PRODUCT PORTFOLIO TwintecBaumot GROUP

ON-ROAD

TwintecBaumot GROUP
YOUR PARTNER FOR RELIABLE AND INNOVATIVE EXHAUST TECHNOLOGIES

EFFECTIVE | CERTIFIED | RELIABLE

EXHAUST GAS AFTERTREATMENT TECHNOLOGY
PASSenger CARS, COMMERCIAL VEHICLES & BUSES
Twintec AG is the parent company of TwintecBaumot Group (TBG), a leading supplier in the area of exhaust gas aftertreatment and engine development. In that context, TBG offers its customers high-quality solutions in Design & Engineering and Products & Solutions as well as Testing & Validation Services. TBG applies these products and services across a wide range of industries in the business fields OEM (original equipment), retrofitting, aftermarket (repair, spare parts). In so doing, it covers the entire value creation chain for the exhaust gas aftertreatment sector. The market segments include, in particular, on-road (e.g. cars, trucks and other commercial vehicles), off-road (e.g. construction machinery, agricultural machinery or stationary plant) and miscellaneous applications such as maritime.

Within its five subsidiaries, TwintecBaumot Group has more than 350 employees and decades of experience in the field of exhaust gas aftertreatment. Acquired in 2015, Kontec GmbH, together with its subsidiary DIF (Die Ideenfabrik GmbH), represents the OEM development arm of the company, offering low-emission engines and exhaust gas aftertreatment systems to well-known original equipment manufacturers. Baumot AG, which was acquired in 2014, together with the Twintec Technologie GmbH is one of the leading providers of selective catalytic reduction (SCR) systems as well as active and passive particulate filters in the OEM and retrofitting business sectors. In addition, as a specialist in the development of emissions technology Baumot Technologie GmbH offers its customers innovative solutions for reducing exhaust gas emissions especially in the OEM segment.
The Twintec Baumot Group has established itself in the international markets as a reliable, competent and economic partner and provides the right solution for various needs.

Exhaust aftertreatment systems from Twintec Baumot group have major regulatory approvals in Europe:

- Approved and certified by Swiss VERT test methods
- Are included in the BAFU list and thus LRV Compliant
- Meet the guidelines of the TRGS 554

With current developments for medium duty applications, heavy duty applications and NRMM the Twintec Baumot group is in approval procedures.

The products are used in nearly all areas of the automotive sector. These include, among others, solutions in the on-road segment for passenger cars, commercial vehicles, buses and vans, as well as in the off-road segment for mobile machinery such as excavators, road rollers or trenchers and stationary equipment such as combined heat and power plants.

Moreover, along with passive and active diesel particle filter systems (DPF), the product portfolio also includes the BNOx SCR (Selective Catalytic Reduction) system. The development and production of catalytic converters for emissions reduction focuses on the coating of carrier materials (ceramics and metals) with catalytically active substances – noble metals, for example – as well as on the development of new and more efficient coating processes.
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## ECU Optimization
- ECO2fuel
SCR WITH THE BNOX SYSTEM: EXHAUST CLEANER THAN EURO VI

As a result of ever more stringent emissions limits for exhaust gases worldwide, the call for highly efficient combined particulate and nitrogen oxide reduction systems is becoming increasingly urgent. TwintecBaumot Group has the answer for the pressing demands of the international markets, especially for operating conditions where the temperature of the exhaust gas is critical.

With the high-efficiency BNOx SCR system, raise your EURO III vehicles to the emission limits of a EURO VI and beyond! In collaboration with global OE customers, the system was developed for series production and expanded under the same, very strict quality standards into a dependable, compact retrofit system.

The BNOx SCR system comprises a generator (ammonia/NH3), which meters the NH3 gas directly into the exhaust gas line. Unlike with conventional SCR systems, that principle of operation eliminates the need for functionally critical hydrolysis in the exhaust gas stream. This, in turn, provides numerous benefits:

- The system works already at temperatures as low as 150°C
- NOx reduction rates of 99% are possible (test cycles)
- "Real drive" NOx emissions are reduced by 94%
- Smaller installation space requirement, compact design
- No crystallization occurs in the exhaust gas stream at low temperatures

- Reduction of harmful nitrogen oxides through standard SCR systems
- Use of patented NH3 generators for applications with low exhaust gas temperatures
- Combined BNOx system for the reduction of nitrogen oxide and particulates
Turbo diesel engine 1, exhaust gas treatment system with particulate and nitrogen oxide reduction 2, TB-BNOx generator (ammonia generator) 4 and mixer 5.

The aqueous urea solution (DEF) is supplied via a metering system 3 to the TB-BNOx generator (ammonia generator) 4. The internally generated NH3 is fed via the mixer 5 into the exhaust gas treatment system.

The generator uses the energy of the exhaust gas mass flow before the turbo 6 and the electrically heated catalyst 7.

