



TOTAL VALVE CONTROL

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## Abbreviated Reference List for Actuated Valves and Control Systems

<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Sakhalin Island	SEIC	Russia	-	Pneu SR and Springs	2011
Burnhervie MOC ROV	National Grid	UK	18"	Gas Hydraulic	2011
Jade J12 Flowline	Conoco Phillips	UK	2"	Hyd SR	2011
Carrington	National Grid	UK	12"	Direct Gas	2011
Salman SPD15	South Pars	Iran	1"-34"	Pneu SR/DA	2011
OSX-1 FPSO	OSX	Brazil	2", 4" & 10"	Pneu SR	2011
Carrington	National Grid	UK	24"	Direct Gas	2011
OSX-1 FPSO	OSX	Brazil	2", 6" & 8"	Pneu SR	2011
OSX-1 FPSO	OSX	Brazil	2", 3", 6", 10" &	Pneu SR	2011
Cormorant Alpha	Shell	UK	10"	Pneu SR	2011
West Sole Alpha	BP	UK	2"	Pneu SR	2011
Bonny	Shell	Nigeria	3" & 4"	Pneu SR	2011
OSX-1 FPSO	OSX	Brazil	4" & 8"	Pneu SR	2011
Jade	Conoco Phillips	UK	2"	Hyd SR	2011
Tupi Oil Field	Petrobras	Brazil	3", 16", 20" & 2	Pneu SR/DA	2011
Britannia	Britannia	UK	24"	Hyd SR	2011
Morecambe Bay Rivers	Burlington Resources	UK	4"	Pneu SR	2011

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Gas Pipeline Extension	Manx Electricity	UK	6"	Gas Hyd	2011
Kirriemuir	National Grid	UK	4"	Direct Gas	2011
Magnus	BP	UK	2 1/16"	Pneu SR	2011
Jiaxing PTA	-	China	8", 10"	Pneu SR/DA	2011
South Pars - Salman SPD16	South Pars	Iran	-	Pneu SR/DA	2011
Aseng FPSO Project	Noble Energy	Equatorial Guinea	10"	Pneu SR	2011
Dimlington	BP	UK	4"	Pneu SR	2011
Rough Storage	Centrica	UK	4"	Pneu SR	2011
Sakhalin Island	SEIC	Russia	-	Pneu SR	2011
Miskar Hannibal	BG Tunisia	Tunisia	10"	Pneu SR	2011
Janice	Maersk	UK	14", 20" Butterfl	Hyd DA	2011
Jade J12 Flowline	Conoco Phillips	UK	1.5"	Hyd SR	2011
Karachaganak	KPOC	Russia	2"	Pneu SR	2011
Jacky Oilfield	Ithaca Energy	UK	4"	Hyd SR	2011
Jade	Conoco Phillips	UK	1.5"-4.5"	Hyd SR	2011
EDF Revolution	EDF	UK	24" & 30"	Pneu SR	2011
EDF Revolution	EDF	UK	50 x 600	Pneu SR	2011
Babbage	Ruhrgas	UK	6"	Hyd DA	2011
Jade	ConocoPhillips	UK	1.5"	Hyd SR	2011
Jasmine	Conoco Phillips	UK	6", 10", 12", 14"	Pneu SR	2011

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Yizeng PTA	-	China	6"	Pneu SR	2011
Revolution	EDF	UK	16"	Pneu SR	2011
Revolution	EDF	UK	50mm, 80mm,	Pneu SR/Air Receivers	2011
York Field Development	Centrica	UK	-	Hyd DA	2011
Revolution	EDF	UK	50mm, 80mm	Pneu SR	2011
OSX-1 FPSO	OSX	Brazil	4", 12"	Pneu SR	2011
CTIEI	-	China	8"	Pneu SR	2011
Alwyn North B	Total	UK	-	Pneu SR	2011
Ensign Development	Centrica	UK	3/4", 2"	Hyd SR	2011
Cappagh South	Bord Gais	UK	-	Gas Hyd	2011
Revolution	EDF	UK	6"	Pneu SR	2010
Hatton Compressor Station	National Grid	UK	2", 8"	Hyd SR	2010
Sole Pit Clipper	Shell	UK	-	Pneu SR	2010
China PTA	CTIEI	China	8" & 10"	Pneu SR	2010
Karachaganak	KPOC	Russia	8"	Pneu SR	2010
Tehran Refinery Upgrading	NIOEC	Iran	3/4"-20"	Pneu SR	2010
Frame Agreement	Occidental	Qatar	6"	Hyd SR	2010
Triton Gas Lift Import Phase 3	Shell	UK	3" & 10"	Pneu/Hyd SR	2010
Dowglais AGI	Wales & West Utilities	UK	12"	Gas Hyd c/w Slamshut	2010
Scheihallion	BP	UK	1.5"	Pneu SR	2010

