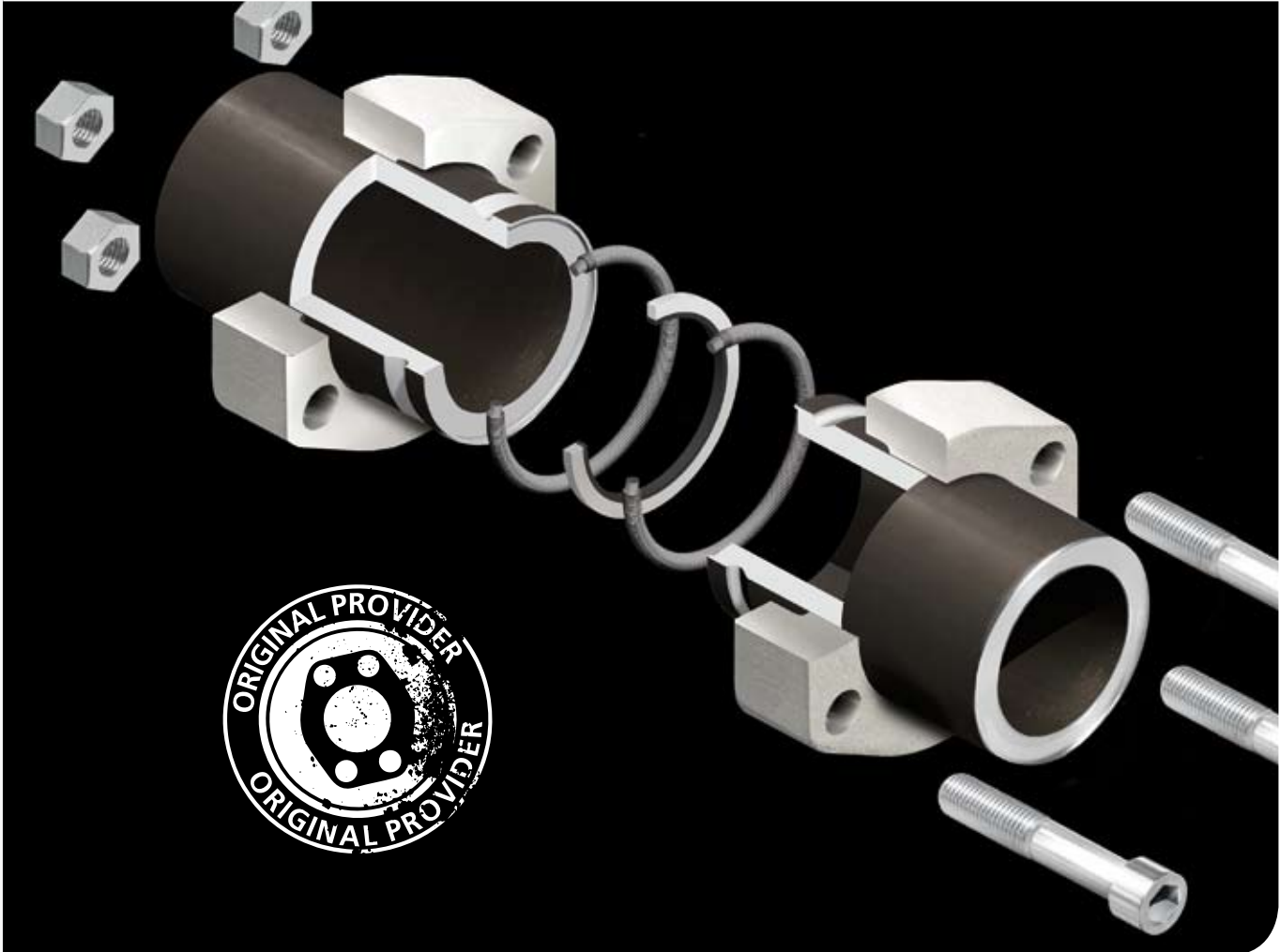


GS-Retain Ring Flange System



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 35 years experience with hydraulic systems and non-welded connection technology.

GS-Piping Without Welding™ -Technology provides numerous benefits:

- Superior cleanliness
- Optimized flexibility
- Documented quality
- Lifetime cost-effectiveness
- Environmentally friendly

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.

