APPLICATION TECHNOLOGY
Lightweight design, multi-material mix, new design shapes or the development of electronic parts are just a few keywords for the constantly growing significance of glue and sealing materials in the industrial production for a wide range of industries. Whether the automotive industry, the solar industry, or wind power industry amongst other branches, glue connections are taking the place of conventional bonding processes, such as riveting or welding, as well as increasing the quality of the product and the range of capabilities.

ATN is one of the leading companies of industrial gluing technologies. Our high quality and economical products are based on long-standing experience as well as the constant development of products and the close collaboration with our customer. With the application technology of ATN, it is possible to process almost each material with capability of flowing. Depending on the characteristics of the material and the process or customer specifications, there availables a variety of components and systems available to meet the requirements.

Our 17 departments with 44 competencies ensure a high level of expertise. With branches in the USA, Brazil, and China ATN guarantees faster response time for services and spare parts as well as local representatives. A 24/7 service hotline for emergency support and spare parts enables our customers to run their production with minimal downtime.
THE TWO-TOWER RAM-PRESS SYSTEM

The two-tower ram-press system (ZRP) can carry gluing- and sealing materials as well as potting from barrels holding between 20 liters and 1,000 liters. The combination of individual components depends on the properties of the materials that are to be processed and are also based on customer specifications.

GENERAL TECHNICAL DATA

- for transportation of materials with low or high viscosity
- pneumatic connection: 5-bar, filtered, dried, unoiled
- follower plate
  - diameter: ZRP 60 279 – 355 mm
  - ZRP 200 572 mm
  - ZRP 1000 1,000 mm
- construction optimizes residual amount for low and medium viscosity materials
- conical construction of 15° for high viscosity materials
- teflon-coated
- floating wiper ring to compensate barrel tolerances and max. material utilization

DISPLACEMENT PUMP

<table>
<thead>
<tr>
<th>SUP 80</th>
<th>80 cm³ per double stroke</th>
<th>2.4 l/min*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUP 150</td>
<td>150 cm³ per double stroke</td>
<td>4.5 l/min*</td>
</tr>
<tr>
<td>SUP 260</td>
<td>260 cm³ per double stroke</td>
<td>7.8 l/min*</td>
</tr>
</tbody>
</table>

(*at 30 double strokes/min)

- pressure ratios 11:1 – 72:1
- max. operating pressure 360 bar
- temperature range 0 – 80°C
- material viscosity from low to high viscosity

BASE PUMP / AIR MOTOR

<table>
<thead>
<tr>
<th>Base pump</th>
<th>Air motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMR 125</td>
<td>LMR 160</td>
</tr>
<tr>
<td>LMR 250</td>
<td>LMR 320</td>
</tr>
<tr>
<td>SUP 80</td>
<td>35:1</td>
</tr>
<tr>
<td>SUP 150</td>
<td>17:1</td>
</tr>
<tr>
<td>SUP 260</td>
<td>11:1</td>
</tr>
</tbody>
</table>

The application and the combination of pump and air motor depend on the material to be processed and is a case-to-case decision.

EXTENSIONS TWO-TOWER RAM PRESS

- heating of complete system or individual components
- traffic light system for status indication „Active“, „Ready“, „Empty“
- control panel for pump via the IFC smart box with keypad
- can be extended to be double barrel pump
- roll conveyors for barrel exchange (only ZRP 200)
The ATN electric volume doser, part of the EVD series, has a doser volume of between 1.2 cm³ to 923 cm³ and processes materials with low and high viscosity, which permits a wide area of application. Viscosity independence allows for a high dosing accuracy and a repeat accuracy of over 99%. The adjustment of the material volume is continuous and is contingent on the speed-dependent regulation of the superior system (e.g. robot). Employing an offset or setting a specific value is possible through the doser controls.

The detailed visualization allows for a sentential control of the applied material quantity, fill level, temperature, pressure, torque, counter of the maintenance intervals and much more. In addition to a simple assembly and disassembly, the dosers of the EVD series are maintenance-friendly even during high usage.

