

erensan^o

a company of  GROUPE
ATLANTIC



ECOMAX

CONDENSING TYPE ECONOMIZER

**INSTRUCTIONS FOR INSTALLATION, OPERATION AND
MAINTENANCE FOR BOILERS WORKING WITH NATURAL GAS**

The ECOMAX Economizer complies with the following European Union Directives:

- Electromagnetic compatibility (89 / 336 / CEE)
- Low voltage (73 / 23 / CEE)

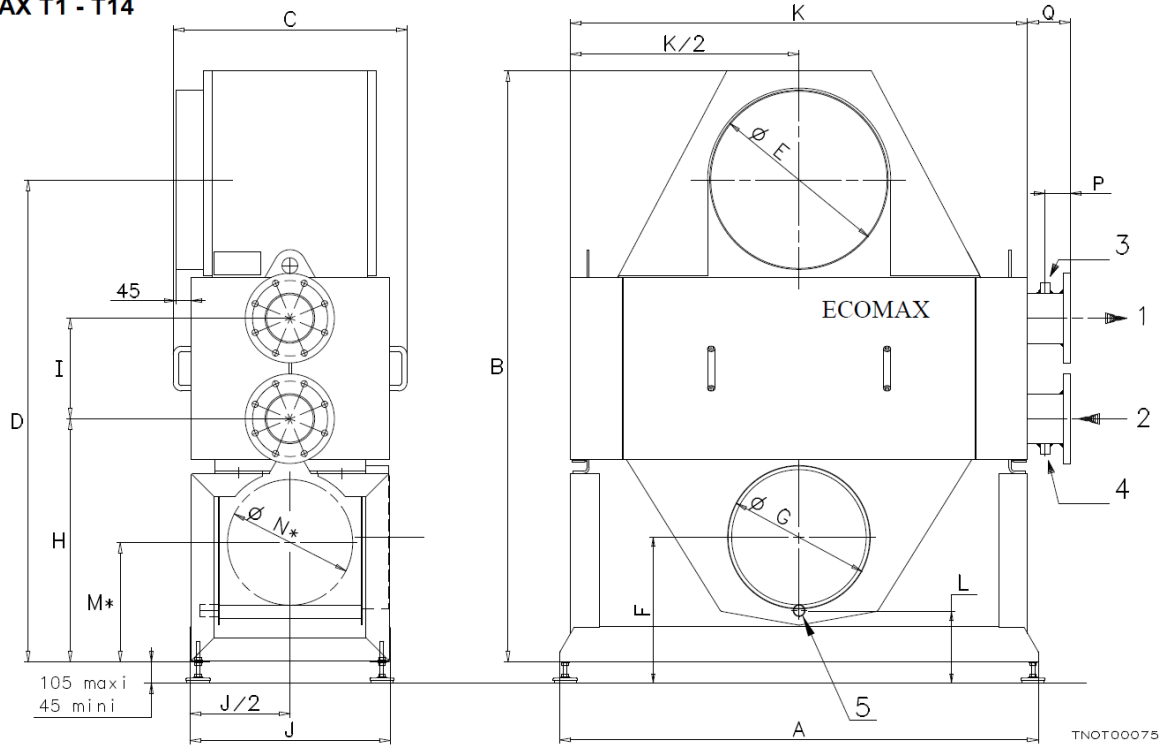
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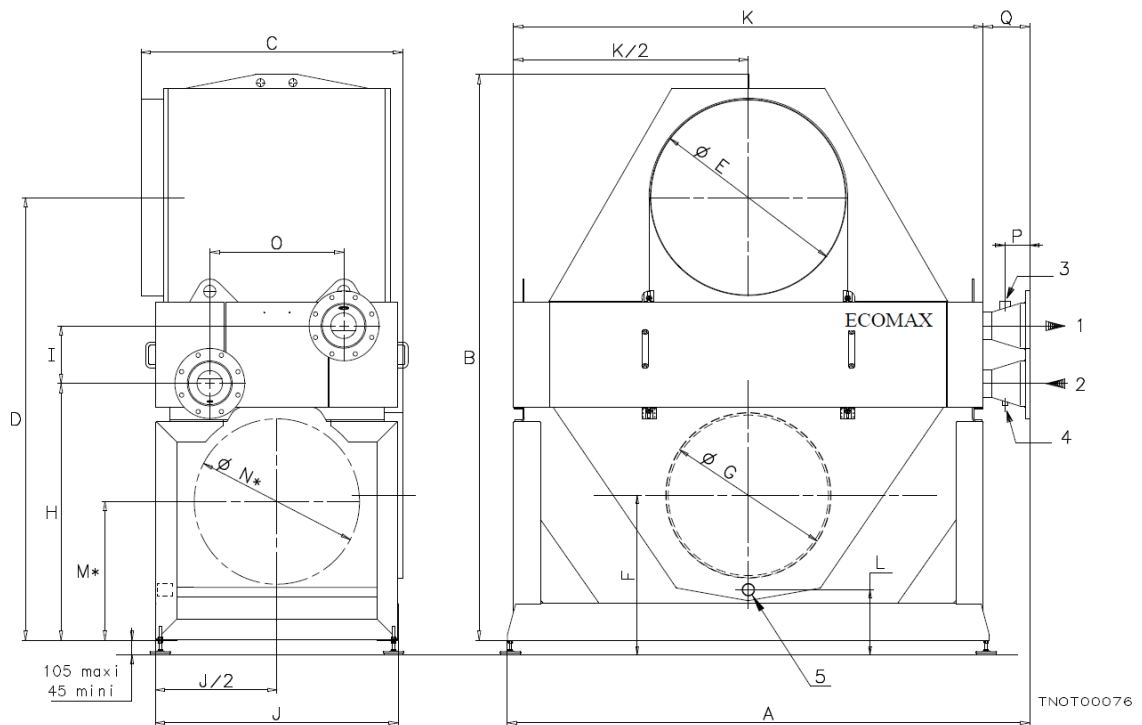
1. DIMENSIONS

