

Streaming Water.
Streaming Life!

Technical Manual

Light Weight Fittings
LANDSCAPE & IRRIGATION SERIES



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ELYSÉE

HISTORY

Founded in 1969, Elysée was initially dedicated to the cultivation of flowers. This gave the founders firsthand experience and a full understanding of the diversity of irrigation needs. With such knowledge and experience, the natural next step in the business was to start designing and developing irrigation systems. This was a stepping-stone to further expansion, this time into the field of water supply and piping systems.
Elysée manufactures and supplies piping systems & fittings for Building & Infrastructure, Irrigation, Landscape, and Industry.

Based in Cyprus, a key location at the crossroads of three continents, Elysée serves more than 65 destinations in Europe, the Middle East, South Africa, Japan, Australia, and New Zealand.









OUR VISION

"To be a green leader worldwide through Innovative, Smart, Easy to use Piping Systems."

A GREEN COMPANY

Elysée acknowledges that businesses have a tremendous impact on climate change and can help in the fight against it. For this reason, we are setting a strategic approach to help us ultimately lead the way to a circular economy model, testimony of our commitment to quality, towards the fulfilment of our goals for sustainability. Generally, a company's minimized carbon footprint is what leads to carbon neutrality. We are dedicated to our dream of guiding Life on a green path. Our goal is to continue striving to become a leading sustainable world supplier in piping systems, thus, keep offering the public a wide selection of the most trustworthy products of the highest standards. At the same time, we are taking all the necessary steps to ultimately become a Green Leader and an exemplary model for other Cypriot & European businesses.

STREAMING WATER. STREAMING LIFE.

Our love for water led to Elysée's conception. Of all the resources on the planet, we consider water to be the most valuable. Water is a living cycle. It moves, transforms, and makes life possible. Our respect for the value of natural resources and our commitment to preserve them has always been Elysée 's primary concern.



WHY ELYSÉE

- **A green company.** Elysée acknowledges that businesses have a tremendous impact on climate change and can help in the fight against it. For this reason, we have set a strategic approach to help us ultimately lead the way to a circular economy model.
- **Easy to use.** Elysée products are developed in close collaboration with end users. Designed for durability, simplicity of installation, and long-term performance.
- **Know-how.** Elysée has a strong position in the Plastic Piping Systems market due to its 40 years of expertise.
- **Truly international.** Presence in more than 65 countries in all 5 continents through an ever-increasing family of distributors.
- **Reliability & Quality Assurance.** Elysée is certified by the most reputable international standardization organizations such as DVGW, OVGW, WRAS, and KIWA among others.

