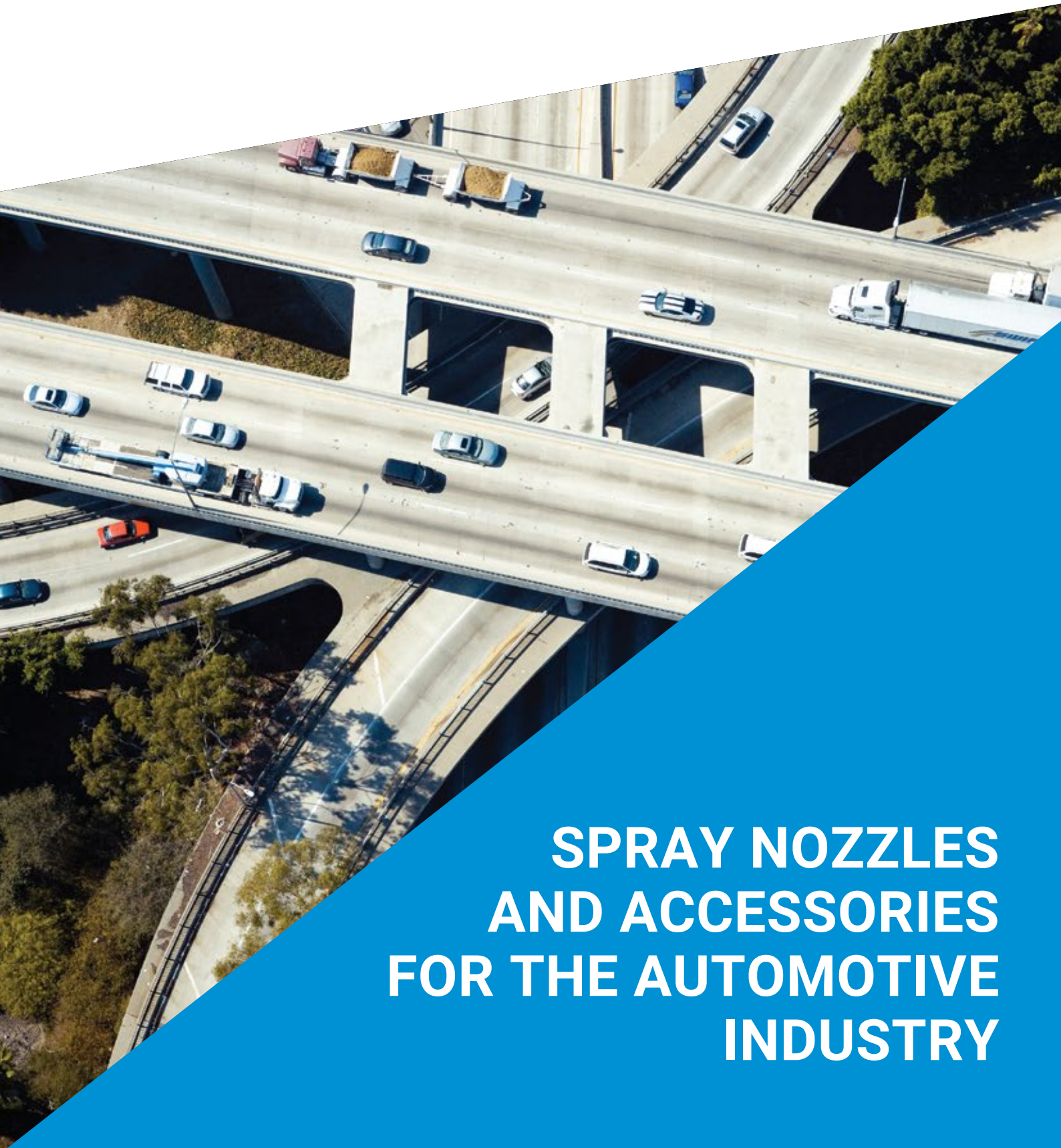
SPRAY NOZZLES FOR INDUSTRIAL APPLICATIONS



SPRAY NOZZLES AND ACCESSORIES FOR THE AUTOMOTIVE INDUSTRY

SPRAY NOZZLES AND ACCESSORIES FOR THE AUTOMOTIVE INDUSTRY

Since the early '80s, **PNR Italia has developed revolutionary pipe clamps for surface treatment tunnels for the automotive industry**.
And from that moment, the company has evolved into designing several product ranges for all applications in the automotive sector: phosphating, varnishing, cleaning, spraying of lubricating oil or detaching for molds, spray coating, and degreasing.
All nozzles, pipe clamps, and accessories for the automotive industry are flexible and interchangeable in order to fulfill to rapid changes of applications in this sector.

