

Reference List - HELIXCHANGER Heat Exchangers

#	Enduser	EPC / FEED	Plant Location	Country	Year	Services	Industry	Process	Units	Diameter	Length
1	Kuwait Petr. Europoort		Netherlands	Netherlands	1994	Cat. Refm. F/E Exch. (Study)	Refining	Reformer	1	1950	21000
2	MAGMA (BHP) Copper		San Manuel, AZ, USA	USA	1995	HP Water-Water Coolers	Mining		3	889	6670
3	Nerefco		Rotterdam, Netherlands	Netherlands	1995	Heat Recovery Train CDU	Refining	CDU	2	203	2440
4	Staatsolie	Lummus-Hague	Surinam	Surinam	1995	Heat Recovery Train CDU	Refining	CDU	6	533-711	3658-6096
5	Wintershall A. G.		Lingen, Germany	Germany	1995	Gasoil-Crude Cooler (w/HiTran)	Refining	CDU	1	998	4880
6	API Raffineria	Lummus-Weisbdn	Falconara, Italy	Italy	1996	Texaco Gas'r SS Preheaters	Power	IGCC	13	950-1230	3660-7300
7	ESHA Smid & Hollander		Amsterdam, Netherlands	Netherlands	1996	Bitumen-Crude Exch. BBU	Refining	BBU	1	780	4500
8	Genius Vos/UNA		Netherlands	Netherlands	1996	District Heating Exch.(Study)	Power		4	1270-1372	10000
9	UTP	Lummus-Houston	Geismar, LA, USA	USA	1997	Secondary Quench Exchs.	Olefins	Sec-TLE	10	787	6096-7315
10	Texaco Refining		Wilmington, CA, USA	USA	1997	Debutanizer Reboiler	Refining	FCC	1	1117	6096
11	MiRO		Germany	Germany	1997	N-Butane Condenser	Refining		1	792	3400
12	Total Raffinaderij N.V.		Vlissingen, Netherlands	Netherlands	1997	Feed/Effluent Exchangers	Refining	HTU	4	787	6100
13	Yanpet	Lummus-Houston	Yanbu, S. Arabia	S. Arabia	1997	Secondary TLEs	Olefins	Sec-TLE	9	1372	7000
14	SAMREF - Mobil		Yanbu, S. Arabia	S. Arabia	1997	Crude/Bottoms PA Exchs.	Refining	CDU	2	1321	6100
15	Exxon Co.		Baytown, TX, USA	USA	1997	Ethylene Refrigerent Cooler	Olefins	Ethylene	1	737	4877
16	Total Raffinage Dist.		Harfleur, France	France	1998	Crude Exchangers (Study)	Refining	CDU	10	1164-1221	6100
17	Petro-Canada		Montreal, Canada	Canada	1998	Flue Gas Precooler	Refining	FCC	1	1473	3962
18	ESSO Norge AS		Slagen, Norway	Norway	1998	Desalter Washwater-Brine	Refining	SWS	2	660	6100
19	Mobil Oil		Beaumont, TX, USA	USA	1998	Crude Exchangers CDU	Refining	CDU	2	940	6096
20	Petro-Canada		Alberta, Canada	Canada	1998	Lean DEA Coolers	Refining	Amine	2	533	6096
21	DuPont	Fluor	Orange, TX, USA	USA	1998	Acetylene Conv. Eff. Cooler	Olefins	C2H2	1	1778	6096
22	Cytec Ind.		Fortier, LA, USA	USA	1998	NSB Economizer	Chemical		1	660	6096
23	Total Raffinage Dist.		Dunkirk, France	France	1999	Vac.Res.-Atm.Res. VDU	Refining	VDU	4	1164	6100
24	DuPont	Fluor	Orange, TX, USA	USA	1999	Acetylene Conv. Eff. Cooler	Olefins	C2H2	1	1778	6096
25	Coastal Ref.		Corpus Christi, TX, USA	USA	1999	Naphtha PA/Crude Oil Exch.	Refining	CDU	1	1080	6096
26	API Raffineria di Ancona		Falconara, Italy	Italy	1999	Tar Heater	Power	IGCC	1	860	8000
27	Mobil Oil		Beaumont, TX, USA	USA	1999	Crude Exchangers CDU	Refining	CDU	2	940	6096
28	Haltermann		Antwerpen, Belgium	Belgium	1999	Cooling Water/Hydrocarbon	Chemical		2	508	2500
29	SAPREF (Shell - BP)	Fluor	Durban, South Africa	S. Africa	1999	VB Bitms/Steam Reboiler VBU	Refining	VBU	5	584-1092	6500
30	Exxon Co.	Bechtel	Baytown, TX, USA	USA	1999	Vac. Resid/H. Coker Gas Oil	Refining	Coker	4	1143-1168	6096
31	Wintershall A.G		Lingen, Germany	Germany	1999	OVHD Cond. / Crude Oil CDU	Refining	CDU	1	1374	4880
32	Exxon Co.	Fluor	Baytown, TX, USA	USA	2000	Fuel Raw Crude/150# Steam	Refining	Coker	2	914	4877
33	Agip Petroli S.P.A.		Livorno, Italy	Italy	2000	Unifining Platformer F/E Exch.	Refining	Reformer	1	762	6096
34	ExxonMobil		Baytown, TX, USA	USA	2000	R. Effluent/Fresh Feed Exch.	Refining	HCU	1	1092	5944
35	ExxonMobil	Jacobs	Billings, Montana, USA	USA	2000	Cold Coker Feed Preheat Exch.	Refining	Coker	2	940	7315
36	Cytec		Rotterdam, Netherlands	Netherlands	2000	Cooling water / Acrylamide 50%	Chemical	Acrylamide	1	304	3657
37	SRS GmbH (Lube Oil)		Salzbergen, Germany	Germany	2000	Vac.Res. / Atm.Res. (Lube Oil)	Refining	Lube-Oil	1	438	4873
38	Indian Oil Corp. Ltd.		Haldia, India	India	2000	Short Res. / Red. Crude Oil VDU	Refining	VDU	1	910	6000
39	Lyondell-Equistar		Clinton, Iowa, USA	USA	2000	Pellet Water Cooler	Chemical	Polymer	1	711	2438
40	Kaiser Aluminum		Jamaica	Jamaica	2000	Fuel Oil Heater	Metals	Aluminum	1	590	4826
41	Holborn Ref.	Aker Kvaerner	Hamburg, Germany	Germany	2000	Reactor F/E Exchs. (HELITOWER)	Refining	HTU-HDS	2	1200-1470	16000-20000
42	BP Oil (Arco Products)		Cherry Point, WA, USA	USA	2000	Dehexanizer Reboiler (HELIFIN)	Refining	Coker	1	838	6096
43	Lukoil PNOs (T-STAR)		Perm, Russia	Russia	2000	Texaco MHCU Process Hx.	Refining	HCU (Mild)	16	500-1200	3000-6000
44	Saudi ARAMCO		Ras Tanura, S. Arabia	S. Arabia	2000	Naphtha Heat Exchanger	Refining		3	508	6096
45	BP Amoco		Grangemouth, UK	UK	2000	CDU Process Heat Exchangers	Refining	CDU	29	660-1016	3660-6096
46	Shell Canada	Fluor	Alberta, Canada	Canada	2000	AOSD Project Heat Exchangers	Oil-Sands		4	711-1321	4267-6096

