NEW: HIGH-PERFORMANCE ALLOYS VACODYM 90X AND 91X

The Future of Permanent Magnets: Sustainable, Powerful, and Resource-Efficient

With the new alloys VACODYM® 90X and 91X, VAC is setting new standards in the development of rare-earth permanent magnets. In the light of the current geopolitical challenges and the limited availability of heavy rare earth elements, this alloy family offers an innovative solution for the future.

VACODYM 90X – 100 % Terbium-Free for Maximum Sustainability

- Completely terbium-free – a significant advancement for more sustainable magnet production
- Comparable or even better magnetic properties than the proven VACODYM 80X series, despite the absence of terbium
- Reduced dependency on heavy rare earth elements

VACODYM 91X – More Efficient Use of Terbium and Dysprosium

- Reduced terbium and dysprosium content for greater cost stability and less market dependency
- Highest magnetic properties thanks to optimized raw material utilization
- Resource-efficient and economically sustainable

Future-Oriented Applications

The VACODYM 90X and 91X alloys provide ideal solutions for modern high-tech applications, especially in areas where efficiency and sustainability are key:

- E-Mobility – Powerful and durable magnets for electric motors
- Industrial Automation – Reliable magnets for highly dynamic systems
- Aerospace – Heat-resistant magnets for extreme conditions
- Energy Generation – Efficient magnets for wind power and sustainable energy sources

Efficient and Sustainable Production

The manufacturing process of our high-performance VACODYM 90X and 91X alloy series is based on proven methods and has been specifically optimized to ensure high process reliability and efficient production. By optimizing the use of critical raw materials, dependency on imported resources is significantly reduced, which not only lowers costs but also stabilizes supply chains.

