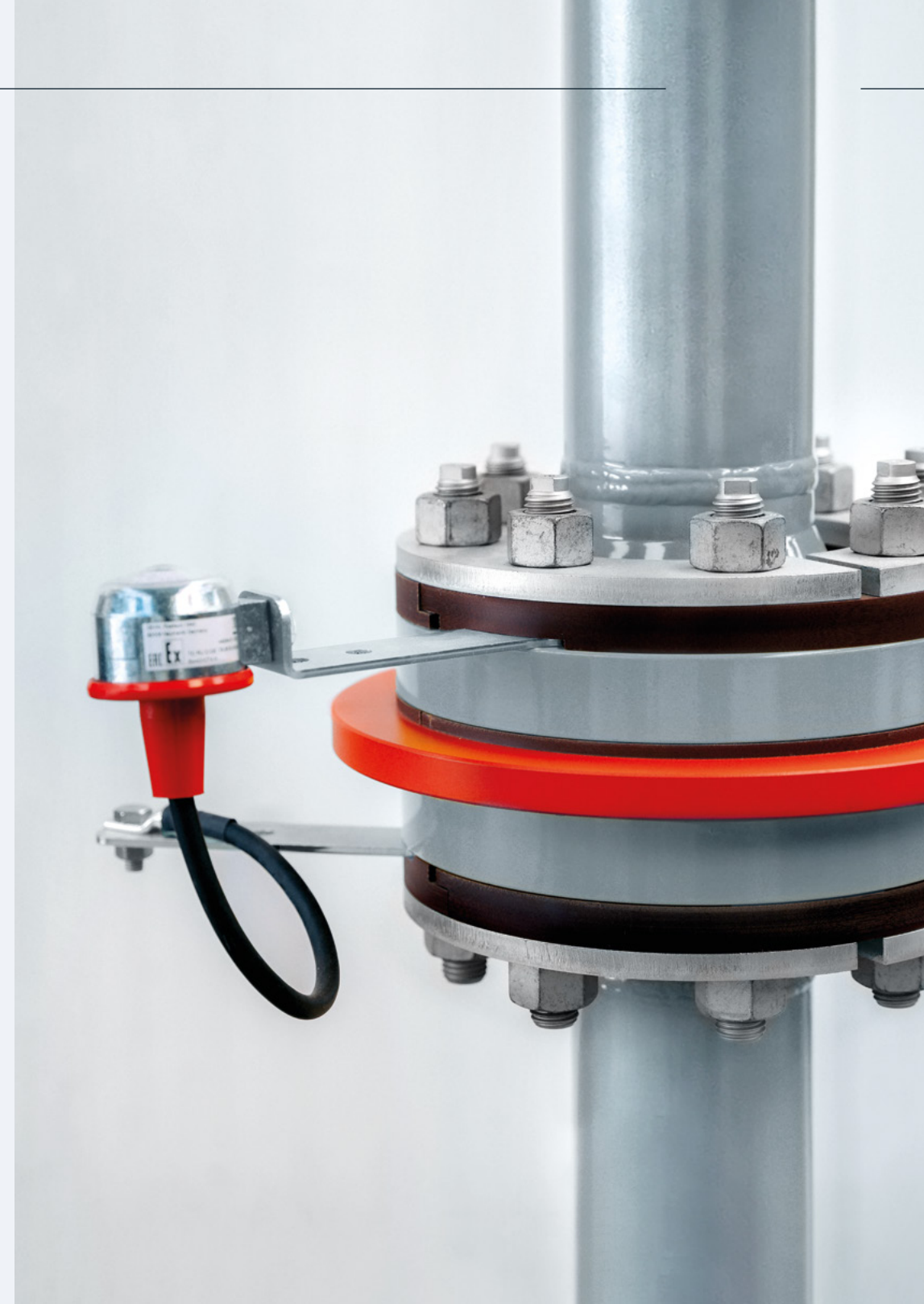




High-performance insulating flanges for
critical media and demanding applications

ISOFLANGES 

The media flowing through pipelines are becoming more complex, regulations more stringent, and the responsibility greater.



innovative reliable



SOLUTIONS THAT CONNECT – TODAY AND IN THE FUTURE

The energy transition, hydrogen, CO₂ transport, the new methane emissions regulation, and sophisticated chemical products are placing pipeline systems under growing technical, regulatory and economic pressure. They are expected to operate reliably for decades without unplanned downtime.

