

Hoval BioLyt

Boiler

- Steel boiler for the combustion of wood pellets of Ø 6 mm according to EN ISO 17225-2 and EN plus A1, max. length 30 mm
- Including pellet hopper which can be filled manually or automatically
- Pellet metering screw with rotary valve for fuel supply
- Burner made from highly heat-resistant stainless steel
- Heating connections and flue gas outlets to the rear
- Thermal insulation on the boiler body with 80 mm mineral wool mat
- Casing made from sheet steel, red powder-coated
- No thermal discharge safety device required
- TopTronic® E controller installed

TopTronic® E controller

Control panel

- Colour touchscreen 4.3 inch
- Heat generator blocking switch for interrupting operation
- Fault signalling lamp

TopTronic® E control module

- Simple, intuitive operating concept
- Display of the most important operating statuses
- Configurable start screen
- Operating mode selection
- Configurable day and week programmes
- Operation of all connected Hoval CAN bus modules
- Commissioning wizard
- Service and maintenance function
- Fault message management
- Analysis function
- Weather display (with HovalConnect option)
- Adaptation of the heating strategy based on the weather forecast (with HovalConnect option)

TopTronic® E basic module heat generator (TTE-WEZ)

- Control functions integrated for
 - 1 heating circuit with mixer
 - 1 heating circuit without mixer
 - 1 hot water charging circuit
 - bivalent and cascade management
- Outdoor sensor
- Immersion sensor (calorifier sensor)
- Contact sensor (flow temperature sensor)
- RAST 5 basic plug set

Options for TopTronic® E controller

- Can be expanded by max. 1 module expansion:
 - module expansion heating circuit or
 - module expansion heat accounting or
 - module expansion universal
- Can be networked with a total of up to 16 controller modules:
 - heating circuit/hot water module
 - solar module
 - buffer module
 - measuring module

Number of modules that can be additionally installed in the heat generator:

- 1 module expansion and 1 controller module
- or**
- 2 controller modules



Series

BioLyt type		Heat output kW
(13)	A ⁺	3.9-13.0
(15)	A ⁺	4.4-14.9
(23)	A ⁺	6.5-23.0
(25)	A ⁺	7.3-24.9
(31)	A ⁺	8.7-31.0
(36)	A ⁺	9.8-36.0
(43)	A ⁺	11.1-43.0

Energy efficiency class of the compound system with control. Incl. room control module **A⁺⁺**.

The supplementary plug set must be ordered in order to use expanded controller functions.

Solid-fuel automatic function device FFA

- Electric heating element for automatic ignition
- Fully automatic removal of ash from the burner
- Microprocessor-controlled combustion regulation with combustion chamber temperature sensor and lambda probe
- Infinitely variable pressure and induced-draught fan for modulating power adjustment
- Negative pressure monitor in the combustion chamber
- Automatic heating surface cleaning
- Completely automatic ash discharge
- Immersion sensor for return temperature control function
- Function for optimised buffer control incl. immersion sensor

Further information about the TopTronic® E see "Controls"

Design on request

- Fully automatic pellet feed comprising:
 - Feed unit with suction turbine (can be installed in boiler) and controller
 - Automatic switchover unit
 - 4 suction probes
 - Conveyer and return air hose.

The pellet feed fills the pellet hopper of the BioLyt with pellets from the storage area fully automatically via a maintenance-free suction turbine. Filling is controlled via a filling level switch and a timer. Removal of the pellets from the storage area is effected via 4 switchable suction probes, so that the storage area can be practically completely emptied.

- Accessories for filling with pellets from a tanker

Fabric tank for pellets and "mole" extraction system

see end of this brochure

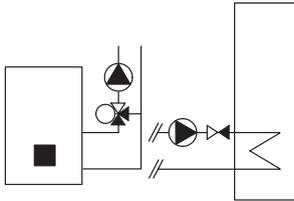
Delivery

- Boiler with TopTronic® E control, boiler with thermal insulation, casing, burner, pellet hopper and ash box are delivered in separate packaging.

On site

- Installation of the boiler (bottom section and heat exchanger)
- Installation of burner and pellet hopper
- Installation of boiler controller
- Installation of the casing

Pellet boiler Hoval BioLyt



Tested according to EN 303-5.

Hoval BioLyt (13-43)

Steel boiler for pellet firing with built-in Hoval TopTronic® E control

- Integrated control functions for
- 1 heating circuit with mixer
 - 1 heating circuit without mixer
 - 1 hot water charging circuit
 - bivalent and cascade management
- Can be optionally expanded by max. 1 module expansion:
 - Module expansion heating circuit or
 - module expansion heat balancing or
 - module expansion universal
 - Can be optionally networked with a total of up to 16 controller modules (incl. solar module).

With pellet hopper, automatic heating surface cleaning and fully automatic ash discharge.

Delivery

Boiler with TopTronic® E control, casing, burner, pellet hopper and ash box are delivered separately packed.