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#	Enduser	EPC / FEED	Plant Location	Country	Year	Services	Industry	Process	Units	Diameter	Length
47	Shell Netherlands		Pernis, Netherlands	Netherlands	2000	CDU-5 Process Heat Exchanger	Refining	CDU	1	1016	6096
48	Texaco Ltd.		Pembroke, UK	UK	2000	Unifiner FeedEffluent Exchanger	Refining	Unifining	7	787	6150
49	ExxonM Chem.	KBR	Baytown, TX, USA	USA	2000	Surge Drum (Cement) Heat Ex.	Chemical	Polymer	3	1473	6096
50	Imperial Oil – Strathcona		Alberta, Canada	Canada	2001	Crude Ovhd Condenser (HELIFIN)	Refining	CDU	8	1194	6096
51	Imperial Oil – Strathcona		Alberta, Canada	Canada	2001	CDU/VDU Process Heat Exchs.	Refining	CDU	14	737-1219	6096
52	BP Amoco Expl.	WG Engg.	North Sea, UK	UK	2001	HP Compressor Aftercooler	Upstream	Platform	1	800	6100
53	ExxonMobil	SNC-Lavalin (GDS)	Baytown, TX, USA	USA	2001	Crude Preheat Exchangers	Refining	CDU	3	1143-1270	4877
54	Sasol Technology		South Africa	S. Africa	2001	Gas Coolers	Gas Processing	Syngas	8	1200-1370	6100-7315
55	Wintershall A.G.		Lingen, Germany	Germany	2001	OVHD Cond. / Crude Oil CDU	Refining	CDU	1	1374	4880
56	MiRO		Karlsruhe, Germany	Germany	2001	Gas Oil / Crude Exchanger	Refining	CDU	1	976	6000
57	SK Corporation - Refinery		Ulsan, S. Korea	Korea	2001	Recycle Gas Cooler	Refining		1	872	6100
58	Santos Ltd.		Balleria, Australia	Australia	2001	Sales Gas/Sweet Gas Exch.	Gas Processing		1	840	6208
59	Westcoast Energy	Aker Kvaerner	Alberta, Canada	Canada	2001	Gas Plant: Gas/Gas Heat Exch.	Gas Processing		1	927	7315
60	BP Grangemouth		Stirlingshire, UK	UK	2001	Main Fractionator Condenser	Refining	CDU	1	765	5700
61	Condea Vista Company		Westlake, LA, USA	USA	2001	Charge Gas Comp.III Stg.Cooler	Olefins	CGC-Cooler	1	940	6096
62	Imperial Oil – Dartmouth		Nova Scotia, Canada	Canada	2001	Crude Preheat Exchangers	Refining	CDU	4	1118-1219	4877
63	ExxonMobil Oil		Baton Rouge, LA, USA	USA	2001	Crude Preheat Exchs. (VDU)	Refining	VDU	2	1397	6096
64	ExxonMobil Oil		Joliet, IL, USA	USA	2001	Debutanizer Reboiler	Refining	FCC	1	1499	6096
65	Shell Netherlands Refinery		Pernis, The Netherlands	Netherlands	2001	Process H2O/Tmp.C.H2O(SWS)	Refining	SWS	1	784	6096
66	Nerefco		Rotterdam, Netherlands	Netherlands	2001	Condense/Desalter Brine (CDU)	Refining	CDU	1	762	6096
67	Elf Bitumen Deutschland		Brunsbüttel, Germany	Germany	2001	Bitumen / Crude Oil (BBU)	Refining	BBU	1	1009	6150
68	BP Schmierstoff GmbH		Hamburg, Germany	Germany	2001	Vac. Res. / Atm. Res. (VDU)	Refining	VDU	1	635	4360
69	VEBA Oel	Fluor	Horst, Germany	Germany	2001	ADIP / Cooling Water (HCU)	Refining	HCU	1	990	6000
70	Saudi ARAMCO	Lummus-Hague	Abqaiq, S. Arabia	S. Arabia	2001	Feed/Bottoms Exchanger (CSU)	Refining	CSU	6	1524	6096
71	Murphy Oil-CFP	Lummus-Houston	Meraux, LA, USA	USA	2001	Product Frac. Btms. Cooler	Refining	HTU	2	1422	6096
72	BP Oil		Grangemouth, UK	UK	2001	Atm.Resid. / Vac.Resid. (VDU)	Refining	VDU	2	1092	6096
73	Shell Canada Products		Sarnia, Ontario, Canada	Canada	2001	Crude Preheat Exchs. (CDU)	Refining	CDU	4	841-889	4877-6096
74	DuPont Sabine River Works		Orange, TX, USA	USA	2001	Quench Water Cooler	Olefins	QWC	2	1549	7315
75	Sasol Technology		Sasolburg, South Africa	S. Africa	2001	Debutanizer Feed/Effluent Exch.	Petrochemical		1	685	6655
76	Kraton Polymers		Belpre, Ohio, USA	USA	2001	Step II Reactor Cooler	Chemical	Polymer	1	1168	4877
77	Dow Benelux N. V.		Terneuzen, Netherlands	Netherlands	2002	ED Feed Vaporizer (Butadiene)	Petrochemical	Butadiene	1	761	6000
78	Nerefco		Europoort, Netherlands	Netherlands	2002	Crude Overhead Condenser	Refining	CDU	2	1397	7315
79	Imperial Oil - PRISM	Fluor	Ontario, Canada	Canada	2002	Stabilizer Overhead Trim Cooler	Refining		2	508	6096
80	ExxonMobil Oil		Baytown, TX, USA	USA	2002	Vac. Resid / Crude Exch.	Refining	VDU	1	1213	7315
81	BP Bulwer Island Refinery		Bulwer Island, Australia	Australia	2002	Naphtha Hydrotreater F/E Ex.	Refining	HTU	1	813	4880
82	ExxonMobil LowSulfur Mogas	Fluor	Baytown, TX, USA	USA	2002	Feed / Effluent Exch.	Refining	HTU-HDS	4	1350	7315
83	SK Corporation	SK Corp	Ulsan, Korea	Korea	2002	Deethanizer Feed Heater	Olefins	Ethylene	1	980	6000
84	ExxonMobil Oil		Baytown, TX, USA	USA	2002	Vac. Resid / Crude Exch.	Refining	VDU	1	1346	6096
85	Imperial Oil – Nanticoke		Ontario, Canada	Canada	2002	Top PA / LCGO Prod. Ex. (FCC)	Refining	FCC	1	559	6096
86	Equistar		Clinton, Iowa, USA	USA	2002	Pellet Water Cooler	Chemical	Polymer	1	711	2438
87	TotalFinaElf Refinery		Vlissingen, Netherlands	Netherlands	2002	Atm. Res./Heavy Distillate Exch.	Refining	CDU	2	1350	7315
88	Lyondell-Equistar	Jacobs	Channelview, TX, USA	USA	2002	C.Gas Comp.III Stg. Clr (HELIFIN)	Olefins	CGC-Cooler	2	1321	7315
89	Repsol Petroleum S. A.		Tarragona, Spain	Spain	2002	Charge Gas Comp.IV Stg.Cooler	Olefins	CGC-Cooler	2	1422	7315
90	Lyondell-Equistar	Jacobs	Channelview, TX, USA	USA	2002	C.Gas Comp.II Stg. Cooler	Olefins	CGC-Cooler	4	1245	6096
91	Imperial Oil – Sarnia		Ontario, Canada	Canada	2002	Crude Preheat Exchanger	Refining	CDU	1	1067	4877
