



ECONOMATIC DXN WELDED STEEL BOILER

**INSTALLATION, OPERATION & MAINTENANCE
DOCUMENTATION**

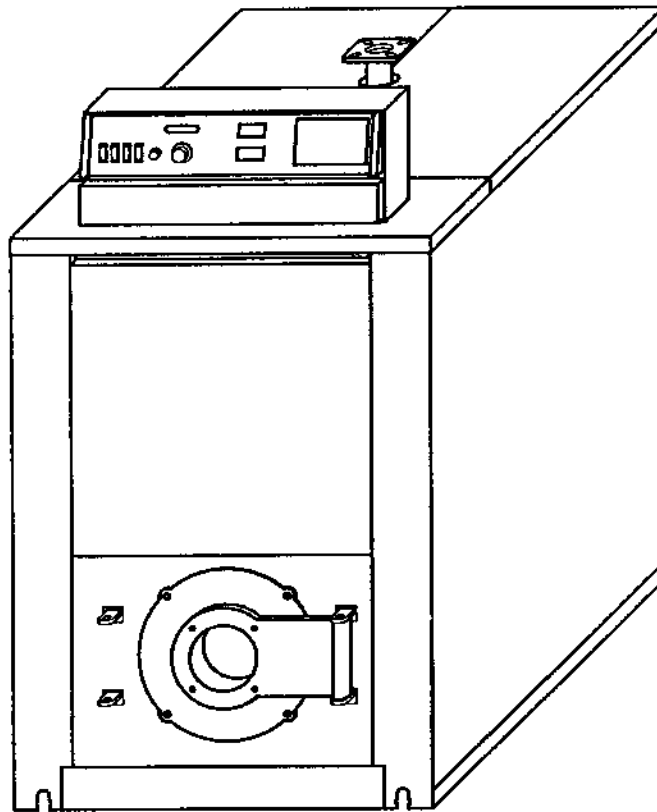
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**Technical Information
Assembly and Operating
Instructions**