BioLyt type	Nominal output kW	Pellet length, max. mm	Pellet Ø mm	Pellet hopper content kg
(13)	A⁺ 3.9-13.0	30	6	90
(15)	A⁺ 4.4-14.9	30	6	90
(23)	A⁺ 6.5-23.0	30	6	90
(25)	A⁺ 7.3-24.9	30	6	110
(31)	A⁺ 8.7-31.0	30	6	110
(36)	A⁺ 9.8-36.0	30	6	110
(43)	A⁺ 11.1-43.0	30	6	110

Energy efficiency class of the compound system with control. Incl. room control module **A⁺⁺.**

Part No.

- 7013 613
- 7013 614
- 7013 615
- 7015 889
- 7015 890
- 7015 891
- 7015 892

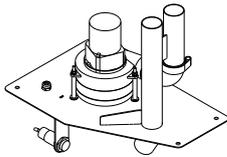
Accessories

Part No.

Extraction system

Automatic conveyance of pellets from the storage area into the pellet hopper of the BioLyt. Comprising feed unit RAS 81 for suction system with suction probes, screw discharge or mole. Maximum distance:

Transport length [m]	Max. possible delivery height [m]
15 to 25	1.8
10 to 15	2.8
5 to 10	4.5



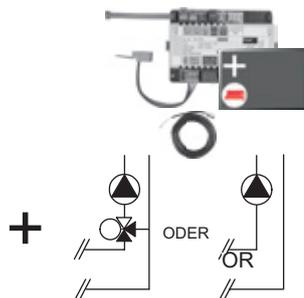
Feed unit RAS 81

For installation into the pellets box at the boiler. Consisting of maintenance-free suction turbine with mounting flange and level indicator. for TopTronic® E

6034 525

For switching unit and pellet storage systems,
see Pellet storage chapter

TopTronic® E module expansions
for TopTronic® E basic module heat generator



Notice

The supplementary plug set may have to be ordered to implement functions differing from the standard!

TopTronic® E module expansion heating circuit TTE-FE HK

Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/domestic hot water module for implementing the following functions:

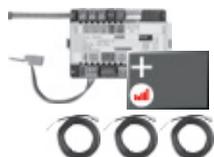
- 1 heating/cooling circuit w/o mixer or
- 1 heating/cooling circuit with mixer

Consisting of:

- Fitting accessories
- 1 contact sensor ALF/2P/4/T, L = 4.0 m
- Basic plug set FE module

Part No.

6034 576



Notice

The flow rate sensor set must be ordered as well.

TopTronic® E module expansion heating circuit incl. energy balancing TTE-FE HK-EBZ

Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/domestic hot water module for implementing the following functions:

- 1 heating/cooling circuit w/o mixer or
- 1 heating/cooling circuit with mixer incl. energy balancing in each case

Consisting of:

- Fitting accessories
- 3 contact sensors ALF/2P/4/T, L = 4.0 m
- Plug set FE module

6037 062



Notice

Refer to the Hoval System Technology to find which functions and hydraulic arrangements can be implemented.

TopTronic® E module expansion Universal TTE-FE UNI

Expansion to the inputs and outputs of a controller module (basic module heat generator, heating circuit/domestic hot water module, solar module, buffer module) for implementing various functions

Consisting of:

- Fitting accessories
- Plug set FE module

6034 575

Further information

see "Controls" - "Hoval TopTronic® E module expansions" chapter



Flow rate sensor sets

Plastic casing

Size	Connection inches	Flow rate l/min
DN 8	G 3/4"	0.9-15
DN 10	G 3/4"	1.8-32
DN 15	G 1"	3.5-50
DN 20	G 1 1/4"	5-85
DN 25	G 1 1/2"	9-150

6038 526
6038 507
6038 508
6038 509
6038 510



Brass casing

Size	Connection inches	Flow rate l/min
DN 10	G 1"	2-40
DN 32	G 1 1/2"	14-240

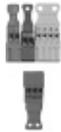
6042 949
6042 950

Accessories for TopTronic® E



TopTronic® E controller modules

TTE-HK/WW	TopTronic® E heating circuit/ hot water module	6034 571
TTE-SOL	TopTronic® E solar module	6037 058
TTE-PS	TopTronic® E buffer module	6037 057
TTE-MWA	TopTronic® E measuring module	6034 574



Supplementary plug set

	for basic module heat generator TTE-WEZ	6034 499
	for controller modules and module expansion	6034 503
	TTE-FE HK	



TopTronic® E room control modules

TTE-RBM	TopTronic® E room control modules	6037 071
	easy white	6037 069
	comfort white	6037 070
	comfort black	



Enhanced language package TopTronic® E

	one SD card required per control module	6039 253
	Consisting of the following languages:	
	HU, CS, SL, RO, PL, TR, ES, HR,	
	SR, JA, DA	



HovalConnect

	HovalConnect LAN	6049 496
	HovalConnect WLAN	6049 498
	HovalConnect Modbus	6049 501
	HovalConnect KNX	6049 593

