

SYMBOLOLOGY

1) FUEL

FO = Fuel Oil

BG = Blast Furnace Gas

CB = Sugar Cane Bagasse

WC = Wood Chips

MC = Mineral Coal and/or Charcoal

NG = Natural Gas

WW = Wood

BM = Other Biomass

2) FIRING METHOD

BN = Burner

DG = Dumping Grate

FG = Flat Grate

HS = Horse Shoe

IG = Inclined Grate

RG = Rotary Grate

SG = Sloping Grate

WH = Waste Heat

FB = Fluidized Bed

HPB

REFERENCE LIST

HPB ENGINEERING AND INDUSTRIAL GROUP EXPERIENCE

AS

ZANINI S.A. EQUIPAMENTOS PESADOS

Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam Temp. (°C)	Fuel	Fir. Meth.
51	Usina Bela Vista	Sugar Mill-Alcohol Distillery	9.000	10.00	Sat.	CB/WW	HS
54	Usina Bela Vista	Sugar Mill-Alcohol Distillery	13.000	10.00	Sat.	CB/WW	HS
55	Usina Maringá	Sugar Mill-Alcohol Distillery	15.000	15.00	Sat.	CB/WW	HS
55	Usina Albertina	Sugar Mill-Alcohol Distillery	15.000	15.00	Sat.	CB/WW	HS
55	Usina Santa Rita	Sugar Mill-Alcohol Distillery	9.000	10.00	Sat.	CB/WW	HS
55	Usina Santa Adélia	Sugar Mill-Alcohol Distillery	9.000	12.00	Sat.	CB/WW	HS
55	Usina Santa Luiza	Sugar Mill-Alcohol Distillery	15.000	15.00	Sat.	CB/WW	HS
56	Usina Santa Adélia	Sugar Mill-Alcohol Distillery	13.000	12.00	Sat.	CB/WW	HS
56	Engenho São Pedro	Liquor Distillery	10.000	15.00	Sat.	CB/WW	HS
56	Artefatos Borracha Mucambo	Sugar Mill-Alcohol Distillery	1.000	8.50	Sat.	WW	SG
56	Usina Santa Luiza	Sugar Mill-Alcohol Distillery	7.000	10.00	Sat.	CB/WW	HS
56	Eng. Ferreira	Sugar Mill-Alcohol Distillery	18.250	15.00	Sat.	CB/WW	HS
56	Minasill	Vegetable Oils Industry	7.000	10.00	Sat.	WW	HS
57	Usina Aç. São Francisco	Sugar Mill-Alcohol Distillery	23.000	15.00	Sat.	CB/WW	HS
57	Engenho Chiabo	Liquor Distillery	18.000	16.00	Sat.	CB/WW	HS
57	Usina Santa Cruz	Sugar Mill-Alcohol Distillery	16.500	16.00	Sat.	CB/WW	HS
57	Barra Bonita	Sugar Mill-Alcohol Distillery	15.000	16.00	Sat.	CB/WW	HS
57	São Martinho	Sugar Mill-Alcohol Distillery	16.500	17.00	Sat.	CB/WW	HS
57	São Martinho	Sugar Mill-Alcohol Distillery	16.500	17.00	Sat.	CB/WW	HS
58	Açucareira Bortolo Carolo	Sugar Mill-Alcohol Distillery	20.500	16.00	Sat.	CB/WW	SG
58	Açucareira Bortolo Carolo	Sugar Mill-Alcohol Distillery	20.500	16.00	Sat.	CB/WW	SG
58	Usina São Domingos	Sugar Mill-Alcohol Distillery	13.000	16.00	Sat.	CB/WW	HS
58	Usina Santa Cruz	Sugar Mill-Alcohol Distillery	16.500	12.00	Sat.	CB/WW	HS
58	Usina Iracema	Sugar Mill-Alcohol Distillery	16.500	12.00	Sat.	CB/WW	HS
58	Lençóis Paulista	Leather Industry	5.000	8.00	Sat.	WW	SG