All nozzles, pipe clamps, and accessories for automotive companies are interchangeable to suit perfectly all rapid application changes in this sector.

UPD

Eductors for liquid mixing in tanks

PLASTIC PIPE CLAMPS AND BALL NOZZLES

J

Flat fan nozzles for phosphating

GX

Straight jet nozzles for water and detergent spraying in tunnel car washes

D

Full cone nozzles for stamping lubrification

K

Flat fan nozzles for water and detergent spraying in tunnel car washes

UEA | UEB

Air blowing devices for cars and wheel rims varnishing

APPLICATIONS OF PNR ITALIA PRODUCTS IN THE AUTOMOTIVE INDUSTRY

PNR ITALIA PRODUCTS

STAMPING LUBRICATION

D | E | MX | MW

SPRAY DEGREASING BEFORE PHOSPHATING PROCESSES

ZPL | ZPQ | ZPF | HGQ
ZBA | J | K | UEA

Degreasing is a preliminary step of treating car sheet metal which anticipates phosphating. During phosphating, the sheet metal is prepared to receive the phosphates, which will help the sheet metal not to corrode and encourage paint adhesion. The aim is to remove greases (for instance, greases burned or derived from welding) and protective liquids that are applied before being sent to treatment and assembly points. After having printed and assembled the car parts, large catenaries carry the shell to washing tunnels, which have lengths ranging between 15 and 30 meters. The washing ramps, placed inside the tunnels, permit to wash of components with degreasing chemical products. During this step, pipe clamps (ZPL, ZPQ, ZPF) with related HGQ plastic nozzles, ZBA threaded balls with J blade threaded nozzles, or high-impact K nozzles are used to guarantee a more significant degreasing effect. The components are dried by air blowers or air-blowing ramps equipped with UEA nozzles at the end of this process.

PHOSPHATING

ZPL | ZPQ | ZPF | HGQ
ZBA | J | K | UEA

The surface treatment of metallic materials (generally sheet metal of different shapes and sizes, including entire car bodies) **is commonly called phosphating**. Its purpose is to improve corrosion resistance and promote the adhesion of the painting. The treatment uses phosphate solutions to cover the car body with a protective crystalline layer, allowing excellent performance against corrosion. This process is done by spraying or immersion.
The pieces - that are to be processed – are suspended on an overhead conveyor, which pulls them in a spray tunnel. Here, several steps are carried out until the final drying.
In the early '80, PNR Italia redefined the manifolds design in tunnels for phosphating by replacing oxidized steel nipples for pipe clamps and spherical nozzles. Since then, we have created new articles and expanded our product offering in order to give our customers one of the most complete and high-performing assortments in surface treatment.
These "smart" pipe clamps, patented and developed by PNR Italia, revolutionized the concept of pre-treatment tunnels because they give the advantage of simple assembly and disassembly, combined with the possibility of directing the nozzle spray in any direction.
Drilling the manifold and blocking the pipe clamp by screwing it is necessary in order to assemble it. This allows to schedule of regular controls and cleaning operations of nozzles. The aim is to keep the equipment in perfect operational conditions.

Notice: ZPL and ZPQ products are blocked by leverage, not by screwing. Instead, screwing is used with ZPF.

AGITATION OF THE PAINT TANKS

UPB | UPD — FOR LIQUID MIXING IN TANKS

CARS VARNISHING

UEA | UEB — FOR DRYING WITH AIR NOZZLES

WHEEL RIMS VARNISHING

UEA | UEB — FOR DRYING WITH AIR NOZZLES

WHEELS TRUCK CLEANING

UBQ | F — FOR HIGH-PRESSURE WASHING

WATER AND DETERGENT SPRAYING IN TUNNEL CAR WASHES

JB | JC | JD | F
K | GX

This is the typical mechanical action of **spraying surfactants and decalcified water on cars to remove dirt** caused by their use and bad weather. The tunnel washing line generally involves seven steps where deflected JB – JC o JD – F – K nozzles are employed:

1 | Rinse through flat jet nozzles located in the bar that covers three sides of the car;
2 | Spray a dense foam through deflected flat jet spray nozzles;
3 | Brushing of the whole car body to thoroughly clean the stubborn dirt;
4 | High-pressure washing with nozzles;
5 | Cleaning wheels with rotation systems equipped with three high-pressure nozzles, which produce a high-impact jet on wheels and rims by rotating back and forth;
6 | Waxing through a liquid wax that is sprayed by flat jet nozzles such as foaming nozzles;
7 | Drying of the car, which takes place through the transit under air blowers that direct the jet on the car body by moving and drying the drops.