1.1 Single Stage Economizer Dimensions

ECOMAX T1 - T14



ECOMAX T18 - T56



1 – Water Outlet 2 – Water Inlet 3 – Safety Valve Nozzle 4 – Drain 5 – Drain of condensed water

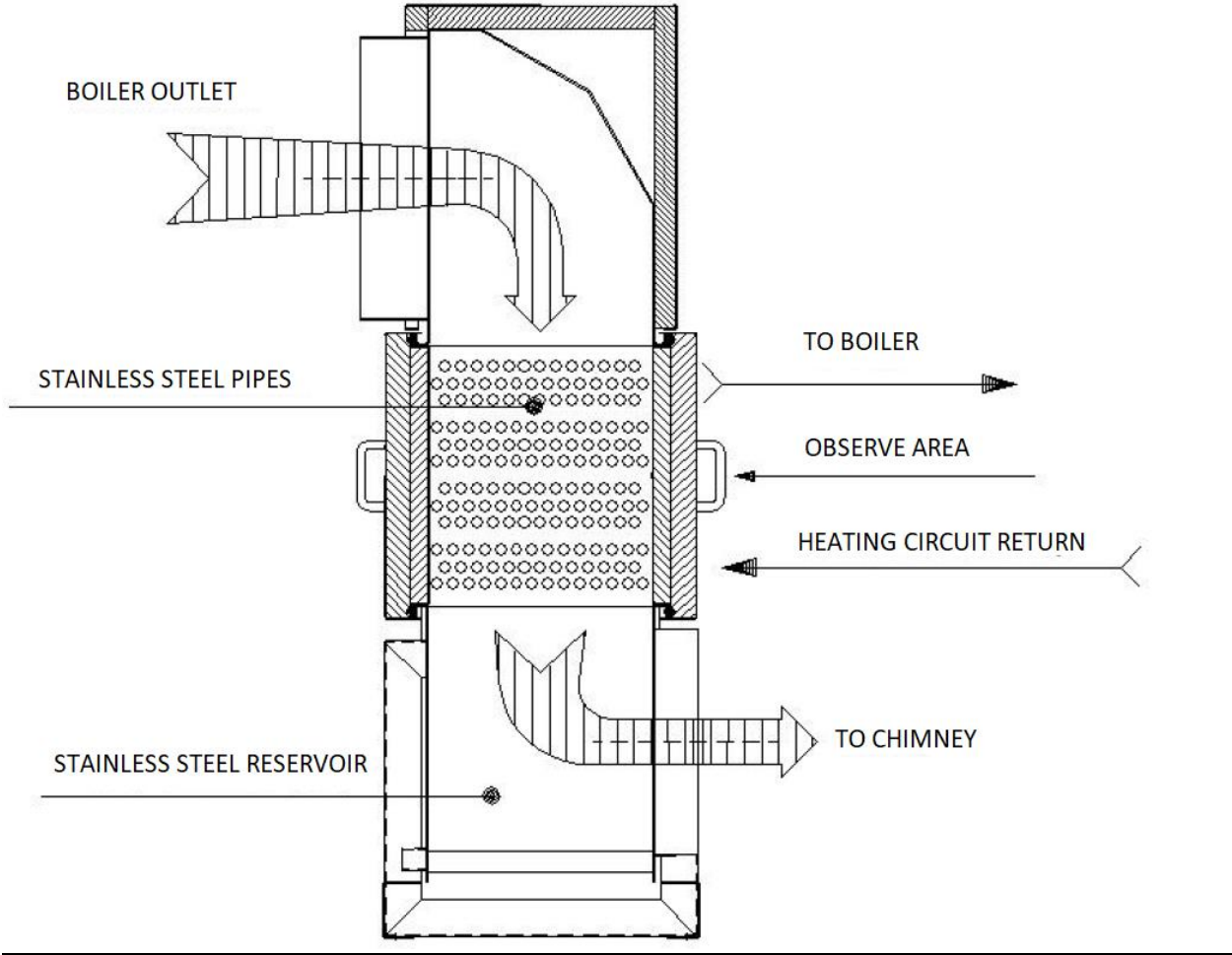
ECOMAX														
Model			T1	T2	T3	T4	T7	T10	T14	T18	T24	T32	T42	T56
Ø inlet / outlet	1,2	DN**	65	65	65	100	100	125	125	150	200	200	200	200
Ø Safety Valve Nozzle	3	"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1"	1"	1"	1"1/4	1"1/4
Ø Drain Nozzle	4	"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Ø Condensed water drain	5	mm	32	32	32	32	32	32	32	32	63	63	63	63
A, length ***		mm	770	965	1245	989	1310	1427	1577	1795	2080	2290	2500	2530
B, Height		mm	995	1080	1175	1400	1505	1650	1850	1790	2140	2370	2570	2740
C, width		mm	538	538	538	538	538	650	706	712	820	931	1043	1267
D		mm	840	900	970	1170	1250	1345	1345	1450	1695	1875	2025	2145
E, smoke inlet		mm	200	250	300	350	400	500	500	550	650	750	850	950
F		mm	215	250	270	300	330	350	350	415	535	615	690	705
G, smoke outlet		mm	200	200	250	300	350	400	400	450	550	650	700	800
H		mm	413	448	493	567	622	680	680	784	945	1075	1175	1245
I		mm	224	224	224	306	306	280	280	252	279	279	279	279
J		mm	448	448	448	448	448	560	616	672	728	840	952	1176
K		mm	621	816	1096	840	1161	1278	1428	1602	1824	2034	2244	2274
L		mm	108	123	138	143	146	143	143	162	228	220	245	245
M*		mm	203	228	259	292	340	343	337	382	506	553	611	682
N*		mm	180	180	200	250	250	350	350	400	500	600	700	800
O		mm	-	-	-	-	-	-	-	205	340	374	424	648
P		mm	70	70	70	70	70	70	70	80	120	120	120	120
Q***		mm	119	119	119	119	119	119	119	163	226	226	226	226

* Dimensions M and N only apply to the 'left hand smoke side' option.

