Advanced
Automation
Systems

We Know Drip

Index

Index

Who we are

Who we are

By utilizing our knowledge, experience and expertise, we offer 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.

What we do

We are 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 Solutions

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.

Emitter Solutions

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.

Technical Solutions

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.

Why we do it

We are 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. Current population is more than three times larger than it was in the mid-twentieth century. It reached 8 billion in mid-November 2022 from an estimated 2,5 billion people in 1950, adding 1 billion people since 2010 and 2 billion since 1998. The world’s population is expected to increase by nearly 2 billion persons in the next 30 years, to 9,7 billion in 2050 and could peak at nearly 10,4 billion in the mid-2080s.

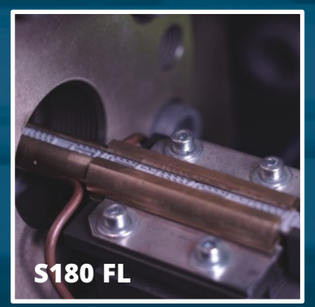
Production Lines

Production
Solutions

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.

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



Production speed
350 meters/min
Inserting rate
2.500 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 inserting rate 2.500 emitters per minute.

Feeder and inserting unit for flat emitters

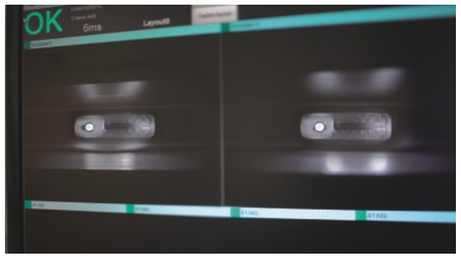
The feeder unit consists of two pre-feeders with hopper storage for the emitters, two centrifugal feeders, a buffer of emitters for approximately one minute back up at the maximum inserting speed and a conveyor. The capacity of the feeder with A.A.S. Nano flat emitters is up to 2.500 emitters per minute 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 2.500 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 2.500 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

