



# Castrol Customer List

## Subsea Control Fluids

Today Castrol control fluids operate over 200 subsea developments and our customer base includes almost every subsea operator.

ADMA Opco, AED, Agip, Amerada Hess, Anzon, Alpha Petroleum, ATP, BP, Bredasdorp Alliance, Britannia Operator Ltd, British Gas, Burullus Gas Company, Chevron Texaco, Cimarex, ConocoPhillips, Deep Gulf Energy, DNO, ExxonMobil, Forest Energy, Granby, Husky, Hydro, Kerr Mcgee, Maersk Oil & Gas, Marathon, Mariner Energy, NAM, Nexen, Newfield, NPC, PDVSA, Perenco, Petrobras, Petro-Canada, Pioneer Natural Resources, PT Caltex, Repsol, RWE-DEA, Sable Offshore Energy, Shell, Statoil, Talisman, TOPS, Total, Tullow, Venture and W&T Offshore.

### Landmark Projects using Castrol Control Fluids

**Cormorant UMC** - First EH-MUX control system

**Gullfaks** - First water-based EH-MUX control system

**Britannia** - Castrol Offshore's first fully-integrated contract

**Aasgard** - World's largest Subsea development - and HPHT!

**Elgin/Franklin** - Most extreme HPHT development

**Snorre** - First intelligent completion

**Camden Hills** - Deepest GoMex completion

**West Delta Deep** - First long-offset tieback to shore

**Ormen Lange** - First long-offset closed-loop tieback to shore

Castrol subsea control fluids have been used since the start of production on Shell's Cormorant Underwater Manifold Centre and Statoil's Gullfaks field in the early 1980's. Since then we have continued to build our field experience and have developed quality relationships throughout the subsea production industry: from operating companies and major engineering contractors to system and component manufacturers.

Our specialist knowledge together with the global resources of the world's most successful lubricants company means we can provide you with products and services that always meet your needs - anywhere anytime.

This reference list demonstrates the wide range of subsea and surface applications for which Castrol Offshore's subsea control fluids have been specified.



## **Castrol Water-Based Production Control Fluids**

### **Castrol Transaqua HT - available globally**

Conventional and high temperature, high pressure oil & gas wells.

### **Castrol Transaqua HT2**

2007 OSPAR Compliant - conventional and high temperature, high pressure oil & gas wells.

### **Specialist Grades**

#### **Castrol Transaqua DW**

Deepwater and high temperature, high pressure oil & gas wells.

#### **Castrol Transaqua EE1 (Norway only)**

First Release of Castrol's Continuous Environmental Enhancement Programme.

## **Castrol Synthetic Hydrocarbon Production Control Fluids**

### **Castrol Brayco Micronic SV/200**

3<sup>rd</sup> generation product. Operation of oil & gas wells with flowing temperatures of up to 200°C. Enhanced to meet latest health and safety legislation.

### **Castrol Brayco MicronicLV/200**

3<sup>rd</sup> generation product. Operation of oil & gas wells with flowing temperatures of up to 200°C. Lower viscosity for optimum response with long offset distances.

### **Castrol Brayco Micronic SV/B**

2007 Norway Compliant. Operation of oil & gas wells with flowing temperatures of up to 130°C. Enhanced to meet latest health, safety and environmental legislation.

NB: Castrol Brayco Micronic 864 HT/200, 865 and 864 have now all been superseded by Castrol Brayco Micronic SV/200 (see above)



## Applications

**Subsea Production Control Systems** - incorporating christmas tree valves, manifold valves, subsurface safety valves and "smart" in-well completion equipment.

**Subsea Pipeline Isolation Valves**

**Platform Production Control Systems and Process Valves**

## Original Equipment Manufacturers (OEMs)

Note abbreviations have been used for Current control system manufacturers. The following OEMs are no longer in existence **Aker/Hughes**, **Aker/Vetco**, **Koomey**., but have supplied control systems referred to in this document:

- |                              |   |
|------------------------------|---|
| ● <b>ABB</b>                 | ABB offshore systems                              |
| ● <b>AKS</b>                 | Aker Kvaerner Subsea                              |
| ● <b>Brisco</b>              | Brisco Engineering                                |
| ● <b>CAC</b>                 | Formerly Baker CAC                                |
| ● <b>Cameron</b>             | Cooper Cameron Controls                           |
| ● <b>FMC Kongsberg</b>       | Kongsberg Offshore Systems/ FMC Corporation       |
| ● <b>KOP/FSSL</b>            | Kvaerner oilfield Products/FSSL Controls Division |
| ● <b>Lintott</b>             | Wormald Lintott                                   |
| ● <b>Roxar</b>               | Formerly Smedvig Technologies A.S.                |
| ● <b>Semco</b>               | Semco Teknologi A.S.                              |
| ● <b>Vosper Thorneycroft</b> | Formerly Brisco Engineering                       |
| ● <b>Well Dynamics</b>       | Formerly PES, Halliburton                         |