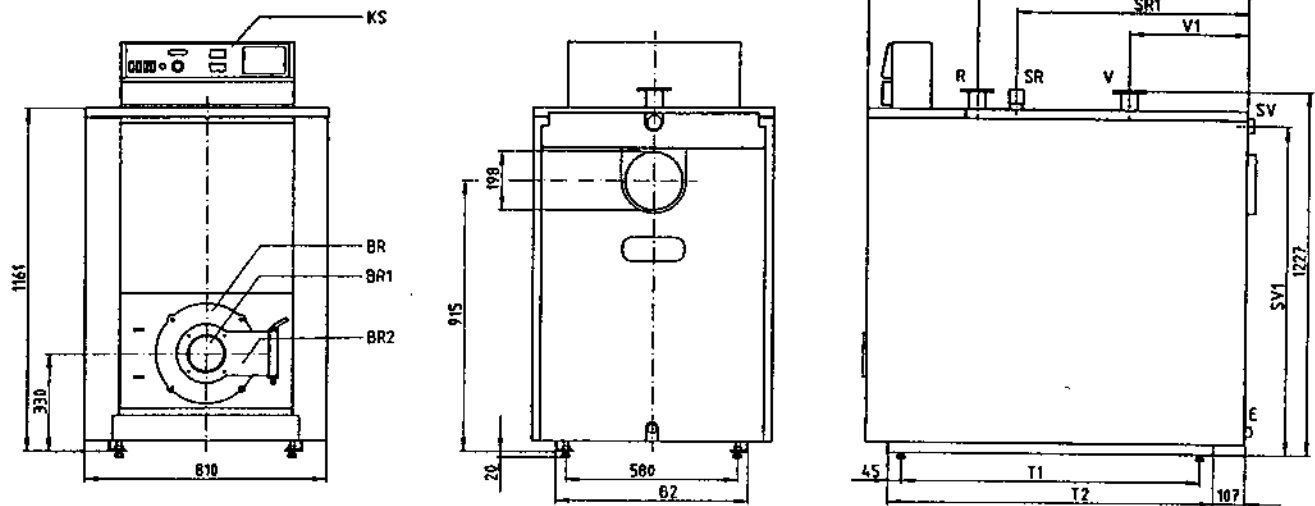
SCHÄFER
Interdomo

Economatic® DXN

Heat output range 55–163 kW



Z.-Nr. 3-43231

Technical Data Economatic® DXN
Oil-/Gas Special Boiler Economatic® DXN


Boiler
KS Control Panel
BR Burner door

BR1 Burner opening 130 mm \varnothing
BR2 Burner fixing 4 x M8
on a 170 mm p.c.d

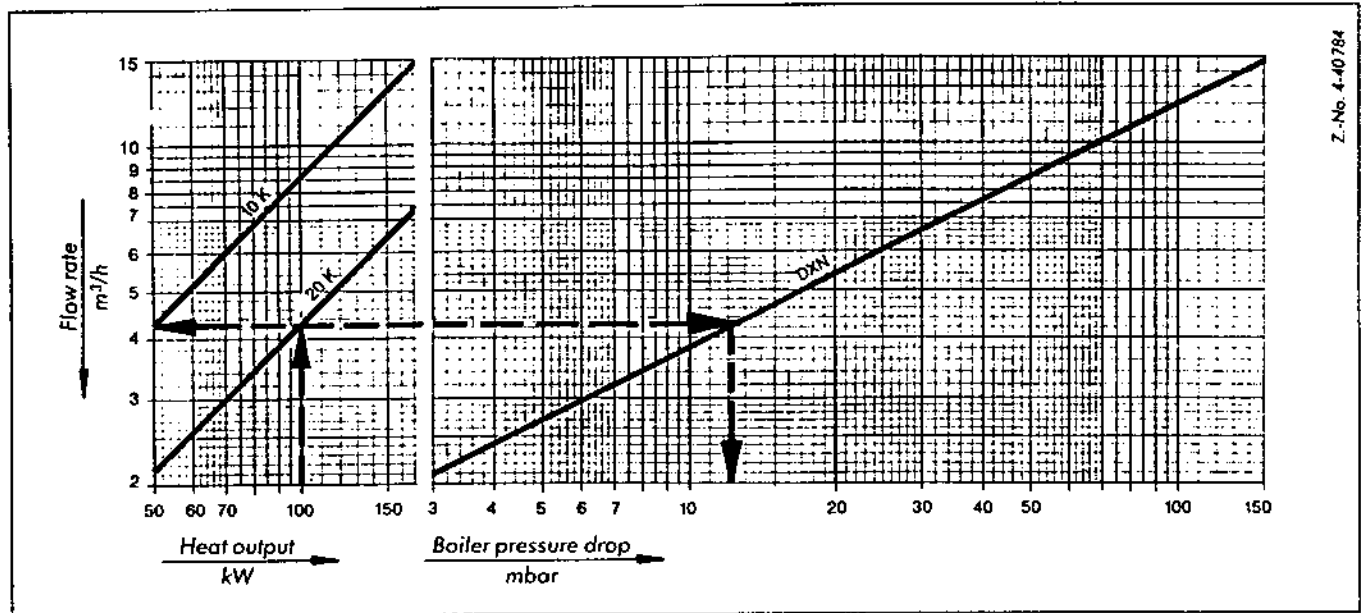
V Boiler flow
R Boiler return

SV Safety flow
SR Safety return
E Drain

Domomax® N	DXN	78	100	127	163
Heat output range	kW	55-78	70-100	90-127	120-163
Boiler efficiency (net)*	%	91,4	91,5	91,2	91,3
Flue gas temperature (measured)*	°C	190	190	200	200
Flue gas losses*	%	7,7	7,7	8,2	8,2
Standing losses*	%	0,32	0,29	0,26	0,24
Width of boiler body	B2 mm	650	650	650	650
Distance between levelling screws	T1 mm	710	870	1000	1130
Depth of boiler body	T2 mm	780	940	1070	1200
Depth of boiler including insulating case	T3 mm	980	1140	1270	1400
Height of boiler (body)	H2 mm	1060	1060	1060	1060
Boiler flow and return	V/R DN	50	50	50	50
Safety flow	SV R"	1¼	1¼	1¼	1¼
Safety return	SR R"	1	1	1¼	1¼
Drain	E R"	¾	¾	¾	¾
Distance to boiler flow	V1 mm	300	320	400	430
Distance to boiler return	R1 mm	620	780	910	1040
Height of safety flow	SV1 mm	1110	1110	1110	1110
Distance to safety return	SR1 mm	520	680	780	910
Water capacity	l	195	250	285	320
Max. Working pressure	bar	3	3	3	3
Max. Flow temperature	°C	110	110	110	110
Resistance on hot water side for $\Delta t 11^\circ\text{C}$	mbar	29,5	50,5	79	130
Combustion chamber volume	l	170	193	220	250
Flue gas passage resistance	mbar	0,11	0,25	0,45	0,70
Draught requirement	mbar	0,16	0,30	0,20**	0,20**
Flue gas flow fuel oil	kg/s	0,035	0,045	0,056	0,073
Flue gas flow natural gas	kg/s	0,042	0,054	0,068	0,088
Weight of boiler	kg	275	310	340	375

