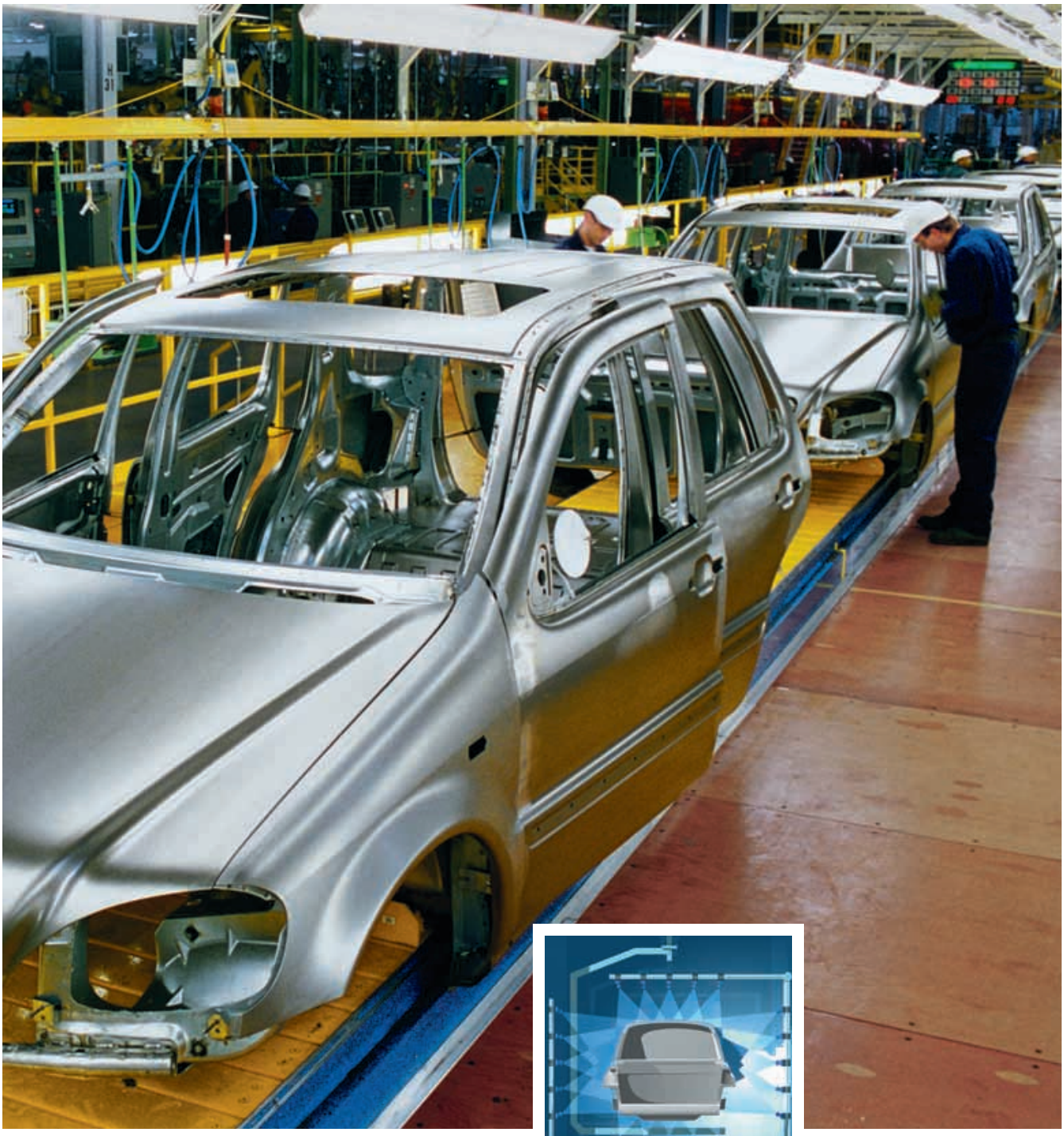
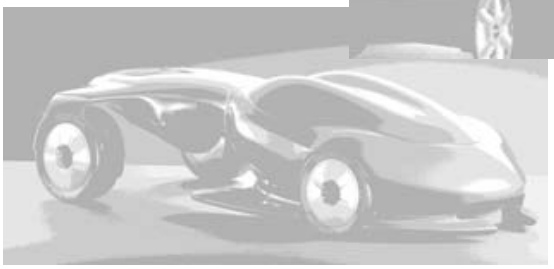
Spray Nozzles and Systems for Automotive Industry