The exhaust gas mass flow rate is controlled by an orifice 6. Control system 8, metering system 3, temperature sensor 10 and NOx sensor 9.

URI dosing system

AdBlue® (DEF) injection

Battery

High current relay

CAN (dosing rate)

Pre Turbo

NH3 to Exhaust

eXhaust

THE ADVANTAGES AT A GLANCE

- Less expensive than an OE system
- Certified and tested according to strict quality standards
- Subjected to continuous field testing to verify operating reliability and long service life
- Long service life due to heavy-duty design
- Equivalent replacement for systems offered by OEMs
- Fast and easy exchange of the original silencer

DIRECT REPLACEMENT OF THE ORIGINAL EURO IV/V SCR EXHAUST GAS UNIT BY TwintecBaumot GROUP SYSTEMS

Following the introduction of the EURO IV/V exhaust gas standards in 2006 and 2008, engine manufacturers installed SCR exhaust gas systems in commercial vehicles and vans.

TwintecBaumot Group offers corresponding replacement applications for the most common HGV systems. Produced with proven quality and equipped with the latest technology, these systems satisfy the high OE quality standards, thereby providing a comparable substitute for the range offered by the OE manufacturers but at a significantly lower price.

Some of those original exhaust gas systems have already been in service for nearly ten years now – which means that they have reached the end of their service life. Replacement is required, not only to ensure the proper operation of the exhaust gas unit, but also to maintain valid vehicle registration.
MEETING EMISSION REDUCTION REQUIREMENTS

Emissions reduction requirements for vehicles and machinery have tightened continuously in years past, through both national and international regulations. The need and demand for new exhaust gas treatment technologies continues to grow, especially in heavily populated conurbations. The particulate filters from Twintec-Baumot Group make it possible to meet requirements, reduce emissions and improve profitability.

For the reliable operation of a particulate filter in applications involving low exhaust gas temperatures from internal combustion engines in the on-road segment as well as when using diesel fuel with high sulphur content, a sophisticated, active regeneration technology is usually indispensable.

SYSTEM OVERVIEW

Thanks to its optional burner module, the TwintecBaumot diesel particulate filter can also be used with extremely low exhaust gas temperatures. Independent of external energy sources, the burner module uses the exhaust gas pressure to automatically determine the loading condition of the particulate filter and produces a heating flame for regeneration. This fully automatic function takes place during vehicle operation.

THE ADVANTAGES OF THE DIESEL BURNER SYSTEM AT A GLANCE

- Suitable for especially low exhaust gas temperatures and high-sulphur fuels
- Regeneration takes place fully automatically without external energy supply via heating of the exhaust gas by means of a cold flame
- Continuous, automatic regeneration during vehicle operation
- Independent of NOx in the exhaust gas
- Functional reliability also under adverse conditions
- No increase in secondary emissions
- Tested in continuous operation with a variety of applications
If you're looking for diesel particulate filters for applications with especially low exhaust temperatures, the TwintecBaumot DPF-BA System is the perfect choice. This filter regenerates already at temperatures as low as 250°C and is suitable for commercial vehicles of all kinds.

- Filter regeneration already at low exhaust gas temperatures (from 250°C)
- Regeneration takes place automatically during operation
- Operation primarily in full-load range
- Especially well-suited for demolition excavators and shredder units

THE ADVANTAGES AT A GLANCE
- VERT, TÜV (PMK II) and CARB-certified, approved according to EST (UK), RDW (the Netherlands) and DTI (Denmark)
- Reduction of particulate emissions by over 99%
- Elimination of hydrocarbons (HC) by 87%
- Reduction of carbon monoxide (CO) by over 97%
- Low-maintenance, fully passive system with autonomous regeneration
- No additives or electrical heating required
- Housing made entirely of corrosion-resistant, high-temperature, extra-strength stainless steel
- Long service life thanks to heavy-duty filter construction
- Easy installation (replaces existing silencer)
- Continuous recording and monitoring of the filter function with data logger

COMMERCIAL VEHICLE DPF – PASSIVE SYSTEMS

DPF-BA SYSTEM

If you're looking for diesel particulate filters for applications with especially low exhaust temperatures, the TwintecBaumot DPF-BAB System is the perfect choice. This filter regenerates already at temperatures as low as 220°C. Regeneration takes place automatically during vehicle operation.

THE ADVANTAGES AT A GLANCE
- VERT, TÜV (PMK II) and CARB-certified, approved according to EST (UK), RDW (the Netherlands) and DTI (Denmark)
- Reduction of particulate emissions by over 99%
- Elimination of hydrocarbons (HC) by 87%
- Reduction of carbon monoxide (CO) by over 97%
- No increase in nitrogen oxides (NOx)
- Low-maintenance, fully passive system with autonomous regeneration
- No additives or electrical heating required
- Housing made entirely of corrosion-resistant, high-temperature, extra-strength stainless steel
- Long service life thanks to heavy-duty filter construction
- Easy installation (replaces existing silencer)
- Continuous recording and monitoring of the filter function with data logger
COMMERCIAL VEHICLE DPF – PASSIVE SYSTEMS

COMMERCIAL VEHICLE PARTICULATE FILTER CATALYTIC CONVERTER

For commercial vehicles compliant with EURO III and higher which are used predominantly in cross-country service and/or under motorway conditions. The TwintecBaumot particulate filter guarantees reliable operation and requires neither sensor systems nor additives nor modification of the vehicle’s electronic control or engine management system.