** - DN65, Ø outer pipe 76.1 - DN100, Ø outer pipe 114.3 - DN125, Ø outer pipe 139.7,
- DN150, Ø outer pipe 168.3 - DN200, Ø outer pipe 219.1.

*** For T24 – T26 stainless steel models, increase A and Q dimensions by 74mm.

1.2 Single Stage ECOMAX Flowchart



2. Technical Specifications

2.1 Single Stage ECOMAX Technical Specifications

ECOMAX														
Model			T1	T2	T3	T4	T7	T10	T14	T18	T24	T32	T42	T56
Operating Pressure		bar	4 bar											
Boiler Capacity	Min	kW	95	150	230	350	540	815	1240	1630	2150	2800	3700	4900
	Max		170	260	400	620	940	1430	1630	2150	2800	3700	4900	6470
Water flow	Min	m ³ /h	3	4	6	8	12	19	25	33	42	56	74	97
	Max		7	11	17	26	36	60	80	104	136	180	237	313
Empty Weight		kg	135	160	190	205	250	335	396	510	660	825	1015	1250
Water Volume		l	22	27	34	40	51	86	107	130	163	227	290	375

Pressure Loss Table

ECOMAX														
Model			T1	T2	T3	T4	T7	T10	T14	T18	T24	T32	T42	T56
Boiler Capacity		kW	130	200	300	465	710	1080	1430	1870	2440	3230	4260	5630
Smoke losses	circui 1	mmSS	3	3	3	17	17	17	17	17	17	18	18	18
		mSS	250	500	1000	750	1400	1800	1700	1750	1800	1820	1870	1870
Water circuit losses		m ³ /h	6,5	10	15	20	30	45	52	59	66	79	93	120

1 : Load losses for min values at rated capacity:

- Smoke temperature 220°C
- 20% excess air
- Load rate 100%

3. ASSEMBLY

3.1 Transport

Two lifting eyes on the top of the unit allow you to lift and move effectively.

The unit can also be transported on its base using a forklift or stacker.

Unscrew the wooden feet under the base that were installed for transportation.

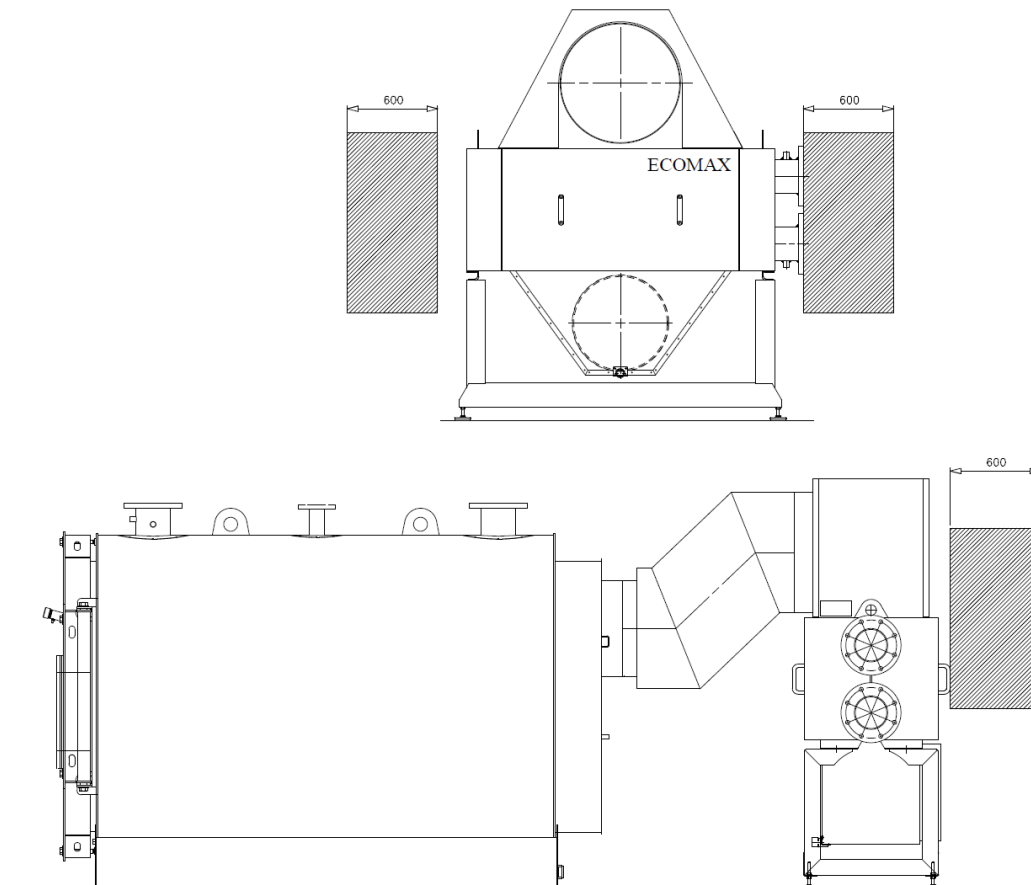
Attach the 4 legs located in the lower smokehouse.

