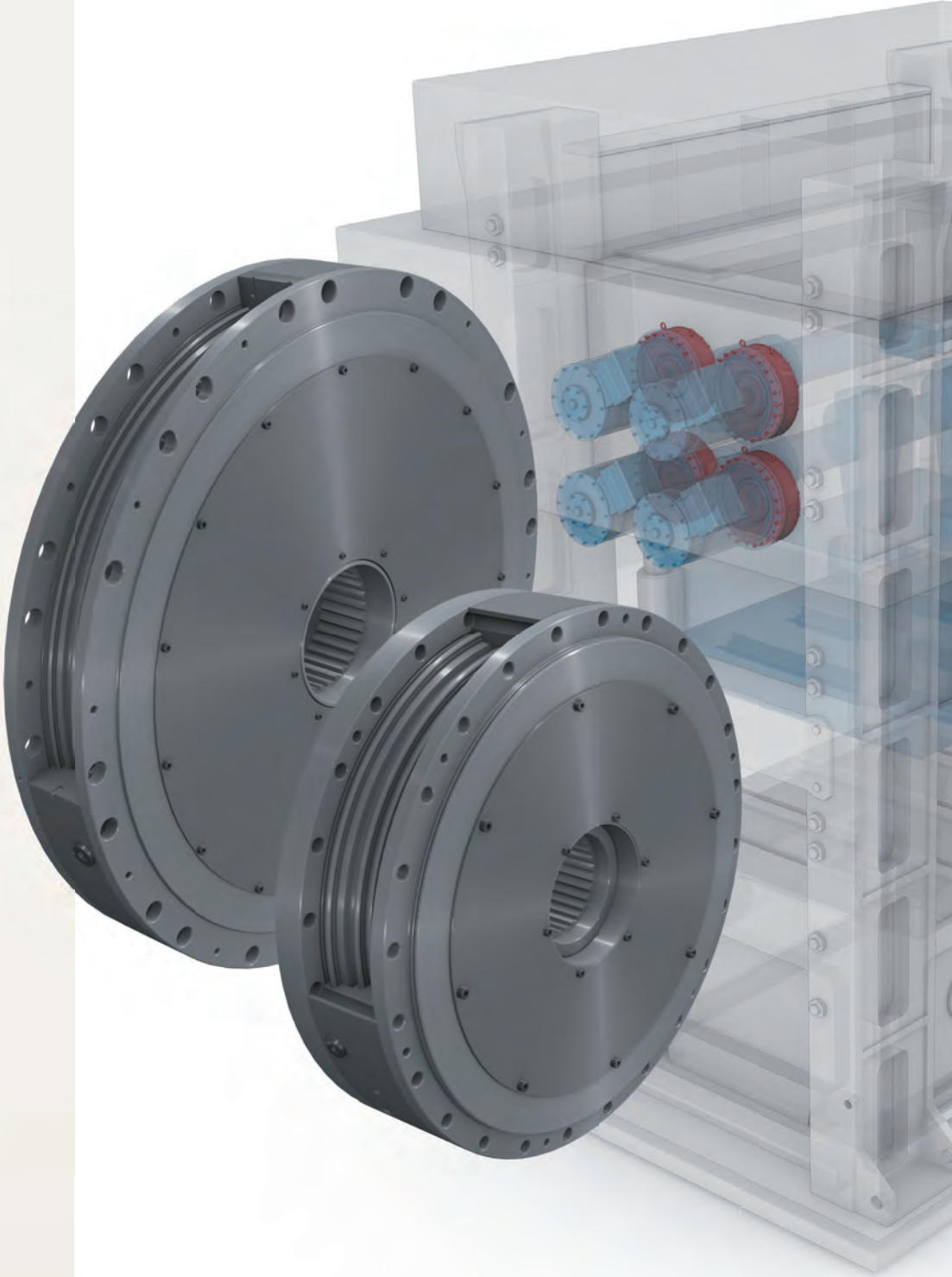
Ortlinghaus



Prot.*act*

Ortlinghaus Group.

