## COMPANY HISTORY

It all started with spray nozzles, which precision mechanic Wilhelm Wagner manufactured in the 1940s. Today – 65 years after it was established – WIWA Wilhelm Wagner GmbH & Co. KG supplies first class coating systems, spray painting equipment, injection and fluid handling systems to every country around the world.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>1950</td>
<td>Company founded in Lahnau, WIWA develops and makes oil pumps and lubrication guns</td>
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<tr>
<td>1967</td>
<td>The first Airless spray painting units are sold</td>
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<tr>
<td>1968</td>
<td>New Airless spray painting units and underbody coating pumps are added to the product range</td>
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<tr>
<td>1970</td>
<td>New products -AIRLESS 10.000, AirCombi units, zinc silicate spraying units, feed pumps, airless spray painting guns – are added to the product range; Company expands: new building is opened on Gewerbestrasse in Lahnau-Waldgirmes</td>
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<tr>
<td>1975</td>
<td>Founder’s daughter Heidrun Wagner-Turczak takes the commercial helm of the company and Günter Leinweber takes over as Chief Technical Officer</td>
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<td>1980</td>
<td>Expansion of fluids handling technology product range; Market launch of WIWA extrusion pumps and hot-spraying systems</td>
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<td>1992</td>
<td>WIWA JUMBO launched on the market – the world’s largest airless unit</td>
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<td>1994</td>
<td>WIWA plural component technology opens up a promising, new market segment with the launch of the DUOMIX range</td>
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<tr>
<td>1996</td>
<td>ISO 9001-compliant quality management certification awarded</td>
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<td>2000</td>
<td>WIWA LP is established in Atlanta, USA</td>
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<tr>
<td>2002</td>
<td>Mobile 2K unit added to plural component systems program</td>
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<tr>
<td>2004</td>
<td>Unveiling of 1K (single-component) and 2K PFP units for fire-protection coatings; WIWA is awarded ATEX certification</td>
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<td>2005</td>
<td>WIWA launches electronic plural component technology with the FLEXIMIX 1 and FLEXIMIX 2</td>
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<td>2007</td>
<td>Relocation of WIWA factory in Leun-Stockhausen to new building at HQ Lahnau; Establishment of WIWA China</td>
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<tr>
<td>2009</td>
<td>Unveiling of newly developed range of polyurea application units</td>
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<tr>
<td>2013</td>
<td>Establishment of WIWA Middle East in Dubai</td>
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<tr>
<td>2014</td>
<td>WIWA DUOMIX 333 PFP certified for use on offshore platforms; New generation of airless units, the HERKULES GX SERIES</td>
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<tr>
<td>2015</td>
<td>Modernization of the DUOMIX range with the launch of the DUOMIX 270</td>
</tr>
<tr>
<td>2016</td>
<td>Introduction of the new generation single feed units HERKULES 270 and 333 GX. Introduction of the DATALOGGER,</td>
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</table>
A tradition of reliability and precision dating back more than 65 years: WIWA Wilhelm Wagner GmbH & Co. KG, established in 1950, is one of the world’s leading designers and manufacturers of 1C (single-component) and 2C (plural-component) airless spray-painting units, fluid-handling and material-extrusion pumps and injection systems.

The range of applications of WIWA equipment and systems extends from painting, coating and bonding in the mechanical engineering and vehicle manufacturing industries through large-surface and thick-layer coatings in the marine and offshore industries, masonry protection, corrosion-proofing and passive fire protection. WIWA manufactures equipment and systems for a very wide range of different requirements to supreme quality standards at its location in Lahnau, Germany, where it was founded.

WIWA technology has a proven track record in decorative and protective surface coating applications, such as surface sealing for tunnel and canal construction purposes or processing of high-viscosity 2C and 3C materials for use on steel and concrete.

The family-owned company, which employs more than 135 qualified staff, designs/develops and manufactures its products in Germany. Its sells and distributes those products via a network of company-owned branches in the USA, China and the Middle East and highly competent distributors in all parts of the world. WIWA engineers and actions industry-leading customized solutions in close cooperation with this team of international experts.
## PRODUCT RANGE EXAMPLES

### Our 1K Product Offering

<table>
<thead>
<tr>
<th>Pneumatic</th>
<th>Hydraulic power pack</th>
<th>Transfer pumps</th>
<th>Extrusion pumps</th>
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</thead>
<tbody>
<tr>
<td>PROFIT</td>
<td>POWER PACK XL</td>
<td>Low Pressure</td>
<td>Vulkan</td>
</tr>
<tr>
<td>PHOENIX</td>
<td></td>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>PROFESSIONAL</td>
<td></td>
<td>Oil</td>
<td></td>
</tr>
<tr>
<td>HERKULES GX</td>
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</tbody>
</table>

