

GS-HYDRO

GS-90° Flare Flange System



 **GS-PIPING WITHOUT WELDING™**


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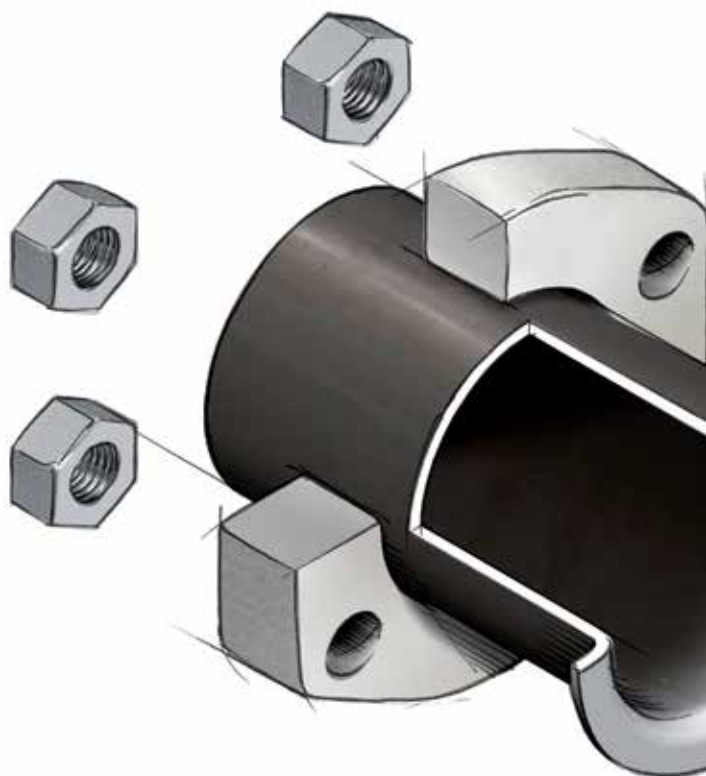
GS-Piping Without Welding™

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-90° Flare Flange System

The GS-90° Flare Flange System is applicable to working pressures of up to 40 bar with a maximum pipe diameter of 608 mm to be assembled without welding. For class III piping, the GS-90° Flare Flange System has a maximum allowable working pressure of 16 bar. The GS-90° high quality pipe connections are reliable, fast, easy and completely leak-free, with high joint integrity and done in the most cost efficient manner.

GS-Hydro's flaring technology is fast and completely clean. In the flaring process the end of the tube is clamped into an in-house developed flaring machine where a conical rotating tool flares the pipe end into a dye. Flaring of the tube end is carried out in the same way as in the 37° flange system, with an additional rotating tool used to produce the 90° flare. The flange is installed onto the pipe prior to flaring. The assembly is easy and fast – done by placing a flaring cone on both the flared pipe ends with a seal in-between. The flanges are then tightened together to complete the connection. The GS-90° flaring can be carried out in the work shop or onsite.



The GS-90° Flare Flange System is approved by the following classification companies:

DNV GL	DNV GL Group	RS	Russian Maritime Register of Shipping
LR	Lloyd's Register of Shipping	NKK	Nippon Kaiji Kyokai
ABS	American Bureau of Shipping	CCS	China Classification Society
BV	Bureau Veritas	KR	Korean Register
RINA	Registro Italiano Navale Group		

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

GS-90° Flare Flange System (technical data):

	SAE	ANSI/JIS/BS/DIN
pressure* [bar]	10–50	10–40
size, pipe	16x1.5–220x6	21.3x2.1–608x12.5
size, flange	1/2"–8"	1/2"–24"
material, pipe	carbon steel, stainless steel, duplex, super duplex, titanium (materials having elongation above 20 %)	
material, flange	electric zincd carbon steel, hot dip galvanized carbon steel, stainless steel	
material, seal	based on media inside pipe (e.g. Klinger® SIL C-4430)	

*) 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

Within the **marine** industry the *GS-90° Flare Flange System* is suitable for sea water, fire water, air and sewer piping systems for sizes up to 8" and for working pressure as high as 16 bar. Pipe qualities include copper-nickel (70/30, 90/10), carbon steel and stainless steel. The main reasons for using the 90° system include major time and cost savings in prefabrication and installation, particularly with copper-nickel but also with other pipes.

The *GS-90° Flare Flange System* is utilized by the **offshore** industry for sea water, hydraulic oil, fire water and potable water applications on oil rigs for safety and cost reasons. The major benefit to the offshore industry is that the connection can be carried out onsite, which eliminates the need for hot work.

