ATN - Automotive sector partner for adhesive application and automation technology

ATN stands for quality, reliability and innovation as a specialist for adhesive application and automation technology. Our know-how is based on over 20 years of experience in application technology with a focus on the automotive sector. ATN is active in the production areas of bodyshop, paintshop and trim and final assembly as a systems supplier, systems integrator or as a one-stop supplier of complete cell solutions.

When considering application technology, our customers have access to a range of systems depending upon material and application type.

Fast response times, direct customer contacts and a service in established ATN-quality is ensured by our subsidiaries in Spain, USA, Brazil and China. Furthermore, our customers also have access to a 24 hour hotline for spare parts and emergencies.

Areas of use in the automotive industry

BODYSHOP
- Anti flutter application
- Hem flange gluing
- Structural bonding
- Non-metallic material bonding

PAINTSHOP
- Application of noise insulation material
- Seam and cosmetic seam sealing
- Underbody protection
- Cavity filling with foam

TRIM AND FINAL ASSEMBLY
- Glass bonding (Front, rear and side glass)
- Panorama glass and sunroofs
- Cockpit adhesion
- DVD-adhesion
- Spare-wheel and battery well installation
- Textiles adhesion
- Small parts (Mirror, spoiler, decorative strips)
- Rubber door seal application

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ATN Hölzel GmbH
Brunnenstraße 3
02736 Oppach, Germany

Phone: +49 (0) 35 936 335-0
Fax: +49 (0) 35 936 335-2000

e-Mail: kontakt@atngmbh.de
Internet: www.atngmbh.com

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APPLICATION TECHNOLOGY

FOR BODYSHOP

GERMANY · SPAIN · USA · BRAZIL · CHINA

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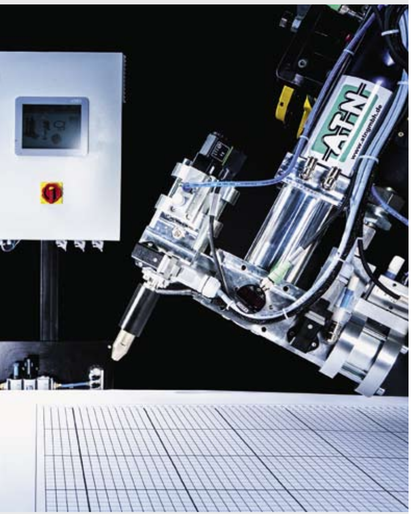
Adhesive Application technology for bodyshop

Adhesive technology today offers structural strength, sound deadening, corrosion inhibition all with concomitant savings on weight by use of modern adhesives.

ATN Hölzel GmbH offers balanced and complete adhesive equipment for bodyshop. The solutions are designed as "plug&play" and the components can be integrated easily and be individually adjusted to the customer's needs and production process.



Processable materials with ATN application equipment:

- PVC and miscellaneous sealing material
- Greases and lubricants
- Paste-like coating substances
- Sealant
- Urethane
- Epoxy resins
- Acrylate
- Potting compounds
- Anaerobic adhesives
- Suspensions and emulsions
- 2 k epoxy

BARREL PUMPS

Using the barrel pumps ZRP 60 and ZRP 200, the low to medium viscous adhesives, sealants and fillers are pumped from containers ranging from 20–1,000 litres. Different standard configurations are available depending on requirements. Individual adjustments for customer-specific processes can also be implemented. A continuous material supply during a barrel change is ensured with the double-barrel pump.

