



Urban Traffic

# Sustainable suburban turnout systems

Urban turnout system solutions



We break new ground  
for greater efficiency in  
short-distance  
passenger traffic





Meeting tomorrow's needs today through the development and implementation of appropriate strategies and ideas is a vision which voestalpine VAE has been able to successfully meet over many years. With constant further development in the area of grooved rail technology, we are able to not only offer our customers innovative and efficient solutions, but also to optimize these in respect of the constantly increasing demands on public infrastructure. In order to be able to best meet the growing need for mobility, particularly in areas with a high population density, special powerful, economic,

environment-friendly and comfortable transport solutions are required. Working with our customers, we develop concepts which are best suited to their specific needs and circumstances. For example, while either a grooved rail or a Vignol rail turnout may provide the best solution in a particular area, in other circumstances a combination of these rail types may be the preferred design. Our life cycle cost optimised products promise maximum availability, reliability, durability, maintenance-friendliness (robust design) and, through the use of pre-assembled parts, minimise installation, exchange and down times.







# Solutions for the future requirements of infrastructure and technology



## Intelligent system solutions from a single source

voestalpine VAE is a system provider and strategic partner in the areas of suburban traffic/grooved rails for turnouts, setting systems, controls and signal systems. Consulting, planning, design, production, logistics, service and training – all from a single source.



## Lubrication-free

voestalpine VAE grooved rail turnouts and switch devices are lubrication free and thus meet modern demand for low-maintenance and environment friendly turnouts.



## Easy switch replacement

The flexible switches are fastened in the slide bearing area by means of a patented key arrangement. This makes it possible to replace worn or damaged switches without having to break open the road surface. Longitudinal creep is prevented by the use of form-fit inserts.



## Individual, highly wear-resistant material solutions

The use of heat-treated rails (R290GHT or R340GHT) has proved to be particularly effective for stock, standard and running rails. Further, switch devices and crossings can be manufactured with bainitic steel or heat treated fine-grain steel (370-430HB).



## ConCross

Modular "Plug and Play" grooved rail turnouts on precast concrete slab (ballastless track) provide a completely assembled turnout with integrated ground current insulation and continuous elastic bearing. Added options are pre-assembled setting systems and drainage boxes.



# Innovative products for the most demanding requirements

## Complex systems and special solutions

Frequently complex systems are needed to cater for unusual track corridor angles, overlapping tramways or in particular areas such as yards or depots. These special solutions, including single and double Y tracks, X tracks, track harps, turnout series and special diamond crossings are well within voestalpine VAE's range of products and services.



## Setting devices and turnout drives

CONTEC turnout drive systems and components guarantee safe operation even under demanding climatic conditions. All CONTEC products meet or exceed the highest safety standards for classes SIL 4 (in terms of EN 50126, EN 50128, EN 50129) and SIL 3 (in terms of EN IEC 61508). Thanks to open interfaces, all components can be integrated into existing systems and adjusted to individual local needs.



## Control and signalling

Open interfaces guarantee that CONTEC control equipment can be integrated into almost all existing systems and adjusted to individual customer requirements. By installing turnouts into a track layout which is controlled from one source, hardware costs are substantially reduced. Controlling and coordinating railway traffic requires the highest degree of reliability. CONTEC signal equipment meets this requirement and is further characterised by easy operability and low investment and maintenance costs.



## Expansion joints

Expansion joints for any expansion length are available in various low profile grooved rail sections – fishplate design for short expansion lengths (<80 mm) or stock/switch rail design for longer expansion lengths. The gapless running track design provides a seamless wheel transition. The same substructure used in the adjacent track is normally used in the rail expansion joint as is used in the subsequent track.



## California switches

Commuter track is scarce resource in urban areas where the usage and demand for increased carrying capacity is continuously increasing. During track maintenance, the provision of expensive road based transport is often the temporary solution used by transport authorities. However, a better solution could be the so-called California switch, a temporary construction site switch which allows for continued line operation during periods of construction or maintenance. These switches, which can be quickly assembled/disassembled and used several times, save time and money and, further, the need for tedious transport mode changing and delays for passengers can be almost entirely eliminated.







Maximum safety.  
Highly maintenance friendly.  
Sustainability with life cycle  
cost optimised solutions.



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