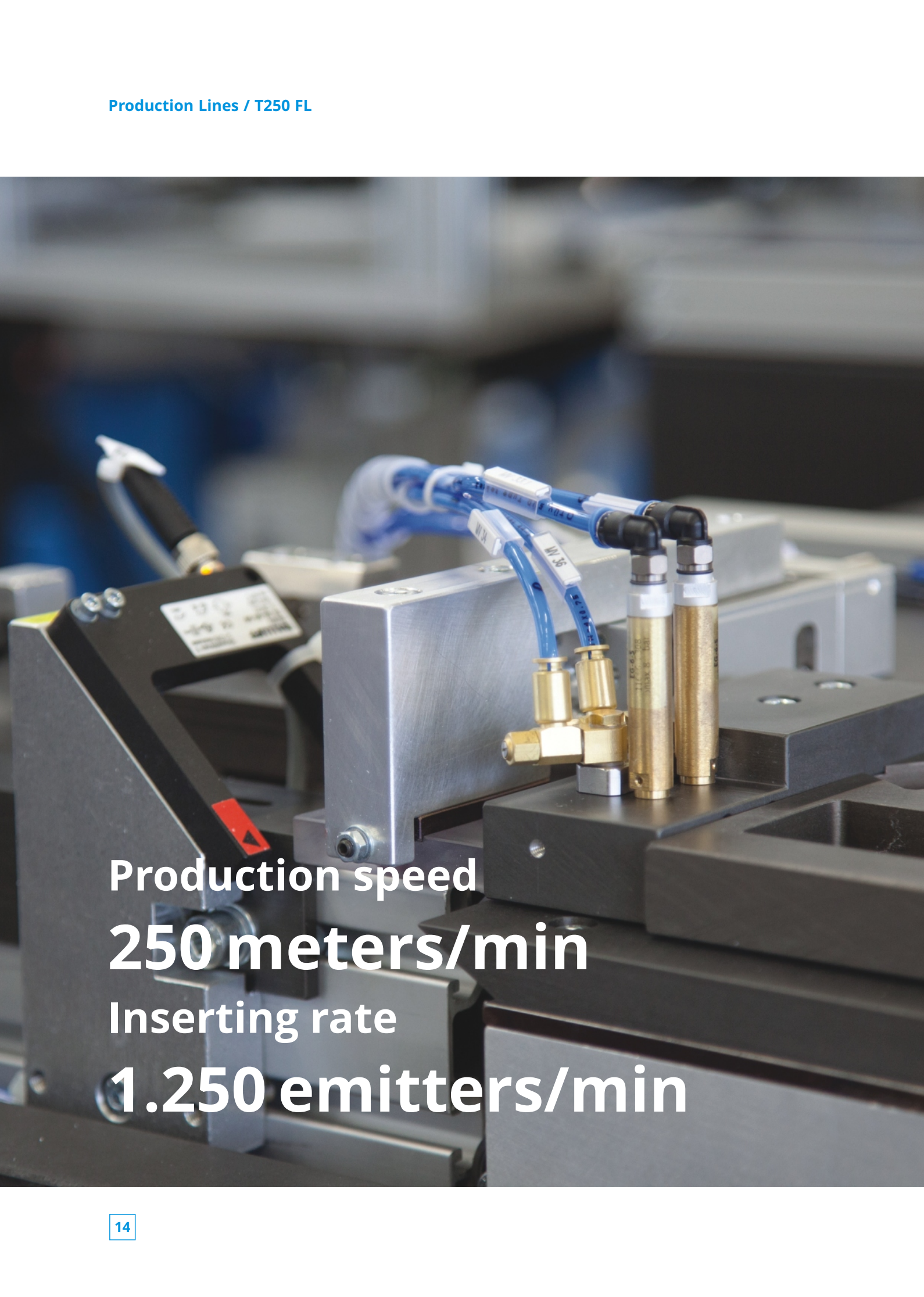
## Closed loop controlled vision system of the water outlet holes

The system constantly detects actual position and shape of all water outlet holes. On a fail result, the closed-loop control system activates a servo motor for the correction of left/right errors, or adjusts the activation of the drilling mechanism through software for the correction of front/back errors.



