



# TOURNAIRE

Produit le meilleur, protège l'excellence

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1

# TOURNAIRE

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## CONTENTS

<b>1</b>	<b>Summary press release.....</b>	<b>3</b>
<b>2</b>	<b>The Tournaire Group: “producing the best, protecting the most...” .....</b>	<b>7</b>
2.1	From its origins until today... .....	7
2.2	...Tournaire lays claim to unique characteristics.....	8
2.3	...with a strong ambition and vision.....	9
2.4	A "connected" company .....	10
<b>3</b>	<b>The Equipment Division.....</b>	<b>11</b>
3.1	Franck Bardini, new head of the Equipment Division.....	11
3.2	...to implement the new development strategy .....	11
3.3	Line of business.....	12
3.4	Solutions .....	13
3.5	Services .....	14
3.6	Applications .....	17
<b>4</b>	<b>The Packaging Division .....</b>	<b>19</b>
4.1	Line of business.....	19
4.2	Products.....	20
4.3	Services .....	20
4.4	Applications .....	21
4.5	References & international network .....	22
<b>5</b>	<b>Quality, Environment, Safety.....</b>	<b>23</b>
5.1	Product quality.....	23
5.2	System Quality .....	24
5.3	Environment .....	24
5.4	Safety .....	25
5.5	Health and working conditions .....	25
5.6	Management of skills, jobs and knowledge.....	26
<b>6</b>	<b>Research &amp; Development .....</b>	<b>27</b>
<b>7</b>	<b>Luc Tournaire, Chairman of the Management Board.....</b>	<b>29</b>
<b>8</b>	<b>Facts &amp; Figures .....</b>	<b>30</b>

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## 1 Summary press release

**FRENCH COMPANY TOURNAIRE,  
EXPERT IN PROCESS ENGINEERING FOR NATURAL RAW MATERIALS  
AND IN TECHNICAL PACKAGING,  
LAUNCHES THE NEW STRATEGY OF ITS 'EQUIPMENT DIVISION'  
WITH AN INVESTMENT OF MORE THAN 3 MILLION EUROS**

Grasse, 30 March 2015 – Founded in 1833 when the first perfume plant distillers arrived in Grasse, this independent family-owned SME is now an international group specializing in the transformation of natural raw materials, technical equipment manufacture and industrial packaging.

Tournaire is a specialist in the design and production of innovative solutions for creating and protecting the high-added-value products of a large number of companies in all sectors: flavorings and fragrances, cosmetics, human and animal health, food processing and dietary supplements, crop protection, etc., in France and abroad

So as to respond even more effectively to the needs of this constantly-developing market, Tournaire's Equipment Division asked Franck Bardini to undertake a strategic review of its processes and modes of operation. Following this audit the Equipment Division's strategy has been the object of a total rethink and Luc Tournaire, Chairman of the Management Board, has appointed Mr Bardini Manager of the Equipment Division. He replaces Jean-Marie Chiocci who will continue to support the Equipment Division in 2015, occupying a cross-cutting function as an expert in process engineering and the development of market solutions.

### **> TOURNAIRE'S EQUIPMENT DIVISION**

When the company was founded, in 1833, Tournaire designed, manufactured and supplied equipment for the perfume industry in Grasse. From the 1950s onwards the know-how acquired by Tournaire enabled the company to design and supply leading-edge equipment to ever-increasing numbers of clients in several industrial sectors: **today Tournaire's Equipment Division designs, manufactures and installs processing solutions for natural raw materials, in France and also abroad, for a wide range of industries: Flavorings and ingredients, Perfumes, Cosmetics, Fine chemicals and the Health sector.**



In a fragmented and divided market such as that of the industrial equipment sector, the Equipment Division is the only supplier capable of adopting a cross-cutting approach, designing a complete production process based on premium solutions and, thanks to its unique engineering skills, offering customized turnkey equipment that corresponds precisely to the needs and expectations of its clients.

4

## > AN INVESTMENT OF 3 MILLION EUROS TO SUPPORT THE NEW DEVELOPMENT STRATEGY

So as to anticipate the needs and respond still more effectively to the expectations of an ever-developing market, Luc Tournaire, Chairman of the Management Board, decided to launch an audit of the process and modes of operation of the Equipment Division. The task was entrusted to Franck Bardini; as a consultant he brought a fresh view to complement the historic knowledge of Jean-Marie Chiocci, former Manager of the Equipment Division. Together they have defined a new strategic orientation based on five priorities:

1. Developing the core business: Natural extracts, Flavorings, Fragrances, Ingredients and Health,
2. Broadening the engineering offering with global and made-to-measure solutions,
3. Strengthening process expertise and know-how,
4. Getting closer to the customer by offering additional services,
5. Becoming more competitive by optimizing organization and partnerships.

