

 **legris**



**Legris,
A leading partner
in the automotive process
industry**



**High quality standards,
Innovative solutions,
Worldwide availability.**



**Extensive ranges of technical
components and evolutionary
services which set a benchmark
within this demanding market.**

For over 40 years, Legris has worked as a partner within automotive process industries, including vehicle constructors, OEM production 1st tier suppliers, tier suppliers and robotic integrators.

Successive teams have developed industry specific experience and technical expertise, resulting today in an extensive range of technical components, special products and services. The Legris offer combines high **quality**, **innovation** and **worldwide availability**, backed up by Legris' local presence throughout the world.

This brochure features many of the solutions provided by Legris – whether standard or special, whatever the application, in order to contribute to its customers' **performance**.



Vehicle builders across Europe, America and Asia who choose Legris

Car manufacturers, OEM, 1st tier suppliers and robotic integrators

ABB MC

DAIMLER CHRYSLER (POWERTRAIN)

DÜRR

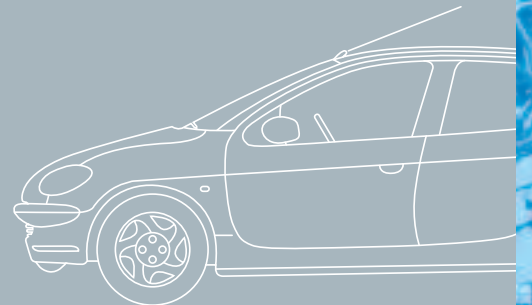
FAURECIA

HONDA

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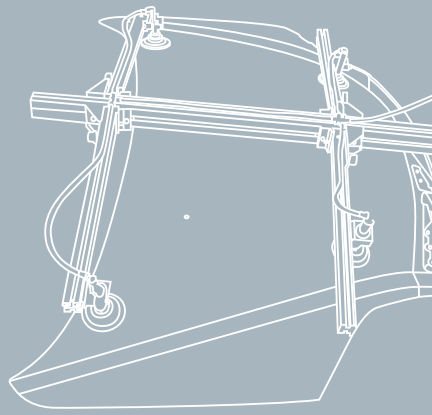
RENAULT



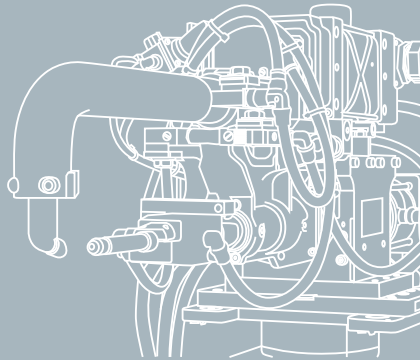
Designed and manufactured in order to protect the **environment** and to safeguard public health, Legris products comply with the **ELV 2000/53/CE** directive for the reduction of hazardous substances in cars.

The Legris offer meets all main requirements

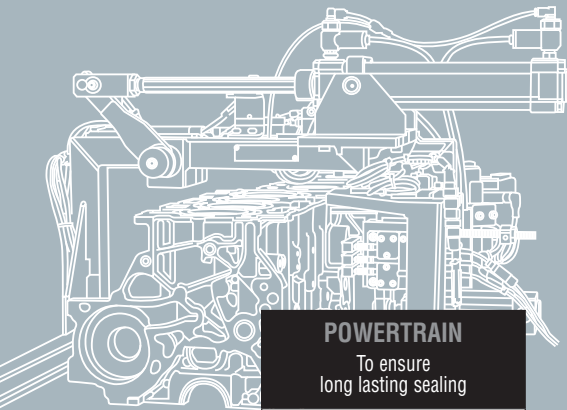
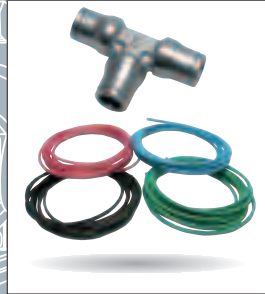
Legris is involved in many stages of the manufacture of motor vehicles. From the **distribution of fluids** in workshops, with **Transair** pipe networks, to **production lines** and **assembly machines**, and **Connectic** product ranges - for pneumatic, industrial fluids and hydraulic applications - the Legris offer meets all main requirements.



