

EXTERNAL CANTILEVER TURRET DATA

PIONEIRO DE LIBRA FPSO EXTERNAL CANTILEVER TURRET (EPC)

CLIENT	Petrobras led Consortium (Petrobras, Total, Shell, CNPC, CNOOC) Odebrecht Oil & Gas - Teekay (OOGTK)
LOCATION	Santos Basin, 230 km offshore Brazil
VESSEL	Converted vessel; (257 m (L), 42.5 m (B), 22.4 m (D))
FABRICATION	2015 - 2016; SOFEL (Triyards), Vietnam; Integration: Jurong Shipyard, Singapore
CLASS SOCIETY	American Bureau of Shipping (ABS)
DESIGN LIFE	20 years
WATER DEPTH	2400 m
SIG WAVE HEIGHT	11.6 m
MOORING SYSTEM	3 x 3 cluster, all chain mooring system
ANCHORING SYSTEM	Torpedo Piles
RISER SYSTEM	2 x 8" Oil Production Risers / 2 x 6" Service Risers / 3 x 6" Electro Hydraulic / Umbilicals 2 x 6" Gas Injection Risers



FSO SUKSAN SALAMANDER EXTERNAL CANTILEVER TURRET (EPC) AND SWIVEL

CLIENT	Salamander Energy / Teekay Shipping
LOCATION	Gulf of Thailand
VESSEL	Converted FSO; (210 m (L) x 38 m (B) x 19.6 m (D))
FABRICATION	2013 - 2014; SOFEL (Triyards), Vietnam; Integration: Yiu Lian, China
CLASS SOCIETY	American Bureau of Shipping (ABS)
DESIGN LIFE	15 years
WATER DEPTH	60 m
SIG WAVE HEIGHT	7.5 m (Cyclonic)
MOORING SYSTEM	3 x 3 cluster, all chain mooring system
ANCHORING SYSTEM	Drag Anchors
RISER SYSTEM	Lazy Wave; 2 x 6" Crude Import Riser, 1 x 6" Production Water Riser
SWIVEL SYSTEM	Two Product Buoy Type Swivel (2 x 6") Utility Swivel, (3 x 3/4")



RATU SONGKHLA FSO EXTERNAL CANTILEVER TURRET

CLIENT	Carigali-PTTEPI Operations Company Sdn Bhd / M3Nergy Bhd
LOCATION	Block B-17 and C-19, offshore Thailand
VESSEL	Converted FSO; (218 m (L), 32 m (B), 21 m (D))
FABRICATION	2008 - 2009; Keppel, Singapore
CLASS SOCIETY	American Bureau of Shipping (ABS)
DESIGN LIFE	20 years
WATER DEPTH	60 m
SIG WAVE HEIGHT	5.1 m
MOORING SYSTEM	6 x 1 cluster, all chain mooring system
ANCHORING SYSTEM	Driven Piles
RISER SYSTEM	1 x 8" Condensate Riser



PTSC BACH HO (FSO-05) EXTERNAL CANTILEVER TURRET

CLIENT	Petroleum Technical Services Company (PTSC) / Monobuoy
LOCATION	White Tiger and Dragon Oil Field, 200 miles offshore Vietnam
VESSEL	New Build FSO; (218 m (L), 32 m (B), 21 m (D))
FABRICATION	2008 - 2010; Vinashin, Vietnam
CLASS SOCIETY	American Bureau of Shipping (ABS)
DESIGN LIFE	20 years
WATER DEPTH	47 m
SIG WAVE HEIGHT	7.8 m
MOORING SYSTEM	3 x 3 cluster, all chain mooring system
ANCHORING SYSTEM	Driven Piles
RISER SYSTEM	2 x 8" Production Risers



PERISAI KAMELIA FPSO EXTERNAL CANTILEVER TURRET AND SWIVEL STACK

CLIENT	HESS Exploration and Production / EMAS Offshore Construction and Production
LOCATION	North Malay Basin, Malaysia
VESSEL	Converted FSO; (250 m (L) x 40 m (B) x 22 m (D))
FABRICATION	2012 - 2013; SOFEL (Triyards), Vietnam; Integration: Keppel, Singapore
CLASS SOCIETY	Det Norske Veritas (DnV)
DESIGN LIFE	15 years
WATER DEPTH	55 m
SIG WAVE HEIGHT	6.7 m (Cyclonic)
MOORING SYSTEM	3 x 3 cluster, all chain mooring system
ANCHORING SYSTEM	Driven Piles
RISER SYSTEM	Lazy Wave; 1 x 12" Gas Import, 1 x Export
SWIVEL SYSTEM	Double Path Toroidal Swivel (2 x 8") Utility Swivel (5 x ¾") Axial Swivel (8")



CAKERAWALA FSO EXTERNAL CANTILEVER TURRET

CLIENT	Carigali Triton Operating Company (CTOC), Saipem SpA
LOCATION	Gulf of Thailand, Thailand-Malaysia Joint Development Zone
VESSEL	Conversion; (166 m (L), 39 m (B), 21.7m (D))
FABRICATION	2000 - 2002; Samsung Heavy Industries, Korea
CLASS SOCIETY	American Bureau of Shipping (ABS)
DESIGN LIFE	30 years
WATER DEPTH	55 m
SIG WAVE HEIGHT	5.8 m
MOORING SYSTEM	6 x 1 cluster, all chain mooring system
ANCHORING SYSTEM	Driven Piles
RISER SYSTEM	1 x 6" Condensate Riser



FSU SOORENA EXTERNAL STERN CANTILEVER TURRET

CLIENT	National Iranian Oil Company (NIOC); Shell Exploration BV
LOCATION	Soroosh Field, Persian Gulf
VESSEL	Conversion; (330 m (L), 56 m (B), 28.6 m (D))
FABRICATION	2001; Sembawang, Singapore
CLASS SOCIETY	Lloyds
DESIGN LIFE	25 years
WATER DEPTH	45 m
SIG WAVE HEIGHT	5.9 m
MOORING SYSTEM	4 x 2 cluster, all chain mooring system
ANCHORING SYSTEM	Driven Piles
RISER SYSTEM	2 x 15" Export Riser



MUBARAKA FSU EXTERNAL STERN CANTILEVER TURRET

CLIENT	Crescent Petroleum Company International of Sharjah
LOCATION	Mubarek Field, Offshore Sharjah, UAE
VESSEL	Conversion; 81,000 DWT
FABRICATION	1992; Contech, Sharjah; Integration: Jebel Ali Docks, Dubai
CLASS SOCIETY	Lloyds
DESIGN LIFE	20 years
WATER DEPTH	61 m
SIG WAVE HEIGHT	5.3 m
MOORING SYSTEM	6 x 1 cluster, all chain mooring system
ANCHORING SYSTEM	Driven Piles
RISER SYSTEM	2 x 12" Submarine Hoses