RESEARCH AND DEVELOPMENT

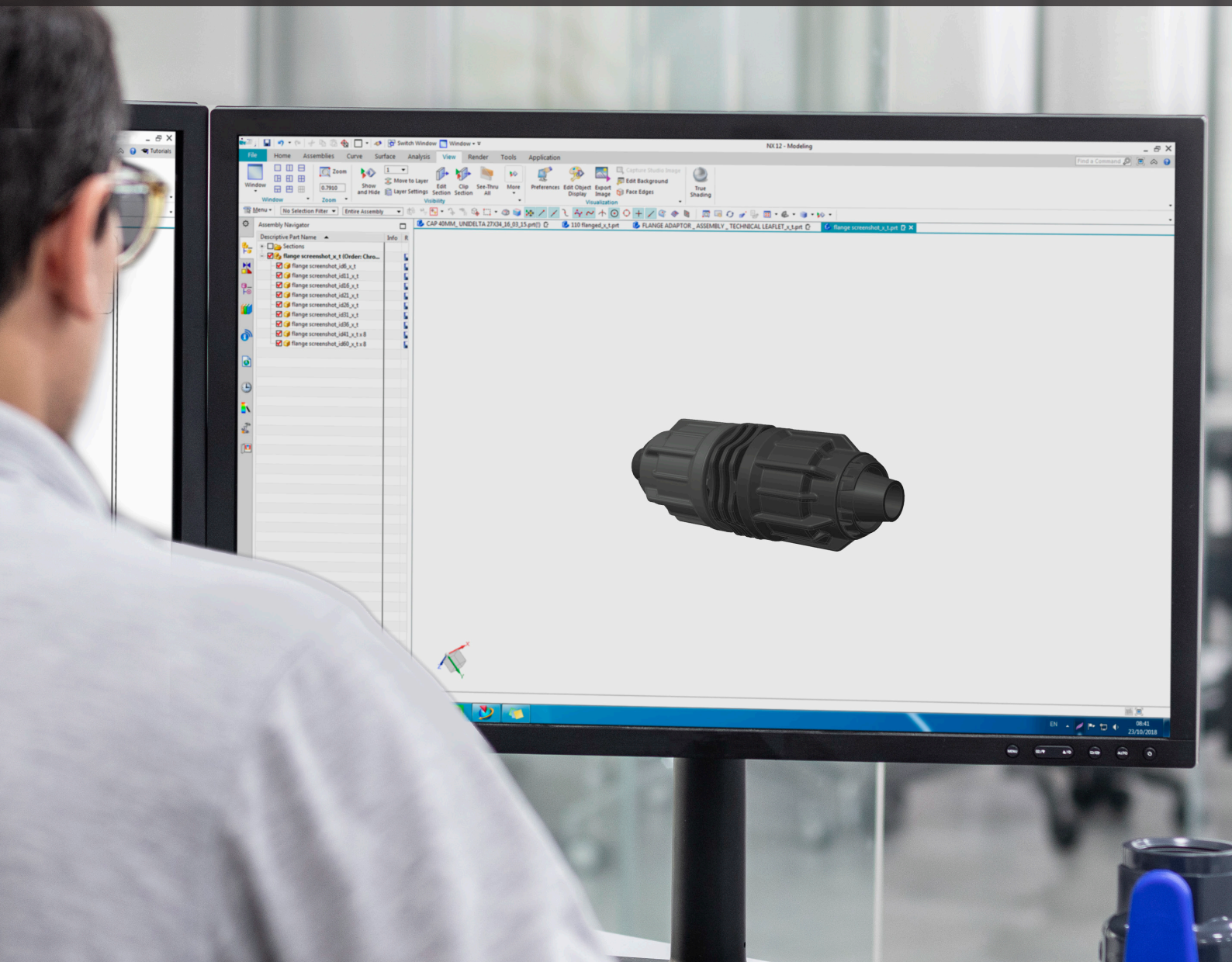
Since 2005, Elysée has made significant investments in Research and Development (R&D) activities. The company established an in-house R&D department to conduct significant research and innovation activities, increasing the company's competitive edge over the competitors. Indeed, R&D is critical to the company's business brand and performance both locally and worldwide.

Several patents and industrial designs have been granted, with others pending.

The R&D team is made up of highly-qualified mechanical engineers and product designers who work on many projects with the goal of designing and developing breakthrough product solutions as well as re-engineering the current ones.

3D printing and CNC machines are used for prototyping new parts and testing methods to ensure quality requirements are met. 3D scanners and smart measuring devices are assigned for reserve engineering, improving, and inspecting current products. Moreover, the R&D team contributes to the enhancement of all production stages, assuring productivity, procedure implementation, and operational efficiency.

Furthermore, Elysée focuses on Research, Technology, and Innovation research through innovative actions and funding programs.



QUALITY A MATTER OF PRINCIPLE AND PRACTICE

Quality has been a primary element guiding Elysée activities from its beginnings. By introducing and implementing a quality management system, we monitor our operations and efficiency, to enhance our overall performance. Today, Elysée Irrigation Ltd is delighted to have globally recognized pipe system accreditation, demonstrating its dedication to excellence. Elysée has kept quality as the key foundation of all its operations, hence becoming reputable for its high-quality products in all aspects.