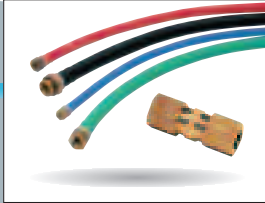
PRESS SHOP
Secure connections that withstand vibration



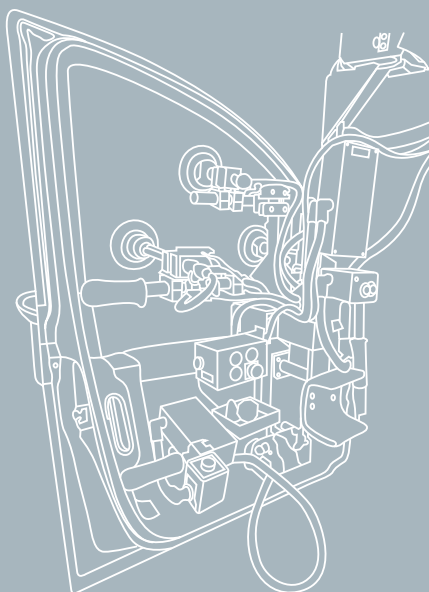
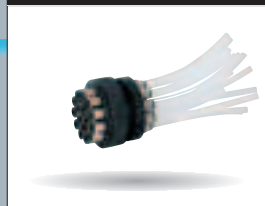
BODY SHOP
Excellent resistance to aggressive weld spatter



POWERTRAIN
To ensure long lasting sealing



PAINT SHOP
To ensure top quality paint finish



ASSEMBLY SHOP
To contribute to work station safety



CONTROL
To adapt to any fluid circuit configurations



Press shop

Secure connections that withstand vibration

During the first stage of vehicle manufacture, steel plate is pressed into shaped parts that will form the car body. **Stamping presses** incorporate automatic parts handling equipment and heavy duty **pneumatic automation**.



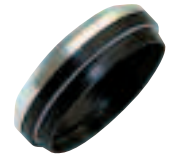
■ STAMPING PRESSES

Equipment productivity and clean installations require completely reliable connections for use in environments that are submitted to intense vibration.



THE LEGRIS ANSWER DiNova sealing ring for DIN 2353 / ISO 8434-1 couplings.

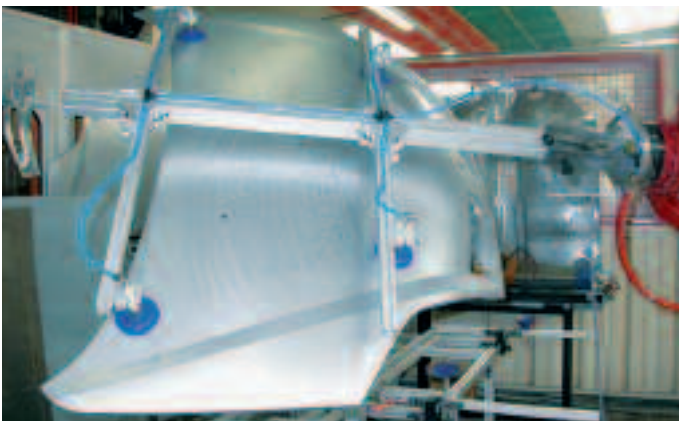
- Excellent resistance to vibrations, thanks to an increased area of connection with the tube upon tightening.
- Long lasting sealing, ensured by 3 bites and 2 seals.
- Easy installation thanks to a low tightening torque.



Components suited to the requirements of **press shop machinery.**

■ PANEL HANDLING EQUIPMENT

Installed on robots, grippers enable panel transfers in pressing and forming work stations. Much of this activity relies on **vacuum**.



THE LEGRIS ANSWER instant fittings in **HR polymer**, **chemical nickel-plated brass** and **close tolerance** **polyurethane tubing.**

- High vacuum capability.
- Resistance to repetitive movements, with close tolerance flexible polyurethane tubing.
- Installation and maintenance time saving, thanks to instant connection/disconnection.



Components suited to the requirements of **gripper manufacturers.**

Body shop

Excellent resistance to aggressive weld spatter

Spot welding – strip steel plate fabrication incorporates resistance welding processes to form the car body. Such equipment is submitted to particularly severe conditions (heat, weld spatter, cryogenic washing down).

