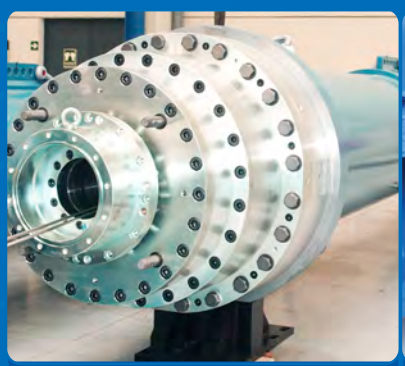
MOLECOR

Smart water

A full range of high-quality, efficient and sustainable solutions at the service of water



Technology

Supply

Building

Sewerage

Experience, technology and innovation

Commitment to the environment

Certified quality

Sustainable, value-added solutions

Sustainable innovation for a greener future

Contents

Innovation at the service of water

About Molecor

Molecor is a Spanish company specialised in solutions for water supply, sewerage and building, whose pipes and fittings are sold in more than 30 countries around the world.

It was founded in 2006 with a focus on developing **molecular orientation technology** applied to pressurised water pipelines. Since then, its exponential growth and ongoing improvement to provide efficient and innovative solutions in the development of technology for manufacturing molecularly oriented PVC pipes have made it the current global leader in the sector. In August 2020, the Spanish fund MCH Private Equity acquired a majority stake in **Molecor** to give the company greater strength to grow and reach its full potential. In addition to financial investment, MCH contributes its industrial and financial expertise to both the organic and inorganic growth of the project.

On 30 September 2021, Molecor completed the acquisition of the Adequa production unit (formerly Uralita Sistemas de Tuberías), adding new solutions for supply, sewage and building to its portfolio. This has allowed it to become **one of the leading companies in pipes and fittings in Spain.** In this way, it continues a major industrial project with a strong focus on technology, efficient water use and international expansion.

Our purpose:

To improve the quality of life for people everywhere in the world, bringing affordable water within their reach through innovative, efficient and sustainable solutions.

Our values:

- **Nonconformism:** We seek to surpass previously achieved levels (quality, efficiency, innovation, safety, etc.) and we are not satisfied with what we have achieved.
- **Globality:** We are a global company, capable of offering our services and products anywhere in the world. To this end, we create an open, diverse and inclusive environment in which any talent can develop, regardless of nationality, location or origin.
- **Honesty:** We apply integrity at all levels in our relationships and decisions, within an environment of tolerance and respect. With transparency, but always respecting legality, regulatory limits and the principles of confidentiality and privacy.
- **Commitment:** We seek, value and are committed to the people around us, to the environment and to the communities in which we are present and in which we provide our services.
- **Attitude:** We like challenges and we are willing to face them actively, giving the best of ourselves, with maximum collaboration, flexibility, openness and sincerity.

2006
- Establishment of **Molecor**

2007
- Development of the **Air-Based System**
- **DN200 mm**

2008
- Development of **M-OR-P 1640**
- **DN400 and DN90 mm**

2009
- Certification by **AENOR** (N brand) and **AFNOR** (NF brand)
- **M-OR-P 1640** in **Australia**

2010
- **DN500 mm PN25**
- Development of **M-OR-P 3163**
- **M-OR-P 1640** in **Italy**

Differentiation

Molecor has developed a unique business model in the pipe sector based on three cornerstones: innovation, internationalisation and agile decision-making. This has made possible rates of growth far higher than the sector average even during the most challenging periods of the crisis, in addition to an extraordinary international presence.

Innovation **Internationalisation** **Agility**

Efficient water transport and management is one of the foundations for progress and results in great business potential. Molecor's goal is to be a global leader in the sector and a **benchmark for quality, efficiency and sustainability**.

Molecor has **five production plants in Spain**: two in the Madrid region (Getafe and Loeches) and three more in Guadalajara, Ciudad Real and Málaga (specifically in Alovera, Alcázar de San Juan and Antequera respectively). The Getafe plant is dedicated to the development of molecularly oriented PVC (PVC-O) technology and also houses the R&D centre. The other plants manufacture the following:

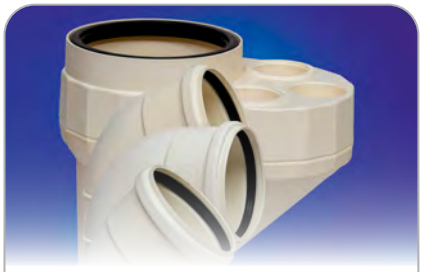
- **Building solutions:** EVAC+®, AR®, floor drainage, gutter systems and siphons.
- **Sewage and drainage solutions:** SANECOR® corrugated PVC sewerage system, SANECOR® manholes, COMPACT SN4 smooth system and PVC drainage system.
- **Supply and distribution solutions:** TOM®, ecoFITTOM®, TR6®, smooth PVC pressure pipes and fittings for smooth PE pipes.

Supply

PVC-O pipes and fittings for efficient and durable water networks.

Sewerage

Corrugated and smooth PVC systems for wastewater and drainage.



Building

Comprehensive solutions for drainage and guttering in construction.

2011
- **M-OR-P 1640** in **Ecuador**
- **DN630 mm**

2012
- **Integrated Seal System (ISS+)**
- **M-OR-P 3163** in **Australia**
- **M-OR-P 1640** in **Colombia**

2013
- **M-OR-P 1640** in **Ecuador**
- Production capacity: **11,000 T/year**

2014
- Certification by **AENOR** for Environmental Management
- Development of **M-OR-P 3180**
- Production capacity: **14,000 T/year**

2015
- **M-OR-P 1640, M-OR-P 3163 and M-OR-P 3180** in **India, Malaysia and Canada**
- Production capacity: **20,000 T/year**
- **DN800 mm**

With 8 production centres and 9 offices across 5 continents, Molecor offers a swift response to water infrastructure projects requiring speed and efficiency.

Molecor factories: delivering the most efficient production

R&D+i and machinery manufacturing centre

Getafe, Madrid

In Getafe, Madrid, **Molecor operates its R&D+i centre**, where increasingly innovative and efficient systems are developed for manufacturing PVC-O products used in pressurised water conveyance.

One of the company's latest developments is **Silkworm, a system designed for decentralised PVC-O pipe production**.

PVC-O TOM® pipe and ecoFITTOM® fittings factory

Located in Loeches, Madrid, this is **the largest production centre in Spain for PVC-O pipes and fittings**, with eight lines dedicated to manufacturing **TOM®** pipes and one for **ecoFITTOM®** fittings.

It produces diameters from DN90 to DN1200 mm for pressures of up to 25 bar and fittings up to DN400 mm for 16 bar. Thanks to **Molecor**'s proprietary technology, **thousands of kilometres of these products have already been installed in supply, irrigation, reuse and fire protection networks, among others.**

Loeches, Madrid

2016
- Opening of a **factory** in **South Africa**
- **M-OR-P 1640** in **Kazakhstan**

2017
- **ecoFITTOM®:** first PVC-O fittings worldwide

2018
- New development: **CPVC-O pipes**
- **Molecor Peru**

2019
- **ecoFITTOM®** fittings consolidated.
- Publication of **EN 17176**

2020
- Certification for **ecoFITTOM®**
- **TOM®: 50-year warranty**
- Acquisition of **MCH**
- **DN1000 mm**

PVC and PPFV fittings factory

Alovera, Guadalajara

At the Alovera site in Guadalajara, Molecor manufactures **PVC and polypropylene fittings** ranging from DN16 to DN315, covering more than 1,300 product references across the **EVAC+®** line and **AR®** Soundproof Range, as well as floor drainage, guttering, PE pipes and siphons.

Current output stands at approximately **7,000 tonnes per year**, with a project under way to increase capacity to 10,000 tonnes annually.

SANECOR® corrugated PVC and AR® Soundproof System factory

The Alcázar de San Juan site in Ciudad Real produces most of Molecor's non-pressurised PVC pipes, including the **SANECOR® Corrugated PVC** system for sewerage and sanitation, as well as drainage pipes, the **AR® Soundproof System**, foamed structured pipes, compact drainage pipes and gutter profiles.

Total **annual production is approximately 20,000 tonnes.**


Alcázar de San Juan, Ciudad Real

PVC-O and PVC pipe production centre


Antequera, Málaga

The Antequera factory in Málaga **manufactures over 15,000 tonnes of product per year**.