Our Quality Control (QC) team is composed of gifted mechanical and technical engineers, along with highly trained inspectors who pay attention to detail according to the standards followed. Through carefully constructed Quality Control Guidelines, the team daily monitors the production lines and ensures the best quality of products, according to international standards to ensure customer satisfaction.

With advanced technology at hand, we perform daily quality inspections using smart measuring devices, specialized testing machines, and an upgraded database. Furthermore, having our own state-of-the-art 3D scanner gives a lead on constant failure-point detection, generating reports, and proceeding with corrective actions for further improvements when required.

From raw material to end-product and into the hands of the customer, our goal has always been to deliver the most optimum quality possible. All products undergo in-house laboratory tests and at external accredited labs, in compliance with current relevant standards. This ensures and guarantees our products, as they are thoroughly checked and approved by professional bodies.

WARRANTY

Our warranty includes the repair or replacement of defective parts at our production plant or at the after-sale service location. Replacement or repair of parts under this warranty will not extend the warranty period of the original product. No warranties are given regarding normal wear and tear due to use of the products. The expenses for the return and shipment of defective materials shall be paid by the buyer.

This warranty does not cover those cases in which the product:

- Has been incorrectly handled.
- Has been repaired, maintained, or modified by an unauthorized person.
- Has been repaired or maintained with other than original pieces.
- Has been installed or placed in operation incorrectly.

CERTIFICATIONS

Elysée's products are designed to meet the general standards and are subjected to a variety of tests to verify that they meet the product requirements. Elysée holds more than 30 notable International Product Certifications, including DVGW, KIWA, SII, WRAS, SAI, OVGW and SVGW.

ISO9001, ISO 14001, ISO 45001, and EMAS certifications demonstrate Elysée's dedication to quality, environmental preservation, and employee safety at all phases of manufacturing, from raw materials to sales.

SCAN ME

LANDSCAPE & IRRIGATION SERIES

INTRODUCTION

Fittings are an integral component in any landscape & irrigation system design. In such kinds of applications, quick field installation and/or reuse with a minimum physical effort is required while maintaining maximum security.

Elysée offers an extremely reliable connector with an ergonomic design, enabling push-in technology that makes installation as easy as possible. It utilizes a safe and fast way of connecting driplines and thin wall polyethylene hoses using a patented body-loaded grip ring. It is a quick joint fitting that ensures additional protection even on low-pressure variations for several applications like agriculture, gardening, and greenhouse.

This product has been designed and tailored for do-it-yourself methodology implementing the technical know-how from our team's irrigation experts. By just pushing the tubing through and unscrewing the nut until the stop indicator the locking mechanism is perfectly activated for a guaranteed watertight system.

It is made of highly resistant durable polymers with a UV and chemical-resistant material that prevents alga and bacteria from forming, to deliver a long-life fitting even in an outdoor environment.

A complete range of fittings is available in popular configurations for enhanced flexibility and system design, consisting of Male Adaptors, End Plugs, Couplings, Reducers, Tees (also threaded), and Elbows (also threaded). Besides the standard 16mm and 20mm, 17mm diameter hoses can also be installed on the 16mm fittings.

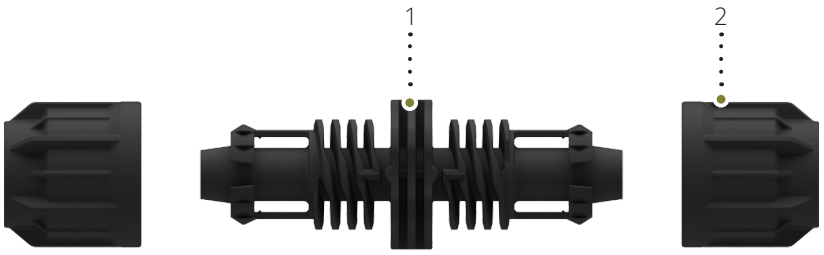
PRODUCT SPECIFICATIONS

PATENTED

- Quick and easy installation with push-in technology.
- Half-turn locking mechanism with activation indicator.
- Made of top-class and durable raw materials.
- Outdoor resistant with an extended life span.
- Two pieces construction with a body-loaded grip ring.
- Cannot be dismantled or loosened during operation.
- Can be released from the hose when required for reuse after the service expires period.
- Size range flexibility with O.D. 16mm and 17mm hoses on the same fitting.
- Ergonomic design with a finger-resting position allows easier handling.
- They are efficient and practical, modeled under the highest market standards.