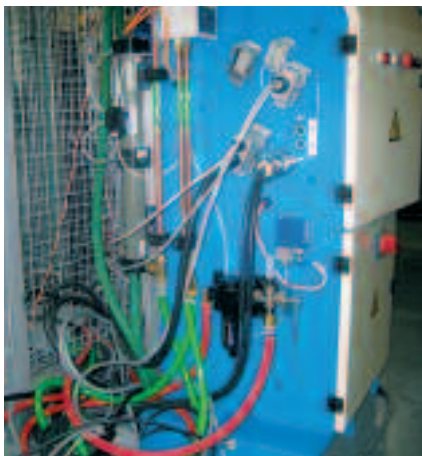
■ SUPPLY TO WELDING U-CELLS

U-cells require fluid supply pipe drops (particularly for compressed air, cooling liquids and vacuum) to be positioned very close to work stations.



■ SECURE CONTROL OF FLUIDS

Active visual control enables the opening and closing of circuits in order to prevent all potentially dangerous consequences that can be caused by unintended operation, thus ensuring the safety of workers and equipment.



THE LEGRIS ANSWER
Transair pipe networks for compressed air, vacuum, inert gases and cooling water.

- Perfectly suited for most equipment.
- Assembly under pressure allows maintenance operations without production line shutdown.
- Cost saving, thanks to easy, instant assembly and high flow performance.
- TÜV certified.



Components suited to the requirements of **welding integrators.**

THE LEGRIS ANSWER
Multi-directional and **lockable ball valves.**

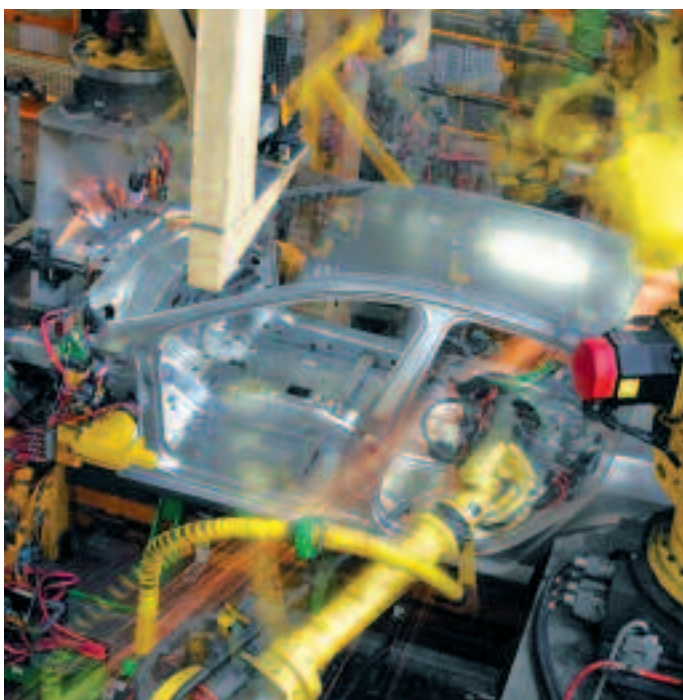
- Lockable in different positions.
- Compatibility with numerous fluids.
- Various configurations.



Components suited to the requirements of **welding integrators.**

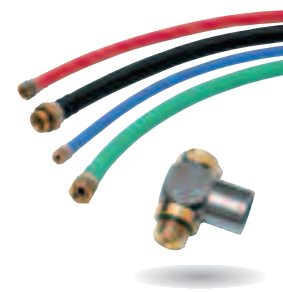
■ ROBOTS AND PRE-EQUIPMENT OF ROBOTS

For optimum performance of robotic equipment, fluid supplies (compressed air and cooling water) require reliable connection technology that is resistant to spatter.



THE LEGRIS ANSWER compression fittings, flow control regulators and barbed connectors in brass with self fastening hose.

- Reliable connection technology.
- Resistance to welding environments.
- Compatibility with numerous fluids.



Components suited to the requirements of robotic equipment integrators.

THE LEGRIS ANSWER swivel instant fittings.