This includes **PVC-O TOM® pipes** for pressurised water conveyance (DN110 to DN400 mm), smooth PVC pressure pipes (DN16 to DN630 mm), **TR6®** pipes (DN90 to DN400 mm), **Compact SN4** pipes for sewage (DN110 to DN500 mm) and compact sewage pipes (DN32 to DN200 mm).

2021
- **Acquisition of UPA**
- Expansion of the **ecoFITTOM® range**

2022
- PVC-O TOM® pipe, **DN1200 mm**
- **Molecor Smart Water**

2023
- **Molecor Paraná**
- Expansion of the **ecoFITTOM®** range

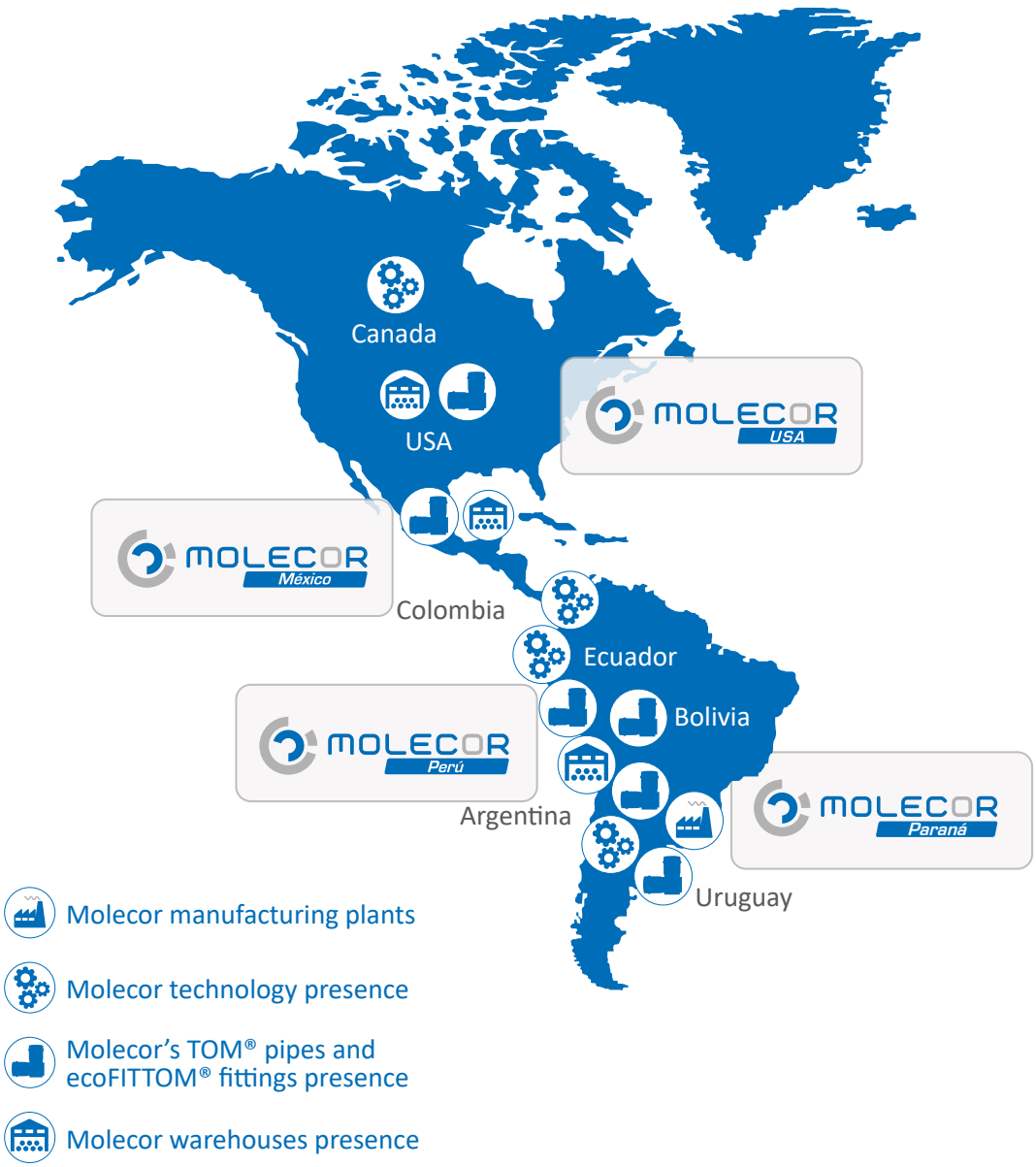
2024
- **Molecor Mexico**
- **EPD: TOM®, ecoFITTOM®, TR6®, SANECOR®**

2025
- **Molecor Türkiye**
- **Silkworm®**

Solutions present across the globe

From the outset, **Molecor** had a **clear ambition to expand beyond Spain** – a goal it began to realise in **2008 with its first technology sale in Australia**. The company was founded on a simple idea: **to make water accessible and help secure a sustainable future**. That idea evolved into **Molecor**'s mission, and achieving it requires internationalisation to be part of the company's DNA. Developing technology and making it available to markets around the world enables the creation of high-quality, environmentally friendly water networks and pipelines.

The company's aim of **international expansion** forms part of a solid, sustainable business model based primarily on **market development** and offering a product with unrivalled characteristics for water conveyance compared to other alternatives. This growth is driven by supplying products and technology and establishing production plants in different countries.



Constantly expanding

Molecor's firm commitment to R&D+i – recognised by several PCTs registered with the World Intellectual Property Organization – goes beyond just developing technology. The company has turned its technical innovations into international manufacturing and commercial solutions, introducing new functionalities that optimise production processes, enhance the customer experience and meet diverse market demands through innovations that broaden the product range, reaching applications once reserved for other technologies.

In 2021, Molecor strengthened its commitment to internationalisation with the acquisition of the Adequa Production Unit, now **Molecor Canalizaciones**. This expansion of production capacity and the addition of **new product lines** have enabled **Molecor** to respond more quickly to increasing demand – not only in **water supply** projects but also in **building** and **sewage**.

Committed to a sustainable future

Eco-efficiency: in Molecor's DNA

Sustainability is one of the essential pillars of **Molecor**. Our PVC-O and PVC pipes and fittings are recognised for their minimal environmental impact throughout their entire life cycle.

Thanks to their composition – with a lower petroleum content than other plastics – and exceptional durability (**exceeding 100 years in the case of PVC-O**), our systems help reduce energy consumption and minimise carbon footprint, contributing directly to the fight against climate change. In addition, responsible production practices ensure that our solutions help preserve resources for future generations.

In line with our purpose, our most significant contribution is to SDG 6, ensuring sustainable water and sanitation for all. We also contribute to SDGs 7, 9, 11, 12, 13, 14, 15 and 17.

Maximising resources.

Creating positive impact.

A full life cycle approach

Recycling and the circular economy are essential for a sustainable future. PVC is 100% recyclable, and thanks to the circular nature of our production processes, almost all PVC waste is reprocessed and reused in the manufacture of new pipes and fittings.

Our plants operate under strategies that minimise waste to near zero by internally reusing plastic remnants and reducing packaging materials. **We are committed to renewable energy and to the continuous improvement of energy efficiency, with the aim of maximising resources and minimising environmental impact.**

We have also developed **geoTOM®**, a tool that geolocates each pipe to facilitate its recovery after more than 100 years of use – closing the loop and avoiding unnecessary resource consumption.

Innovative and sustainable products

Our products are backed by Environmental Product Declarations (EPDs), which ensure full transparency regarding their environmental impact throughout the entire life cycle.

This reflects our firm commitment to sustainability and provides accurate, verifiable data to support responsible decision-making in the construction and industrial sectors.

GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION

PVC-O	SANECOR®	AR®	TR6®	EVAC+®

Responsible production

Molecor's factories stand out for their strong commitment to environmental protection, driven by effective management that prevents pollution and promotes increasingly sustainable development.

To support this, **Molecor** operates an **Integrated Management System for Quality, Environment and Energy**, certified by **AENOR to ISO 9001, ISO 14001 and ISO 50001 standards**.

In addition, as part of **Molecor**'s responsibility in waste management during production, our factories participate in **Operation Clean Sweep (OCS)** – a global, voluntary initiative by the plastics industry to prevent the loss of primary microplastics in any form (pellets, flakes or dust) into the environment. These best practices are certified by AENOR under the OCS Europe scheme.

Operation Clean Sweep®

Why Molecor?