## Basic composition

- 60/36 single screw extruder
- Manual Screen changer
- PE pipe crosshead with single layer with striping option
- Vacuum calibration
- 8 meter water cooling module
- Closed loop water circulation system
- Inserting and drilling system
- Capstan haul off
- C350 flat dripline coiler



Production speed  
**250 meters/min**  
Inserting rate  
**1.250 emitters/min**

# T250 FL

**Drip irrigation production line for the production of flat dripline in thin, medium and hard wall, with the integration of A.A.S. Turbo or Cyclone PC emitters. Production speed up to 250 meters per minute and 1.250 emitters per minute inserting rate.**

## Feeder and inserting unit for flat emitters

The feeder unit consists of a pre-feeder with hopper storage for the emitters, the centrifugal feeder, a buffer of emitters for approximately one minute back up at the maximum inserting speed and a conveyor. The capacity of the feeder unit with A.A.S. Turbo flat emitters up to 1.250 emitters per minute. The Inserting Unit encompasses a programmable controller which enables inserting of flat emitters at user selected spacing. Inserting unit's capacity with Turbo flat emitters up to 1.250 emitters per minute at operating speed.



## Closed loop controlled vision

The system constantly detects actual position and shape of all water outlet holes. On a fail result, the closed-loop control system activates a servo motor for the correction of left/right errors, or adjusts the activation of the drilling mechanism through software for the correction of front/back errors.

## Versatility

T250 FL is offered with a dual option for the inserting and drilling system of emitters. The production line may process both A.A.S. Cyclone PC and Turbo flat turbulent emitters. Alternatively, T250 FL can operate with any flat emitter.


## Drilling system

The drilling unit design along with fast motion robotic algorithms enables industry leading production speeds, combined with minimum vibration and high mechanical strength. Drilling capacity of the unit, with Turbo flat emitters is up to 1.250 holes per minute at a line speed of up to 250 meters per minute.

## Basic composition

- 75/36 single screw extruder
- Manual Screen changer
- PE pipe crosshead with single, double or triple layer with striping option
- Vacuum calibration
- 16 meter water cooling module
- Closed loop water circulation system
- Inserting and drilling system
- Caterpillar haul off
- C250 flat dripline coiler





**Production speed**  
**180 meters/min**  
**Inserting rate**  
**600 emitters/min**

# S180 FL

**Drip irrigation production line for the production of flat dripline in thin, medium and hard wall, with the integration of A.A.S. Turbo or Cyclone PC emitters. Production speed up to 180 meters per minute and up to 600 emitters per minute inserting rate.**

## Feeder and inserting unit for flat emitters

The feeder unit consists of a pre-feeder with hopper storage for the emitters, the centrifugal feeder and a conveyor. The capacity of the feeder unit with A.A.S. Turbo flat emitters is up to 1.250 emitters per minute. The inserting unit encompasses a programmable controller which enables inserting of flat emitters at user selected spacing. Inserting unit's recommended operational capacity with Turbo flat emitters is up to 600 emitters per minute.

## Drilling System

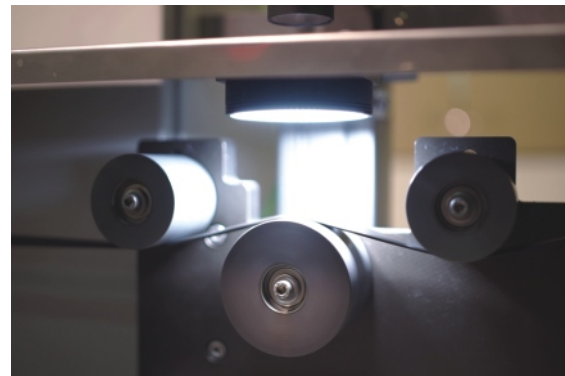
The drilling unit design along with fast motion robotic algorithms enables industry leading production speeds, combined with minimum vibration and high mechanical strength. Drilling capacity of the unit, with Turbo flat emitters is up to 1.250 holes per minute at a line speed of up to 180 meters per minute.

