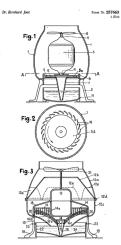




A Pictorial of Our Company's History

Join us on a journey through time beginning in the last century with the establishment of Defensor AG. Let us reminisce about all that has occurred along the turbulent way from the first patent to our place as the world's leading air humidification brand. Celebrate together with us 75 years of our company's history.





Establishment of Defensor AG

On June 21, 1948, Defensor AG was registered in Zurich's trade registry. Principal shareholder was Dr. Bernhard Joos, chemist and entrepreneur. Joos developed in the early 1930's PYRIDA-CIL®, a preparation for the disinfection of kidneys and urinary tracts, and started in 1936 the pharmaceutical company Cilag, today Janssen. Disinfection remained Joos's main focus. In 1946, he applied for a patent for 'method and apparatus for the spray distribution of liquids.' Its utility was to apply 'liquid disinfection

media in a fine mist.' Whether livestock stalls to combat animal disease or hospital and operating rooms, the atomizer apparatus provided 'defensive' protection against infection, hence the name Defensor AG, whose technology constituted Bernhard Joos's patent.





Verfahren und Vorrichtung zur Herstellung eines Aerosols.

Die Erfindung betrifft ein Verfahren und eine Vorrichtung zur Herstellung eines Aerosols (Nebels).

Das Verfahren ist dadurch gekennzeichnet, häusemantel angeordnet, was für die Erzeu-5 daß eine Flüssigkeit durch Ausschleudern und gung eines Aerosols wichtig ist. Ferner weist

Propeller 25 angeordnet ist. Der Propeller 25 35 ist auf der Höhe bzw. zumindest im Bereiche des engsten Austrittsquerschnittes 26 im Gehäusemantel angeordnet, was für die Erzeugung eines Aerosols wichtig ist. Ferner weist



1950s

Technology transfer to industrial air humidification

For years, Defensor AG remained mired in the red. The commercial breakthrough came at the hand of resourceful cheesemakers, who discovered the merits of humidity during the cheese ripening process. Finally, at the beginning of the 1950s, Defensor AG was able to start mass production of a product model. Step by step, Defensor AG enlarges it product range and scope of utility, from ripening and storage facilities to greenhouses, large open office buildings and manufacturing plants.

Defensor Junior Diesen Winter in geheizten Räumen More and more scientists, like Profes-

größere Behaglichkeit veniger Erkältungskrankheiter

durch eine ausreichende. rasch wirkende Luftbefeuchtung mit dem kleinen handlichen

DEFENSOR-Junior

best and most convincing advertising Defensor could possibly have. The Junior Aerosol-Apparat model was the first aerosol humidifier to hit the market for home use. Designed by Karl Flury, the rotation atomizer not only impresses with its technical prowess, but its aesthetic design captures the eye, as well. In 1956, the apparatus received the

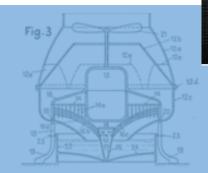
>1955

sor Grandjean, ETH Zurich, confirm the health effects of maintaining a sufficient

level of relative humidity. That is the

distinction "Die gute Form", i.e. an award

for timeless design and function, at the largest Swiss trade fair, MUBA. Junior's technology and function are indeed so timeless and long-lasting that it became a true evergreen, and the 505 successor model continues to sell for Condair!



>1955

Trademark rights for Condair

Inspired by his experiences in the USA, Bern business owner Hans Badertscher began at the beginning of the 1950s to sell American-built forced hot-air heaters for domestic use. He marketed the systems under the name Condair, derived from 'conditioned air.' To protect the name, he applied for a trademark, a move that Condair has profited from throughout its history.

To the right, a Condair newspaper advertisement in the Neue Züricher Zeitung from 1955.







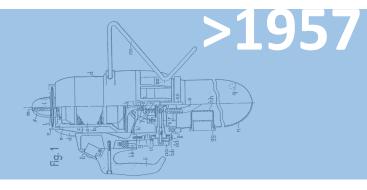
Rotary atomizer 13T in the machine building company SACM in Mulhouse



Defensor Microjet 109

Disinfection remained in Defensor's focus. In 1957, Defensor launched on the market a portable high-capacity atomizer for use in high-volume disinfectant aerosols, for applications such as grain mills where the atomizer combats moths and beetles. Persistently, the company looked for scientific proof for the disinfection benefits of aerosol atomizers. The German bureau for crop protection issued a report in 1959, *Nachrichtenblatt des Pflanzenschutzdienstes*, stating that tests showed the Microjet 109 produced good extermination results.