R&D+i at the heart of the company

Molecor is a **company deeply committed to innovation**, product development and technology for global commercialisation. It places strong emphasis on **R&D+i**, investing more than two million euros each year in this area. This commitment goes beyond the development of proprietary technology – recognised through several PCTs registered with WIPO – and extends to partnerships with some of Spain's most prestigious public research and development institutions, such as the Centre for the Development of Industrial Technology and the National Innovation Company. As part of its R&D+i strategy, Molecor also monitors all client technology projects to provide competitive advantages and identify **new strategic opportunities** in the water pipeline sector.

Know-how. Support across all areas

The company's investment in R&D+i, along with its dedication to developing water pipeline networks, has given Molecor a **deep understanding of the sector**. This enables it to provide support throughout every stage of manufacturing and installation in water supply, building and sewage projects.

Thanks to its expertise and continuous development, **Molecor** offers the most extensive range of **PVC-O** pipes and fittings on the market, available in a wide variety of nominal pressures, alongside a comprehensive catalogue of **PVC and PP** products.

As added value, a variety of digital tools are available to assist with installation calculations and pipeline geolocation. These programs and apps help optimise water network performance and ensure efficient, precise and easy maintenance.

TOM® Calculation
Online mechanical calculation tool

SANECOR® Configurator
Online manhole configuration tool

geoTOM®
App for pipeline network geolocation and digitisation

Technology 4.0. Targeted differentiation

With the **MindSphere** operating system developed by **Siemens** and based in the cloud, **Molecor** can monitor critical production line variables in real time.

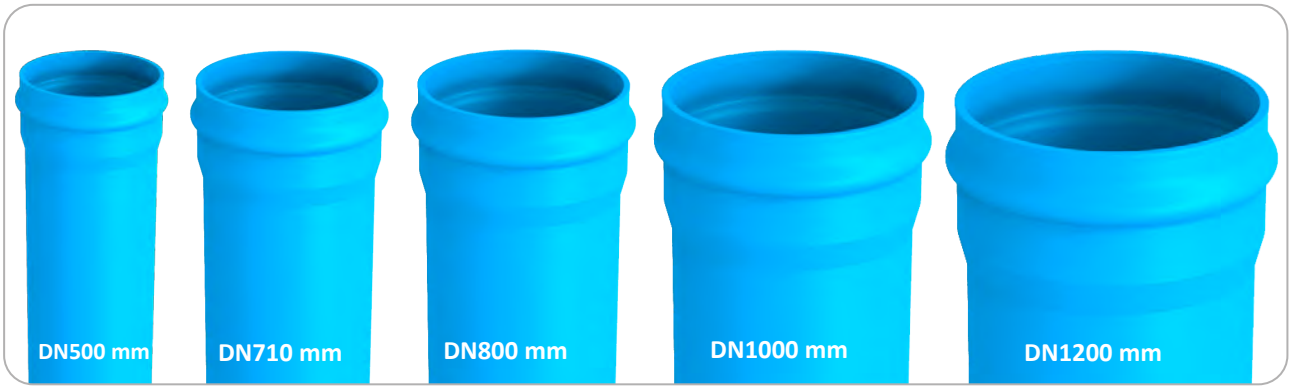
This technology enables predictive and preventive learning and maintenance, significantly improving production performance. **Optimising the value chain through the adoption of new technologies** is one of **Molecor**'s key differentiators.

Value-added products

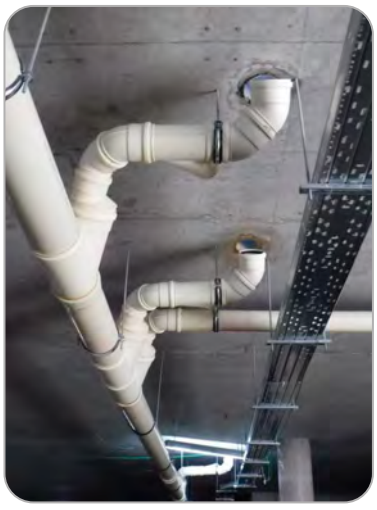
Globally unique technologies and solutions

Molecor offers a broad range of products with solutions for every type of pipeline project, including a selection of exceptional products with unique features that **add value to water distribution networks.**

Molecor's TOM® molecularly oriented PVC pipes are the only ones in the world manufactured using a Genuine Air System, developed exclusively in-house. This **molecular orientation system** grants the pipes exceptional properties compared to other materials and enables the production of large diameters such as DN500 mm, DN630 mm, DN710 mm, DN800 mm and now up to DN1200 mm – milestones that have redefined the industry.



ecoFITTOM®, the **only PVC-O fittings range available on the market**, brings the hydraulic and mechanical performance of TOM® pipes to elbows, reducers, cuffs and through cuffs. It offers an integrated solution for water networks, replacing traditional fittings in nominal diameters from 110 to 400 mm and pressures of 16 bar.



AR® Soundproof Evacuation Systems make it possible to construct quiet structures for building projects. The triple-layer PVC used in this range offers unique advantages, including reduced noise levels and the highest level of fire protection that can be achieved with plastic.

SANECOR® manholes provide a robust and versatile solution using corrugated PVC to create strong, easy-to-install manholes. Their design and materials allow for the creation of complex structures and the addition of extra inlets as needed.

International recognition. Exclusive dedication

Throughout its history, **Molecor** has received **numerous awards** that have helped consolidate its global presence and leadership as a **company specialising in the manufacture of pipes and fittings for water conveyance**, and in the development of molecular orientation technology for PVC. Among the most prestigious awards received by **Molecor** are:

2023

Technical Innovation – TOM® DN1200 mm pipe
Smagua Trade Fair 2023 – Zaragoza, Spain

2022

INOVYN Silver Award – TOM® DN1200 mm pipe
K Trade Fair 2022 – Düsseldorf, Germany

2021

iAgua Award for Agro Company of the Year – Molecor
iAgua Awards 2021 – Madrid, Spain

2021

Technical Innovation – TOM® DN1000 mm pipe
Smagua Trade Fair 2021 – Zaragoza, Spain

2020

Quality Innovation Award (QIA) – M-OR-P 5012
National Association of Centers for Excellence

2019

Technical Innovation – CPVC-O pipe
Smagua Trade Fair 2019 – Zaragoza, Spain

2017

Outstanding Technical Innovation – ecoFITTOM® fittings
Smagua Trade Fair 2017 – Zaragoza, Spain

2016

1000 Companies to Inspire Europe – Molecor
London Stock Exchange Group – London, United Kingdom

2016

Seal of Excellence – ecoFITTOM® fittings
Recognition by the European Union

2015

SME of the Year – Molecor
2nd CEPYME Awards – Madrid, Spain

2013

SolVin Gold Award – TOM® DN600 mm pipe, PN25 bar
K Trade Fair 2013 – Düsseldorf, Germany

2012

21st Emprendedor Award – Molecor
La Caixa and ENISA – Valencia, Spain

The power of molecular orientation

The science behind PVC-O

Molecor has developed a **unique technology that significantly enhances the properties of PVC**, an amorphous polymer whose molecules are normally arranged in random directions. However, under specific conditions of pressure, temperature and speed, and by stretching the material, it is possible to align the polymer molecules in the direction of that stretch.

Depending on the process parameters – particularly the stretch ratio – a greater or lesser degree of orientation is achieved.

The result is a plastic with a laminar structure, whose layers are visible to the naked eye.

Laminar structure

Formed through molecular orientation. **TOM® Class 500** PVC-O pipes

The molecular orientation process alters the internal structure of PVC by aligning the polymer molecules in a linear formation.

Maximum ductility

Withstands extreme deformation without structural damage.

Molecular orientation dramatically enhances the physical and mechanical properties of PVC, giving it exceptional performance while preserving the original polymer's chemical advantages.

The result is a plastic with superior tensile and fatigue strength, outstanding flexibility and excellent impact resistance.

When applied to pressurised systems, **it produces highly robust pipes with an exceptionally long service life**. This also brings significant energy and environmental efficiency, both during manufacturing and throughout the product's use, **as well as shorter installation times and reduced costs.**

For all these reasons, the **TOM®** molecularly oriented PVC **pipe is the ideal solution for medium- and high-pressure water pipelines,** used in irrigation, drinking water supply, industrial systems, fire protection networks and pumping stations, among other applications.

Exceptionally lightweight

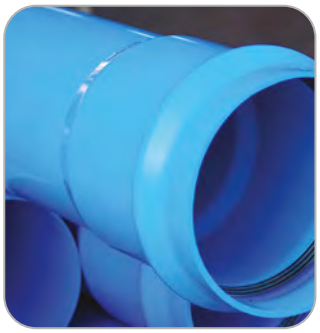
Unbeatable installation speed, efficiency and cost.