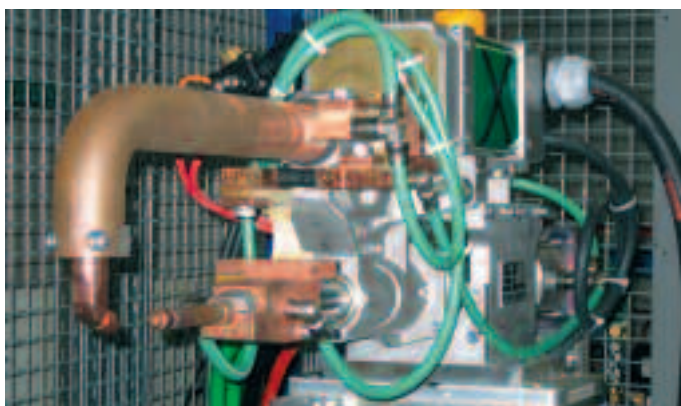
- Full safe connection between the welding tool and the robot arm.
- Follow robotic movements.
- Instant connection/disconnection, without tools.



Specifically designed and developed for this type of dynamic application.

■ WELDING PLIERS, GRIPPERS AND PALLET-CONTAINERS

Such equipment, as used in the preparation and manipulation of parts, requires spatter resistant connections for compressed air circuits.



THE LEGRIS ANSWER push-in fittings in chemical nickel-plated brass and anti-spark tubing.

- Chemical nickel-plated brass provides full protection against aggressive environments.
- Optimum combination with Legris anti-spark tubing, designed to prevent against fire and combustion (conforming to **UL94 V0** standard).
- Instant manual connection and disconnection, resulting in time-saving installation and maintenance.

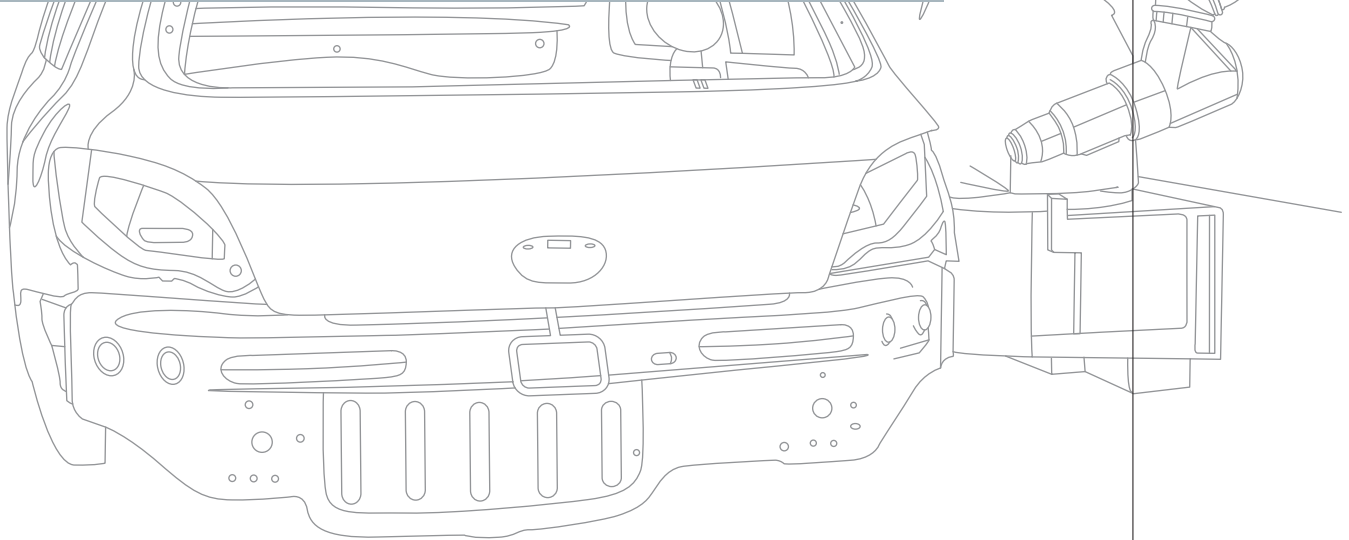


Components suited to the requirements of specialist equipment.

Paint shop

To ensure top quality paint finish

After preparation, each car body is transferred to the paint shop. It is essential that connectors and pneumatic components preserve the quality of the paint finish.