TopTronic® E interface modules

	GLT module 0-10 V	6034 578
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TopTronic® E sensors

AF/2P/K	Outdoor sensor	2055 889
	H x W x D = 80 x 50 x 28 mm	
TF/2P/5/6T	Immersion sensor, L = 5.0 m	2055 888
ALF/2P/4/T	Contact sensor, L = 4.0 m	2056 775
TF/1.1P/2.5S/6T	Collector sensor, L = 2.5 m	2056 776



Bivalent switch

	for various release or switching functions	
	Bivalent switch 1-piece	2056 858
	Bivalent switch 2-piece	2061 826



System housing

	System housing 182 mm	6038 551
	System housing 254 mm	6038 552



TopTronic® E wall casing

WG-190	Wall casing small	6052 983
WG-360	Wall casing medium	6052 984
WG-360 BM	Wall casing medium with control module cut-out	6052 985
WG-510	Wall casing large	6052 986
WG-510 BM	Wall casing large with control module cut-out	6052 987

Further information

see "Controls"

Part No.

Flow temperature switch

for under floor heating (1 guard per heating circuit) 15-95 °C, switching difference 6 K, capillary tube max. 700 mm, setting (visible from the outside) inside the housing cover.



Clamp-on thermostat RAK-TW1000.S
Thermostat with strap, without cable and plug

242 902



Set clamp-on thermostat RAK-TW1000.S
Thermostat with strap, with cable (4 m) and plug

6033 745

Immersion thermostat RAK-TW1000.S SB 150
Thermostat with pocket 1/2" - depth of immersion 150 mm, brass nickel-plated

6010 082



Safety set SG15-1"

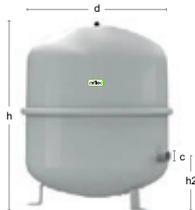
Suitable up to max. 50 kW complete with safety valve (3 bar) Pressure gauge and autom. aspirator with shut-off valve. Connection: DN 15, 1" internal thread

641 184



Reflex N 25-140

Vessel wall mounted N 25 Vessel with feet N 35-140. Permitted operating temperature of vessel/diaphragm 120 °C/70 °C



max. permissible operating overpres-

Reflex type	sure bar	Ø D mm	h mm	h2 mm	A
N25	4	308	477	-	R 3/4"
N 35	4	354	460	130	R 3/4"
N 50	6	409	493	175	R 3/4"
N 80	6	480	565	166	R 1"
N 100	6	480	670	166	R 1"
N 140	6	480	912	175	R 1"

2078 741
2078 742
2078 743
2078 744
2078 745
2078 746

Accessories



Console with strap
for Reflex N 8-25, S 8-25, V 6-20
vertical installation
Vessel connection top or bottom

Part No.

242 878



Quick connection SU R 3/4" x 3/4"
for diaphragm pressure expansion tanks in
closed heating and cooling water plants.
With shut-off valve against unintended
closing and drain according
to DIN 4751 Part 2,
tested by TÜV
Connection R 3/4"
PN 10/120 °C

242 771

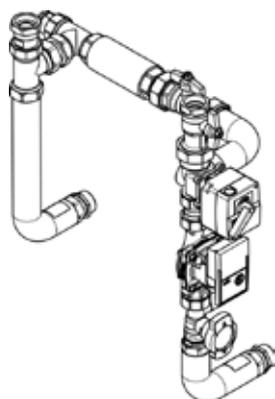


Quick connection SU R 1" x 1"
for diaphragm pressure expansion tanks in
closed heating and cooling water plants.
With shut-off valve against unintended
closing (check ball) and drain according
to DIN 4751 Part 2
tested by TÜV
Connection R 1" PN 10/120 °C

242 772

**Further diaphragm pressure
expansion tanks**
see "Various system components"

Accessories



Motorised return temperature control group

with 3-way motor mixer
 Pump wired ready to plug in
 Thermometer in the boiler return
 Ball valve in plant return
 Insulated piping
 Complete with screw connections for final assembly at boiler connection
 Pump included separately.

Type	Connection inch	kvs m ³ /h
BioLyt (13)	Rp 1"	12
BioLyt (15-23)	Rp 1"	12
BioLyt (25-43)	Rp 1¼"	18

Part No.

6060 926
 6060 927
 6060 928



Return temperature control kit DN 25 RH25-12/SPS-S 4

for BioLyt (13-23)
 to increase the return temperature
 3-way motor mixer
 kvs: 12 m³/h
 High-efficiency pump
 Contact sensor

6061 021



Return temperature control kit DN 32 RH32-18/SPS-S 7

for BioLyt (25-43)
 to increase the return temperature
 3-way motor mixer, kvs: 18 m³/h
 High-efficiency pump
 Contact sensor

6040 924



Three way valve B3G460

PN 10, 110 °C, DN 32
 case, shaft and segment made of brass
 maintenance-free O-ring seal
 Mounting optionally on left or right side
 kvs value 18 m³/h

2039 170



Actuator NR230-E-20

for three-way valve B3G460
 Operating voltage 230 V/50 Hz
 Single wire control
 Torque 10 Nm
 Actuation time 140 s
 manual/automatic positioning
 reversible direction of rotation and scale for position indicator 0...10
 1 cable (2 m) for actuator mounted on the drive.
 Complete with assembly material

245 235



Dampers

incl. explosion door and T-piece 90° of stainless steel.