Advanced spray technology based over 125 years experience



Today's producers have to operate in a tougher environment than ever before, driven by:

- Customer requirement for improved quality
- Constant pressure on costs
- Fluctuating demand
- Tighter pollution controls

Nozzles and spray systems are used in virtually every stage of production and their performance can have a major impact on product quality and manufacturing costs.

For over 125 years, Lechler has pioneered developments in spray technology for all industries, designing, developing and manufacturing products of outstanding reliability and performance. All accompanied by expert advice based on a thorough knowledge gained through experience in providing both conventional and innovative solutions.

Today, Lechler offers the most comprehensive range of nozzles and spray systems available to industry worldwide.

Serving industry worldwide

Lechler is a truly international company, offering sales and technical support to diverse industries, throughout the world.
In addition to over 300 employees at our Metzingen headquarters in Germany, subsidiary companies have plants and offices in the UK, the USA, India, China, France, Belgium, Spain, Sweden and Finland.
We also have a network of sales offices and representatives covering many other countries.

Wherever you are, Lechler seeks to establish a partnership, helping you to enhance product quality through the application of advanced fluids engineering expertise.


Headquarters, Germany


Lechler Ltd., United Kingdom


Lechler Inc., USA

Working with you to enhance product quality and efficiency of automotive production

Intelligent solutions to reduce maintenance costs

Lechler nozzles are used in many steps of the automotive production process. Almost every application requires a large number of nozzles. Those nozzles have to be replaced in defined periods. This causes maintenance time and costs. Therefore Lechler developped intelligent nozzle systems, for quick and easy handling, to reduce maintenance costs to a minimum. One example is the Lechler MEMOSPRAY® system for surface treatment. This system allows quick replacement of the nozzels while keeping the defined spray direction.

High availability of standard products

A lot of spray applications in automotive production require standard nozzles with short delivery times. Our computer controlled inventory ensures rapid delivery of our wide range of standard nozzles. Automated manufacturing processes guarantee not only optimum productivity, but also consistency of nozzle parameters to exacting tolerances. Each Lechler nozzle type is identical in both its dimensional and spray characteristics. This applies to every single nozzle within our large portfolio of sizes, materials and spray characteristics.

Custom made solutions

Whererever a standard nozzle does not meet customers requirements, we will find an individual solution, together with the customer. Right from the beginning of the development, functions and spray characteristics of Lechler nozzles are accurately defined and recorded by our sophisticated measuring techniques and reliable documentation.

Lechler – synonymous with quality and reliability

The Lechler policy of continuous improvement and meticulous inspection is evidence of our commitment to total quality. From development, through manufacture to installation, Lechler products are subject to continuous quality management. State of the art test and inspection methods, often in excess of our ISO 9001 : 2000 certification, guarantee the durability, reliability and longevity of Lechler spray nozzles and systems.

Spray solutions for automotive production – some examples

Nozzle applications in automotive production can generally be divided into three production steps:

In surface treatment and the forming of sheet metal it is important that the spray direction of the nozzle can be fixed exactly. Therefore mostly flat jet nozzles with ball joints are used, eg. Lechler MEMOSPRAY® or Easyclip. Another important feature of those nozzles is that they can be changed easily, without tools, to reduce maintenance costs.

