

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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APPLICATION TECHNOLOGY FOR SEALING AND INSULATING



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Application solutions for sealing and insulating

In automotive construction, different sealing and protective applications are carried out to make vehicles more durable in order to prevent damages due to penetrating humidity, crevice corrosion or mechanical effects. Extrudable sealing materials on surfaces or the foaming of cavities prevents vibrations and reduce the noise development in the vehicle.

For the coating production area, ATN offers reliable application technology and automation solutions which have a proven track record in the automotive sector. Developed as "plug&play" solutions, the components can be integrated both individually adjusted to the customer in his production process but also implemented as complete automation concepts.



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, ZRP 200 and ZRP 1.000, 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

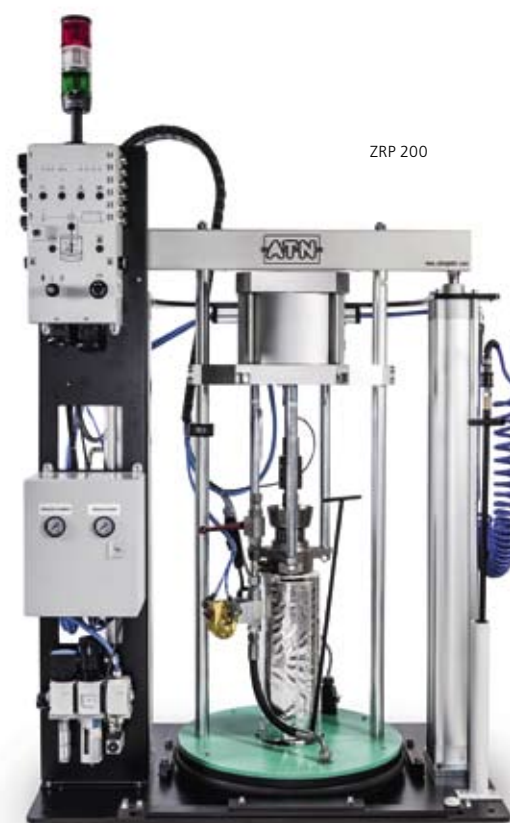
ZRP 200 – container size 200l

ZRP 1.000 – Gebindegrößen bis 1.000l

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 cm ³ –260 cm ³ 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



Dualsystem EVD 155

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 cm ³
	max. volume flow	1.0 cm ³ /s
EVD 8	Volume	8.0 cm ³
	max. volume flow	7.0 cm ³ /s
EVD 80	Volume	78.0 cm ³
	max. volume flow	28.7 cm ³ /s
EVD 155	Volume	152.0 cm ³
	max. volume flow	44.8 cm ³ /s
EVD 560	Volume	560 cm ³
	max. volume flow	96.2 cm ³ /s

Functional extensions for dosing systems

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

APPLICATOR

The high-pressure multi-nozzle applicator applies the single component materials for the applications of underbody protection, SDM and joint sealing.

The applicator is fitted with a swivel joint for ideal flexibility on the robot. The nozzle head can be swivelled independently from supply cables and hoses.

High-pressure multi-nozzle applicator

Number of nozzles	3
Nozzle types	Flatstream, airless, slot die
Application angles	75°, 45°, 0°
The positioning of the relevant nozzles and angles is done individually depending on the application process.	
Mass	3.4 kg



Functional expansions for the SPA applicator

- Applicator heating
- Additional temperature sensors
- Pressure sensor for pressure regulations for material return
- Needle stroke monitoring



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



PELTIER

Certain processes require a targeted temperature control of the application materials in order to reduce viscosity fluctuations and thus achieving a consistently high application quality. The material temperature can be influenced by changed ambient temperature or system related fluctuations in the material handling. Material cooling but also heating can be carried out via the Peltier.

Peltier

Heat exchanger	air or water cooled
Standard versions	
air cooled	3-step, 600 W connected load 4-step, 800 W connected load
water cooled	3-step, 800 W nominal power 4-step, 1000 W nominal power
Temperature control	+/- 1°C from target value (if the Peltier is placed close to the applicator)