Type	Internal diameter [mm]
ZET 130	130
ZET 150	150
ZET 180	180
ZET 200	200
ZET 250	250

641 161
 6008 032
 6008 033
 6008 034
 6008 035

Heating armature groups



Heating armature group HA-3BM-R
with 3-way motor mixer and heat-insulating box.
Installation right (flow left)

HA group/pump Speed control EEI



DN 20 (3/4")	Speed control	EEI	Part No.
HA20-3BM-R/HSP 4	•	• • 0.18	6051 715
HA20-3BM-R/HSP 6	•	• • 0.20	6051 716
HA20-3BM-R/SPS-S 7	• •	• • 0.20	6049 541
HA20-3BM-R/SPS-S 8	• •	• • 0.20	6049 542
DN 25 (1")			
HA25-3BM-R/HSP 6	•	• • 0.20	6051 717
HA25-3BM-R/SPS-S 7	• •	• • 0.20	6049 545
HA25-3BM-R/SPS-S 8	• •	• • 0.20	6049 546
HA25-3BM-R	without pump		6046 642

Pumps for HA25-3BM-R
see "Circulating pumps".
Pump installation dimensions 1 1/2" x 180 mm



Charging group LG-2
Heating armature group HA-2
For the connection of a side calorifier or as heating circuit without mixer, with heat-insulating box. Installation right (flow left).

Charging/HA group/pump Speed control EEI



DN 20 (3/4")	Speed control	EEI	Part No.
LG/HA20-2/HSP 4	•	• • 0.18	6051 743
LG/HA20-2/HSP 6	•	• • 0.20	6051 744
LG/HA20-2/SPS-S 7	• •	• • 0.20	6040 906
LG/HA20-2/SPS-S 8	• •	• • 0.20	6040 907
DN 25 (1")			
LG/HA25-2/HSP 6	•	• • 0.20	6051 745
LG/HA25-2/SPS-S 7	• •	• • 0.20	6049 553
LG/HA25-2/SPS-S 8	• •	• • 0.20	6049 554
LG/HA25-2	without pump		6046 646

Pumps for LG/HA25-2
see "Circulating pumps".
Pump installation dimensions 1 1/2" x 180 mm

Speed control legend

	Δp-v	Variable differential pressure
	ENF	Vent function 10 min.
		PWM control signal heating
	Δp-c	Constant differential pressure
		Constant rotational Speed

Heating armature groups



Wall bracket DN 20

to install a Hoval fitting set on the wall.
 Dimension between centre lines: 90 mm
 Connection (top/bottom): Rp 1"/R 1"
 Wall clearance: 70,85,100 mm

Part No.

6019 209



Wall bracket DN 25

to install a Hoval fitting set on the wall.
 Dimension between centre lines: 125 mm
 Connection (top/bottom): Rp 1½"/R 1"
 Wall clearance: 87-162 mm

6019 210



Compact charging group LG-2

With heat-insulating box for the direct installation on the CombiVal with 1"-nozzle, in the feed line or on the boiler.

Charging group/pump	Speed control	EEL
		≤

DN 25 (1")

LG 25-Compact/HSP 4	•	•	•	•	0.18
LG 25-Compact/HSP 6	•		•	•	0.20
LG 25-Compact/SPS-S 7	•	•		•	0.20

6051 746
 6051 747
 6049 556

Speed control legend

	Δp-v	Variable differential pressure
	ENF	Vent function 10 min.
		PWM control signal heating
	Δp-c	Constant differential pressure
		Constant rotational Speed



**Standard pressure distributor
WV-S 25-2/3**
DN 25 (1")
wall distributor (not expandable)
of brass
for 2 armature groups on the top,
with heat insulation made of EPP shells,
including brackets.

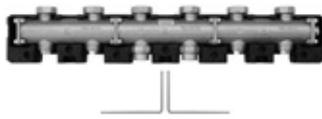
Part No.

6031 809



Screw fittings brass VSM21
Version brass incl. seals
2 x screw fittings
External thread: G 1½"
Internal thread: Rp 1"

6007 004



System pressure distributor expandable
Bronze wall distributor for 2 or 3 armature
groups on top (expandable), with thermal
insulation, incl. brackets.