## Versatility

S180 FL is offered with a dual option for the inserting and drilling system of emitters. The production line may process both Cyclone PC and Turbo flat turbulent emitters. Alternatively, S180 FL can operate with any flat emitter.

## Hole detection system

The system constantly detects actual position and shape of all water outlet holes.



## Basic Composition

- 75/36 single screw extruder
- Manual screen changer
- PE pipe crosshead with single, double or triple layer with striping option
- Vacuum calibration
- 16 meter water cooling module
- Closed loop water circulation system
- Inserting and drilling system
- Caterpillar haul off
- C180 flat dripline coiler



A close-up photograph of a mechanical assembly. A blue flexible hose is connected to a black fitting, which is part of a larger yellow curved component. The background is blurred, showing other parts of the machinery and blue hoses.

**Production speed**  
**120 meters/min**  
**Inserting rate**  
**500 emitters/min**



# R120 CL

**Drip irrigation production line for the production of cylindrical, thick wall driplines, with the integration of A.A.S. Triton PC or Turbo Compact cylindrical emitters. Production speed up to 120 meters per minute and 500 emitters per minute inserting rate.**

Highly efficient production lines, a result of commitment to constant improvement from many years of experience in everyday production. CE certified, ready to serve customized needs at a more economical price.

## Feeder and inserting unit for cylindrical emitters

The feeder unit consists of a pre-feeder with hopper storage for the emitters, the centrifugal feeder and a conveyor. The capacity of the Feeder Unit for the A.A.S. Turbo Compact and Triton PC emitters is up to 500 emitters per minute. The inserting unit encompasses a programmable controller which enables inserting of cylindrical emitters at user selected spacing. Inserting unit's capacity for the Turbo Compact and Triton PC emitters is up to 500 emitters per minute. R120 CL can operate with any cylindrical emitter.

## Perforating System

The drilling unit design along with fast motion robotic algorithms enables industry leading production speeds, combined with minimum vibration and high mechanical strength. Perforating capacity of the unit, with the Turbo Compact and Triton PC

emitters is up to 500 drillings per minute at a line speed of up to 120 meters per minute.



## Basic Composition

- 75/36 single screw extruder
- Manual screen changer
- Inserting system for Rondo line
- PE pipe single or double or triple layer crosshead with striping option
- Vacuum calibration
- 16 meter water cooling module
- Perforating system
- Caterpillar haul off
- R120 Cylindrical dripline coiler

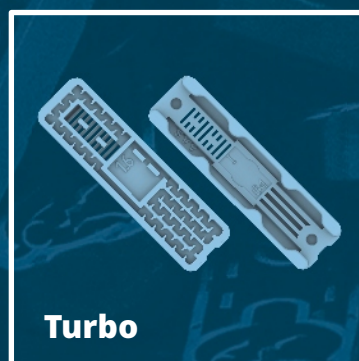
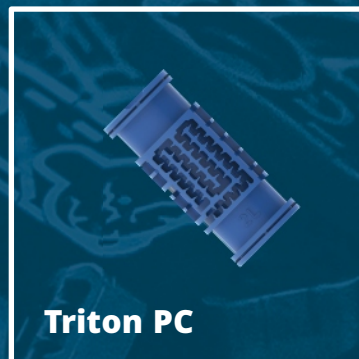


**We design, develop and produce the most advanced emitters in drip irrigation industry. We offer a wide range of emitters in order to address all market needs**



# Emitters

By utilizing our team's knowledge experience and expertise, combined with the latest technology, we design, develop and produce the most advanced emitters in drip irrigation industry. We offer a wide range of emitters in order to address all market needs. The most important element of a dripline is the emitter operation. Therefore, a perfectly designed and manufactured emitter will ensure the operation of the dripline. This is why we constantly improve our emitters and their production process, by implementing the latest technologies in every aspect of our operations.





# Cyclone PC

## Flat PC Emitter

**Ultra slim high-tech concept, laser welded with long-life material that fits any hose diameter. High accuracy, consistent clog-free performance.**

### Pressure Compensating (PC)

PC emitters incorporate a silicone membrane which enables the delivery of precise and equal amounts of water over a broad pressure range. Cyclone PC emitters are designed for precision irrigation needs and inclined topography.