Mechanical fabrication

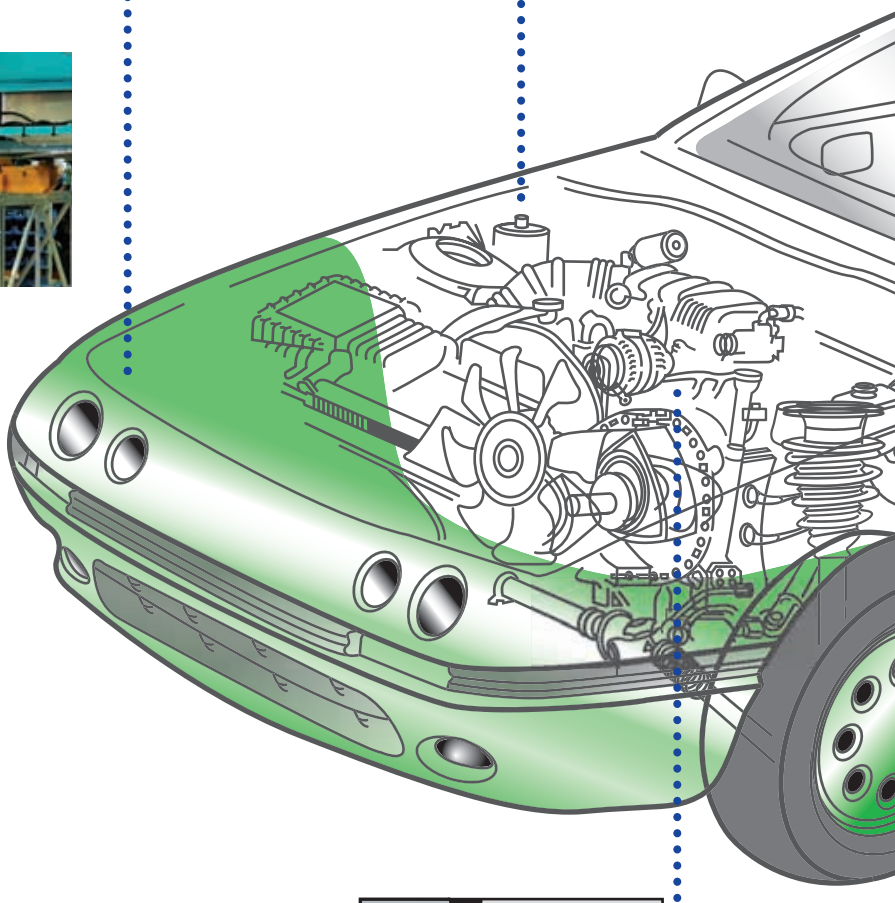
In the production of components like engines etc. for example Lechler nozzles are used for cooling of tools, lubrication, and the cleaning and drying of components.
In the main standard nozzles are used, but additionally compressed air nozzles for drying and self rotating nozzles for cleaning can be utilized.

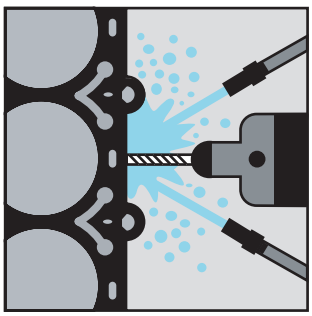
Assembly and quality assurance

In the last stages of automotive production Lechler nozzles are used for conservation and de-waxing of the car bodies, car wash, high pressure cleaning and simulation tests (e.g. corrosion, leak tests, aqua-planing).

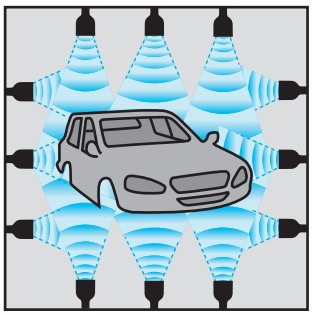
Surface treatment of car bodies with MEMOSPRAY®, the “intelligent” nozzle system