>1958





Establishment of Plascon-Tank AG (later Condair AG)

Hans Badertscher established yet a second company in 1958: Plascon-Tank AG. As the name indicates, the business started with the manufacture of plastic tanks and tank level measurement instruments. Early in the 1960s, Badertscher began an initiative to design and build steam humidifiers. The product, named Lumatic, used electrodes to boil water and thus generate steam. As a result, Plascon became direct competition to Defensor AG in the very young market

Lumatic Junior

humidifier for home use goes by the same name as competitor Defensor's: Junior.

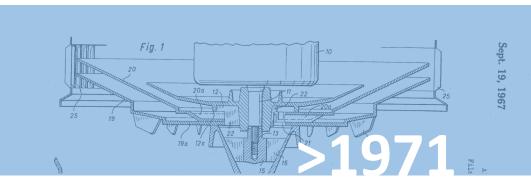
And just like the Defensor Junior, the Lumatic Junior won a very prestigious award, the IF Design Award from International Forum Design. But Lumatic Junior offered a hygienic advantage: It employed steam produced by boiled water as opposed to Defensor's Junior, which used cold water. Migros sold the Lumatic device and it quickly took off,



A coincidence? The first Lumatic steam selling in the first year 58,690 Junior 600 units and 30.737 of the 1000 models!







of air humidification. It wasn't long before the product series, including Lumatic models 1,2,3 and 4 with ammeter and portable hygrometer (shown here from an exhibition in Solothurn, Switzerland) became big sellers in Germany, Belgium, the Netherlands and Scandinavia.

Plascon AG opens new headquarters in Münchenstein

Business with the Lumatic steam humidifiers grew rapidly and by 1971, Plascon AG had built their own manufacturing facility with administration building on Heiligholzstrasse in Münchenstein, Switzerland. And note this, not only did it feature the most modern-equipped engineering department, but it had an indoor swimming pool and sauna, which employees could use free of charge. In particular, the international business was humming along at this time. Plascon sold



91% of its best-selling product. Lumatic I-VI. abroad.

Mk1: Defensor's first steam air humidifier

Defensor launches its first steam-based humidifier. Mk1. In contrast to the competition's product (Lumatic), Mk1 uses a resistance technology, like that of an immersion water heater, not electrodes. With the introduction of this product. Defensor became the only manufacturer with expertise in the three areas of evaporation, atomization and vaporization. Mk1 is suitable for indirect humidification by means of a steam distribution pipe in an air duct. Thanks to continuous innova-

>1973



tion. the Mk1 series became Defensor's backbone for commercial and industrial applications. Today the product, now called Condair RS, remains a popular seller in Condair's range.

PATENT SPECIFICATION >1975

>1970s



Defensor goes international

Seeing great potential in its broad range of products, Defensor begins in the 1970s to expand its international sales and marketing network. Sales force training is necessary (shown here in Japan in 1973). How exactly does the Defensor ABS2 seen here in the picture work? Water is drawn from the reservoir through a suction tube and propelled by the impeller and the four spinning disks against the atomizer grid to produce a mist (aerosol). Simultaneously, ambient air is drawn into the underside of the

device. A second flow of ambient air distributes the aerosol in the space. Besides the health-enhancing humidification, an additional effect occurs by means of evaporation: cooling, which is highly desirable in manufacturing plants, particularly, textile and printing operations.

Walter Meier AG acquires Defensor

Defensor is now a medium sized company with 120 employees, an international sales network covering 70 countries and annual revenues of over 14 million Swiss francs. However, the company's financial stability is shaky. For this reason, Defensor looks for a financial partner with deeper pockets and finds the Walter Meier AG. At the time, 1975, the company is primarily active as an importer of machine tools. But in 1972, the son of the company's founder, Reto E. Meier, takes over the helm of the company and sets diversification as a key priority. On June 23, 1975, Walter Meier AG buys Defensor AG, its first acquisition, and thus enters the humidification business. A year later, Walter Meier AG becomes a holding and in 1985 it transitions into a listed company on the stock market.





dessen engstem Querschnitt angeordnet i In der Zeichnung ist ein Ausführung 25 beispiel der erfindungsgemäßen Vorrichtu im Längsschnitt dargestellt.