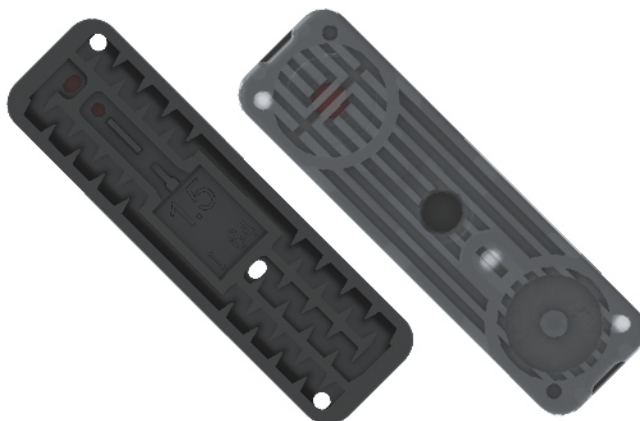
### Laser Welding Technology

We use state of the art laser welding technology for welding the two parts of the emitter. By investing in the latest technology in emitter assembly, we ensure flawless operation under any condition. Moreover, this welding method prevents leaks in the event of extremely high pressure or the opening of the emitter during installation and retraction of the dripline in the field.

### Drain (D), Non-Drain (ND) and Anti-Siphon (AS) options

The Anti-Siphon (AS) system both in D and ND versions is a specially designed mechanism that prevents suction of dirt and impurities into the emitter. The AS feature enables Cyclone PC to be installed underground (SDI), perfectly maintaining its irrigation characteristics and its multiyear durability.

With the Non-Drain system of Cyclone PC, the dripline remains full of water during



irrigation intervals, ensuring immediate and uniform irrigation along the dripline. Non-Drain emitters eliminate drainage and refill effect, and improve efficiency in pulse irrigation.

### Emitter Characteristics

Wide range of flow rates from 1,0l/h to 3,8l/h

Designed for a wide range of wall thicknesses from 12mil up to 47mil (0,3mm - 1,2mm)

Suitable for driplines with any diameter from 13,5 mm and on

State of the art flat PC, Anti-Syphon, CNL emitter technology

Superior clog resistant design

Excellent emission uniformity

Excellent flow coefficient

Low friction losses due to the ultra slim design of the emitter

### Product Applications

Precision irrigation

Uneven terrain

Greenhouses

Orchards

Multiple pulse irrigation

Suitable for both on surface and subsurface installations

# Triton PC

## Cylindrical PC Emitter

**The most durable Pressure Compensating emitter, designed for steep and rocky terrain, permanent crops with long laterals, on surface and subsurface applications.**



### Pressure Compensating (PC)

PC emitters incorporate a silicone membrane which enables the delivery of precise and equal amounts of water over a broad pressure range. Triton PC emitters are designed for precision irrigation needs, hard rocky terrain and inclined topography.

### Drain (D), Non-Drain (ND) and Anti-Siphon (AS) options

The Anti-Siphon (AS) system both in D and ND versions is a specially designed mechanism that prevents suction of dirt and impurities into the emitter. The AS feature enables Triton PC to be installed underground (SDI), perfectly maintaining its irrigation characteristics and its multiyear durability.

With the Non-Drain system of Triton PC, the dripline remains full of water during irrigation intervals, ensuring immediate and uniform irrigation along the dripline. Non-Drain emitters eliminate drainage and refill effect, and improve efficiency in pulse irrigation.

### Emitter Characteristics

Available in two flow rates 2 l/h and 4 l/h

Suitable for driplines with 16mm diameter

Manufactured from the finest raw materials that provide durability and long-lasting performance

Wide and accurate water passages along the labyrinth

Special labyrinth design that ensures high turbulent flow of the water

Self-flushing mechanism ensures nonclogging uninterrupted operation

High UV resistant

Resistant to all nutrients used in agricultural

Injected molded emitters with excellent

Coefficient of Variation (CV)

Excellent for effluent water reuse

Wide pressure compensation range

### Product Applications

Precision irrigation

Uneven terrain

Row crops

Orchards

Landscaping

Vegetables

Gardening

Suitable for both on surface and subsurface installations

# Aquarius PC

## Online PC Emitter

**The most versatile and easy to install Pressure Compensating emitter for a great variety of applications.**



### Pressure Compensating (PC)

Aquarius PC emitters incorporate a silicone membrane which enables the delivery of precise and equal amounts of water over a broad pressure range.

