

# Forward

in subsea production

Reliability taken further

**Ronchi  ils**  
STRATEGIE DI LUBRIFICAZIONE INDUSTRIALE

Authorised distributor of Castrol



Providing subsea operators and equipment manufacturers the support to work in the most challenging conditions and locations.

[castrol.com/oilandgas](http://castrol.com/oilandgas)

## Challenges are becoming more extreme Reliability matters more than ever

The challenges are becoming more extreme. Whether it's developing products that can meet the needs of the most demanding production assets or responding to ever-tougher environmental regulations – our subsea production offer has been leading the way in the industry for decades.

It combines high performance, technical skills and expertise to help ensure you maintain reliability in your operating conditions. That means longer up time and lower cost of ownership over the life of the field; showcased by Castrol's 40-year track record.



More extreme operating conditions



More remote locations



More environmental responsibilities



More complex systems



More ambitious targets

## Helping you towards your sustainability goals



Castrol's PATH360 is our holistic sustainability program, expanding sustainable thinking into every facet of our business.

**Saving waste | Reducing carbon | Improving people's lives**

Castrol Brayco Micronic and Transaqua products are committed to certified carbon neutral\*\* in accordance with PAS 2060 from 2021.

## We strive to be your liquid engineering and technology partner, creating innovative solutions for a world in motion

### Today

- Reliable operation of subsea hydraulic systems – Castrol Transaqua HT, HT2, DW, HC10
- Improved system protection subsea and for hardware storage on land – Castrol Transaqua SP and SP-HC
- Reliable operation of subsea boosting and compression – Castrol Brayco Micronic SBF E

### Tomorrow

- Subsea electrification
- Subsea boosting, water injection and compression
- Ultra deep water and deep water gas
- Carbon reduction and carbon capture and storage
- Integrated renewable power

## Products designed to meet your needs

We offer two globally available product lines with a long and proven track record. They have both been continually developed with many years of expertise to provide maximum OEM qualification and help you meet the very latest environmental regulations.

### Castrol Transaqua

The water-based control fluid range optimised for every operational need

	Castrol Transaqua HT	Castrol Transaqua DW	Castrol Transaqua HT2	Castrol Transaqua HT2-N	Castrol Transaqua SP	Castrol Transaqua SP-HC
Region	Global	Brazil	Global	Norway	Global	Global
Environmental assurance***	OSPAR and key geographies	Tested****	OSPAR and key geographies	OSPAR	OSPAR and key geographies	OSPAR and key geographies
Operating temperature range	-30°C /+170°C	-5°C /+150°C	-30°C /+170°C	-30°C /+170°C	-45°C /+150°C	-50°C /+150°C
Comments	<ul style="list-style-type: none"> <li>• Released 1992</li> <li>• With fluoresceine dye and UV leak tracer</li> <li>• ~700 wells globally</li> </ul>	<ul style="list-style-type: none"> <li>• Identical chemistry to HT</li> <li>• Lower glycol content designed for deep water Brazil market</li> </ul>	<ul style="list-style-type: none"> <li>• Identical chemistry to HT apart from proprietary dye and UV tracer</li> <li>• Operational since 2005</li> <li>• ~500 wells operating</li> </ul>	<ul style="list-style-type: none"> <li>• Identical chemistry to HT2 without UV tracer and anti-foam additives</li> </ul>	<ul style="list-style-type: none"> <li>• New enhanced fluid chemistry with excellent protection of subsea equipment (up to 50% seawater)</li> <li>• Improved materials compatibility</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced performance of Transaqua SP together with hydrate prevention characteristics for high pressure gas wells</li> </ul>

### Castrol Brayco Micronic

The world's only proven synthetic control and dielectric fluids

	Castrol Brayco Micronic SV/3	Castrol Brayco Micronic LV/3	Castrol Brayco Micronic SV/B	Castrol Brayco Micronic SV/4	Castrol Brayco Micronic SBF E
Region	Global	Global	Denmark, Netherlands, Norway, the UK	Global	Global
Environmental assurance***	OSPAR and key geographies	OSPAR and key geographies	OSPAR	OSPAR and key geographies	OSPAR and key geographies
Operating temperature range	-40°C/+200°C	-40°C/+200°C	-40°C/+150°C	-40°C/+200°C	-30°C/+200°C
Viscosity, cSt (Kv40)	10.5	5.5	8.4	8.4	5.2
Pour point (°C)	<-50	<-50	<-50	<-50	<-80
Comments	<ul style="list-style-type: none"> <li>• Used in closed loop systems</li> <li>• Operational since 2007</li> </ul>	<ul style="list-style-type: none"> <li>• Used in closed loop subsea systems and land based wells</li> <li>• Low viscosity useful for long tie-backs and for cold climates</li> </ul>	<ul style="list-style-type: none"> <li>• Used in closed loop systems</li> <li>• Developed to comply with Norwegian legislation</li> </ul>	<ul style="list-style-type: none"> <li>• New enhanced product will replace SV/3 and SV/B, and deliver improved environmental performance</li> </ul>	<ul style="list-style-type: none"> <li>• Dielectric fluid for use as barrier fluid for subsea boosting pumps and compressors (OSS)</li> <li>• Also qualified for use in actuators and compensation systems/modules</li> </ul>

\* In accordance with PAS 2060, see [www.castrol.com/cneutral](http://www.castrol.com/cneutral) for more information.

\*\* The CO2 emissions are calculated in accordance with the Greenhouse Gas Protocol's Product Life Cycle Standard and include life cycle emissions. The demonstration of carbon neutrality is assured by an independent Third-Party and certified to BSI's PAS 2060 carbon neutral specification. See [www.castrol.com/cneutral](http://www.castrol.com/cneutral) for more information.

\*\*\*Registered and tested in compliance with offshore environmental regulatory requirements  
\*\*\*\*Tested according to customer requirements

# Subsea collaboration you can rely on

We go beyond our unique and proven fluids. We believe that the only way to work is through close industry collaboration, high levels of technical support and vast expertise that give you the confidence to meet today's production challenges.

## Every product is created in step with equipment manufacturers for the highest levels of performance



### Tested to industry standards

API 17F Annex C



### Thermal stability

Tested beyond maximum operating limits to ensure reliable performance for the life of field



### Materials compatibility

Tested with a wide range of system materials including key **metals, elastomers and thermoplastic**



### Control fluid compatibility

Fully miscible with current **control fluid grades** including existing Castrol grades and common competitor grades



### OEM qualification

Qualified with major industry **OEMs** across a wide range of equipment including DCVs (directional control valves), actuators, manifold valves, SSSV (sub surface safety valve), umbilicals, pumps

## Technical services to help keep your operations efficient, reliable, and sustainable

Our technical services help you minimise downtime and costly part failures. We also recommend the most efficient product use and provide valuable training for your team.

### Engineering support

- Front End Engineering Design support
- Technical reviews for optimum product selection (well conditions, hydrate risks, environmental considerations)
- System materials reviews for retrofits
- Advice on product handling, use and storage

### Expert investigational analysis capability

- Fluid contamination
- System cleanliness
- Corrosion
- Materials compatibility

### Castrol Labcheck

- Sampling
- Online Analysis Reports



Are you ready to move  
Forward in subsea production?  
Talk to a Castrol expert today.