



Reference List of Direct Melting System

<Shaft furnace type gasification and melting furnace>

**NIPPON STEEL
ENGINEERING**

◆ Facilities in operation

No.	Client	Type of Waste to be treated	Capacity	Start-up	Waste Heat Utilization
1	Kamaishi City, Iwate Pref.	Municipal Solid Waste (Including Incombustibles) CFC gas	100t/d (50t/d x 2lines)	Sep. 1979	Hot water recovery
2			450t/d (150t/d x 3lines)	Aug. 1980	Waste heat boiler/ power generation (capacity : 10,000kW)
3	Ibaraki City, Osaka Pref.	Municipal Solid Waste (Including Incombustibles) CFC gas	300t/d (150t/d x 2lines)	Apr. 1996	
4			150t/d (Renewed)	Apr. 1999	
5	Iryu Health Facilities Administration Union, Hyogo Pref.	Municipal Solid Waste (Including Incombustibles)	120t/d (60t/d x 2lines)	Apr. 1997	Waste heat boiler/ power generation (capacity : 1,100kW)
6	East Incineration Facilities Union, Kagawa Pref.	Municipal Solid Waste (Including Incombustibles) Incineration Residues	130t/d (65t/d x 2lines)	Apr. 1997	Waste heat boiler/ power generation (capacity : 1,600kW+1,100kW)
7			65t/d (Additional)	Apr. 2002	
8	Iizuka City, Fukuoka Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	180t/d (90t/d x 2lines)	Apr. 1998	Waste heat boiler/ power generation (capacity : 1,200kW)
9	Itoshima City, Fukuoka Pref.	Municipal Solid Waste (Including Incombustibles) Sludge, Sludge-incineration Residues, CFC gas	200t/d (100t/d x 2lines)	Apr. 2000	Waste heat boiler/ power generation (capacity : 3,000kW)
10	Kameyama City, Mie Pref.	Municipal Solid Waste (Including Incombustibles) Landfill Waste	80t/d (40t/d x 2lines)	Apr. 2000	Waste heat boiler/ power generation (capacity : 1,250kW)
11	Akita City, Akita Pref.	Municipal Solid Waste (Including Incombustibles), Sludge, Incineration Residues	400t/d (200t/d x 2lines)	Apr. 2002	Waste heat boiler/ power generation (capacity : 8,500kW)
12	Niigata City [Yoroigata Clean Center], Niigata Pref.	Municipal Solid Waste (Including Incombustibles) Sludge, Landfill Waste, CFC gas	120t/d (60t/d x 2lines)	Apr. 2002	Waste heat boiler/ power generation (capacity : 1,500kW)



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13	Kazusa Clean System Co., Ltd. Chiba Pref.	Municipal Solid Waste (Including Incombustibles) Sludge, Incineration Residues	200t/d (100t/d x 2lines)	Apr. 2002	Waste heat boiler/ power generation (capacity : 3,000kW)
14			250t/d (125t/d x 2lines)	Mar.2006	Waste heat boiler/ power generation (capacity : 5,000kW)
15	Takizawa Village, Iwate Pref.	Municipal Solid Waste (Including Incombustibles)	100t/d (50t/d x 2lines)	Oct. 2002	Waste heat boiler/ power generation (capacity : 1,200kW)
16	Narashino City, Chiba Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	201t/d (67t/d x 3lines)	Nov. 2002	Waste heat boiler/ power generation (capacity : 2,400kW)
17	Hata Regional Municipality Administrative Union, Kochi Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	140t/d (70t/d x 2lines)	Dec. 2002	Waste heat boiler/ power generation (capacity : 1,800kW)
18	Tajimi City, Gifu Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	170t/d (85t/d x 2lines)	Apr. 2003	Waste heat boiler/ power generation (capacity : 1,990kW)
19	Toyokawa City, Aichi Pref.	Municipal Solid Waste (Incl. Incombustibles), Incineration Residues, Sludge, Sludge-incineration Residues	130t/d (65t/d x 2lines)	Apr. 2003	Waste heat boiler/ power generation (capacity : 1,850kW)
20	Oita City, Oita Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	387t/d (129t/d x 3lines)	Apr. 2003	Waste heat boiler/ power generation (capacity : 9,500kW)
21	Genkai Environmental Union [Munakata Plant], Fukuoka Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	160t/d (80t/d x 2lines)	Jun. 2003	Waste heat boiler/ power generation (capacity : 2,400kW)
22	Seinoh Environmental Maintenance Union, Gifu Pref.	Municipal Solid Waste (Including Incombustibles) Incineration Residues	90t/d (90t/d x 1line)	Apr. 2004	Hot water recovery
23	Kita-kyushu Eco Energy Co., Ltd. Fukuoka Pref.	Industrial Waste (Including Automobile Shredding Residues)	320t/d (160t/d x 2lines)	Apr. 2005	Waste heat boiler/ power generation (capacity : 14,000kW)
24	Nippon Steel Corporation Nagoya Works, Aichi Pref.	Industrial Waste (Automobile Shredding Residues)	120t/d (120t/d x 1line)	Feb.2006	Internal steam supply
25	Shimada City ,Shizuoka Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	148t/d (74t/d x 2lines)	Apr.2006	Waste heat boiler/ power generation (capacity : 1,990kW)
26	Kita-kyushu City [Shin-Moji Plant], Fukuoka Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	720t/d (240t/d x 3lines)	Apr.2007	Waste heat boiler/ power generation (capacity : 23,500kW)
27	Yangsan City, Republic of Korea.	Municipal Solid Waste (Including Incombustibles)	200t/d (100t/d x 2lines)	Feb.2008	Hot water recovery *Supplied by POSCO E&C Co.,Ltd.