Otto Ortlinghaus established the Ortlinghaus Group in 1898. It originally manufactured machine knives and tools. Since 1923 Ortlinghaus has been producing plates, which form the technological core of most of our products.

Today, we are a fourth-generation family-run company with more than 550 employees and manufacturing sites in Germany, Switzerland, and China. We are proud of our long history and have structures and processes in place to ensure the long-term stability of the Group. Our values and long-term targets, which comprise stability, innovation, and growth, are aligned in this respect, too.

One of the most distinctive features of the Group is its collaborative culture. Shareholders, management and employees alike all have a firm commitment to this. In addition, we promise our customers to always and unwaveringly protect the Ortlinghaus brand, which is embodied in the quality of our products. Since the foundation of our company, we have repeatedly left our mark on technology history: As early as 1932, Ortlinghaus produced multi-plate clutches as a complete machine element.

However, we achieved worldwide renown with the Sinus® plate, which had a substantial impact on press technology. The last decade has seen many breakthrough developments in the field of mechatronic systems, especially in the press technology and marine technology sectors. One recent example of this is the Pa.go mechatronic closed-loop control system for clutch-brake units in large automotive presses.

Next to the press technology sector, Ortlinghaus is active in the following industries:

- Marine technology
- Agriculture & Forestry technology
- Construction technology
- Oil & Gas technology
- Materials handling technology
- Mining technology

Ortlinghaus

Founded in:	1898
Employees:	> 500
Subsidiaries:	Ortlinghaus (U.K.) Ltd. / England Ortlinghaus France / France Ortlinghaus AG / Switzerland Ortlinghaus Drive Technology (Shanghai) Co., Ltd / China Ortlinghaus Drive Technology India Pvt.Ltd. / India OOO „Ortlinghaus RUS“ / Russia
Manufacturing:	Wermelskirchen / Germany Gams / Switzerland Shanghai / China
Sales:	Worldwide via agencies