### Our 2K -/3K product ranges

<table>
<thead>
<tr>
<th>Pneumatic power pack</th>
<th>Hydraulic power pack</th>
<th>Pneumatic power pack with Electronic control</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUOMIX 230</td>
<td>POWER PACK XXL</td>
<td>FLEXIMIX 1</td>
</tr>
<tr>
<td>DUOMIX 270</td>
<td>DUOMIX PU HYDRAULIC</td>
<td>FLEXIMIX 2 - PHOENIX</td>
</tr>
<tr>
<td>DUOMIX 300/333</td>
<td></td>
<td>FLEXIMIX 2 - PROFESSIONAL</td>
</tr>
<tr>
<td>DUOMIX PU 540</td>
<td></td>
<td>FLEXIMIX 2 – HERKULES GX</td>
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**OVERVIEW OF SPRAYING METHODS**

**AIRLESS**
- High pressure

Economical, environmentally friendly spraying method with excellent surface area coverage at high pressures.

The high pressure pump draws the spraying agent from any desired container and transfers it to the spray gun under high pressure via a high pressure hose.

Fine, airless atomisation is achieved through a specially designed spray nozzle. The spray jet is directed onto the material at high speed, thereby providing an optimal finish.

**The benefits at a glance:**
- Effective painting and coating of large surfaces
- Higher coating thickness in just one pass
- Saves materials and solvent
- Closed, uniform spray pattern
- Better use of energy due to minimal air consumption
- Environmentally friendly as no spray mist when correctly configured

**AIR COMBI**
- Air-assisted painting

The Air Combi combines the advantages of Airless and conventional spraying techniques.

Using this painting method, the spraying agent is transferred to the spray gun under moderate pressure and pre-atomised. The fine spray distribution is achieved by applying regulated compressed air as the paint is discharged. A soft, controllable spray jet is produced with minimum paint mist.

Ideal for highly refined painting tasks on large surface areas as well as for angular components and shaped or small workpieces.

**The benefits at a glance:**
- The finest atomisation generates first class finishes
- High material savings
- Soft, controllable spray pattern
- Low operating costs due to minimal air consumption
- Low pump wear due to low material pressure
- Environmentally friendly due to minimal overspray

**HOT SPRAYING SYSTEMS**

WIWA Hot Job systems for high film builds, short drying times, highest surface quality and extremely viscous coating materials.

During the hot spray process, the material is heated to the desired spraying temperature using the WIWA material flow heater.

This eliminates the need to use solvents to lower the viscosity.

An adjustable circulation system maintains a constant material temperature providing even coating and high finish quality.

**The benefits at a glance:**
- Highly viscous materials can be effortlessly processed
- High film builds
- Short drying periods
- Excellent surface coverage
- Glossier surfaces due to improved paint dispersion
- Environmentally and user friendly as no solvents are required

Existing Airless spraying units can be converted into the Air Combi system.
COATINGS IN CRAFT TRADES, FURNITURE & WINDOW MANUFACTURING

WIWA paint spraying equipment is used daily in a wide range of different craft businesses, be it joineries, window manufacturers or piano makers. Given their performance spectrum and numerous spec options, they are suited to use in conjunction with nearly all application methods and materials.

PHOENIX – the new powerful multi-purpose equipment for wood varnishing and metal painting as well as other types of coating in industry and craft trade. Most suitable for the timber and metal processing industry as well as painters, spray painting shops and craft trade operations.

MATERIALS:
Primers, top coat lacquers/paints, textured lacquers/paints, water-based lacquers/paints, glues

SOLUTIONS:
- WIWA EFFECTIVE
- WIWA PROFIT
- WIWA PHOENIX
- WIWA FLEXIMIX 1

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CORROSION PROOFING IN STEEL, TANK AND CONTAINER CONSTRUCTION

Steel: stress and strain caused by environmental influences, weather conditions and mechanical impact are as varied as its different uses. That’s why corrosion proofing plays such a key role at metal processing companies. The use of corrosion proofing materials is substantial – correspondingly high standards are placed on the effectiveness of the coating-application technology. WIWA provides an extensive range of equipment to handle single- and two-component materials in different mix ratios.