As Franck Bardini explains: *"To sum up this eight-month audit phase, which involved the whole of the Equipment Division, I would say that our goal, our ambition and our desire was to reinforce the strengths of our organization and ensure our methods and processes matched the demands of our clients and reflected the dynamism, efficiency and adaptability that characterize our teams. Many changes are currently being implemented to offer still more effective support to our clients and enable them to produce excellence, such as services to accompany the production and installation of equipment: installation diagnosis, upstream expert audit, or programmed preventive maintenance. This means that today even more than before, our Division is able to respond to all the needs of a demanding and constantly evolving market. Our ambition is to double our sales as early as 2016 and to further improve our customer satisfaction level."*

Luc Tournaire confirms the company's ambition for its Equipment Division, with its unique business know-how acquired since its foundation in 1833, by announcing that Tournaire is to **invest more than 3 million euros and strengthen its technical and sales teams over the next three years.**



## > **FRANCK BARDINI, NEW MANAGER OF THE EQUIPMENT DIVISION**

Following the audit carried out in 2014, Franck Bardini was appointed Manager of the Tournaire Equipment Division. Luc Tournaire, Chairman of the Management Board, explains:

*"In just a few months, Franck Bardini demonstrated that he could thoroughly understand the issues at stake in our business, design a strategy appropriate to the current environment and lead our staff in their thinking and then in the implementation of the new orientations. Our management thus has complete confidence in Franck Bardini's ability to drive through these changes and further enhance the skills and know-how of our teams. He will take over from Jean-Marie Chiotti who has headed the Equipment Division for more than ten years with great professionalism, rigor and dedication. Having worked for Tournaire for 38 years Mr Chiotti naturally wishes to stand back a little from his day-to-day responsibilities. Nevertheless he will remain with us in 2015 to occupy a cross-cutting function as expert in processes and the development of market solutions."*



'Equipment' and  
'Packaging', the two  
Divisions of Tournaire





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6

## **All about Tournaire**

Founded in 1833, Tournaire came into being along with the first perfume flower distilleries in Grasse. Over the years Tournaire has continually acquired new expertise as the perfume industry has developed and to meet the specific needs of its clients. Today the group is structured around two divisions :

**The Equipment Division** with expertise, right from the start, in the engineering design, manufacture, installation and commissioning of pilot units or full made-to-measure production processing plants for natural raw materials;

**The Packaging Division**, offering the widest range of technical packaging on the market (pure aluminum, coextruded plastic or glass) with the highest levels of quality, service and safety.

In 2014, to work more closely with its customers and partners and also to support its development both in France and abroad, Tournaire became one of the first companies in Grasse to adopt a strong Web 2.0 position and take advantage of all its potential by creating a complete digital ecosystem with its own blog and several social network accounts. At the same time the Group's signature has changed to better reflect the company's lines of business: "**Tournaire, producing the best, protecting the most.**"

Present in more than 70 countries throughout the world, Tournaire has a payroll of 240, mainly on its Grasse site, and in 2013 posted a turnover of € 52 million, 65% outside France.

Discover Tournaire on its web site: [www.tournaire.fr](http://www.tournaire.fr) and on the social networks Facebook, Twitter, Google+, LinkedIn and Viadeo.

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DOSSIER ON THE GROUP  
ON REQUEST TO THE PRESS DEPARTMENT

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## 2 The Tournaire Group: “producing the best, protecting the most...”

7

### 2.1 From its origins until today...

Tournaire came into being along with the first perfume flower distilleries in Grasse. Originally a coppersmith, then manufacturer of stills, modern extractors and cans for flower oils in copper and then aluminum, Tournaire has continually acquired new expertise as the perfume industry has developed, to meet the specific needs of its clients.

While Tournaire's heritage is that of a pioneer in the engineering of raw materials processing for fragrances, it also has a long history of diversification towards many other sectors of industrial activity. Today Tournaire benefits from a unique position in its market: that of a family company which also has a strong international presence. **Tournaire's know-how, universally acknowledged, is entirely at the service of many sectors of the economy, both for the engineering of leading-edge equipment and for high-quality technical packaging.**

#### The Tournaire group is structured around two divisions:

- The Equipment Division, with long-standing expertise in the design, manufacture, installation and commissioning of pilot plants or full tailor-made production units for materials processing;
  - The Packaging Division offers the widest range of technical packaging on the market with the highest level of quality, service and safety.
- 
- **The Tournaire Group also includes three subsidiaries:**
    - o Tournaire Plastic in Chalon-sur-Saône, the production plant for the packaging division
    - o TMM in Grasse, a company specializing in the production of packaging for plant protection products
    - o Elemental Container at Union in the USA, a company specializing in the production of aluminum packaging and closure systems



## 2.2 ...Tournaire lays claim to unique characteristics...

Tournaire has always believed that quality products deserve quality processing and packaging.

This vision applies to all Tournaire's lines of business. It is shared and implemented on a day-to-day basis by Tournaire's employees whose know-how, skills and professionalism are universally acknowledged by its clients.

Although Tournaire has become a company of reference selling equipment and packaging throughout the six continents, it has conserved its values and individual features, today recognized by clients as qualities that set it apart:

- an independent family company, able to make long-term strategic choices with complete freedom and independence so as to respond still more effectively to the needs of its customers and increase still further their satisfaction and trust;
- a pioneering spirit, always on the lookout for innovative solutions, taking into account the latest techniques and processes;
- expertise in the fields of unique, global made-to-measure productions and creations;
- unfailing attention to the notion of service to guarantee the quality and tailor-made nature of performance at every stage;
- unfailing consideration for environmental issues, with business conducted in the framework of a global Quality-Safety-Environment approach





## 2.3 ...with a strong ambition and vision.

A pioneer in engineering solutions for materials processing in the perfume sector, Tournaire proclaims its bold ambition:

9

To innovate ceaselessly so as to push back the technical limits of processes and materials in order to offer clients the most effective solutions on the market and to ensure strong international development.

Today Tournaire's clients are:

demanding industrial customers, often with international presence, looking for innovative solutions that are reliable and sustainable to create and protect high-added-value products in the sectors of flavorings and fragrances, cosmetics, human and animal health, food processing and dietary supplements, and crop protection.