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28	Fukuroi City and Mori Town Regional Administration Union, Shizuoka Pref.	Municipal Solid Waste (Including Incombustibles) Incineration Residues	132t/d (66t/d x 2lines)	Apr.2008	Waste heat boiler/ power generation (capacity : 1,700kW)
29	Narumi Clean System Co., Ltd. Nagoya City, Aichi Pref.	Municipal Solid Waste (Including Incombustibles) Incineration Residues	530t/d (265t/d x 2lines)	Jun.2009	Waste heat boiler/ power generation (capacity : 9,000kW)
30	Goyang City, Republic of Korea.	Municipal Solid Waste (Including Incombustibles)	300t/d (150t/d x 2lines)	Feb. 2010	Waste heat boiler/ power generation (capacity : 6,000kW) *Supplied by POSCO E&C Co.,Ltd.
31	Shizuoka City, [Nishigaya Plant], Shizuoka Pref.	Municipal Solid Waste	500t/d (250t/d x 2lines)	Apr.2010	Waste heat boiler/ power generation (capacity : 14,000kW)
32	Himeji City, Hyogo Pref.	Municipal Solid Waste	402t/d (134t/d x 3lines)	Apr.2010	Waste heat boiler/ power generation (capacity : 10,500kW)

◆ Facilities under construction

No.	Client	Type of Waste to be treated	Capacity	Start-up	Waste Heat Utilization
33	Sakai Clean System Co., Ltd. Sakai City, Osaka Pref.	Municipal Solid Waste	450t/d (225t/d x 2lines)	Apr.2013	Waste heat boiler/ power generation (capacity : 10,500kW)
34	Okazaki City, Aichi Pref.	Municipal Solid Waste Incineration Residues, Sludge	380t/d (190t/d x 2lines)	Jun.2011	Waste heat boiler/ power generation (capacity : 10,000kW)
35	Matsue City, Shimane Pref.	Municipal Solid Waste (Including Incombustibles) Sludge	255t/d (85t/d x 3lines)	Apr.2011	Waste heat boiler/ power generation (capacity : 4,400kW)
36	Iwate South Coast Environmental Union, Iwate Pref.	Municipal Solid Waste (Including Incombustibles)	147t/d (73.5t/d x 2lines)	Apr.2011	Waste heat boiler/ power generation (capacity : 2,450kW)
37	Akita City, Akita Pref.	Municipal Solid Waste Incineration Residues, Sludge	460t/d (230t x 2lines) *Increased from 200t/d/1line to 230t	Apr.2012	Waste heat boiler/ power generation (capacity: 8,500kW)



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ENGINEERING**



1 Kamaishi City, Iwate Pref.



2 3 4 Ibaraki City, Osaka Pref.



8 Mizuka City, Fukuoka Pref.



11 31 Akita City, Akita Pref.



13 14 Kazusa Clean System Co., Ltd., Chiba Pref.



27 Yangsan City, Republic of Korea.