The type of control systems involved are shown, where known, in the column after OEM. The control system types are abbreviated as follows:

- |                  |                                       |
|------------------|---------------------------------------|
| ● <b>Direct</b>  | Direct hydraulic systems              |
| ● <b>Piloted</b> | Piloted systems                       |
| ● <b>E-H</b>     | Electro-hydraulic systems             |
| ● <b>E-H MUX</b> | Electro-hydraulic multiplexed systems |
| ● <b>Smart</b>   | Intellegent completion System         |



Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
ADMA opco	Middle East	Abu Dhabi	Ummshaif	Brayco Micronic	SV/200	Platform wells Subsea pipeline isolation valves	Not stated	Direct	
AED Oil	Asia Pacific	Australia	Puffin	Transaqua	HT	Subsea to leased FPSO	Cameron		
Agip	West Africa	Angola	Kuito	Brayco Micronic	SV/200	Platform wells			
Agip	West Africa	Angola	Landana 2A	Brayco Micronic	SV/200	Platform wells			
Agip	West Africa	Angola	Safueitro	Transaqua	HT	Subsea tieback.	FMC/KOS	E-H	Transaqua HT retrofitted in place of oceanic HW540 (1996)
Agip	West Africa	Congo	Kitina - Jambala	Transaqua	HT	Subsea	FMC/KOS	E-H	
Agip	West Africa	Congo	Kitina - Foukouda	Transaqua	HT	Subsea			
Agip	West Africa	Congo	Kitina - Soundlaa	Transaqua	HT	Subsea	FMC/KOS	E-H	
Agip	Mediterranean	Libya	Bouri East Area Development	Transaqua	HT	4 Wells, subsea tieback to manifold	FMC/KOS	E-H	
Agip	Mediterranean	Libya	Bouri Phase II	Transaqua	HT	FPSO/Subsea, 2 Wells	FMC/KOS	E-H	
Agip	Mediterranean	Libya	West Libyan Gas Project	Transaqua	HT	Ph 1: 11 Wells Ph 2: 12 Wells	Cameron	E-H	
Agip	West Africa	Nigeria	Abo	Transaqua	HT	FPSO/Subsea, 8 wells	Vetco	E-H	
Agip	West Africa	Nigeria	Abo Extension	Transaqua	HT	FPSO/Subsea, 2 wells	Vetco	E-H	
Agip	West Africa	Nigeria	Okono	Transaqua	HT	Subsea	FMC/KOS	E-H	
Agip	West Africa	Nigeria	Okpoho	Transaqua	HT	Subsea	FMC/KOS	E-H	
Agip	North Sea	UK	Thelma	Brayco Micronic	SV/200	Subsea, 5 template wells (P)	FMC/KOS	E-H	
Agip	North Sea	UK	Thelma South East	Brayco Micronic	SV/200	Subsea, 5 template wells (P)	FMC/KOS	E-H	
Agip	North Sea	UK	Tiffany	Brayco Micronic	SV/200	Platform wells	Cameron	E-H	
Agip	North Sea	UK	Toni	Brayco Micronic	SV/200	Subsea, 7 Satellite wells (4xP, 1xI)	Cameron	E-H	
Agip	Gulf of Mexico	USA	Yosemite	Transaqua	HT	Subsea	KOP		
Agip / Agiba	Mediterranean	Egypt	West Ashrafi	Transaqua	HT2	Subsea tieback to a fixed platform	Vetco		
Alpha Petroleum	New Zealand	New Zealand	Tui	Transaqua	HT	Subsea tieback to FPSO	Cameron		
Amerada Hess	North Sea	Denmark	Arne South	Brayco Micronic	SV/200	Platform wells	Not stated		
Amerada Hess	North Sea	UK	Scott	Brayco Micronic	SV/200	Platform wells	Not stated		
Amerada Hess	Gulf of Mexico	USA	Conger	Transaqua	HT	SSSV			
Amerada Hess/Shell	North Sea	UK	Triton	Brayco Micronic	SV/200	FPSO/Subsea (Triton)	KOP/FSSL	E-H	
Anzon	Asia Pacific	Australia	Basker/Manta	Transaqua	HT	Subsea	Cameron		
ATP	Gulf of Mexico	USA	Gomez	Transaqua	DW	Subsea	Dril-Quip	E-H	
ATP	Gulf of Mexico	USA	Gomez Ph. 2	Transaqua	DW	Subsea	Dril-Quip	E-H	
BP	West Africa	Angola	Block 18 Greater Plutonio	Transaqua	HT	FPSO/ Subsea 45 wells	FMC/KOS	E-H	
BP	Mediterranean	Egypt	Taurt	Transaqua	HT2	72Km tieback to shore	Cameron	E-H	
BP	North Sea	Norway	Skarv	Transaqua	HT2	FPSO/Subsea			
BP	Gulf of Mexico	Trinidad	Bombax	Transaqua	HT	Pipeline Isolation Valves			
BP	North Sea	UK	Clair Phase 1	Transaqua	HT2	Platform wells			Upgraded from HT in 2006
BP	North Sea	UK	ETAP v Marnoch	Brayco Micronic	SV/200	Platform wells	Brisco	E-H	
BP	Gulf of Mexico	USA	Aspen	Transaqua	HT	Subsea	Vetco	E-H	
BP	Gulf of Mexico	USA	Dorado	Transaqua	HT	Single well development	FMC		
BP	Gulf of Mexico	USA	Horn Mountain	Transaqua	HT	Platform wells			
BP	Gulf of Mexico	USA	King	Transaqua	HT	2 Subsea wells to Marlin TLP	KOP	E-H	
BP	Gulf of Mexico	USA	King Pump	Transaqua	HT	Subsea pump project	AKS		
BP	Gulf of Mexico	USA	King West	Transaqua	HT	Subsea well to Marlin TLP	KOP		
BP	Gulf of Mexico	USA	King's Peak	Transaqua	HT	Subsea	KOP/FSSL		
BP	Gulf of Mexico	USA	Mad Dog	Transaqua	HT	Platform wells			
BP	Gulf of Mexico	USA	Marlin	Transaqua	HT	Subsea tieback to fixed platform	FMC/KOS	E-H	