Our solutions

Supply

TOM® pipes and **ecoFITTOM® fittings** made from PVC-O are increasingly the material of choice for pipeline projects, thanks to the broad range of benefits they offer all stakeholders – from developers to end users:

- **Unrivalled impact resistance.** Their high resistance to impact minimises breakages during installation or on-site testing and prevents crack propagation.
- **High short- and long-term hydrostatic strength.** Molecor's PVC-O pipes and fittings offer a service life expectancy of over 100 years.
- **Excellent performance under water hammer.** The wave speed in these pipes and fittings is lower than in other solutions, helping to reduce water hammer and the risk of breakage.
- **Greater hydraulic capacity.** They present 15% to 40% more hydraulic capacity than pipes made from other materials with similar external diameters.
- **Maximum ductility.** Their outstanding elasticity allows them to withstand significant internal diameter deformation while instantly returning to their original shape.
- **Complete watertightness.** Pipes and fittings are supplied with a tested sealing joint, incorporating a polypropylene ring and a synthetic rubber lip, forming an integral part of the piece and preventing movement or displacement during installation.
- **Chemical resistance.** Molecularly oriented PVC is chemically inert, immune to corrosion and resistant to attacks from naturally occurring organisms – ensuring the full quality of water for human consumption.
- **Extremely lightweight and easy to install.** TOM® pipes and ecoFITTOM® fittings are lighter and quicker to install than products made from other materials.



TOM® PVC-O pipes certified in 10 countries

The world's widest range of diameters and pressure classes

Ongoing growth in PVC-O production capacity

Thousands of kilometres of PVC-O pipe manufactured using Molecor technology

TOM : the optimal choice for pressurised water pipelines

The **TOM® PVC-O pipe** is an exclusive product developed using the innovative **molecular orientation technology created by Molecor**.

The manufacturing process is continuous and fully automated, ensuring maximum product reliability and 100% quality control – pipe by pipe – across the entire production cycle.

More about TOM

Nominal diameter (mm)	Nominal pressure (bar)
90 110 125 140 160 200 225 250 315 355 400 450 500 630 710 800 900 1000 1100 1200	PN12.5 / 16 / 20 / 25

* Warranty applies exclusively to pipes manufactured at the production centres in Loeches (Madrid, Spain) and Antequera (Málaga, Spain), under AENOR Product Certificate No 001/007104, in accordance with UNE-EN 17176:2019.

ecoFITTOM : advanced technology for water networks

Molecor has been manufacturing and marketing **the world's first PVC-O fittings, ecoFITTOM®**, for several years, providing a solution with the same hydraulic and mechanical performance as **TOM® pipes**. These fittings are also compatible with any type of PVC used in piping systems.

	Nominal diameter (mm)	Nominal pressure (bar)
Bend 11.25° / 22.5° / 45° / 90°	90(*) 110 125 140 160 200 225 250 315 400	PN16
Reducer	110/90 125/110 140/110 160/110 160/140 200/160 225/160 225/200 250/200 315/250 400/315	PN16
Coupler	110 125 140 160 200 225 250 315 400	PN16
Sliding coupler	90 110 125 140 160 200 225 250 315 400 500	PN16

More about ecoFITTOM

TR6: the most efficient and sustainable solution for irrigation

Developed by **Molecor**, TR6® is the first PN6[(1)] molecularly oriented PVC pipe on the market designed specifically for irrigation. Thanks to molecular orientation, it offers greater rigidity, up to three times the impact resistance of PVC-U, improved hydraulic performance and enhanced fatigue resistance. Its automated manufacture using **M.E.S.** technology ensures complete quality assurance and full traceability. Its lower carbon footprint also makes it the most sustainable option available.

More about TR6

Nominal diameter (mm)											Nominal pressure (bar)
90	110	125	140	160	200	225	250	315	355	400	PN6

Smooth PVC pressure system: efficient pipelines.

As part of its infrastructure product range, **Molecor** also offers a range of **smooth PVC pipes** with nominal diameters from 16 mm to 630 mm, pressure classes from 6 to 20 bar, and two connection systems: **elastic joint with sealing ring or solvent-welded joint**.

Fittings for smooth pipes: versatility and easy installation.

To complete pressurised pipeline systems, **Molecor** also supplies a range of fittings made from **PE**, **PPFV** or **PVC**, ensuring total watertightness and **compatibility with any pipeline project**. The PPFV fittings range, with nominal diameters from 20 to 40 mm, also features a **quick-assembly system** that does not require disassembly of the fitting.

Building

Soundproof Evacuation System

Noise-free innovation

The **AR® Soundproof Evacuation** range offers an effective solution to noise pollution in building projects, fully compliant with the **Spanish Building Technical Code**. The catalogue includes a wide variety of pipes and fittings for drains, downspouts and suspended collectors.

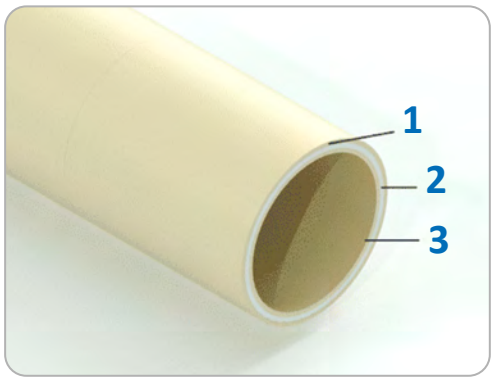
- **Soundproofing.** AENOR-certified silent system that effectively reduces noise levels.
- **Fire resistance.** Class B-s1, d0, thanks to flame-retardant additives that prevent flame spread.
- **Chemical resistance.** Made from inert PVC, resistant to corrosion and biological agents.
- **Durability.** Service life of over 50 years.
- **Lightweight and cost-effective.** Lower weight and cost than traditional solid-wall pipes thanks to its three-layer structure.
- **Recyclability.** All PVC products are 100% recyclable.

Downspouts

Suspended collectors

Drains

The **AR® Soundproof Evacuation System** features advanced **three-layer technology**, delivering performance that surpasses traditional solid-wall pipes, as validated by our R&D+i department. Its structure comprises:



1. **Outer layer:** Made from PVC with special additives, engineered to withstand mechanical stress without additional protection.
2. **Intermediate layer:** Made from PVC with high-density mineral filler, providing outstanding acoustic insulation.
3. **Inner layer:** Made from PVC with additives, specially designed to withstand high temperatures and abrasive substances. This layer also provides the interior surface with an ultra-smooth finish that prevents encrustations.

EVAC+ adequa Evacuation system

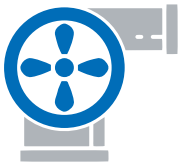
Solutions for every project

Drawing on its extensive experience and commitment to innovation, **Molecor offers fire-certified drainage pipes and fittings that adapt to any type of construction project**. **EVAC+®** is designed for domestic wastewater (hot and cold), internal ventilation and rainwater drainage. Its flexible catalogue allows for easy installation even in complex layouts.

- **Fire resistance.** Class B-s1, d0, thanks to flame-retardant additives that prevent flame spread.
- **Corrosion resistance.** PVC is chemically inert and naturally resistant to biological agents.
- **Quality certification.** Certified by AENOR and compliant with UNE EN 1453 and 1329 standards, as well as the Spanish Building Technical Code.
- **Recyclability.** All PVC products are 100% recyclable.

Rainwater

Wastewater



Ventilation

Floor drainage solutions

Designs that endure

Molecor's floor drainage solutions offer complete, innovative systems for both **indoor and outdoor environments**. The catalogue includes inspection chambers, channels, drain gates and floor gullies made from enhanced PVC combined with polypropylene, stainless steel or cast iron components, depending on the part and model.

This product range features carefully engineered designs that deliver top-tier performance, durability and resistance, while maintaining a clean, modern aesthetic. These solutions are suitable for use in pedestrian areas, gardens, terraces, courtyards, garages, saunas, gyms, swimming pools, commercial premises, sports facilities and more.

- **All drains and drain gates are equipped with siphons** to prevent unpleasant odours from escaping.
- **Inspection chambers come pre-marked** with inlets for downspouts.
- **Tongue-and-groove channels** can be cut to size and joined using PVC adhesive.
- All products are **UV-treated** to protect them from solar radiation.
- **Complete watertightness** is ensured across all floor drainage components, without the need for additional lining.