Wall distributor type	HA groups
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DN 20 (¾")

WV-M 20-2	2 HA groups
WV-M 20-3	3 HA groups

6013 694

6013 695

DN 25 (1")

WV-M 25-2	2 HA groups
WV-M 25-3	3 HA groups

6046 648

6046 649



Coupling bracket
for the installation of a HA group DN 25
below at the system pressure distributor

HA 25 to WV-M 25
HA 32 to WV-M 32

2012 818

2012 835



Adapter set DN 20-DN 25
for the installation of the HA group
DN 20 to a wall distributor DN 25 or
a connection set DN 25.
Installation height: 120 mm

6013 693

**Further heating armature groups,
wall distributors and accessories**
see "Various system components"

BioLyt (13-43)

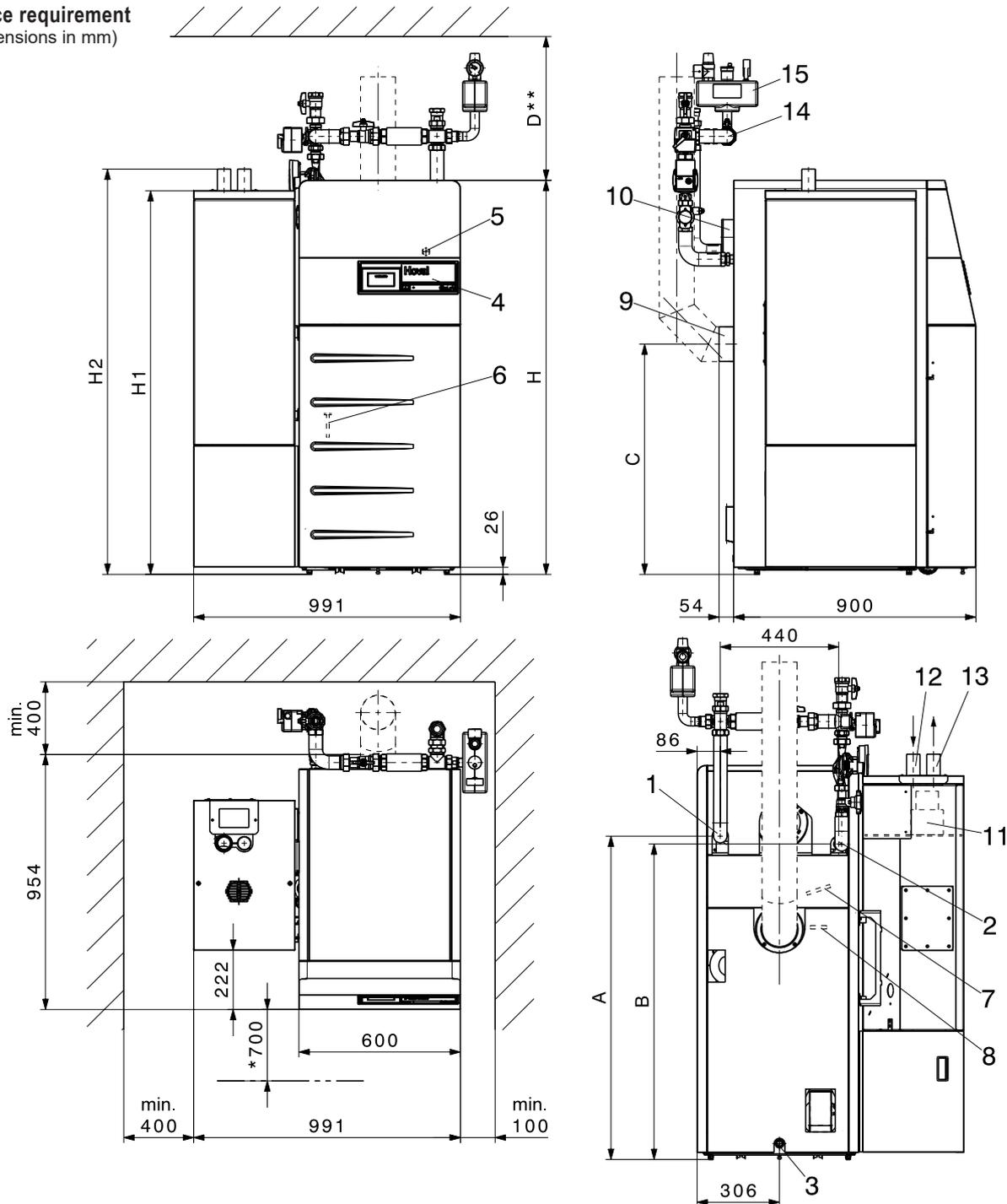
Type		(13)	(15)	(23)	(25)	(31)	(36)	(43)
• Nominal heat output	kW	13.0	14.9	23.0	24.9	31.0	36.0	43.0
• Firing capacity with nominal heat output	kW	13.7	15.6	24.2	26.3	32.3	37.5	45.9
• Max. - min. output	kW	3.9-13.0	4.4-14.9	6.5-23.0	7.3-24.9	8.7-31.0	9.8-36.0	11.1-43.0
• Wood pellets acc. to EN ISO 17225-2 and EN plus A1	Ø	mm	6	6	6	6	6	6
	Length	mm	5-30	5-30	5-30	5-30	5-30	5-30
	Ash content	%	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
	Fine content	%	< 1	< 1	< 1	< 1	< 1	< 1
• Maximum boiler flow temperature	°C	75	75	75	75	75	75	75
• Minimum boiler operating temperature	°C	60	60	60	60	60	60	60
• Minimum boiler return temperature	°C	40	40	40	40	40	40	40
• Flue gas temperature at nominal heat output	°C	120	120	120	120	120	120	140
• Flue gas temperature at lowest heat output	°C	90	90	90	90	90	90	100
• Carbon dioxide CO ₂ at nominal output	%	11	12	12	13	13	13	13
• Operating pressure	bar	3	3	3	3	3	3	3
• Boiler efficiency at nominal heat output	%	> 93	> 93	> 95	> 95	> 95	> 95	> 93
• Seasonal room heating efficiency η _s	%	83	83	83	83	82	82	83
• Flue gas mass flow at nominal output	kg/h	33.5	35.5	53.6	54.0	67.3	79.1	94.5
• Pellet moisture content 10 %								
• Flue gas mass flow rate at lowest nominal output	kg/h	12.5	12.2	18.0	19.4	23.2	26.1	31.5
• Flow resistance wood pellet boiler	z-value	13	19	19	9	9	9	9
• Hydraulic resistance at 10 K	mbar	12	34	56	40	52	66	105
• Hydraulic resistance at 20 K	mbar	4	10	15	11	14	18	28
• Water flow rate at 10 K	m ³ /h	1.12	1.29	1.97	2.15	2.66	3.09	3.71
• Water flow rate at 20 K	m ³ /h	0.56	0.65	0.99	1.08	1.33	1.55	1.85
• Boiler water content	litres	40	52	52	78	78	78	78
• Pellet hopper capacity	kg	90	90	90	110	110	110	110
• Ash chamber content	litres	28	28	28	28	28	28	28
• Thickness of thermal insulation on boiler body	mm	80	80	80	80	80	80	80
• Boiler weight incl. casing	kg	360	390	390	440	440	440	440
Flue gas system ¹⁾								
• Minimum boiler draughting requirements	Pa	5 (1) ²⁾						
• Electrical power consumption during operation	watts	46	57	107	118	141	160	170
• Electrical power consumption during ignition	watts	300	300	300	300	300	300	300
• Electrical power consumption during stand-by	watts	10	10	10	10	10	10	10
Fully automated pellet feed (only in operation alternating with wood pellet boiler)								
• Electrical power consumption during pellet feed	watts	1900	1900	1900	1900	1900	1900	1900
• Maximum current consumption ³⁾	A	9	9	9	9	9	9	9
Sound power level								
• Heating noise (in installation room)	dB(A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70
• Pellet conveying	dB(A)	73	73	73	73	73	73	73