### Technical data

<table>
<thead>
<tr>
<th>EVD 1,2 Technical data</th>
<th>EVD 80 Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>80.4 cm³</td>
</tr>
<tr>
<td>max volume flow</td>
<td>28.7 cm³/s at 3000 min⁻¹</td>
</tr>
<tr>
<td>resolution</td>
<td>0.57 cm³ each motor revolution</td>
</tr>
<tr>
<td>size (L/B/H)</td>
<td>840 x 125 x 100 mm</td>
</tr>
<tr>
<td>weight</td>
<td>19.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVD 11 Technical data</th>
<th>EVD 100 Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>97.6 cm³</td>
</tr>
<tr>
<td>max volume flow</td>
<td>13.4 cm³/s at 3000 min⁻¹</td>
</tr>
<tr>
<td>resolution</td>
<td>0.27 cm³ each motor revolution</td>
</tr>
<tr>
<td>size (L/B/H)</td>
<td>601 x 170 x 213 mm</td>
</tr>
<tr>
<td>weight</td>
<td>21.5 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVD 155 Technical data</th>
<th>EVD 155 Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>153.2 cm³</td>
</tr>
<tr>
<td>max volume flow</td>
<td>44.9 cm³/s at 3000 min⁻¹</td>
</tr>
<tr>
<td>resolution</td>
<td>0.90 cm³ each motor revolution</td>
</tr>
<tr>
<td>size (L/B/H)</td>
<td>910 x 130 x 150 mm</td>
</tr>
<tr>
<td>weight</td>
<td>23.5 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVD 550 Technical data</th>
<th>EVD 550 Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>475 cm³</td>
</tr>
<tr>
<td>max volume flow</td>
<td>26.2 cm³/s at 3000 min⁻¹</td>
</tr>
<tr>
<td>resolution</td>
<td>0.52 cm³ each motor revolution</td>
</tr>
<tr>
<td>size (L/B/H)</td>
<td>800 x 260 x 180 mm</td>
</tr>
<tr>
<td>weight</td>
<td>35.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVD 560 Technical data</th>
<th>EVD 560 Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>577.0 cm³</td>
</tr>
<tr>
<td>max volume flow</td>
<td>96.2 cm³/s at 3000 min⁻¹</td>
</tr>
<tr>
<td>resolution</td>
<td>1.92 cm³ each motor revolution</td>
</tr>
<tr>
<td>size (L/B/H)</td>
<td>1200 x 220 x 200 mm</td>
</tr>
<tr>
<td>weight</td>
<td>68.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVD 850 Technical data</th>
<th>EVD 850 Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>923 cm³</td>
</tr>
<tr>
<td>max volume flow</td>
<td>76.9 cm³/s at 3000 min⁻¹</td>
</tr>
<tr>
<td>resolution</td>
<td>1.54 cm³ each motor revolution</td>
</tr>
<tr>
<td>size (L/B/H)</td>
<td>975 x 405 x 206 mm</td>
</tr>
<tr>
<td>weight</td>
<td>70.0 kg</td>
</tr>
</tbody>
</table>
Dispenser

The ESP dispenser system allows for a gentle and pulsation-free continuous transportation of materials in variable directions independent from viscosity variations (material transportation or dosing). The high dosing accuracy allows for a repeat accuracy of over 99% and prevents a material cluster from point- or bead-dosing at start-up and shut-down. Leakage and stringing of material is avoided due to the controllable pullback.

The piloting of the dispenser is carried out by a digital interface, fieldbus or dispenser control with convenient visualisation. In addition to a simple assembly and disassembly, the valve-free dispenser of the ESP series is maintenance-friendly even during high usage.