Circular coextrusion: EVAC+ rCOMPACT

Molecor presents its new **EVAC+ rCOMPACT®** range – a **compact, structured coextruded** pipe manufactured in accordance with UNE-EN 1453, designed for indoor drainage installations.

Its key innovation is the use of up to **60% (by mass) recycled PVC (rPVC) in its intermediate layer**, delivering hydraulic and mechanical performance equivalent to traditional compact pipes compliant with UNE-EN 1329, but with a **significantly reduced environmental footprint**.

Advantages of coextrusion in drainage:

- **Sustainable performance:** Same reliability, lower carbon footprint.
- **Wide range of diameters.**
- **Lightweight yet robust:** Ideal for new builds and refurbishments.
- **Optimised appearance:** Consistent colour and surface finish thanks to the external coating.

Recycled layer only visible at the chamfer.

Nominal diameter (mm)										Length (m)
32	40	50	75	90	110	125	160	200		3 / 5
Plain end			Socketed							

Innovation that makes a difference

- Fire resistance: B-s1, d0
- Extremely lightweight
- Up to 60% recycled material

EVAC+ rCOMPACT® is the ideal solution for **indoor drainage systems in residential, commercial and industrial buildings**. Its design allows for both exposed and concealed installations, offering robust technical performance with a sleek, high-quality appearance. It is also an excellent option for refurbishment projects that require a sustainable, dependable approach.

Every metre of this coextruded pipe represents a commitment to the future: **sustainability and a dedication to the circular economy**, without compromising the performance required by modern construction.

Gutter system

A solution for every style

Molecor's gutter range enables the creation of systems that adapt to the aesthetics of any façade, offering maximum efficiency in rainwater drainage. It includes four models: **Plunia, circular with double volute, circular with single volute and trapezoidal**.

Among the available options, the innovative **Plunia** model stands out – a gutter with a semicircular internal geometry that provides excellent hydraulic capacity and rapid drainage, while its straight front edge allows for a wider opening and improved water collection. In addition, the fittings feature an innovative clip-locking system, which simplifies assembly and enhances the security of the connection between the profile and the fitting, ensuring reliable performance even under demanding weather conditions.

Gutter system

- **Optimal hydraulic capacity.** Designed to capture and convey even the highest volumes of rainwater, guaranteeing efficient drainage at all times.
- **UV protection.** Incorporated into the material to extend the gutter's service life and preserve its original colour and appearance for decades, even with constant exposure to sunlight.
- **Resistance to thermal shock.** PVC offers excellent resistance to the thermal fluctuations typical of outdoor installations.
- **Variety of designs and colours.** A suitable solution for every type of building.

Siphon

Siphons

To complete drainage systems, **Molecor**'s range of siphons enables the hydraulic sealing of installations, offering an effective and versatile solution for a wide variety of wastewater outlets. The extensive range includes extensions, connectors and fittings designed to prevent the entry of gases and unpleasant odours from the pipe system.

Siphons can be installed in washbasins, bathtubs, bidets, showers and sinks, as well as in general wastewater drainage systems.

The range includes **versions in white polypropylene (PP)**, a **chrome-plated** ABS line for a more refined finish and a **chrome-plated brass line**, ideal for exposed installations and designer washbasins made from materials such as glass or stainless steel.

- All siphons include an **access point** to facilitate cleaning and maintenance.
- Siphons and valves with DN40 mm outlets come with a **reducing seal** for DN32 mm connections.
- With **decades of proven performance** on the market, they are made from materials resistant to commonly used household chemicals, ensuring long-term durability and reliability.

Sewerage

SANECOR : maximum efficiency in sewerage

Molecor's **SANECOR®** range – comprising **pipes, fittings and manholes** – is designed to meet today's highest standards for hygiene, performance and environmental protection. Manufactured from **corrugated PVC with a double-layer structured wall, it features a smooth interior surface** that optimises hydraulic flow **and a corrugated exterior** that provides increased mechanical strength – ensuring both durability and efficiency.

Available in nominal diameters from DN160 to DN1200 mm, **SANECOR®** is ideal for urban sewer systems, wastewater collectors and pipelines carrying acidic or alkaline solutions. This material and structural combination delivers a robust, cost-effective solution with a low environmental impact – ideal for the most demanding sewerage applications.

- **High stiffness with flexibility** to adapt to any terrain.
- **Corrosion and chemical resistance,** including resistance to fats and oils.
- **Abrasion resistance:** The PVC pipe's low internal roughness offers high resistance to continuous abrasion from solid particles in the effluent.
- **Total watertightness,** thanks to its elastomeric joint system.
- **Durability:** Service life **of over 50 years.**
- **Greater hydraulic capacity** with reduced deposit build-up.
- **Reduced fouling and incrustation:** The non-porous interior and increased water velocity help prevent solid materials from settling and causing blockages.
- **Lightweight and easy to install,** reducing both construction time and costs.

Urban sewerage

Wastewater

Industrial applications

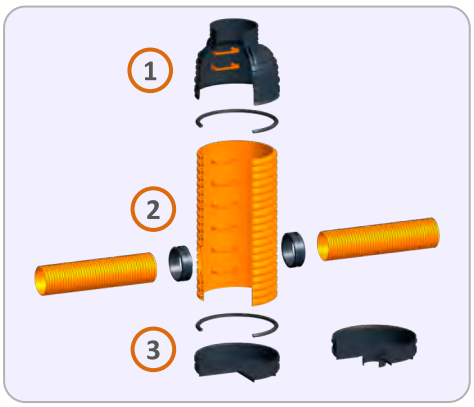
Drains

SANECOR : corrugated PVC manholes

Traditionally, manholes have been made from materials such as reinforced concrete or brick masonry, but – as with pipes – **corrugated PVC** has proven to offer a far superior solution. The **SANECOR®** design ensures optimal mechanical performance and **excellent watertightness across the network, while significantly reducing costs.** It has also been in use for over 12 years and has been installed in hundreds of sites across Spain. **SANECOR®** manholes are available in diameters ranging from 600 to 1200 mm and heights from 1.5 to 9 metres. Collector inlets or possible connections to the manhole body are made using elastomeric seals.

The manhole consists of three parts:

- **Manhole access (1):** A high-rigidity conical piece that reduces the diameter of the manhole to the diameter of the access point (600 mm).
- **Shaft or manhole body (2):** Its high stiffness eliminates the need for concrete reinforcement and includes factory-installed access steps.
- **Manhole base (3):** Pipes connect directly into the manhole body through elastomeric seals, which, by making use of the thick corrugated wall, ensure complete watertightness.



Compact SN4.

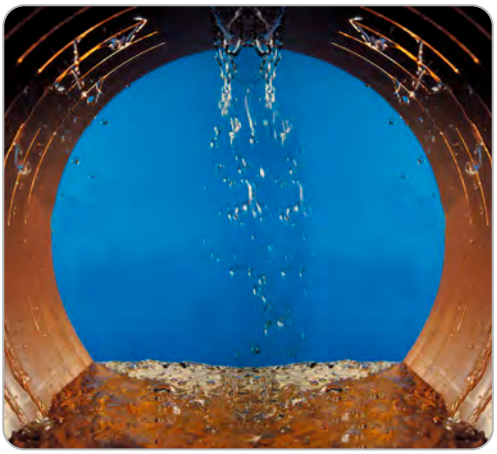
Molecor also offers the **Compact SN4** range – smooth PVC pipes for sewage that are 100% recyclable and **AENOR** certified.

They are watertight, durable pipes with elastomeric joint connections, available in diameters from 110 to 500 mm. They are ideal for urban sewerage, building drainage and industrial discharge systems. They stand out for their high chemical and abrasion resistance, high hydraulic capacity, wide range of fittings and total watertightness.

Drainage.

Molecor complements its offering with slotted PVC drainage systems, ideal for both shallow and deep applications – including roads, railways, tunnels, agriculture and more.

These pipes stand out for their high resistance to crushing loads, corrosion resistance in aggressive soils, smooth interior that improves hydraulic capacity, excellent watertightness thanks to the elastomeric seal, **three types of slotting to suit each project and their sustainability, as they are 100% recyclable.**



SANOR : Oriented sewage

SANOR® molecularly oriented PVC pipes, manufactured in accordance with the **EN 13476-2** standard, are designed for gravity sewerage systems and applications with pressure up to 6 bar.