¹⁾ A damper and explosion damper must be installed.

²⁾ In borderline cases, a draughting requirement of 1 Pa at lowest output can be assumed for calculation purposes.

³⁾ Fuse protection **min. 16 A** slow-blow due to operating current.

Space requirement
(Dimensions in mm)



- 1 Boiler flow (13-23) DN 25 (Rp 1")/(25-43) DN 32 (Rp 1¼")
- 2 Boiler return (13-23) DN 25 (Rp 1")/(25-43) DN 32 (Rp 1¼")
- 3 Drain DN 15 (Rp ½")
- 4 Control panel
- 5 Boiler temperature sensor
- 6 Boiler return sensor and STB
- 7 Lambda probe
- 8 Flue gas sensor
- 9 Flue gas outlet (13-23) Ø 128 mm/(25-43) Ø 148 mm
- 10 Induced draught fan

Optional:

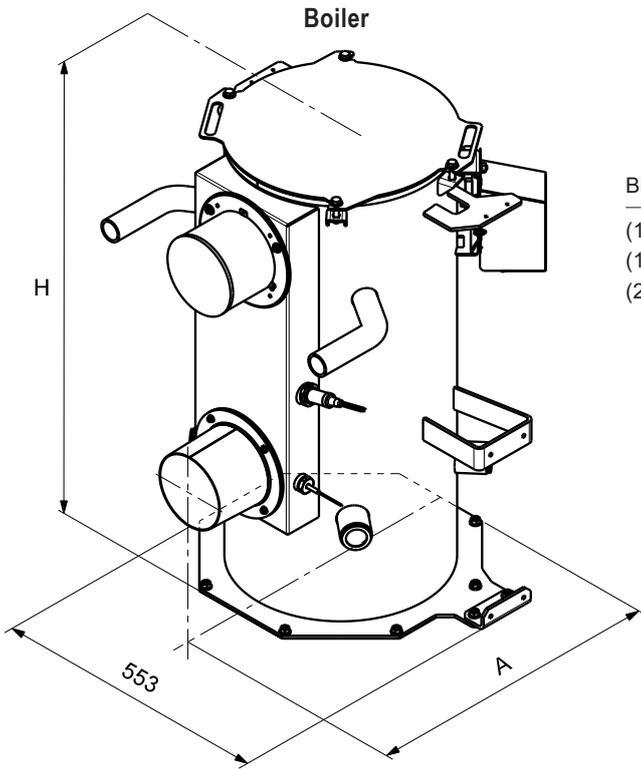
- 11 Pellet feed suction turbine
- 12 Connection for conveyor hose Ø 50 mm
- 13 Connection for return air hose Ø 50 mm
- 14 Return temperature control group
- 15 Safety set

Boiler rear side must be accessible.