92	Tessag/Holborn Refinery	Uhde Edeleanu	Hamburg, Germany	Germany	2002	Reactor F/E Exchs. (HELITOWER)	Refining	HTU-HDS	2	1020-1080	15000-20000
93	PPG Industries Inc.		Lake Charles, LA, USA	USA	2002	Recycle Economizer	Chemical		1	1448	12192

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94	ExxonMobil Chemical Co.		Baton Rouge, LA, USA	USA	2002	Distillate Splitter Reboiler	Refining		3	1067	4877
95	Lyondell-Equistar	Jacobs	Channelview, TX, USA	USA	2002	Charge Gas Comp.IV Stg.Cooler	Olefins	CGC-Cooler	2	1499	6706
96	Rio Polimeros S.A.	Lummus-Houston	Rio de Janeiro, Brazil	Brazil	2002	Secondary Transfer Line Exchs.	Olefins	Sec-TLE	6	1194	10668
97	Kraton Polymers		Belpre, Ohio, USA	USA	2002	Step II Reactor Coolers	Chemical	Polymer	2	1168	4877
98	Equistar Chemicals	Jacobs	Channelview, TX, USA	USA	2002	Propylene Condensers	Olefins	C3-Cond	4	1448	7315
99	Dansk Shell		Fredericia, Denmark	Denmark	2002	BFW Preheater	Olefins	Water preheat	1	582	4350
100	Irving Oil	Fluor	Saint John, NB, Canada	Canada	2002	Crude Preheat Exchangers	Refining	CDU, VDU	15	489-1245	3048-6096
101	Lyondell-Citgo	Fluor	Houston, TX, USA	USA	2002	Reactor Feed/Effluent Exchs.	Refining		6	1372-1448	9144-9754
102	ExxonMobil BOP	KBR	Baytown, TX, USA	USA	2002	TLE BFW Preheater	Olefins	Water preheat	1	1118	6096
103	Kuwait Pet. Europort	Foster-Wheeler	Rozenburg, Netherlands	Netherlands	2002	Crude Preheat Exchs. (VDU)	Refining	CDU	6	620-1120	6096
104	TotalFinaElf Refining		Provence, France	France	2002	Atm. Res./Heavy Distillate Exch.	Refining	CDU	2	914	6096
105	Samsung Gen. Chemicals	SK Corp	Daesan, Korea	Korea	2002	C.Gas Comp. + Other Coolers	Olefins	CGC-Cooler	7	1250-1750	7200
106	ExxonMobil Europe Ltd.		Rotterdam, Netherlands	Netherlands	2002	FlexFeed / BPA Exchangers	Refining		3	483-750	4880-6096
107	ExxonMobil Oil		Baton Rouge, LA, USA	USA	2002	Crude Preheat Exchangers	Refining	VDU	14	889-1575	4877-6096
108	ExxonMobil Europe Ltd.	Foster-Wheeler	Sarpom, Trecate, Italy	Italy	2002	Crude Preheat Exchangers	Refining	CDU, VDU	4	689-926	6096
109	Conoco – Humber	Fluor	Killingholme, UK	UK	2002	High Pressure Recontact Cooler	Refining		1	818	7600
110	PKN	Lummus-Weisbdn	Orlen Plock, Poland	Poland	2002	C.G. Comp. 1 st Stg. Aftercooler	Olefins	CGC-Cooler	1	1320	8000
111	BASF N.V.		Antwerp, Belgium	Belgium	2003	Quench Oil Steam Generators	Olefins	QO/DSG	3	1554	8000
112	Uhde Edeleanu/WR GmbH	Uhde Edeleanu	Wilhelmshaven, Germany	Germany	2003	Crude Preheat Exchangers	Refining	CDU	6	990-1050	6100
113	Statoil LNG	Linde	Hammerfest, Norway	Norway	2003	GasCooler & Condenser(HELIFIN)	Gas Processing	LNG	7	1100-3250	6500-22000
114	TotalFinaElf Normandy Ref.		Harfleur, France	France	2003	Reactor F/E Exchangers (HDS)	Refining	HTU-HDS	3	1144	6096
115	Hyosung Corp.	SK Corp	Ulsan, Korea	Korea	2003	Combined Feed Ex. (HELITOWER)	Petrochemical	PDH	2	1500	13300
116	SECCO	Lummus-Houston	Shanghai, China	China	2003	Secondary TLE	Olefins	Sec-TLE	1	940	5791
117	Yanpet II Debottleneck-1	Lummus-Houston	Saudi Arabia	S. Arabia	2003	Secondary TLE	Olefins	Sec-TLE	1	1372	7010
118	SK Corp.	SK Corp	Ulsan, Korea	Korea	2003	PGC Cooler & Feed/Btms Exch.	Olefins	Ethylene	2	350-1092	4500-7315
119	PKN	Lummus-Weisbdn	Orlen Plock, Poland	Poland	2003	C.G.Comp.II-V Stg. Aftercoolers	Olefins	CGC-Cooler	4	1100-1300	8000
120	BP Cherry Point		Blaine, WA, USA	USA	2003	Reformer Stab.Reboiler (HELIFIN)	Refining	Reformer	1	1219	6096
121	ExxonMobil Europe	Foster-Wheeler	Sarpom, Trecate, Italy	Italy	2003	New Residue/Crude Exch.	Refining	CDU	1	1397	6096
122	Vista	Vista	Alberta, Canada	Canada	2003	Sales Oil Cooler	Oil-Sands	Bitumen	1	762	6096
123	TotalFinaElf Refinery		Antwerp, Belgium	Belgium	2003	Absorber Feed Gas Trim Cooler	Refining		1	960	6096
124	MiRO GmbH		Karlsruhe, Germany	Germany	2003	Crude Preheat Exchangers	Refining	CDU	4	1067	6100
125	SECCO	Lummus-Houston	Shanghai, China	China	2003	Quench Water Coolers	Olefins	QWC	4	1900-2000	8000-10000
126	BP Bruce Platform	AMEC	North Sea, UK	UK	2003	HP Dehydrator Inlet Cooler	Upstream	Platform	1	1370	7800
127	BP Oil		Texas City, TX, USA	USA	2003	Resid HTU Preheater	Refining	HTU	1	1524	4877
128	Chemeq Pharmaceuticals		Australia	Australia	2003	Catalytic Reactor Cooler	Chemical	Pharmaceutical	2	1065	1240
129	PPG Ind.		Westlake, LA, USA	USA	2003	P. Chlorine Gas Cooler	Chemical	EDC/VCM	1	1143	4572
130	BP Rhum Platform	AMEC	North Sea, UK	UK	2003	LP Booster Suction Cooler	Upstream	Platform	2	1360	5000
131	Yanpet II Debottleneck-1	Lummus-Houston	Saudi Arabia	S. Arabia	2003	CGC Aftercoolers	Olefins	CGC-Cooler	6	1300-1448	6000
132	ExxonMobil Oil		Beaumont, TX, USA	USA	2003	Coker Debutanizer Reboiler	Refining	Coker	2	1118	7315
133	PetroCanada		North Sea, NL	Netherlands	2003	Stabilizer Reboiler	Refining		2	860	6100
134	Sasol Technology		South Africa	S. Africa	2003	Gas Coolers	Gas Processing	Syngas	4	1370	7315