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Brent Charlie	Shell	UK	-	Pneu SR	2010
Replacement at Resak	Petronas Carigali	Malaysia	6"	Pneu SR	2010
Britannia	Britannia	UK	6"	Pneu SR	2010
Phase III Pipeline Debottlenecking	Occidental	Qatar	12" & 20"	Pneu/Hyd SR	2010
Anasuria	Shell	UK	2"	Pneu SR	2010
ABV for Kertih & Gambang	Petronas Gas	Malaysia	2" & 3"	Gas Hyd DA	2010
Bekok-C 878183	Petronas Carigali	Malaysia	3"	Pneu SR	2010
Sakhalin Island	SEIC	Russia	8" Butterfly	Pneu DA	2010
Britannia	Britannia	UK	6"	Pneu SR	2010
Kittiwake	Shell	UK	3"	Pneu SR	2010
Sakhalin	SEIC	Russia	-	Pneu SR	2010
Seligi & Semangkok Pipeline	Exxon Mobil	Malaysia	12"	Pneu DA/SR	2010
Tapis B	Exxon Mobil	Malaysia	28"	Pneu SR	2010
Britannia	Britannia Operator	UK	18"	Hyd SR	2010
Heather Field	Lundin	UK	24"	Pneu SR	2010
Kavarna	Melrose	Bulgaria	6"	Hyd SR	2010
Kaliakra	Melrose	Bulgaria	10"	Hyd SR	2010
Britannia	Britannia Operator	UK	2"	Pneu SR	2010
Clair	BP	UK	-	Pneu SR	2010
Anasuria	Shell	UK	-	Pneu SR	2010

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Zongheng PTA	Aker Kvaerner	China	6"	Pneu SR	2010
Leman	Shell	UK	2" & 3"	Pneu SR	2010
Upgrade Project	Exxon Mobil	Qatar	10" & 12"	Pneu DA/SR	2010
Triton Gas Lift Phase 3	Shell	UK	3"	Pneu SR	2010
Karachaganak	KPOC	Russia	2"	Pneu SR	2010
Hatton Compressor Station	National Grid	UK	30", 36", 42"	Hyd SR	2010
Jade	Conoco Phillips	UK	2"	Hyd SR	2010
Gilwern-Hafodyrynys	Wales & West Utilities	UK	12"	Direct Gas	2010
Bacton	Shell	UK	6"	Pneu SR	2010
Balmoral Development	CNR	UK	4"	Pneu SR	2010
Tapis B	Exxon Mobil	Malaysia	4"	Pneu SR	2010
Triton Gas Lift Phase 3	Shell	UK	2", 3" & 4"	Pneu SR	2010
BS160 Gas Dehydration System	KOC	Kuwait	1"-3"	Pneu SR	2010
Britannia	Britannia	UK	10"	Hyd SR	2010
Tern Alpha	Shell	UK	4"	Pneu SR	2010
Steel Mill	Corus	Netherlands	-	Hyd DA	2010
Abbot Development	-	-	2"	Pneu SR	2010
Fulmar	Talisman	UK	2"	Pneu SR	2010
South Batra Booster Compression	Melrose/Odyssey	Egypt	2", 8" & 10"	Pneu SR/Air Receiver	2010
Replacement at Resak	Petronas Carigali	Malaysia	2", 6"	Pneu SR	2010

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Upgrade Project	Exxon Mobil	Malaysia	16"	Pneu SR	2010
Britannia	Britannia Operator	UK	6"	Pneu SR	2010
Anasuria	Shell	UK	-	Pneu SR	2010
Inamenas	BP/Statoil/Sonatrach	Algeria	-	Hyd SR	2010
Tronoh City Gas Station	Petronas Gas	Malaysia	3"	Gas Hyd DA	2010
Tehran Refinery Upgrading	NIOEC	Iran	2"-20"	Pneu SR	2010
Karachaganak	KPOC	Russia	6"	Pneu SR Linear	2010
Bovanenkovo-Ukhta	Gazprom	Russia	DN300	Electro Hydraulic	2010
Mongstad	Statoil	Norway	2"	Pneu SR	2010
Replacement Valves	Occidental	Qatar	1"-12"	Pneu/Hyd SR	2010
Leman	Shell	UK	2"	Pneu SR	2010
Valve Replacement Onshore	Occidental	Qatar	2"	Hyd SR	2009
Four Gas Compressor Stations - IGAT IV	NIGC	Iran	3" & 4"	Gas Hyd	2009
H2S Detection & Interlock at Amine Overhead	Petronas Penapisan (JV Conoco Phillips)	Malaysia	10", 12", 14" &	Pneu SR	2009
Turano Lodigiano Bertónico	Sorgenia	Italy	6"	Pneu SR	2009
Immingham Storage	Immingham CHP	UK	14"	Pneu SR	2009
FSO Urwasi Keppel Shipyard	PT Apol Cemerlang	Indonesia	6" & 12"	Hyd SR	2009
GPP B, Tok Arun Terengganu	Petronas Gas	Malaysia	4" & 10"	Pneu SR	2009
Forties Delta	Apache	UK	1", 2", 4", 6", 8"	Pneu/Hyd SR	2009
Curlew 'C' Gas Lift	Maersk	Norway	2"	Hyd SR	2009