58	São Martinho	Sugar Mill-Alcohol Distillery	16.500	17.00	Sat.	CB/WW	HS
58	São Martinho	Sugar Mill-Alcohol Distillery	16.500	17.00	Sat.	CB/WW	HS
59	Irmãos Biagi Aç. & Álcool	Sugar Mill-Alcohol Distillery	13.000	11.00	Sat.	CB/WW	HS
59	São Martinho	Sugar Mill-Alcohol Distillery	23.000	18.00	Sat.	CB/WW	HS
59	São Martinho	Sugar Mill-Alcohol Distillery	23.000	18.00	Sat.	CB/WW	HS
59	Usina Nova América	Sugar Mill-Alcohol Distillery	23.000	16.00	Sat.	CB/WW	HS
60	Irmãos Biagi Aç. & Álcool	Sugar Mill-Alcohol Distillery	23.000	18.00	Sat.	CB/WW	HS
60	Irmãos Biagi Aç. & Álcool	Sugar Mill-Alcohol Distillery	23.000	18.00	Sat.	CB/WW	HS
60	Usina Santa Adélia	Sugar Mill-Alcohol Distillery	23.000	18.00	Sat.	CB/WW	HS
60	Usina Bom Jesus	Sugar Mill-Alcohol Distillery	30.000	20.00	Sat.	CB/WW	HS
60	Usina Santa Cruz	Sugar Mill-Alcohol Distillery	18.500	15.00	Sat.	CB/WW	HS
61	Usina Barreirinho	Sugar Mill-Alcohol Distillery	15.000	16.00	Sat.	CB/WW	HS
61	Usina São Domingos	Sugar Mill-Alcohol Distillery	23.000	18.00	Sat.	CB/WW	HS
61	Engenho Bertolo	Alcohol Distillery	15.000	15.00	Sat.	CB/WW	HS
61	Usina Itabira	Sugar Mill-Alcohol Distillery	23.000	16.00	Sat.	CB/WW	HS
62	Cia. Cervejaria Paulista	Beverage Industry	13.000	16.00	Sat.	CB/WW	SG
62	Attílio Balbo S.A.	Sugar Mill-Alcohol Distillery	21.600	16.00	Sat.	CB/WW	HS
62	Attílio Balbo S.A.	Sugar Mill-Alcohol Distillery	31.500	16.00	Sat.	CB/WW	HS
62	Capivari	Sugar Mill-Alcohol Distillery	30.000	20.00	Sat.	CB/WW	HS
63	Frigorífico Mouran	Food Industry	5.500	10.00	Sat.	WW	SG
63	Vale do Curu	Sugar Mill-Alcohol Distillery	12.000	15.00	Sat.	CB/WW	HS
63	Cortume Munic	Leather Industry	600	8.50	Sat.	WW	SG
64	Attílio Balbo S.A.	Sugar Mill-Alcohol Distillery	31.500	18.00	Sat.	CB/WW	HS
64	Usina Aç. São Francisco	Sugar Mill-Alcohol Distillery	25.000	18.00	Sat.	CB/WW	HS
64	Irmãos Biagi Aç. & Álcool	Sugar Mill-Alcohol Distillery	34.000	16.00	Sat.	CB/WW	DG
64	Usina Cachoeira do Meirin	Sugar Mill-Alcohol Distillery	12.500	16.00	Sat.	CB/WW	HS
65	Vale do Rosário	Sugar Mill-Alcohol Distillery	22.000	16.00	300	CB/WW	DG
65	Vale do Rosário	Sugar Mill-Alcohol Distillery	22.000	16.00	300	CB/WW	DG
65	Usina Santa Lydia	Sugar Mill-Alcohol Distillery	31.000	17.00	240	CB/WW	DG
65	Destilaria Fronteira	Alcohol Distillery	31.000	17.00	240	CB/WW	DG
65	Cortume Reverendo Vidal	Vegetable Oils Industry	3.000	21.00	Sat.	WW/WC	SG
65	Produto Ceres	Vegetable Oils Industry	6.000	16.00	Sat.	WW/WC	SG
65	Frigorífico Marchesi	Food Industry	5.000	10.00	200	WW/WC	SG

Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam temp. (°C)	Fuel	Fir. Meth.
65	Terra Roxa-Ralston	Foody Industry	1.100	8.00	Sat.	WW/WC	SG
65	Laticinio Abbud	Foody Industry	300	8.50	Sat.	WW/WC	SG
66	Usina Jacarezinho	Sugar Mill-Alcohol Distillery	27.000	16.00	Sat.	CB/WW	HS
66	Usina Lagoinha	Sugar Mill-Alcohol Distillery	18.000	17.00	Sat.	CB/WW	HS
66	Usina Coruripe	Sugar Mill-Alcohol Distillery	17.000	16.00	Sat.	CB/WW	HS
67	Usina Santa Fé	Sugar Mill-Alcohol Distillery	26.000	21.00	Sat.	CB/WW	HS
68	Açucareira Vieira Martins	Sugar Mill-Alcohol Distillery	30.000	20.00	Sat.	CB/WW	HS
68	Usina do Queimado	Sugar Mill-Alcohol Distillery	30.000	20.00	300	CB/WW	HS
68	Vale São Francisco	Vegetable Oils Industry	3.000	14.00	Sat.	WW/WC	SG
69	Maracai	Sugar Mill-Alcohol Distillery	26.000	19.00	300	CB/WW	HS
69	Usina Santa Adelaide	Sugar Mill-Alcohol Distillery	23.200	20.00	300	CB/WW	DG
69	Usina Santa Adelaide	Sugar Mill-Alcohol Distillery	23.200	20.00	300	CB/WW	DG
69	Açucareira Barbacena	Sugar Mill-Alcohol Distillery	26.000	17.00	Sat.	CB/WW	HS
69	Açucareira Pontenovense	Sugar Mill-Alcohol Distillery	21.600	21.00	Sat.	CB/WW	HS
70	Usina Rafard	Sugar Mill-Alcohol Distillery	31.000	17.00	240	CB/WW	DG
70	Fundação Sinhá Junqueira	Sugar Mill-Alcohol Distillery	50.000	18.00	260	CB/WW	DG
70	Fundação Sinhá Junqueira	Sugar Mill-Alcohol Distillery	50.000	18.00	260	CB/WW	DG
70	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
71	Cidapar	Ceramics Industry	6.500	16.00	230	FO	BM
71	Usina Itapirema	Sugar Mill-Alcohol Distillery	36.000	20.00	270	CB/WW	HS
71	Usina Central Olho D'Água	Sugar Mill-Alcohol Distillery	36.000	20.00	270	CB/WW	HS
71	Vale do Rosário	Sugar Mill-Alcohol Distillery	22.000	16.00	300	CB/WW	DG
71	Usina Bulhões	Sugar Mill-Alcohol Distillery	16.000	17.00	Sat.	CB/WW	HS
71	Usina Santa Cruz	Sugar Mill-Alcohol Distillery	30.000	20.00	Sat.	CB/WW	HS
72	Cidapar	Ceramics Industry	6.500	16.00	230	FO	BM
72	Cia. Açucareira Barbacena	Sugar Mill-Alcohol Distillery	31.000	17.00	240	CB/WW	DG
72	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
72	Usina Caeté	Sugar Mill-Alcohol Distillery	36.000	17.00	270	CB/WW	HS
72	Usina Caeté	Sugar Mill-Alcohol Distillery	36.000	17.00	270	CB/WW	HS
72	Usina Ipojuca	Sugar Mill-Alcohol Distillery	16.000	15.00	Sat.	CB/WW	HS
72	Usina Ipojuca	Sugar Mill-Alcohol Distillery	16.000	15.00	Sat.	CB/WW	HS
72	Us. São João do Pinheiro	Sugar Mill-Alcohol Distillery	36.000	15.00	Sat.	CB/WW	HS
72	Us. São João do Pinheiro	Sugar Mill-Alcohol Distillery	36.000	15.00	Sat.	CB/WW	HS
72	Usina Santa Maria	Sugar Mill-Alcohol Distillery	26.000	21.00	Sat.	CB/WW	HS
72	Usina Santa Maria	Sugar Mill-Alcohol Distillery	26.000	21.00	Sat.	CB/WW	HS
72	Usina Passos	Sugar Mill-Alcohol Distillery	45.000	21.00	240	CB/WW	HS
72	Usina Trapiche	Sugar Mill-Alcohol Distillery	36.000	21.00	270	CB/WW	HS
72	Usina Trapiche	Sugar Mill-Alcohol Distillery	36.00	21.00	270	CB/WW	HS
72	Inkra (Altamira)	Sugar Mill-Alcohol Distillery	16.000	17.00	260	CB/WW	HS
72	Inkra (Altamira)	Sugar Mill-Alcohol Distillery	16.000	17.00	260	CB/WW	HS
72	Inkra (Altamira)	Sugar Mill-Alcohol Distillery	16.000	17.00	260	CB/WW	HS
72	Usina Cruangi	Sugar Mill-Alcohol Distillery	16.000	16.00	Sat.	CB/WW	HS
72	Usina Bom Jesus	Sugar Mill-Alcohol Distillery	36.000	18.00	270	CB/WW	HS
72	Usina Central Olho D'Água	Sugar Mill-Alcohol Distillery	36.000	20.00	270	CB/WW	DG
72	Central Aç. Santo Antônio	Sugar Mill-Alcohol Distillery	36.000	15.00	Sat.	CB/WW	HS
72	Usina Barão de Suassuna	Sugar Mill-Alcohol Distillery	16.000	17.00	Sat.	CB/WW	HS
72	Usina Barão de Suassuna	Sugar Mill-Alcohol Distillery	16.000	17.00	Sat.	CB/WW	HS
72	Cia Água Branca	Sugar Mill-Alcohol Distillery	16.000	15.00	Sat.	CB/WW	HS
72	Usina da Barra	Sugar Mill-Alcohol Distillery	16.000	10.50	Sat.	CB/WW	HS
72	Dicoco	Food Industry	3.000	10.50	Sat.	WW/WC	HS
72	Sucorríco	Juice Industry	9.000	11.00	Sat.	FO	BM
72	Sucorríco	Juice Industry	9.000	11.00	Sat.	FO	BM
73	Usina Serra Grande	Sugar Mill-Alcohol Distillery	30.000	20.00	Sat.	CB/WW	HS
73	Usina União Industria	Sugar Mill-Alcohol Distillery	30.000	20.00	Sat.	CB/WW	HS
73	Usina União Industria	Sugar Mill-Alcohol Distillery	30.000	20.00	300	CB/WW	HS
73	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
73	Usina Cruangi	Sugar Mill-Alcohol Distillery	36.000	18.00	270	CB/WW	HS
73	Usina Barão de Suassuna	Sugar Mill-Alcohol Distillery	16.000	17.00	Sat.	CB/WW	HS

Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam temp. (°C)	Fuel	Fir. Meth.
73	Usina da Barra S.A.	Sugar Mill-Alcohol Distillery	16.000	15.00	Sat.	CB/WW	HS
73	Usina Mussurepe	Sugar Mill-Alcohol Distillery	36.000	21.00	270	CB/WW	HS
73	Açucareira São Manoel	Sugar Mill-Alcohol Distillery	40.000	15.00	Sat.	CB/WW	DG
73	Açucareira Usina Cupin	Sugar Mill-Alcohol Distillery	36.000	18.00	Sat.	CB/WW	HS
73	Açucareira Usina Cupin	Sugar Mill-Alcohol Distillery	36.000	18.00	Sat.	CB/WW	HS
73	Irmãos Biagi Aç. & Álcool	Sugar Mill-Alcohol Distillery	50.000	16.00	Sat.	CB/WW	DG
73	Irmãos Biagi Aç. & Álcool	Sugar Mill-Alcohol Distillery	50.000	16.00	Sat.	CB/WW	DG
73	Friedmann - Paraguai	Sugar Mill-Alcohol Distillery	26.000	19.00	300	CB/WW	HS
73	Usina Santa Barbara	Sugar Mill-Alcohol Distillery	50.000	21.00	280	CB/WW	DG
74	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
74	Fundação Sinhá Junqueira	Sugar Mill-Alcohol Distillery	50.000	18.00	260	CB/WW	DG
74	Usina Barão de Suassuna	Sugar Mill-Alcohol Distillery	16.000	17.00	Sat.	CB/WW	HS
74	Usina Água Branca	Sugar Mill-Alcohol Distillery	16.000	15.00	Sat.	CB/WW	HS
74	Usina Água Branca	Sugar Mill-Alcohol Distillery	16.000	15.00	Sat.	CB/WW	HS
74	Vale do Rosário	Sugar Mill-Alcohol Distillery	33.000	16.00	270	CB/WW	DG
74	Vale do Rosário	Sugar Mill-Alcohol Distillery	33.000	16.00	270	CB/WW	DG
74	Usina Maracai	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
74	Usina Santa Adélia	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
74	Attílio Balbo S.A.	Sugar Mill-Alcohol Distillery	50.000	20.00	280	CB/WW	DG
74	Petroquisa Fabor	Petrochemical Industry	100.000	43.30	450	FO	BM
75	Prosint	Chemical Industry	40.000	27.00	400	FO	BM
75	Uniroyal	Petrochemical Industry	6.000	35.20	243	FO	BM
75	Usina Petribu	Sugar Mill-Alcohol Distillery	50.000	16.00	270	CB/WW	DG
75	Attílio Balbo	Sugar Mill-Alcohol Distillery	50.000	20.00	280	CB/WW	DG
75	Usina São João	Sugar Mill-Alcohol Distillery	50.000	20.00	280	CB/WW	DG
75	Usina São João	Sugar Mill-Alcohol Distillery	50.000	20.00	280	CB/WW	DG
75	Usina São João	Sugar Mill-Alcohol Distillery	50.000	20.00	280	CB/WW	DG
75	Açucareira Rio Grande	Sugar Mill-Alcohol Distillery	50.000	20.00	300	CB/WW	DG
75	Vale do Salamanca	Sugar Mill-Alcohol Distillery	30.000	21.00	Sat.	BM/FO	HS
75	Vale do Salamanca	Sugar Mill-Alcohol Distillery	30.000	21.00	Sat.	BM/FO	HS
75	Usina São Simeão	Sugar Mill-Alcohol Distillery	50.000	16.00	280	BM/FO	DG
75	Usina Coruripe	Sugar Mill-Alcohol Distillery	50.000	21.00	250	CB/WW	DG
75	Usina Bela Vista	Sugar Mill-Alcohol Distillery	23.000	20.00	Sat.	CB/WW	HS
76	Acesita	Steel Mill	3.800	18.00	300	FO	BM
76	Usina Cruangi	Sugar Mill-Alcohol Distillery	36.000	18.00	270	CB/WW	HS
76	Mendes Lima	Sugar Mill-Alcohol Distillery	50.000	21.00	280	CB/WW	DG
76	Mendes Lima	Sugar Mill-Alcohol Distillery	50.000	21.00	280	CB/WW	DG
76	Usina São Simeão	Sugar Mill-Alcohol Distillery	50.000	16.00	280	BM/FO	DG
76	Usina Santo Antônio	Sugar Mill-Alcohol Distillery	50.000	21.00	250	CB/WW	DG
77	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
77	Usina Junqueira	Sugar Mill-Alcohol Distillery	50.000	18.00	260	CB/WW	DG
77	Usina Açucareira Passos	Sugar Mill-Alcohol Distillery	45.000	21.00	240	CB/WW	HS
77	Usina Maracai	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
77	Açucareira Delta	Sugar Mill-Alcohol Distillery	50.000	21.00	260	CB/WW	HS
77	Usina São José de Estiva	Sugar Mill-Alcohol Distillery	50.000	20.00	Sat.	CB/WW	HS
77	Vale do Rosário	Sugar Mill-Alcohol Distillery	50.000	17.00	270	CB/WW	DG
77	Acesita	Steel Mill	12.000	18.00	300	FO	BM
77	Usina Aliança	Sugar Mill-Alcohol Distillery	45.000	21.00	300	CB/WW	HS
77	Extrativa Tanino de Acácia	Chemical Industry	10.000	12.00	Sat.	BM/WW	HS
77	Usina Caeté	Sugar Mill-Alcohol Distillery	50.000	21.00	280	CB/WW	DG
77	Destilaria Damisa	Alcohol Distillery	45.000	20.00	300	CB/WW	HS
77	Destilaria Alcídia	Alcohol Distillery	33.000	20.00	270	CB/WW	HS
77	Destilaria Alcídia	Alcohol Distillery	33.000	20.00	270	CB/WW	DG
77	Destilaria Guaricanga	Alcohol Distillery	25.000	20.00	300	CB/WW	HS
77	Vale do Salamanca	Sugar Mill-Alcohol Distillery	50.000	21.00	Sat.	CB/WW	DG
77	Usina São Geraldo	Sugar Mill-Alcohol Distillery	55.000	21.00	320	CB/WW	DG
77	Usina Santa Adélia	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
77	Destilaria Alcídia	Alcohol Distillery	33.000	20.00	270	CW/WW	DG

Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam temp. (°C)	Fuel	Fir. Meth.
77	Norte de Alagoas	Sugar Mill-Alcohol Distillery	55.000	21.00	300	CB/WW	DG
77	Norte de Alagoas	Sugar Mill-Alcohol Distillery	55.000	21.00	300	CB/WW	DG
77	Usina Central Barreiros	Sugar Mill-Alcohol Distillery	36.000	21.00	300	CB/WW	HS
77	Usina São Francisco	Sugar Mill-Alcohol Distillery	52.000	21.00	280	CB/WW	DG
77	Faz. Unidas Destilarias	Alcohol Distillery	45.000	20.00	Sat.	CB/WW	HS
77	Irmãos Biagi S.A.	Sugar Mill-Alcohol Distillery	50.000	21.00	Sat.	CB/WW	DG
78	Acesita	Steel Mill	13.600	18.00	300	BG/FO	BM
78	Fundação Sinhá Junqueira	Sugar Mill-Alcohol Distillery	50.000	18.00	260	CB/WW	DG
78	Destilaria Univalem	Alcohol Distillery	45.000	20.00	300	CB/WW	HS
78	Destilaria R.S.	Alcohol Distillery	30.000	21.00	270	CB/WW	HS
78	Engenho Bertolo	Liquor Distillery	20.000	21.00	Sat.	CB/WW	HS
78	Usina Santa Fé	Sugar Mill-Alcohol Distillery	65.000	21.00	300	CB/WW	DG
78	Vale do Rosário	Sugar Mill-Alcohol Distillery	50.000	20.00	270	CB/WW	DG
78	Usina Cerradinho	Sugar Mill-Alcohol Distillery	50.000	21.00	Sat.	CB/WW	HS
78	Usina Junqueira	Sugar Mill-Alcohol Distillery	50.000	18.00	260	CB/WW	DG
78	Destilaria Vale do Curu	Alcohol Distillery	50.000	21.00	320	CB/WW	DG
78	Destilaria Vale do Curu	Alcohol Distillery	50.000	21.00	320	CB/WW	DG
78	Destilaria Agroserra	Alcohol Distillery	45.000	21.00	320	CB/WW	DG
78	Destilaria Costa Pinto	Alcohol Distillery	25.000	21.00	300	CB/WW	HS
78	Destilaria Costa Pinto	Alcohol Distillery	25.000	21.00	300	CB/WW	HS
78	Usina Paredão	Alcohol Distillery	25.000	21.00	260	CB/WW	DG
78	Destilaria Água Limpa	Alcohol Distillery	30.000	21.00	275	CB/WW	HS
78	Usina Barbacena	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	HS
78	Usina Guarani	Sugar Mill-Alcohol Distillery	50.000	18.00	300	CB/WW	DG
79	Sucocítrico Cutrale	Juice Industry	30.000	13.00	Sat.	FO	BM
79	Sucocítrico Cutrale	Juice Industry	3.000	13.00	Sat.	FO	BM
79	Sinop	Electric Power Generation	55.000	42.96	375	WC	DG
79	Sinop	Electric Power Generation	55.000	42.96	375	WC	DG
79	Usina Santo Antônio	Sugar Mill-Alcohol Distillery	25.000	21.00	Sat.	FO	BM
79	AKZ Turbinas	Steam Turbine Test Stand	10.000	24.00	400	FO	BM
79	Usina Bela Vista	Sugar Mill-Alcohol Distillery	33.000	21.00	Sat.	CB/WW	DG
79	Usina Ipojuca	Sugar Mill-Alcohol Distillery	40.000	20.00	280	CB/WW	DG
79	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
79	Destilaria MB	Sugar Mill-Alcohol Distillery	65.000	21.00	300	CB/WW	DG
79	Usina Santa Terezinha	Sugar Mill-Alcohol Distillery	30.000	21.00	Sat.	CB/WW	HS
79	Destilaria Guaricanga	Alcohol Distillery	27.000	20.00	300	CB/WW	DG
79	Destilaria Casquel	Alcohol Distillery	30.000	21.00	Sat.	CB/WW	HS
79	Destilaria Aracoiaba	Alcohol Distillery	37.500	21.00	Sat.	CB/WW	HS
79	Destilaria Santa Laura	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
79	Usina São João	Sugar Mill-Alcohol Distillery	50.000	20.00	300	CB/WW	DG
79	Destilaria Outeiro	Alcohol Distillery	30.000	21.00	Sat.	CB/WW	HS
79	Destilaria Outeiro	Alcohol Distillery	30.000	21.00	Sat.	CB/WW	HS
79	Destilaria Univalem	Alcohol Distillery	50.000	21.00	300	CB/WW	DG
79	Extrativa Tanino de Acácia	Chemical Industry	10.000	12.00	Sat.	BM/WW	HS
79	Agro Ind. Grande Vale	Sugar Mill-Alcohol Distillery	20.000	15.00	Sat.	CB/WW	HS
79	Agro Ind. Grande Vale	Sugar Mill-Alcohol Distillery	20.000	15.00	Sat.	CB/WW	HS
79	Destilaria Galo Bravo	Alcohol Distillery	65.000	23.00	320	CB/WW	DG
79	Destilaria Nova Andradina	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
79	Destilaria Nova Andradina	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
79	Usina Delta	Sugar Mill-Alcohol Distillery	45.000	21.00	260	CB/WW	HS
79	Destilaria Colombo	Alcohol Distillery	50.000	20.00	300	CB/WW	DG
79	Destilaria Colombo	Alcohol Distillery	50.000	20.00	300	CB/WW	HS
79	Destilaria Vale do Panema	Alcohol Distillery	50.000	20.00	300	CB/WW	DG
80	Gessy Lever	Chemical Industry	40.000	17.40	263	FO	BM
80	Sucocítrico Cutrale	Juice Industry	30.000	13.00	Sat.	FO	BM
80	Destilaria Penedo	Alcohol Distillery	45.000	21.00	280	CB/WW	DG
80	Destilaria Penedo	Alcohol Distillery	45.000	21.00	280	CB/WW	DG
80	Usina Bandeirantes	Sugar Mill-Alcohol Distillery	50.000	20.00	Sat.	CB/WW	DG

Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam temp. (°C)	Fuel	Fir. Meth.
80	Destilaria Água Limpa	Alcohol Distillery	30.000	21.00	270	CB/WW	HS
80	Usina São Geraldo	Sugar Mill-Alcohol Distillery	65.000	21.00	330	CB/WW	DG
80	Destilaria Marituba	Alcohol Distillery	50.000	35.00	350	CB/WW	DG
80	Destilaria Marituba	Alcohol Distillery	50.000	35.00	350	CB/WW	DG
80	Ing. Taboga (Costa Rica)	Sugar Mill-Alcohol Distillery	65.000	17.00	300	CB/WW	DG
80	Destilaria R.S.	Alcohol Distillery	33.000	21.00	270	CB/WW	DG
80	Destilaria Dalva	Alcohol Distillery	50.000	21.00	300	CB/WW	HS
80	Usina Açucareira Guarani	Sugar Mill-Alcohol Distillery	50.000	18.00	300	CB/WW	DG
80	Debrasa	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
80	Debrasa	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
80	Destilaria Jardinópolis	Alcohol Distillery	27.000	21.00	300	CB/WW	DG
80	Destilaria Jardinópolis	Alcohol Distillery	27.000	21.00	300	CB/WW	HS
80	Destilaria Pindorama	Alcohol Distillery	43.500	21.00	280	CB/WW	DG
80	Destilaria Pindorama	Alcohol Distillery	43.500	21.00	280	CB/WW	HS
80	Destilaria Moema (Demo)	Alcohol Distillery	33.000	21.00	300	CB/WW	DG
80	Destilaria Moema (Demo)	Alcohol Distillery	33.000	21.00	300	CB/WW	HS
80	Destilaria Lago Azul	Alcohol Distillery	33.000	21.00	300	CB/WW	DG
80	Destilaria Lago Azul	Alcohol Distillery	33.000	21.00	300	CB/WW	HS
80	Usina Santo Antônio	Sugar Mill-Alcohol Distillery	65.000	21.00	Sat.	CB/WW	DG
80	Usina da Pedra	Sugar Mill-Alcohol Distillery	80.000	21.00	Sat.	CB/WW	DG
80	Usina da Pedra	Sugar Mill-Alcohol Distillery	80.000	21.00	Sat.	CB/WW	DG
80	Destilaria Pioneiros	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
80	Usina Santa Elisa	Sugar Mill-Alcohol Distillery	50.000	21.00	300	CB/WW	DG
80	Usina Santa Lydia	Sugar Mill-Alcohol Distillery	43.500	21.00	300	CB/WW	DG
81	Ripasa	Pulp and Paper	80.000	42.00	400	WC/FO	RG
81	Suzano	Pulp and Paper	100.000	50.00	420	WC/FO	RG
81	Frigorífico Atlas	Slaughter House	25.000	42.80	375	WC	IG
81	Frigorífico Atlas	Slaughter House	25.000	42.80	375	WC	IG
81	Destilaria Pite	Alcohol Distillery	33.000	21.00	300	CB/WW	HS
81	Destilaria Pite	Alcohol Distillery	35.000	21.00	300	CB/WW	DG
81	Destilaria Dacalda	Alcohol Distillery	50.000	21.00	320	CB/WW	HS
81	Destilaria Pau D'Alho	Alcohol Distillery	60.000	21.00	320	CB/WW	HS
81	Destilaria Pau D'Alho	Alcohol Distillery	60.000	21.00	320	CB/WW	HS
81	Ingênio Valdez (Equador)	Sugar Mill-Alcohol Distillery	65.000	21.00	275	CB/WW	DG
81	Dest. Coop. Agric. Astorga	Alcohol Distillery	60.000	21.00	300	CB/WW	HS
81	Usina Albertina	Sugar Mill-Alcohol Distillery	65.000	21.00	300	CB/WW	DG
81	Destilaria Cooperval	Alcohol Distillery	50.000	21.00	300	CB/WW	HS
81	Destilaria Pagrisa	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
81	Destilaria Cotal	Alcohol Distillery	50.000	21.00	300	CB/WW	HS
81	Destilaria Mandu	Alcohol Distillery	40.000	21.00	300	CB/WW	HS
81	Destilaria Mandu	Alcohol Distillery	40.000	21.00	300	CB/WW	HS
81	Destilaria Vale do Verdão	Alcohol Distillery	40.000	21.00	300	CB/WW	HS
81	Destilaria Vale do Verdão	Alcohol Distillery	43.500	21.00	300	CB/WW	DG
81	Destilaria Triálcool	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
81	Destilaria Univalem	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
82	Usina Ester	Sugar Mill-Alcohol Distillery	80.000	21.00	275	CB	IG
82	Usina Bonfim	Sugar Mill-Alcohol Distillery	100.000	30.00	290	CB	IG
82	Cargill Citros	Juice Industry	23.000	21.00	Sat.	CB	FG
82	Cargill Citros	Juice Industry	23.000	21.00	Sat.	CB	FG
82	Cruzalcool	Alcohol Distillery	65.000	21.00	300	CB/WW	HS
82	Açucareira Bortolo Carolo	Sugar Mill-Alcohol Distillery	65.000	21.00	300	CB/WW	DG
82	Alcoazul	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
82	Alcoazul	Alcohol Distillery	60.000	21.00	300	CB/WW	HS
82	Unialcool	Alcohol Distillery	80.000	21.00	300	CB/WW	DG
82	Usina Caxangá	Sugar Mill-Alcohol Distillery	40.000	20.00	270	CB/WW	DG
82	Destilaria Jadest	Alcohol Distillery	27.000	21.00	300	CB/WW	DG
82	Destilaria Vale do Ivaí	Alcohol Distillery	65.000	21.00	300	CB/WW	DG

Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam temp. (°C)	Fuel	Fir. Meth.
82	Destilaria Japungu	Alcohol Distillery	53.000	30.00	350	CB/WW	DG
82	Destilaria Dacal	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
82	Destilaria Benálcool	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
82	Destilaria Derio	Alcohol Distillery	40.000	21.00	300	CB/WW	DG
82	Destilaria Nova União	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
82	Destilaria Alcoverde	Alcohol Distillery	55.000	30.00	320	CB/WW	DG
82	Destilaria Itamarati	Alcohol Distillery	65.000	21.00	300	CB/WW	HS
82	Destilaria Anicuns	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
82	Destilaria Clealco	Alcohol Distillery	45.000	21.00	300	CB/WW	HS
82	Destilaria Melhoramentos	Alcohol Distillery	65.000	21.00	300	CB/WW	HS
82	Destilaria Alcovale	Alcohol Distillery	55.000	30.00	320	CB/WW	HS
82	Usina São Geraldo	Sugar Mill-Alcohol Distillery	65.000	21.00	330	CB/WW	DG
82	Usina Vale do Rosário	Sugar Mill-Alcohol Distillery	80.000	21.00	300	CB/WW	DG
82	Usina Vale do Rosário	Sugar Mill-Alcohol Distillery	80.000	21.00	300	CB/WW	DG
82	Destilaria Caratinga	Alcohol Distillery	25.000	14.00	270	CB/WW	HS
82	Usina Junqueira	Sugar Mill-Alcohol Distillery	80.000	21.00	300	CB/WW	DG
82	Usina Boa Vista	Sugar Mill-Alcohol Distillery	60.000	21.00	Sat.	CB/WW	HS
82	Usina São João de Estiva	Sugar Mill-Alcohol Distillery	45.000	21.00	Sat.	CB/WW	HS
83	Odebrecht	Electric Power Generation	27.000	42.00	375	WC	IG
83	Odebrecht	Electric Power Generation	27.000	42.00	375	WC	IG
83	Odebrecht	Electric Power Generation	27.000	42.00	375	WC	IG
83	Destilaria Copernavi	Alcohol Distillery	60.000	21.00	300	CB/WW	HS
83	Extrativa Tanino de Acácia	Chemical Industry	10.000	21.00	Sat.	BM/WW	HS
83	Usina Catanduva	Sugar Mill-Alcohol Distillery	80.000	30.00	320	CB/WW	DG
83	Destilaria Coprodia	Alcohol Distillery	55.000	21.00	300	CB/WW	HS
83	Destilaria Coprodia	Alcohol Distillery	55.000	21.00	300	CB/WW	HS
83	Destilaria Copave	Alcohol Distillery	50.000	21.00	300	CB/WW	HS
83	Destilaria Santa Tereza	Alcohol Distillery	55.000	21.00	300	CB/WW	HS
83	Destilaria Sabaralcoool	Alcohol Distillery	53.000	21.00	300	CB/WW	DG
83	Destilaria Poconé	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
83	Destilaria Caratinga	Alcohol Distillery	28.000	14.00	270	CB/WW	DG
83	Destilaria Tiros	Alcohol Distillery	50.000	21.00	300	CB/WW	HS
84	Copesp	Navy Nuclear Research Center	40.000	42.00	Sat.	FO	BM
84	Sucocítrico Cutrale	Juice Industry	41.000	42.00	Sat.	CB	IG
84	Sucocítrico Cutrale	Juice Industry	41.000	42.00	Sat.	CB	IG
84	Anderson Clayton	Vegetable Oils Industry	28.000	21.00	270	WC	FG
84	Cocam	Soluble Coffe	18.000	18.00	Sat.	FO/BM	FG
84	Alexandre Balbo	Alcohol Distillery	60.000	23.00	285	CB	IG
84	Alexandre Balbo	Alcohol Distillery	60.000	23.00	285	CB	IG
84	Destilaria MB	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
84	Destilaria Moreno	Alcohol Distillery	65.000	21.00	Sat.	CB/WW	DG
84	Destilaria Alta Mogiana	Alcohol Distillery	75.000	21.00	300	CB/WW	HS
84	Destilaria Porto Alegre	Alcohol Distillery	40.000	21.00	300	CB/WW	DG
84	Destilaria Soalcool	Alcohol Distillery	60.000	21.00	300	CB/WW	HS
84	Destilaria Albel	Alcohol Distillery	25.000	21.00	300	CB/WW	HS
84	Destilaria Rubiataba	Alcohol Distillery	50.000	21.00	300	CB/WW	DG
84	Agican	Alcohol Distillery	40.000	30.00	350	CB/WW	HS
85	Usina Ester	Sugar Mill	100.000	21.00	320	CB	IG
85	Zanitec	Alcohol Distillery	12.000	21.00	300	CB	HS
85	Destilaria Coanto	Alcohol Distillery	60.000	21.00	300	CB/WW	HS
85	Destilaria Cofercatu	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
85	Destilaria Alcana	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
85	Destilaria Dasa	Alcohol Distillery	65.000	21.00	300	CB/WW	DG
85	Destilaria Santa Cruz	Sugar Mill-Alcohol Distillery	65.000	21.00	Sat.	CB/WW	DG
85	Destilaria Cerradinho	Sugar Mill-Alcohol Distillery	65.000	21.00	Sat.	CB/WW	DG
85	Destilaria Despan	Alcohol Distillery	20.000	21.00	300	CB/WW	HS