* The figures are valid for nominal output and an average annual service temperature of 60°C, CO₂-content 13%, room temperature 20°C.
** Boilers with over pressure in combustion chamber

Flow rate / pressure loss diagram Economatic® DXN



Z.-No. 4.40784

Approved to the following DIN-Standards

DIN 4751

Part 1

Part 2

DIN 4755

Part 1

Part 2

DIN 4756

DIN 4787

Part 1

DIN 4788

Part 1

Operating instructions

For cleaning

Open burner door. Clean the combustion chamber and take the residues out. Push the special brush through the flue gas passages into the flue gas collecting-box and take the residues out of the collecting-box through the cleaning hole.

Boiler door

The boiler door is pivoted to the right. By transposition of the bolts (with door closed) from the right to the left door-support the door can pivot to the left.

Burner failure

If the red warning lamp on the control panel shows burner failure press reset button on the burner. If after some attempts the burner does not start call a specialist without fail.

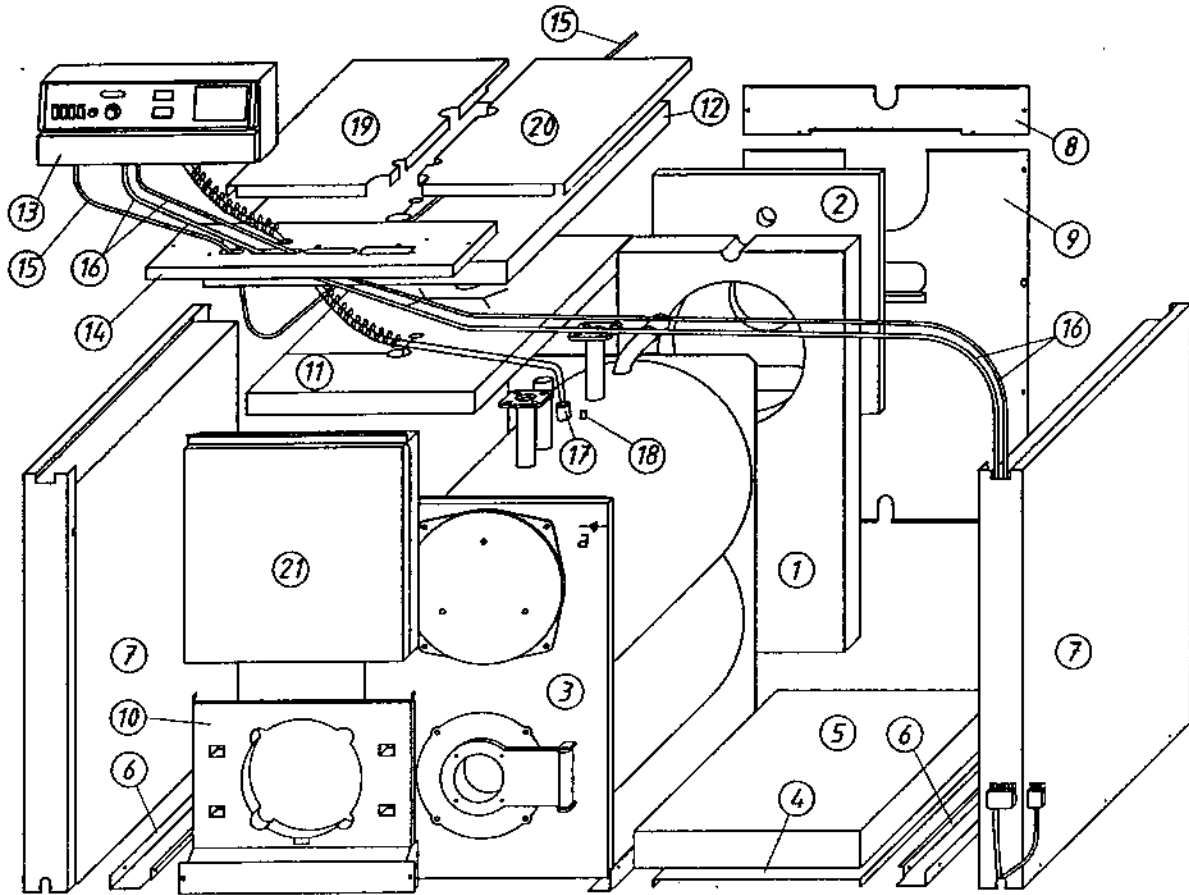
High limit thermostat

If for some reason or other the admissible maximum boiler temperature is exceeded, the high limit thermostat which is in the control panel locks out. To release press button at the control panel after having removed the protecting cap.

