SIMONSWERK

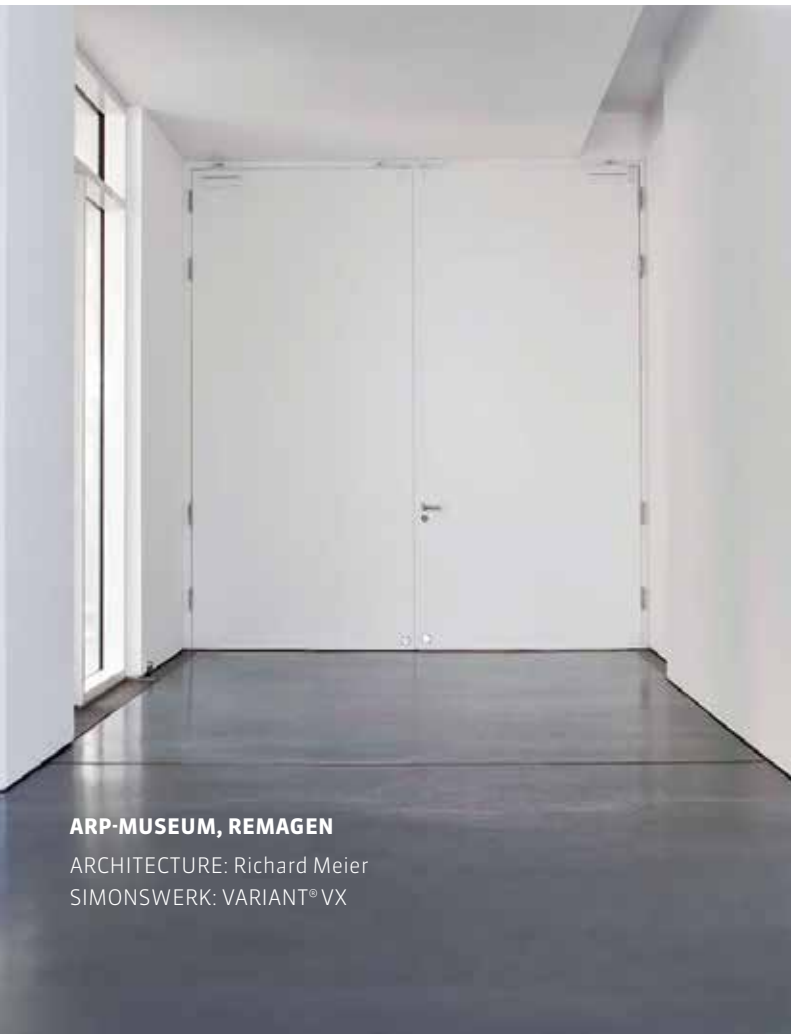
VARIANT® HEAVY DUTY

Hinge systems for maximum loads of up to 400 kg

MAXIMUM LOAD CAPACITY FOR SAFETY AND FUNCTIONALITY

The safety requirements and regulations demanded by public authorities and builders are constantly becoming increasingly stringent. Noise and smoke protection legislation stipulates the dimensions required for designing doors, escape routes, fire zoning plans and functional units. The trend in architecture towards more generous proportions and clients' desire for more comfort often increases the weight and the dimensions of door elements. This increased load capacity leads to a maximum stress on the doors and their hinge technology.

In order to cope with this continuing trend, this document provides an overview of SIMONSWERK's hinge systems, which fulfil these new requirements and with regard to aesthetics as usual provide a sophisticated solution to the tasks at hand.



ARP-MUSEUM, REMAGEN
ARCHITECTURE: Richard Meier
SIMONSWERK: VARIANT® VX

WÄLDERHAUS HAMBURG
ARCHITECTURE: Studio Andreas Heller
SIMONSWERK: VARIANT® VX

WHEN DOES A HEAVY DOOR BECOME A HEAVY DUTY DOOR?

The door weight alone is not the decisive factor which necessitates special measures regarding load capacity and the construction of the hinges supporting the doors. Apart from the weight, the door width also plays a decisive role because the lever effect requires that the whole door hinge system is particularly stable.

Further influence factors, such as built-in revolving door leafs, door locking mechanisms or special fitting situations, also have an impact on the magnitude of the applied forces, and hence influence the stress on the hinges.