■ PAINT DISTRIBUTION

Automatic, or manual, distribution of paint during vehicle assembly requires a range of components that can ensure the prevention of damage to painted surfaces.



THE LEGRIS ANSWER special push-in fittings in HR polymer.

- **Specifically** designed and produced for "painting" applications.
- **Special** non spoil grease preserving the adhesion of paint.
- Instant manual connection and disconnection, resulting in time-saving.
- Many configurations suitable for all circuits.
- Optimum performance with FEP tubing, resistant to aggressive and corrosive conditions.



Components designed and developed in close collaboration with **paint equipment manufacturers.**



Multi-connector, designed and developed jointly with **paint equipment manufacturers.**

You will find on legris.com other ranges that are perfectly suited for use on painting equipment.

- push-in fittings in **stainless steel**
- function fittings in **stainless steel**:
flow regulators, non-return valves and quick exhaust valves.

Assembly shop

To contribute to work station safety

At the final assembly stage, the painted car body is successively equipped with all remaining parts of the vehicle: trims, upholstery, electric circuits, windows and power systems. The filling of various fluid circuits on each vehicle (oils, fuels, Freon...) completes the main activity. As well as securing individual components, the connectors that are used on tools must contribute to **workshop safety**.

MANUAL LINES

On such installations, **pneumatic tools** require frequent connection and disconnection (e.g. screwdrivers). Repetitive, fast and safety foolproof operations require the use of quick acting couplers designed to ensure reliable performance and guaranteed user safety.



THE LEGRIS ANSWER quick acting safety couplers in polymer and metal.

- Operator safety is guaranteed by an integral foolproof controlled air release system. Coupling and probe cannot be forced apart which, with a short vent-time, prevents whip-lash.
- Comply with **ISO 4414** and **EN 983** safety standards.
- **Energy efficient**, due to extremely low pressure drop.
- Very high **flow**.
- Optimum combination with various tubing (nylon and recoil polyurethane, PVC and rubber).



Components suitable for the requirements of **assembly line manufacturers**.

AUTOMATED LIQUID FILLING LINES

Liquid filling line work stations require safe circuitry and need to be compatible with numerous fluids.



THE LEGRIS ANSWER piloted axial valves enabling automatic opening and closing.

- Numerous compatible fluids.
- Extremely compact with a fast open/close time compared to actuated ball valves.
- Very high flow.



Components suitable for the requirements of **automated assembly line manufacturers**.



Priming tool designed and developed in close collaboration with our customers.

You will find on legris.com other ranges perfectly suited to the requirements of **manual and automated assembly line manufacturers**.

- push-in fittings in HR polymer
- close tolerance flexible polyurethane tubing.

Powertrain

To ensure long lasting sealing

Powertrain comprises two stages: machining and assembly of mechanical power devices for the vehicle. Equipment used for the **machining** of mechanical parts is submitted to an aggressive environment and the use of corrosive fluids.

■ TRANSFER LINES AND MACHINING

For each application, fittings need to be reliable and compatible with a variety of fluids.



THE LEGRIS ANSWER
DIN 2353 / ISO 8434-1
couplings fitted
with a **DiNova** ring.

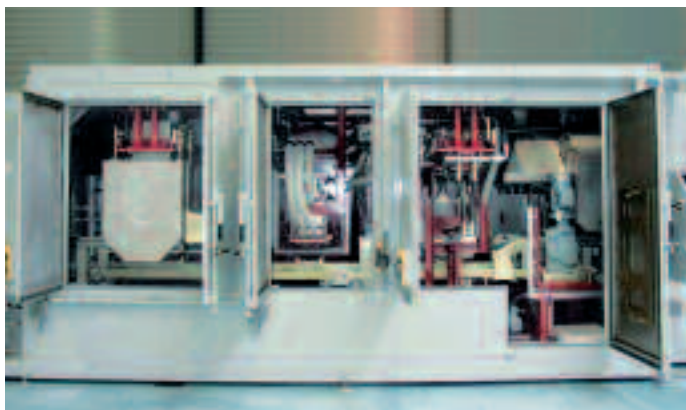
- Long lasting performance, ensured by 3 bites and 2 seals.
- Withstand aggressive fluids and high temperatures, thanks to the seal material (PTFE).
- Safe connection, even in extreme conditions of use.