MATERIALS AND COMPONENTS



1. **NUT**
Polypropylene (PP-B)
The main purpose of this component is to compress the hose between the grip ring and the body. Internally, a female trapezoidal thread is applied to enable the connection with the fitting body. Also, some internal teeth are applied as locking indications. Externally, it has an ergonomically designed ribbed surface to ease handling. It is made of black high-performance polypropylene copolymer PP-B.

2. **BODY**
Polyacetal (POM) or/ Polypropylene (PP-B)
This is the main component of the fitting system. It can be shaped in several configurations to satisfy the requirements and arrangements of the water direction. It is loaded with a flexible grip ring, as one part, to compress the hose and prevent disassembly. A male trapezoidal thread is used externally to join the body with the nut. The basic body material is a Polyacetal (POM) which is used in precision parts for excellent gripping due to its high stiffness, low friction, and impressive dimensional stability. A second option is available with a High-performance Polypropylene (PP-B) which is liable to chain degradation from exposure to heat and UV radiation and has excellent resistance to most chemicals.

TECHNICAL DATA

QUALITY MANAGEMENT

Landscape and irrigation fittings are manufactured in accordance to internal specifications conforming to the company's CYS EN ISO 9001. Fittings are produced and inspected in accordance with the applicable international and/ or highest market standards. The complete range is checked on a regular basis according to the company's testing methods to verify that all requirements and regulations are met.

TESTING OF FITTINGS

Several tests are carried out to verify the compliance of fittings with the relevant standards and or market requirements through the in-house testing laboratories proving conformance with the intended use and the environmental conditions they are likely to encounter. The testing methods and parameters are according to the related standards as indicated below:

- EN ISO 3126
- ISO 3458
- ISO 19899
- ISO 9261
- ISO 8779

Hydrostatic Pressure test:
Fittings are subjected to a controlled pressure and temperature observing how they reacts, determining if they will withstand various loads or stresses, detecting leaks, and ensuring that the equipment functions properly before use. All fitting bodies are tested under hydrostatic pressure at 20°C and must withstand a pressure 2.5 times the indicated pressure rating of the fitting.

Sauna test:
Fittings are subjected to a controlled pressure with high temperatures and humidity monitoring the fittings for signs of corrosion, deformation, or other types of damage over an extended period.
All fitting bodies are tested under a sauna test at 40°C and must withstand a pressure 2.5 times the indicated pressure rating of the fitting.

Pipe pull-out resistance test:

Fittings are subjected to longitudinal tensile stresses for checking the ability of the assembled pipe-to-fitting joints to withstand a certain force.

All fitting bodies are tested under a pull-out test with a force, which produces 1,5 times the maximum permissible working stress of the pipe material.

DIMENSIONS AND CHARACTERISTICS

Fittings accept hosing with an external circular diameter of 16mm, 17mm (on 16mm fitting), and 20mm with a minimum SDR value of 13.6.

Threads (BSP) are manufactured according to ISO 7, BS 21, EN 10226, AS 1722, and any other equivalent standard.

OPERATING PRESSURE

Fittings are suitable for working pressures up to 4 bar @ 20ºC and/or not surpassing the maximum designated by the relevant standard of the hose-in-use.

APPLICATION FIELDS

The fittings are appropriate low-pressure applications, connecting low-density polyethylene and dripline hoses, intended mainly for irrigation and landscaping. Hose shall conform to ISO 7889, ISO 9261, or any other equivalent standard.