MATERIALS:
Polyurea, epoxy resin, polyurethane and water-based paints, zinc silicate, low and solvent free materials

SOLUTIONS:
• WIWA PROFESSIONAL
• WIWA HERKULES GX SERIES
• WIWA DUOMIX 230, WIWA DUOMIX 270, DUOMIX 300/333
• WIWA FLEXIMIX 2
• WIWA DUOMIX PU 540, PU GUN 4040
• WIWA DUOMIX PU HYDRAULIC
INDUSTRIAL PAINTWORK

Frequent color and material changes with a wide range of different pressure settings and viscosities are standard industrial paintwork requirements. Decorative or protective surface coating systems have to operate at maximum reliability in industrial environments – and deliver absolute flexibility. The WIWA FLEXIMIX’s name says it all. It is ideal for use as a multi-paint system with variable-setting mix ratios for solvent- and water-based paints. The FLEXIMIX 1 facilitates fast color changes between up to ten different paints and lacquers. Its precision delivers efficiency and first class surface quality. In the FLEXIMIX 2 version, this electronic system is tailored to large scale projects with a wide range of different requirements. Effective and robust, it is ideally suited to the dosing and application of low to high viscosity plural component materials, even those with short pot lives.

MATERIALS:
Materials containing solvents, water-based, polyurethane and epoxy resin paints

SOLUTIONS:
• WIWA PHOENIX
• WIWA PROFESSIONAL
• WIWA HERKULES GX SERIES
• WIWA TRANSFER PUMPS
• WIWA DUOMIX 230, DUOMIX 270 + DUOMIX 300/333
• WIWA FLEXIMIX 1 + FLEXIMIX 2
CORROSION PROOFING FOR MARINE AND OFFSHORE STRUCTURES

For more than 60 years now WIWA has been supplying domestic and international shipyards with robust and effective coating systems, specially designed for use in the most extreme weather conditions. Irrespective of whether ships, oil and gas platforms or port facilities are involved, maritime designs and structures are particularly exposed to aggressive environmental influences. They have to withstand the permanent impact of wind and salt water for many years. Cracks and leaks in offshore structures not only threaten the safety of the people on board and the environment, but can also entail huge costs. For this reason corrosion proof coatings have to meet the highest standards, they have to cover the metal effectively and completely. Even the smallest error during the surface preparation process or during the coating operation can result in serious damage.

MATERIALS:
Primers, epoxy resin paints, polyester materials, polyurethane paints, PFP material

SOLUTIONS:
• WIWA PROFESSIONAL
• WIWA HERKULES GX SERIES, HERKULES PFP
• WIWA DUOMIX 230, DUOMIX 270, DUOMIX 300/333
• WIWA DUOMIX 333 PFP, DUOMIX 300/333 PFP - ATEX Zone 1
• WIWA FLEXIMIX 2
PIPELINE COATINGS AND LINING

A key factor in the cost effectiveness of any pipeline coating and lining is both the longevity of such a measure as well as the cost effectiveness of the application method. WIWA DUOMIX systems are ideally suited to use in coating systems which facilitate fully automatic and simultaneous application of coating materials to the inner and outer surfaces of pipes and pipelines. Many large scale projects that WIWA has been involved with impressively demonstrate that WIWA is one of the leading manufacturers of equipment for first-coating and refurbishing pipes and pipelines.

MATERIALS:
Epoxy resin paints, polyurethane paints

SOLUTIONS:
• WIWA PROFESSIONAL
• WIWA HERKULES GX SERIES
• WIWA DUOMIX 230, DUOMIX 270 or DUOMIX 300/333
• WIWA FLEXIMIX 2
• WIWA ROTARY ATOMIZER WHEEL

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As with other steel structures, corrosion proofing is very high on the list of priorities in the wind turbine construction industry. As a place partner to a large number of system suppliers and plant engineering companies from this industry, WIWA attaches major importance on continuous product innovation and enhancement. Besides coating equipment for corrosion proofing materials, WIWA also supplies state of the art pump technology for pumping epoxy resins and adhesives which are used, for example, in the manufacture of sandwich design rotor blades.

**MATERIALS:**
Polyurea, epoxy resins, filler, epoxy resin paints, polyurethane paints, glass flake material

**SOLUTIONS:**
- WIWA PROFESSIONAL, HERKULES GX SERIES
- WIWA DUOMIX 230, DUOMIX 270, DUOMIX 300/333
- WIWA VULKAN-Extrusion pumps
- WIWA FLEXIMIX 2
- WIWA 2K-Dosing Unit
- WIWA 2K-Glasflake Unit
- WIWA POWERPACK XXL
PASSIVE FIRE PROTECTION

When buildings catch fire, every minute counts. As soon as the structural steel in any building has reached the critical core temperature of around 550° degrees Celsius, it is in danger of collapsing. Passive fire protection has therefore become an absolute must. We have enhanced our application equipment for fire-protection materials accordingly in close collaboration with leading materials manufacturers. Our proven systems can be used in the most extreme of conditions – and the WIWA DUOMIX PFP 333 -Zone 1 version has also been certified for use on offshore platforms. Our efficient DUOMIX-range extrusion pumps enable high-viscosity intumescent fire-protection materials with a high solid content to be handled and applied easily – at high levels of coating thickness and surface area coverage.