135	Hyundai Oilbank Co.	SK Corp	Daesan, Korea	Korea	2003	CDU Overhead Cooler	Refining	CDU	1	810	6096
136	Imperial Oil – Sarnia		Ontario, Canada	Canada	2003	Reformer Rx. Eff. Cond. (HELIFIN)	Refining	Reformer	2	991	4877
137	Imperial Oil – Strathcona		Alberta, Canada	Canada	2003	Oily Water Condensate Exch.	Refining		1	660	5790
138	Lion Oil	Lummus-Houston	Eldorado, AK, USA	USA	2003	Feed / Effluent Exch. (ULSDHT)	Refining	HTU-HDS	6	889	6096
139	BP Oil		Carson, CA, USA	USA	2003	Naphtha HDS F/E Exchangers	Refining	HTU-HDS	1	864	6096
140	MIRO		Germany	Germany	2003	Crude / Gas Oil Exchanger	Refining	CDU	1	890	6000

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141	SK Corporation	SK Corp	Ulsan, Korea	Korea	2003	Mercox-Feed Heater/Prod. Cooler	Refining	Mercox	2	483-1219	3048-6096
142	Shell & DEA Oil GmbH		Heide, Germany	Germany	2003	Crude Preheat Exchs. (CDU)	Refining	CDU	5	724-822	4880
143	Equistar Chemicals		Chocolate Bayou, TX, USA	USA	2003	Butadiene Extraction Col. Prehtr.	Petrochemical	Butadiene	1	1067	6096
144	Kraton Polymers	Aker Kvaerner	Belpre, Ohio, USA	USA	2003	I Train Polymer Reactor Cooler	Chemical	Polymer	1	1194	6096
145	ExxonMobil Oil		Baytown, TX, USA	USA	2003	HCU Feed/Effluent Exchanger	Refining	HCU	1	1092	6550
146	Reliance Industries Ltd.	Uhde	Hazira, India	India	2003	MEG Feed / Product Exchanger	Petrochemical	EO-EG	1	2350	9000
147	Shell Refinery	Jacobs	Pernis, The Netherlands	Netherlands	2003	Crude Preheat Exch. (CDU)	Refining	CDU	3	1212	6096
148	BASF N.V.		Antwerp, Belgium	Belgium	2003	Quench Oil Steam Generators	Olefins	QO/DSG	3	1554	8000
149	Nexen Long Lake	Colt Engg.	Alberta, Canada	Canada	2003	SAGD Oil-Sands Project Exchs.	Oil-Sands		20	1219-1499	6096-8534
150	Albian Sands Energy		Alberta, Canada	Canada	2003	SRU – Bitumen Coolers (HELIFIN)	Oil-Sands		6	1372-1651	8534
151	Husky Oil - Marwayne		Alberta, Canada	Canada	2003	Treater Feed Exchangers	Oil-Sands		4	838	10360
152	Petro-Canada Mackay River		Alberta, Canada	Canada	2003	SAGD Oil Sands Exchs.	Oil-Sands		4	1626	6096
153	Shell Nederland Chemie		Moerdijk, The Netherlands	Netherlands	2003	Product Cooler	Petrochemical	EO	1	1455	4877
154	Rhur Oel GmbH		Scholve, Germany	Germany	2003	Quench Oil Coolers	Olefins	QO Cooler	4	1748	8000
155	Shell Canada - Tecslult	Tecslult	Montreal, Canada	Canada	2004	Crude/Hvy Flashed Dist. Exch.	Refining	CDU	1	1194	6096
156	Saskferco Products		Saskatchewan, Canada	Canada	2004	NH3 – Process Gas Cooler	Chemical	Ammonia	1	1350	7000
157	Samsung Total E&P Angola	Technip/Samsung	Dalia FPSO, Angola	Angola	2004	Crude Exchs (HELIFIN, HELITRAN)	Upstream	FPSO	7	1530-1760	2438-6096
158	Sincor C.A.	Jantesa-Proycca	Zuata, Venezuela	Venezuela	2004	Water / Oil Preheaters	Refining		4	1575	9144
159	Orica Ltd.–Kooragang Island		Australia	Australia	2004	Nitric Acid Unit-Cooler Condnsr	Chemical	Nitric Acid	1	1080	8235
160	North Atlantic Refining Ltd.		New Foundland, Canada	Canada	2004	Crude Preheat Exchs.	Refining	CDU	2	940	6096
161	Simplot Canada Ltd.		Manitoba, Canada	Canada	2004	NH3 Conv. Effluent Cooler	Chemical	Ammonia	1	1041	12192
162	Syncrude Canada Ltd.		Alberta, Canada	Canada	2004	HGO Product Cooler	Oil-Sands		1	1168	5182
163	Korea Petrochem. Ind. Co.	SK Corp	Onsan, Korea	Korea	2004	Ethylene – CGC Aftercoolers	Olefins	CGC-Cooler	3	900-2000	6000-7200
164	Reliance Jamnagar	Bechtel	Gujarat, India	India	2004	Crude Preheat Exchangers	Refining	CDU, VDU	12	1300	6096-9144
165	ChevronPhillips Chem.		Cedar Bayou, TX, USA	USA	2004	C. Gas Comp. IV Stg. Cooler	Olefins	CGC-Cooler	1	991	7315
166	Albian Sands Energy		Alberta, Canada	Canada	2004	SRU Dilute Bitumen Coolers	Oil-Sands		3	1651	8534
167	Suncor Energy		Alberta, Canada	Canada	2004	MCU - Dil. Bitumen Preheaters	Refining	Coker	11	1067-1486	6096
168	Vista Projects	Vista	Alberta, Canada	Canada	2004	Sales Oil Coolers	Oil-Sands		2	533	6096
169	BP Grangemouth		Grangemouth, UK	UK	2004	Ethanol-Feed/Prod. HELITOWER	Chemical	Ethanol	1	1372	18000
170	Nerefco		Europoort, Netherlands	Netherlands	2004	Crude Overhead Condenser	Refining	CDU	2	1397	7315
171	Albian Sands Energy		Alberta, Canada	Canada	2004	SRU Solvent Coolers (HELIFIN)	Oil-Sands		5	1372	8534
172	Reliance Jamnagar	Bechtel	Gujarat, India	India	2004	FCC - LCO/Feed Exch.	Refining	FCC	1	1040	8500
173	Idemitsu Kousan		Tokuyama, Japan	Japan	2004	FCC – LCO Coolers	Refining	FCC	4	760-810	5000
174	TOTAL Vlissingen		Netherlands	Netherlands	2004	Feed/Hot Residue Exch.	Refining		3	1410	7315
175	TOTAL Lindsey Oil Refinery		Killingholme, UK	UK	2004	Atm. Residue/Crude Exch.	Refining	CDU	3	1270	6096
176	Syncrude Canada Ltd.		Alberta, Canada	Canada	2004	Interm. Pumpharound Cooler	Oil-Sands		1	1318	4877
177	Firestone Polymers		Lake Charles, LA, USA	USA	2004	Syn. Rubber - HC Condensers	Chemical	Rubber	2	940-1092	4877
178	IOCL – Mathura Refinery		Uttar Pradesh, India	India	2004	CCR Combined Feed HELITOWER	Refining	Reformer	1	1750	17000