CHEMICAL EFFECTS

Chemicals have the potential to impact various properties of Polyacetal (POM) and Polypropylene copolymer PP-B, including strength, flexibility, surface appearance, color, dimensions, and weight.

1. Changes occur through different modes of interaction:
   - Chemical attack on the polymer chain, leading to a reduction in physical properties. This can involve oxidation and reaction of functional groups within or on the chain.
   - Depolymerization, which refers to the breakdown of the polymer chain.
   - Physical changes, such as solvent absorption that causes softening and swelling of the plastic, as well as solvent permeation through the plastic and dissolution within a solvent.
   - Stress cracking caused by the interaction of a “stress cracking agent” with internal or external stresses.
2. The provided Chemical Resistance Chart serves as a general guide, but it is crucial to conduct specific testing under the required conditions.

If the chemical of interest is not included in the chart, a more detailed chart can be prepared upon request.

Chemical	Concentration	POM	PP-B	Chemical	Concentration	POM	PP-B
Acetic acid	10%	C	A	Lubricating oils		A	B
Acetic acid	50%	C	A	Methane (natural gas)	tg-G	A	A
Acetone	tg-L	A	A	Methanol (methyl alcohol)	tg-L	A	A
Ammonium nitrate	10%	A	A	Monoammonium phospate		-	B
Ammonium sulphate	10%	A	A	Monopotassium phospate		-	-
Anhydrous ammonia		C	A	Methyl acetate	tg-L	B	A
Aqua ammonia		C	-	Methyl chloride	tg-G	B	C
Benzene	tg-L	A	B	Methylene acetate	tg-L	C	B
Benzine	Work-S	-	B	Methyl ethyl ketone	tg-L	C	A
Benzoic acid	Saturated	B	A	Nitric acid	6.30%	C	A
Boric acid	Saturated	A	A	Oleic acid	tg-L	A	A
Butyl acetate	tg-L	A	B	Oxalic acid	Saturated	B	A
Calcium hydroxide	Saturated	C	A	Oxygen	tg-G	A	A
Carbon dioxide, gas	tg-G	A	A	Ozone	tg-G	C	C
Carbon Disulfide	tg-L	A	A	Petroleum	Work-S	B	A