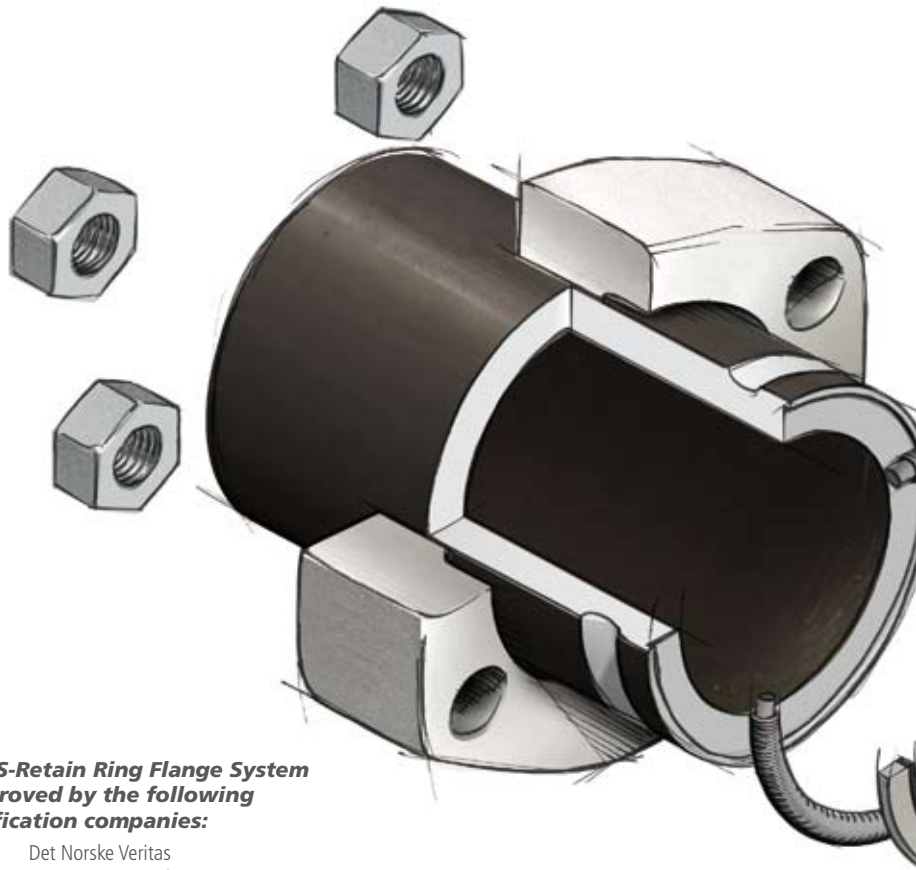
The GS-Retain Ring Flange System provides a compact, high pressure joint, in which the flanges are held to the pipe by a flexible stainless steel retain ring, which

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 numerous classification companies: Det Norske Veritas • Lloyd's Register of Shipping • Germanischer Lloyd • Ameri

GS-Retain Ring Flange System



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

- DNV** Det Norske Veritas
- LR** Lloyd's Register of Shipping
- GL** Germanischer Lloyd
- ABS** American Bureau of Shipping
- BV** Bureau Veritas
- RINA** Registro Italiano Navale Group
- MRS** Russian Maritime Register of Shipping
- NKK** Nippon Kaiji Kyokai
- CCS** China Classification Society

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	26x6–66x8.5	60.3x11.04–355.6x41.4
size, flange	1/2" – 3"	1/2" – 2"	2" – 12"
material, pipe	carbon steel, stainless steel, duplex, super duplex, titanium (materials having elongation above 20 %)		
material, flange	electric zinc coated 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

