



Plant	Innovatherm GmbH Fluidized bed incineration plant Lünen
Customer	Innovatherm GmbH Lünen, Germany
Start up	1997
Fuel	Coal conditioned sewage sludge from municipal waste water treatment plants, other waste materials
Fuel capacity	31 t/h
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Steam parameters	40 bar 400 °C superheated
Steam generation	41 t/h
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing system (effluent free)
Flue gas volume	93'000 m ³ /h



Plant	München Klärwerk Gut Grosslappen Fluidized bed incineration plants # 1 + 2
Customer	City of Munich Munich, Germany
Start up	1997
Fuel	Sewage sludge from municipal waste water treatment plant
Fuel capacity	3 t/h dry solids each
Incineration conditions	Acc. to German 17. BImSchV / European regu- lations
Steam parameters	40 bar 400 °C superheated
Steam generation	8 t/h
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing sys- tem
Flue gas volume	18'000 m _n ³ /h



Plant	Tongliao Meihua Fluidized bed multi waste incineration plant
Customer	Meihua Holding Group Co., Ltd Meihua Bio-Tech Co., Ltd. Tongliao, Inner Mongolia, China
Start up	2011
Waste source	Sludge from waste water treatment plant, waste coal, waste liquid
Waste incineration capacity	Sludge: 3'125 kg/h (25% DM) - 14'000 kg/h (32% DM) Waste coal: up to 2'700 kg/h Waste liquid: up to 8'330 kg/h
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Steam parameters	12 bar saturated
Steam generation	20 t/h
Flue gas cleaning	Quench, bag filter, flue gas scrubbing system
Flue gas volume	47'000 m ³ /h



Plant	Karlsruhe Klärwerk Neureut Fluidized bed incineration plant # 2
Customer	City of Karlsruhe Karlsruhe, Germany
Start up	1991
Fuel	Sewage sludge and residues from municipal waste water treatment plants
Fuel capacity	2 t/h dry solids
Incineration conditions	Acc. to German 17. BImSchV / European regu- lations
Steam parameters	40 bar 400 °C superheated
Steam generation	7 t/h
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing sys- tem
Flue gas volume	18'000 m _n ³ /h



Plant	Jeonju Paper Cheongwon Mill (formerly Onyang Pulp Co.) Cheongwon, Korea Fluidized bed incineration plant
Customer	Samsung Engineering (general contractor) Seoul, Korea
Start up	1996
Fuel	Paper sludge, rejects and refuse from paper factory
Fuel capacity	5.6 t/h dry solids
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Steam parameters	10 bar saturated
Steam generation	20 t/h
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing system
Flue gas volume	45'000 m _n ³ /h



Plant	Stuttgart Hauptklärwerk Mühlhausen Fluidized bed incineration plant # 2
Customer	City of Stuttgart Stuttgart, Germany
Start up	1992
Fuel	Sewage sludge and residues from municipal waste water treatment plant
Fuel capacity	4 t/h dry solids
Incineration conditions	Acc. to German 17. BImSchV / European regu- lations
Steam parameters	12 bar saturated
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing sys- tem
Flue gas volume	25'000 m _n ³ /h



Plant	Bottrop ZSB (Central sludge treatment plant) Fluidized bed incineration plants # 1 + 2
Customer	Emschergenossenschaft Essen, Germany
Start up	Plant 1: 1979, plant 2: 1991
Fuel	Sewage sludge and residues from municipal waste water treatment plant
Fuel capacity	3 t/h dry solids each
Incineration conditions	Acc. to German 17. BImSchV / European regu- lations
Steam parameters	35 bar 400 °C superheated
Steam production	7 t/h each
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing sys- tem
Flue gas volume	21'000 m _n ³ /h each



Plant	Zweckverband ARA Visp (Lonza Visp) Fluidized bed incineration plant
Customer	City of Visp operated by Lonza Group AG Visp, Switzerland
Start up	1976
Fuel	Sewage and industrial sludge and residues from municipal waste water treatment plant
Fuel capacity	5 t/h of sewage sludge (15 % DM)
Incineration conditions	Acc. to Swiss emission standard
Heat recuperation	Combustion air pre-heating 450-520 °C
Steam parameters	10 bar saturated
Flue gas cleaning	Electrostatic precipitator, flue gas scrubbing sys- tem
Flue gas volume	10'000 m _n ³ /h



Plant	WWTP Jihlava Fluidized bed incineration plant
Customer	SMS CZ s.r.o. Rokycany, Czech Republic
Start up	2008
Fuel	Sewage and industrial sludge and residues from municipal waste water treatment plant
Fuel capacity	1.2 t/h of sewage sludge and screenings (23-30 % DM)
Incineration conditions	Acc. to German 17. BImSchV / European regu- lations
Heat recuperation	Combustion air pre-heating 600-650 °C, hot wa- ter boiler for heating purposes
Flue gas cleaning	Dry flue gas scrubbing system
Flue gas volume	4'500 m _n ³ /h



Plant	WWTP Chifeng Fluidized bed incineration plant
Customer	Chifeng Derun Drainage Co., Ltd. Chifeng, Inner Mongolia, China
Start up	2015
Fuel	Sewage sludge
Fuel capacity	90 t/h of sewage sludge (max. 2 % DM)
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Steam parameters	12 barg saturated
Steam production	6 t/h
Flue gas cleaning	Bag filter, flue gas scrubbing system
Flue gas volume	18'000 m ³ /h



Plant	WWTP Bonn Salierweg Fluidized bed incineration plant (two lines)
Customer	City of Bonn, Germany
Start up	1981
Fuel	Sewage sludge
Fuel capacity	4.7 t/h of sewage sludge (30 % DM)
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Steam parameters	7 barg saturated
Steam production	2.8 t/h
Heat recovery, flue gas cleaning	Recuperator for combustion air pre-heating (620 °C), waste heat steam boiler, flue gas de-dusting, flue gas cleaning system
Flue gas volume	11'500 m _n ³ /h



Plant	Xinjiang Wujiaqu Plant Fluidized bed incineration plant with 2 nd combustion chamber
Customer	Meihua Holding Group Co., Ltd, China
Start up	2014
Waste source	Sludge and waste liquid from production plant
Waste incineration capacity	Sludge: 4'400 kg/h (15~20% DM) Coal: up to 2'500 kg/h Waste liquid: up to 15'000 kg/h (fed into 2 nd combustion chamber)
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Steam parameters	52 bar 485 °C superheated
Steam generation	40 t/h
Flue gas cleaning	Hot gas cyclone for first stage dust removal between FBI and 2 nd combustion chamber, quench, bag filter, flue gas scrubbing system
Flue gas volume	100'000 m _n ³ /h



Plant	Formosa Plastics Corporation Fluidized bed incineration plant (open nozzle bottom)
Customer	Formosa Plastics Corporation (FPC) Kaohsiung, Taiwan
Start up	2015
Waste source	Industrial sludge incl. fibres (20-30% DS) and waste oil from production plant
Waste incineration capacity	Industrial sludge: 2 t/h Waste oil: 200 kg/h
Incineration conditions	Acc. to German 17. BImSchV / European regulations
Heat recovery system	Combustion air pre-heating to 500 °C
Flue gas cleaning	quench, bag filter, flue gas scrubbing system
Flue gas volume	8'000 m ³ /h