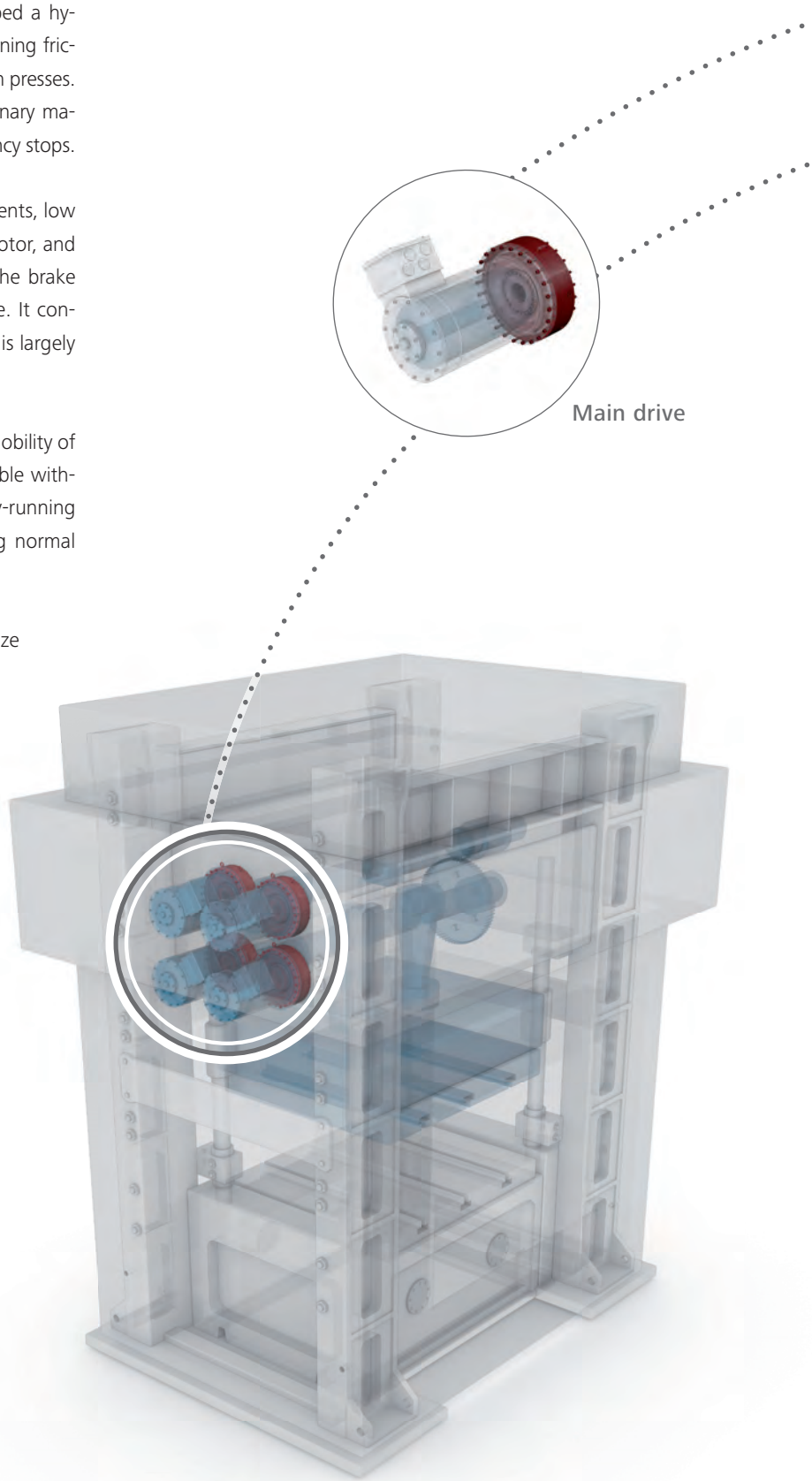
With the Prot.act model series, Ortlinghaus has developed a hydraulically released and spring-loaded brake with dry-running friction elements specifically developed for servomotor-driven presses. The brake is normally used as a holding brake for stationary machines, but can also be used as a safety brake for emergency stops.

The brake is characterized by its minimal space requirements, low moment of inertia of the parts rotating with the drive motor, and short switching times. Thanks to its enclosed design, the brake also produces little external pollution and minimal noise. It conforms to the European safety standard DIN EN 692 and is largely maintenance-free.

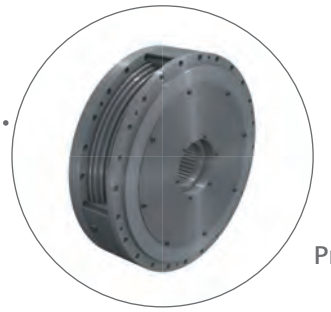
Due to the design format with friction blocks, the axial mobility of the friction elements when operating the brake is possible without moving metallic contact points. Thanks to the dry-running principle, no undesired residual torque develops during normal operation of the press with the brake open.

With the Prot.act servo brakes, we have designed two size variants (Prot.act 90 & Prot.act 94) for integration in front of the Siemens high-torque motors 1FW3 and 1FW4.

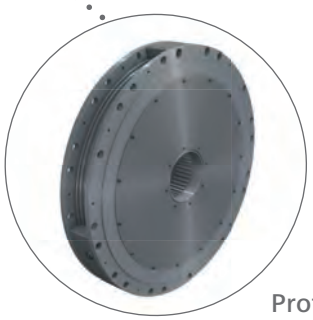
The Prot.act flanges are exactly the same dimensions as the Siemens motor flanges, which allows a slim but compact and robust drivetrain combination.



Applications.