<table>
<thead>
<tr>
<th>GENERAL PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• inlet pressure</td>
</tr>
<tr>
<td>• doser pressure</td>
</tr>
<tr>
<td>• temperature</td>
</tr>
<tr>
<td>• revolution speed max.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>PROCESSEABLE PRODUCT PROPERTIES</td>
</tr>
<tr>
<td>low and high viscosity</td>
</tr>
<tr>
<td>highly filled materials</td>
</tr>
<tr>
<td>abrasive materials</td>
</tr>
<tr>
<td>shear sensitive materials</td>
</tr>
<tr>
<td>aggressive materials</td>
</tr>
</tbody>
</table>

**ESP 30**

Technical data

| dosing volume | 0.15 ml/min-1 |
| volume flow   | 1.0 – 30 ml/min-1 |
| dosing minimum | 0.01 ml |

**ESP 80**

Technical data

| dosing volume | 0.4 ml/min-1 |
| volume flow   | 2.5 – 80 ml/min-1 |
| dosing minimum | 0.02 ml |

**THE PROCESSING OF 2K MATERIALS**

The hardening of 2K materials, especially adhesives, depends on certain factors and environmental influences. This includes temperature, moisture and light. By manipulating the 2K mixing ratio, the hardening speed can be adjusted according to the process.

The 2K EVD application system offers precise dosing and a homogeneous mixing of the two initial components. The application system can be freely configured according to the mixing ratio from the single doser of the EVD doser series. The adjustment of the mixing ratio is continuous and changes to the application parameters are executed immediately. The mixing of components is reliable and cost-efficient with easily replaceable static and static-dynamic or dynamic mixing insets.

The 2K-application system is available as an individual stationary unit or attached to the 6th axis of the robot.

You can find a detailed description and areas of operation of the EVD doser on page 4–5.
The final components in the immediate gluing process are our applicators. The customer may choose between various applicators for the application of round beads, profile beads or area material application. The selection is restricted by the process specifications – stationary or attached to a robot – and the properties of the material. These considerations influence form and assignment of the applicators.

**DECISIVE FACTORS FOR THE SELECTION AND CONFIGURATION OF AN APPLICATOR:**

- area of operation
- viscosity of material
- application shape of material (e.g. profile bead, round bead, wide seam etc.)
- properties of material
- stationary or attached to a robot

**EXTENSIONS**

- heating
- nozzle Extension
- crash-Protection*
- pressure Sensors*
- needle monitoring*

*not available for all applicators

<table>
<thead>
<tr>
<th>Applicator</th>
<th>Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>AKK VN6-A</td>
<td>shape of bead: round bead</td>
</tr>
<tr>
<td>AKK VN8-A</td>
<td>shape of bead: round bead</td>
</tr>
<tr>
<td>AKK PR</td>
<td>shape of bead: round bead</td>
</tr>
<tr>
<td>AKK PE</td>
<td>shape of bead: round bead</td>
</tr>
<tr>
<td>AKK DB</td>
<td>shape of bead: round bead</td>
</tr>
<tr>
<td>AKK MULTIDÜSE</td>
<td>shape of nozzle: flat stream, airless, wide-slot</td>
</tr>
</tbody>
</table>
For the stationary material application with partially or fully automated units, ATN offers various application towers. Configuration, functions and components can be individually adjusted according to customer preferences and process specification. This includes the integration of various processes such as cleaning and primer application with the application tower.

**APPLICATION TOWER FOR PRIMER**

**GENERAL INFORMATION**
- for the application of bonding agent (primer)
- material feed with pressure barrel
- spray, brush or felt application with spraying unit, membrane valve or dispenser
- flushing and cleaning unit for regular cleaning
- application unit can be swung around for maintenance

**EXTENSIONS**
- tolerance compensation
- extension of application tower for primer with two heads
- combination of primer and cleaning head

**APPLICATION HEAD GLUING**

**GENERAL INFORMATION**
- material dosing with EVD volume doser
- material application with 1K-application head or 2K-application system
- application of profile – or round beads