This is precisely where ISOFLANGES comes in: we focus on the safety-critical joints in pipeline systems that also play a key role in security of supply and cost-effectiveness. Our insulating flange solutions remain technically tight even when transporting hydrogen, CO₂, natural gas, or other aggressive media.

They combine electrical isolation, cathodic corrosion protection (CCP) and comprehensive documentation into an integrated system. This enables operators and engineers to manage sensitive sections of pipeline networks and industrial plants with technical confidence, full compliance and long-term cost efficiency – especially in critical infrastructure.

We firmly believe that progress begins where curiosity meets responsibility and experience gives rise to innovation.

SPECIALISTS IN COMPLEX INSULATION POINTS FROM STANDARD TO BESPOKE SOLUTIONS

Since 2016, ISOFLANGES has developed and manufactured code-compliant insulating flange connections for utility companies, pipeline and network operators and companies in the chemical and petrochemical industries.

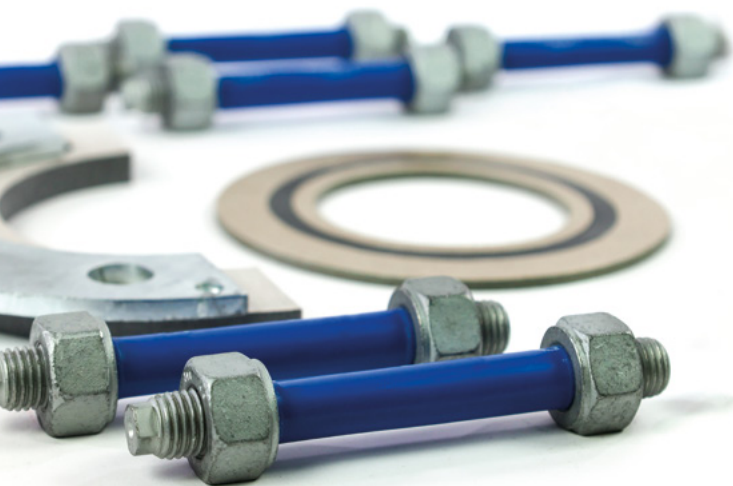
Where projects present specific challenges, we develop bespoke systems – non-standard diameters, higher pressures, corrosive media or exceptional operating conditions. Our solutions range from retrofit systems for existing infrastructure – such as the conversion of existing natural gas pipelines – to new installations for 100% hydrogen or CO₂ high pressure systems and drinking water applications.

At the heart of many applications is our patented 'High-Performance' (HP2) block flange connection. Variants for high- and

low-temperature applications cover a range from -250 °C to +260 °C and ensure secure connections even under extreme pressure and temperature fluctuations. Where installation space is limited, HP2 insulating flange connections with an installation dimension of just 5 mm are used. They provide 100% CCP continuity, combining maximum cathodic corrosion protection with minimal space requirements – a unique solution on the market.

Whether it's an HP2 block flange connection or another solution, our ISOFLANGES systems provide galvanic separation and appropriate CCP concepts, reliably withstand pipe forces, bending moments, and pressure fluctuations, and remain technically tight, maintenance-free, and mechanically robust – tailored to the medium, standard, and installation situation.