179	Lotos Refinery	Lurgi	Poland	Poland	2004	Crude Preheat Exchs.	Refining	CDU	3	838-1194	6096
180	Zespol EC Wyrzeze		Gdansk, Poland	Poland	2004	District Heating – Water Cooler	Power		1	1824	7160
181	Anwil		Wloclawek, Poland	Poland	2004	EDC/PVC - Vac. Column Cond.	Chemical	EDC/VCM	1	1610	3000
182	Lotos Refinery		Gdansk, Poland	Poland	2004	Hydrofining - Str. Ovhd. Cond.	Refining	Hydrofining	1	538	6096
183	Middough Kraton Polymers	Middough	Belpre, Ohio, USA	USA	2004	Cement Preheater	Chemical	Polymer	1	467	5486
184	ExxonMobil Joliet	KBR	Joliet, Illinois, USA	USA	2004	CHD – Feed/Effluent Exchs.	Refining	HTU	4	1143	6096
185	OPTI Long Lake	Fluor	Alberta, Canada	Canada	2004	Vac. Residue/DAO+Solvent	Oil-Sands		2	1651	5182
186	PMP LukOil		Volgograd, Russia	Russia	2004	CCR – Feed/Effluent Exchs	Refining	Reformer	6	1400	9000
187	Nexen Long Lake	Colt Engg.	Alberta, Canada	Canada	2004	Oil-Sands – Dilbit Turndown Clr.	Oil-Sands		1	1050	6096

Reference List - HELIXCHANGER Heat Exchangers

#	Enduser	EPC / FEED	Plant Location	Country	Year	Services	Industry	Process	Units	Diameter	Length
188	Imperial Oil – Dartmouth		Nova Scotia, Canada	Canada	2004	Crude Preheat Exchangers	Refining	CDU	2	1118-1219	4877
189	Imperial Oil – Nanticoke		Ontario, Canada	Canada	2004	Crude Unit Exchangers	Refining	CDU	3	762-1105	4267-6096
190	SK Corporation	SK Corp	Ulsan, Korea	Korea	2004	#3 Solvent–Feed/Bottoms Exchs	Refining		2	380-420	5000
191	ExxonMobil Singapore		Singapore	Singapore	2004	TLE BFW Preheater (Ethylene)	Olefins	Water preheat	1	860	8675
192	Imperial Oil - Sarnia	SNC-Lavalin	Sarnia, Ontario, Canada	Canada	2004	Coking Unit Cond. (HELIFIN)	Refining	Coker	2	1016-1295	4877
193	Firestone Polymers		Lake Charles, LA, USA	USA	2004	Syn. Rubber - Drying Col. Cond.	Chemical	Rubber	1	438	4877
194	Fuji Oil	Chiyoda	Japan	Japan	2004	NH3-H2O Evaporator(HELITOWER)	Chemical		2	1490	13715
195	ExxonMobil Singapore		Singapore	Singapore	2004	Cut-Back Asphaltene Cooler	Refining		2	1067	6096
196	Formosa Petrochem. Corp.	CTCI	Taiwan	Taiwan	2004	OCT Unit Exchs. (HELITOWER)	Olefins	OCT	9	1320-2060	6000-20000
197	Premcor Refinery	Jacobs	Port Arthur, Texas, USA	USA	2004	Crude preheat exchangers	Refining	CDU	21	1016-1448	6096-7925
198	ExxonMobil Beaumont		Beaumont, TX, USA	USA	2004	Crude hydrotreater unit exch.	Refining	HTU	1	1092	6096
199	Lyondell-Equistar	Jacobs	Channelview, TX, USA	USA	2004	CGC Aftercoolers	Olefins	CGC-Cooler	8	1245-1499	6096-7315
200	PetroCanada MR	Colt Engg.	Alberta, Canada	Canada	2004	Oil Sands Deoiling Pjt Exchs.	Oil-Sands		4	1626	6096
201	BASF N.V.		Antwerp, Belgium	Belgium	2004	Quench Oil Steam Generators	Olefins	QO/DSG	3	1554	8000
202	TOTAL Provence		France	France	2004	Crude preheat Exchs.	Refining	CDU	4	1346	6096
203	Kirishi	Lummus-Hague	Kirishi, Russia	Russia	2004	VDU, HCU Exchangers	Refining	VDU, HCU	23	478-1400	4877-7315
204	Kirishi	Lummus-Hague	Kirishi, Russia	Russia	2005	VDU, HCU, VBU Exchangers	Refining	VDU,HCU,VBU	30	900-1350	6096-7315
205	Shell Netherland Ref	Jacobs	Pernis, Netherlands	Netherlands	2005	Crude preheat exchangers	Refining	CDU	2	1066	6096
206	Caltex Lytton	Uhde	Queensland, Australia	Australia	2005	Recontact Coolers	Refining		4	585	5000
207	Hyundai Petrochemical	SK Corp	Daesan, Korea	Korea	2005	Naphtha Feed Preheaters	Olefins	Feed Preheat	2	1265-1415	6100-7315
208	ExxonMobil Baton Rouge		Baton Rouge, LA, USA	USA	2005	Coker Feed / HKGO Exch.	Refining	Coker	2	1219	6096
209	Petronas Melaka Refinery		Malaysia	Malaysia	2005	Naphtha Stabilizer Reboiler	Refining		1	1250	6096
210	Suncor Energy		Alberta, Canada	Canada	2005	Coker – Stripper Ovhd. Cond.	Refining	Coker	3	1346	6096
211	BP Chemicals		Choc. Bayou, TX, USA	USA	2005	Scrubber Coolers	Chemical		2	1016	9754
212	ExxonMobil Sable	Daewoo	Nova Scotia, Canada	Canada	2005	Natural Gas – Gas Coolers	Gas Processing		3	1270-1400	6096
213	Shell Netherland Chemie		Moerdijk, Netherlands	Netherlands	2005	EO Product Cooler	Petrochemical	EO-EG	1	1455	4877
214	SK Refining (ULSD Rvmp)	SK Corp	Ulsan, Korea	Korea	2005	Amine Coolers	Refining	HTU	5	500-940	4880-6100
215	ExxonMobil Baytown		Baytown, TX, USA	USA	2005	PS-3 crude preheat exchanger	Refining	VDU	1	813	4877
216	CNPC Daqing Petroleum		Daqing, China	China	2005	Crude preheat exchangers	Refining	CDU	17	500-1000	6000
217	Bahrain Petroleum Co.	Bechtel/JGC	Bahrain	Bahrain	2005	HCU-Naphtha Stabilizer Reboiler	Refining	HCU	1	813	4877
218	Westlake Petrochemical	Lummus-Houston	Sulphur, LA, USA	USA	2005	CGC IV Stage Aftercooler	Olefins	CGC-Cooler	1	1270	7315
219	Imperial Oil – Sarnia		Ontario, Canada	Canada	2005	Wash Oil Cooler	Refining		1	737	4877
220	Formosa Plastics Corp.	Lummus	Pt. Comfort, TX, USA	USA	2005	Tertiary Quench TLE	Olefins	Sec-TLE	3	1016	6096
221	Valero Aruba Refining	Jacobs	Aruba	Aruba	2005	Crude preheat exchangers	Refining	CDU	2	838	4877
222	Korea Petrochem. Ind. Co.	SK Corp	Onsan, Korea	Korea	2005	Ethylene-CGC I Stg. Aftercooler	Olefins	CGC-Cooler	2	1700	6000