**EXTENSIONS**
- application head can be swung around*
- automatic moveable nozzle cleaning station (pneumatic cleaning or nonwoven cleaning)*
- stationary cleaning station on packaging band*
- height compensation of application unit for product tolerances*
- quality control of glue bead*
- extension of application tower to primer unit*

(*not available for all towers)

**APPLICATION TECHNOLOGY**

**ATK VDF**
- application: round and profile bead
- position: nozzle pointed down
- max. number of dosers: 4
- features: many extension options, e.g. cleaning and primer unit as well as different automated nozzle cleaning systems

**ATK DDS**
- application: round and profile bead
- position: nozzle pointed up
- max. number of dosers: 2
- features: maintenance friendly, excellent part handling

**ATK DUR**
- application: round and profile bead
- position: nozzle pointed up
- max. number of dosers: 3
- features: maintenance friendly, upside down application

**ATK DB**
- application: round bead
- position: nozzle pointed down
- max. number of dosers: 4
- features: up to 3 nozzle beams with 4 application nozzles (area application) respectively, nozzles can be operated independently

To be able to guarantee a stable and high-grade glue bead, as well as to avoid contamination through residual material, ATN offers various nozzle cleaning systems for our application process.

**FLEECE NOZZLE CLEANING**

**COMPOSITION AND FUNCTIONS**
- assembly on basic frame
- cleaning materials paper or fleece
- length and width according to customer preference
- automated detection of cleaning material (stock, intact paper trail)
- simple refill

**OPTIONS**
- possible combinations of nozzle cleaning and flushing process at the work station
- stationary or mobile – attached to the application tower
- assembly on glide system between flushing process and fleece nozzle cleaning with stationary application point
- hanger for collection container

**PACKING BAND UNIT**

**COMPOSITION AND FUNCTIONS**
- assembly on basic frame
- cleaning material is regular plastic packing band
- automated cutting of used packing band
- regulation with external unit (SPS)

**OPTIONS**
- combined unit for purge and packaging band unit in one

**NEUMATIC NOZZLE CLEANING**

**COMPOSITION AND FUNCTIONS**
- material residuals are removed with compressed air
- 6 jet nozzles
- 3 compressed air tanks
- fast airing valves
- disposable collection in standard trash bag in casing
- stainless steel finish
- almost noiseless
- cost-efficient cleaning

**OPTIONS**
- stationary or attached to the application tower
- possible combinations of nozzle cleaning and flushing process at the work station
- quick exchange coupling
The ATN IFC application controls system (independent flow control) is made up of one IPC with 12” Touch Display (screen resolution of 800x600 pixel). The IFC system controls and monitors all vital parameters and components of the application process. All processes are visualized on the display and components can be easily controlled.

**COMPOSITION AND FUNCTIONS**
- the system includes a switch cabinet with IPC and control panel
- simple intuitive operation
- freely adjustable and configurable systems for all types of applications
- parameterization of all relevant process parameters (e.g. volume flow, pressure, temperature)
- remote control for HMI systems via network
- extensive logging and diagnosis capabilities
- connection to production networks possible

**TECHNICAL DATA**
- Intel® Atom™ Prozessor
- fanless design
- 2x USB (1x USB 3.0, 1x USB 2.0)
- 2x Ethernet 10/100/1000 Mbit
- CAN-interface
- multibus module for integration in main network (e.g. Profinet, Ethernet/IP, CAN)

Adhesive connections have to fulfill high standards in regards to tensile strength and stability. This requires an optimal gluing process and a high quality when it comes to the application. For the monitoring and protection of the gluing process, ATN offers two quality control systems, which monitors two separate areas of the glue bead application.

Only the basics for both systems are listed and the feasibility of the monitoring system should be investigated for each individual case.

**GLUE BEAD MONITORING OPTOPROFIL**

**GENERAL INFORMATION**

OPTOPROFIL allows for a qualitative monitoring of the glue bead application, especially the height of the bead. The measurement is done by the laser scanning triangulation method. The glue bead monitoring is integrated into an established control system and is visualized with the HMI-panel.