75/36 single screw extruder

Manual Screen changer

PE pipe crosshead with single layer with striping option

Vacuum calibration

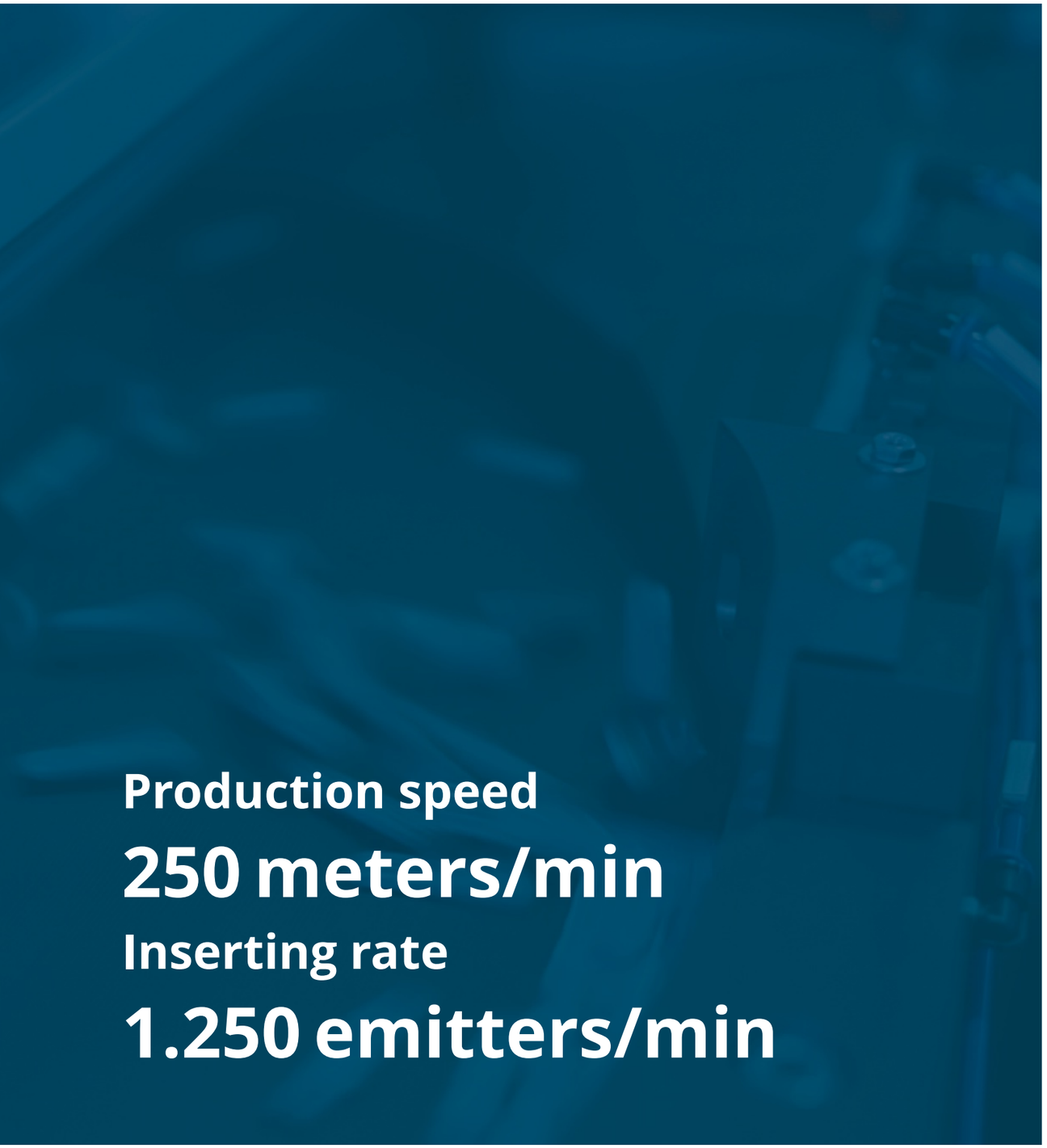
4 meter water cooling module

Closed loop water circulation system

Inserting and drilling system

Capstan haul off

C350 flat dripline coiler



Production speed

250 meters/min

Inserting rate

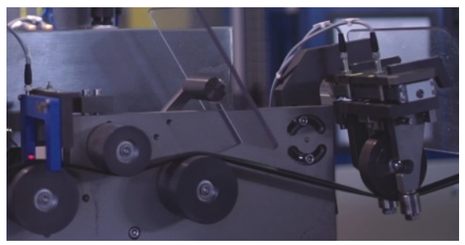
1.250 emitters/min

H250 FL

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

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. Turbo flat emitters is up to 1.250 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 Turbo flat emitters is up to 1.250 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

75/36 single screw extruder

Manual Screen changer

PE pipe crosshead with single 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

250 meters/min

Inserting rate

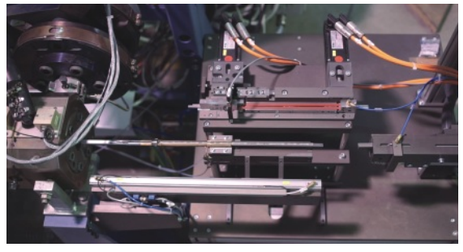
1.250 emitters/min

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. Nano, Turbo, or Cyclone PC emitters. Production speed up to 250 meters per minute and inserting rate 1.250 emitters per minute.