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Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
BP	Gulf of Mexico	USA	Nile	Transaqua	HT	Subsea tieback to fixed platform	KOP/FSSL	E-H	
BP	Gulf of Mexico	USA	Thunder Horse	Transaqua	HT	Subsea 28 wells	FMC/KOS	E-H	
Bredasdorp Alliance	South Africa	South Africa (Mossel Bay)	E-M Development	Transaqua	HT	Submerged tethered Buoy	FMC/KOS	E-H	
Britannia Operator Ltd	North Sea	UK	Britannia	Transaqua	HT	Platform wells	CAC	Direct	
Britannia Operator Ltd	North Sea	UK	Britannia	Transaqua	HT	Subsea, 8 template wells (P)	Vetco	E-H	
Britannia Operator Ltd	North Sea	UK	Caladonia	Transaqua	HT	Subsea			
British Gas	Mediterranean	Egypt	Gaza Marine	Transaqua	HT	Subsea tieback to shore			
British Gas	Mediterranean	Tunisia	Miskar	Transaqua	HT2	Subsea, 6 wells, HPHT	eProduction		
British Gas	North Sea	UK	Armada	Transaqua	HT2	Platform Wells	Lintott		Upgraded from HT in 2005
British Gas	North Sea	UK	Armada Ph. II	Transaqua	HT	Subsea	KOP/FSSL		
British Gas	North Sea	UK	Maria	Transaqua	HT2	Subsea wells	eProduction		
British Gas	North Sea	UK	North West Seymour	Transaqua	HT2	Subsea	eProduction		
Burullus Gas Company	Mediterranean	Egypt	Rosetta Phase 3	Transaqua	HT	8 well subsea tieback	Cameron		
Burullus Gas Company	Mediterranean	Egypt	Sapphire Phase 3	Transaqua	HT	Subsea, 8 wells	Vetco		
Burullus Gas Company	Mediterranean	Egypt	Scarab/Saffron Phase 1	Transaqua	HT	Subsea tieback to shore - 80km, 8 wells	KOP/FSSL		
Burullus Gas Company	Mediterranean	Egypt	Scarab/Saffron Phase 4	Transaqua	HT	7 well subsea tieback	AKS		
Burullus Gas Company	Mediterranean	Egypt	Sequoia/ Serpent Phase 5	Transaqua	HT	Subsea tieback to Scarab/Saffron, 6 wells		E-H	
Burullus Gas Company	Mediterranean	Egypt	Simian/Sienna Phase 2	Transaqua	HT	Subsea, 8 wells	Vetco		
Burullus Gas Company	Mediterranean	Egypt	Sinbad Phase 4	Transaqua	HT	1 well subsea tieback to Simian manifold	Vetco		
Chevron Texaco	North Sea	UK	Erskine	Brayco Micronic	864 HT/200	Platform, 6 wells on wellhead platform	Not stated		
Chevron Texaco	Gulf of Mexico	USA	Blind Faith	Transaqua	HT	Subsea	FMC	E-H	
Chevron Texaco	Gulf of Mexico	USA	Tahiti	Transaqua	HT	Subsea	Cameron		
Cimarex	Gulf of Mexico	USA	Main Pass 185,187, 200	Transaqua	HT	3 well subsea tieback to Platform	FMC/Oceaneering/Cabot	Direct	
ConocoPhillips	Asia Pacific	Indonesia	Belida	Brayco Micronic	SV/200	Subsea	Not stated		
ConocoPhillips	Asia Pacific	Indonesia	Natuna West	Brayco Micronic	SV/200	Subsea tieback to Belida facility	KOP/FSSL		
ConocoPhillips	North Sea	UK	Brodgar	Transaqua	HT	Subsea tieback to Britannia	KOP		
ConocoPhillips	North Sea	UK	Callanish	Transaqua	HT	Subsea tieback to Britannia	KOP		
ConocoPhillips	North Sea	UK	Jade	Brayco Micronic	SV/200	Subsea, 10 template wells (P) HPHT	Not stated		
ConocoPhillips	North Sea	UK	Joanne	Brayco Micronic	SV/200	Subsea, 10 template wells (P) HPHT	FMC/KOS	E-H	
ConocoPhillips	North Sea	UK	Judy	Brayco Micronic	SV/200	Platform	Not stated		
Deep Gulf Energy	Gulf of Mexico	USA	Tiger	Transaqua	HT	HP Subsea tieback to Newfield	AKS		
DNO	North Sea	UK	West Heather	Transaqua	HT2	Subsea	KOP/FSSL		Fluid upgraded from HT in 2006
ExxonMobil	West Africa	Nigeria	Erha	Transaqua	HT	FPISO/subsea	Cameron	E-H	
ExxonMobil	West Africa	Nigeria	Erha North	Transaqua	HT	FPISO/subsea	Cameron	E-H	
ExxonMobil	North Sea	UK	Arthur	Transaqua	HT	Subsea tieback to Welland	KOP/FSSL		
ExxonMobil	North Sea	UK	Bure West	Transaqua	HT	Subsea tieback to fixed platform	Not stated		
ExxonMobil	North Sea	UK	Deben	Transaqua	HT	Subsea tieback	Not stated		
ExxonMobil	North Sea	UK	Gawain	Transaqua	HT	Subsea tieback to fixed platform	FMC/KOS	E-H	Transaqua HT retrofitted in place of oceanic HW540 (1996)