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West Dikirnis	Melrose	Egypt	2", 6" & 8"	Pneu SR	2009
Beryl B	Mobil	UK	4"	Pneu SR	2009
Britannia	Britannia	UK	10"	Hyd SR	2009
West Dikirnis	Melrose	Egypt	4"	Pneu SR	2009
Braefoot Bay	Shell	UK	2"	Pneu SR	2009
Sakhalin	SEIC	Russia	2"	Pneu SR	2009
Kharyaga Phase 3	Total	Russia	8"	Pneu SR	2009
Jade	Conoco Phillips	UK	2"	Hyd SR	2009
Forties Delta	Apache	UK	1", 2", 3" & 4"	Pneu SR	2009
Babbage	Ruhrgas	UK	6"	Hyd DA	2009
Peru LNG Top Ups	Peru LNG	Peru	12" & 24"	Pneu SR	2009
Karachaganak	KPOC	Russia	20" Gate	Hyd DA Linear	2009
Leman 49/27/H	Perenco	UK	1" & 6"	Pneu SR	2009
Yas Island	-	Abu Dhabi	16"	Gas Hydraulic	2009
Mossmorran	Shell	UK	14"	Pneu SR	2009
Babbage	Ruhrgas	UK	12"	Hyd SR	2009
Inamenas	BP/Statoil/Sontrach	Algeria	8"	Hyd SR c/w Hydraulic	2009
Kharyaga Phase 3	Total	Russia	6" & 8"	Pneu & Hyd SR	2009
Triton FPSO	Amerada Hess	UK	4"	Pneu SR	2009
Fawley	Exxon Mobil	UK	3"	Pneu SR	2009

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Braishfield	Transco	UK	18" & 30"	Gas Hyd/Slam Shut Ca	2009
Babbage	Ruhrgas	UK	1", 2", 3" & 6"	Hyd SR	2009
Forties Charlie	BP	UK	1", 1.5", 3" & 4"	Pneu SR	2009
Peru LNG	Peru LNG	Peru	30"	Pneu SR	2009
Salman Offshore	Pedco	Iran	3"	Pneu SR	2009
Forties	Apache	UK	6"	Pneu DA	2009
Peru LNG	Peru LNG	Peru	3"-30"	Pneu SR	2009
Ruby FPSO	Petronas	Vietnam	12"	Pneu SR	2009
ESP Plant	PTT	Thailand	18"-34"	Pneu SR	2009
Forties	Apache	UK	6"	Pneu SR	2009
West Don & Don South West	Petrofac	UK	1"	Pneu SR	2009
Sakhalin	SEIC	Russia	4" & 6"	Pneu SR	2009
North Alwyn	Total	UK	2"	Hyd SR	2009
Gamba	Shell	Gabon	450 mm	Pneu SR	2009
Buzzard	Nexen	UK	2"	Pneu SR	2009
Claymore	Talisman	UK	3"	Pneu SR	2009
CPOC FPSO B-17 Development	CPOC (JV Carigali & PTTEP)	Malaysia	8" & 24"	Hyd SR	2009
Marshfield	Severn Gas	UK	450 mm	Gas Hydraulic	2009
Gas Separation Plant	PTT	Thailand	18"-34"	Pneu SR	2009
PFK Gas Metering Upgrading	Petronas Gas	Malaysia	8" & 10"	Gas Hyd	2009

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Khor Mor LPG Recovery Plant	Crescent Petroleum/Dana Gas	UAE	6" & 8"	Pneu SR	2009
Babbage	Ruhrgas	UK	2"	Hyd SR	2009
Scottish Power Station	-	UK	1" & 1.5"	Hyd SR	2009
Brent Alpha	Shell	UK	-	Pneu SR	2009
China Prosperity (Jiang Yin) PTA	-	China	3"-8"	Pneu SR	2009
Artenius Mega PTA	-	Portugal	3"-8"	Pneu SR	2009
Nelson	Shell	UK	1"	Pneu SR	2009
ZhenHai Refinery China	SEI	China	16"-28"	Pneu SR	2009
Sakhalin	SEIC	Russia	4"	Pneu SR Linear	2009
FPSO Jubilee Field Unit	Tullow Ghana	Ghana	8"	Pneu SR	2009
Al-Dora Refinery Baghdad	NIOC	Iraq	0.75"-12"	Hyd SR	2009
Dulang Platform Offshore	Petronas Carigali	Malaysia	6"	Pneu SR	2009
Dunbar Topsides	Total	UK	8"	Pneu SR	2009
Jingu Power Plant	-	China	450 mm	Pneu DA	2009
Replacement at RESAK	Petronas Carigali	Malaysia	6"	Pneu DA	2009
ZhenHai Refinery China	SEI	China	4"-10"	Pneu SR	2009
Fertil Urea Debottlenecking	Ruwais Fertilizer Ind.	Abu Dhabi	2" & 3"	Pneu SR	2009
Peru LNG Top Ups	Peru LNG	Peru	2"-24"	Pneu SR	2009
Gas Metering Stations	Khalda	Egypt	2", 3", 4", 6"	Pneu SR	2008
In Salah Gas	Sonnatrach	Algeria	2" & 12"	Pneu SR	2008