3.2 Placement

Accessibility: Leave enough space around it to allow comfortable easy access while working on the ECOMAX economizer.

Note: To ensure comfortable service and operation on the economizer, create an area 0.60 m around the economizer with no pipes (see diagram).

Height adjustment: If the ECOMAX economizer is mounted behind an ERENSAN boiler, the height is adjusted via an adapter between the boiler and the economizer. If the ECOMAX economizer is mounted behind another boiler, make adjustments by attaching a suitable adapter to the economizer base feet.



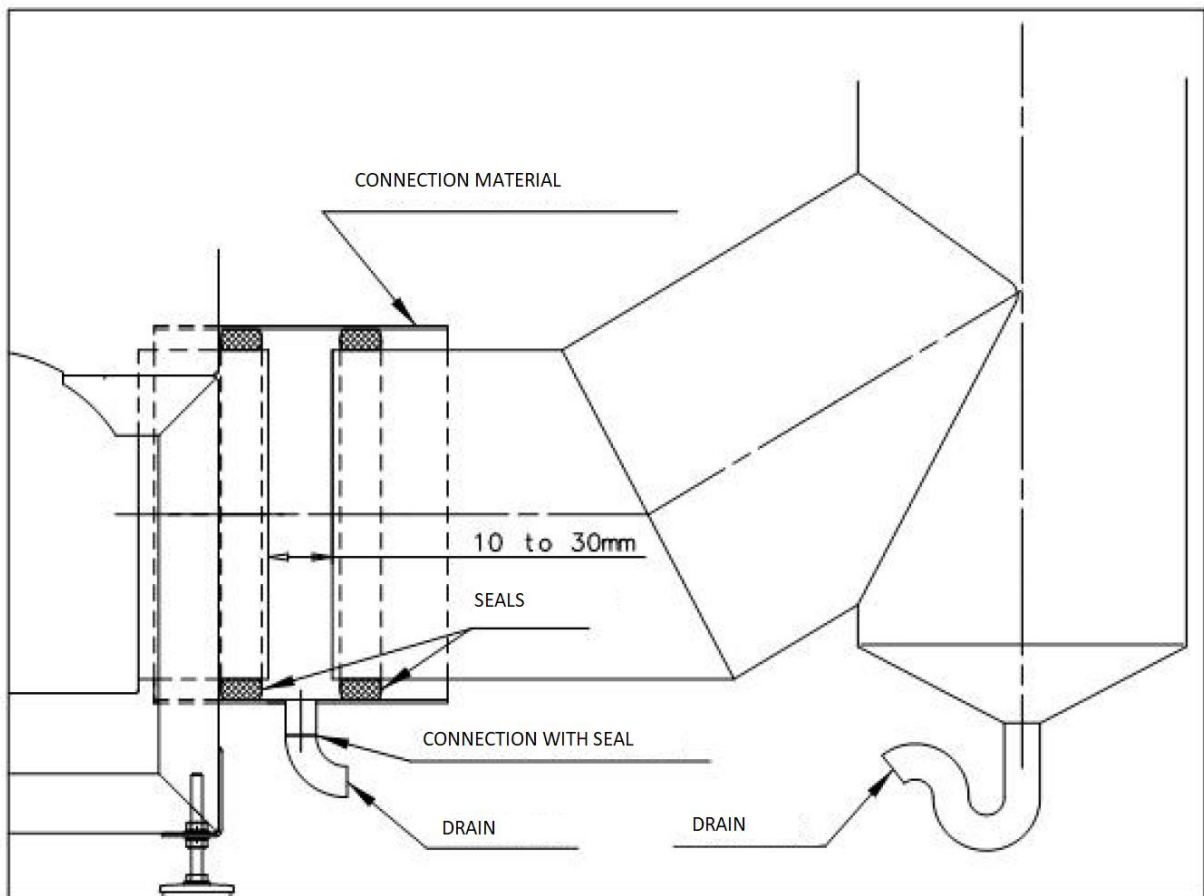
3.3 Chimney Connections

Check that the flue duct and chimney are negative pressure, watertight and equipped with low discharge openings for draining condensate water.

Check that the duct complies with the approved local standard and is not equipped with a draft preventer.

During commissioning, the installer must check that the flue connections are leak-proof, especially at the boiler outlet and ECOMAX inlet, where the combustion gases are under pressure.

The flue outlet must not carry the weight of any external equipment (chimney, etc.) under any circumstances.



TNOT00025

3.4 Installation Connections

Water Installation:

Check that the economizer is constantly supplied with water in any case. A safety valve must be installed at the port provided for this purpose at the water circuit outlet. Check that the outlet is

properly connected to the drain. A manually resettable thermostat that limits the temperature to 110°C is required. Check the filtration chamber under the filter returns and the high point deaeration vent.

The installation of a flow controller is mandatory. Before putting the burner into service, it must be ensured that the heat exchanger is supplied with sufficient water. For flow rates to be provided, see p. chapter '2. Technical characteristics'

Filling the Heating Circuit:

If the feed water is treated, be sure to take all necessary precautions so that the treated water does not harden so as not to cause possible corrosion of the installation.