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Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
ExxonMobil	North Sea	UK	Gawain South East	Transaqua	HT	Subsea tieback	KOP		
ExxonMobil	North Sea	UK	Gawain West	Transaqua	HT	Subsea tieback	KOP		
ExxonMobil	North Sea	UK	Orwell	Transaqua	HT	Subsea tieback	Not stated		Transaqua HT retrofitted in place of oceanic HW540 (1997)
ExxonMobil	North Sea	UK	Thames	Transaqua	HT	Subsea, 2 Satellite wells (P)	Koomey	Direct	Transaqua HT retrofitted in place of oceanic HW540 (1996)
ExxonMobil	North Sea	UK	Welland	Transaqua	HT	Subsea, 3 Satellite wells (P)	KOP/FSSL	E-H	Transaqua HT retrofitted in place of oceanic HW540 (1996)
ExxonMobil	North Sea	UK	Yare	Transaqua	HT	Subsea	KOP/FSSL	E-H	Transaqua HT retrofitted in place of oceanic HW540 (1998)
Forest Oil	Gulf of Mexico	USA	South Timberlane 288	Transaqua	HT	Single well subsea tieback	FMC	E-H	
Granby Oil & Gas	North Sea	UK	Tristan North-West Project	Transaqua	HT2	Subsea tieback to Davy platform	eProduction		
Husky Oil	North America	Canada	White rose	Transaqua	HT	FPSO/subsea	Cameron		
Hydro	North Sea	Norway	Fram Øst	Brayco Micronic	SV/200	Subsea	FMC/KOS	E-H	
Hydro	North Sea	Norway	Fram Vest	Brayco Micronic	SV/200	Subsea	FMC/KOS	E-H	
Hydro	North Sea	Norway	Gamma North	Brayco Micronic	SV/200	Subsea template tied back to Oseberg field centre	KOP/FMC		
Hydro	North Sea	Norway	Ormen Lange Phase 1	Brayco Micronic	SV/200	Subsea, 8 wells	FMC		
Hydro	North Sea	Norway	Oseberg	Brayco Micronic	SV/200	Subsea, 2 satellite wells (P)	KOP/FSSL		
Hydro	North Sea	Norway	Oseberg B	Brayco Micronic	SV/200	"SCRAM" Completions in platform wells (3xP)	Halliburton/PES	Smart	
Hydro	North Sea	Norway	Oseberg Delta	Brayco Micronic	SV/200	2 well subsea tieback to Oseberg D	FMC	E-H	
Hydro	North Sea	Norway	Oseberg Sud	Brayco Micronic	SV/200	Subsea tieback to Oseberg Øst platform	KOP/FSSL		
Hydro	North Sea	Norway	Oseberg Vestflanken	Brayco Micronic	SV/200	3 well subsea tieback to Oseberg D	FMC		
Hydro	North Sea	Norway	TOGI	Brayco Micronic	SV/200	Subsea, 5 satellite wells (P)	Aker/Vetco		
Hydro	North Sea	Norway	Troll Phase I	Brayco Micronic	SV/200	FPSO/Subsea, 18 template wells (17xP, 1xI)	Vetco & KOP/FSSL	E-H	
Hydro	North Sea	Norway	Troll Phase II	Brayco Micronic	SV/200	FPSO/Subsea, 18 template wells (17xP, 1xI)	Vetco & KOP/FSSL	E-H	
Hydro	North Sea	Norway	Troll Phase III	Brayco Micronic	SV/200	FPSO/Subsea, 18 template wells (17xP, 1xI)	Vetco & KOP/FSSL	E-H	
Hydro	North Sea	Norway	Tune	Brayco Micronic	SV/200	Subsea tieback to Oseberg D	KOP/FSSL		
Hydro	North Sea	Norway	Tune South	Brayco Micronic	SV/200	Single well tieback to Tune template	KOP		
Hydro	North Sea	Norway	Vale	Brayco Micronic	SV/200	Subsea	FMC/KOS	E-H	
Hydro	North Sea	Norway	Vega	Brayco Micronic	SV/B	Subsea tieback to Gjoa	FMC		
Hydro	North Sea	Norway	Vega South	Brayco Micronic	SV/B	Subsea tieback to Gjoa	FMC		
Lundin	North Sea	UK	Broom	Transaqua	HT2	Subsea	KOP/FSSL		Fluid upgraded from HT in 2006
Maersk Oil & Gas	North Sea	Denmark	Dan	Brayco Micronic	SV/200	Subsea Satellite (well MFF-01)	Not stated		
Maersk Oil & Gas	North Sea	Denmark	Dan	Brayco Micronic	SV/200	"SCRAM" completions in platform wells	Halliburton/PES	Smart	