Emergency switch

In case of short circuit, fire or ingress of water turn the emergency switch immediately to "Off". (The emergency switch is outside the boiler room.)

Assembly instructions Insulating casing



Z.-No. 3-42952

Attention: Insulating mat (1), (2)

Push this over the flue gas socket before making the chimney connection.

Insulating mat (3)

Remove burner-door and cleaning cover and push the insulating mat over the door-frame.

Bottom insulation (4), (5)

Insert the bottom insulating plate (4) and insulating mat (5) from the side and between the angle supports.

Clip angle (6)

Fix by means of the attached hexagon bolts and nuts and the washers to the lower U-clips.

Side casing (7)

Place into lower U-clip and push over the support-bolt (a).

Rear casing (8), (9)

Screw it to the side casings.

Protecting plate (10)

First place the protecting plate with its upper slots behind the rivets of the side casings and then screw them up to the side casings.

Insulating mat (11)

Place the insulating mat between the mats of the side casings on the boiler.

Insulating mat (12)

Place on insulating mat. (11).

Boiler control panel (13)

Lead the cables and capillary tubes of the thermostats through the openings of the front cover (14) and mount the control panel to the cover plate by means of the attached screws.

Fix the earth wire to the cable connections of the cover plate (14) and to the front cover. Lead the mains cable (15) over the insulating mat (12) to the back. Lead the mains cables of the burner (7 poles for the first burner stage and 4 poles for the second burner stage) behind the front edge of the side casing and down to the base.

Attention:

In case the burner-door pivots to the right put the burner cable in the right side casing and vice versa.

In case a 1 stage burner is to be fitted put the rolled up cable with the four-pole plug on the insulating mat (12). Introduce the probes of the thermostats into the immersion sleeve (17).

Attention:

Do not buckle the capillars tube. Do not bend to more than approx. 5 mm bending-radius. The separate immersion sleeve for one probe (18) is designated for a later installation of an electronic control.

Cover plate (19), (20)

Place the cover plates on top of the boiler and screw the front cover plate (14) to the side casing.

Front casing (21)

Push the upper edge behind the edge of the cover plate (13) and than rest on the protecting plate (10).

ECONOMATIC DXN

TECHNICAL DATA

INSTALLATIONS & OPERATING
INSTRUCTIONS

AMENDMENTS 8/1993(1)

ITEM 1:

Boiler Control Panel (Basic Control Panel)

Page 6 is superceded by the following 2 pages

Titled: Amendment to the Technical Information Economatic DXN

Connection of circulating pumps

Important! All circulating pumps must be controlled through the basic control panel. The connection in the control panel, if the outside temperature controller is used, is rated at 2 A.

Three-phase pumps or several pumps have to be controlled via an additional relay. Circulating pumps connected to the control panel must meet any appropriate regulatory requirements.

Burner electrical connections

The basic control panel is equipped with two burner connecting cables, with 7- and 4-core burner plugs, for the connection of single-stage or double-stage burners, respectively.

The boiler connections must be made according to the attached wiring diagram and the respective burner connection instructions. The following diagram shows the simplified function of the basic control panel and connection numbers.

Function

The basic control panel is equipped with a double stage control thermostat for the possible operation of two burner stages dependent on heat requirement. The range of adjustment is 60-90 °C (55-85 °C for the second burner stage).

If the boiler temperature falls the first burner stage is activated. The second stage is fired up automatically when the boiler temperature falls by another 5 K. If the boiler temperature falls below a critical point where flue gas condensation might occur the minimum temperature thermostat switches off the the circulating pumps. Therefore all circulating pumps must be controlled via the boiler control panel.

Accessories

- Outside temperature controller OEX-3, item no. 0723
micro-computer controlled double-stage boiler- and heating circuit control system with integrated priority device (DHW sensor item no. 0059 necessary)
- Hours run meter - item no. 0054
- Reversing relay - item no. 0084
Necessary only with outside temperature controller OEX-3 if the burner connected requires a reversing contact for the control of the second burner stage.