Die gezeichnete Vorrichtung entspriel grundsätzlich derjenigen nach Beispiel 3 d. Schweizer Patentes Nr. 257663, das heißt so einem topfartigen Gehäuse (27, 29, 29a ur 37) ist ein Motor mit vertikaler Welle g lagert. An deren unterem Ende sind Schle verben und der Ansaugstutzen 35 b yährend am obern Wellenende ei nantel 27 verbunden ist, zwischen welchen beiden Teilen ein ringförmiger Durchlaß 30 aum Ansaugen von Luft vorgesehen ist, außer lem normalen Lufteintritt. Dieser besteht aus 60 binigen Öffnungen, die am Umfang des unern Mantels 29a verteilt und, in Umfangstichtung gesehen, neben den Streben 28b angeordnet sind. Die Öffnungen sind aus der Schnittzeichnung nicht ersichtlich. Der obere 65 Mantelteil 27 ist beispielsweise durch drei oder vier Streben 31 am untern Mantelteil 29 sefastiort



Lumatic becomes Condair

With Condair ES, Plascon AG hit the jackpot. The device featured the first auto adaptive control system, i.e. it possesses a replaceable steam tank and water management control that are capable of producing odor- and mineral-free, hygienic steam regardless of tap water chemical properties. But wait a minute, Condair ES? Yes, that's right. In 1976 Plascon relinquished the brand name 'Lumatic,' and returned to the, since 1955, patented tradename 'Condair,' due to litigation with Luwa AG, a ventilation and heating company. The case went all the way to the Swiss federal court. The decision reached by the court prohibited Plascon from using the brand name Lumatic. At the 1976 international plumbing and heating trade show in Frankfurt, *Fachausstellung Sanitär- und Heizungstechnik ISH*, the Lumatic logo is visible; whereas a little later at an exhibit in Münchenstein, the Condair name appears, albeit with distinct similarity to the Lumatic logo.

Walter Meier Holding acquires Plascon

In 1981, Hans Badertscher sells Plascon to Walter Meier Holding AG. The sale took place in order to ensure the company's continuity, because there was no family successor to carry on as chief manager, according to the *Neue Züricher Zeitung*.

On January 1, 1982, Plascon AG was renamed Condair AG, the name of its strongest brand. With its takeover of Plascon, Walter Meier Holding, held the two leading companies for industrial air humi-

>1981



dification. Initially both companies remained independent and were competitors.



>1985



>1983

Acquisition of Nortec

Jean Guay und Michael Leicester established Nortec in Ottawa, Canada in 1974. The company manufactured air humidifiers and also sold humidifiers from other companies, such as Lumatic and Condair products from Plascon AG. In 1978, Nortec placed an order with Plascon AG for 30,000 dollars' worth of humidifiers to be paid in Swiss francs. As the value of the Canadian dollar plummeted suddenly and drastically, Nortec's liability to Plascon tripled. Nortec and Plascon were able to reach an agreement to pay the open invoice with Nortec shares, making Plascon AG a stockholder in Nortec. Plascon's share of Nortec continued to grow and by 1983 Nortec belonged completely to Walter Meier Holding. The benefits are manifold: Since Condair (previously Plascon) like Defensor belonged to Walter Meier Holding, Defensor now had a strong sales organization for Canada and the USA dropped into its lap, one that Nortec had developed. In addition, Nortec had a manufacturing facility near Ottawa, Canada that was set up to produ-

ce air humidifiers in compliance to North American standards and demands.



Condair engulfed by flames

In the night of March 27, 1985, a huge fire destroyed the Condair AG manufacturing plant in Münchenstein. A hundred employees were faced with an uncertain future; 10 million Swiss francs in damages were the toll. Lost in the fire were the company's records containing all their design documents. But luckily, there were no human casualties and the administration building remained largely intact. In addition, Condair could temporarily rent storage and other building space in the neighborhood. More importantly,

the company had the benefits of a solid financial basis and highly motivated employees. According to the company magazine, *Der Condair*, the company's motto after the fire was 'no lay-offs, no shortened working hours, rather, all hands on deck!' By December 1986, the new company building was finished.