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Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
Maersk Oil & Gas	North Sea	Denmark	Ragnar	Brayco Micronic	SV/200	Subsea tieback	Not stated		
Maersk Oil & Gas	North Sea	UK	Affleck	Transaqua	HT2	Subsea	AKS		
Maersk Oil & Gas	North Sea	UK	Dumbarton	Transaqua	HT2	Subsea	AKS		
Maersk Oil & Gas	North Sea	UK	Janice	Transaqua	HT2	FPSO/Subsea	Brisco	Direct	Fluid changed from HT to HT2 Dec 2005
Maersk Oil & Gas	North Sea	UK	Leadon	Transaqua	HT2	FPSO/Subsea part of Castrol Subsea total lubrication Contract	FMC/KOS	E-H	Fluid changed from HT to HT2 Dec 2005
Marathon	Gulf of Mexico	USA	Camden Hills	Transaqua	HT	Subsea	KOP/FSSL	E-H	
Mariner Energy	Gulf of Mexico	USA	Apia	Transaqua	HT	Subsea tieback	OIE	Direct	
Mariner Energy	Gulf of Mexico	USA	Bass Lite	Transaqua	HT	Single well development	Dril-Quip	E-H	
Mariner Energy	Gulf of Mexico	USA	Black Widow	Transaqua	HT	Subsea tieback	KOP/FSSL	E-H	
Mariner Energy	Gulf of Mexico	USA	Dulcimer	Transaqua	HT	Subsea tieback	KOP/FSSL	E-H	
Mariner Energy	Gulf of Mexico	USA	King Kong	Transaqua	HT	Subsea, 3 wells	Not stated		
Mariner Energy	Gulf of Mexico	USA	Mustique	Transaqua	HT	Subsea tieback	KOP/FSSL	E-H	Transaqua HT retrofitted in place of Oceanic HW525 (1998)
Mariner Energy	Gulf of Mexico	USA	Ochre	Transaqua	HT	Subsea tieback to Amberjack platform	AKS	E-H	
Mariner Energy	Gulf of Mexico	USA	Pluto	Transaqua	HT	Subsea tieback	KOP/FSSL	E-H	
Mariner Energy	Gulf of Mexico	USA	Swordfish	Transaqua	HT	2 well development	AKS	E-H	
NAM	North Sea	Holland	K15 FK	Transaqua	HT	Subsea tieback		Direct	
Newfield Petroleum	North Sea	UK	Grove	Transaqua	HT	Platform wells	undisclosed		
Nexen Petroleum	North Sea	UK	Buzzard	Transaqua	HT	Platform and subsea wells	Vetco		
Nexen Petroleum	North Sea	UK	Ettrick	Transaqua	HT2	Subsea wells	Vetco		
Nexen Petroleum	Gulf of Mexico	USA	Anduin	Transaqua	HT	Single well development	AKS	E-H	
Nexen Petroleum	Gulf of Mexico	USA	Aspen	Transaqua	HT	3 well subsea development	AKS	E-H	
Nexen Petroleum	Gulf of Mexico	USA	Aspen 5	Transaqua	HT	Single well tieback to Aspen	AKS	E-H	
Nexen Petroleum	Gulf of Mexico	USA	Knottyhead	Transaqua	HT	Single well development	AKS	E-H	
NPC	Middle East	Dubai	Bukha	Brayco Micr	SV/200	Platform Wells	Not stated		
PDVSA	South America	Venezuela - Maturin Basin	El Furrial	Brayco Micr	SV/200	In-well Water and gas injection system	Roxar	Smart	
Perenco	North Sea	UK	Davy	Transaqua	HT	Subsea Tieback	Not stated		Retrofit from Oceanic HW540
Perenco	North Sea	UK	East Davy	Transaqua	HT	Subsea	eProduction		
Perenco	North Sea	UK	North West Bell	Transaqua	HT	Subsea Tieback	Not stated		Retrofit from Oceanic HW540
Perenco	North Sea	UK	North West Davy	Transaqua	HT2				
Petrobras	South America	Brazil	Golfinho Mod. I	Transaqua	DW	FPSO/Subsea	FMC		
Petrobras	South America	Brazil	Golfinho Mod. II	Transaqua	DW	FPSO/Subsea	FMC		
Petrobras	South America	Brazil	Jubarte Ph. I	Transaqua	DW	FPSO/Subsea	FMC		
Petro-Canada	North America	Canada	Terranova	Transaqua	HT	FPSO/Subsea, 24 wells	FMC/KOS	E-H	
Petro-Canada	North Sea	UK	Clapham	Brayco Micronic	SV/200	Subsea tieback to Triton	Not stated		
Petro-Canada	North Sea	UK	Guillemot West	Brayco Micronic	SV/200	Subsea tieback to Bittern FPSO	KOP/FSSL	E-H	
Petro-Canada	North Sea	UK	Pict	Brayco Micronic	SV/200	Subsea tieback to Bittern FPSO	KOP/FSSL	E-H	
Petrojarl (CNR)	North Sea	UK	Banff	Transaqua	HT2	FPSO/Subsea	eProduction		Fluid upgraded from HT in 2006
PetroSA / Pioneer Natural Resources	South Africa	South Africa	South Coast Gas Development	Transaqua	HT	Subsea tieback to fixed platform	Vetco		
Pioneer Natural Resources	South Africa	South Africa	South Coast Gas Development	Transaqua	HT	5 subsea wells	AKS	E-H	
Pioneer Natural Resources	Gulf of Mexico	USA	Clipper	Transaqua	HT	Single well development	AKS	E-H	
Pioneer Natural Resources	Gulf of Mexico	USA	Falcon	Transaqua	HT	Subsea	KOP/FSSL	E-H	
Pioneer Natural Resources	Gulf of Mexico	USA	Raptor	Transaqua	HT	Subsea			