MATERIALS:
Intumescent fire protection materials

SOLUTIONS:
• WIWA HERKULES PFP
• WIWA DUOMIX 300/333 PFP
• WIWA DUOMIX 300/333 PFP - Zone 1

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INSULATION, REFURBISHMENT AND MASONRY SEALING USING POLYUREA

No other spray-coating is as versatile as polyurea (PU). This multi-component polymer can be applied to a wide range of different substrates, be it steel, concrete, aluminium, plastic or glass fiber. PU is solvent-free, resistant to a large number of aggressive substances, abrasion proof and impervious to moisture. It reacts within seconds – after just a few minutes the treated surfaces can be utilized. Given its high degree of elasticity, polyurea is frequently used to bridge cracks when concrete structures are being refurbished and coated; irrespective of whether cisterns, swimming pools, sewage treatment basins or flat roofs are involved. WIWA has specially developed the DUOMIX PU range for polyurea and polyurethane application purposes.

MATERIALS:
Polyurea, PUR, PUR-Schaum

SOLUTIONS:
• WIWA DUOMIX PU 540
• WIWA DUOMIX PU HYDRAULIK
• WIWA PU GUN 4040
INDUSTRIAL AND CRAFT TRADE BONDING

More and more vehicle manufacturers are utilizing the benefits of adhesive or bonding technology when joining bodywork components. The same applies at the Suzuki plant in Hungary. Here they use WIWA VULKAN extrusion pumps to pump high-performance adhesive to dosing devices on robot arms. The traditional application for adhesive/bonding technology is the woodworking industry. There too, modern manufacturing and joining methods provide almost limitless utilization opportunities. A WIWA DUOMIX low pressure application system, for instance, is ideal for the accurate, clean bonding of wood surfaces in a serial production environment, given its uniform application capabilities.

MATERIALS:
Glue, 1- and 2-component adhesives and glues, silicones

SOLUTIONS:
• WIWA VULKAN-Extrusion pumps
• WIWA Cartridge filling station
• WIWA 2K-Dosier Unit
RAILCAR COATINGS

Irrespective of whether corrosion proofing coatings, filler or paint application are involved, application technology in the railcar construction industry has to a great deal of ground to cover. That means uniform, flawless coatings in just a few job steps – from the first car to the last. Thanks to the process reliability provided by their fixed mix ratios, WIWA DUOMIX systems deliver optimum results after just one operation. Mix ratios can be matched to a wide range of different materials by simply swapping the material pumps and thus provide you with the certainty that you have invested wisely. DUOMIX equipment can be used in conjunction with low, medium and high viscosity paint and plural component coating materials, even those with short pot lives.

MATERIALS:
Epoxy resin filler, PU filler, polyurethane paint, 2-component coatings, bitumen, Polyurea

SOLUTIONS:
• WIWA DUOMIX 230
• WIWA DUOMIX 270
• WIWA DUOMIX 300/333
• WIWA DUOMIX PU 540
• WIWA DUOMIX HYDRAULIC
• WIWA Cartridge filling station
• WIWA 2K-Dosier Unit

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PAINT APPLICATION IN THE MECHANICAL ENGINEERING AND VEHICLE MANUFACTURING INDUSTRIES

Well established mechanical engineering companies such as Trumpf in Austria and Kempf in Germany have worked with WIWA application technology successfully for many years. We make well designed high performance paint application equipment for rail vehicles, construction site and commercial vehicles as well as for high volume car production using a wide range of different materials and paint methods. WIWA also provides its customers with smart bodywork bonding or fluid handling solutions, e.g. in the railcar construction industry.

MATERIALS:
Solvent free and low solvent epoxy resin paints, polyurethane paint, water-based paints, Polyurea

SOLUTIONS:
- WIWA PROFESSIONAL
- WIWA HERKULES GX SERIES
- WIWA DUOMIX PU 540
- WIWA DUOMIX PU HYDRAULIC
- WIWA FLEXIMIX 1 + 2
- WIWA DUOMIX
PRODUCT RANGE

WIWA’s extensive product range includes 1K, 2K and 3K application equipment for painting, coating and bonding in the machinery and vehicle manufacturing industries and for large surface, high viscosity and high build coatings used in the marine and offshore industries and steel and masonry construction for corrosion-proofing, surface sealing and passive fire protection.