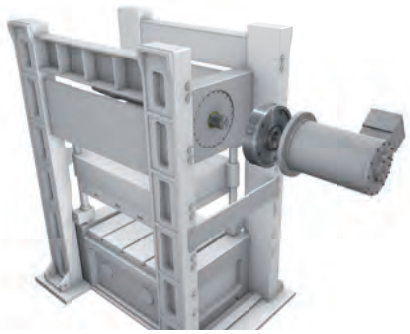
Prot.act 90



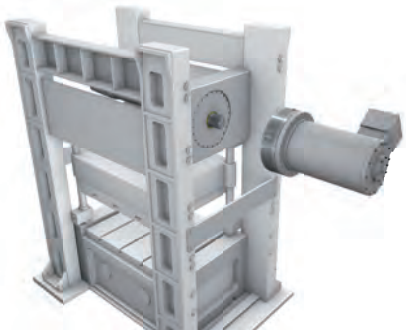
Prot.act 94

	Prot.act 90	Prot.act 94
Stat. torque [Nm]	25,500	63,400
Dyn. torque [Nm]	23,715	60,300
Release pressure [bar]	92	73
Length [mm]	172	161
Outside diameter [mm]	680	1,125
Shaft-/hub connection	DIN 5480-N130x4	DIN 5480-N220x6
Weight [kg]	347	725
Compatible with Siemens motor	1FW3-287	1FW4

Easy assembly and mounting.

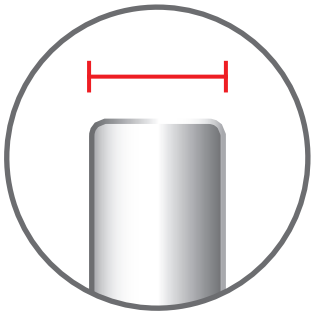


1 Brake is mounted to the motor

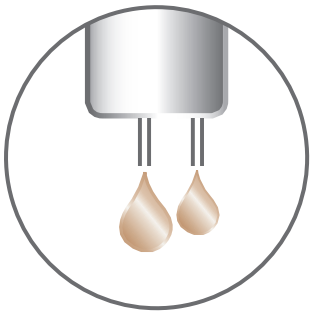


2 The motor-brake combination is attached to the press

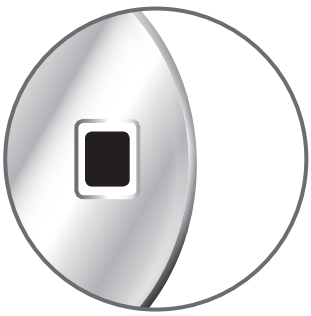
3 The Prot.act servo brake combined with the Siemens high-torque motor provides a slim, but very solid power-train solution



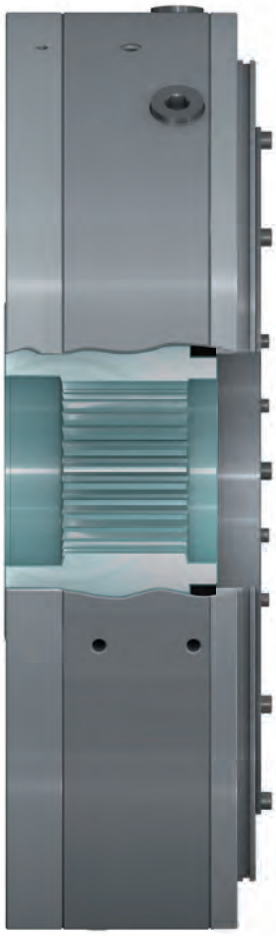
Short length

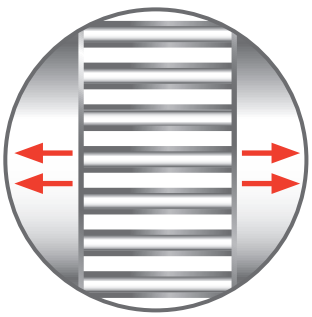


Double sealing
supervision



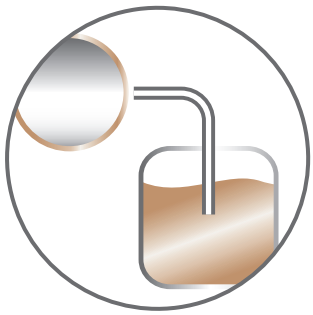
No wear due to
oscillation by using small
movable parts