These structured wall pipes are composed of three layers: **Outer and inner layers**, made with virgin PVC, and the **core**, which is made with 100% recycled PVC. Because the core is made from 100% recycled material, **the pipe as a whole contains 60% recycled material**. All layers undergo a molecular orientation process, which significantly improves their mechanical properties. Unlike other products, the middle layer is not manufactured using foaming, which provides a compact and sturdy structure.

Technical benefits:

- High mechanical resistance to impacts and deformation, thanks to molecular orientation.
- High hydraulic capacity, optimising system performance.
- Outstanding compatibility with standard fittings.
- Sustainability: uses recycled materials and formulated with a low carbon footprint.

SANOR® pipes are currently available in nominal diameters of 160, 200, 250, 315 and 400 mm and can be used in both non-pressurised and pressurised sewage networks of up to 6 bar. They are suitable for urban sewerage, wastewater and rainwater collectors, drainage systems, industrial pipelines, irrigation networks and wastewater pumping systems.

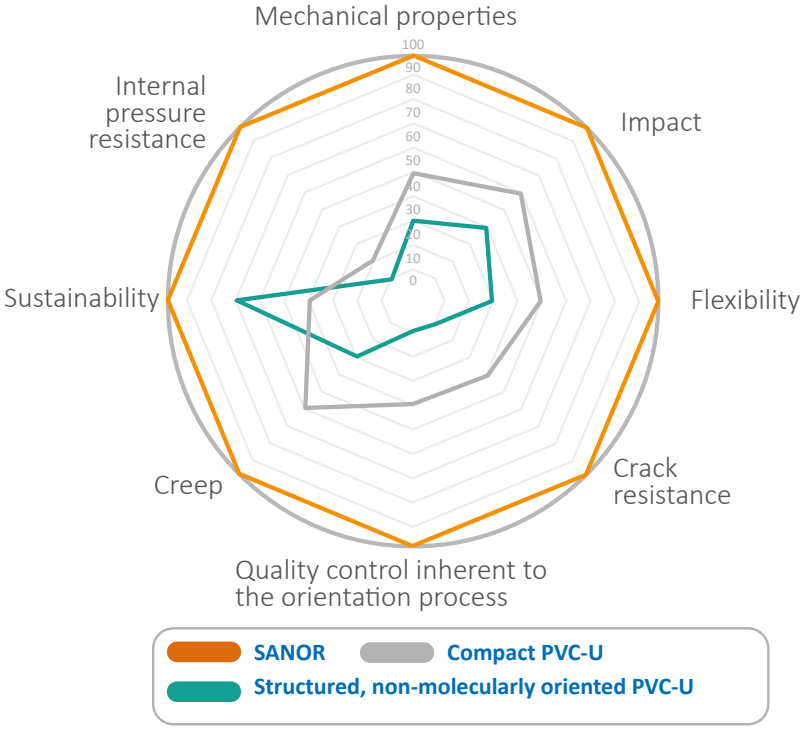
Extremely lightweight

Highest installation performance (m/h)

Expected lifespan longer than 100 years

Easy to connect

Properties of SANOR® vs alternative PVC-U products



Molecor System. Redefining technology with air.

In **2007, Molecor** developed a unique **Genuine Air-Based System** – an advanced technology that manufactures **molecularly oriented PVC pipes** in-line with the extruder to ensure maximum product quality.

This system enables the production of **PVC-O pipes** using air, instead of water, throughout the entire orientation process – marking a turning point compared with previous technologies.

Molecor's Air-Based System **increases production speed, improves energy efficiency and eliminates intermediate stock**, resulting in a **continuous process** that operates at the same pace as conventional PVC extrusion lines.

Safety **Versatility** **Productivity** **Cost-effectiveness**

Safety

- Clean, air-based system that avoids the risk of boiling water leaks.
- Pipe-by-pipe quality control.
- Monitoring and support for preventive maintenance.
- Closed orientation environment (mould).
- Continuous extrusion and orientation processes, decoupled to prevent fault propagation.
- Remote support available from Molecor's offices.

Versatility

- Structured process development enabling custom solutions on request.
- Rapid diameter changeover. Adjustments can be made to the Molecor system while the extruder is in operation – and vice versa.
- Compatible with standard PVC extrusion systems.

Productivity

- In-line operation at the same speed as the extruder.
- No intermediate stock.
- Start-up time of less than one hour.
- Standard factory layout, even for large diameters.
- Intuitive system with a short learning curve.
- Parameter input via pre-set recipes.

Cost-effectiveness

- Electrical consumption similar to that of a conventional extrusion line.
- Use of reprocessed material.
- Automated system requiring minimal labour.
- Energy applied solely to the pipe through targeted air distribution.
- Optimised use of raw material in pipe manufacturing.

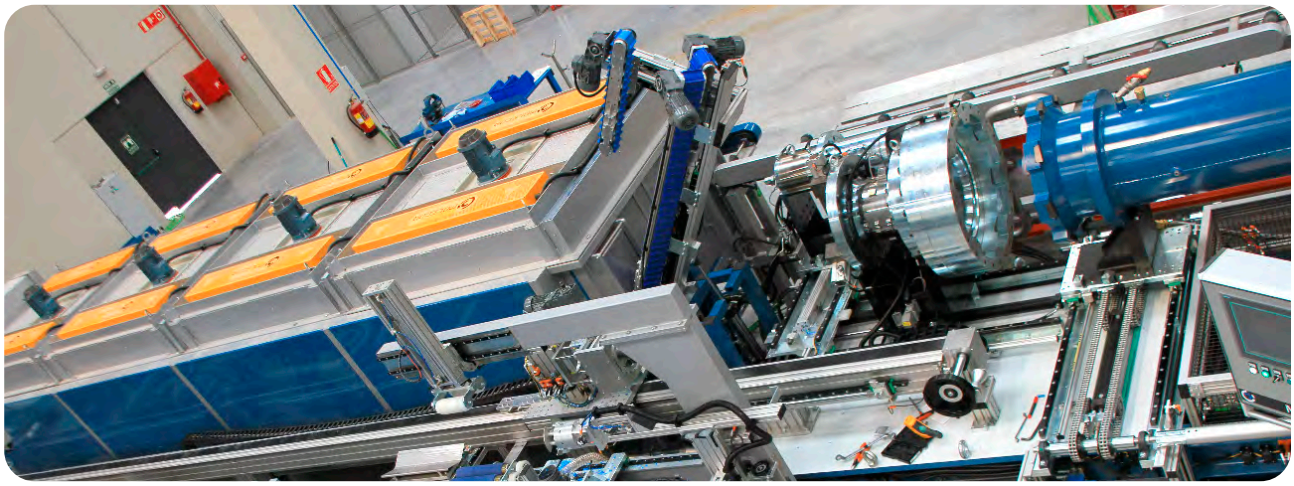
Silkworm technology: production where it's needed

The definitive breakthrough in PVC-O manufacturing

Molecor takes molecular orientation technology a step further with the introduction of **Silkworm**, a comprehensive system that redefines the way PVC-O pipes are produced and supplied anywhere in the world.

Created to solve the major economic, logistical and time-related challenges of traditional transport, **Silkworm enables decentralised production through modular technology that can be implemented at the destination.**

Silkworm technology makes it possible to bring manufacturing to areas previously considered unviable due to their remoteness or transport complexity, shortening the distance between raw material and finished product. This leads to a much faster, more efficient and more sustainable supply chain, with a direct impact on reducing the environmental footprint and improving the competitiveness of water infrastructure projects. Furthermore, with a production capacity of **approximately 7,000 tonnes per year**, it is possible to supply large-scale projects without relying on centralised factories.



Its scope is complete: from raw material storage to reprocessing and final product quality control.