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Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
Pioneer Natural Resources	Gulf of Mexico	USA	Tomahawk	Transaqua	HT	Subsea			
PT Caltex Pacific	Asia Pacific	Indonesia	Butun	Brayco Micronic	SV/200	In-well Wfor water-cut reduction	Roxar	Smart	
Repsol	Mediterranean	Spain	Chipiron	Transaqua	HT	Subsea tieback to fixed platform	Cameron		
RWE-DEA	North Sea	Germany	Mittelplatte-Dieksand	Transaqua	HT	Extended reach drilling (15Km) from land - SSSV control	Halliburton	Direct	
Sable Offshore Energy	North America	Canada	Sable - Triumph	Brayco Micronic	SV/200	Platform wells HPHT	Lintott		
Sable Offshore Energy	North America	Canada	Sable - Trophy	Brayco Micronic	SV/200	Platform wells HPHT	Lintott		
Sable Offshore Energy	North America	Canada	Sable - Venture	Brayco Micronic	SV/200	Platform wells HPHT	Lintott		
Shell	Ireland	Ireland	Corrib	Transaqua	HT	Subsea tieback to shore	Vetco	E-H	
Shell	Asia Pacific	Malaysia	B12	Transaqua	HT	Subsea tieback, 2 wells	Vetco		
Shell	Asia Pacific	Malaysia	F23SW	Transaqua	HT	Subsea tieback to F233, 1 well	Vetco		
Shell	Asia Pacific	Malaysia	G7	Transaqua	HT	Subsea tieback to M3, 2 wells	Vetco		
Shell	Asia Pacific	Malaysia	M3S	Transaqua	HT	Subsea tieback to M3, 2 wells	Vetco		
Shell	Asia Pacific	Malaysia	M4	Transaqua	HT	Subsea tieback to M3, 2 wells	Vetco	E-H	
Shell	Asia Pacific	Malaysia	Saderi	Transaqua	HT	Subsea tieback to M1, 2 wells	Vetco		
Shell	Asia Pacific	Malaysia	Serai	Transaqua	HT	Subsea tieback to M3, 2 wells	Vetco	E-H	
Shell	Asia Pacific	Phillipines	Malampaya	Transaqua	HT	Subsea, 10 Satellite wells tied back to unmanned platform HPHT	Cameron		
Shell	North Sea	UK	Brent South	Brayco Micronic	SV/200	Subsea, 3 Satellite wells	KOP/FSSL	E-H	
Shell	North Sea	UK	Cormorant Central	Brayco Micronic	SV/200	Underwater Manifold Centre	KOP/FSSL	E-H	
Shell	North Sea	UK	Cormorant South	Brayco Micronic	SV/200	1 satellite well (P)	KOP/FSSL	E-H	
Shell	North Sea	UK	Curlew	Brayco Micronic	SV/200	FPSO/Subsea (Maersk Dorset)	Brisco		
Shell	North Sea	UK	Dunlin	Brayco Micronic	SV/200	Platform wellhead control system	Not stated		
Shell	North Sea	UK	ETAP - Egret	Brayco Micronic	SV/200	Subsea, 10 wells	KOP/FSSL	E-H	
Shell	North Sea	UK	ETAP - Heron	Brayco Micronic	SV/200	Subsea, 10 wells	KOP/FSSL	E-H	
Shell	North Sea	UK	ETAP - Skua	Brayco Micronic	SV/200	Subsea, 10 wells	KOP/FSSL	E-H	
Shell	North Sea	UK	Gannet	Brayco Micronic	SV/200	Subsea, 19 satellite wells (P)	KOP/FSSL	E-H	
Shell	North Sea	UK	Gannet E & F	Brayco Micronic	SV/200	Subsea	KOP/FSSL	E-H	
Shell	North Sea	UK	Guillemot West	Brayco Micronic	SV/200	FPSO/Subsea (Anasuria), 12 satellite wells (8xP, 4xI)	Cameron	E-H	
Shell	North Sea	UK	Howe	Brayco Micronic	SV/200	Subsea tieback to Nelson	KOP		
Shell	North Sea	UK	Kestrel	Brayco Micronic	SV/200	Subsea tieback to Tern platform, 2 wells	Not stated		
Shell	North Sea	UK	Kingfisher	Brayco Micronic	SV/200	Subsea, 6 wells HPHT	Not stated		
Shell	North Sea	UK	Mallard	Brayco Micronic	SV/200	Subsea, 2 wells tiedback to Kittiwake	Not stated		
Shell	North Sea	UK	Merganser	Brayco Micronic	SV/200	Subsea tieback to Shearwater	AKS		
Shell	North Sea	UK	Merlin	Brayco Micronic	SV/200	Subsea	Not stated		
Shell	North Sea	UK	Nelson	Brayco Micronic	SV/200	Subsea, 11 satellite wells (8xP, 3xI)	KOP/FSSL	E-H	
Shell	North Sea	UK	Ospery	Brayco Micronic	SV/200	Subsea, 11 satellite wells (6xP, 3xI)	KOP/FSSL	E-H	