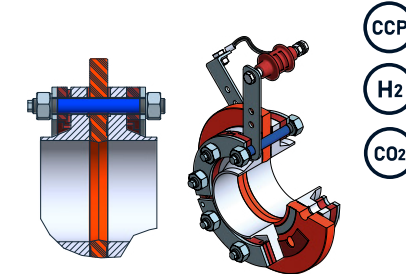
specialised
made to measure



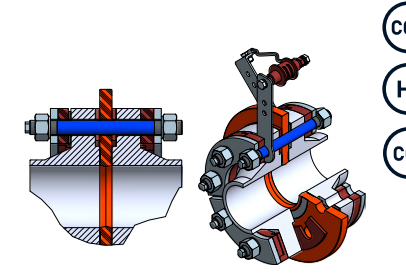
Product overview



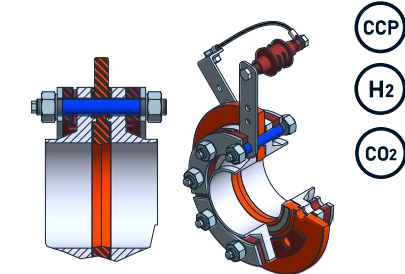
**FOR YOUR TAILORED
SOLUTION, CONTACT
US DIRECTLY.**



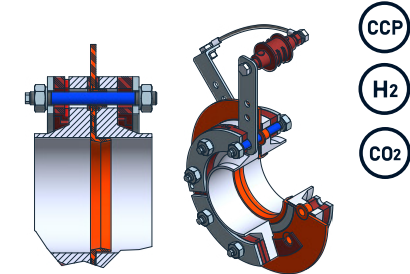
Insulating flanges for
DIN EN 1092-1



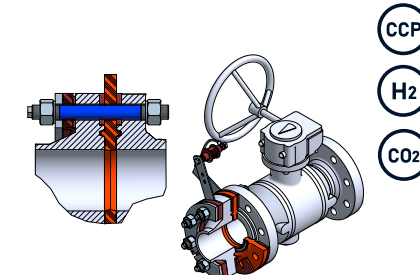
Insulating flanges
in accordance with ASME B16.5 / B16.47



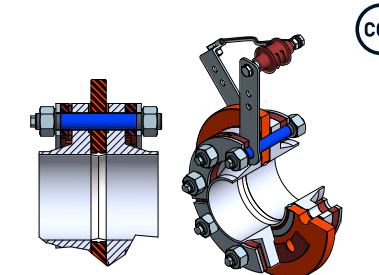
Insulating flanges as conversion
systems for forward and backward offset



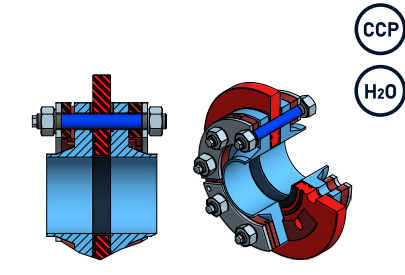
Insulating flanges as conversion systems
with a 5 mm installation dimension



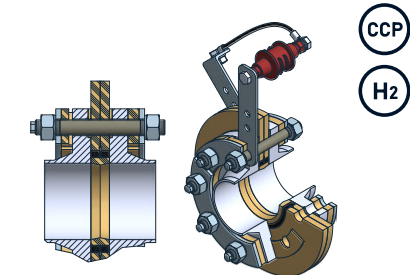
Insulating flanges for
valves and vessels



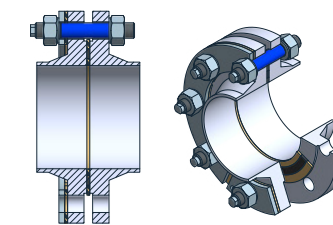
Insulating flanges for
aggressive and critical media



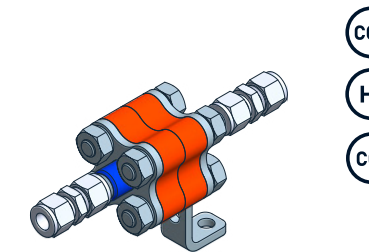
Insulating flanges for
drinking water



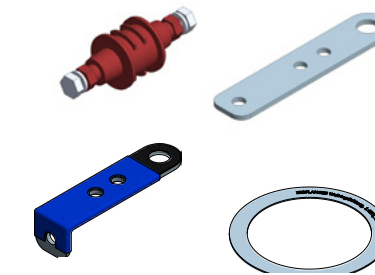
Insulating flanges for high
temperatures up to +260 °C (HTB approval)