>1985

Innovation surge: Defensor PH5

Defensor PH5 is the market's first multipurpose device. It embodies the union of air humidification and purification in a single unit. A four-fold filtration system, comprised of a large particle filter, fine particle filter, electret coat and active carbon filter make the multifunction possible. *ETH Zürich and Eidgenössische Prüfanstalt EMPA* tested this highly efficient filter with excellent results. No wonder, the Turmix company has successfully sold the unit, under the name Turmix TopAir, on the Swiss market for many years. Defensor expanded its presence on the market thanks to its larger PH26 and PH14 models (1987 and 1991, respectively), which enjoy great popularity in museums, galleries, libraries, churches (organs) and large, openspace office applications. Today, the bigger multipurpose units Defensor PH15 and PH28 provide an ideal indoor climate for artwork and people in the Louvre in Paris, the Uffizi in Florence, etc.





Defensor Mk3 in industrial applications

Never has industrial air humidification been more precise. The new generation of resistive steam air humidifiers gives Defensor infinitely variable regulation of 0 to 100 percent with the precision of plus or minus two percent. The control mechanism comprises a combination of contactors and mercury relays, not semiconductors, which didn't appear in the products until the 1990s. In the picture, four Defensor Mk3s in a machine factory in Oerlikon-Bührle 1986.

>1986





>1987

Defensor moves to Pfäffikon

Thanks to continuous innovation and its burgeoning business, Defensor AG grew rapidly in the 1980s. In fact, so quickly that the facility in Zurich Binz exceeded facility capacity. December 1985 saw the ground-breaking ceremony for a new facility in a field on Talstrasse in Pfäffikon SZ. A 16-meter high and wide, high-bay warehouse that extends through all the levels divides the building into office and production sections. The new facility cost 18 million Swiss francs, including a new data-driven *enterprise resource planning* *system* with 20 monitor screens and a state-of-the-art, climate-controlled test laboratory with very challenging construction specifications as to temperature and humidity insulation. In March 1987, it was time to move into the new facility.





Made in Switzerland

Production still continues at Pfäffikon with increased vertical integration of manufacture throughout the entire value chain: from cable harnesses to circuit boards and beyond to assembly and state-of-the-art powder coating. However, as a consequence of globalization and the financial crisis of the 1990s, the vertical integration of manufacture increasingly diminishes. Restructuring and conversion to *just-in-time production* and the implementation of KANBAN processes turn the Pfäffikon facility into an assembly plant.



Fusion of Condair and Defensor

Walter Meier Holding, a heavy-weight in the Swiss building industry, suffers under the crisis, too. The fusion of both subsidiaries Defensor and Condair offers significant synergy potential, with each having its own engineering, manufacturing and sales organization to answer the demands of the air humidification market. Fusion of the two equally potent companies, who had been competitors for many years, was potentially explosive. Which was another reason for a new company name: AxAir (not to be

>1995

confused with the previously established service company AxAir Schweiz AG). The Defensor headquarters in Pfäffikon SZ was the choice for the new company's home, because of the availability of sufficient space. The Condair facility in Münchenstein closes. The fusion yields the world's biggest air humidification company with around 200 employees and a turnover of 50 million Swiss francs annually. Both brands, Condair and Defensor, continue to exist for the time being.

>1988

>1991



Founding of AxAir Schweiz AG and acquisition of ESCO Pressurized Steam Distribution Systems

Following the years of booming business in the 1980s, come the gloomy 90s, the result of a real estate crisis. Keeping a tight wallet is necessary during such times, which applied to the air humidification business, as well. Whether Defensor or Condair, both Walter Meier Holding companies, or the competition Esco Schönmann, everywhere the economy seemed to be in a nosedive. The situation led the three companies to consider merging into a new company, named AxAir Schweiz AG. Condair receives a 'dowry' consisting of the 1984 patented and highly innovative pressurized steam distribution system, ESCO, from Esco Schönmann, which they add to their range of products. Today, Condair still markets the steam distribution system worldwide under the Condair ESCO name with



enormous success. The product possesses numerous unique features and can integrate anywhere where a pressurized steam network is in use.