Aquarius PC emitters are designed for precision irrigation needs, ranging from a home garden to the most advanced hydroponic applications.

### Drain (D) and Non-Drain (ND) Options

With the Non-Drain system of Aquarius PC, the pipe remains full of water during irrigation intervals, ensuring immediate and uniform irrigation along the pipe. Non-Drain emitters eliminate drainage and refill effect, and improve efficiency in pulse irrigation. In order to achieve the Non-Drain function, the emitter opens at 0,30 bar and closes at 0,20 bar.

### Emitter Characteristics

Wide range of flow rates 2,0 / 4,0 / 8,0 and 24,0 l/h.

Aquarius PC is designed for installation in pipes from 12 mm up to 32 mm diameter and wall thickness from 0,9 mm up to 1,2 mm.

Wide pressure compensation range.

Cross shaped water inlet.

Wide and accurate water passages along the labyrinth.

Special labyrinth design that ensures highly turbulent flow of the water.

Continuous self cleaning mechanism ensures non-clogging uninterrupted emitter operation.

High UV resistance.

Resistant to standard nutrients used in agriculture.

Injected emitter that provides very low Coefficient of Variation (CV).

Aquarius PC emitters can be installed manually exactly where they are required.

The number of emitters can be increased in order to increase water supply aimed at meeting tree growth rate requirements.

Aquarius PC design allows the installation of manifold outlet with multiple outputs.

One type of outlet suitable for 3 mm internal diameter micro-tube and for press-fit nipple connectors.

### Product Applications

Greenhouses and nurseries

Orchards

Landscaping

Gardening

Hydroponics

Soilless culture

Pulse irrigation



# Nano

## Flat Turbulent Emitter

**The most affordable approach for the end user due to the small weight and dimensions of the emitter.**

The small dimensions along with its curved side design provide a very low  $k_d$  factor meaning extremely low friction losses inside the dripline.

### Emitter Flow Path

One of the most important elements in the design of an emitter is the flow path. Its width depth and length determine the flow rate of the emitter in liters per hour but most importantly determines their anticlogging ability. A high turbulent flow path design creates a vortex effect inside the emitter and therefore prevent clogging.

### Emitter Characteristics

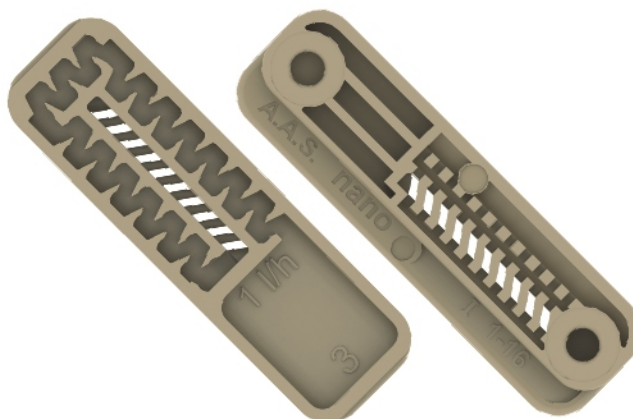
Wide range of flow rates from 0,6 l/h to 2,0 l/h

State of the art combination of performance and manufacturing technology enable emitter spacings from 10 cm and wall thicknesses from 5 mil and greater

Suitable for driplines with any diameter from 12mm and on

Superior/Efficient design enables very high downstream production speeds

Excellent Coefficient of Variation (CV), far superior to standard tape products, due to the long length of the finely tuned labyrinth



Specially designed labyrinth creates turbulent flow, thus preventing clogging of the emitter

Advanced Three-Dimensional water inlet increases filtering area, thus enhancing the anti-clogging performance of the emitter

Cost efficient, due to its ultracompact design; generates finished coils of lower weight, when compared to other thin wall and tape products