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 A.A.S. Cyclone PC, Turbo and Nano 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

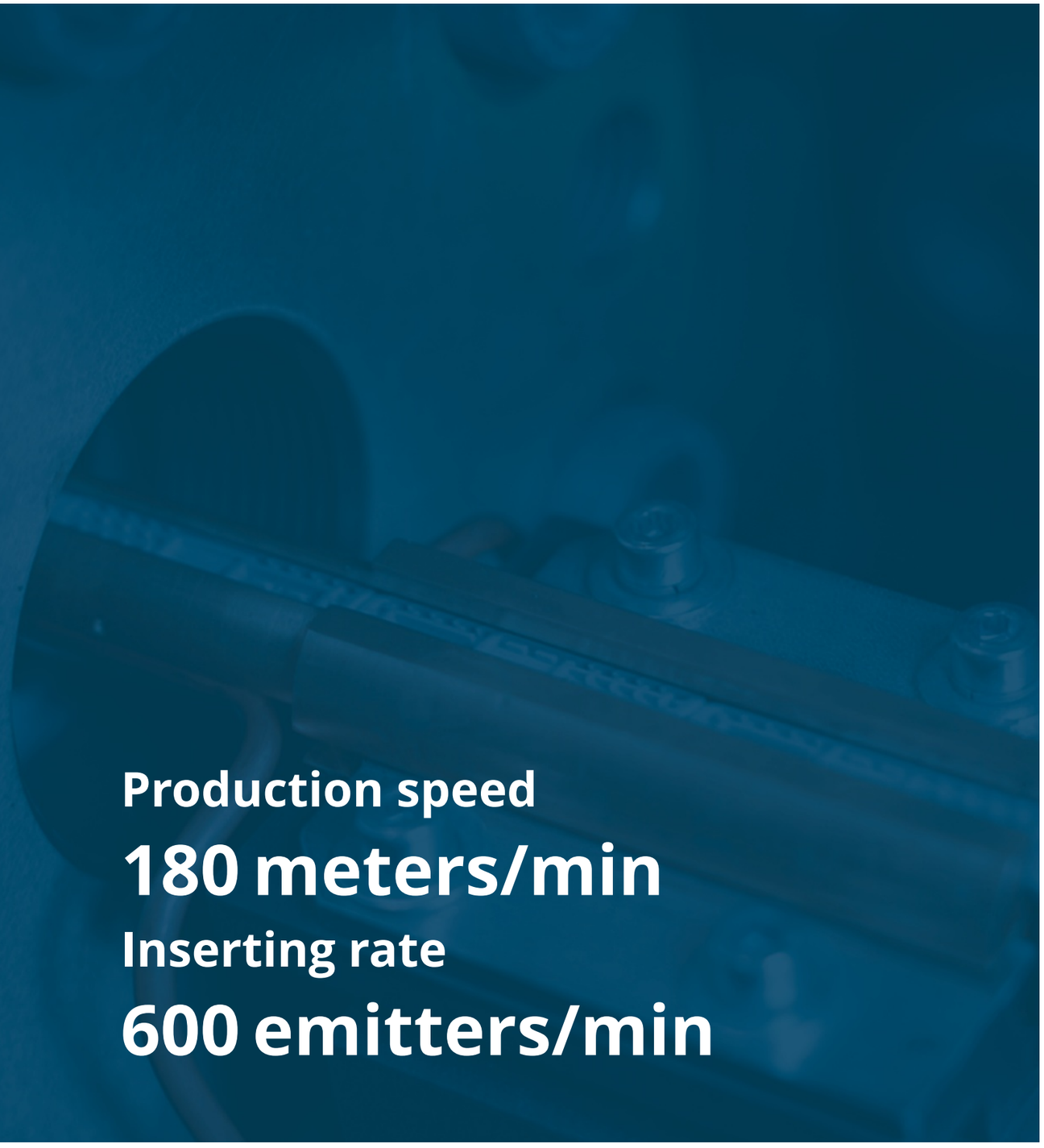
16 meter water cooling module

Closed loop water circulation system

Inserting and drilling system

Caterpillar haul off

C250 flat dripline coiler



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 inserting rate 600 emitters per minute.