Barrel pump types

ZRP 60 – container size 20–60l
ZRP 200 – container size 200l

materials suitable for the pump	low to medium viscosity
Feed pump	Scoop piston pump
Feed volume	2.4 l/min–7.8 l/min or 80 cm³–260 cm³ per double stroke
Press force	7.3 kN
Pressure ratio	Output pressure (material) to input pressure (air) 11:1 to 72:1

Functional expansions for barrel pumps

- Heating of the entire system or individual components
- Design for high viscous materials
- Residual quantities optimised follow-up plate
- Expansion to double barrel pump system
- Dosing controls


EVD 80 with Applicator VN8-A

DOSING SYSTEMS

The product range of electro-volumetric dosing systems covers the volume range from 1.2 cm³ to 560 cm³. The electrically driven dosing systems offer the best possible control and dosing features, can be used for low to highest viscous materials and do not require any further components or aggregates.

Electro-volumetric dosing system EVD features

- Independent from fluctuations in viscosity
- Repeatability > 99%
- Easy to maintain
- Extensive lifetime
- Highly dynamic with fast response times
- Dynamic adjustment of material quantities
- Detailed visualisation with control functions

Volume dosing system EVD overview

EVD 1,2	
Volume	1.2 cm³
max. volume flow	1.0 cm³/s
EVD 8	
Volume	8.0 cm³
max. volume flow	7.0 cm³/s
EVD 80	
Volume	78.0 cm³
max. volume flow	28.7 cm³/s
EVD 155	
Volume	152.0 cm³
max. volume flow	44.8 cm³/s
EVD 560	
Volume	560 cm³
max. volume flow	96.2 cm³/s

Functional extensions for dosing systems

- Dosing system heater
- 2 component system
- Dual-system
- Stainless steel model

APPLICATORS

The application of single-component materials is effected using applicators VN6 or VN8. The applicator can be positioned depending on the application process either directly at the dosing system or at the robot or an application tower.

APPLICATOR VN6-A	
Nozzle diameter	0.5–2.5 mm
Response time at 5 bar	max. 15 ms
Mass	0.6 kg
(without nozzle, heating and nozzle holder standard)	

APPLICATOR VN8-A	
Nozzle diameter	1.0–5.5 mm
Response time at 5 bar	max. 30 ms
Mass	3.1 kg
(without nozzle, heating and nozzle holder standard)	

Functional extensions for applicators

- Applicator heating
- Variable nozzle length

APPLICATION CONTROL IFC

The ATN IFC control system (independent flow control) consists of the IPC components, which includes comfortable and compact all technical components and the TP12 Multi-touch display (12" screen resolution, 1024x768 pixel) for visualisation of the processes and easy systems operation. All important parameters and components of the application process are controlled and monitored with the IFC system.

IFC set-up and functions

- System consists of switching cabinet, IPC and control panel (control)
- Extensive diagnosis options e.g. statistics and error history
- Remote monitoring and remote control of visualisation via network
- Extensive logging functions
- freely adjustable and configurable system for all application types

Technical Data

- Intel® Atom™ processor E3827 (Dualcore, 1.75 Ghz clock speed CPU)
- 4x USB (3x 2.0; 1x 3.0)
- VGA- and HDMI-connection
- COM-interface
- 2x Ethernet-interfaces 10/100/1000 Mbit
- CAN-interfaces
- Variable interfaces for connections to upstream controls, e.g. Profibus, Profinet, Ethernet/IP

MATERIAL HOSES

The conveying of the material from the barrel pumps or from a ring pipe system to the dosing and application facility occurs via fixed pipe systems or flexible material hoses in a range of diameters.

The pipe systems or material hoses are available in unheated or heatable versions up to 150°C depending on the material to be conveyed. For the heatable models, the heating performance and temperature are visualised, monitored and controlled in the dosing system or plant controls.

Overview material hoses and pipeline systems

	Hoses			Pipes
	DN13	DN16	DN25	DN32
unheated	yes	yes	yes	yes
heated up to 100°C	150 W/m	200 W/m	300 W/m	300 W/m
heated up to 150°C	290 W/m	350 W/m	400 W/m	400 W/m
Application on Robots	yes	yes	yes	no
hose and pipe lengths	any length possible, technical limitations e.g. due to pressure loss in the overall system			

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