* To open the front door (if the distance is reduced, the front door must be dismantled during maintenance)
 ** For maintenance work on the heat exchanger

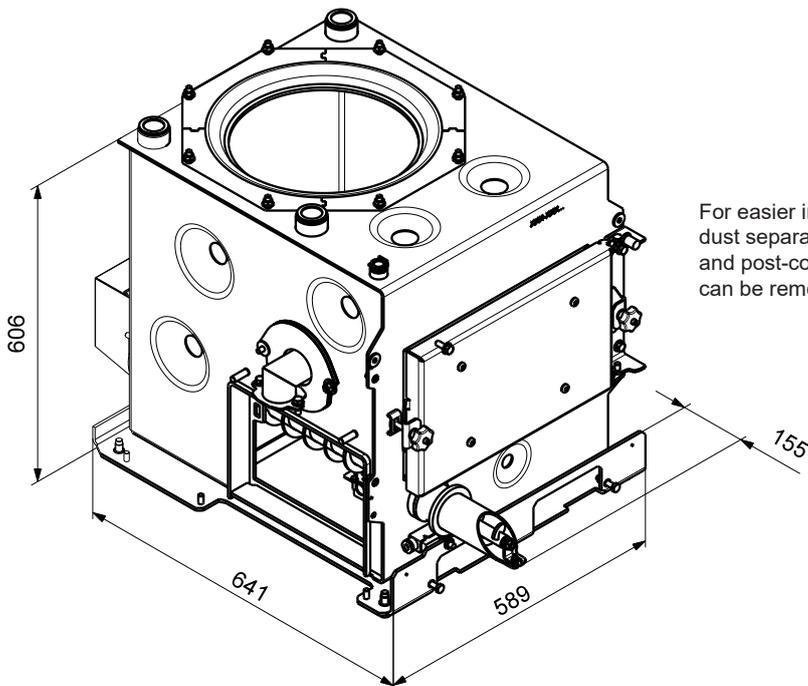
BioLyt	A	B	C	D	H	H1	H2
(13)	1010	996	741	400	1274	1435	1514
(15,23)	1210	1180	861	500	1474	1435	1514
(25-43)	1365	1254	1042	500	1667	1627	1708

Overall unit dimensions
(Dimensions in mm)



BioLyt	H mm	A mm	Weight kg
(13)	600	534	85
(15,23)	800	534	104
(25-43)	985	570	148

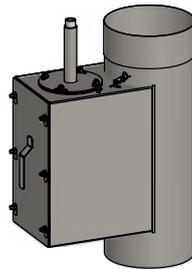
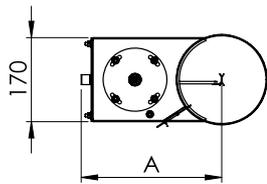
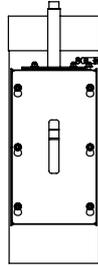
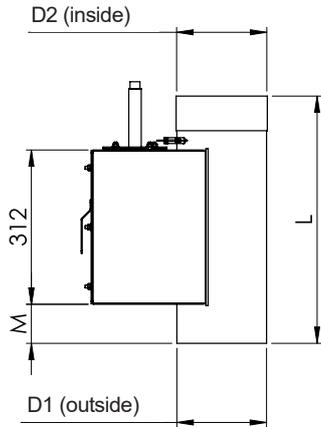
Boiler bottom section
Weight 144 kg



For easier installation (weight saving),
dust separators (6.7 kg)
and post-combustion ring (10.7 kg)
can be removed.

Electrostatic precipitator OT-I
(Dimensions in mm)

Only available in Switzerland and Germany



Type	D1	D2	A	L	M
OT-I 130	130	131	263	500	79
OT-I 150	150	151	273	500	79
OT-I 180	180	181	282	500	79

Regulations and guidelines

The following regulations and guidelines must be observed:

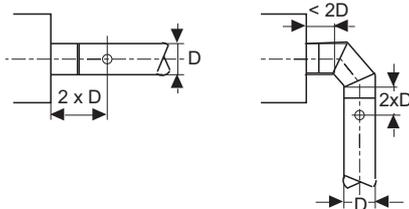
- Hoval’s technical information and installation instructions
- Hoval’s hydraulic and technical control regulations
- Country-specific and regional regulations and laws
- Relevant standards, especially EN 12828 “Heating systems in buildings - Design of hot water heating systems” EN 12831 “Heating systems in buildings - Method for calculation of the design heat load”

Damper and explosion damper

- The installation of a draught limiter incl. explosion door is mandatory.