KLINIKUM GROSSHADERN, MUNICH

ARCHITECTURE: German Haimerl Architekten; Munich
SIMONSWERK: VARIANT® VX; TECTUS®

HEAVY LOADS – MAXIMUM EXHIBITING CAPACITY AT ARP MUSEUM

The Arp Museum at Rolandseck railway station was opened in the district of Remagen in 2007. The museum consists of the classic railway station building and the new building designed by the American architect, Richard Meier, which was harmoniously integrated into the natural environment.

In this building, the highest requirements placed on design and function are apparent through the overwhelmingly generous dimensions of the rooms and passages. Generous dimensions which support the architectural concept.
Passages with such large dimensions require door systems with large diameters, which subject hinge systems, receivers, cover angles and frames to enormous forces.

ARP-MUSEUM, REMAGEN

ARCHITECTURE: Richard Meier
SIMONSWERK: VARIANT® VX

GUARANTEED SAFETY WITH MAXIMUM LOAD CAPACITY

The most stringent requirements regarding load capacity, function and design require perfectly conceived products and first-class constructions. The following hinge systems are characterised by their ability to provide the necessary support for the “high performance heavy duty doors”. In order to safely and reliably fulfil the requirements for greatest load capacity, SIMONSWERK’s hinge specialists have developed new heavy duty hinges with load capacities of up to 400 kg.

THE HIGH PERFORMANCE HEAVY DUTY VARIANT® VX

The increased thickness of the materials used, the specially welded hinge knuckle and an optimised coordination with the receiver make the knuckle hinge system VARIANT VX the ideal heavy duty hinge. All model variants naturally have the tried-and-tested properties, such as 3D adjustability, maintenance-free slide bearing technology and have varied application possibilities for use with wooden, steel and aluminium frames.

TRIPLE SYSTEM IS BEST: HINGE + RECEIVER + COVER ANGLE

The ideal combination of hinge, receiver and cover angle makes all the difference. Because heavy loads can only be optimally spread and error-free functioning can only be guaranteed if all components are perfectly coordinated with each other and if their load capacity is optimised.

RESILIANT AND CONCEALED

The model variant TE 645 3D for doors in public buildings and special function doors from the product brand TECTUS, with its completely concealed hinges, can carry loads of up to 300 kg for using unrebated, heavy door elements on wooden frames.

› Further information you will find in our PRODUCTSELECTOR at www.simonswerk.com

THE COMPONENTS OF THE VARIANT HEAVY DUTY HINGE SYSTEM

400 kg

HINGE **RECEIVER** **COVER ANGLE** **LOAD CAPACITY**

WELL-CONCEIVED DETAILS FOR MAXIMUM LOAD CAPACITY

THE HINGE

For a maximum load capacity the hinge knuckle is not only rolled but also welded together. This guarantees that it doesn't bend under the load.

4 MM MATERIAL THICKNESS

more material for coping with increased forces

WELDED HINGE KNUCKLE

- reducing movement tolerances
- prevents the knuckle from being bent open under load

VBRplus

- special welding
- guaranteed durability and operational reliability even in the case of 200,000 opening cycles

THE RECEIVER

For the perfect interaction with the receivers as one unit with the knuckle hinge, the receivers were reinforced for the demands of maximum load capacity and adapted in detail for use in a block or casing frame or in a blind frame.

THE COVER ANGLE

Through an extension of the cover angle, stabilisation against bending is achieved through a greater material cross section.

COUNTERSCREWING

- countering the lateral adjustment as counterforce
- reinforced and optimised casing frame fixing plate
- bigger screw-on area and improved fixing positions