**EXTENT OF MEASUREMENTS**
- measuring the glue bead at its highest point perpendicular to the base

**REQUIREMENTS MEASURED OBJECT** (glue bead)
- PU bead as triangle with or without radius top or trapezoid shape
- precise bead geometry due to a clean and accurate application nozzle

**REQUIREMENTS FOR THE SURFACE** (glasses, cockpits)
- even and free of contours that interfere with the glue path
- within a distance of 10 mm on one side of the glue bead
- no contours that interfere
- in pointed curves possibly more distance required

**REQUIREMENTS FOR THE NOZZLE, POSITIONING AND ROTATION**
- nozzle if possible made of PTFE (teflon)
- for short nozzle fittings, no nozzles made of reflective materials

**PROCESS MONITORING IPM**

**GENERAL INFORMATION**

IPM is a quality control system that covers the glue bead output which is a sensitive part of the automated glue application. The thermic process monitoring checks the following requirements:

**EXTENT OF MEASUREMENTS**
- the correct height of the glue bead at the joint area
- uninterrupted application in the joint area
- existence of defects / holes in the joint area

The compact construction as well as the utilized technology allows for the IPM to be used at various locations and allows for it to be connected to various established control technology. The system provides the physical and software joints for all established bus controls.
Material hoses

Materials are carried from the barrel pump or a cleaning system to the doser and application mechanism through a solid pipe system or flexible material hoses of variable diameter.

Depending on the material, the pipe systems and the hoses can be unheated or heated up to 150°C. With the heated option, the heat output and temperature are visualized, monitored and controlled by the doser or system controls.

Hose and pipe length are offered in various sizes and are only restricted by technical concerns (e.g., pressure loss of system).

Technical data

<table>
<thead>
<tr>
<th>Hose Diameter (DN)</th>
<th>Technical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unheated</td>
<td>Heated up to 100°C</td>
</tr>
<tr>
<td>HOSE DN 13</td>
<td>150 W/m</td>
</tr>
<tr>
<td>HOSE DN 16</td>
<td>200 W/m</td>
</tr>
<tr>
<td>HOSE DN 25</td>
<td>300 W/m</td>
</tr>
<tr>
<td>PIPE DN 32</td>
<td>300 W/m</td>
</tr>
</tbody>
</table>

Spray head dosing and applying the primer. High-pressure spray material is delivered to the spray head. The control piston operated by compressed air, first opens the spray air valve and, with a minor delay, the material nozzle. After the application, the material spray head is shut first and then the spray air valve to avoid leakage of the material nozzle. The spray material is pulverized via compressed air.

ATN offers several application solutions for cleaning and activating surfaces with a wet-chemical process and all other proven and tested products, which are used in the automotive and other industries. Since they are developed as Plug&Play systems, these components can be modified to customer specifications and can be integrated in any automated production process. ATN also offers complete automated concepts for implementation.

Only the basics for the applicable components are listed. You can find detailed information on our website www.atngmbh.com - „Application technology for cleaning and activating“.

APPLICATION PROCESS

There are three separate techniques when it comes to the application of a cleaner, primer or activator. The selection is made based on the element, the surface and the processed material.

SPRAYING
- suitable for uneven and rough surfaces
- spraying with a spray head
- wide area of application
- free of wear and tear
- risk of overspray

FELTING
- application with a soaked felt piece
- felt wears and needs to be replaced
- also suitable for wiping after spray application
- limited application area
- crisp and clean application

BRUSHING
- suitable for even and smooth surfaces
- application with a soaked brush
- brush deteriorates and needs to be replaced
- limited application area
- crisp and clean application

Material supply

The primer material supply mainly consists of the four components of the pressure vessel, diaphragm pump, load cell and buffer tank.