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Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
Shell	North Sea	UK	Pelican	Brayco Micronic	SV/200	Subsea, template 8wells (3xP, 3xl)	KOP/FSSL	E-H	
Shell	North Sea	UK	Penguins	Brayco Micronic	SV/200	Subsea tieback - 50 Km to Brent	KOP/FSSL	E-H	
Shell	North Sea	UK	Pierce	Transaqua	HT2	FPSO/Subsea (Berge Hugin)	FMC/KOS	E-H	Fluid upgraded from HT in 2006
Shell	North Sea	UK	Shearwater	Brayco Micronic	SV/200	Platform wells HPHT	Not stated		
Shell	North Sea	UK	Starlings	Brayco Micronic	SV/200	Subsea tieback to Shearwater	KOP		
Shell	North Sea	UK	Teal	Brayco Micronic	SV/200	FPSO/Subsea (Anasuria), 12 satellite wells (8xP, 4xl)	Cameron	E-H	
Shell	North Sea	UK	Teal South	Brayco Micronic	SV/200	FPSO/Subsea (Anasuria), 12 satellite wells (8xP, 4xl)	Cameron	E-H	
Shell	Gulf of Mexico	USA	Alex	Brayco Micronic	SV/200	Platform wells	Not stated		
Statoil	North Sea	Norway	Aasgard - Midgard	Transaqua	EE1	FPSO/Subsea, 60	FMC/KOS	E-H	
Statoil	North Sea	Norway	Aasgard - Smoerbuk	Transaqua	EE1	FPSO/Subsea, 61	FMC/KOS	E-H	
Statoil	North Sea	Norway	Aasgard - Smoerbuk Sor	Transaqua	EE1	FPSO/Subsea, 62	FMC/KOS	E-H	
Statoil	North Sea	Norway	Aasgard Q	Transaqua	EE1	2 well tieback to Aasgard A	FMC/KOS	E-H	
Statoil	North Sea	Norway	Gjøa	Transaqua	HT2	Semisub/Subsea	FMC		
Statoil	North Sea	Norway	Gullfaks		D361/GF30	Subsea, 15 Satellite wells (11xP, 4xl)	KOS/FSSL	E-H	(Earlier castrol waterbased control fluid)
Statoil	North Sea	Norway	Gullfaks C	Brayco Micronic	SV/200	"SCRAM" Completions in platform wells	Halliburton/PES	Smart	
Statoil	North Sea	Norway	Gullfaks Satellites	Transaqua	EE1	Subsea, 23 template wells (17xP, 6xl) on & templates	FMC/KOS	E-H	
Statoil	North Sea	Norway	Gullfaks Satellites Phase II	Transaqua	EE1	Subsea, 23 template wells (17xP, 6xl) on & templates	FMC/KOS	E-H	
Statoil	North Sea	Norway	Gullveig	Transaqua	EE1		FMC/KOS	E-H	
Statoil	North Sea	Norway	Huldra	Brayco Micronic	SV/200	Platform wells	Semco	Direct	
Statoil	North Sea	Norway	Kristin	Transaqua	EE1	Subsea HPHT	KOP/FSSL	E-H	
Statoil	North Sea	Norway	Mikkel	Transaqua	EE1	Subsea tieback to Aasgard	FMC/KOS	E-H	
Statoil	North Sea	Norway	Skinfaks Rinfaks	Transaqua	EE1	5 welltieback to Gullfaks South	FMC/KOS	E-H	