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 600 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

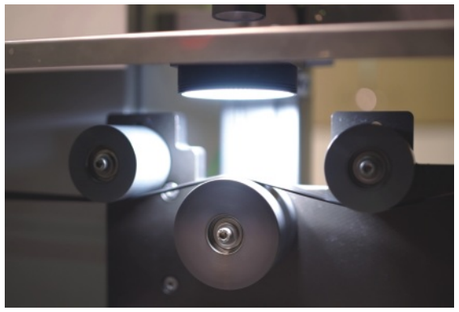
The drilling unit design along with fast motion robotic algorithms enables industry leading production speeds, combined with minimum vibration and high mechanical strength. Drilling capacity of the unit, with Turbo flat emitters is up to 600 holes per minute at a line speed of up to 180 meters per minute.

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

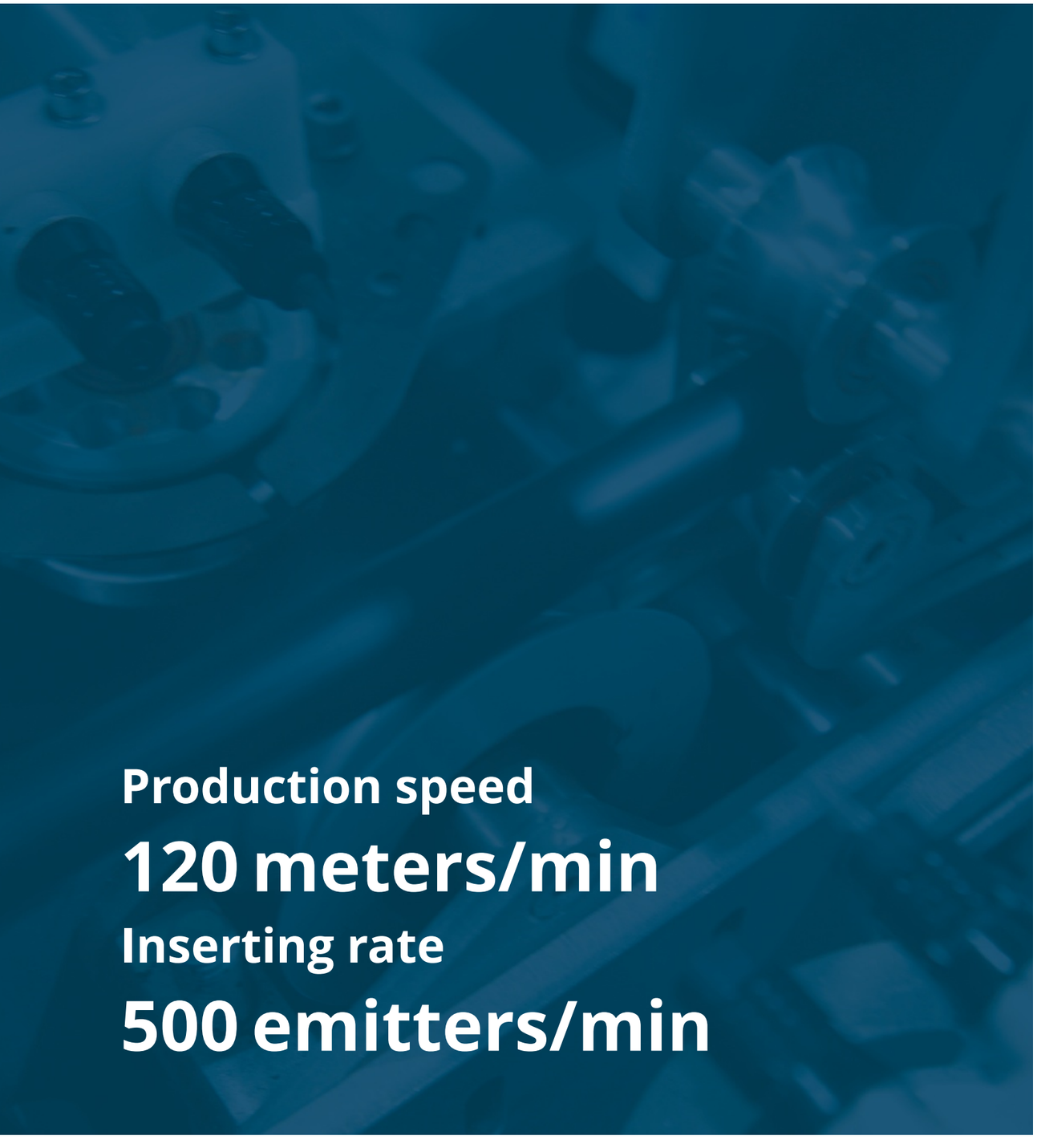
16 meter water cooling module

Closed loop water circulation system

Inserting and drilling system

Caterpillar haul off

C180 flat dripline coiler



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 inserting rate 500 emitters per minute.

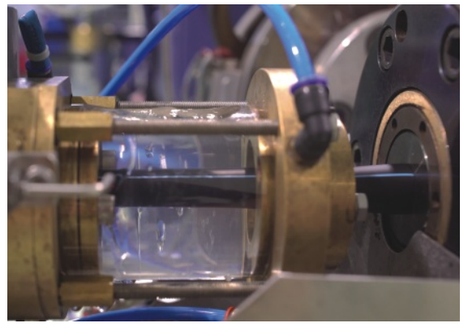
Highly efficient production lines, a result of commitment to constant improvement from many years of experience in everyday production. CE certified, ready to serve customized needs at a more economical price.

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.

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. The drilling capacity of the unit, with two drills for the Turbo Compact and Triton PC emitters, is 500 double of quadruple drills per minute, for two or four holes respectively, 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

18 meter water cooling module

Drilling unit for two or four holes

Caterpillar haul off

R120 Cylindrical dripline coiler

Emitters

Emitter
Solutions