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ETCE 1464	Proman	Trinidad	8" Butterfly	Pneu SR	2008
ETCE Qatar	ETCE	Qatar	12" Butterfly	Pneu SR	2008
Jade	Conoco Phillips	UK	2"	Hyd SR	2008
F23 Vlap & Cili Padi	Shell Sarawak Berhad	Malaysia	10" & 20"	Pneu SR	2008
Humbley Grove	Star Energy	UK	2"	Pneu SR	2008
Kirriemuir	National Grid	UK	6"	Pneu SR	2008
Triton FPSO	Hess	UK	8"	Pneu SR	2008
Sakhalin Island	SEIC	Russia	2"	Pneu SR	2008
Inamenas	BP/Statoil/Sontrach	Algeria	20"	Pneu SR	2008
Thistle Alpha	Lundin	UK	2"	Pneu SR	2008
Karachaganak	KPOC	Russia	2", 3", 4", 9", 16"	Pneu DA	2008
FPU Petrobras 51	Petrobras	Brazil	10", 12", 16"	Pneu SR	2008
Jingu Power Station	-	China	450 mm	Pneu DA	2008
Mongstad	Statoil	Norway	4", 6", 10", 12"	Pneu SR	2008
Mongstad	Statoil	Norway	24" Butterfly	Pneu SR	2008
Sangachal Terminal	BP Caspian	Azerbaijan	8" & 10"	Pneu SR	2008
Full Field Development	AIOC	Azerbaijan	6", 8" & 10"	Pneu SR	2008
Sangachal Terminal	BP Caspian	Azerbaijan	10" Butterfly	Pneu SR	2008
Annabel	Venture	UK	3/4"	Hyd SR	2008
Montrose Platform	Talisman	UK	2" & 6"	Pneu SR	2008

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Dunbar Topsides	Total	UK	3", 4", 6", 8", 10	Pneu SR	2008
North Alwyn B	Total	UK	24"/1500	Hyd SR	2008
North Alwyn B	Total	UK	6"	Pneu SR	2008
West Dikirnis	Melrose	Egypt	2"	Pneu SR	2008
Kirriemuir	Transco	UK	2", 6", 24" & 36"	Pneu SR	2008
Wytch Farm	BP	UK	4", 8", 10"	Pneu SR	2008
Sakhalin	SEIC	Russia	6"	Pneu SR	2008
Cormorant	Shell	UK	200 mm	Pneu SR	2008
Bleo Holm	Bluewater	UK	20"	Pneu SR	2008
Borouge 2	EU Tecnicas Reunidas	UAE	44" Butterfly	Pneu SR	2008
Ensign	SLP	UK	3" & 10"	Hyd SR	2008
North Alwyn	Total	UK	2"	Hyd SR	2008
Ninian North	CNR	UK	1"	Pneu SR	2008
Nexus LP Compressor	Nexus	Norway	2"-6"	Pneu SR	2008
Upgrading Prai City Gate Station	Petronas Gas	Malaysia	10"	Gas Hyd	2008
Underground Gas Storage Facility EPE3	Ruhrigas	Germany	16"	Pneu SR	2008
Pembroke	Texaco	UK	16" Plug	Pneu SR	2008
Immingham	National Grid	UK	6", 10"	Pneu SR	2008
Wormington	National Grid	UK	2" & 4"	Pneu SR	2008
Farningham	National Grid	UK	18"	Pneu DA	2008

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Triton	Hess	UK	2"	Pneu SR	2008
Janice A	Maersk	UK	-	Pneu SR	2008
Forties Charlie	Apache	UK	4"	Pneu SR	2008
West Dikirnis	Melrose	Egypt	2" & 4"	Pneu SR	2008
Sean Papa	Shell	UK	-	Pneu SR	2008
Pulai A Offshore	Petronas Carigali	Malaysia	4"	Pneu SR	2008
Dulang B Offshore Platform	Petronas Carigali	Malaysia	8"	Pneu SR	2008
West Dikirnis	Melrose	Egypt	2", 3", 4", 6" & 8"	Pneu SR	2008
Leadon	Kerr McGee	UK	6"	Pneu SR	2008
Sakhalin Island	SEIC	Russia	2"	Pneu SR	2008
Fredericia Refinery	Shell	Denmark	500 mm Butterfl	Pneu SR	2007
Karsto	Gasco	Norway	12" Butterfly	Pneu SR	2007
North Alwyn B	Total	UK	6"	Pneu SR	2007
Centrica Storage	Centrica	UK	2"	Pneu SR	2007
Nexus LP Compressor	Nexus	Norway	2"	Pneu SR	2007
Janice	Kerr McGee	UK	-	Pneu SR	2007
Port Said Optimisation	UGDC	Egypt	2"	Pneu SR	2007
Bravo/Charlie Booster Pump Discharge	Shell	UK	4", 6" & 8"	Pneu SR	2007
OGD 3	Gasco	UAE	48"	Gas Hydraulic/Local R	2007
Karachaganak	KIVO	Kazakhstan	6"	Linear	2007