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Year	Client	Type of Industry	Capacity (Kg/h)	Working press. (bar)	Steam temp. (°C)	Fuel	Fir. Meth.
94	Usina Bazan	Sugar Mill-Alcohol Distillery	100.000	21	300	CB	DG
94	Destilaria Benálcool	Alcohol Distillery	100.000	21	300	CB	DG
94	Vale do Rosário	Sugar Mill-Alcohol Distillery	120.000	46	430	CB	DG
94	Vale do Rosário	Sugar Mill-Alcohol Distillery	120.000	46	430	CB	DG
95	Industrias Muller	Food Industry	40.000	21	300	CB	DG
95	Destilaria MB	Sugar Mill-Alcohol Distillery	80.000	21	300	CB	DG
96	Anicuns S.A.	Sugar Mill-Alcohol Distillery	60.000	21	300	CB	DG
96	Usina Mandu (Retrofit)	Sugar Mill-Alcohol Distillery	60.000	21	300	CB	DG
97	Usina Mandu (Retrofit)	Sugar Mill-Alcohol Distillery	60.000	21	300	CB	DG
97	Cevasa	Sugar Mill-Alcohol Distillery	90.000	22	310	CB	DG
97	Usina Barrálcool	Sugar Mill-Alcohol Distillery	70.000	22	300	CB	DG
97	Cambui (Retrofit)	Mineral Coal Mine	52.000	38	450	MC	BN
98	Agropeu (Retrofit)	Sugar Mill-Alcohol Distillery	75.000	21	350	CB	DG
98	Mayagüez (Colombia)	Sugar Mill	80.000	25	370	MC/CB	RG
98	Tanac S.A.	Chemical Industry	25.000	25	350	WW	IG
98	Usina Iturama (Retrofit)	Sugar Mill-Alcohol Distillery	60.000	30	350	CB	RG
98	Terranova Brasil	Central Power	25.000	44	400	WC	RG
99	Rio Pardo (Retrofit)	Pulp and Paper Mill	50.000	42	400	CB	DG
99	Azuc. Monterey (Ecuador)	Food Industry	30.000	32	415	CB	RG
99	Azuc. Paramonga (Peru)	Food Industry	110.000	32	370	CB/FO	PG
99	Carmelita (Colombia) - Retrofit	Food Industry	70.000	42	400	CB	DG
99	Mayagüez (Colombia)	Sugar Mill	65.000	25	370	MC/CB	RG
99	Goiasa (Retrofit)	Sugar Mill - Alcohol Distillery	110.000	30	330	CB	DG
99	Usina Volta Grande	Sugar Mill - Alcohol Distillery	120.000	42	410	CB	DG
99	Usina Moema	Sugar Mill - Alcohol Distillery	150.000	45	440	CB	DG
99	Usina Caeté-Volta Grande	Sugar Mill - Alcohol Distillery	120.000	42	400	CB	DG
2000	Santalucia Alimentos	Central Power	40.000	44	430	BM/FO	FB
2000	Gusa do Nordeste	Steel Mill	20.000	26	310	BFG/FO	BN
2000	Usina Coruripe	Sugar Mill - Alcohol Distillery	120.000	44	415	CB	RG
2000	Madeiraira Gethal	Central Power	46.000	43	415	WW/FO	RG/BN
2000	Usina Itamarati	Sugar Mill - Alcohol Distillery	150.000	42	415	CB	DG
2001	Azucarera Laredo (Peru)	Sugar Mill	110.000	32	400	CB/FO	FG/BN
2001	Usina Santa Olinda	Sugar Mill - Alcohol Distillery	150.000	43	415	CB	DG
2001	Usina Delta	Sugar Mill - Alcohol Distillery	150.000	43	415	CB	DG
2001	Usina Vale do Verdão	Sugar Mill - Alcohol Distillery	150.000	43	415	CB	DG
2001	Usina Equipav	Sugar Mill - Alcohol Distillery	150.000	65	480	CB/FO	RG/BN
2001	Usina Equipav	Sugar Mill - Alcohol Distillery	150.000	65	480	CB/FO	RG/BN
2001	Us. Coruripe-Iturama	Sugar Mill - Alcohol Distillery	200.000	45	415	CB	RG
2001	Us. Coruripe-C. Florido	Sugar Mill - Alcohol Distillery	200.000	45	415	CB	RG
2001	Usina Santa Elisa	Sugar Mill - Alcohol Distillery	200.000	65	510	CB/NG	RG/BN
2001	Açucareira Vale do Rosário	Sugar Mill - Alcohol Distillery	200.000	65	510	CB/NG	RG/BN
2001	Jari Celulose (Retrofit)	Pulp and Paper Mill	2x140.000	60	450	WW/FO	RBN
2001	Nicaragua Sugar	Sugar Mill	120.000	43	440	CB/FO	FG/BN
2001	Azucarera Izalco	Sugar Mill	120.000	65	480	CB/FO	FG/BN
2002	Usina Mandú	Sugar Mill - Alcohol Distillery	180.000	65	510	CB	RG
2002	Usina FB	Sugar Mill - Alcohol Distillery	200.000	65	510	CB	RG
2002	Usina Caeté	Sugar Mill - Alcohol Distillery	170.000	43	430	CB	RG
2002	Viena siderurgica	Steel Mill	37.000	43	415	BFG	BN
2002	Cargill Agrícola	Food Industry	50.000	12	Sat.	FO	BN
2002	Usina Vertente	Sugar Mill - Alcohol Distillery	120.000	43	415	CB	RG
2002	Us. Coruripe - C.Florido	Sugar Mill - Alcohol Distillery	150.000	43	455	CB	RG
2003	ADM	Food Industry	100.000	25	370	WW/FO	RG
2003	COMIGO	Food Industry	55.000	43	420	WW	IG
2003	Tres Valles (Honduras)	Sugar Mill	75.000	64	485	CB/FO	FG/BN
2003	Cientec	Electric central power	9.000	42	410	BM/FO	FB