

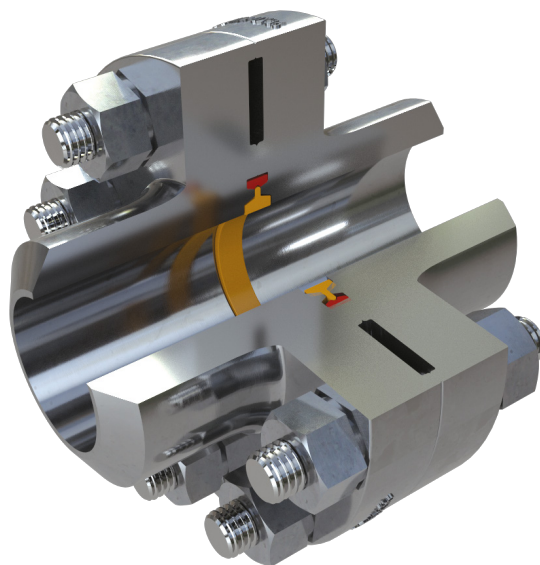
TPC Ultra Compact : a bore seal solution

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A new era is here

The Ultra Compact Solutions include compact flanges, clamps, and seal rings, all based on the same principles as traditional compact flanges. However, they offer more environmentally friendly connections by being smaller, lighter, and mutually compatible.

Our world-class team of compact flange experts has developed the Ultra Compact Connection range to simplify the manufacturing, installation, and maintenance processes, ultimately reducing overall costs.



Major Benefits



UNIFORM SEAL RING

The TPC UX bi-directional seal ring serves as a versatile solution, compatible with both flange and clamp designs, suitable for use in both topside and subsea systems.



ONLY 2 PRESSURE CLASSES

Consistent pressure rating across flanges, clamp hubs, and swivel collars, with just two classes: Standard and Heavy Duty.



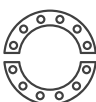
REDUCING VARIANTS, CREATING UNIFORMITY

Standardized bolt variants with minimized sizes and uniform lengths for both flange and clamp bolts.



SMALLER AND LIGHTER

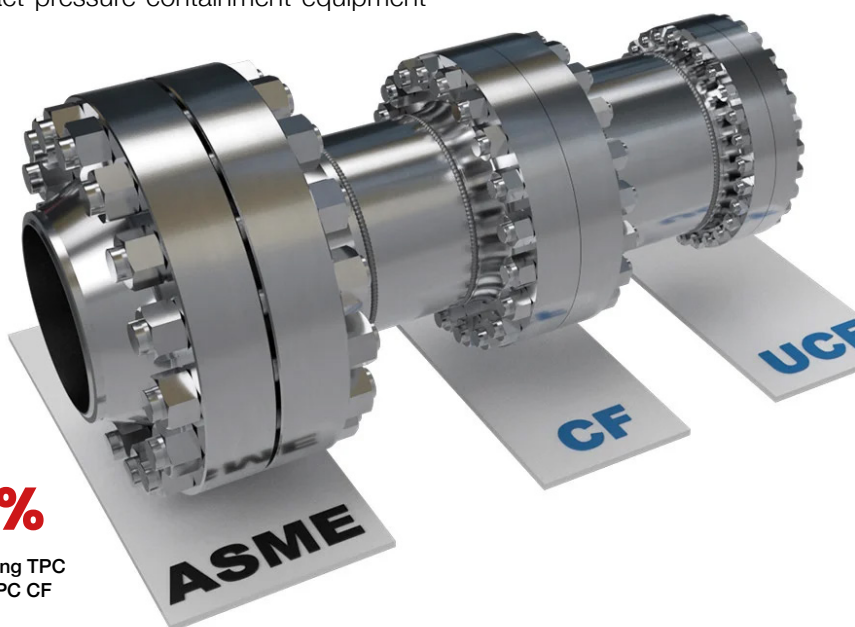
Up to 90% lighter than ASME flanges and 50% lighter than standard Compact Flanges, enabling lighter, more compact pressure containment equipment designs.



SPLIT SWIVEL RING

Hub-ended valves can be connected to flanged piping using a split swivel ring.