The **Silkworm** station includes extrusion systems, molecular orientation, quality control and all necessary auxiliary infrastructure (compressed air, water and other support systems), **ensuring that each installation is autonomous and capable of meeting local market demands.**

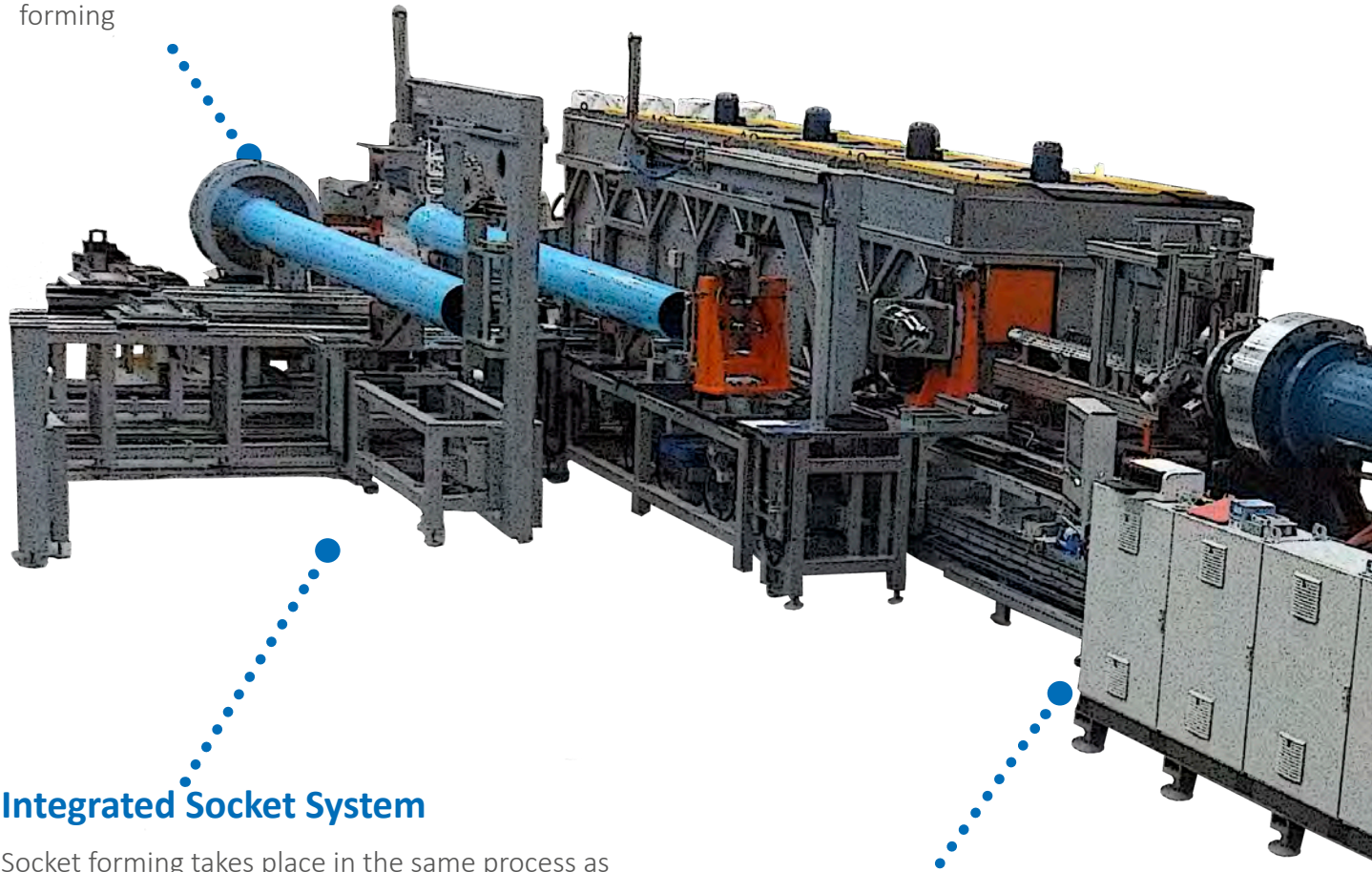
This highly versatile system covers a product range from **500 to 1,200 mm (18" to 48")**, with nominal pressures from **12** to **25 bar (165 to 305 psi)**, adapting to the most demanding international standards and regulations.

- Reduced logistics costs
- Rapid deployment
- Decentralised production model
- Local implementation of technology
- Optimised resources and delivery times
- Integration of proprietary auxiliary equipment

Molecor System: The technology for manufacturing the world's largest and highest-quality PVC-O pipe

Integrated Seal System (ISS+)

Automatic positioning of the seal and socket forming



Integrated Socket System

Socket forming takes place in the same process as orientation

100% automated system. Recipe-based operatio

Short learning curve

Revolutionising the market

The technology developed by **Molecor** has revolutionised the production of molecularly oriented PVC (PVC-O) with its **Genuine Air System** – an innovative and safe solution that achieves the highest degree of molecular orientation **(Class 500)**.

This stable system, compatible with conventional lines and free from boiling water, enables the production of **TOM®** pipes from DN90 mm to DN1200 mm at pressures of up to 25 bar, and has been key to the development of **ecoFITTOM®** fittings.

The widest product range

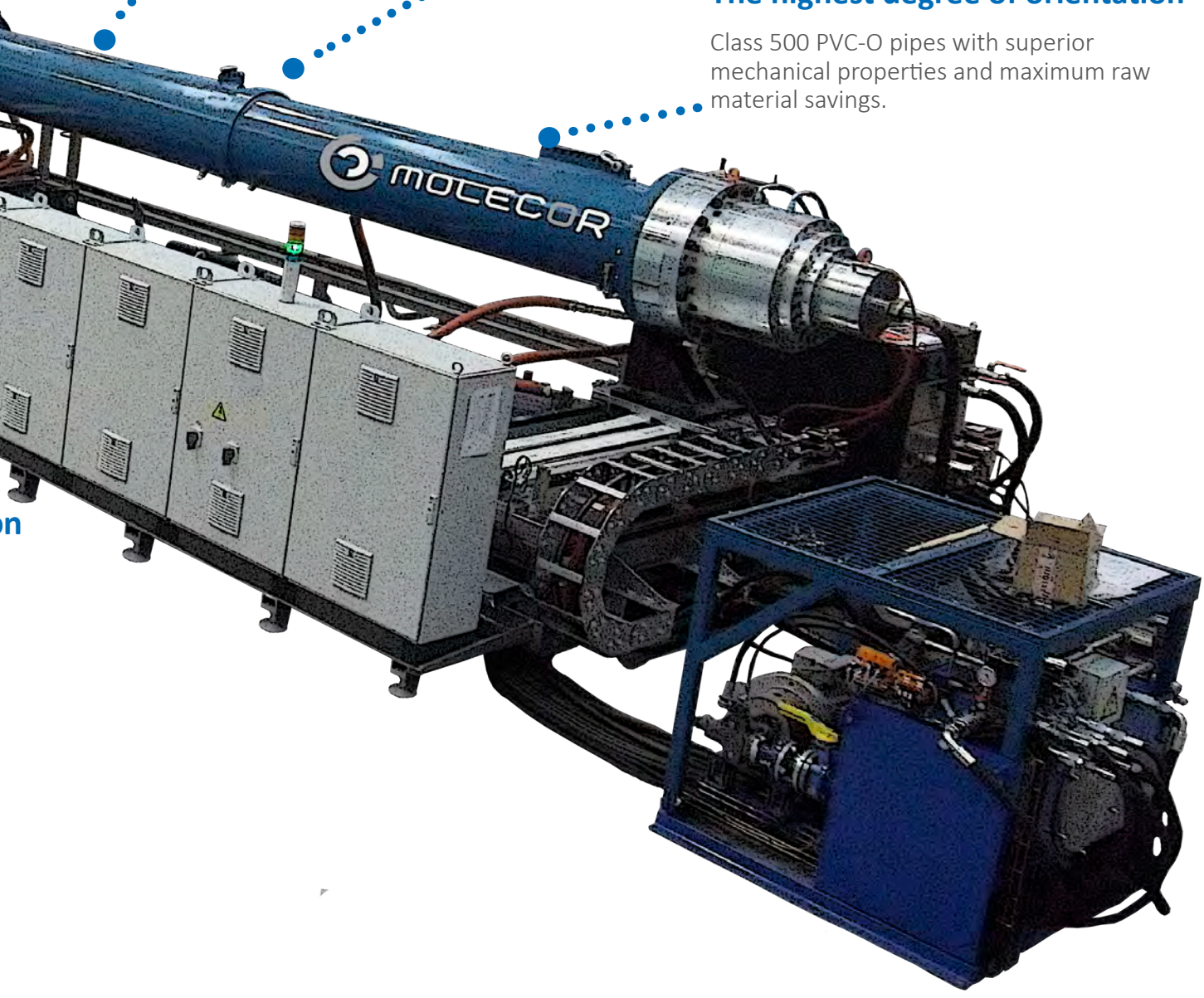
From DN90 mm to DN1200 mm with pressures of up to 25 bar.

Genuine Air System

Efficiency, cleanliness, safety, easy maintenance and more.