Components suited to the requirements of **machine tools** and **mechanical production line manufacturers**.

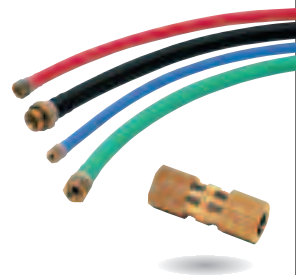
■ VEHICLE CLEANSING/WASHING MACHINERY

Such equipment operates with aggressive fluids and thus requires robust and high performance fittings.



THE LEGRIS ANSWER
brass compression fittings,
quick barbed fittings
and **self fastening hose.**

- Compatibility with numerous fluids.
- Excellent resistance to abrasion.
- Reliable self fastening technology.



Components suitable to the requirements of **machine tools** and **mechanical line manufacturers**.

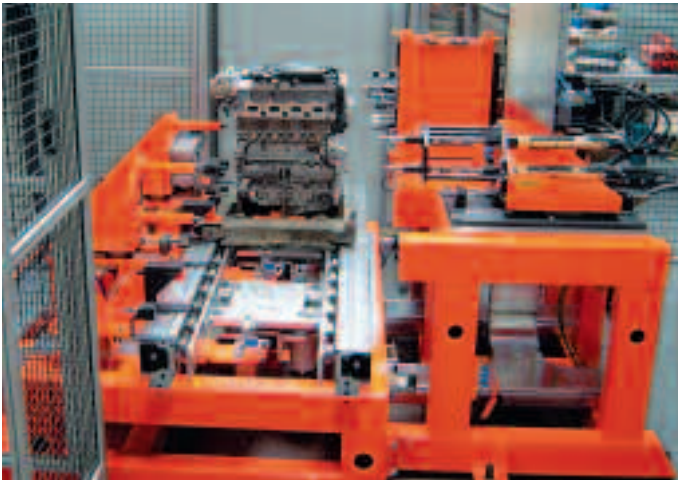
Powertrain

To meet requirements for durable performance

At the **assembly** stage, the mechanical power devices of the vehicle (motors, transmission, universal joints) are assembled with automatic or manual pneumatic tools, requiring high **performance** and safe connection.

MANUAL AND AUTOMATIC ASSEMBLY LINES

Pneumatic tools used for the assembly of mechanical devices are subject to frequent connection and disconnection.



THE LEGRIS ANSWER push-in fittings in chemical nickel-plated brass.

- Full flow durable performance, without pressure drop.
- Easy assembly, thanks to instant connection/disconnection.
- Excellent resistance to abrasion and corrosion.



Components adapted to the requirements of **safety** and **assembly line manufacture**.

THE LEGRIS ANSWER quick acting safety couplers in HR polymer and metal.

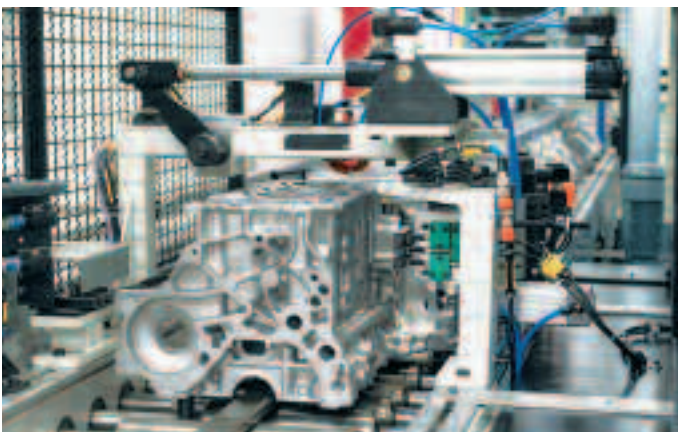
- Designed for installations which require frequent instant connection and disconnection.
- **Energy efficient**, with extremely low pressure drop.
- Comply with **ISO 4414** and **EN 983** safety standards.
- Very high flow.



Components adapted to the requirements of **safety** and **assembly line manufacture**.

CONVEYORS

During the whole assembly operation, parts are conveyed from one work station to another by conveyor systems equipped with pneumatic components.