3.5 Drain of Condensed Water

This drain must be made of PVC pipe with a minimum diameter of 32 mm without any valves. If a siphon is to be used, it must be accessible for inspection.

4. COMMISSIONING

4.1 Controls to be carried out before commissioning

Make sure that the combustion products in the heat exchanger are produced by the combustion of natural gas or liquid fuel. **This product does not work with solid fuel and heavy fuel oil.**

A low sulfur fuel burner and condenser will clog the economizer less.

Check the tightness of the combustion gases at the inlet and outlet of the economizer.

Check that condensate flows with the lowest water return temperatures.

Check that the smoke temperatures do not exceed 280°C (in the case of an uncleaned oil boiler).

A qualified installer should perform various safety checks and check that the economizer is working properly.

Gas and ventilation installation must meet the requirements of local specifications. In particular, the unit must be connected to ground.

5. SERVICE

5.1 Warning

For any contact with mineral artificial silica materials (ceramic fibres, glass wool, rock wool) in fiber parts, the operator must use a suitable suit and respirator to guard against the risks posed by these products.

5.2 Maintenance Operation

Maintenance and cleaning of the economizer must be done by an authorized service. - natural gas: once a year.

1. Removal and reassembly of Covers

Fasteners mounted with M8 screws fix the front and rear covers. To access the fasteners, open the gray flaps on either side of the blue caps. The flaps rotate on a pin and are held in place by magnets.

For liquid fuel, the door seals must be replaced at all disassembly/assembly.

After reassembling the caps, close the clappers to ensure that the heat exchanger headers are properly insulated.

2. Dismantling and reassembly of smoke parts

The position of the lower and upper smoke chambers can be reversed to achieve the following configurations:

- Left or right water inlet/outlet.
- Condenser smoke outlet boiler side or chimney side.

