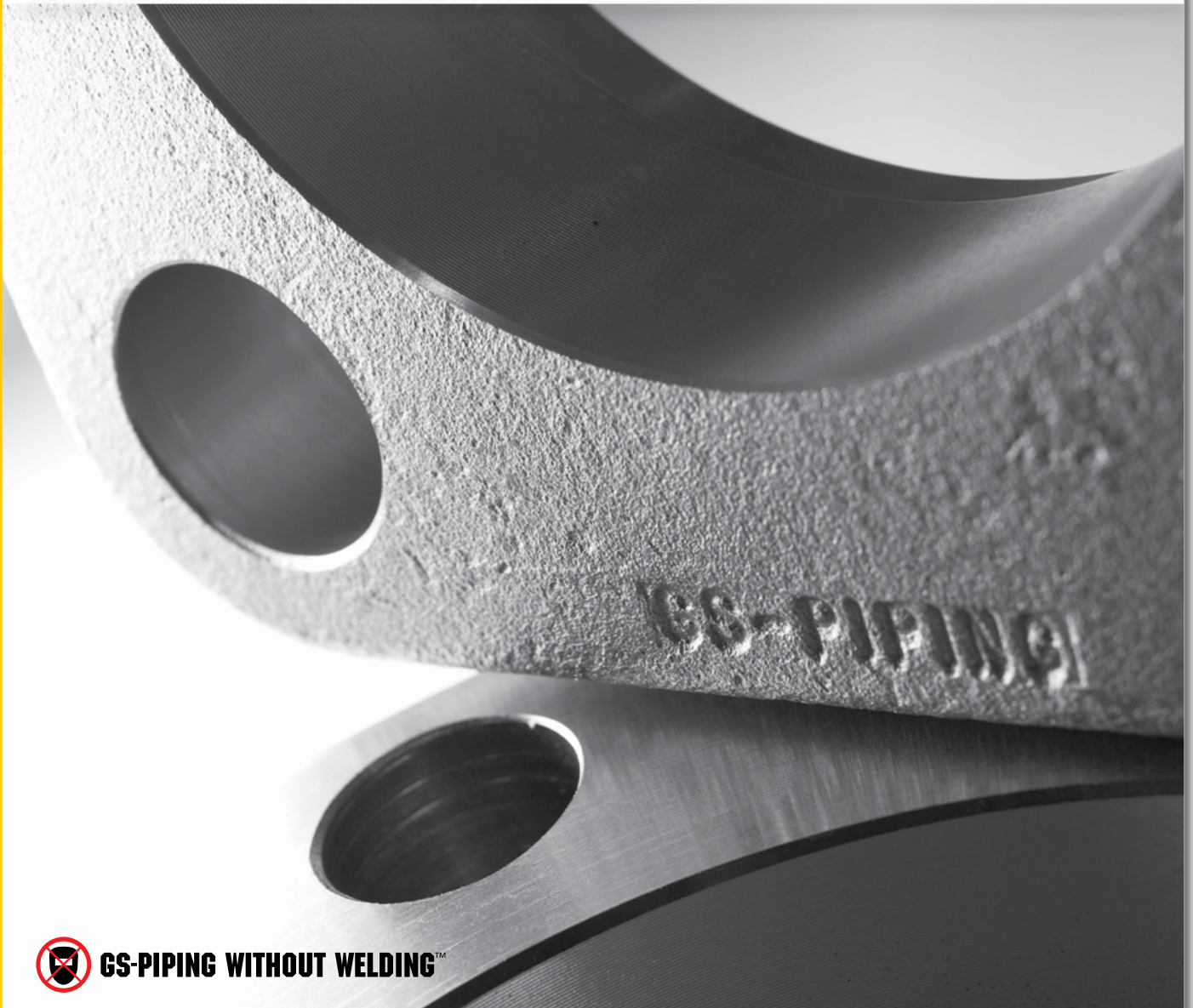


GS-HYDRO

GS-Retain Ring Flange System



GS-PIPING WITHOUT WELDING™

GS-HYDRO

GS-Retain Ring Flange System

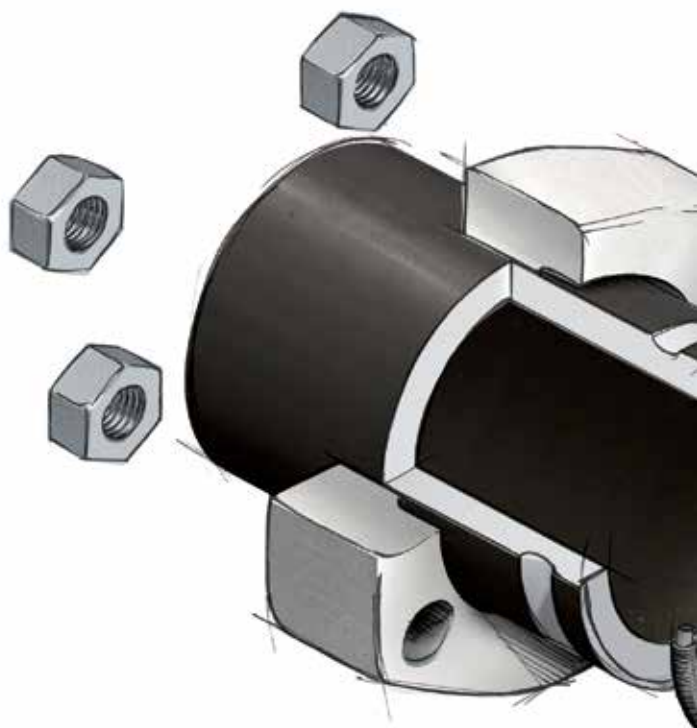
GS-Piping Without Welding™

GS-Hydro is the world's leading supplier of non-welded piping technology and the Original Provider of the GS-Piping Without Welding™. GS-Hydro has over 40 years experience with hydraulic systems and non-welded connection technology.

The Original GS-Retain Ring Flange System

The GS-Retain Ring Flange System provides a fast and easy method of connect pipes. Connections are made with the highest quality and reliability, completely leak-free with high joint integrity, while still being cost efficient. The GS-Retain Ring Flange System allows piping systems with workings pressures of up to 690 bar to be assembled without welding. The wide range of flanged fittings includes tees, elbows and threaded adaptors in a pipe size range from 26 to 355 mm.

The GS-Retain Ring Flange System provides a compact, high pressure joint, in which the flanges are held to the pipe by a flexible stainless steel retain ring, which sits in a machined groove on the pipe end. The bonded seal between pipe faces ensures tight sealing when tightening the screws.



The GS-Retain Ring Flange System is approved by the following classification companies:

DNV GL DNV GL Group
LR Lloyd's Register of Shipping
ABS American Bureau of Shipping
BV Bureau Veritas
RINA Registro Italiano Navale Group

RS Russian Maritime Register of Shipping
NKK Nippon Kaiji Kyokai
CCS China Classification Society
KR Korean Register

Piping systems according to other standards are also possible by request.

GS-Retain Ring Flange System (technical data):

	SAE 3000	SAE 6000	ISO 6164
pressure* [bar]	210–350	420	210–690
size, pipe	26x6–97x12	26x6–97x12	60.3x11.04–355.6x41.4
size, flange	1/2"–3"	1/2"–3"	2"–14"
material, pipe	carbon steel, stainless steel, duplex, super duplex, titanium		
material, flange	electric zincd carbon steel, hot dip galvanized carbon steel, stainless steel or titanium		
material, seal	NBR, Viton		
material, retain ring	stainless steel		