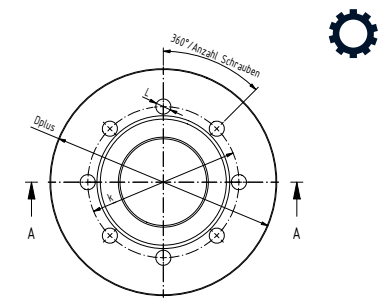
Electrical isolation for stainless steel
separation (galvanic isolation)



ISO-KonneX insulating flanges
for screw-type connection systems
(clamping, cutting ring)



Accessories
and spare parts



Insulating flange connections for
customised solutions

Solutions

APPLICATION SCENARIOS: WHERE ISOFLANGES IS ALREADY MAKING A DIFFERENCE TODAY

All projects have one thing in common: ISOFLANGES transforms particularly sensitive connection points into carefully engineered and thoroughly tested solutions. The technical expertise behind every solution simplifies planning and approval while creating insulation points that perform reliably and unobtrusively during day-to-day operation.



Porthos CO2-pipeline Rotterdam

PRECISION ENGINEERING FOR EUROPE'S FLAGSHIP CCS PROJECT

In the Port of Rotterdam, up to five million tonnes of CO₂ are to be transported annually via a network of pipes for final storage beneath the seabed. The medium: supercritical CO₂ – a challenge for any sealing system.

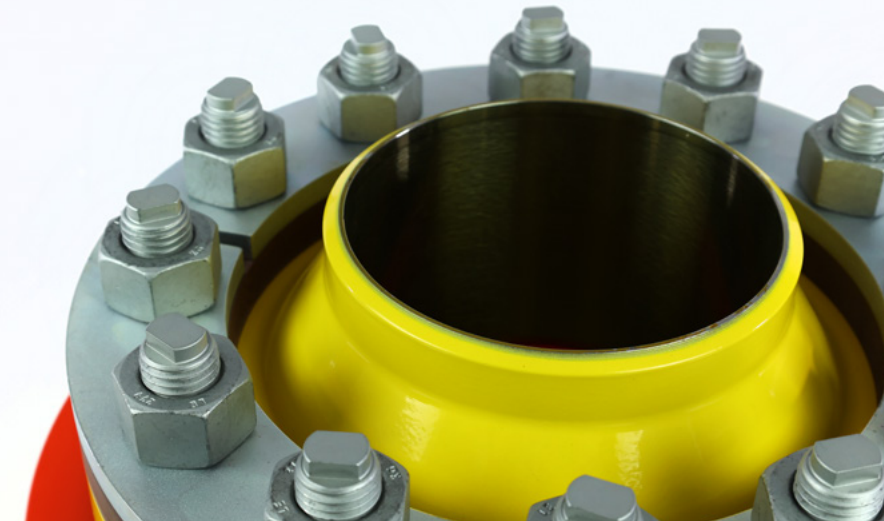
ISOFLANGES has developed a new generation of HP2 insulating flanges to the ASME standard, which showed zero per cent permeation in the Rapid Gas Decompression test (RGD) at 250 bar and 110 °C – certified by Applus+.

H2 Huntorf Cavern

PRECISION CONNECTIONS FOR EUROPE'S LARGE-SCALE H2 STORAGE FACILITIES

As part of the Clean Hydrogen Coastline project, the Huntorf natural gas cavern is being converted into one of Europe's first large-scale storage facilities for 100% hydrogen. The material requirements are extremely stringent, as hydrogen leaves no room for error.

ISOFLANGES supplies HP2 insulating flanges in 8" ASME class 900 and class 600, RTJ – 100% H₂-compatible, certified and designed for operation in the future hydrogen backbone network.



N-ERGIE Schwaig MRS Network

TAILOR-MADE CCP SOLUTIONS FOR MIXED-STANDARD INSTALLATIONS

In Schwaig, near Nuremberg, N-ERGIE Netz GmbH is modernising a gas metering and regulating station in the regional distribution network. The system combines different connection standards and specialised O-ring sealing systems – a combination that requires clean electrical isolation and reliable corrosion protection without compromise.

ISOFLANGES supplies bespoke CCP insulating flanges and special designs for this purpose, which combine various standards and sealing systems within a consistent insulation concept. The separation points can be integrated into the existing plant without the need for welding work on the pipework.