223	Jubail Chevron Phillips Co.	Parsons/JGC	Al-Jubail, S. Arabia	S. Arabia	2005	EBSM – SM Column Condenser	Petrochemical	EBSM	1	2045	6096
224	Orica Mining Services		Kooragang, Australia	Australia	2005	Natural Gas Comp. Cooler	Gas Processing		1	591	3450
225	Valero Paulsboro	Jacobs	Paulsboro, NJ, USA	USA	2005	Depropanizer Ovhd.Cond.(HELIFIN)	Refining	FCC	1	965	6096
226	Eso Benelux		Antwerpen, Belgium	Belgium	2005	Crude preheat exchangers	Refining	CDU	10	1118	6100
227	Total Provence Refinery		Provence, France	France	2005	Crude preheat exchangers	Refining	CDU	2	1346	6096
228	ExxonMobil Billings		Montana, USA	USA	2005	Cold Coker Feed Preheat Exch.	Refining	Coker	1	940	7315
229	Imperial Oil – Strathcona		Alberta, Canada	Canada	2005	CAT – Feed Preheaters	Refining	FCC	3	686-1168	6096
230	ExxonMobil Joliet	Ambitech	Joliet, Illinois, USA	USA	2005	Crude Preheat Exch. (HELIFIN)	Refining	CDU	1	1219	6096
231	Imperial Oil – Strathcona		Alberta, Canada	Canada	2005	CAT – Feed Preheaters	Refining	FCC	2	864	6096
232	Imperial Oil – Strathcona		Alberta, Canada	Canada	2005	Crude preheat exchanger	Refining	CDU	1	1219	6096
233	Imperial Oil – Sarnia		Ontario, Canada	Canada	2005	Hi Viscosity Product Cooler	Refining		2	762	7315
234	YNCC BTX #3	SK Corp	Yeosu, Korea	Korea	2005	II Reactor Effluent Cooler	Petrochemical	BTX	1	1250	6000

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#	Enduser	EPC / FEED	Plant Location	Country	Year	Services	Industry	Process	Units	Diameter	Length
235	CNPC Daqing Petroleum		Daqing, China	China	2005	Water Coolers+ n-hexane Cooler	Refining		3	800-1100	5000-6000
236	ConocoPhillips		Ponca City, OK, USA	USA	2005	Crude Preheat Exchs.	Refining	CDU	2	889-940	4877
237	YNCC Ethylene #3	SK Corp	Yeosu, Korea	Korea	2005	CG Heater/Deaerator Feed P'htr	Olefins	Ethylene	2	560-950	5000
238	National Peroxide Ltd.		Kalyan, India	India	2005	Off-Gas Cooler	Chemical	Hyd.Peroxide	1	635	4000
239	Westlake Petrochemical	Lummus-Houston	Sulphur, LA, USA	USA	2005	Ethylene-CGC Aftercoolers	Olefins	CGC-Cooler	7	914-1245	7315
240	Samsung Total Petrochem.	SK Corp	Daesan, Korea	Korea	2005	Naphtha Feed Preheater	Olefins	Feed Preheat	1	1100	7200
241	LG Petrochemical	Lummus	Yeosu, Korea	Korea	2005	CGC 1,3, 5 stage aftercoolers	Olefins	CGC-Cooler	5	1650-2280	7200
242	Mitsubishi Chemicals		Kashima, Japan	Japan	2005	CGC IV Stage Aftercooler	Olefins	CGC-Cooler	1	1650	5000
243	Westlake Petrochemical	Lummus-Houston	Sulphur, LA, USA	USA	2005	Demethanizer Reboiler	Olefins	Ethylene	1	1346	4877
244	ExxonMobil Joliet		Joliet, IL, USA	USA	2005	LCO-HCO/BFW Preheat Exchs	Refining	Coker	2	899-940	6096
245	Naphthachimie	Lummus-Hague	Lavera, France	France	2005	CGC I- V Stage Aftercoolers	Olefins	CGC-Cooler	20	1575	4880-6100
246	Suncor Energy		Alberta, Canada	Canada	2004	Stripper Reboiler	Refining	Coker	3	1257	6096
247	PetroCanada Edmonton	Bantrel	Alberta, Canada	Canada	2005	Fractionator Ovhd.Trim Condenser	Refining	Coker	1	1041	6096
248	YNCC No.1 Ethylene	Daelim	Yeosu, Korea	Korea	2005	CGC I, II, III, IV Stage Aftercoolers	Olefins	CGC-Cooler	6	1550-2000	7200
249	North Atlantic Refining		Newfoundland, Canada	Canada	2005	Fuel Oil Cooler	Refining		1	1219	7315
250	Suncor Energy		Alberta, Canada	Canada	2005	Dil. Bitumen/Coker Frac.GO Ex.	Refining	Coker	1	1067	6096
251	YNCC No. 3 Ethylene	Daelim	Yeosu, Korea	Korea	2005	CGC IV Aftercooler, CG Cooler	Olefins	CGC-Cooler	2	1200-1702	4877-7200
252	PetroCanada Edmonton	Bantrel	Alberta, Canada	Canada	2005	Crude Preheat/Crude Ovhd. Exch.	Refining	CDU-VDU	4	1067-1473	4877-6096
253	ExxonMobil - El Salvador		El Salvador	El Salvador	2005	Asphalt / Vac. Tower Feed Exch.	Refining		2	787	6705
254	ExxonMobil-BatonRouge		Baton-Rouge, LA, USA	USA	2005	Absorber Btms/Strppr Ovhd Cond	Refining	Coker ?	2	1137	4724
255	ExxonMobil Baytown	SNC-Lavalin (GDS)	Baytown, TX, USA	USA	2005	Crude Preheat Exch.	Refining	CDU	2	889	4877
256	ConocoPhillips/Jacobs	Jacobs	Ferndale, WA, USA	USA	2005	Crude Preheat Exch.	Refining	VDU	1	876	6096
257	SK Corp / Fluor	Fluor	Ulsan, Korea	Korea	2005	Reactor Feed/Effluent Exch.	Refining	MDU?	6	1410	7315
258	Esso Belgium	Jacobs	Antwerpen, Belgium	Belgium	2005	Vac. Btms/Crude preheat Exch.	Refining	CDU	4	1118	6100
259	Sunoco Inc	Wink Engg.	Philadelphia, PA, USA	USA	2005	Top PA / Gas Oil Exch.	Refining		3	1524	6096
260	Dakota Gasification		North Dakota, USA	USA	2005	Gas Liquor Cooler	Coal Gasification	Synfuels	1	1372	7315
261	LG Petrochemical		Ulsan, Korea	Korea	2005	DP Reactor F/E Exch (HELITOWER)	Olefins	OCT	1	1245	16000
262	YNCC	Daelim	Yeosu, Korea	Korea	2005	BTX Tower Condenser	Petrochemical	BTX	2	1194	6000
263	SK Corp		Ulsan, Korea	Korea	2005	Crude PH, Desalter F/E Water Ex.	Refining	CDU	7	737-1372	6100
264	ExxonMobil Chalmette		Chalmette, LA, USA	USA	2005	Vac. Btms/Crude preheat Exch.	Refining	CDU	2	1321	6096