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 flawless operation of the dripline. This is why we constantly improve our production procedures, by implementing the latest technologies in every aspect of our operations.


Cyclone PC


Triton PC


Aquarius PC

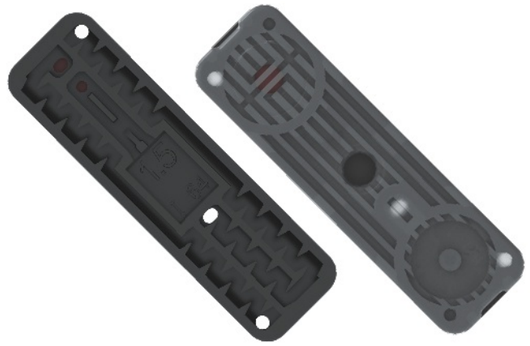

Nano


Turbo


Turbo
Compact

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 sealing the two parts of the emitter. With our investments 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 pressures or in the event of opening of the emitter during installation and/or retraction of the dripline in the field.

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

The Anti-Siphon (AS) system 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 multi-year 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. ND emitters eliminate drainage and refill effect, and improve efficiency in pulse irrigation. In order to achieve the Non-Drain function, the emitter closes when the pressure is below 0,1 bar.

Emitter Characteristics

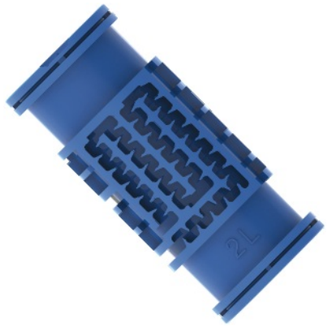
Wide range of flow rates from 1,0 to 3,8 l/h.
Designed for a wide range of wall thicknesses starting from 12 mil up to 47 mil (0,3 mm - 1,2 mm).
Suitable for driplines with internal diameter (ID) from 13,5 mm and on.
State of the art flat PC, AS, ND emitter technology.
Continuous self cleaning mechanism ensures non-clogging uninterrupted operation.
Excellent emission uniformity.
Excellent flow coefficient.
Low friction losses due to the ultra slim design of the emitter.
Injected molded emitters with excellent Coefficient of Variation (CV), less than 5%.