Condair enters Chinese market

As the many years of cooperation in the home air humidifier market with the longstanding Swiss company Turmix draw to a close, machine tool capacity becomes available. Fittingly, an opportunity opens up for AxAir in China to start a joint venture with the Chinese home appliance manufacturer Yadu, an industrial giant. The deal comes together quickly: AxAir provides the technology and machinery, Yadu handles the market launch, sales and marketing in China. Commercials for the Yadu-AxAir air humidifier, whose

>1996

technology is based on the Condair PH5, even air on the state-operated TV media channel CCTV. Nevertheless, the desired success remains elusive. In 1999, AxAir establishes subsidiaries in Shanghai, Beijing and Hongkong.



Condair Mk5:

The first steam humidifier with lime scale management

The design journey of Condair's Mk product line enters the next phase. At the start of the new millennial, AxAir launches the first steam humidifier with patented lime scale management. Solving the common physical problem of lime scale build-up in resistive air humidifiers is a significant accomplishment, setting a new standard for domestic applications. The key to the solution is that scale breaks off the pulsating heating element

>2000

and sinks in the heated water, collecting in a collector beneath the unit. This design reduces maintenance frequency, significantly lowering the cost of operation.

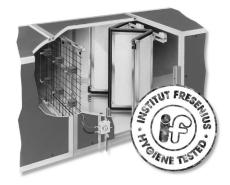


>1997

Condair DUAL: The world's first hybrid air humidifier

AxAir's Condair DUAL marks yet another milestone in the history of air humidification. For the first time, two adiabatic humidification techniques operate together: atomization and evaporation. This design allows the Condair DUAL to deliver air humidification with unmatched hygiene and efficiency. A post evaporation unit made from ceramic, an extremely hard material whose surface is highly resistant to corrosion or degradation, yet disposes of without problem, is one reason for

the exceptional hygiene. The other is a cartridge specially-designed by AxAir that releases silver ions into osmotic water and kills germs. Complementing the system, smart circuitry keeps waste water at an absolute minimum and ensures reliably maximum efficiency.





Acquisitions of JS Humidifiers (GB) and ML Systems (DK)

AxAir AG, after a brief renaming to Walter Meier (Klima International) AG, assumed the name Condair AG. As a leading innovator in air humidification, the newly named company again focusses on technological and geographic growth. Alongside increased investment in new product engineering, the Walter Meier Group, parent company of Condair, decides on a strategy to make acquisitions that will round out the scope of the company's reach, beginning with the acquisition of

>2011

JS Humidifiers from England, then later ML System, a Danish company (picture shows Leo Rasmussen and his wife Marianne Jager, company founders). Both companies stand out due to their strong market positions in their respective countries and due to their technological capabilities, which complement those of Condair's portfolio perfectly. JS Humidifiers brings a cutting-edge technology for the very important evaporative cooling market, a key for Condair technology's

presence in Facebook, Apple, Microsoft data centers, etc. And from ML System, the Walter Meier Group gained possession of a mature, well-engineered highpressure pulsation technology for industrial and commercial applications.

>2002

Walter Meier Holding acquires Draabe (D)

Draabe has a long history with Condair. It began at the end of the 1950s when the company founder, Hans-Jürgen Draabe, became the exclusive importer of Defensor air humidification products in Germany. His son, Uwe Draabe presented in 1982 the company's first own product, the highly innovative, portable purified water container UO. 'UO' indicates reverse osmosis, which removes minerals from the water and permits hygienic, residue-free misting of water. Water purification became Draabe's calling card. In 1986 Draabe introduced BioSafe, the first combined water purification and air humidification system, which the DI Puls, with its world-first high-pressure pulsation system, replaced in 1996. Draabe is a technology leader, but for international marketing and sales, it requires a strong partner, which Walter Meier Holding becomes in 2002. Walter Meier, in return, receives for its AxAir company, besides 1000 accounts in Germany, extensive knowhow in the field of integrated water purification and air humidification.