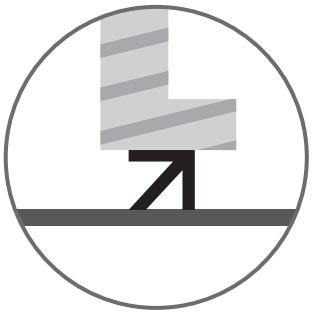


Axial length compensation
due to splines

Direct mounting of the press safety valve

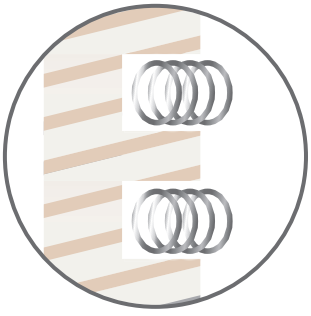


Hydraulic connection by pipe threads

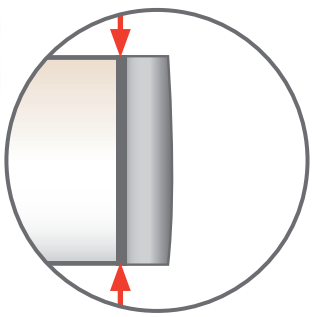


Hermetically sealed

Dry-running brake system



Brake torque variation through spring configuration



Engineered to space

Essential Advantages.

Short length
The brake is engineered to make optimal use of the interior space, enabling the Prot.act to be very short in length.

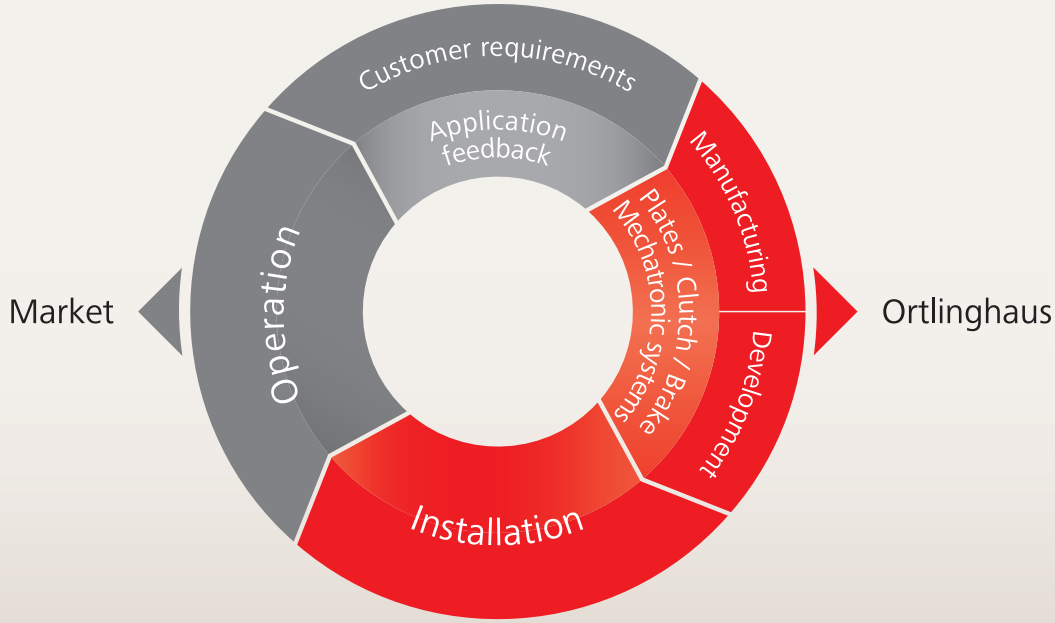
Double sealing supervison
Optimum functional control of the brake sealing system through two separate leakage ports.