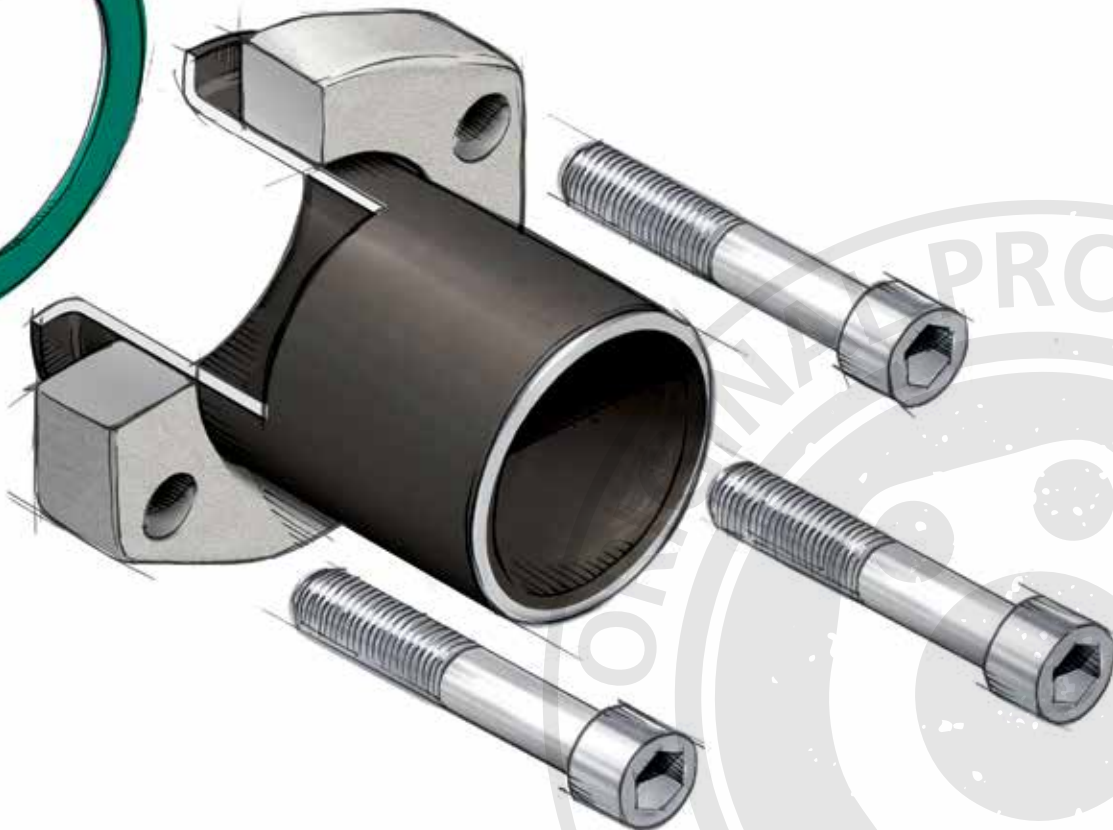
Within the **land-based** industry typical applications for the *GS-90° Flare Flange System* can be found for example in the recycling industry in scrap presses or from the wood industry in various wood processing presses and equipment, due to performance, price and shorter assembly times.

Two different types of GS-Flanges

GS-90° Flare Flange System provides a higher quality solution with major time and cost savings compared to conventional welded piping systems. Wide range of customers within industries are marine, offshore and various land-based industry segments.

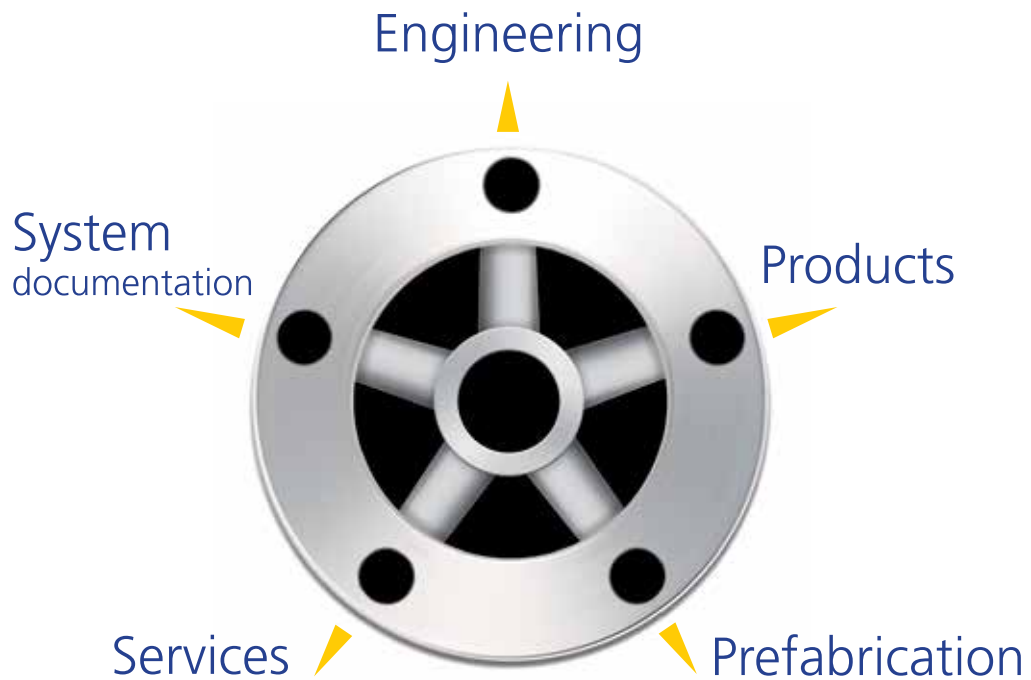
Different types of *GS-90°* -flanges provide the optimum solution for different applications and conditions:

- **GS-SAE 90:** Flanges according to the standard SAE 518 are particularly suitable for hydraulic return lines. Being very compact in size, the flanges do not require much space, allowing the pipes to be installed close to each other.
- **GS-ANSI/BS/DIN 90:** Traditionally used industrial DIN flanges can also be used with the *GS-Flaring Technology* as the mating dimensions are compatible with the standards.



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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