Product Applications

Precision irrigation
Uneven terrains
Greenhouses
Orchards
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)

Triton 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 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 multi-year 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.
In order to achieve the Non-Drain function, the emitter closes when the pressure is below 0,1 bar.

Emitter Characteristics

Available in two flow rates 2 and 4 l/h.
Suitable for driplines with 16mm diameter.
The recommended wall thickness is 0,65 to 1,20 mm (25 - 47 mil)
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.
Continuous self cleaning mechanism ensures non-clogging uninterrupted operation.
High UV resistance.
Resistant to all nutrients used in agriculture.
Injected molded emitters with excellent Coefficient of Variation (CV), less than 5%.
Excellent for effluent water reuse.
Wide pressure compensation range.

Product Applications

Precision irrigation
Uneven terrain
Row crops
Orchards
Landscaping
Gardening
Pulse irrigation
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 closes when the pressure is below 0,1 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), less than 5%.
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 of Nano emitter along with its curved edge design provide a very low kd factor resulting in extremely low friction losses of water flowing 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 anti-clogging ability. A highly turbulent flow design creates multiple vortexes inside the flow path and therefore prevents clogging.

Emitter Characteristics

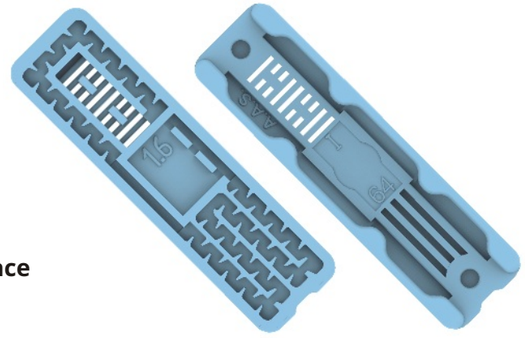
Wide range of flow rates from 0,6 to 2,0 l/h.
State of the art combination of performance and manufacturing technology enable emitter spacings starting from 10 cm and wall thicknesses from 5 mil and greater.
Suitable for driplines with any diameter from 12 mm and on.
Superior and efficient emitter design enables very high downstream production speeds.
Excellent Coefficient of Variation (CV), less than 5%, far superior to labyrinth 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.
The finished coils contain more meters for the same outer dimensions, resulting at lower logistics costs per meter, compared to other thin wall and tape products.

Product Applications

Row crops
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 27 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 anti-clogging ability. A highly turbulent flow design creates multiple vortexes inside the flow path and therefore prevents clogging.

Emitter Characteristics

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

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

Suitable for driplines with any diameter from 12 mm and on.

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

Symmetrical design allows the highest insertion rates and higher production speed.

Ideal for single season as well as multi-season applications and subsurface installation.

Injected molded emitters with excellent Coefficient of Variation (CV), less than 5%.

Advanced water inlet design, increases filtering area and prevents particle insertion in the emitter, thus enhancing the anti-clogging performance.

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 anti-clogging ability. A highly turbulent flow design creates multiple vortexes inside the flow path and therefore prevents clogging.

Emitter Characteristics

Available in two flow rates 2,0 and 4,0 l/h.

Suitable for driplines with 16 mm diameter.

The recommended wall thickness is 0,65 to 1,20 mm (25 - 47 mil)

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

Injected molded emitters with excellent Coefficient of Variation (CV), less than 5%.

Specially designed labyrinth creates high turbulent flow, therefore preventing clogging of the emitter.

Very high resistance to agrochemicals and hard field conditions.

Advanced water inlet design, increases filtering area and prevents particle insertion in the emitter, thus enhancing the anti-clogging performance.