This ambition translates into a single, powerful vision:

**Quality products need quality processing and protection.**



## 2.4 A "connected" company

Well aware of the new opportunities afforded by the social web, Tournaire is today one of the first companies in Grasse to have adopted a strong web 2.0 position and to take full advantage of its potential.

10

At the end of 2014 Tournaire completely overhauled its web site ([www.tournaire.fr](http://www.tournaire.fr)), now available in 3 languages (French, English, Spanish), launched a professional blog ('Process & Materials', <http://www.tournaire.fr/blog-process-materiaux/>) and developed a powerful digital ecosystem with links between the web site, the professional blog and all its accounts and pages in the social media: Facebook, Twitter, LinkedIn, Viadeo, Youtube and Google+.

The company's staff has also been made fully aware of the importance of these significant digital developments. Tournaire's digital transformation is thus shared and promoted by all employees who wish to participate: they are invited, on a voluntary basis, to become involved in the social media and contribute to strengthening Tournaire's presence on the Internet.



## 3 The Equipment Division

Flowers, leaves, gums, resins, various types of powder... Whatever the raw materials to be processed, Tournaire's Equipment Division can design and produce the system best suited to the client's requirements. Production of natural extracts for pharmaceuticals, fine chemistry, flavorings and perfumery... process know-how and solutions based on extraction, distillation, and rectification with static or stirred batch extractors enable Tournaire's Equipment Division to meet every need.

In a sector like industrial equipment, where the market is often scattered and fragmented, Tournaire, thanks to its Equipment Division, is the only company offering a cross-cutting service, capable of designing a *complete* production process with *premium* solutions and, thanks to its unique engineering skills, offering turnkey and customized systems that precisely meet client needs and expectations.

### 3.1 Franck Bardini, new head of the Equipment Division...

Industrial equipment is a sector that is constantly evolving, on one hand to offer still more effective responses to the demands of clients and consumers, on the other hand because of technological developments (for example the sub-critical water extraction process, see para 2.3 below).

On January 5, 2015, Franck Bardini became Manager of the Equipment Division.

For the last 20 years Franck Bardini has worked for the Swedish industrial group Alfa Laval, where he had become a senior executive in the Industrial Process Division.

Between May and December 2014, before his appointment as Manager of the Division, Franck Bardini conducted a strategic audit.

### 3.2 ...to implement the new development strategy

His conclusions led to the definition of a new strategic orientation for the Equipment Division, based on 5 priorities:

- Developing the core business: Natural extracts, Flavorings, Fragrances, Ingredients and Health,
- Broadening the engineering offering with global and made-to-measure solutions,
- Strengthening process expertise and know-how,
- Getting closer to the customer by offering additional services,
- Becoming more competitive by optimizing organization and partnerships

Above and beyond this new **strategic orientation**, the ambition of the Equipment Division is to switch from a **product culture to a market-oriented culture**. It is determined to become an **essential**



**player** for its clients in the natural materials processing sector. For this reason three powerful levers have been incorporated into the new organization:

12

- **A new way of working together** with clients, suppliers and partners.
- **Acceleration** of the transfer of know-how and the acquisition of new skills through the creation of a cross-cutting learning **organization**.
- **Development of talent** with increased individual and collective commitment to **excellence**.

According to Franck Bardini, the new head of the Equipment Division: "*It's the **alignment of all these levers with our five strategic priorities** that will enable us to reach our targets for growth and gain of new market share so as to **double our sales as early as 2016** and still further increase customer satisfaction.*"

### 3.3 Line of business

Tournaire Group's Equipment Division designs, manufactures and installs materials processing solutions throughout the world for a wide range of industries. On demand this Division can produce one-off units such as reactors, filter-dryers or rectification columns for chemical, cosmetics, perfume or pharmaceutical companies.

Since its foundation, Tournaire Group's Equipment Division has developed a vast fund of expertise, particularly in the design and development of high-performance processes, not to mention the manufacture, installation and commissioning of pilot or production units.

The fundamental added value proposed by the Tournaire Group lies in its unmatched knowledge of natural raw materials extraction. Tournaire is therefore irreplaceable when it comes to offering clients ongoing support for the successful implementation of their projects.

At the heart of its expertise, the engineering skills of Tournaire's Equipment Division can be summed up as follows:

- Audit and expert evaluation of existing installations;
- Optimization of existing installations including support for compliance with regulatory standards: safety, processes, energy efficiency and revamping.
- Support in process intensification;
- Engineering of client utilities (energy production, network design, etc.) ;
- Support for the implementation of specific equipment solutions and/or tailor-made processes



### 3.4 Solutions

To satisfy the demands of its clients in all the sectors concerned, Tournaire's Equipment Division offers a range of solutions:

