

# VAS Energy Systems International GmbH

Industrial development, production and maintenance of industrial cogeneration plants from 2 to 25 MW.

[www.vas.co.at](http://www.vas.co.at)



*inspiration for clean energy®*

## Biomass Plants Bruneck I-IV Reference





## Already 4 biomass powered plants at Bruneck in Italy

In the first phase two biomass boiler with total amount of 16MW were installed 2001. Each boiler has its own ESP for dedusting under  $20\text{mg}/\text{m}^3$  (limit value). After ESP's the two gas streams are combined to one to be treated in one Condensation Unit. Exhaust gases are cooled down to  $40^\circ\text{C}$  and will be released to the chimney. Condensation Unit has three effects: Heat recovery, fine dedusting and devaporization. Regularly six-month measurements at the plant confirms a max. dust concentration after the Condensation Unit of  $5\text{mg}/\text{m}^3$ .

After additional expansion stages of district heating capacity in year 2002 and 2004 a VAS thermal oil plant for 6,5MWth followed in year 2011. Additional to generated heat, electrical power of 1MWel is produced in connection with an ORC unit which is feed into the grid.

Community Bruneck operates largest district heating grid in South Tyrol (North Italy). Since year 2001 110km pipes were installed and 95% of all possible customers are connected. All plants at Bruneck together burn in average an amount of 50.000tons of biomass per year which means approx. 75% of the total amount of heat consumption (109 Mio kWh). In autumn 2008 an additionally 1,78Mio liter large heat accumulator (buffer storage), which represent the largest kind of this unit in the Alps, was installed for a better cover of peak demand.

	Line 1	Line 2	Line 3	Line 4
<b>Technical Data</b>				
Thermal input	9000	9000	4500	6500
Thermal output	8000	8000	4000	5800
Electrical output				1000
Fuel	virgin wood chips			
Permission	TÜV / Pressure Equipment Directive 97/23/EC			
<b>Scope of Supply</b>				
Fuel Handling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Biomass Combustion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Water Boiler	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Thermal Oil Plant				<input checked="" type="checkbox"/>
Deashing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Electrostatic Precipitator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Condensation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>First deliver of heat</b>	2001	2002	2004	2011