- 1:1 exchange system in place of the original silencer
- Low additional weight (approximately 30kg)
- Continuous regeneration
- The vehicle obtains the green environmental sticker required for operation in low-emission zones (“Umweltzonen”) in Germany
- Higher resale value
- No modification of the electronic system required

THE ADVANTAGES AT A GLANCE

- TÜV and VERT certified
- Low maintenance requirements
- Easy electronics installation
- 1:1 exchange of the silencer
- The vehicle obtains the green environmental sticker authorizing access to low-emission zones in Germany
- Robust, durable construction
- Continuous temperature and backpressure display Indicates need for filter cleaning
- Data logger displays all relevant information
- The system notifies the user of any required maintenance
- Manufactured according to OE standards
- Also available for many Euro II vehicles

Display
- Green Light: Unit switched on, backpressure normal
- Yellow Light: Backpressure exceeds standard value
- Red Light: Backpressure too high, take immediate action

For some commercial vehicles compliant with EURO II and higher and some buses compliant with EURO I and higher which operate primarily under urban traffic conditions and/or for short distances. In the case of retrofit, the TwintecBaumot Kit is generally installed in place of the original silencer. So in addition to its particulate filter function, it also serves as the silencer. An exhaust gas backpressure unit must also be installed to monitor the system functions.
PASSENGER CAR DPF SYSTEMS

DPF KIT

For passenger cars and light commercial vehicles compliant with EURO 4 and higher which have a factory-installed particulate filter. The use of silicon carbide carriers guarantees the high thermal and mechanical strength and resistance of the TwintecBaumot filter. A special channel structure is used to achieve a high airflow impingement area and deposition rate. During installation, the TwintecBaumot filter replaces the original diesel particulate filter 1:1.

THE ADVANTAGES AT A GLANCE

- Less expensive than an OE product
- Certified according to ECE-R 103
- Closed filter system made of silicon carbide
- Reduction of particulate emissions by over 95%
- Carrier material temperature-resistant up to 1,500°C
- High thermal and mechanical strength
- High functional capability through in-house coating process
- High chemical resistance
- Easy installation (replaces the existing filter)
- High airflow impingement area through special channel structure
- Optimal backpressure properties
- High particulate storage capacity

The retrofit for passenger cars and light commercial vehicles compliant with EURO 2 and higher with gross vehicle weight of up to 3.5t. The particulate filter is integrated in place of the catalytic converter, a silencer, or a pipe in the exhaust system. The TwintecBaumot particulate filters are approved for use with bio-diesel. High quality carrier material and stainless steel exhaust system components ensure excellent functional reliability and long service life.

THE ADVANTAGES AT A GLANCE

- Authorized access to low-emission zones ("Umweltzonen")
- Environmentally active driving
- No modification of the electronics system required
- No additives required
- No increase in fuel consumption
- Rapid installation
- Continuous regeneration
- Approved for use with bio-diesel
- Higher resale value
THE TwintecBaumot SERVICE PACKAGE

With its highly trained staff, TwintecBaumot Group offers a complete service package. It includes, among other things:

**Installation:**
You can install the system yourself, but of course you can also rely on our well-trained employees. In that case, our workshops on four-wheels install the filter at your premises. On request, your employees can also be trained.

**Cleaning:**
Our service package also provides for a complete cleaning of the filter by our partners. This service includes, among other things, the removal, burning out and blowing out of the filter system.

**Temperature profile:**
If you have problems determining the temperature profile of the vehicle you are retrofitting, don’t hesitate to contact us. We will be glad to evaluate these measurements for you.

**Technical consultation:**
From the handling of your query by our specialists, to the professional integration of the filter systems, to a customer-based maintenance and cleaning concept, we leave nothing to chance. Whatever your question, we’re always glad to provide you with advice and assistance.

PURCHASING ADVICE
SO THAT PRICE AND PERFORMANCE ARE BOTH JUST RIGHT

TECHNICAL ADVICE
SO THAT EVERYTHING IS CLEAR

INSTALLATION TEAM
SO THAT EVERYTHING WORKS

MAINTENANCE TEAM
SO THAT IT ALL STAYS THAT WAY
A COMPANY OF

TwintecBaumot GROUP

POWERTRAIN. EAT. SYSTEM SOLUTIONS.

EXHAUST AFTERTREATMENT SYSTEMS
ON ROAD OEM ENGINEERING
OFF ROAD OEM ENGINEERING
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