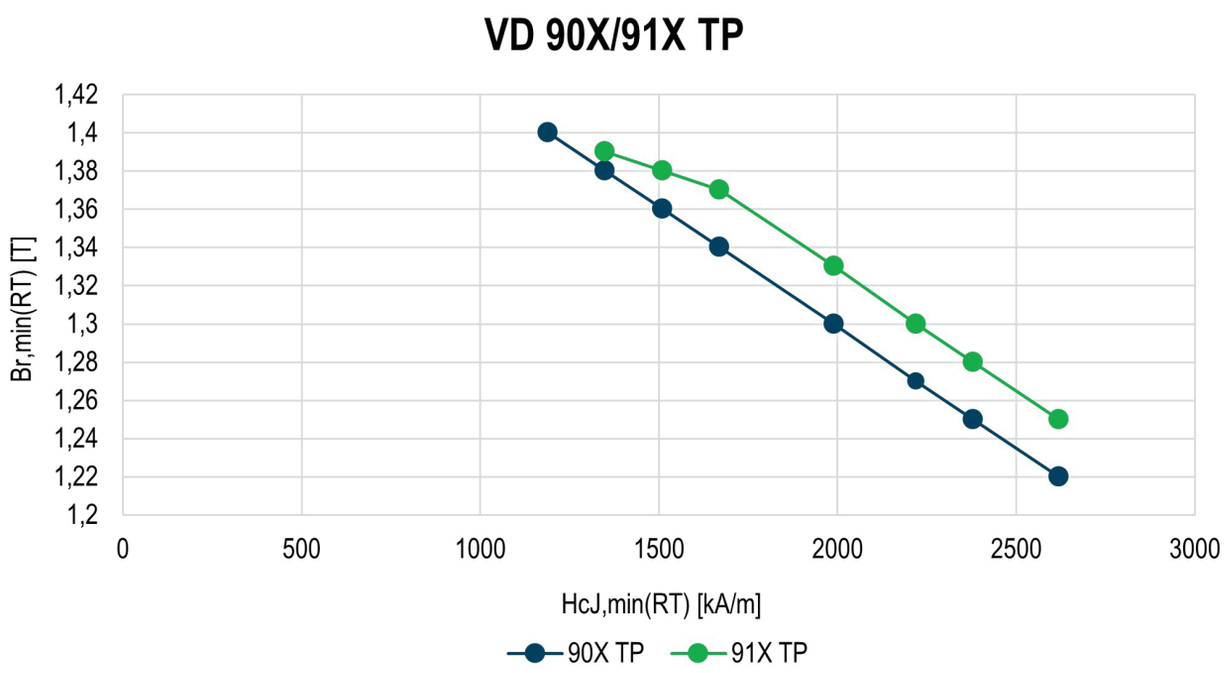
Performance Overview

The performance parameters of the VACODYM 90X and 91X alloys clearly demonstrate how sustainability and high performance can be combined. The graphs on the next page illustrate the minimum remanence and coercive field strength of the VACODYM 90X and 91X series with and without grain boundary diffusion (GBD).

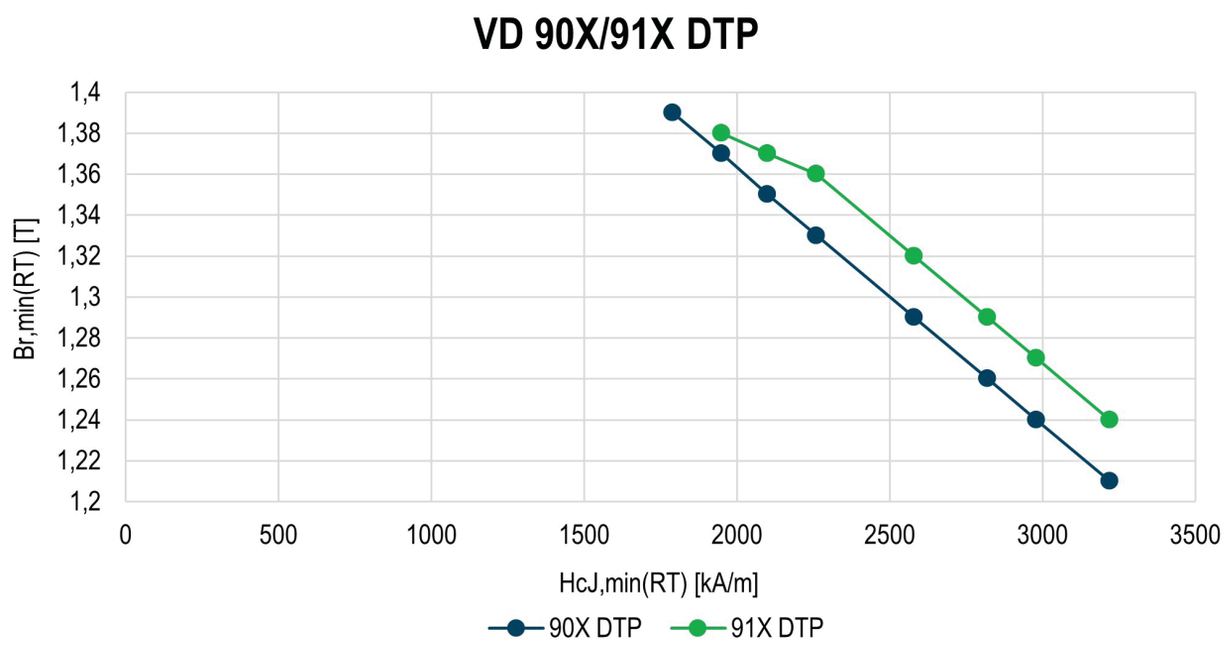
Key Highlights at a Glance

- VACODYM 90X: Sustainable, 100% terbium-free and powerful
- VACODYM 91X: Optimized raw material usage with reduced terbium and dysprosium content
- Greater independence: Reduction of heavy rare earth elements for increased stability and cost efficiency

Our experts are happy to provide more information about these innovative materials and our product range. Visit our contact page at vacuumschmelze.com to get in touch with us.



Minimum remanence and coercivity at RT of VACODYM 90X TP and VACODYM 91X TP



Minimum remanence and coercivity at RT of VACODYM 90X DTP and VACODYM 91X DTP
The highly coercive grain boundary phases generated by GBD are clearly visible.

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