One Company: consolidation and restructuring

At this point in time the Walter Meier Group, now traded on the stock market, has a dozen individual companies in its portfolio. All of them serve the same market: air humidification. And all of these are medium sized companies, with Condair AG as powerhouse, and all have their own or overlapping sales organizations, marketing, engineering and manufacturing operations, and some are even in competition with other affiliated companies. That makes little sense from a corporate management position. Thus, Silvan G.-R. Meier principal stockholder of the Walter Meier Group decides to consolidate the portfolio of companies. 'One brand, one company' becomes the motto: Condair! A gargantuan task, since each company has its own domicile, own history, own identity. Communicative skills and leadership are required to succeed. That description accurately describes the 2012 appointed CEO of the new Condair Group, Oliver Zimmermann. Under his leadership, a group of independent companies became a vertically integrated, global corporation with a coherent product portfolio, research and development, procurement and, for the time being, six manufacturing sites. Easing the colossal task was Silvan G.-R. Meier's action in 2014 to purchase all the air humidification companies out of the stock market-traded Holding, which streamlined the consolidation of the companies by eliminating the need for stockholder consent.



>2014

>2017



Opening of new manufacturing and logistics center in Norderstedt (D)

Consolidation affected production, too. Prior to it, the Condair Group operated four factories in Europe, one in North America and one in China. An analysis found that in addition to Canada and China, one manufacturing plant in Europe alone would be enough; i.e. such a configuration would provide sufficient access to Condair Group's markets. But where in Europe would be the best location? A use-value analysis examined the potential of 22 different sites, evaluating logistics, the possibility of serving markets with the greatest revenue potential, availability of qualified human resources, cost of labor and currency risks. The decision for the new manufacturing and logistics center went to Norderstedt, north of Hamburg, Germany. Besides the proximity to the airport, a distinct advantage



Condair HumiLife: Back to private end-users

For decades, experts have been telling us that dry air, produced by heating or ventilation, is unhealthy. Defensor and Lumatic began designing, building and marketing portable air humidifiers in the 1950s. With the growing environmental awareness, a trend toward tighter, energy-efficient building envelopes with central ventilation, heating and cooling has found its way into the plans of real estate developers for residential projects. The trend creates new chances

>2017

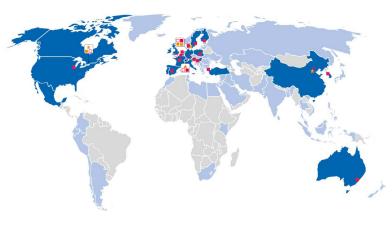
to integrate air humidification into the building management of smart homes. Condair Group designs such system and has christened its smart, home air humidification program HumiLife. Hardly visible to the room occupants, equipped with sensors, atomizers or integrated into the automated building ventilation, inventive solutions provide healthy relative humidity between 40 and 60 percent. The system allows remote management, including operation and main-

tenance, via smartphone app and IoT software. HumiLife is for Condair marks a return to the nearly forgotten private end-user.

>2017

Geographic expansion into countries with emerging economies

Starting in 2017, Condair turns its attention to countries with burgeoning economies, establishing sales organizations in Mexico, Turkey, Dubai, etc., which are to serve as hubs for entire regions, such as Central America, Central Asia and the Arabian Peninsula. To capture and utilize the regional understanding of the local markets, many of the sales organizations start as joint ventures with existing local businesses.



was that nearly all the current work force, 50 individuals, from the former subsidiary Draabe could remain employed, ensuring continuity and retention of knowhow. In May 2017, the new hub began operations. Simultaneously, the Condair Group implemented the vertical integration of all sales and service organizations in all the important markets.



IoT: Condair DL

(4th DUAL Generation)

The digitalization and the Internet of Things (IoT) enable Condair to get closer to its customers. The newest Condair DL generation possesses digital interfaces that permit automated communication between devices and facility management and service organizations. With the network protocol BACnet (*building automation and control networks*) operators can view, communicate and remotely manage devices, of course, with the permission of the customer. Thanks to this

>2022

technology, Condair is now able to manage and monitor its humidification systems efficiently and precisely throughout their entire lifecycles.



75 years Condair – the Outlook

>2023

We will continue our organic growth while maintaining our position as the market leader in professional humidification and dehumidification for industrial and commercial applications, and we will be leaders in delivering such solutions to the premium residential building sector, as well. Moreover, Condair will continue its development into a Life Science company for whom not the devices but the health benefits stand in the foreground. Thus, we will stay true to our claim 'Humidity for a better life.' We are committed to doing our part to make the built environment healthier.