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Sakhalin Island Offshore	SEIC	Russia	3", 4", 6", 10" &	Pneu SR	2007
Ketch	Tullow	UK	1/2"	Hyd SR	2007
Affleck over Clyde	Talisman	UK	6"	Hyd SR	2007
Sakhalin Island Phase II	SEIC	Russia	3"	Pneu SR	2007
Sakhalin Island	SEIC	Russia	2" & 8"	Pneu SR Linear	2007
Milford Haven to Aberdulais Pipeline	National Grid	UK	48"	Gas Hydraulic/Control	2007
Moho Bilondo	Total E&P	Congo	18"	Pneu SR	2007
Choakford AGI	National Grid	UK	16"	Direct Gas/Control Cab	2007
Cowpen Bewley	Transco	UK	12"	Pneu DA/Control Cabin	2007
P53 Platform	Petrobras	Brazil	-	Pneu SR	2007
Inamenas	BP/Statoil/Sonatrach	Algeria	10"	Hyd SR	2007
Bhit	Lasmo	Pakistan	2"	Pneu SR	2007
Sakhalin Island Phase II	SEIC	Russia	2"	Pneu SR	2007
Kinsale Head Gas Complex	Marathon	Ireland	10"	Hyd DA	2007
AKPO	Total	Nigeria	-	Pneu Linear	2007
Bacton	Shell	UK	10"	Pneu SR	2007
Duart Gas Lift	Talisman	UK	3"	Pneu SR	2007
Starling over Shearwater	Shell	UK	1 1/2" & 3"	Pneu SR	2007
Isle of Grain	National Grid	UK	1.5" & 2"	Pneu SR	2007
Forties	Apache	UK	6"	Pneu SR	2007

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Teeside	Conoco Phillips	UK	4", 6", 8", 10" &	Pneu SR	2007
West Dikirnis Field Dev.	Melrose	Egypt	2", 4", 6", 8" & 1	Pneu SR	2007
Rio Tuba Nickel HPP	-	-	10"	Hyd DA, HPU, Accumu	2007
Sakhalin Island	SEIC	Russia	12"	Pneu SR	2007
Sakhalin Island II	SEIC	Russia	8"	Pneu DA	2006
Schooner	Shell	UK	1/2"	Hyd SR	2006
Ketch	Tullow	UK	1/2"	Hyd SR	2006
Alba	Chevron	UK	2"	Pneu SR	2006
Bleo Holm	Talisman	UK	8", 10", 20" Butt	Subsea Hyd DA	2006
Apache	Apache	Mexico	6", 8", 10" & 12"	Pneu SR	2006
Cavendish Field	Aquila	UK	1"	Pneu SR	2006
Tartan Simplification	Talisman	UK	4" & 6"	Pneu SR	2006
Tartan Process Upgrade	Talisman	UK	3" & 12"	Pneu SR	2006
Clyde	Talisman	UK	1.5"	Pneu SR	2006
CJSC Rospan - Onshore ESD Valves	Rospan	Russia	3", 6", 12" & 16"	Pneu SR	2006
Sakhalin Island	SEIC	Russia	24"	Pneu SR	2006
Kodiana	BTC	Georgia	30"	Hyd DA/Control Cabine	2006
Kinsale Head Gas Complex	Marathon	UK	10" & 12"	Pneu SR/Hyd DA	2006
Chad-Cameroon Development	Chevron	Chad	3"	Pneu SR	2006
Affleck over Clyde	Talisman	UK	6"	Hyd SR	2006

