



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



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



<b>Plant</b>	Tongliao Meihua Fluidized bed multi waste incineration plant
<b>Customer</b>	Meihua Holding Group Co., Ltd Meihua Bio-Tech Co., Ltd. Tongliao, Inner Mongolia, China
<b>Start up</b>	2011
<b>Waste source</b>	Sludge from waste water treatment plant, waste coal, waste liquid
<b>Waste incineration capacity</b>	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
<b>Incineration conditions</b>	Acc. to German 17. BImSchV / European regulations
<b>Steam parameters</b>	12 bar saturated
<b>Steam generation</b>	20 t/h
<b>Flue gas cleaning</b>	Quench, bag filter, flue gas scrubbing system
<b>Flue gas volume</b>	47'000 m <sub>n</sub> <sup>3</sup> /h



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



<b>Plant</b>	Norske Skog Bruck GmbH (formerly Leykam-Mürztaler AG) Fabrikgasse 10 A-8600 Bruck a.d. Mur (Austria)
<b>Customer</b>	Laykam-Mürztaler AG
<b>Start up</b>	1984
<b>Fuel</b>	Paper sludge and bark
<b>Fuel capacity</b>	Paper Sludge: 10 – 12 t/h Wood bark: 4 – 5 t/h Totally about 8.5 tDS/h
<b>Incineration conditions</b>	Acc. to German 17. BImSchV / European regulations
<b>Steam parameters</b>	40 bar / 450 °C
<b>Steam generation</b>	18 t/h
<b>Flue gas cleaning</b>	De-dusting with electrostatic precipitator
<b>Flue gas volume</b>	50'000 m <sub>n</sub> <sup>3</sup> /h



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



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



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





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



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



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



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



<b>Plant</b>	Xinjiang Wujiaqu Plant Fluidized bed incineration plant with 2 <sup>nd</sup> combustion chamber
<b>Customer</b>	Meihua Holding Group Co., Ltd, China
<b>Start up</b>	2014
<b>Waste source</b>	Sludge and waste liquid from production plant
<b>Waste incineration capacity</b>	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 <sup>nd</sup> combustion chamber)
<b>Incineration conditions</b>	Acc. to German 17. BImSchV / European regulations
<b>Steam parameters</b>	52 bar 485 °C superheated
<b>Steam generation</b>	40 t/h
<b>Flue gas cleaning</b>	Hot gas cyclone for first stage dust removal between FBI and 2 <sup>nd</sup> combustion chamber, quench, bag filter, flue gas scrubbing system
<b>Flue gas volume</b>	100'000 m <sub>n</sub> <sup>3</sup> /h



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

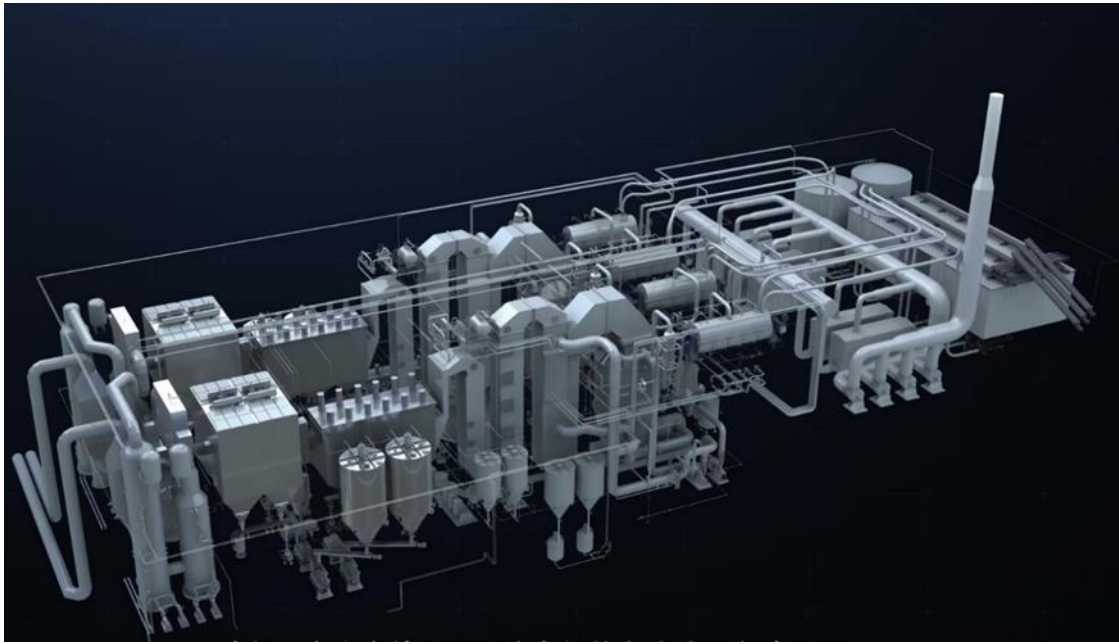


<b>Plant</b>	Hazardous Wastes Incineration Plant
<b>Customer</b>	Nantong Acetic Acid Chemical Co., Ltd.
<b>Start Up</b>	2022
<b>Fuel</b>	Solid waste (Active Carbon, Sludge, etc.) and liquid waste
<b>Fuel Capacity</b>	35'000 ton/year
<b>Incineration Type</b>	FBI and second combustion chamber
<b>Incineration Conditions</b>	GB18484-2020
<b>Steam Parameter</b>	25 bar(g), 226°C
<b>Steam Generation</b>	15 t/h
<b>Flue Gas Cleaning</b>	SNCR+Quench+BHF+Scrubber+Absorber+WESP+GGH
<b>Flue Gas Volume</b>	57'000 Nm <sup>3</sup> /h



<b>Plant</b>	Sludge Incineration Plant Bremen, Germany
<b>Location</b>	Bremen, Germany
<b>Customer</b>	Standardkessel Baumgarte GmbH for KENOW Bremen
<b>Start Up</b>	2023
<b>Fuel</b>	Municipal Sludge
<b>Fuel Capacity</b>	6.9 tDS/h (dry substance)
<b>Incineration Type</b>	Fluidized Bed Incinerator
<b>Incineration Conditions</b>	Acc. to European Regulations
<b>Steam Parameter</b>	65 bar(g), 450 °C
<b>Steam Generation</b>	21.2 ton/h
<b>Flue Gas Cleaning</b>	Dedusting, adsorption and scrubber
<b>Flue Gas Volume</b>	48' 700 Nm <sup>3</sup> /h
<b>Heat Duty</b>	18.5 MW





<b>Plant</b>	Integrated Waste Management Facility (IWMF)
<b>Location</b>	Singapore
<b>Customer</b>	UESH-CHEC JV for NEA Singapore
<b>Start Up</b>	2026
<b>Fuel</b>	Municipal sludge (2 identical incineration lines)
<b>Fuel capacity</b>	5.6 tDS/h (each line)
<b>Incinerator</b>	Fluidized Bed Incinerator
<b>Incineration conditions</b>	Acc. to European regulations
<b>Steam parameters</b>	14 bar(g), 220°C
<b>Steam generation</b>	17 t/h (each line)
<b>Flue gas cleaning</b>	Electrostatic precipitator + bag house filter + flue gas scrubbing system+ mercury absorber
<b>Flue gas volume</b>	45'000 Nm <sup>3</sup> /h (each line)
<b>Heat load</b>	14 MW (each line)