13

- *Distillation*: a full range of batch distillation and hydro-distillation units working under pressure or at atmospheric pressure.
- *Rectification*: batch and continuous rectification units at atmospheric pressure or under vacuum down to 0.5 mbar absolute.
- *Extraction*: **a range of stationary or stirred batch extractors for the processing of an extremely varied range of raw materials**: from the most fragile flowers to bulk or crushed materials
- *Filtration*: Single-plate vacuum or pressure filters; multi-stage pressure filters; agitated filter dryers (Nutsche filters).
- *Evaporation*: batch or continuous units operating at atmospheric pressure or under vacuum down 0.1 mbar absolute.
- *Drying*: vertical cylinder dryers: with bottom-mounted stirrer or dome-mounted stirrer, with or without vertical movement
- *Molecular Distillation*: For separating, purifying or decolorizing heat-sensitive products in extreme vacuum (1.10-3 millibars), products with high molecular weight or viscosity, products with high melting or boiling point.
- *Reaction*: complete reactor units from pilot size up to industrial scale.
- *Condenser column*: compact units designed to replace elements in reactor systems such as the primary condenser, trap condenser, decanter, cooler, storage tanks; compared to traditional assemblies they offer many advantages: significant space saving, decreased installation time, elimination of piping support structures, reduced retention volumes, savings in cleaning time and cleaning product consumption.
- *Subcritical water extraction*: an extremely promising process, particularly from an environmental point of view: Tournaire Group's Equipment Division designs and manufactures pilot units or turnkey industrial installations adapted to the specific needs of users.

Among the solutions offered to its clients, Tournaire has also developed:

#### - **Turnkey process solutions**

Among recent turnkey solutions, one important achievement is a perfect example of the Equipment Division's expertise, both in the field of process development and that of industrial plant manufacture: it concerns a fully-automated pressure distillation unit composed of five 3,800-liter stills. Developed by Tournaire's engineers to meet the specific requirements of a client, this unit uses an innovative process-to-process 17 tons per day of powdered cloves.

The contract was won thanks to the involvement of the sales team, backed by Tournaire's R&D team, in the development of a new process for dry distillation under pressure, and thanks to the rapid production of a specific pilot device during the draft project phase.



This initiative was accompanied by the sale of two vacuum rectification columns with a capacity of 4 tonnes/day for the purification - to more than 99% - of one of the compounds in the essential oil obtained by distillation. This purification stage was first optimized on the vacuum rectification column in the pilot plant.

14

This series of tests made it possible to validate all the process parameters and provide the client with guarantees as to the daily processing capacity, distillation yield and purity of rectified products.

Tournaire's Equipment Division teams can also offer:

- ***Made-to-measure services***

Tournaire's extensive experience in industrial processes, along with the quality and reliability of its industrial facilities and its search for operational excellence in the understanding and integration of various regulatory issues, guarantee that its service offering is unique in the market. The strategic orientation of the Equipment Division leads to the development of our service offering in continuous performance mode.

Tournaire's service policy reflects its commitments to its clients: proximity, dynamism, reactivity, adaptability, and efficiency.

### **3.5 Services**

Tournaire's extensive experience in industrial processes, along with the quality and reliability of its industrial facilities and its search for operational excellence in the understanding and integration of various regulatory issues, guarantee that its service offering is unique in the market.

The services offered by the Equipment Division through its dedicated client-oriented organization comprise:

- ***Engineering Department:***

- From the pre-design and feasibility study phases to the design and manufacture of a turnkey production plant using natural raw materials.
- Supervision, installation and commissioning of specific equipment items and/or complete plants.
- Revamping studies, whether for equipment supplied by Tournaire or other manufacturers.
- Preparation of complete reclassification dossiers.



- **Support Department:**

- Performance of pilot tests in laboratory and/or semi-industrial conditions.
- Laboratory results analysis dossier.
- High-performance secure logistic service.
- Training of operators and users.
- Technical and process audit and evaluation.

15

- **After-sales department**

- Spare parts and consumables: dedicated contact for spares, original parts compliant with industrial requirements and supply of specific made-to-measure parts.
- Maintenance: technical team qualified to perform repair and maintenance operations on high-risk sites: level 1 and 2 chemical hazards, MASE (safety improvement) certification.
- Service workshop: repairs, restoration to compliant condition of devices subject to high pressure.
- Service contracts: technical assistance technique and trouble-shooting, warranty extension, performance monitoring, preventive maintenance, inventory optimization.
- Technology watch enabling some equipment items to be upgraded for the benefit of our clients.



## A radical breakthrough in services: the Tournaire Pilot Hall

For industrial clients the increasing requirement to adapt to changes in regulations and standards, along with constant innovation, leads to significant sustained R&D investment.

To support them in this, Tournaire offers a pilot hall and various specific pilot units, such as a sub-critical water extraction unit, a rectification column and a still.

Tournaire's offering is defined case by case, depending on the needs expressed by clients and partners.

Producing tailor-made units in response to needs expressed by clients is one of the distinguishing features of Tournaire. This is why pilot-scale tests are often necessary to validate the feasibility of a project or determine the parameters required for exact sizing of the industrial plant.

These tests enable us to guarantee the performance of the proposed unit: processing capacity, extraction or distillation yield, quality of products obtained.

Thanks to numerous tests carried out over many years, Tournaire possesses a vast data-base. These test results can be compared with the results obtained after commissioning of industrial units and further enrich our know-how.

These tests can be performed in the pilot hall, with or without the presence of the client, or on the client site in the form of a long or short-term hire. As required, Tournaire can provide technical assistance for equipment start-up and operator training.

The signature of a confidentiality agreement often accompanies these services between the partners.

The client generally performs sample analysis after return of individually identified samples.

Tournaire can also offer some analysis services in partnership with recognized laboratories, in particular ERINI (European Research Institute on Natural Ingredients).

Results are communicated to the client in the form of a full test report describing materials, methods and results obtained.



### 3.6 Applications

17

#### Flavors & ingredients

The production of flavorings and ingredients is at the heart of Tournaire Equipment's history. The company supports clients with a wide range of apparatus and units dedicated to the production and purification of natural extracts.