Carbon monoxide, gas	tg-G	A	A	Petroleum ether	Work-S	A	B
Chemical	Concentration	POM	PP-B	Chemical	Concentration	POM	PP-B
Carbon tetrachloride	tg-L	A	C	Phenol	10%	B	A
Caustic soda solution	50%	-	A	Phenylhydrazine	tg-L	B	B
Chlorine, gas	tg-L	C	C	Phosphoric acid	50%	C	A
Chlorine, water	Saturated	C	A	Phosphorus chloride	tg-L	C	A
Chloroacetic acid, mono	Solution	C	A	Phosphorus pentoxide	tg-L	C	A
Chloroform	tg-L	A	B	Phtalic acid	Saturated	C	A
Chlorosulphonic acid	tg-S	C	C	Potassium carbonate	Saturated	A	A
Citric acid	10%	C	A	Potassium nitrate	50%	A	A
Compressed air with oil		-	B	Potassium sulphate	Saturated	B	A
Cyclohexane	tg-L	A	A	Propane	tg-L ; tg-G	A	A
Cyclohexanol	Saturated	A	A	Propionic acid	50%	C	A
Cyclohexanone	tg-L	A	B	Potassium chloride	30%	A	A
Diammonium Phosphate		-	B	Potassium permanganate	Saturated	A	A
Diesel oil		A	B	Potassium persulphate	Saturated	C	A
Ethyl alcohol	tg-L	A	A	Sodium acetate	Saturated	B	A
Ethyl alcohol + acetic acid	Work-S	A	A	Sodium chlorate	Saturated	A	A
Ethyl benzene	tg-L	A	B	Sodium hydroxide	40%	A	A
Ethyl chloride	tg-G	A	B	Sodium Hypochlorite	12.50%	A	B
Ethyl ether	tg-L	A	A	Sodium sulphate	Saturated	C	A
Ethylene chloride	tg-L	A	B	Sulphur dioxide	tg-G	B	A
Fluorine	tg-G	C	C	Sulphur trioxide	tg-G	C	C
Formic acid	50%	A	A	Sulphuric acid	40%	C	A
Frigen 12 (Freon 12)	Work-S	B	C	Sulphurous acid	Saturated	C	A
Fuel oil (Gasoline)	Work-S	A	B	Sulphuryl chloride	tg-L	A	C
Gelatine	Solution	B	A	Superphospate		C	-
Glucose	Solution	A	A	Tartaric acid	Saturated	C	A
Glycerine	tg-L	A	A	Tetrachloroethane	tg-L	A	B
Glycolic acid	37%	A	A	Toluene	tg-L	C	B
Heptane	tg-L	A	A	Trichloroethane	tg-L	C	B
Hexane	tg-L	A	A	Trichloromethane	tg-L	A	B
Hydrobromic acid	50%	C	A	Triethanolamine	Solution	C	A
Hydrochloric acid	10%	C	A	Trioctyl phosphate		B	A
Hydrocyanic acid	tg-L	A	A	Turpentine oil		A	C
Hydrofluoric acid	40%	C	A	Urea ammonium phosphate		-	-
Hydrogen	tg-G	C	A	Vegetable oils and fats		A	A
Hydrogen chloride	tg-G	C	A	Vinegar	Work-S	B	A
Hydrogen peroxide	10%	C	A	Vinyl acetate	tg-L	B	A
Hydrogen sulphide	Saturated	C	A	Xylene	tg-L	B	C
Lactic acid	10%	B	A				

Notes of Table: **A Resistant:** no indication that serviceability would be impaired. **B Variable resistance:** depending on conditions of use. **C Not resistant:** not recommended for service applications under any conditions.

Diluted = Diluted solution in concentrations up to 10%, **Solution** = Solution in concentrations up to10% but not saturated, **Saturated** = Saturated solution, **tg-L** = Pure substance in liquid state, **tg-G** = Pure substance in gaseous state, **tg-S** = Pure substance in solid state, **Work-S** = Solution in the concentration usually used in the industry

PATENTS

EU patented and WIPO has been filed.

Europaisches Patentamt
European Patent Office
Office européen des brevets



ASSEMBLY PROCEDURE

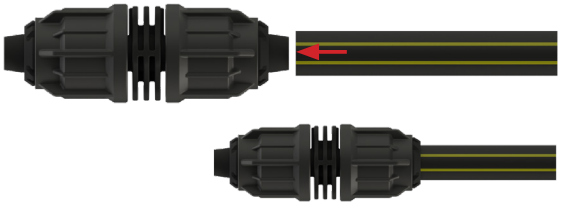
Don't hesitate to ask for additional information regarding assembly and installation.

STEP1

Select an assembled fitting with the equivalent diameter of the hose.

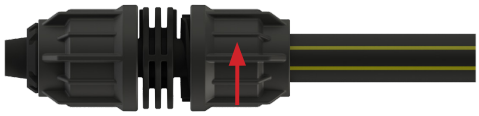
Don't remove or unfasten the nut, the fitting should remain in a closed/initial position.

Push the pipe into the fitting, through the nut and the body, until meeting the end.



STEP 2

Unscrew the nut up to the locking position.
Successful locking is noticeable by a click sound.



DISASSEMBLE PROCEDURE

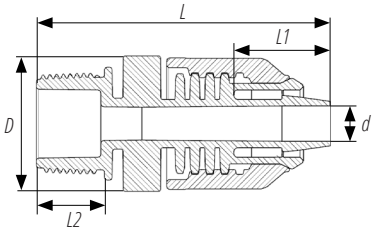
Fasten the nut to the initial position.