The wheels are cleaned by rotation systems composed of three high-pressure nozzles which rotate back and forth and produce a high-impact jet on wheels and rims.

A GLOBAL PRESENCE ALL OVER THE WORLD.

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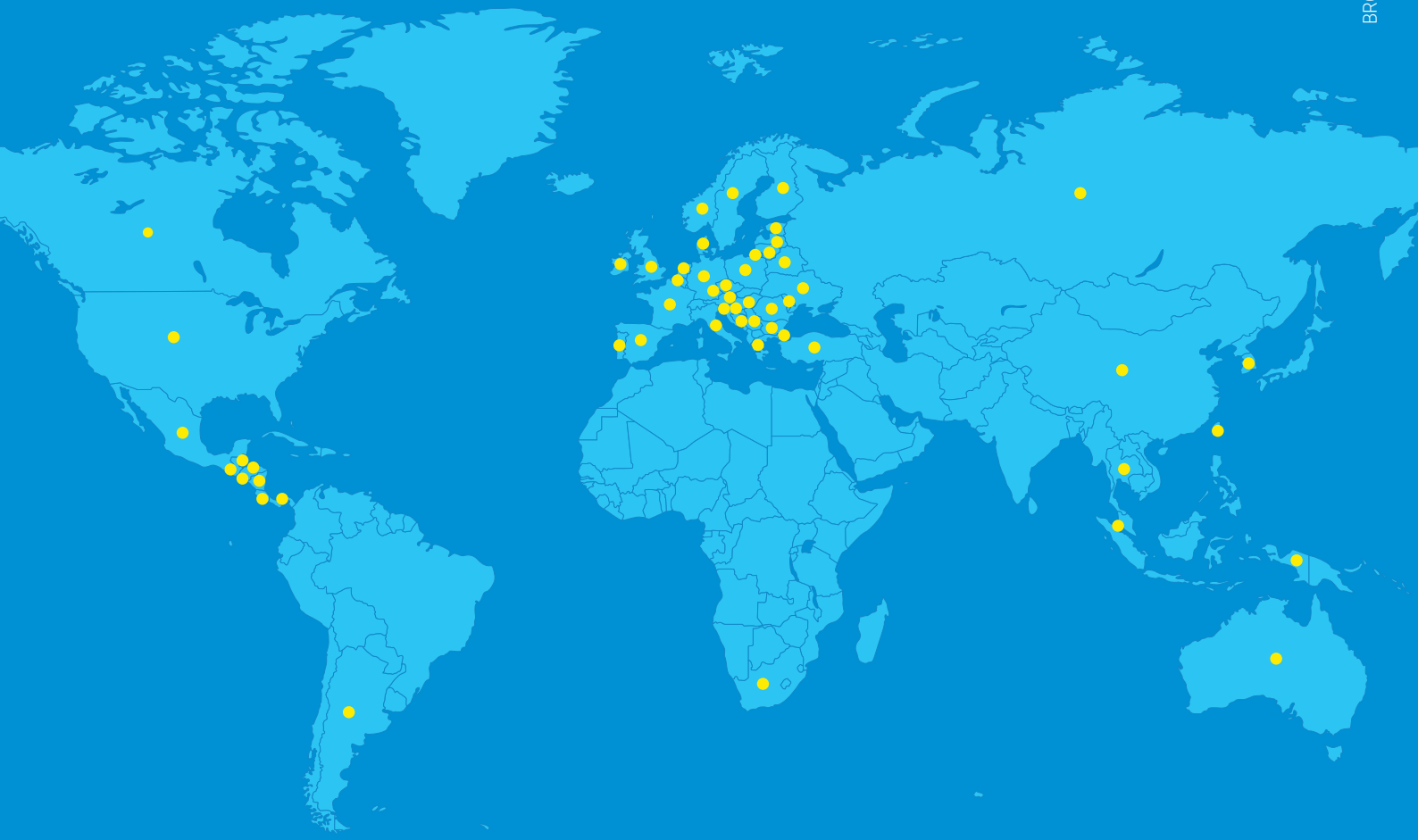

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