### Product Applications

Row crops

Orchards

Landscaping

Vegetables

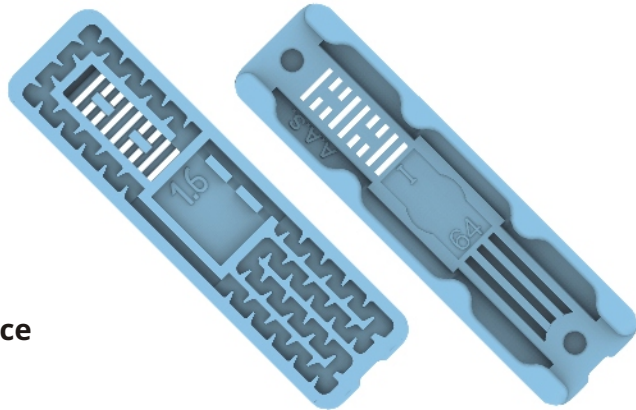
Gardening

Suitable for both on surface and shallow subsurface installations depending on wall thickness

# Turbo

## Flat Turbulent Emitter

**One of the world's most proven and trusted flat emitter, used in both surface and subsurface applications for more than 20 years worldwide.**



### Emitter Flow Path

One of the most important elements in the design of an emitter is the flow path. Its width depth and length determine the flow rate of the emitter in liters per hour but most importantly determines their anticlogging ability. A high turbulent flow path design creates a vortex effect inside the emitter and therefore prevent clogging.

### Emitter Characteristics

Wide range of flow rates from 0,8 l/h to 3,8 l/h

Designed for insertion systems of wall thicknesses ranging from 5mil up to 47mil (0,135mm - 1,2mm)

Suitable for driplines with any diameter from 12mm and on

Large turbulent labyrinth with large cross section design, ensure superior clogging resistance

Symmetrical design allows the highest insertion rates and higher production speed

Ideal for multi-season applications & subsurface installation

Injected molded emitters with excellent Coefficient of Variation (CV)

### Product Applications

Row crops

Orchards

Landscaping

Vegetables

Gardening

Suitable for both on surface and subsurface installations depending on wall thickness

# Turbo Compact

## Cylindrical Turbulent Emitter



**Compact and economical emitter for a wide range of applications. Suitable for permanent crops, multi seasonal usage and unexperienced farmers.**

### Emitter Flow Path

One of the most important elements in the design of an emitter is the flow path. Its width depth and length determine the flow rate of the emitter in liters per hour but most importantly determines their anticlogging ability. A high turbulent flow path design creates a vortex effect inside the emitter and therefore prevent clogging.

### Product Applications

Row crops  
Orchards  
Landscaping  
Vegetables  
Gardening  
Suitable for both on surface and subsurface installations

### Emitter Characteristics

Available in two flow rates 2 l/h and 4 l/h  
Suitable for driplines with 16mm diameter  
Manufactured from the finest raw materials that provide durability and long-lasting performance  
Injected molded emitters with excellent Coefficient of Variation (CV)  
Large turbulent water passages that prevent clogging  
Very high resistance to agrochemicals and hard field conditions



# Services

**By utilizing our knowledge, experience and expertise we are able to provide the best possible solution for your needs. We do not treat you as a customer that purchases products from us, you are our partner and we strive to add value to your investment.**

## **Custom-made, Turn-Key Production Lines**

Our team can design, develop, build and install a complete drip irrigation production line according to your specific needs. We cooperate with major manufacturers in the drip irrigation industry and therefore have a variety of equipment which will suit your production needs.

## **Start-up projects**

Our team of experts can undertake complete start-up projects for investors choosing to enter the industry of drip irrigation, with no previous involvement or manufacturing experience of any kind. We offer a complete end-to-end solution, based on your requirements and tailored to suit your needs.

## **Emitter Design**

Our specialized emitter design team is able to design and develop custom made emitters according to your market needs and make sure that will accommodate your production line requirements. We can also provide a vast range of emitters which are currently produced in our Cyprus facilities.