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Bonga	Shell	Nigeria	1" & 3"	Pneu DA	2006
Affleck over Clyde	Talisman	UK	2" & 6"	Hyd SR	2006
Easington	Centrica	UK	3"	Pneu SR	2006
Sakhalin Island II	SEIC	Russia	2"	Pneu SR	2006
Toucan	Shell	Gabon	1" & 3"	Pneu SR	2006
Clyde	Talisman	UK	1"	Pneu SR	2006
Alwyn Platform	Total	UK	-	Pneu SR	2006
Brent Charlie	Shell	UK	4" & 2"	Pneu SR	2006
Southall	Transco	UK	30"	Hyd DA	2006
Jade	Phillips	UK	1.5" & 2"	Hyd SR	2006
Ravenspurn	BP Exploration	UK	-	Pneu SR	2006
Toucan	Shell	Gabon	6"/600	Pneu SR	2006
Antan Topsides	-	Nigeria	3" & 4"	Pneu SR	2006
Ninian Southern Platform	CNR	UK	12"/150 Butterfl	Pneu SR	2006
Teeside Marine Vapour Recovery	Conoco Phillips	UK	3", 8", 10", 14"	Pneu DA/SR	2006
Maleo Offshore	Santos	Indonesia	2"-12"	Pneu SR	2006
Alba North Platform	Chevron	UK	2" & 4"	Pneu SR	2006
Brent Charlie	Shell	UK	4"	Pneu SR	2006
Brent Charlie	Shell	UK	4" & 3"	Pneu SR	2006
D211 Antan FPSO Topsides	Adoon PTE	UAE	2"/150-10"/1500	Pneu SR	2006

## Abbreviated Reference List for Actuated Valves and Control Systems

<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
AGT Pipeline	BP	Azerbaijan	2"	Actuators/Control Cabi	2006
Brent Charlie Penguin	Shell	UK	4"	Pneu SR	2006
Brent-Charlie	Shell	UK	4"	Pneu SR	2006
Brecon to Tirley	National Grid	UK	18" & 30"	Gas Hydraulic/Slam Sh	2006
Falcon	Dubai Aluminium	Dubai	4"	Pneu SR	2006
Captain - BLP Gas Letdown Station	Texaco	UK	2" & 4"/1500	Pneu SR	2006
AKPO	Total	Nigeria	-	Pneu DA Linear	2006
Wragby AGI	Transco	UK	18"/600	Hyd DA/Control Cabine	2006
PS1 Platform	Occidental	Qatar	6"	Pneu SR	2006
Brent Delta	Shell	UK	-	Pneu SR	2006
Pazanan Gas Conditioning	NIOC	Iran	6"/300 & 6"/900	Hyd SR/Control Cabine	2006
Southall	Transco	UK	6"	Pneu DA	2006
Captain	Texaco	UK	8"/2500 Ball	Pneu SR	2006
Milford Haven to Aberdulais Pipeline	National Grid	UK	18", 30", 36" &	Gas Hydraulic	2006
Transco - Poole	Transco	UK	24"	Linear	2005
Salman Offshore	Pedco	Iran	3/4"/150	Pneu SR	2005
Salman Offshore Facilities EPC-2	-	Iran	3/4" & 3"	Pneu SR	2005
Talisman Claymore Alpha	Talisman	UK	2"	Pneu SR	2005
Atlantic & Cromarty Extension	Exxon Mobil	UK	2" & 4"	Pneu SR/DA	2005
Sole Pit Clipper	Shell	UK	1.5"	Pneu SR	2005

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<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Jade	Phillips	UK	1.5" & 2"	Hyd SR	2005
Schiehallion	BP	UK	2"/150	Pneu SR	2005
De-Ruyter Development Area	Petrocanada	Dutch Sector North Sea	0.75"-16"	Pneu/Hyd SR	2005
Sakhalin Island Phase II	SEIC	Russia	2" & 3"/150 & 3"	Pneu SR/DA	2005
ODIDI Gas Link Pipeline	Shell	Nigeria	2", 3", 4" & 8"/1	Pneu SR	2005
Leman Alpha	Shell	UK	3"/150	Hyd SR	2005
Centrica	Centrica	UK	8"	Pneu SR	2005
Leman Alpha	Shell	UK	3"/600	Pneu SR	2005
Forties Charlie Upgrade	BP	UK	1", 2", 3", 4" & 6"	Pneu SR	2005
Atlantic & Cromarty	Exxon Mobil	UK	1.5"/1500	Pneu SR	2005
Sakhalin Island Offshore	SEIC	Russia	2"/600	Pneu SR	2005
Medway Powerstation	SSE	UK	2"/600 & 10"/60	Pneu SR	2005
Apache	Apache	China	4"/300	Pneu DA	2005
ECAPS	Centrica	UK	3"/900	Hyd SR	2005
Apache Forties Charlie	Apache	UK	1"-4"/600	Pneu SR	2005
Karsto Refinery - Statpipe Mods	Statoil	Norway	1"/300	Pneu SR	2005
Balmoral Development	Talisman	UK	3"/300	Pneu SR	2005
Sakhalin Island	SEIC	Russia	6"/150	Pneu SR	2005
Sakhalin Island - Parking Loop	SEIC	Russia	8"/300	Pneu SR	2005
Bacton Gas Renewal	BP	UK	2", 4", 20" & 36"	Pneu/Hyd SR	2005