Leak test with flat fan nozzles, producing a rain curtain



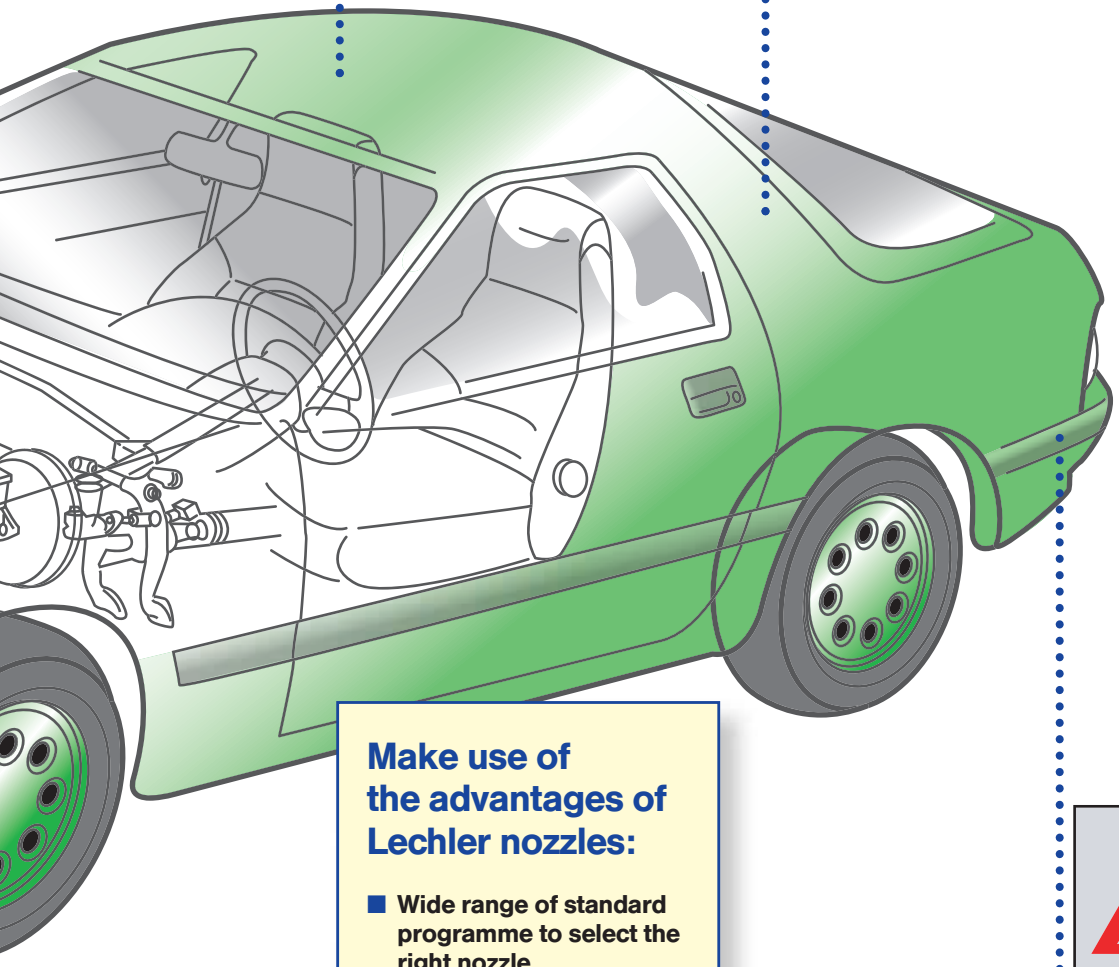


Cooling of tools in mechanical manufacturing with solid jet nozzles



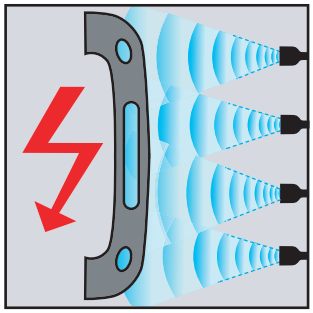
Blowing off dust in paint shop station with Whisperblast® compressed air nozzles

Spraying solvent for finishing car bodies with parafin, using flat fan nozzles



Make use of the advantages of Lechler nozzles:

- **Wide range of standard programme to select the right nozzle**
- **Easy handling**
- **Low maintenance costs**
- **Readily available**
- **Delivery from stock**
- **Proved quality**



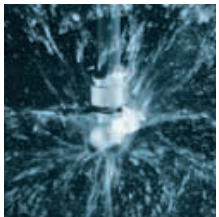
Eliminating static electricity from plastic parts before painting, with Whisperblast® compressed air nozzles

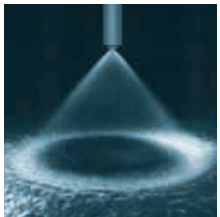
Select the right nozzle for your application