The development of R&D relating to new ingredients, mainly for the food processing industry, is an increasingly frequent activity for the Equipment Division.

#### Perfumery

Processing of raw materials from plant sources is a field in which Tournaire Group's Equipment Division possesses extensive experience.

Steam distillation and extraction using volatile solvents are the processes most widely used for obtaining natural extracts.

These extracts are then purified and decolorized, or they are used for the isolation of specific molecules by vacuum rectification or molecular distillation.

#### Fine chemistry

Tournaire's equipment range covers a large number of individual operations encountered in chemical engineering, in particular:

- The primary stages of synthesis/reaction, condensation and decantation;
- The intermediate stages of concentration, crystallization, evaporation or rectification;
- The finishing stages, filtration and drying.

This application also requires the ability to adapt to specific, made-to-measure requirements, which is a further advantage possessed by Tournaire's Equipment Division.

#### Cosmetics

Positioned well upstream in the value chain, the apparatus and units proposed by Tournaire's Equipment Division find many applications in the production of ingredients for the cosmetics industry. Having always been present in the made-to-measure sector, Tournaire can meet all demands, from the extraction and purification of ingredients through blending to filtering, drying etc.

#### Pharmaceuticals

The pharmaceutical industry imposes the most stringent quality standards for all its products. Traceability and cleanability requirements are taken into account right from the start of a project so as to deliver equipment that is compliant with all standards, directives and specifications laid down in regulations. For this reason the equipment proposed by the Tournaire Group is in constant evolution, to keep abreast of ever-changing regulations and client needs.



## References & international presence

Prestige industries have turned to Tournaire's Equipment Division for the design, development, installation and maintenance of their solutions

18

Today 3,000 Tournaire equipment items are in use in more than 70 countries throughout the world, in particular: Algeria, Belgium, Brazil, Bulgaria, China, Costa Rica, Ecuador, Egypt, France, Germany, Guatemala, Indonesia, Iran, Iraq, Japan, Madagascar, Morocco, Monaco, Mongolia, Nepal, Netherlands, Nigeria, Portugal, Reunion, Russia, Saudi Arabia, Sicily, Singapore, Slovenia, South Korea, Spain, Switzerland, Tahiti, Tanzania, Tasmania, Thailand, Tunisia, Turkey, UK, United Arab Emirates, USA

### Main international clients of Tournaire's Equipment Division:

- EUROMED, KAO CORPORATION, PRADOMUDO I+D, PRIMOIL (Spain)
- NATUREXTRACTS (Portugal)
- SIMONE GATTO (Italy)
- NESTLE SOFINOL, ORGAMOL, HACO, ALPAFLOR, COSMETOCHEM, (Switzerland)
- PT INDESSO, PT INDO ANEKA ATSIRI, GUDANG GARAM, LAKTA AROMA, TIRTAMAS (Indonesia)
- RAROS, QUIRAL (Brazil)

### Contact details for Agents of Tournaire Group's Equipment Division

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## 4 The Packaging Division

After acquiring unique expertise in the design and manufacture of leading-edge equipment items Tournaire Group naturally developed its activity in the direction of technical packaging.

Today, with the largest range on the market, Tournaire Group's Packaging Division supplies a wide variety of sectors: human and animal health, crop protection, perfumes, well-being, food processing and dietary supplements, and also specialty chemicals for electronics and laboratories, offering the highest levels of quality, service and safety.

Tournaire's Packaging Division thus offers a vast number of aluminum or co-extruded plastic packs with their closing systems, which offers users the best possible guarantees.

### 4.1 Line of business

Tournaire's Packaging Division designs, manufactures and sells barrier packaging to enable sensitive or fragile products to be transported safely throughout the world.

This involves three major industrial activities:

- **The transformation of aluminum** (extrusion and stamping): the pure aluminum metal is shaped to form a one-piece container. It can be protected by varnish, or anodized;
- **Blow-molding**: several layers of plastics with complementary mechanical and chemical properties are combined to produce coextruded packaging with a "barrier" effect, offering optimal chemical resistance and leak-tightness;
- **Insertion of plastic necks / handles** on aluminum containers, and stoppers equipped with seals or caps.



## 4.2 Products

The Packaging Division offers its clients packaging in a vast range of sizes, shapes, colors and finishes to respond to all the needs of the markets concerned. Packaging can also be customized with an infinite range of possibilities.

20

Packaging can be divided into three main categories:

### 1/ Packaging in 100 % recyclable aluminum:

With ranges such as System Plus™, the standard-setter in the market; Chem 42™, T802™ and T835™, T1C32™, O220™, TYPE 4™, AP25/28™, 9M6™, TYPE 1™, Boxes CC™, GCMI™, ATK™, Flexspout™, cartridges.

2/ Packaging in coextruded plastic (multi-barrier-layers) with the Euro KS™, Euro TT50™, Euro TE63™, C40™, Euro Chem50™, TMM™ ranges.

3/ Packaging in 100% recyclable amber glass

## 4.3 Services

Packaging offering still better performance and quality, markets that are ever more demanding ... Tournaire Group's Packaging Division undertakes to provide you with the best packaging, now and in the long term:

- quality levels under full control;
- traceability at each stage of manufacture;
- definition of standards of cleanliness, integrated right from the start of the design of production facilities), including in particular checks for the possible presence of certain pollutants
- investment to support client development;
- protection of the environment;
- on-going development of new technical solutions.

