

MODULAR SCRUBBER

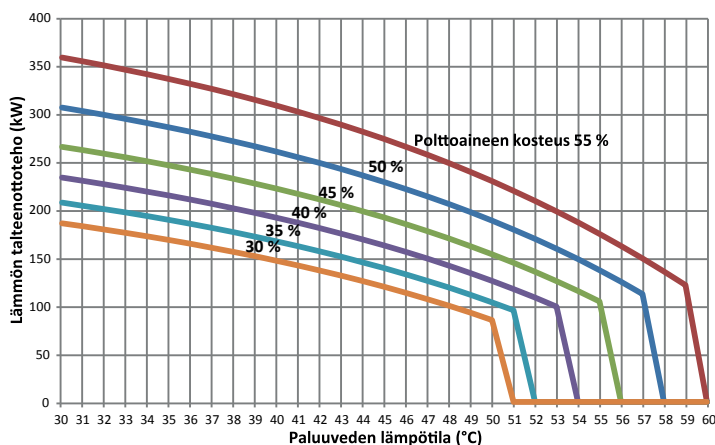
GAS CLEANING AND CONDENSING HEAT RECOVERY

Modular scrubber series has been designed specifically for flue gas cleaning and heat recovery of small boiler plants. Simple, compact and standardized basic construction makes the modular scrubber economic also in small boiler scale. Prefabricated scrubber unit is adapted to specific customer requirements and ready for operation. Modular scrubber is suitable for green houses, industrial and agricultural boilers as well as other small heating plants.

Compared to traditional heat recovery systems, investment cost of the Modular Scrubber is lower due to prefabrication and compact, standardized design. Modular scrubber is supplied to meet customer requirements and local emission standards.

Modular scrubber series has been designed primarily for wood burning boilers up to 5 MW. Prefabricated modular scrubber units are ready to be started. Modular scrubber series includes 6 different sizes.

HEAT RECOVERY FROM 1 MW BOILER FLUE GASES



CONDENS HEAT RECOVERY OY

Clean energy.

Condens Heat Recovery Oy is an innovative and professional company, specialized in energy and environmental sectors. We design and manufacture gas scrubbers, condensers, combustion air humidifier and related process water treatment equipment. We have delivered more than 130 gas cleaning- and heat recovery units since 1990.

ECONOMY

Condensing heat recovery from biomass boiler flue gases increases plant efficiency or decreases fuel consumption by 10 - 30 % depending on operation circumstances. Economy depends on the annual operation hours. With actual energy rates, a payback time of 1-2 years is possible.

INSTALLATION

Compact construction of the Modular scrubber allows installation inside the boiler house. It is also possible to penetrate the roof of the boiler house or to install the unit outdoors. Exhausted flue gas is wet and requires corrosion resistant ducts and stack.

EQUIPMENT MATERIAL

Utilizing stainless steels allows the heat recovery from aggressive gas streams. Condensing heat recovery from the wood burning boiler flue gas does not require chemical feeding system.

PROCESS WATER TREATMENT

Condens Heat Recovery Oy delivers also process water treatment equipment to neutralization, filtration and clarification.

Flue gas scrubber increases the biomass boiler plant overall efficiency and decreases flue gas emissions. Dust content and concentration of acidic components are decreased in the scrubber exhaust.

Calculator for estimating the heat recovery from flue gases in a flue gas scrubber:

<http://www.condens.fi/eng/calculator.htm>

Scrubber		MPE600	MPE800	MPE1000	MPE1200	MPE1400	MPE1600
Boiler Effect	MW	0,5	1	1,5	2	3	4
Flue gas incoming flow	m ³ /h	2500	5000	6500	10000	14500	19500
Pressure loss on gas side	Pa	600	600	600	600	600	600
Heat Recovery*	kW	150	300	450	600	900	1200
Dimensions	width	2050	2050	2250	2250	2450	2450
	length	1840	2050	2250	2450	2750	2950
	height	4600	5600	5900	6400	6900	7200

* Gasflow 2000m³/h, return water temperature 40°C, fuel moisture 55%.