## **Technical Consultation and After Sales Service**

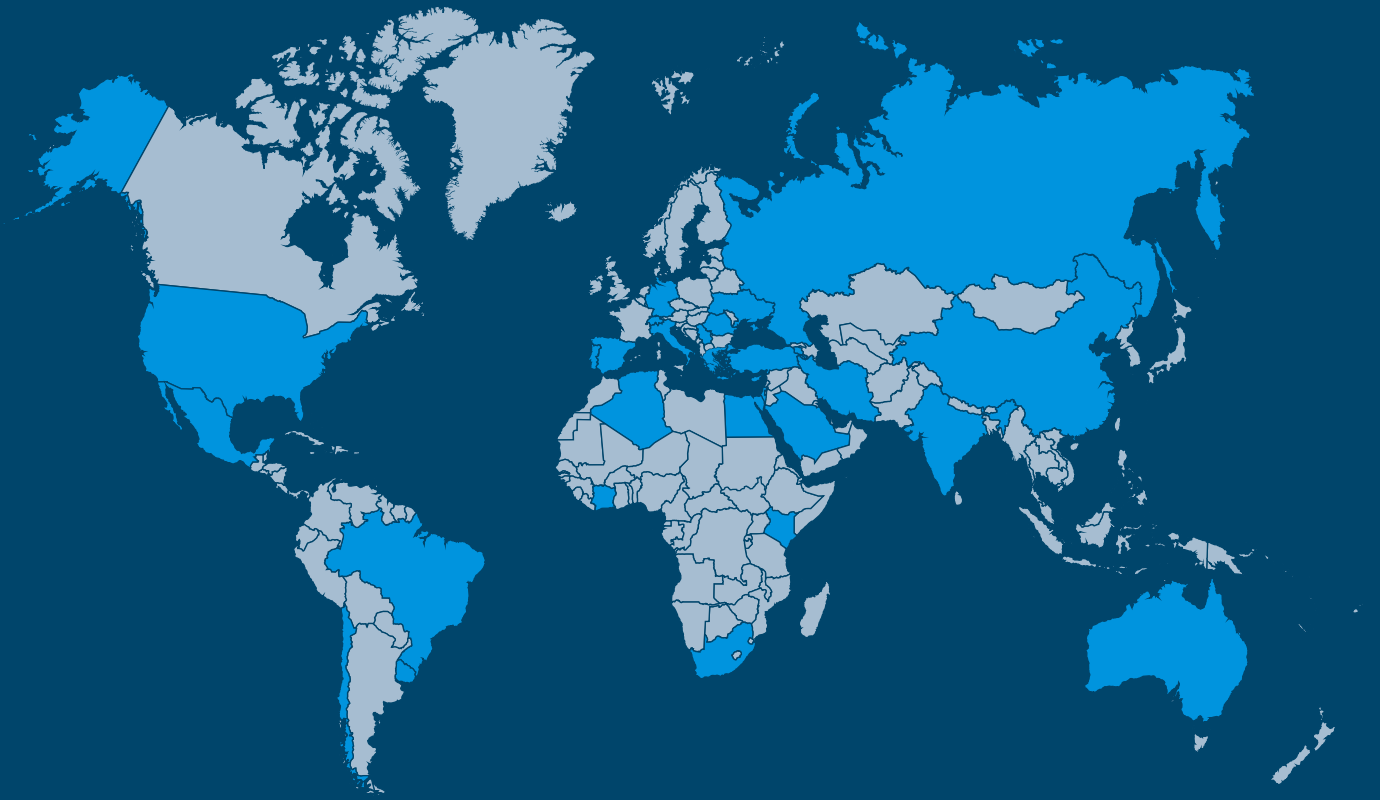
Our goal is to ensure that our services surpass the expectations of our partners. Our experienced technical team can provide you with all the answers, propose the optimum solution and offer comprehensive after sales service and support.

## **Feasibility Studies**

We provide comprehensive feasibility studies for investing in the drip irrigation sector. Whether it is an idea or a final concept, we can help you bring the overall project to fruition.

## **Consultation**

The accumulated expertise and experience allows A.A.S. to embark and consult on any drip irrigation project of new investment, restructuring, merger and or acquisition worldwide.



**Our multi-year global presence in the industry of drip irrigation, equips us with deep knowledge of the particularities and challenges of every country and region. Therefore, we are the experts in the drip irrigation industry. We Know Drip**



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