Some noteworthy examples of the services offered by Tournaire:

### Accessories

Depending on the different packaging ranges, Tournaire provides clients with crimping pliers, nuts and wrenches, torque wrenches, opening, fitting and dismounting tools, handling devices, etc. Also other options such as stoppers equipped with a pouring spout, plugs, lids, measuring caps, dust-caps, sprays, etc

All these accessories help to optimize the ergonomics of Tournaire packaging systems and increase productivity and safety for clients.



### *Advice and customization*

Adapting to specific requests: thanks to its acknowledged expertise and decades of experience the Packaging Division's R&D department can design products to meet the individual needs of our clients.

21

Product customization: we can offer various decorative schemes for containers and closure systems, such as the addition of retractable or pull-out sleeves, screen-printing, lacquering, pad-printing, etc.

### *Logistics*

Close to its clients, Tournaire supports them in the management of product flows that vary with the seasons, thanks to dynamic, optimized inventory management. Product identification by labels and bar codes ensures traceability through to destination.

Tournaire offers a wide choice of packaging adapted to all needs and modes of shipping (road, air, sea). Protective systems have been specially designed for Air/Sea grouped consignments: strengthened outer packaging, palettes and boxes.

### *Regulatory issues*

Approval of the Packaging Division's original range of packaging for the transport (road, rail or sea) of hazardous materials (UN) and for the recycling of materials and waste (94/62).

## **4.4 Applications**

- **Perfumery and well-being:** raw materials (absolute and concrete oils), perfumed compositions, aromatherapy (essential oils), perfumed candles, powders, bath salts, etc.  
Two centuries of know-how at the service of the perfume industry. With ranges specially developed for the storage and transport of noble materials, Tournaire packaging is a by-word for excellence.
- **Health:** Antibiotics, active ingredients, sterile products, vaccines, etc. The pharmaceutical industry is bound by strict regulatory requirements and the highest quality standards for its equipment and packaging. Tournaire responds to these demands with packaging designed for the storage and transport of active pharmaceutical ingredients, sterilized or otherwise, and for the preservation of standard samples. The highest quality standards, full traceability, DMF type III dossiers, etc., all provide the guarantees and security that clients are looking for.
- **Animal Health:** active ingredients, vaccines, growth hormones, anti-parasitic drugs, etc.  
High quality standards and full traceability to meet the needs of leading veterinary laboratories. Sensitive products are delivered in perfect condition to the user and their lifetime is optimized.



- **Crop protection:** solvent-based formulations, products in aqueous suspension, granules, etc.  
Thanks to its extensive knowledge and long experience in the plant protection market (suppliers to world leaders for many decades), Tournaire is able to anticipate clients' changing needs and seasonal variations. Thanks to its 8 production sites in the heart of Europe and its acknowledged technical expertise, the Tournaire Group offers flexibility, reactivity and a customized approach, (colors, sleeving, individual solutions, etc.) both for long production runs and smaller orders.
- **Food sector:** Vitamins, Omega 3, natural extracts, dietary supplements ... With the widest range of aluminum packaging on the market in addition to multi-layer plastic barrier packaging Tournaire offers the right solution to meet clients' needs. Unmatched leak-tightness, long-term food contact capability, protection against, light, oxygen and damp, etc.
- **Specialty chemicals:** Adhesives, sealing compounds, degreasing or disinfectant products, varnish, paint, inks, etc  
Perfect protection (against damp, oxygen, light, etc.) for sensitive products: Tournaire has developed high-performance packaging solutions adapted to your needs and to the most stringent safety requirements (resistance, leak-tightness, quality) and regulations (transport of hazardous materials, individual and grouped UN approval).
- **Electronics and laboratories:** liquid crystals, laboratory reagents and solvents, etc.  
Tournaire guarantees optimal cleanliness of its packaging specially designed for sensitive, pure or high-added-value materials. High quality standards and full traceability provide the guarantees and security that the most demanding industries are looking for.

#### 4.5 References & international network

Prestige industries all over the world trust Tournaire's Packaging Division to provide aluminum or coextruded plastic packaging. Internationally, Tournaire has signed agreements with agents and representatives in many countries to present its packaging range.



## 5 Quality, Environment, Safety

Energy recuperation, waste-water treatment, materials recycling, respect for employees, staff training, concern for a long-term quality commitment to clients: nothing is left to chance when it comes to finding lasting competitive solutions to our clients' problems, with total respect for Man and the Environment

For many years now, Tournaire has invested in a sustainable development policy and the implementation of stringent quality controls going well beyond the minimum imposed by national or international regulations.

Tournaire's whole organization is designed to guarantee customer satisfaction, from purchasing to dispatch, from management to support services, with the aim of protecting the environment and promoting a safety culture at all levels.

The organization's achievements have naturally been acknowledged by the award of numerous certificates (see "Facts and figures", chapter 7).

### 5.1 Product quality

> **Tournaire's Equipment Division** offers a consultancy service to identify the most appropriate process solutions, whatever the client's needs may be, including ground-breaking solutions (pilots) corresponding to the specific problems of certain markets such as, for example, sub-critical water distillation

> **Tournaire's Packaging Division** produces a full range of packaging in aluminum or coextruded plastic with various different closure systems and capacities.



## 5.2 System Quality

Both Divisions of Tournaire are ISO 9001 certified. They use high-performance computer systems for rapid processing of client demands, non-conformities and possible improvements.