Connection pipe to the chimney

- The diameter of the flue gas pipe must be at least equivalent to that of the boiler.
- The flue gas connection pipe between the boiler and the chimney must be routed into the chimney with a 30-45° incline if possible.
- Apply thermal insulation at least 30 mm thick.
- The connecting pipe must be introduced into the chimney in such a way that no condensate can flow into the heating boiler.
- Do not wall in the flue gas pipe directly, but integrate it flexibly to avoid noise transmission.
- A closable flue gas measuring opening must be placed in the connection tube.
Diameter 10-21 mm.
Position see drawing:



Chimney

- Required draft see technical data
- The top of the flue must protrude by 40 cm beyond the ridge of the roof.
- The flue gas ducts must be capable of withstanding humidity, acidity and soot combustion.
- Existing chimneys must be renovated according to the instructions of a chimney constructor.
- Determination of the flue gas duct cross-section in accordance with EN 13384 Part 1 and 2
- **An exact calculation for the flue gas line must be made on site.**

Non-binding guide values for chimney diameter:

The following data in Table 1 represent guide values.

Basic data:

- Smooth-walled chimneys made of chrome steel pipe
- Connection tube ≤ 1.5 m
- 1 elbow 90° and 1 angle piece 45°, $\Sigma\zeta = 0.8$
- Connection tube same diameter as the insert tube in the shaft
- Connection tube with thermal insulation 30 mm
- Altitude above sea level up to max. 1000 m
- Outdoor temperature -15 °C
- Secondary air device group 4 in the connection line (setting value 10 Pa)

Table 1:

BioLyt type	(13)	(15)	(23)	(25)	(31)	(36)	(43)
6-15 m	150	150	150	150	180	180	180
Comment	130 from 7 m possible	130 from 7 m possible	130 from 9 m possible		150 from 7 m possible	150 from 8 m possible	150 from 8 m possible
Boiler connection	130	130	130	150	150	150	150

m = effective chimney height

Ø = minimum required chimney diameter (mm)

Buffer storage tank

With a pellet heating system, it is essential to use a buffer storage tank.

Buffer storage tank selection

Minimum tank size

BioLyt type	Storage tank volume approx. litres
(13,15)	500
(23-31)	800
(36,43)	1000

Recommended capacity: 25 litres/kW boiler output plus volume for water heating and solar energy system. Detailed dimensioning of the system is necessary.

It is essential to comply with the requirements of current incentives programmes.

Return temperature control

- Please observe the hydraulic example applications.

Water quality in heating systems

Filling and replacement water, heating water

The following applies:

- For Germany VDI 2035
- For Austria ÖNORM H5195
- In addition, the EN 14868 standard must be applied, **as well as the manufacturer-specific specifications**

Manufacturer-specific specifications

Filling and replacement water

The filling and replacement water can be both fully demineralised and also merely softened.

Heating water

- In the case of **full demineralisation of the filling and replacement water**, the electrical conductivity of the heating water must not exceed the value of 100 µS/cm.
- In the case of **softening the filling and replacement water**, the following conditions must be complied with:
 - Electrical conductivity of the heating water for operation with water containing salts: > 100 µS/cm to ≤ 1500 µS/cm
 - pH value of the heating water for systems without aluminium alloy as water-side material 8.2 to 10.0 (measurement 10 weeks after commissioning at the earliest)
- The sum of the chloride, nitrate and sulphate contents in the heating water must not exceed 50 mg/l in total.

Additional notices

- Hoval boilers and calorifiers are suitable for heating systems without significant oxygen intake. (System type I according to EN 14868).
- The following systems must be equipped with separate circuits:
 - Systems with continual oxygen intake (e.g. underfloor heating without diffusion-proof plastic piping)
 - Systems with intermittent oxygen intake (e.g. requiring frequent topping-up)
- In the case of bivalent heating systems, the values of the heat generator with the strictest requirement for water quality must be complied with.
- If only the boiler is replaced in an existing plant, it is not recommended for the entire heating system to be refilled, provided that the heating water already contained in the system complies with the relevant directives or standards.
- Before filling new systems and, where necessary, existing heating systems containing heating water that does not comply with the directives or standards, the heating system must be professionally cleaned and flushed. The boiler must not be filled until the heating system has been flushed.

Space requirements

see separate dimensional drawing.

Combustion air supply

An adequate combustion air supply is a prerequisite for safe and economical operation. Free supply air cross-section at least 150 cm². It is very important to ensure that the combustion air is clean and free from halogen compounds. These are present, for example, in spray cans, varnishes, glues, solvents and cleansing agents.

Electrical connection

The boiler is only suitable for installation in dry rooms (protection rating IP 10).

Installation must be performed by an authorised electrician and in accordance with local regulations!

Electrical connection: 230 V, 50 Hz,

min. 16 A slow-blow.

Caution: Connect phases correctly!

An omnipolar main switch with a minimum contact spacing of 3 mm must be installed on site, outside the boiler room.

Pellet storage systems

see separate chapter