## Abbreviated Reference List for Actuated Valves and Control Systems

<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Sakhalin Island	SEIC	Russia	6"/150 Butterfly	Pneu SR	2005
Karachaganak	KPOC	Russia	6"/2500	Linear	2005
Inamenas	BP/Statoil/Sonatrach	Algeria	10" & 12"	Hyd SR/Self Contained	2005
Toucan	Shell	Gabon	10"/150 & 4"/15	Linear SR	2005
Horne & Wren over Thames	Mobil	UK	1"/2500	Pneu SR	2005
Sakhalin Island Phase 2 - ESD Valves	SEIC	Russia	1" & 2"	Pneu SR	2005
Humbly Grove Gas Storage	Star Energy	UK	2"-20"	Pneu SR	2005
Wooler	Transco	UK	2" & 4"	Pneu SR	2005
Sakhalin Island Phase II	SEIC	Russia	2"-10"	Pneu DA Linear	2005
Jordanian Gas Pipeline	ENPPI	Jordan	16" & 20"	Pneu SR	2005
White Rose	-	Canada	2"	Pneu SR	2005
Ravenspurn	BP	UK	1.5"	Pneu SR	2005
Talisman Clyde	Talisman	UK	6"	Pneu SR	2005
Amethyst	BP	UK	1"	Hyd SR	2005
Apache Forties	Apache	UK	1"	Hyd SR	2005
Beryl Alpha	Exxon Mobil	UK	36"	Pneu/Hyd DA	2005
QPD Japan	Qatar Petroleum	Qatar	1"-10"	Pneu SR	2005
Karachaganak	KPOC	Russia	6" & 10"	Pneu SR	2005
CHP Conversion	Phillips	UK	2"	Pneu SR	2005
Sakhalin Island Phase II	SEIC	Russia	1.5", 2" & 8"	Pneu SR/DA	2005

## Abbreviated Reference List for Actuated Valves and Control Systems

<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Karachaganak	KPOC	Russia	1"	Pneu SR	2005
ECAPS	Hydrocarbons Resources	UK	3/4"	Hyd SR	2005
Toucan	Shell	Gabon	8"	Pneu SR	2005
Statpipe Modifications to Karsto	Statoil	Norway	1" & 2"	Pneu SR	2005
Hyde Platform	BP	UK	1"	Hyd SR	2005
Andrew Development	BP	UK	10" & 12" Gate	Pneu Linear SR	2005
Agrolinz	Agrolinz	Austria	-	Pneu SR	2005
Viking B Platform	Conoco Phillips	UK	2"/1500	Pneu SR	2004
Tengizchevroil	TCO	Kazakhstan	24" & 30" Class	Gas Over Oil/Control C	2004
Sakhalin Island Offshore	SEIC	Russia	2" 1500	Linear	2004
Sakhalin Island II Offshore	SEIC	Russia	1/2"	Pneu SR	2004
Viking B Platform	Conoco Phillips	UK	2"	Pneu SR	2004
AGT Pipeline	AGT	Azerbaijan	2", 4", 12"	Pneu SR/DA	2004
Andrew Development	BP	UK	3", 10", 12" Gat	Linear/Pneu SR	2004
North Alwyn B Platform	Total	UK	2"/600	Pneu SR	2004
Rhum	BP	UK	1" Class 150	Pneu SR	2004
Piper Bravo	Talisman	UK	6"/1500	Pneu SR	2004
Annabel Platform	BP	UK	10" x 10" 2500	Hyd SR	2004
Marun	NIOC/SPEC	Iran	8"-36" Class 30	Gas Over Oil	2004
Forties Delta	Apache	UK	2", 3" & 4" Clas	Pneu SR	2004

## Abbreviated Reference List for Actuated Valves and Control Systems

<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Buzzard	EnCana	UK	3" & 4" Class 6	Pneu SR	2004
Piper Bravo	Talisman	UK	4" Class 1500	Pneu SR	2004
Lusge Gorm	Bluewater	UK	6" Class 1500	Pneu SR	2004
Jade	Conoco Phillips	UK	2" & 1.5" API 11	Hyd SR	2004
Forties Power & Gas Ringmain	Apache	UK	2"-6"	Pneu SR	2004
Ravenspurn North	BP	UK	1", 2"	Pneu SR	2004
Tartan	Talisman	UK	6"/150	Pneu SR	2004
Forties Charlie	Apache	UK	2" 1500	Pneu SR	2004
Toucan	Shell	Gabon	6"/900	Pneu SR	2004
Leman Alpha	Shell	UK	2" 600	Pneu SR	2004
NIGC	NIGC	Iran	30"/600	Gas/Hydraulic	2004
Inamenas	BP/Statoil/Sonatrach	Algeria	12"/600	Pneu SR	2004
VPC Venture Annabel (Audrey B Platform)	BP	UK	3/4"/2500 Ball	Hyd SR	2004
Mobil Arthur over Thames	Mobil	UK	1"/2500, 2"/250	Pneu SR	2004
Toucan	Shell	Gabon	2"-8"	Pneu SR	2004
Claymore Alpha	Talisman	UK	2"/300	Pneu SR	2004
BPA Thames	BPA Pipeline	UK	12" Class 600	Hyd DA	2004
Mobil Arthur over Thames	Mobil	UK	3"/900, 12"/900	Pneu SR	2004
Rough Field Development	Centrica	UK	6"/300	Pneu SR	2004
47/3B Bravo Platform	Centrica	UK	2"/1500	Pneu SR	2004