Pull-out the hose strongly with a circling movement



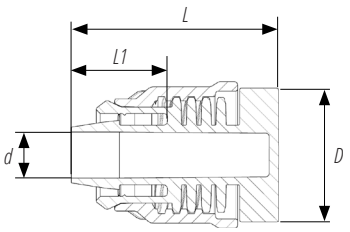
AVAILABLE FITTING & DIMENSIONS

No.760 Adaptor Male



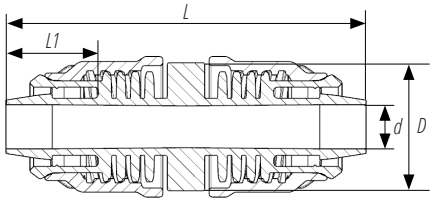
Code	Description/ Size	L (mm)	L1(mm)	L2 (mm)	D (mm)	d (mm)
760001601	16 mm x ½"	74	26	15	36	9.5
760001602	16 mm x ¾"	79	26	15	36	9.5
760002001	20 mm x ½"	73.5	26	18.5	35.5	12.5
760002002	20 mm x ¾"	77.5	26	18.5	35.5	12.5

No.760B End Plug



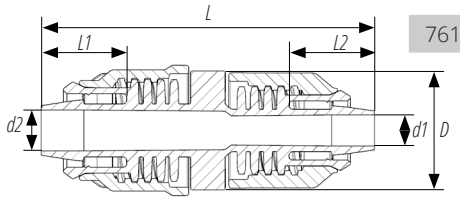
Code	Description/ Size	L (mm)	L1(mm)	L2 (mm)	D (mm)	d (mm)
760B00016	16 mm	56	26	15	36	9.5
760B00020	20 mm	56	26	18.5	35.5	12.5

No.761 Coupling



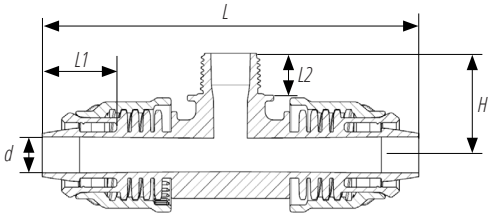
Code	Description/ Size	L (mm)	L1 (mm)	D (mm)	d (mm)
761001616	16 mm	101	26	36	9.5
761002020	20 mm	101.5	26	35.5	12.5

No.761B Coupling Reducing



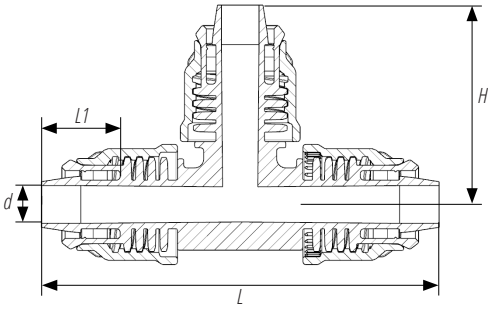
Code	Description/ Size	L (mm)	L1 (mm)	L2 (mm)	D (mm)	d (mm)	d2 (mm)
761B001620	20 x 16 mm	101.5	26	26	36	9.5	12.5

No.764 Tee Male



Code	Description/ Size	L (mm)	L1 (mm)	L2 (mm)	d (mm)	H (mm)
762001616	16 mm x ½" x 16 mm	125	26	15	9.5	34.5
764001602	16 mm x ¾" x 16 mm	125	26	15	9.5	38.5
764002001	20 mm x ½" x 20 mm	131.5	26	18.5	12.5	35
764002002	20 mm x ¾" x 20 mm	131	26	18.5	12.5	39