THE LEGRIS ANSWER push-in fittings and flow regulators in HR polymer, silencers.

- High flow, high pressure performance, full passage of fluid without pressure drop.
- Easy assembly, thanks to instant connection/disconnection.



Components adapted to the requirements of **handling systems** and **production line manufacturers**.

Control

To adapt to any fluid circuit configurations

For the automotive industry, precise testing is an integral part of striving for maximum vehicle reliability. Thus, for full and rigorous control of vehicle equipment, many types of test benches are used, with numerous functions and the ability to handle various fluids.

■ TEST BENCHES

Fluid supply networks, in particular compressed air and vacuum, must easily adapt to individual test bench configurations, thus providing optimum efficiency.



THE LEGRIS ANSWER

Transair networks for compressed air, vacuum, inert gases and cooling water.

- Perfectly suited to test bench environments.
- Assembly of connections under pressure allows maintenance without production line shut down.
- Cost saving, thanks to easy, instant assembly and high flow performance.
- TÜV certified.



Components adapted to the requirements of **test bench usage.**

■ ENGINE TEST BENCHES

In order to test working engines, these benches require circuits for oil and cooling water.

At the end of the mechanical assembly line, vehicle engines are systematically tested. Compressed air circuits are widely used, which must withstand **large variations** in operating conditions and be capable of enabling continuous use.



THE LEGRIS ANSWER

DIN 2353 / ISO 8434-1 couplings fitted with **DiNova** rings, for hydraulic circuits.

- Long lasting performance, ensured by 3 bites and 2 seals.
- Withstand aggressive fluids and high temperatures, thanks to the seal material (PTFE).
- Safe connection even under vibration.



Components suitable for the requirements of **test bench operators and manufacturers.**

THE LEGRIS ANSWER

push-in fittings in HR polymer, chemical nickel-plated brass and stainless steel, complete with a range of **pneumatic function fittings.**

- Extensive range, in terms of possible configurations, compatibility with fluids and functionality.
- Easy and quick operation.
- Optimum performance with nylon, polyurethane and FEP tubing.



Components suited to the requirements of **test bench users and manufacturers.**

A dedicated range of services

To support our customers and reinforce their productivity

Legris offers a comprehensive range of services to support its customers within the automotive industry - especially helping them to reinforce safety and to improve both productivity and energy efficiency.

■ SAVING ON DESIGN TIME

Legris offers the facility –via legris.com or on a CD ROM- to download **CAD drawings** for a large number of products. Each drawing can be directly integrated into an assembly, with the associated nomenclature. In addition, for Transair networks, **dedicated software** is available to quickly size a pipework system or network, complete with nomenclature. These services enable time saving in equipment sizing and design, ensuring that the selected parts are suitable for use with other components within an assembly.



■ OPTIONS FOR ORDER PLACEMENT

Depending on their structure or organisation, Legris customers can choose their preferred means of placing an order: **EDI transmission**, via **legris.com**, the Legris e-commerce website, or by optical reading of bar codes and automatic transfer over the telephone network (**online** order placement system). Each customer can choose the most economical, the quickest or the easiest method to use.



■ OPTIMIZED SUPPLIES

Legris electronic catalogues are specifically designed for customers who purchase via the Internet (**e-procurement**). "Tailor-made" data bases, these **e-catalogues** show all product details: product codes and descriptions, dimensions, high resolution pictures, CAD drawings...etc. The result: **lower** purchasing and administrative **costs**, **rationalisation** of internal processes and reliable supplier information.



An offer available worldwide

To support our customers all over the world

The international development of the automotive industry results in an industrial presence in numerous countries throughout the world. With 25 sales subsidiaries, 10 industrial and logistic locations and a network of agents and distributors, Legris ensures its availability and provides the technical back-up to support customer development.



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Legris designs, produces and sells technical components designed for numerous industrial fields.

The Legris offer, innovative and high quality, is specifically adapted to various activities, including:



AUTOMOTIVE PROCESS



FOOD



PACKAGING



Present in 76 countries, Legris specialist teams listen to your requirements and respond with the best advice and solutions.

Do not hesitate to contact us and discover how, by working closely together, we can improve your productivity.

www.legris.com
www.transair.legris.com