Comparison between 24" 2500# ASME Weld Neck, TPC Compact Flange and TPC UCF (full set of flanges incl. bolting)



64%

weight saving
TPC CF vs ASME

71%

weight saving TPC
UCF vs TPC CF

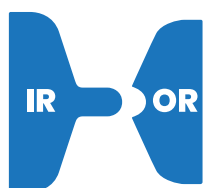
90%

weight saving TPC
UCF vs TPC CF

UX bi-directional seal ring

Fully configurable and utilizing the “true sealing principle”

- ✓ The seal system is qualified and type approved for 15K design pressure, temperature range -29 to 135°C and 3000 m water depth in a variety of material grades.
- ✓ The seal is about 1/3 of the total height of the size-seals used in traditional clamp connections



Inner seal ring (UX IR) – core component which is the pressure- containing main barrier

Outer seal ring (UX OR) – is an option for use in a multibore connection



TYPE APPROVAL CERTIFICATE

Certificate no.: TAP00002V8

This is to certify:
that the Pipe Couplings

with type designation(s)
Ultra Compact Flange (UCF) Connectors - Heavy Duty pressure class(HD)

issued to
TP-Products AS
Drammen, Norway

is found to comply with
DNV-OS-E101 – Drilling facilities, Edition July 2021
DNV-OS-E201 – Oil and gas processing systems, Edition July 2022

Application:

Riser connectors, pipelines and process piping

Issued at Høvik on 2024-06-17

This Certificate is valid until 2029-06-16.
DNV local unit: East & South Norway CMC

Approval Engineer: Chenyu Sun



Type approved by DNV

The TPC Ultra Compact, a bore seal solution, is now type-approved by DNV. This includes the Weld-neck flange, Swivel flange, and Blind flange.

The TPC Ultra Compact complies with DNV-OS-E101 – Drilling Facilities (Edition July 2021) and DNV-OS-E201 – Oil and Gas Processing Systems (Edition July 2022).

Scan to open the Type approval certificate



40%

weight saving
TPC UCC vs
TPC CC

Comparison between 12" TPC Ultra Compact Clamp Connector vs a classic clamp connector. A weight saving of 40% is achieved. This substantial reduction in weight not only facilitates easier handling and installation but also contributes to overall system efficiency and reduced operational costs.

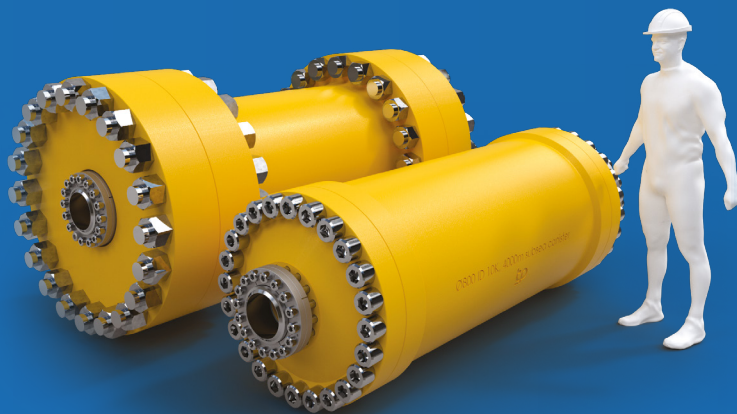


Scan to learn more about the
TPC-Ultra Compact Connections



Achieve more compact designs

With the Ultra Compact Connection System, more compact overall designs can be achieved. This results in a significant weight advantage and, more importantly, substantial savings on material costs. By minimizing the amount of material required, the overall machining cost is also reduced, making the system both economically and operationally efficient.



Markets & Applications

The Ultra Compact is suitable for process piping applications in the oil and gas industry as well as in petrochemical manufacturing. Its small sealing diameter and bore seal solution make it highly recommended for high-pressure environments.

TP Products also offers a wide range of tailor-made solutions for various applications. Our experienced engineering team is ready to help you find the best technical solution for your needs.

The Ultra Compact's low weight and small diameter design allow for smaller pressure vessels, modules, and skids.

Choose us as your technology partner, and together we can create the future.