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<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Bonny HAG West Gas Upgrade	Shell	Nigeria	2"/150	Pneu SR	2004
Atlantic & Cromarty	Mobil	UK	2"-16" HIPPS	Linear/Rotary Pneu SR	2004
Toucan	Shell	Gabon	1"	Pneu SR	2004
Alba	Chevron	UK	4" Class 300	Pneu SR	2004
Atlantic & Cromarty	Mobil	UK	2"/600, 14"/900	Pneu DA	2004
Karachaganak	KPOC	Russia	20"	Hyd DA Linear c/w HP	2004
NIOC Central	NIOC	Iran	8"	Hyd SR	2004
Damietta	SEGAS	Egypt	20", 24", 30", 36"	Pneu SR	2004
North Port Said Concession	Petrobel	Egypt	1"-3" Ball	Hyd SR	2004
Sakhalin Island Phase II - Offshore On/Off & ESD Valves	SEIC	Russia	2" & 5" Butterfly	Pneu SR	2004
North Port Said Concession PFD-54	Petrobel	Egypt	14" & 16"	Pneu DA	2004
Bulgaria Gas Pipeline	Bulgargas	Bulgaria	2" & 8"	Hyd DA	2004
Bonny	Shell	Nigeria	14" & 16" Class	Pneu DA	2004
Sakhalin Island Phase II - Offshore On/Off & ESD Valves	SEIC	Russia	0.5"-24" Ball	Pneu/Hyd SR	2004
Angostura	BHP Biliton	Trinidad	4", 16", 18", 20"	Pneu SR/DA	2004
Rough Compressor By-pass Valve - Centrica Easington	Centrica	UK	30"/600 Ball	Hyd SR	2004
SUTL Co-Generation Plant	-	UK	6"	Pneu SR	2004
Pierce Development	Bluewater	UK	1"/300 & 1.5"/3	Pneu SR	2004
Angostura	BHP	Trinidad	2"-12"	Pneu SR/DA	2004
Rhum	BP	UK	1/2"-6" Class 15	Pneu SR	2004

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<u>Project Name</u>	<u>End User</u>	<u>Location</u>	<u>Valve Size</u>	<u>Actuator Type</u>	<u>Supplied</u>
Forties Echo Flowlines	Apache	UK	4" Class 1500	Hyd SR	2004
Sakhalin Island - Piltun Platform	SEIC	Russia	3", 4", 6" & 20"	Pneu/Hyd SR	2004
Sakhalin Island - Lunskey Platform	SEIC	Russia	3", 6", 10" Butte	Pneu SR	2004
AGT	BP	Azerbaijan	12"/600	Direct Gas	2004
North Port Said Concession	Petrobel	Egypt	1"-10" Ball	Hyd SR/DA	2003
Kwale-Okpai Gas Plant	NAOC	Nigeria	4"/150 Ball	Pneu SR	2003
NLNG Phase 3 (Obiafu-Obrcon/Irri)	NAOC	Nigeria	2"-16"	Pneu SR	2003
Angostura	BHP Biliton	Trinidad	8"-10"	Hyd SR	2003
Damietta	Egypt LNG	Egypt	20", 24", 56" Bu	Pneu SR	2003
North Port Said Concession	Petrobel	Egypt	10"-26" Ball	Hyd DA	2003
AH001	Amerada Hess	UK	16"	Pneu SR	2003
Dragon LNG Import Terminal	Dragon LNG	UK	1.5"-30" Class 9	Pneu SR	2003
North Alwyn LLP Production	Total Elf Fina	UK	4", 14" Ball	Pneu SR	2003
Angostura	BHP Biliton	Trinidad	2"-18" Ball	Pneu SR	2003
Karachaganak	Karachaganak Petroleum Development Co	Kazakhstan	6"	Pneu Linear	2003
AH001	Amerada Hess	UK	-	Hyd DA	2003
Angostura	BHP Biliton	Trinidad	8" & 10" Ball	Hyd SR	2003
Pierce Water Injection	Bluewater	UK	4" & 6"/150 Butt	Pneu SR	2003
Karachaganak Field Development	KIVO	Kazakhstan	3"/600, 3"/2500,	Pneu Linear	2003
CNR Ninian South	CNR	UK	10"/600 Ball Val	Pneu SR	2003

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West Sole Alpha New Compressor Package	BP	UK	2"	Pneu SR	2003
Loggs	Phillips	UK	2" x 1500 Ball V	Pneu SR	2003
Leman	Shell	UK	2"	Pneu SR	2003
AH001	Amerada Hess	UK	-	Pneu SR	2003