24

> **Tournaire's Equipment Division** also benefits from considerable expertise in the field of system quality:

- Experience in the design and manufacture of complex types of equipment;
- Organization enabling it to build on practical feed-back for the benefit of future projects;
- Optimized project management with regular progress reviews to guarantee that deadlines will be met;
- Rigorous documentary follow-up to provide and conserve the documentation necessary for optimal use of the equipment or to meet regulatory requirements

> **Tournaire's Packaging Division** does everything possible to satisfy client expectations with respect to standards applicable to their activities such as Good Manufacturing Practices (GMP), HACCP, AIB, etc.:

- by ensuring traceability at the level of an item, a palette or an OF according to product lines;
- by always bearing in mind the prevention of crossover contamination, both at design and production level
- thanks to a robust product change management system.

## 5.3 Environment

Both Divisions of Tournaire Group are ISO 14001 certified. The Environmental Management System enables the company to make constant progress in limiting its impact on the environment.

Noteworthy among the many initiatives that have been launched are:

- The involvement of all employees in waste selection; in 2013 62% of OIW (Ordinary Industrial Waste) was recycled, including 48% of card and paper waste and 14% of plastic films (more than 12 tonnes recycled every year); Tournaire also recycles aluminum, scrap metals, wood and other plastic materials;
- Wastewater is treated on site in Grasse thanks to a Tournaire in-house treatment plant. Treated water is returned to the natural environment;
- Effluents are permanently checked and monitored to ensure compliance with limits;
- Manufacturing processes are optimized to limit impact on resources (water, gas, electricity);
- Significant resources are devoted to monitoring and anticipating regulatory changes to ensure the compliance of products and equipment;
- The company participates voluntarily in local initiatives in favor of the environment, such as, for example, the encouragement of car-sharing and the use of public transport, recovery of IT equipment, etc.





## 5.4 Safety

The Grasse site is MASE\* certified. The Tournaire Group has opted for safety through the adoption of this stringent standard. Tournaire uses MASE (certification of safety procedures) as a preventive tool leading to continuous improvements in safety in its workshops and worksites. This organization makes it possible to prevent accidents (low levels of frequency and severity compared with other engineering companies) and raises awareness of potential risks among Tournaire employees. Similarly, Tournaire's sub-contractors are selected according to Safety, health and Environmental criteria.

25

Work performed by Tournaire's Equipment Division on client premises follows strict operating rules and constraints, and is carried out by experienced staff who possess the requisite training (chemical risk certification, etc.), information and resources.

Audits are performed to check that essential safety rules are properly observed on site.

*\*MASE: Manuel d'Amélioration de la Sécurité des Entreprises, Company Safety Improvement Manual*

## 5.5 Health and working conditions

For the company as a whole, safety procedures are based on a preventive approach to industrial diseases and difficult working conditions:

- by risk analysis and reorganization of workstations;
- through consideration of replacement of hazardous substances and the possibility of withdrawing staff from activities involving risk;
- by involving staff and health services in this thinking;
- by encouraging the submission of information and suggestions.

Tournaire is a pioneer in the launching of groundbreaking experiments such as the Sport and Health at Work project, which aims to provide employees with the opportunity to play sports at their place of work.



## 5.6 Management of skills, jobs and knowledge

Tournaire runs an ambitious training plan for all its employees. It benefits from the expert knowledge of its staff whose average seniority is high: 15 years with the company as of 2013.

26

Tournaire is in a position to capitalize on this knowledge through:

- Its training academy: set up in 2009, this is run on a voluntary basis and aims to transmit know-how, encourage career development, facilitate access to professional qualifications and maintain employment levels. A further ambition is to adapt jobs to the new economic and industrial circumstances;
- The promotion of Tutoring: the issues linked to the tutoring mission are many and varied, depending on the context: it is chiefly a question of:
  - o facilitating co-operation between generations;
  - o enabling new recruits to integrate;
  - o transmitting and sharing company values;
  - o formalizing and passing on know-how linked to a professional specialty or sector;
  - o taking advantage of the good practices developed by an employee possessing expertise;
  - o organizing transfer systems to avoid loss of skills regarded as "critical".

All these actions are part of a Strategic Workforce Planning strategy that enables the company to anticipate its manpower and skills requirements and improve its competitiveness. It is an opportunity for both the company and its employees to anticipate technological, industrial, demographic and organizational changes so as to face up to the major challenges of tomorrow: technology, population change, economic globalization, and ecology and sustainable development.



## 6 Research & Development

27

Tournaire's ambition is to innovate ceaselessly so as to push back the technical limits of processes and materials in order to offer clients the most effective solutions on the market.

From one-piece containers in pure aluminum to the "System Plus" closure (UN approved), which enables packaged products to benefit from a totally hermetic and inviolable seal, by way of raw materials extractors integrating the latest technological progress, Tournaire's engineers have never ceased to create new processes so as to remain permanently at the leading edge of excellence.

In the R&D field the aims of the Tournaire teams are as follows:

- For the Equipment Division, to design the most innovative solutions in the fields of extraction, distillation and rectification in compliance with ever-changing regulatory constraints. The products proposed by Tournaire's Equipment Division are constantly adapting to changes in the industrial environments and constraints of its clients so as to provide still better day-to-day support.
- For the Packaging Division, to offer technical packaging that is ever more robust, lighter, more ergonomic and easier to recycle, while improving barrier performance and taking into account, where appropriate, the complexity of the environment.