Heide Refinery

CCP INSULATING FLANGES FOR CONFINED REFINERY INFRASTRUCTURE

In the culvert building at the Heide refinery in Brunsbüttel, extremely limited installation space meets stringent safety requirements. The structure connects the tank farm and the processing plants, making it a critical part of the infrastructure. The pipe connections must ensure both a safe electrical isolation for cathodic corrosion protection and a reliable seal.

ISOFLANGES supplies specially designed CCP insulating flanges in the HP2 Dplus system for this purpose. The special versions for 30" pipes and DN125 enable reliable insulation even without any welding work on the existing pipe.

NOWEGA MRS Bad Bentheim

CCP INSULATING FLANGES FOR THE HIGH-PRESSURE SYSTEM

In Bad Bentheim, NOWEGA GmbH is constructing a new H₂-compatible gas metering and regulating station within the transmission network. The challenge is to design high-pressure separation points in the RTJ configuration in such a way that corrosion protection, leak-tightness and future requirements of the gas and hydrogen infrastructure are all met simultaneously.

ISOFLANGES supplies CCP insulating flanges in the HP2 Dplus system with a space-saving installation dimension of just 5 mm, designed for high-pressure operation in the transmission network. The previous RTJ seal is replaced one-to-one by a 100% reliable insulating joint, which electrically isolates the pipe sections, maintains the full effectiveness of cathodic corrosion protection and offers high pressure and leak-tightness reliability – an ideal solution for new installations and retrofits, particularly where space is limited.



Pumped-storage power station

LARGE-SCALE INSULATION FOR STEEL HYDRAULIC ENGINEERING

A pumped-storage power station is being expanded to meet peak demand in the power grid. The particular challenge in steel hydraulic engineering is an insulating joint over two metres in diameter, which must be able to withstand high pressures, cyclic loading and the risk of corrosion over the long term.

ISOFLANGES supplied a large-diameter DN2200 PN10 insulating flange for this purpose, to provide galvanic separation on a high-performance pump. The connection isolates electrical potentials, remains technically tight even under dynamic loads, and effectively protects the large-scale steel components from corrosion.



FROM PLANNING TO OPERATION – VERIFIABLE SAFETY

We work closely with operators, engineers, and CCP specialists to analyse the design parameters, clarify standards and approvals, and develop the right isolation solution – from compact retrofit systems to large-scale custom flanges. Short lines of communication, direct points of contact, and clearly traceable calculations facilitate approvals and acceptance procedures.

For every insulating flange connection supplied, ISOFLANGES provides comprehensive product documentation: acceptance test certificates (APZ 3.1 or 3.2), documentation drawings, including torque specifications, operating instructions, risk analyses and declarations of conformity in accordance with the Pressure Equipment Directive PED 2014/68/EU. This ensures that every insulation point is fully documented, technically traceable, and audit-proof.

Inspection of prefabricated components in accordance with the relevant standards and guidelines ensures that the manufacturing process remains transparent to testing organisations at all times. On request, we can also provide project-specific certification, such as approvals for hydrogen or CO₂ applications, which we develop in collaboration with accredited testing bodies.

We support projects from the initial concept through design in accordance with DIN EN or ASME, and on through to installation and commissioning. Our training videos assist installation staff in their day-to-day work. We clarify any questions regarding the CCP concept, permissible pipe forces, inspection intervals, or retrofit options directly with your specialist departments.



LET'S TALK ABOUT YOUR MOST CRITICAL CONNECTIONS

Whether it's 100% hydrogen, a CO₂ pipeline, corrosive media, or complex retrofittings of existing installations: ISOFLANGES transforms insulation points into maintenance-free, fully documented safety components for your plant – designed, manufactured, and tested in Germany.





Insulating flange systems that
perform reliably even in extreme
applications.

MADE TO MEASURE ON REQUEST FOR SPECIFIC INSTALLATION SITUATIONS



ISOFLANGES GMBH

Viehtrift 1
29308 Winsen (Aller)
Germany

info@isoflanges.de
+49 5143 92349 0
isoflanges.de