Statoil	North Sea	Norway	Snorre	Brayco Micronic	SV/200	Subsea, 10 satellite wells (5xP, 5xl)	FMC/KOS	E-H	
Statoil	North Sea	Norway	Tommeliten	Brayco Micronic	SV/200	Subsea, 6 template wells (P)	Aker/Hughes	E-H	
Statoil	North Sea	Norway	Tordis	Transaqua	HT2	Subsea Separation Boosting and Injection	FMC		
Statoil	North Sea	Norway	Tyrhans	Transaqua	HT2	12 well subsea tie back to Kristin, Gas injection from Asgard	FMC	E-H	
Talisman	North Sea	Norway	Varg South	Brayco Micronic	SV/B	Subsea	FMC/KOS		
Talisman	North Sea	UK	Clyde	Brayco Micronic	SV/200	Platform wells	Not stated		
Talisman Energy	North Sea	UK	Blenheim	Transaqua	HT	FPSO/Subsea	KOP/FSSL	E-H	
Talisman Energy	North Sea	UK	Orion	Transaqua	HT	Subsea tieback to Clyde Platform	KOP/FSSL		
TOPS (R&B/Shell)	Gulf of Mexico	USA	Gyrfalcon	Transaqua	HT	Subsea tieback HPHT	Not stated		
Total	West Africa	Congo	Moho/Bilondo	Transaqua	HT	Subsea tieback to FPSO	FMC	E-H	
Total	West Africa	Nigeria	Akpo	Transaqua	HT	Subsea, 48 wells	Cameron	E-H	
Total	North Sea	Norway	Byggve	Brayco Micronic	SV/200	Subsea tieback to Heimdal	Not stated		
Total	North Sea	Norway	Skirne	Brayco Micronic	SV/200	Subsea tieback to Heimdal	Not stated		



Operator	Development Information			Control Fluid		Installation	Controls		Comments
	Region	Country	Field	Type	Grade		OEM	Type	
<b>Total</b>	North Sea	UK	Elgin/Franklin	Brayco Micronic	864 HT/200	Platform, 12 wells on 2 wellhead platforms	Lintott	E-H	
<b>Total</b>	North Sea	UK	Kessog	Transaqua	HT2	Subsea	Cameron		
<b>Total</b>	Gulf of Mexico	USA	Acancongua (Canyon Express)	Transaqua	HT	Subsea tiebackto fixed platform	KOP/FSSL	E-H	
<b>Venture</b>	North Sea	UK	Chestnut	Transaqua	HT2	Subsea to FDP SO	AKS		
<b>Venture</b>	North Sea	UK	Gadwell	Brayco Micronic	SV/200	Subsea tieback to Kittiwake	AKS		
<b>Venture</b>	North Sea	UK	Goosander	Brayco Micronic	SV/200	Subsea tieback into Kittiwake	AKS		
<b>W&amp;T offshore</b>	Gulf of Mexico	USA	Queen of Hearts	Transaqua	HT	Subsea tieback to Newfield Platform	AKS	E-H	

This list has been compiled from a number of sources and is believed to be correct at time of publication.

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