4 MM MATERIAL THICKNESS

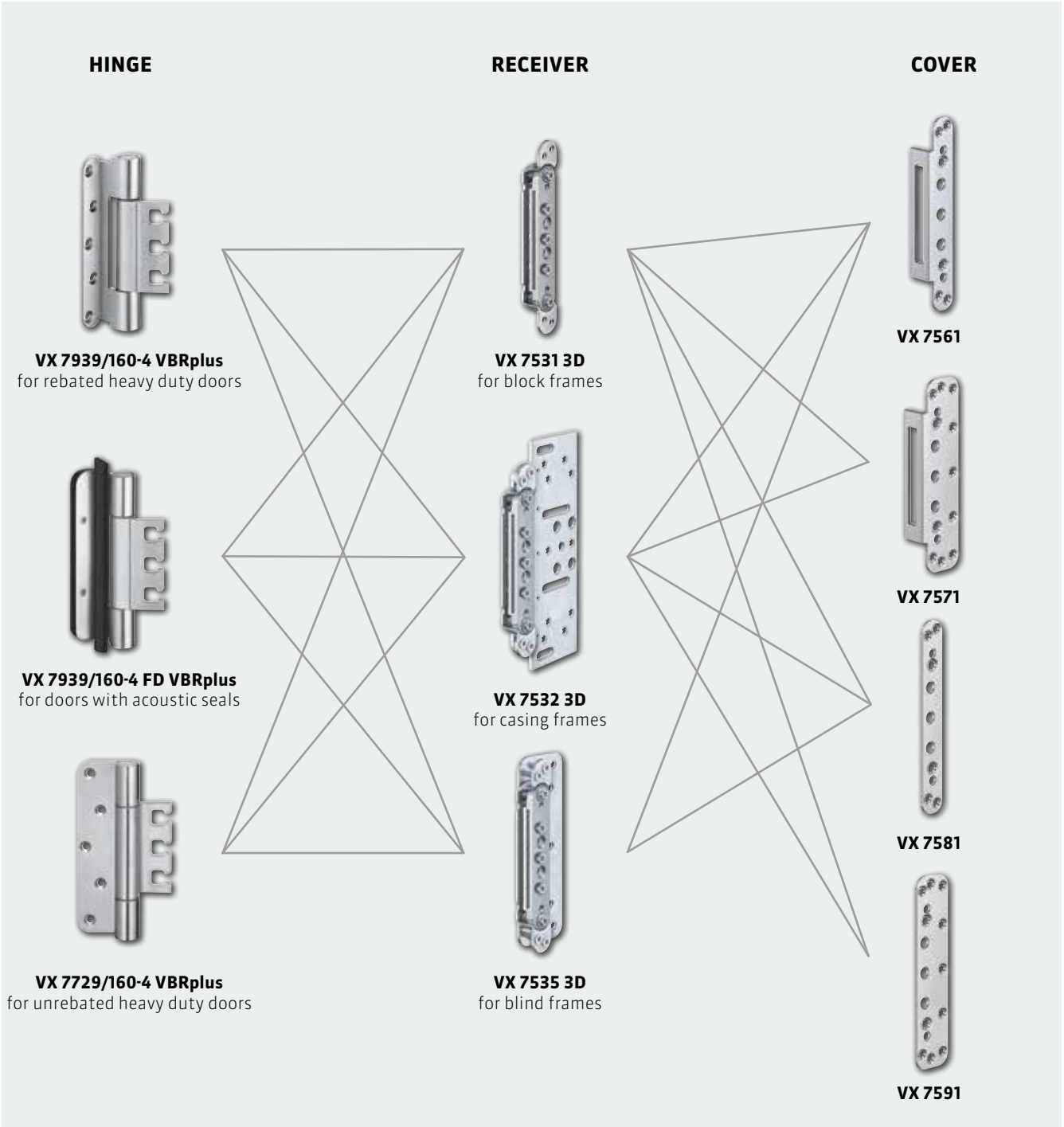
more material for increased load capacity

DIAGONAL SCREWING

to make the receiver torsion-proof

HIGH PERFORMANCE HEAVY DUTY HINGE PROGRAMME VARIANT® VX – INDIVIDUAL COMBINATION POSSIBILITIES

When building requirements are more stringent, the coordination of all construction components and the individual adjustment of each of them is absolutely decisive. The VARIANT VX HIGH PERFORMANCE heavy duty hinge programme offers the familiar flexible possibility of combining hinge, receiver and cover angle – and hence individual solutions.