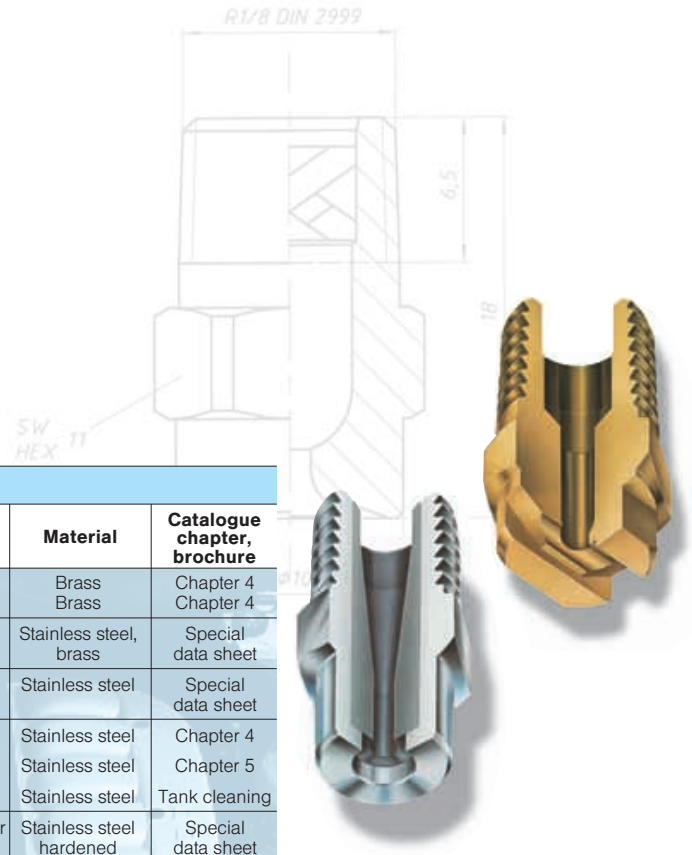
The following tables will help you to select which Lechler nozzle is the most suitable for your application within the automotive industry.
The page numbers mentionend refer to our product documentation, in which you will find detailed ordering information.

Noncutting forming of sheet metal						
Application	**Nozzle series**	**Spray pattern**	**Spray angle range**	**Pressure range**	**Material**	**Catalogue chapter, brochure**
Degreasing	632 689 46x	Flat fan Flat fan Full cone	30°-90° 30°-90° 45°-120°	2-5 bar 2-5 bar 2-5 bar	Stainless steel Stainless steel Stainless steel	Chapter 4 Chapter 4 Chapter 3
Washing between zones	616 676	Flat fan Flat fan	60° 60°	0,7-3 bar 0,7-3 bar	Stainless steel Stainless steel	Chapter 4 Chapter 4
Phosphate treatment/ passivating	MEMOSPRAY®	Flat fan	60°	2-5 bar	Plastics and Ceramic	MEMOSPRAY® nozzle system
Dipping, splashing, washing pipes	632 689 616 MEMOSPRAY®	Flat fan Flat fan Flat fan Flat fan	60° 60° 60° 60°	2-5 bar 2-5 bar 2-5 bar 2-5 bar	Stainless steel Stainless steel Stainless steel Stainless steel	Chapter 4 Chapter 4 Chapter 4 MEMOSPRAY®
Wet zone demineralized water	632 652 + ball joint 460 214	Flat fan Flat fan Full cone Hollow cone	30°-90° 30°-90° 30°-90° 60°	3-6 bar 3-6 bar 3-6 bar 3-6 bar	Stainless steel Stainless steel Stainless steel Stainless steel	Chapter 4 Chapter 4 Chapter 3 Chapter 2
Plunging basin for basic/primary varnish	632 689 46x	Flat fan Flat fan Full cone	30°-90° 30°-90° 30°-90°	0,7-3 bar 0,7-3 bar 0,7-3 bar	Stainless steel Stainless steel Stainless steel	Chapter 4 Chapter 4 Chapter 3
Electrophoresis, washing pipes (re-circulating water)	616 676	Flat fan Flat fan	60° 60°	2-5 bar 2-5 bar	Plastics Plastics	Chapter 4 Chapter 4
De-ionization, neutralizing dust, anti-static treatment	632 652	Flat fan Flat fan	30°-90° 30°-90°	3-5 bar 3-5 bar	Brass, plastics Brass, plastics	Chapter 4 Chapter 4
Blowing off dust from the car before de-varnishing	Whisperblast®	Compressed air nozzles			Plastics	Nozzles for compressed air

The parameters mentioned in the table are only typical examples. They have to be adjusted to the different processes.