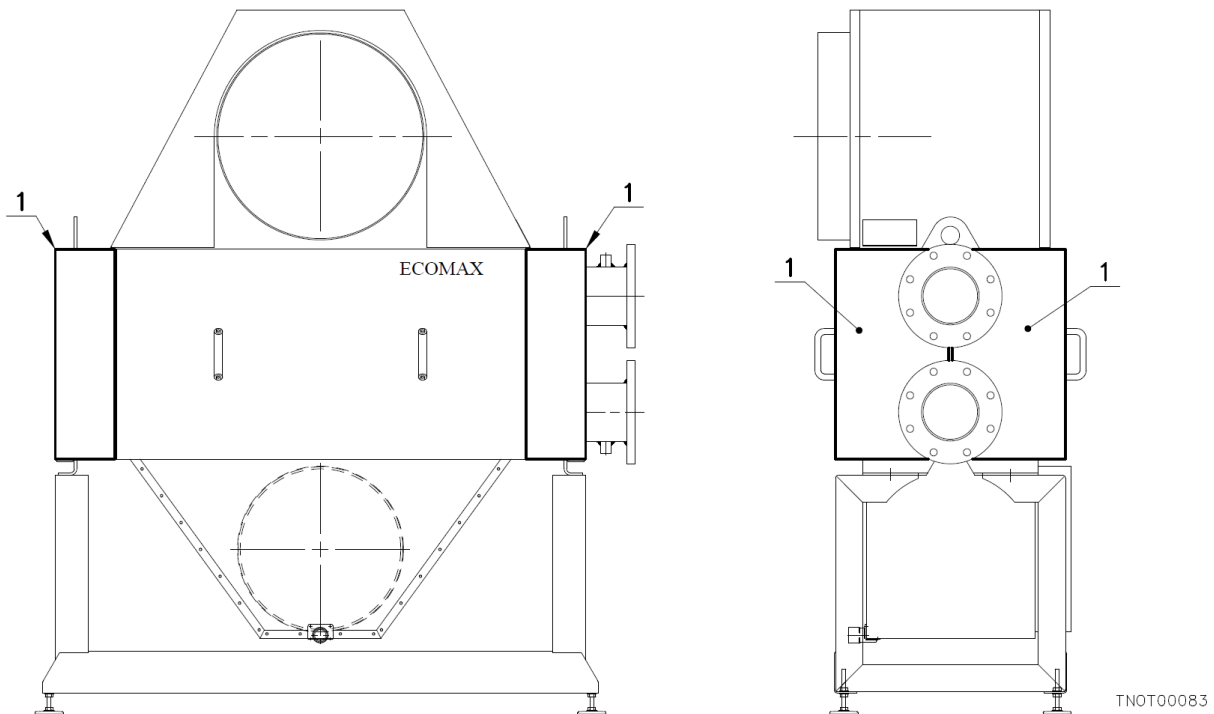
Note: Optionally, side smoke outlets can be made in the lower compartments.

To dismantle the upper chamber, start by removing the insulation chamber, which rests on its own weight above the smoke inlet chamber.

Then remove the smoke inlet chamber fixed with M8 screws.

M8 type screws also secure the lower chamber.

Caution: When cleaning the chambers, ensure that the packing is properly seated and in good condition.



6. SPARE PARTS

Referans	Adı
070506	Door Seals ECOMAX N°1 (TT130)
070510	Door Seals ECOMAX N°2 (TT200)
070512	Door Seals ECOMAX
070514	Door Seals ECOMAX
070517	Door Seals ECOMAX
070507	Door Seals ECOMAX
070508	Door Seals ECOMAX N°14 (TT 1430)
070509	Door Seals ECOMAX N°18 (TT 1870)
070511	Door Seals ECOMAX N°24 (TT 2440)
070513	Door Seals ECOMAX N°32 (TT 3230)
070515	Door Seals ECOMAX N°42 (TT4260)
070516	Door Seals ECOMAX N°56 (TT 5630)
070524	Door Seals ECOMAX
070526	Door Seals ECOMAX
070529	Door Seals ECOMAX
070519	Door Seals ECOMAX
070563	ECOMAX
070564	ECOMAX
070565	ECOMAX

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