Product Applications

Row crops

Orchards

Landscaping

Vegetables

Gardening

Suitable for both on surface and subsurface installations

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

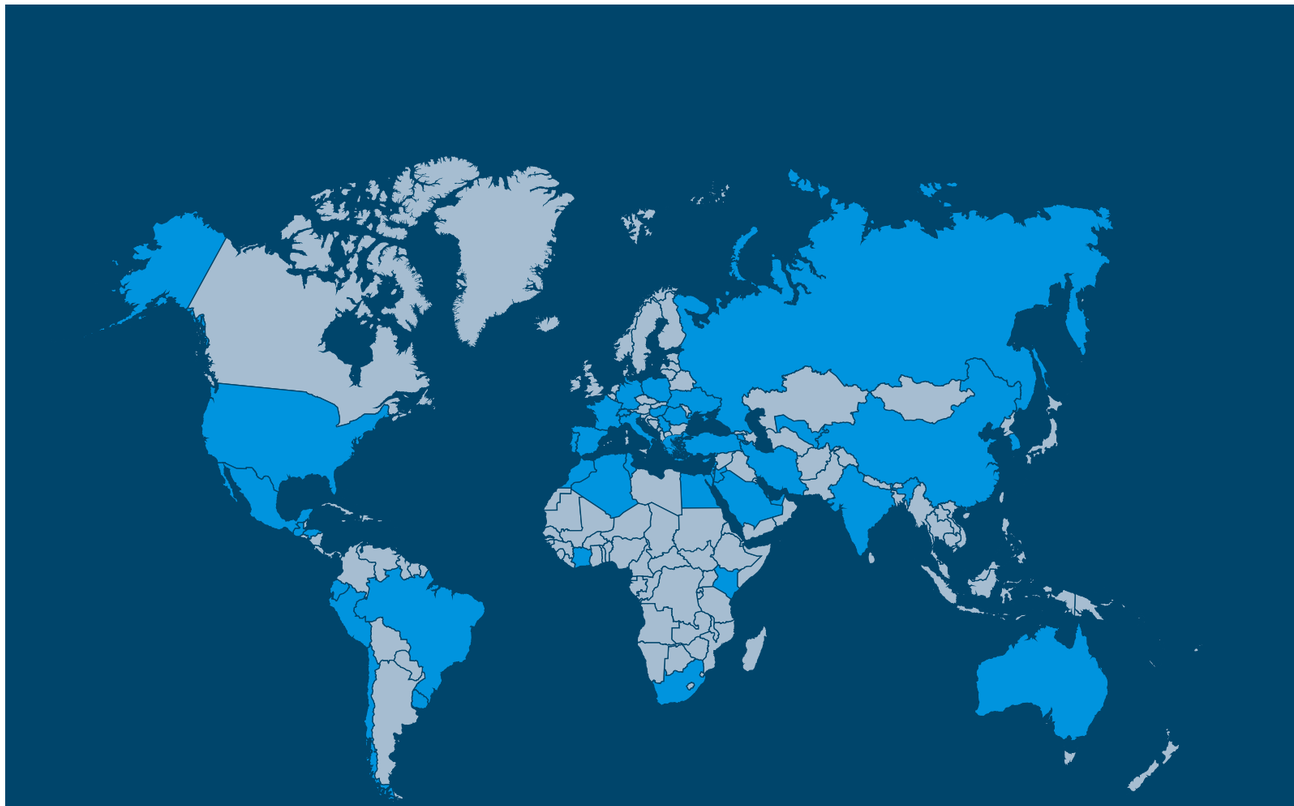
Our goal is to ensure that our services surpass the expectations of our partners. Our experienced technical team can provide you with all the answers, propose the optimum solution and offer comprehensive after sales service and support.

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

Quality Excellence

Advanced Automation Systems

Showroom:
10 Andrea Araouzou str.,
3056 Limassol, Cyprus

Head Office:
12 Andrea Araouzou str.,
3056 Limassol, Cyprus

Factory:
9 Fytion str.,
3056 Limassol, Cyprus

T: + 357 25 399962
F: +357 25 399963
aas@aasystems.eu