*) Maximum pressure depending on media

Increase Customer's Revenue

- Short delivery times
- High cleanliness – improved longevity

GS-Hydro Non-Welded Value

Eliminate Risks

- Schedule risk
- Quality risk
- Welding risk

Improve Efficiency

- Shorter on-site installation
- Quick flushing



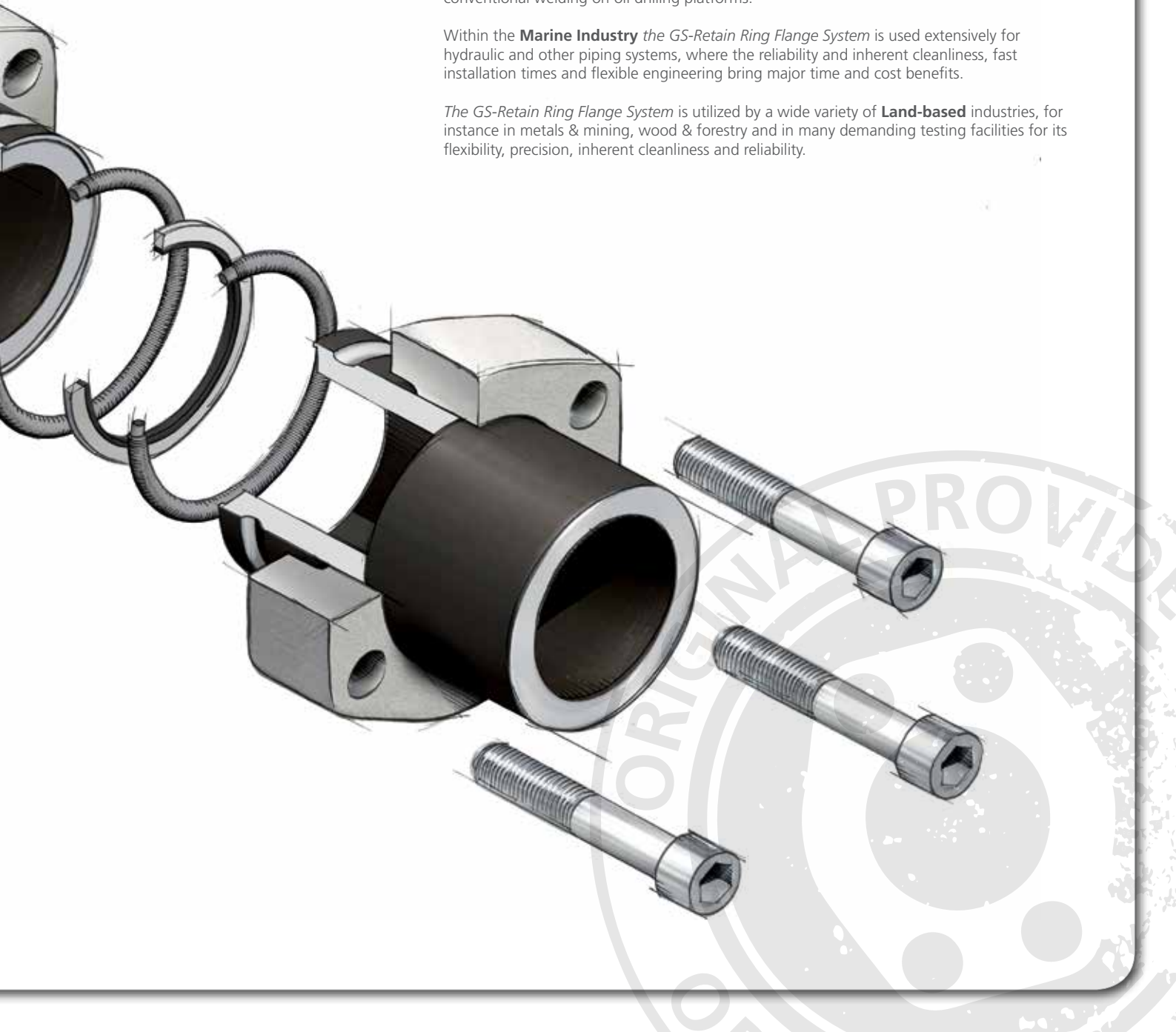
Numerous application possibilities

The *GS-Retain Ring Flange System* is used in a broad range of high pressure piping applications, in a wide variety of industries ranging from marine and offshore to different land-based industries.

The *GS-Retain Ring Flange System* is utilized within the **Offshore Industry** for hydraulic, mud, cement, high pressure water and other high pressure piping systems. High quality, quick assembly, and no "hot work" allow for safe and cost effective installation compared to conventional welding on oil drilling platforms.

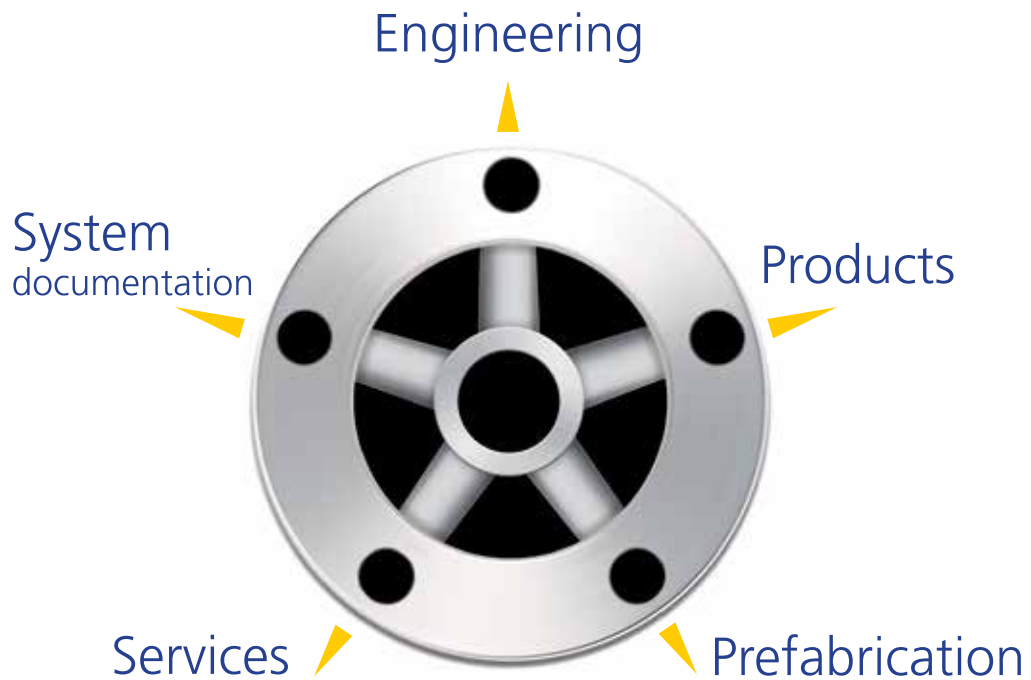
Within the **Marine Industry** the *GS-Retain Ring Flange System* is used extensively for hydraulic and other piping systems, where the reliability and inherent cleanliness, fast installation times and flexible engineering bring major time and cost benefits.

The *GS-Retain Ring Flange System* is utilized by a wide variety of **Land-based** industries, for instance in metals & mining, wood & forestry and in many demanding testing facilities for its flexibility, precision, inherent cleanliness and reliability.



GS-Hydro is the original provider of non-welded piping solutions with numerous benefits for a wide variety of demanding applications. We create value together with our customers by providing innovative fluid transfer solutions which enable safe operation, reduced environmental impact and lower total cost of ownership. We deliver our piping and hose solutions globally in more than twenty-five countries through own companies and partners.

GS-Hydro system offering



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www.gshydro.com