265	ConocoPhillips		Lake Charles, LA, USA	USA	2006	Hot Sep. Ovhd. Trim Cooler	Refining		1	762	5486
266	IPCL		Vadodara, Gujarat, India	India	2006	CGC I, II, IV Stg Aftercoolers	Olefins	CGC-Cooler	3	950-1092	5000-6000
267	Irving Oil		New Brunswick, Canada	Canada	2006	Crude Ovhd. Condenser	Refining	CDU	2	1245	6096
268	Syncrude Mildred Lake		Alberta, Canada	Canada	2006	Intermediate Pumparound Cooler	Oil-Sands		1	1318	4877
269	Syncrude Mildred Lake		Alberta, Canada	Canada	2006	Diluted Bitumen preheater	Oil-Sands		2		
270	Devon Canada Manatokan		Alberta, Canada	Canada	2006	Emulsion/Sales Oil Coolers	Oil-Sands		3	762-825	4877-7925
271	PetroCanada Edmonton	Bantrel	Alberta, Canada	Canada	2006	Product Rundown Coolers	Refining		6	711-1168	6096-7315
272	YNCC/Hanwha	Hanwha	Yeosu, Korea	Korea	2006	Solvent Reboilers	Petrochemical	Butadiene	2	1800-2000	5000
273	Petronas	Foster-Wheeler	Melaka, Malaysia	Malaysia	2006	Crude preheat exchangers	Refining	CDU	10	700-1150	6096
274	Chevron Texaco		Pascagoula, MS, USA	USA	2006	Crude preheat exchanger	Refining	CDU	1	787	6400
275	Suncor Energy		Alberta, Canada	Canada	2006	Naphtha F/E Exchanger	Refining	HTU (naphtha)	1	1041	7010
276	IPCL		Vadodara, Gujarat, India	India	2006	Combined F/E Exch.(HELITOWER)	Refining	PACOL	1	1524	16000
277	Korea Kumho Petrochem		Yeosu, Korea	Korea	2006	Solvent Cooler	Petrochemical	Butadiene	1	1450	5000
278	ExxonMobil Baytown	WorleyParsons	Baytown, TX, USA	USA	2006	Crude preheat exchangers	Refining	CDU	5	864-1194	4877
279	Samsung Total Petrochem	Samsung Engg.	Yeosu, Korea	Korea	2006	CGC / C2H2 Coolers,Solvent Rblrs	Olefins	C2, C4, BTX	15	600-2350	5000-7200
280	MIRO refinery		Germany	Germany	2006		Refining		2		
281	Shell Pernis		Pernis, Netherlands	Netherlands	2006	Stripper Effluent Coolers	Refining	SWS	2	670	6096

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#	Enduser	EPC / FEED	Plant Location	Country	Year	Services	Industry	Process	Units	Diameter	Length
282	Reliance Jamnagar	Bechtel	Jamnagar, Gujarat, India	India	2006	Crude preheat exchangers	Refining	CDU	16	1300	6096-9144
283	Sabco		Yanbu, Saudi Arabia	S. Arabia	2006	CGC I, II, III Stg Aftercoolers	Olefins	CGC-Cooler	10	1143-1270	3658-4877
284	ExxonMobil Jurong		Jurong, Singapore	Singapore	2006	Crude preheat exchangers	Refining	CDU	12	1020-1400	6096-7315
285	Sunoco Refinery	Wink Engg.	Philadelphia, PA, USA	USA	2006	Decanted Oil Coolers	Refining	FCC	2	813	6096
286	Titan Petchem	CTCI	Johor, Malaysia	Malaysia	2006	OCT/Butadiene Ex. (HELITOWER)	Olefins	OCT, C4	16	559-1900	6096-16000
287	OMV Burghausen	Lummus-Weisbdn	Burghausen, Germany	Germany	2006	Ethylene/OCT Unit Ex (HELITOWER)	Olefins	C2, OCT	16	1066-1300	6100-18000
288	Reliance Jamnagar	Bechtel	Jamnagar, Gujarat, India	India	2006	Crude preheat exchangers	Refining	CDU	20	1300	6096-9144
289	Frontier Refining		Eldorado, KS, USA	USA	2006	Crude Preheat Exchs/ Gas Oil Clr	Refining	CDU	5	838-1500	4267-6096
290	Orica Mining Services		Kooragang, Australia	Australia	2006	Ammonia Vaporizer	Chemical	Ammonia	2	735 / 1060	3048
291	Sasol North America		Westlake, LA, USA	USA	2006	CGC III Stg. Aftercooler	Olefins	CGC-Cooler	1	940	6096
292	ExxonMobil Baytown	WorleyParsons	Baytown, TX, USA	USA	2006	HKGO / Vac. Resid Exch.	Refining	Coker	2	1168	6096
293	Ruhr Oil (BP)		Scholven, Germany	Germany	2006	Process Water PreHeaters	Olefins	Water preheat	4	1110-1440	6000
294	Valero Refining		Paulsboro, NJ, USA	USA	2006	Naphtha F/E Exchanger	Refining	HTU (naphtha)	0		
295	ExxonMobil Chemical	WorleyParsons	Baytown, TX, USA	USA	2006	BFW Preheater	Olefins	Water preheat	1	1397	7315
296	Frontier Refining	Anwil	Cheyenne, WY, USA	USA	2006	Gasoil Product Cooler	Refining		1	610	4724
297	ExxonMobil Beaumont		Beaumont, TX, USA	USA	2006	HKGO / Coker Charge Exch.	Refining	Coker	1	914	6096
298	Total France/FW	Foster-Wheeler	Donges, France	France	2006	Charge / Naphtha Exch.	Refining	FCC	1	978	6100
299	Valero Refining		Benicia, CA, USA	USA	2006	Debutanizer Btms Reboiler	Refining	FCC ?	1	1524	6096
300	ExxonMobil Beaumont		Beaumont, TX, USA	USA	2006	HKGO / Coker Charge Exch.	Refining	Coker	1	965	6096
301	Calumet Shreveport	CommonWealth	Shreveport, LA, USA	USA	2006	Crude/Vacuum Unit Exchangers	Refining	CDU-VDU	14	660-737	4877-6705
302	CNRL Primrose East	IMV Projects	Alberta, Canada	Canada	2006	BFW / Emulsion Exchanger	Oil-Sands		4	1372	9754
303	Frontier Refining/CBI	CB&I	Eldorado, KS, USA	USA	2006	Crude Preheat Exchangers	Refining	CDU	12	940-1245	5486-6096
304	ExxonMobil/Baytown		Baytown, TX, USA	USA	2006	Vac. Btms/Crude Preheat Exch.	Refining	CDU	3	700	4877
305	ExxonMobil Chemical	Jacobs	Baytown, TX, USA	USA	2006	Surge Drum (Cement) PA Heater	Chemical	Polymer	1	1473	6096
306	IOCL Panipat Ethylene	L&T	Panipat, Haryana, India	India	2006	DPG II RX F/E Exch (HELITOWER)	Olefins	Ethylene	3	700-1800	7000-20000
307	ExxonMobil BatonRouge		Baton-Rouge, LA, USA	USA	2006	HKGO / Coker Charge Exch.	Refining	Coker	2	1219	6096