## Equipment Division:

- A team of engineers and technicians specializing in the design of the fullest range of processes available for raw materials processing;
- Tournaire's Equipment Division has maintained its professional specialization and developed, thanks to the skills of its engineers, a unique expertise and high-performance processes in the fields of extraction, distillation, filtration, drying, evaporation, rectification, molecular distillation, condensation and other tailor-made processes.
- Backed up by two centuries of practical feed-back, R&D in the Tournaire design office constantly seeks further improvements, from the design of complete lines intended mainly for the transformation of raw materials from plant sources to the preparation of active ingredients. Tournaire possesses the skills that are essential for the production of devices or complete units that comply with applicable regulations in the countries concerned.
- The departments of the Equipment Division can provide "made-to-measure" units for the most demanding clients, or "turnkey" systems for a range of processes in which Tournaire possesses long-standing expertise.

## Packaging Division:

- The R&D department of Tournaire's Packaging Division offers the widest range in the market of technical packaging corresponding to specific client needs;
- This same Research and Development department also designs the production systems that guarantee the reliability of the packaging produced;
- The experts in Tournaire's Packaging Division adapt to all demands thanks to their acknowledged know-how that is backed by years of experience;
- Once the best technical solution has been found and the container volumes chosen the packaging can be customized: different decoration schemes for the containers, closure systems such as retractable or pull-up handles, screen-printing, lacquering; pad printing, etc.



## 7 Luc Tournaire, Chairman of the Management Board



Luc Tournaire was trained at ECAM (École Catholique des Arts & Métiers) in Lyon, where he obtained his engineering degree in 1977.

That same year he began his career in Fairfield, New Jersey, as an engineer with Chem-Pro Equipment Corp. Two years later he was recruited as a design engineer in the 'low current' department of Roiret in Lyon.

He joined Tournaire in 1980; in 1993 he was appointed CEO, and has been Chairman of the Management Board since 2005.

Ever since he joined the company Luc Tournaire has striven to promote innovation, with for example the first supercritical CO<sub>2</sub> extraction unit or the first agitated filtering bottom extractor in 1984, a technology that has revolutionized the sector thanks to its unprecedented capacity and sustainable performance levels, leading to a significant improvement in the ecological footprint.

He has also encouraged the opening up of new sectors such as pharmaceuticals through the use of new equipment such as for example the first dryer for pharmaceutical products in 1994 or the first condensation column in 1995.

With his teams Luc Tournaire has in addition:

- speeded up the development of the packaging business, creating subsidiaries such as TMM (in 2000) in partnership with the Jura-based company MILLET MARIUS in order to provide better service to agrochemical clients, or Tournaire Plastic in Châlon-sur-Saône (in 2005) so as to be closer to certain customers;
- made acquisitions such as the American distributor O'Berk International, now known as Elemental Container, based in New Jersey (USA);
- encouraged the international development of both Divisions of the company;
- worked to obtain certification testifying to the professionalism and expertise of Tournaire's staff.

Luc Tournaire has also been an elected member of the Nice Côte d'Azur Chamber of Commerce and Industry since 2006.



## 8 Facts & Figures

30

- Date of foundation: 1833
- Total payroll: 240 (as of 31.12.2014)
- Turnover 2013: € 52 million of which 65 % are exports
- Satisfaction rate as expressed by Tournaire clients: + 97 %
- Total surface area of group production sites: 120,000 m<sup>2</sup>
- Presence of Tournaire in the world: 70 countries
- Number of equipment items installed throughout the world: 3,000
- Number of containers produced and distributed throughout the world by the Packaging division since Tournaire was founded: + 1 billion
- Average lifetime of equipment items manufactured by Tournaire: 40 years
- Number of active clients in the world: 300
- Tonnes per day of natural raw materials processed and transformed by the largest production unit installed by Tournaire: 40
- Tonnes of materials transformed every year by the Packaging division: 5,000
- Natural materials most frequently processed:
  - o Aromatic extracts: Cocoa / Vanilla / Fenugreek (medicinal herb) / Rosemary ...
  - o Medicinal and cosmetic plant extracts: St John's Wort /Rosa Moschetta / Prickly pears/ Pygeum Africanum, etc.
  - o Essential oils: Cloves / Badian / Helichrysum / Vetiver...

### CERTIFICATIONS:

Tournaire benefits from a number of certifications for its two Divisions:

- ISO 9001 certification (version 2008) for the Packaging Division (since 2002)
- ISO 14001 certification (version 2004) for the Plan de Grasse site (since 2003)
- ISO 9001 certification (version 2008) for the Equipment Division (since 2006)
- MASE certification (2007)
- UIC (Union of Chemical Industries) approval according to DT 78 for the Equipment Division (2007)
- ISO 9001 certification (version 2008) for TOURNAIRE PLASTIC SAS in Chalon-sur-Saône (2008)
- single global certification to ISO 9001 (version 2008) and ISO 14001 (version 2004) for Tournaire SA (Packaging Division and Equipment Division) and TOURNAIRE PLASTIC SAS (2009)

### TOURNAIRE GROUP MANUFACTURING SITES:

- **Equipment Division:**  
Grasse site:
  - Production of made-to-measure or turnkey units
- **Packaging Division:**  
Grasse site:
  - o One-piece aluminum packaging
  - o Multilayer coextruded plastic packaging
  - o Stoppers and seals  
Chalon-sur-Saône site:
  - o Multilayer coextruded plastic packaging