Subject to alteration 8/1993

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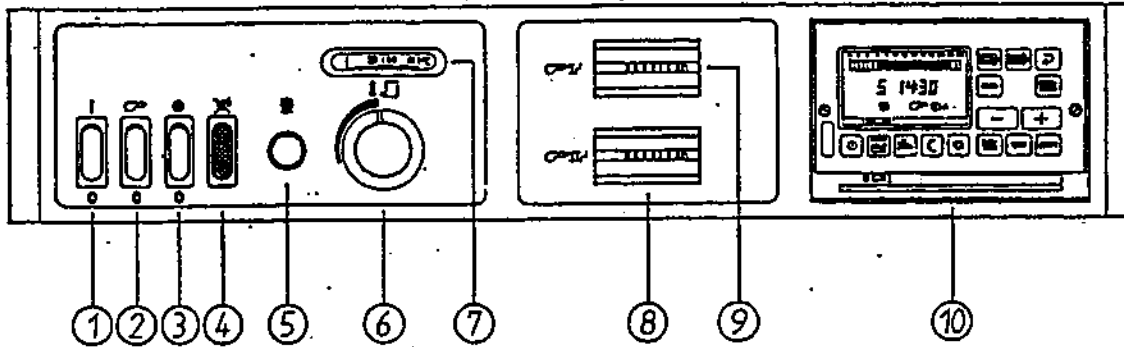
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Amendment to the Technical Information Economatic DXN

Boiler Control Panel (Basic control panel)

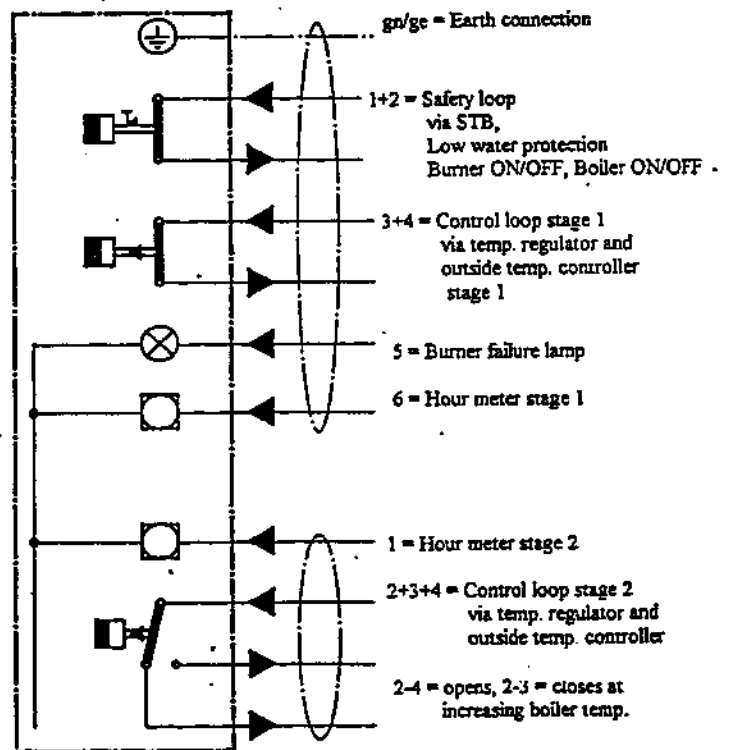


Switches and their functions

- 1 Boiler ON/OFF switch
- 2 Burner ON/OFF switch
- 3 Pump ON/OFF switch
- 4 Burner failure lamp
- 5 High limit thermostat reset (STB)
Landis&Gyr RAK 77.1, STB(STW) 75692
- 6 Control thermostat (double-stage)
Emerson 722RU 9738, TR 85090
- 7 Remote temperature gauge
- 8 Blanking plate for hours run meter 1st stage
- 9 Blanking plate for hours run meter 2nd stage
- 10 Blanking plate for outside temperature controller
Domotronic OEX-3

Further thermostats behind fascia :

- Safety limit thermostat (STW)
Landis&Gyr RAK 61.1, STW 79888
- Minimum temperature thermostat
EGO 55.13313.010, TW 70786



Installation of the boiler control panel

Lead the earth wires and capillary tubes of the thermostats through the openings of the side cover. Mount the control panel to the side cover by engaging the rivets into the keyholes and securing it with the screws attached.

Lead the capillary tubes below the edge of the casing over the insulating mats. **Attention : Do not buckle the capillary tubes.** Fix the Earth wires to the cable connection of the side panel and the panel edge.

Electrical connection

Attention! Before starting work ensure that the unit is disconnected from the mains.

The electrical connections have to be made by a specialist with reference to the regulations and rules in force.