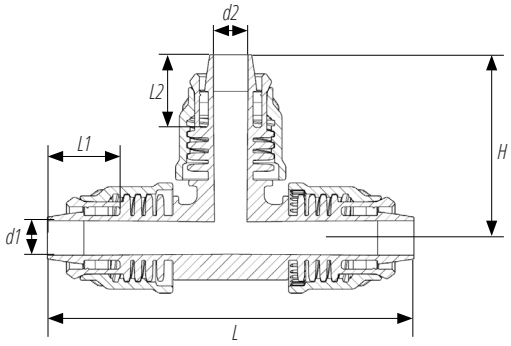
No.763 Tee



Code	Description/ Size	L (mm)	H (mm)	L1 (mm)	d (mm)
763001616	16 mm x 16 mm x 16 mm	125	62.5	26	9.5
763001620	20 mm x 20 mm x 20 mm	131	65.5	26	12.5

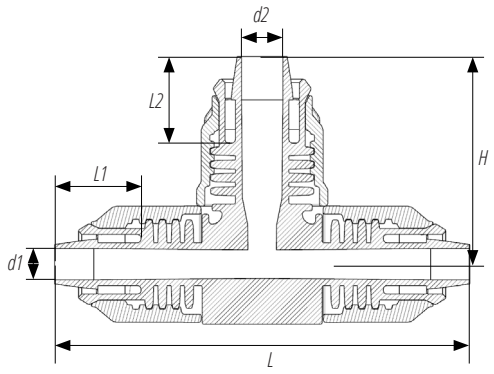
No.763A Tee Increasing

Code	Description/ Size	L (mm)	L1(mm)	L2 (mm)	H (mm)	d1(mm)	d2(mm)
763A02016	20 mm x 16 mm x 20 mm	131	26	26	65	12.5	9.5



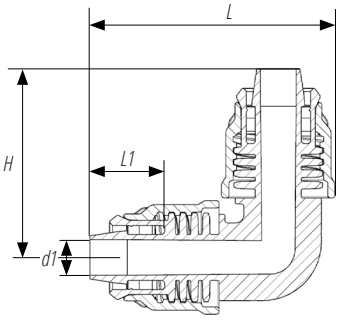
No.763B Tee Reducing

Code	Description/ Size	L (mm)	L1(mm)	L2 (mm)	H (mm)	d1(mm)	d2(mm)
763B01620	16 mm x 20 mm x 16 mm	124.5	26	26	62.5	9.5	12.5



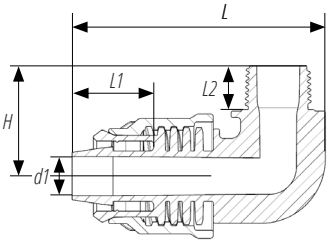
No.762 Elbow

Code	Description/ Size	L (mm)	L1(mm)	H (mm)	d1 (mm)
763001616	16 mm x 16 mm	80	26	62.5	9.5
762002020	20 mm x 20 mm	80.5	26	65.5	12.5



No.762A Elbow Male

Code	Description/ Size	L (mm)	L1 (mm)	L2(mm)	H (mm)	d1 (mm)
762A01601	16 mm x ½"	77.3	26	15	34.5	9.5
762A01602	16 mm x ¾"	77.3	26	15	38.5	9.5
762A02001	20 mm x ½"	80.5	26	18.5	35	12.5
762A02002	20 mm x ¾"	80.5	26	18.5	39	12.5



NOTES

FEEDBACK

Please scan the QR code on the right side of this page to help us understand more about your experience with us.

We strive to provide the best service to our customers, and your feedback is highly valuable to us.

SCAN ME



Elysée Head Office & Factory
5 Pentadaktylou Street, 2643
Ergates Industrial Zone, **Nicosia, Cyprus**
T. +357 22 455 000
F. +357 22 455 055
Mail Address: P.O. Box 27014, 1641 **Nicosia, Cyprus.**
Website: www.elysee.com.cy
Email: elysee@elysee.com.cy

Elysée PRIME Egypt
elyseeprime.com

Elysée Rohrsysteme Austria
elysee-rohsrysteme.com

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elyseewise.com

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elysee.com.ru

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