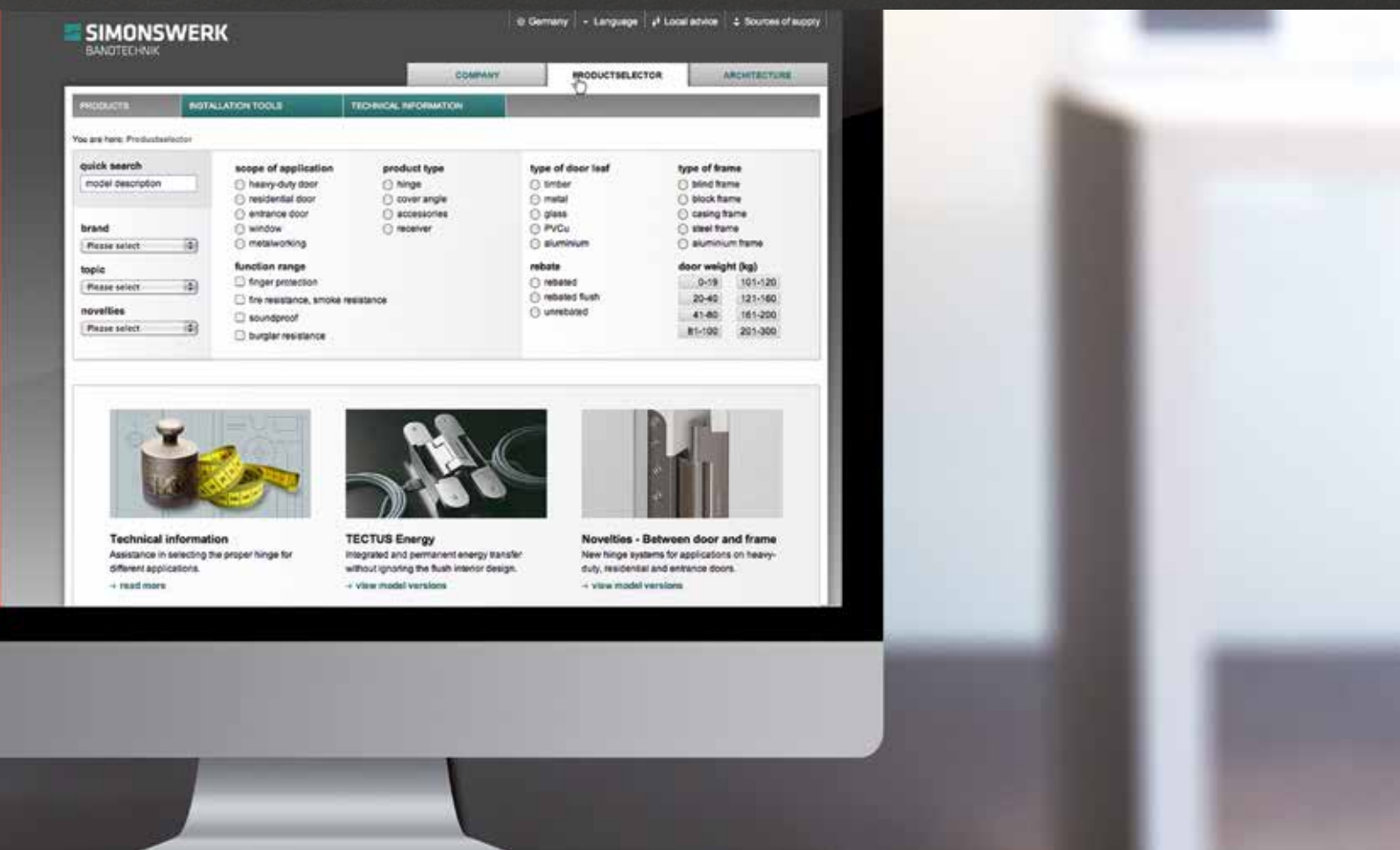
SERVICE – COMPREHENSIVE KNOW-HOW FOR EVERYDAY WORKING LIFE

We would be glad to provide you with all the documents you require for determining the right hinge system. Contact us and together we will work out the best solution for you – from high-quality standard elements to complex solutions.

In our product selector you will find all other information you may require to complement this document. You are simply guided through the user-friendly navigation till you reach the comprehensive and detailed solutions.

VISIT OUR PRODUCT SELECTOR

At www.simonswerk.com you will find exact details and precise product descriptions, which will make it easier for you – as a manufacturer, distributor, specifer and planner – to choose the right hinge system.



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www.simonswerk.com

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