PRESSURE CONTAINER
- available in different sizes between 1 l and 45 l
- pressurization using dry air or nitrogen
- (optionally controlled by proportional valve)
- stirrer system and circulation connector are optional

MEMBRANE PUMP
- located within the return path
- permanent circulation of primer material

WEIGHING CELL
- fluid level detection
- alternatively via sensors
- (depends on barrel configuration)

SURGE DRUM
- protection for an uninterrupted production

Adjustable factors

- selection of air and material nozzle
- atomizer
- material pressure
- needle travel

Material pressure max. 12 bar
Atomizer pressure max. 8 bar
Weight 380 g
ATN offers several different application units for the manual non-stationary application of 1K- and 2K-materials. These systems are suitable for 20 to 200 liter barrels and have a rotatable mike boom for weight unloading of the material hose and the application pistol.

**MOBILE 1K-APPLICATION UNIT**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (L/B/H)</td>
<td>1200 x 1000 x 2600 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>approx. 600 kg</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>230 VAC (heating only)</td>
</tr>
<tr>
<td>Pneumatic connection</td>
<td>5 bar, filtered, dried, unoiled, via spiral coiled tube and plug connection</td>
</tr>
<tr>
<td>Carriage</td>
<td>4 rollers, 2 rollers breakable and steerable</td>
</tr>
<tr>
<td>Pumps</td>
<td>two-pillar ram-press ZRP 60 or ZRP 200</td>
</tr>
<tr>
<td>Base Pump</td>
<td>SUP 80, SUP 150, SUP 250</td>
</tr>
<tr>
<td>Application pistol</td>
<td>1K-manual application pistol</td>
</tr>
<tr>
<td>Flow rate</td>
<td>2.4 – 7.8 l/min</td>
</tr>
</tbody>
</table>

**MOBILE 2K-APPLICATION STATION**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (L/B/H)</td>
<td>1810 x 1000 x 2600 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>approx. 300 kg</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>400 VAC (with CEE-plug)</td>
</tr>
<tr>
<td>Pneumatic connection</td>
<td>5 bar, filtered, dried, unoiled, via spiral coiled tube and plug connection</td>
</tr>
<tr>
<td>Carriage</td>
<td>4 rollers, 2 rollers breakable and steerable</td>
</tr>
<tr>
<td>Pumps</td>
<td>two-pillar ram-press ZRP 60 or ZRP 200</td>
</tr>
<tr>
<td>Base Pump</td>
<td>SUP 80, SUP 150, SUP 250</td>
</tr>
<tr>
<td>Application pistol</td>
<td>2K-manual application pistol</td>
</tr>
<tr>
<td>Mixing ratio</td>
<td>of 1:1 up to 100:1</td>
</tr>
<tr>
<td>Operation</td>
<td>ifc „smart“ volume flows, adjustable</td>
</tr>
</tbody>
</table>

**EXTENSIONS**

dosing unit can be compiled individually
upgrade package from ZRP 200 to hobboc barrels
upgrade to automatic dosing head
heating system up to 80°C

Whether it is as a backup for the automated application cell or for general use, the ATN manual application systems are the best solution. The requirements of the application process determine whether a stationary system or a mobile unit works best.

**MANUAL APPLICATION PISTOL HAP PR**

- application profile bead
- operation-friendly application pistol
- rotary drive for orientation of profile nozzle
- scope of application: low to medium viscosity sealing and adhesive materials
- exchangeable nozzle
- weight 1.5 kg

**MATERIAL PRESSURE REGULATOR – MDR**

- pressure range from 35 – 250 bar
- pressure adjustment mechanic or pneumatic
- inlet connection ¾”
- outlet connection ½”

**EXTENSIONS**

heatable
Independent Marking Systems, or IMS for short, incorporates the whole-product line ATN-IMS. The IMS Technology was developed to clearly and tamper-proof mark element groups. The concept is based on the reliable stylus stamping.

**IMS CONTROLS**

The IMS controls can be integrated in virtually all control systems. The control system regulates the CNC drive and enables the communication between the application head and the superior control system. The IMS control system is available as a stand-alone system and can be used to control a manipulator.