The highest degree of orientation

Class 500 PVC-O pipes with superior mechanical properties and maximum raw material savings.



M-OR-P: Efficiency, precision and scalability in PVC-O manufacturing

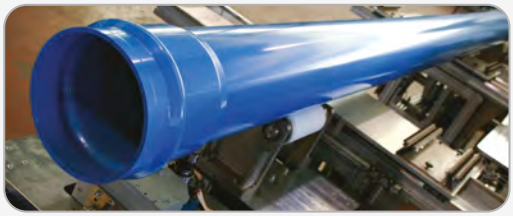
Our **M-OR-P** range includes four machinery models based on the same air-based molecular orientation technology, adapted to different diameter ranges and production capacities to suit any project.

1640

- **Diameters:** DN90 mm to DN400 mm / 4” to 14”
- **Pressure:** PN25 bar (365 psi) or 305 psi (21 bar)
- **Socket system:** integrated or ISS+
- **Orientation grade:** Class 500
- **Production:** 3,000 tonnes/year

3163

- **Diameters:** DN315 mm to DN630 mm / 8” to 24”
- **Pressure:** PN25 bar (365 psi) or 305 psi (21 bar)
- **Socket system:** integrated or ISS+
- **Orientation grade:** Class 500
- **Production:** 5,000 tonnes/year



3180

- **Diameters:** DN315 mm to DN800 mm / 12” to 30”
- **Pressure:** PN25 bar (365 psi) or 305 psi (21 bar)
- **Socket system:** integrated or ISS+
- **Orientation grade:** Class 500
- **Production:** 6,000 tonnes/year

5012

- **Diameters:** DN500 mm to DN1200 mm / 18” to 48”
- **Pressure:** PN25 bar (365 psi) or 305 psi (21 bar)
- **Socket system:** integrated or ISS+
- **Orientation grade:** Class 500
- **Production:** 7,000 tonnes/year

The technology developed by Molecor complies with the requirements of various international standards. Moreover, in countries without a local PVC-O standard, Molecor provides support during the certification and standardisation process where required.

Quality equipment: The product meets EU safety, health and environmental regulations, and carries the CE mark.

Molecor tools

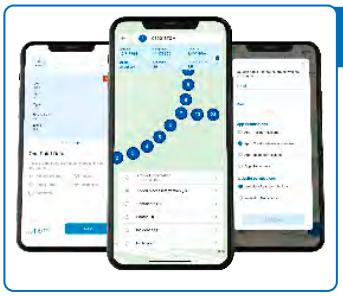
Molecor's work to enhance the quality of water pipeline networks goes beyond developing high-quality products – it also includes services to assist customers in designing the network. For this reason, **Molecor** has developed **exclusive tools** to support the **planning** and **maintenance** of pipeline systems.

TOM® Mechanical Calculation Tool

Tomcalculation is an online mechanical calculation service for **TOM® molecularly oriented PVC (PVC-O)** pipes. It enables all the necessary calculations to be carried out before designing the installation. Only the project details are needed to obtain results such as the various stresses and loads the pipe will withstand, along with its safety factors for breakage and crushing. It can also be used for anchorage calculations for **ecoFITTOM® fittings.**
Available via browser. Visit **www.tomcalculation.com**

SANECOR® Manhole Configurator

A tool for selecting the **SANECOR® manholes** that best match the characteristics and conditions of each project or site. Via the website, users can obtain all the necessary information on the manhole: prices, components, PDF and DWG drawings, bill of quantities, technical documentation and catalogues.
Available via browser. Visit **www.sanecorconfigurator.com**



geoTOM® app

An application developed by **Molecor** to create complete virtual layouts and geolocate each part of a water pipeline network. Achieve full traceability of **TOM®** pipes and **ecoFITTOM®** fittings by scanning the QR code on each component, or manually add products from other manufacturers.
Available on iOS and Android.

Technical Network Design and Usage Manual

A manual detailing the exclusive technology applied in the production and properties of **molecularly oriented PVC TOM® pipes and ecoFITTOM® fittings**. It includes product range, features, advantages, fields of application, suitability for use and sustainability. It also contains an extensive selection of practical examples for mechanical and hydraulic calculations to support network design.
Download it at **www.molecor.com**

Project references

The **experience** and **quality** of **Molecor**'s products have ensured the successful completion of numerous and highly diverse pipeline projects worldwide. The improved characteristics of **PVC-O**, together with the company's services, have made it an optimal choice for water pipeline networks for many years.

To view more project references, visit **www.molecor.com**

Installation of a pipeline network with various diameters

Coria del Río, **Spain**

Infrastructure

18.48 km of TOM® PVC-O pipes were installed in various diameters and pressure ratings. Metal pipes were ruled out due to the low roughness of PVC-O, which reduces head loss, and its high resistance to corrosion and chemical agents, preventing rust in the area influenced by the Guadalquivir River.

Installation of a large-diameter pipeline network

Kolubara, **Serbia**

Infrastructure

To manage the water resources of the Radljevo-Sever coal mine, large-diameter pipes with high strength and easy installation were required. Over 4 km of TOM® DN1000 mm pipes – the only PVC-O pipe in the world with that DN – were used.

Installation for treated wastewater transport

Al Almarat, **Oman**

Reuse

In the Wadi Janhi project in Oman, over 1,500 metres of TOM® DN630 mm 25 bar PVC-O pipes were installed to transport treated wastewater. TOM® was chosen for its quick installation and high resistance to impacts and cracking, compared to materials such as ductile iron or HDPE.

Installation of a large-diameter pumping network

Samsun, **Türkiye**

Supply and distribution

TOM® DN1000 mm PN16 PVC-O pipes were installed for a pumping line in Samsun, Türkiye. PVC-O was selected for its high pressure resistance, ease of installation and excellent hydraulic performance in large-diameter pipelines.

Water network modernisation project

Iloilo, **Philippines**

Irrigation and supply

In Iloilo, 14.97 km of TOM® PVC-O pipes were installed in diameters up to DN1000 mm, modernising the water network and improving supply. The project replaced ageing infrastructure and benefited key areas such as Mandurriao and City Proper, adapting to urban growth.

Sewer system modernisation project

Madrid, **Spain**

Sewage and drainage

The Caleido Tower in Madrid's business district selected the SANECOR® corrugated PVC system for the creation of its underground sewer system. Over 1,200 metres of SANECOR® pipes and fittings were installed in this building focused on sustainable and modern design.

Installation of a residential drainage network

Nantes, **France**

Building

A newly built residential complex of 102 homes chose the AR® soundproof Evacuation System to meet current quality standards. Pipes, fittings and multi-connector branches were used to create uniform, quiet systems.

Creation of drinking water and sewerage service

Piura, **Peru**

Supply and distribution

A pipe network was installed to provide drinking water service in four centres of the Paita district. TOM® pipes and over 180 ecoFITTOM® molecularly oriented PVC fittings were used for their excellent physical-mechanical properties, ease of installation and network continuity.

Installation of a large-diameter pumping network

Murcia, **Spain**

Irrigation

In the development of the Northwest Arc of Murcia, an irrigation pipeline affected by the new route was replaced with TOM® Class 500 DN100 mm PN20 bar PVC-O pipes. The installation, located on the outskirts of Molina de Segura, is part of a project scheduled for completion in 2025.

Notes

www.molecor.com

Discover all the information about Molecor and its products

Access it now by scanning the QR code

Customer service:
Contact us to resolve any queries.

Catalogues and certificates:
Find and download the latest documents for all products.

Discover all the information about Molecor and its products:
Characteristics
Dimensions
Case studies
And much more...

Digital tools:
Software to configure, calculate and geolocate your pipeline networks.

News and events:
Stay in the loop about the latest developments and where you can find Molecor.

A full range of high-quality, efficient and sustainable solutions at the service of water

AENOR
GESTIÓN DE LA CALIDAD
ISO 9001
ER-1644/2008
ER-0440/1996

AENOR
GESTIÓN AMBIENTAL
ISO 14001
GA-2014/0250
GA-2001/0255

MOLECOR
Smart water

Unique and innovative products
Experience and quality
Range
Logistics service
Technical and sales support

Ctra. M-206 Torrejón-Loeches Km 3.1- 28890 Loeches, Madrid, Spain

www.molecor.com

TOM TR6 ecoFITTOM
info@molecor.com
Tel + 34 911 337 090

SANECOR AR EVAC+ adequa
sac@molecor.com
Tel + 34 949 801 459