308	Kraton Polymers		Belpre, Ohio, USA	USA	2006	I Stg. Hydrogenator Cooler	Chemical	Polymer	2	1295	6096
309	Haldia Petrochemical		Haldia, W.Bengal, India	India	2006	CGC I-V Stg Coolers, De-C3 Cond	Olefins	CGC-Cooler	7	1450-2000	7200
310	Haldia Petrochemical		Haldia, W.Bengal, India	India	2006	Solvent Heat Exchanger	Petrochemical	Butadiene	4	900	6000
311	OMV		Burghausen, Germany	Germany	2006	Crude Preheat/Coker PA Exch.	Refining	CDU	2	991	6100
312	IOCL Panipat Ethylene	Toyo Engg.	Panipat, Haryana, India	India	2006	Ethylene Plant Exchs.	Olefins	Ethylene	13	483-2170	5000-10000
313	Shell ECC/Lummus-TEC	Toyo Engg.	Singapore	Singapore	2006	Ethylene Plant Exchs.	Olefins	Ethylene	20	489-2200	6096-10000
314	BASF Sabina		Port Arthur, TX, USA	USA	2006	Solvent Heat Exchanger	Petrochemical	Butadiene	2	1778	7315
315	IOCL Panipat/TEC	Toyo Engg.	Panipat, Haryana, India	India	2006	Ethylene Plant Exchs.	Olefins	Ethylene	29	880-2150	6500-11000
316	ExxonMobil Torrance	Jacobs	Torrance	USA	2006	SWS Feed/Bottoms Exchs.	Refining	SWS	4	787	6096
317	BP Chemical		Geel, Belgium	Belgium	2006	Recuperative Vent (Gas-Gas) Ex.	Chemical	PTA	1	1575	9144
318	PQU		Sao Paulo, Brazil	Brazil	2006	CGC II, III Stg Aftercoolers	Olefins	CGC-Cooler	4	1143-1245	6096-6500
319	Suncor Energy, Firebag 3	Jacobs	Alberta, Canada	Canada	2006	Inlet Feed Cooler	Oil-Sands		6	1575	7315
320	Petronas Carigali		Puteri Dev., Malaysia	Malaysia	2006	Crude Heaters	Upstream		2	336-489	3000-4750
321	Nerefco Europoort		Rotterdam, Netherlands	Netherlands	2006	Crude Ovhd./Crude preheat Exch.	Refining	CDU	2	1397	7315
322	Marathon Garyville	Fluor	Garyville, LA, USA	USA	2006	Crude-Vacuum-Coker Unit Exchs.	Refining	CDU-VDU-Cokr	31	762-1270	4877-8534
323	PetroChina Daqing		Daqing, China	China	2006	Butadiene Cond., Water/Water Ex.	Petrochemical	Butadiene	4	650-1400	2000-6000
324	DuPont Iberica		Asturias, Spain	Spain	2006	Phosgene Reactor Clr (Helireactor)	Chemical	Phosgene	1	965	3353
325	Marathon Garyville	Fluor	Garyville, LA, USA	USA	2006	Crude-Vacuum Unit Exchangers	Refining	CDU-VDU	15	889-1753	4877-7315
326	Shell Canada/Bechtel	Bechtel	Scotford, Alberta, Canada	Canada	2006	Sulphur Cooler (AOSP Dwnstrm)	Oil-Sands		1	483	3658
327	Suncor Energy, Firebag 4	Jacobs	Alberta, Canada	Canada	2006	Inlet Feed Cooler	Oil-Sands		6	1575	7315
328	PetroChina Dushanzi		Dushanzi, China	China	2006	Butadiene Unit Exchangers	Petrochemical	Butadiene	14	800-2400	5000-8000

Reference List - HELIXCHANGER Heat Exchangers

#	Enduser	EPC / FEED	Plant Location	Country	Year	Services	Industry	Process	Units	Diameter	Length
329	Haldia Petrochemical	Lurgi India	Haldia, W.Bengal, India	India	2007	II Stg. Feed/Effluent Exchangers	Petrochemical		4	925	5000
330	Shell Canada/Bechtel	Bechtel	Alberta, Canada	Canada	2007	Strip Low PA/Hvy Arom. Oil Exch.	Oil-Sands		1	610	3048
331	Kumho Petrochemical/Cheil	Cheil	Korea	Korea	2007	Vaccum Condenser	Petrochemical	SBR	2	1775	7315
332	Suncor Energy, Firebag 3	Jacobs	Alberta, Canada	Canada	2007	Bitumen Exchangers	Oil-Sands	DSU	26	1050-1500	6096-7315
333	Husky Energy/Vista	Vista	Saskatchewan, Canada	Canada	2007	Emulsion/Sales Oil Coolers	Oil-Sands		6	978	9754
334	DSM Kaltim Melamine		Indonesia	Indonesia	2007	Mother Liquor/Carbamate Cond.	Chemical	Melamine	1	1105	7500
335	Suncor Energy/Bantrel	Bantrel	Alberta, Canada	Canada	2007	Stripper (Dilbit) Reboiler	Refining	Coker	3	1257	6096
336	Citgo Petroleum Corp		Sulphur, LA, USA	USA	2007	SWS Feed/Bottoms Exchs.	Refining	SWS	1	622	6096
337	SK Corp		Ulsan, Korea	Korea	2007	Crude Ovhd Clr, Splitter F/B Exch.	Refining	CDU	3	889-1219	6100
338	Mitsubishi Chemical EC		Kashima, Japan	Japan	2007	OCT Unit Exchs. (HELITOWER)	Olefins	OCT	5	800-1400	8000-18000
339	Suncor Energy, Firebag 3	Jacobs	Alberta, Canada	Canada	2007	Bitumen Exchangers	Oil-Sands	DSU	9	1000-1321	6096-7315
340	Suncor Energy, Firebag 3	Jacobs	Alberta, Canada	Canada	2007	Flash/Stripper Ovhd Condensers.	Oil-Sands	DSU	13	1300-1524	4572-7315
341	BP Chembel NV	Technip	Geel, Belgium	Belgium	2007	Recuperative Vent (Gas-Gas) Ex.	Chemical	PTA	1	1900	9000
342	Bayern Oil	Fluor	Neustadt, Germany	Germany	2007	Visbreaker Feed Preheaters	Refining	VBV	3	590-1090	5400-5700
343	Citgo Petroleum Corp		Sulphur, LA, USA	USA	2007	SWS Feed/Bottoms Exchs.	Refining	SWS	1	620	6096
344	MOC(ROC)	Samsung Eng	Map Ta Phut, Thailand	Thailand	2007	CGC aftercooler stages III, IV, V	Olefins	Ethylene	3	2150-2200	8000
345	ISU Chemical		Ulsan, Korea	Korea	2007	HF Stripper Feed preheater	Chemical		2	580	4800
346	PetroChina Daqing		Daqing, China	China	2007	Water station & utility services	Refining		4	400-1000	4000-6000
347	Sinopec Guangzhou		Guangzhou, China	China	2007	Pump around services	Refining		1	1000	8000
348	Lion Oil	Fluor	El Dorado, AR, USA	USA	2007	Crude oreheat and process Exch	Refining	CDU	8	585-870	6096
349	PetroCanada	Bantrel	Edmonton, AB, Canada	Canada	2007	Deisohexanizer Ovhd. condenser	Refining		4	914	6096