Low oscillation due to small movable parts
The multi-block brake design, whereby only the friction blocks move, enables a significant reduction in the effects caused by servo press oscillations.

Axial length compensation due to splines
Thermal- or design-related changes in the driveshaft can be compensated by using splines as the connection principle between press and brake.

Hydraulic connection by pipe threads
The connection between the hydraulic system of the servo press and the brake is conveniently achieved using standard inch pipe threads.

Hermetically sealed
Due to O-ring seals on all joining surfaces and shaft seals which face turnable parts, the brake is hermetically sealed against external influences like oil and dirt.

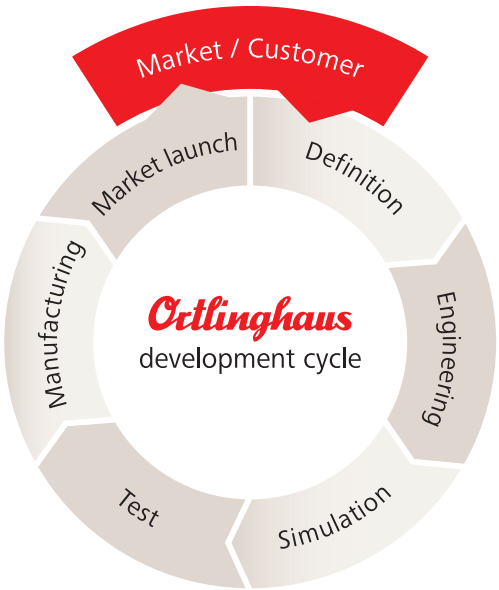


Dry-running brake system
By using a dry-running friction system, the Prot.act produces no torque while not engaged.

Brake torque variation through spring configurations
The exact torque ranges required can be achieved through variations in spring configuration.

Engineered to space, less engineering on press/OEM side
The Prot.act brake has been engineered to exactly fit the dimensions of the Siemens high-torque motors. This allows much faster assembly and mounting times, as the motor and brake can be mounted as one compact component. In addition, no adjustment work is needed.

PSV can be mounted directly onto the brake
A lateral flange face allows a direct mounting of the PSV onto the brake. This leads to faster reaction times of the brake.



Quality, Health, Safety and Environment.

An integrated management system (IMS) that takes into account all processes is the basis for Ortlinghaus' corporate policy. Quality, occupational health and safety, and environmental protection play crucial roles for our company.

We have analyzed and documented all relevant processes in the value chain. Our IMS is based on the resulting summary of process descriptions, plans, procedures and guidelines, as well as the Ortlinghaus Management Manual.

The management system is the basis for all business activities in our company and for our relationship with our customers. It ensures that all customer-oriented product and manufacturing specifications are reflected in elaborate instructions regarding

quality assurance and quality control and that they comply with the relevant operating instructions and quality standards of the Ortlinghaus Management System.

Our quality management system is based on the ISO 9001 standard. In the area of environmental protection, we are certified at the Wermelskirchen site according to ISO 14001. In energy management, we are certified according to ISO 50001.

Ortlinghaus assigns the highest priority to occupational health and safety. We live up to our principles in this area in our daily conduct. At Wermelskirchen, we are currently working toward ISO 18001 certification.

Our goal is to minimize the impact of our activities on the environment. For this reason, all employees of the Ortlinghaus Group have committed themselves to complying with essential environmental guidelines. In addition, all our processes in Wermelskirchen are certified accordingly.

We are convinced that long-term success can be achieved only through the right balance of economic, ecological and social conduct.

heselsvomberg.de

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