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GS-PIPING WITHOUT WELDING™

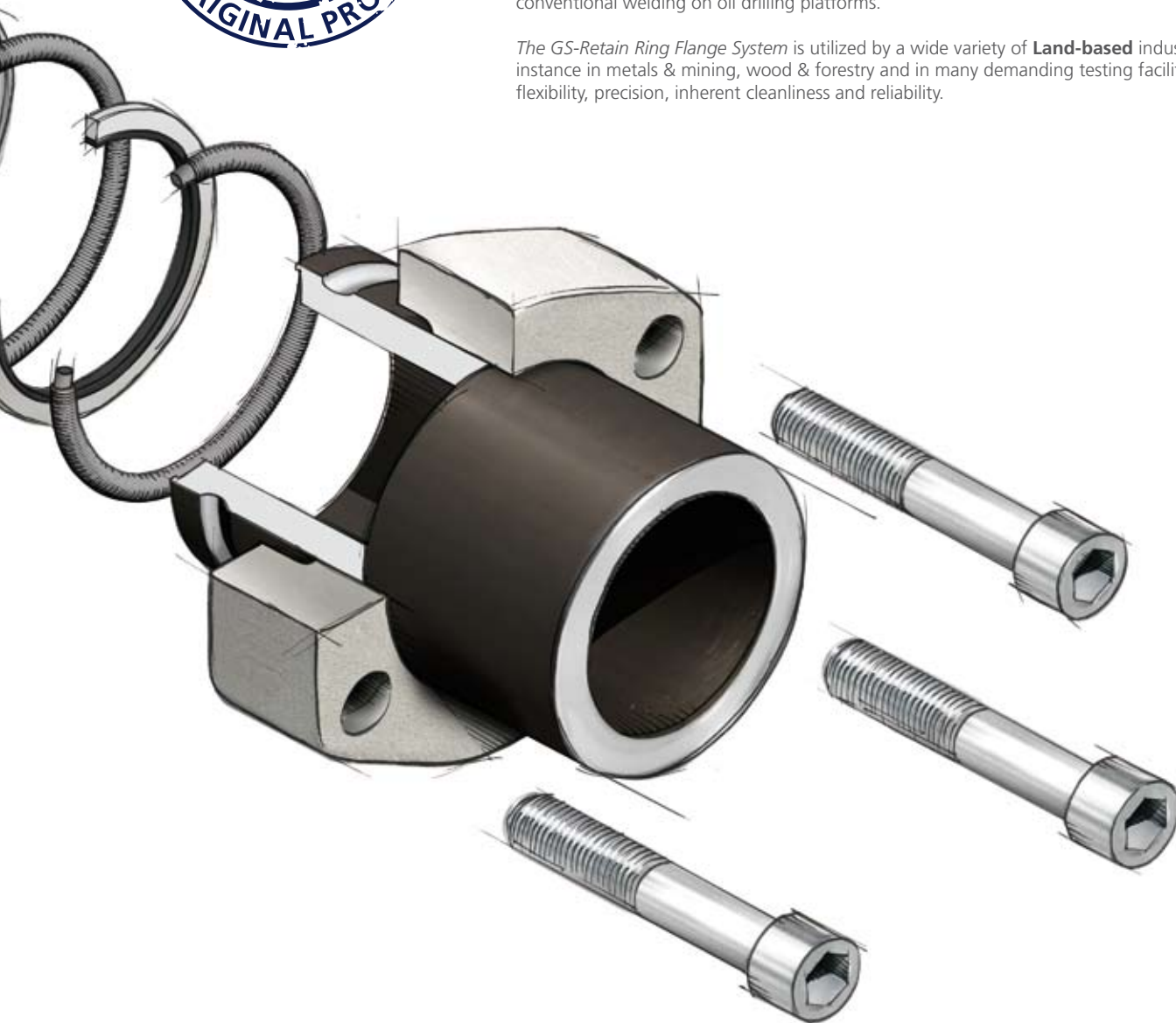
Numerous application possibilities

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.

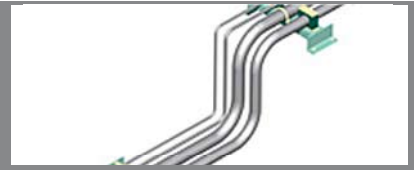
Within the **Marine Industry** the GS-Retain Ring Flange System is used extensively for hydraulic and other piping systems, where the reliability and inherent cleanliness, fast installation times and flexible engineering bring major time and cost benefits.

The GS-Retain Ring Flange System is utilized 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.

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.

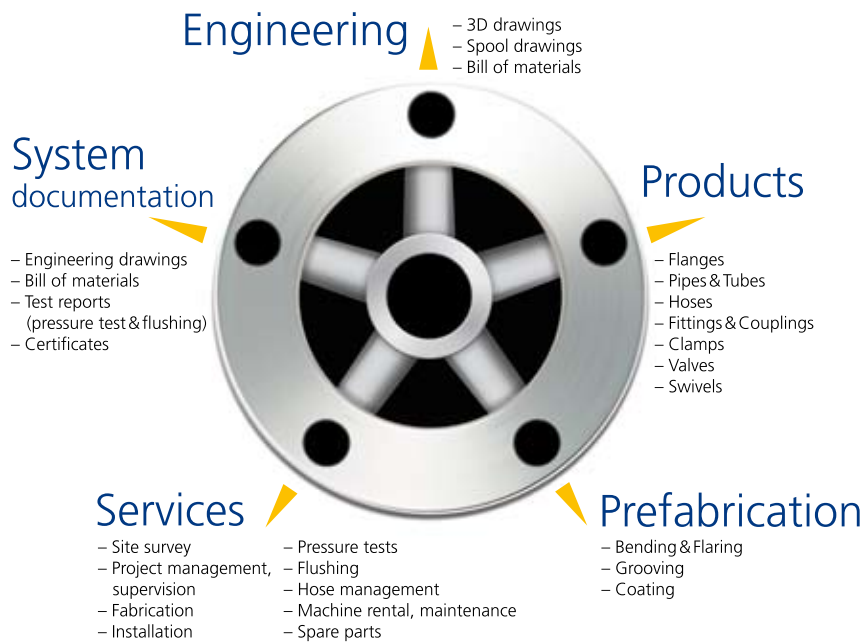


Creating Value Together



GS-Hydro is the world's leading supplier of innovative, non-welded piping solutions for hydraulic, and other – both low and high pressure – applications with high demands on quality, reliability and cleanliness. Global GS-Hydro network helps customers to grow their business by offering high quality products and comprehensive services.

GS-Hydro system offering



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