**IMS SYSTEM**

- Industrial-PC
- text editor
- CNC-controls
- collecting and evaluating quality marks
- plausibility control

**IMS COUPLING**

The IMS applicators can be equipped with fast-changing couplings to enable speedy tool change in an automated process. Specifically for the IMS System, designed fast-changing couplings guarantee the functionality and an uninterrupted communication.

**IMS APPLICATORS**

**GENERAL PROPERTIES**

- high performance CNC drive
- writing speed with a text height of 0.8 mm up to 0.75 sec/character
- precise repeat accuracy
- writing head can be positioned and is suitable
- diamond needle, angled at 90° respectively 120°
- meets industry standards
- inline height compensation enables inscribing on flat and crown surfaces

**AKM-AL-Series**

- title block size 135 x 40 mm
- weight approx. 40 kg
- suitable for robot
- can be extended with coupling, quality control

**AKM-AK-Series**

- title block size 135 x 135 mm
- weight approx. 40 kg
- suitable for robot
- can be extended with coupling, quality control

**EXTENSIONS FOR AKM-A-FAMILY**

- cleaning for removal and discharge of shavings utilizing brush or vacuum
- customized clamping
- IMS quality control
- IMS coupling
- IMS quality control

**IMS QUALITY CONTROL**

The IMS system was primarily designed for fully-automated cells. Different modules enable retroactive inspection to guarantee and verify quality control.

- caption control
- title block control
- font depth control
- needle breakage control

**MATERIAL SUPPLY**

EFE0200 for 200 liter barrels
EFE1000 for 1000 liter IBC

**EXTENSIONS FOR MATERIAL SUPPLY**

- fluid level detection
- stirrer system
- air dryer
- piggyback system

**RIM RECYCLATION SYSTEM**

**STRUCTURE**

- circuit module with a 50 liter storage (MKS-50-Serie)
- circuit module with a 280 liter storage (MKS-280-Serie)

**FUNCTIONS**

- continuous material circulation
- integrated heat exchanger for compact design
- filtration
- pipe heating

**EXTENSIONS**

- fluid level detection
- stirrer system (for one or both components)
- air dryer
- external temperature control
- redundant design for increase process stability and decreased downtimes
- encapsulation

**RIM APPLICATOR**

**FUNCTIONS AND PROPERTIES**

- high-pressure mix by utilizing the countercurrent injection principle
- shot volumes meet industrial conditions and requirements
- process stable at 10 gramm
- dosage deviation < 2%
- outer nozzle diameter 6 mm
- weight 3 kg

**APPLICATOR CLEANING**

To remove possible stains, ATN offers a fully mechanical operating cleaning station for applicators.

**MANUAL APPLICATION**

A handle makes the manual operating of the applicator possible. On the control section, the customer may choose from up to 10,000 saved mixture recipes. For automated operation, the applicator can be attached to a robot or the manipulator with a flange.
Our most senior employee has been with ATN for \textbf{6379 DAYS} and started out when the company was founded.

Since the company was founded in 1999, \textbf{216 APPRENTICES} have been trained at ATN.

With an average \textbf{AGE OF 34} ATN is a young and innovative team.

\textbf{40\%} of all employees have an engineering degree.

ATN has \textbf{17 MAIN DEPARTMENTS} and \textbf{44 COMPETENCIES} and provides turnkey specialty machinery.

\textbf{13.5 MILLION EURO} have been invested at headquarters in Oppach since 2008.

\textbf{483 CUSTOMERS} from various fields worldwide trust ATN.

\textbf{VW Argentina} in Pacheco is the customer that is furthest away from our headquarters – \textbf{11,900 KM}.

The longest distance between one of the ATN branches and the headquarters in Oppach is \textbf{10,240 KM}, São Paulo Brazil.

The positioning tolerance of the glue bead during the glass application is \textbf{0.5 MM}.

The glue bead is applied with a speed of up to \textbf{1,000 MM/SEC}. 

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