Mechanical fabrication

Application	Nozzle series	Spray pattern	Spray angle range	Pressure range	Material	Catalogue chapter, brochure
Cooling and lubrication	652 676	Flat fan Flat fan	30° 30°	3 bar 3 bar	Brass Brass	Chapter 4 Chapter 4
Minimum lubrication	MMI	Flat fan	60°		Stainless steel, brass	Special data sheet
Cooling of tools	Special solid jet with M 10 x 1	Solid jet	0°	2-8 bar	Stainless steel	Special data sheet
Transport of chips	676	Flat fan	30°-60°	5 bar	Stainless steel	Chapter 4
	Solid jet	Solid jet	0°	5 bar	Stainless steel	Chapter 5
	Spinner	Tank cleaning	180°	2-3 bar	Stainless steel	Tank cleaning
Hydraulic high pressure (de)burring	High pressure solid jet	Solid jet	0° ,15°	450-600 bar	Stainless steel hardened	Special data sheet
Drying with air nozzles	Whisperblast®	Compressed Air nozzles			Plastics, brass	Nozzles for compressed air
Process cleaning in many intermediate states	Whisperblast®	Compressed air nozzles			Plastics, brass	
Cleaning of components; all mechanically produced parts in washing machines	632 460	Flat fan Full cone	60°, 90° 45°-60°	0,7-3 bar 2-10 bar	Stainless steel Stainless steel, brass	Chapter 4 Chapter 3

Assembly and quality assurance

Application	Nozzle series	Spray pattern	Spray angle range	Pressure range	Material	Catalogue chapter, brochure
Conservation and de-waxing	652.XXX.185 Pulsating nozzle	Flat fan	120°	8 bar	Brass	Special data sheet
Corrosion test distance (salt test)	632	Flat fan	60°	2-5 bar	Stainless steel, PVDF	Chapter 4
Car wash	632	Flat fan	20°-120°	low/high	Brass synthetics, stainless steel	Chapter 4
	652 with cap	Flat fan	20°-120°	low/high	Brass synthetics, stainless steel	Chapter 4
High pressure cleaning	High pressure	Flat fan	30°-45°	high	Stainless steel	Chapter 4
	High pressure	Solid stream	0°	high	Stainless steel	Chapter 5
Test distance watering, aqua planing distances	621 625	Flat fan Flat fan	120° 120°	3-5 bar 3-5 bar	Brass, stainl. steel Brass, stainl. steel	Special data sheet
Leak test facilities	652 676	Flat fan Flat fan	60°-90° 60°-90°	6 bar 6 bar	Brass Brass	Chapter 4 Chapter 4
	46x Twistloc	Full cone Full cone/ Flat fan	60° 60°	3-6 bar 3-6 bar	Brass Brass	Chapter 3 Chapter 9
Rain and fog simulation	652 676	Flat fan Flat fan	60°-90° 60°-90°	low low	Brass Brass	Chapter 4 Chapter 4
	212	Hollow cone	60°-90°	6 bar	Brass	Chapter 2
Salt mist test	Pneumatic atomizing nozzles	Flat fan Full cone			Stainless steel	Chapter 1

The parameters mentioned in the table are only typical examples.
They have to be adjusted to the different processes.

For detailed ordering information on Lechler nozzles for Automotive Industry please refer to the following documentation:

- Catalogue “Precision Spray Nozzles and Accessories”
- Brochure “MEMOSPRAY® - the intelligent Nozzle System for Surface Treatment”
- Brochure “Tank Cleaning Nozzles”
- Brochure “Nozzles and Accessories for Compressed Air”

Contact us now

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