

Pellet boiler



Hoval BioLyt

13-43 kW

■ Description	295
■ Part No.	296
■ Technical data	306
■ Dimensions	307
■ Engineering	310

Buffer storage tanks

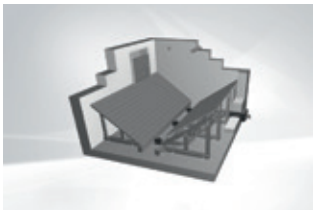


Hoval EnerVal

100-2000 l

see rubric
«Calorifiers»

Pellet storage and
discharge systems



Hoval pellets storage room

■ Description	313
■ Part No.	314
■ Engineering	321
■ Safety notices	332



Hoval fabric tank for pellets

■ Description	333
■ Part No.	334
■ Technical data	337
■ Dimensions	339
Space requirements	339
■ Engineering	340

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
 - Conveyor 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

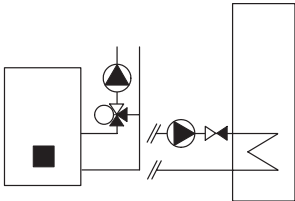
Delivery

- 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.

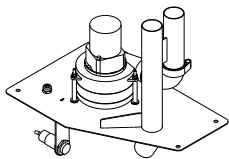
- 7013 613
- 7013 614
- 7013 615
- 7015 889
- 7015 890
- 7015 891
- 7015 892

Accessories

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

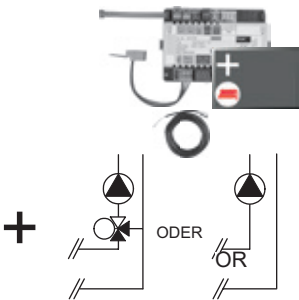
For installation into the pellets box at the boiler. Consisting of maintenance-free suction turbine with mounting flange and level indicator. for TopTronic® E

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

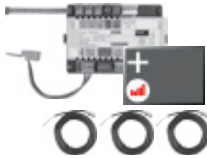
Part No.

6034 525

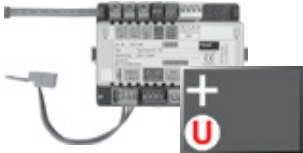
TopTronic® E module expansions
for TopTronic® E basic module heat generator



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



Notice
The flow rate sensor set must be ordered as well.



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

Further information
see “Controls” - “Hoval TopTronic® E module expansions” chapter



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

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

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

Flow rate sensor sets

Plastic casing		
Size	Connection inches	Flow rate l/min
DN 8	G ¾"	0.9-15
DN 10	G ¾"	1.8-32
DN 15	G 1"	3.5-50
DN 20	G 1¼"	5-85
DN 25	G 1½"	9-150
Brass casing		
Size	Connection inches	Flow rate l/min
DN 10	G 1"	2-40
DN 32	G 1½"	14-240

6038 526
6038 507
6038 508
6038 509
6038 510

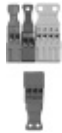
6042 949
6042 950

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
-------------------	----------



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"

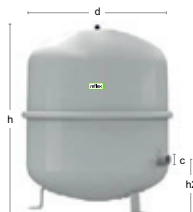
Suitable up to max. 50 kW
complete with safety valve (3 bar)
Pressure gauge and autom.
aspirator with shut-off valve.
Connection: DN 15, 1" internal thread

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. per-
missible
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

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

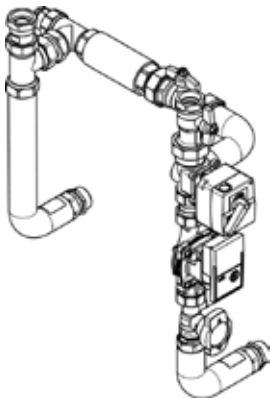


Quick connection SU R 1" x 1"
for diaphragm pressure expansion tanks in
closed heating and cooling water plants.
With shut-off valve against unintended
closing (check ball) and drain according
to DIN 4751 Part 2
tested by TÜV
Connection R 1" PN 10/120 °C

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 m³/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 (¾")

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 1½" 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 (¾")

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 1½" 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

Part No.



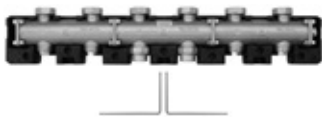
**Standard pressure distributor
WV-S 25-2/3**
DN 25 (1")
wall distributor (not expandable)
of brass
for 2 armature groups on the top,
with heat insulation made of EPP shells,
including brackets.

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
DN 20 (¾")	
WV-M 20-2	2 HA groups
WV-M 20-3	3 HA groups
DN 25 (1")	
WV-M 25-2	2 HA groups
WV-M 25-3	3 HA groups

6013 694
6013 695

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	6
	Length	mm	5-30	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	< 0.7
	Fine content	%	< 1	< 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	m³/h		1.12	1.29	1.97	2.15	2.66	3.09	3.71
• Water flow rate at 20 K	m³/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⁾	5 (1) ²⁾	5 (1) ²⁾	5 (1) ²⁾	5 (1) ²⁾	5 (1) ²⁾	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

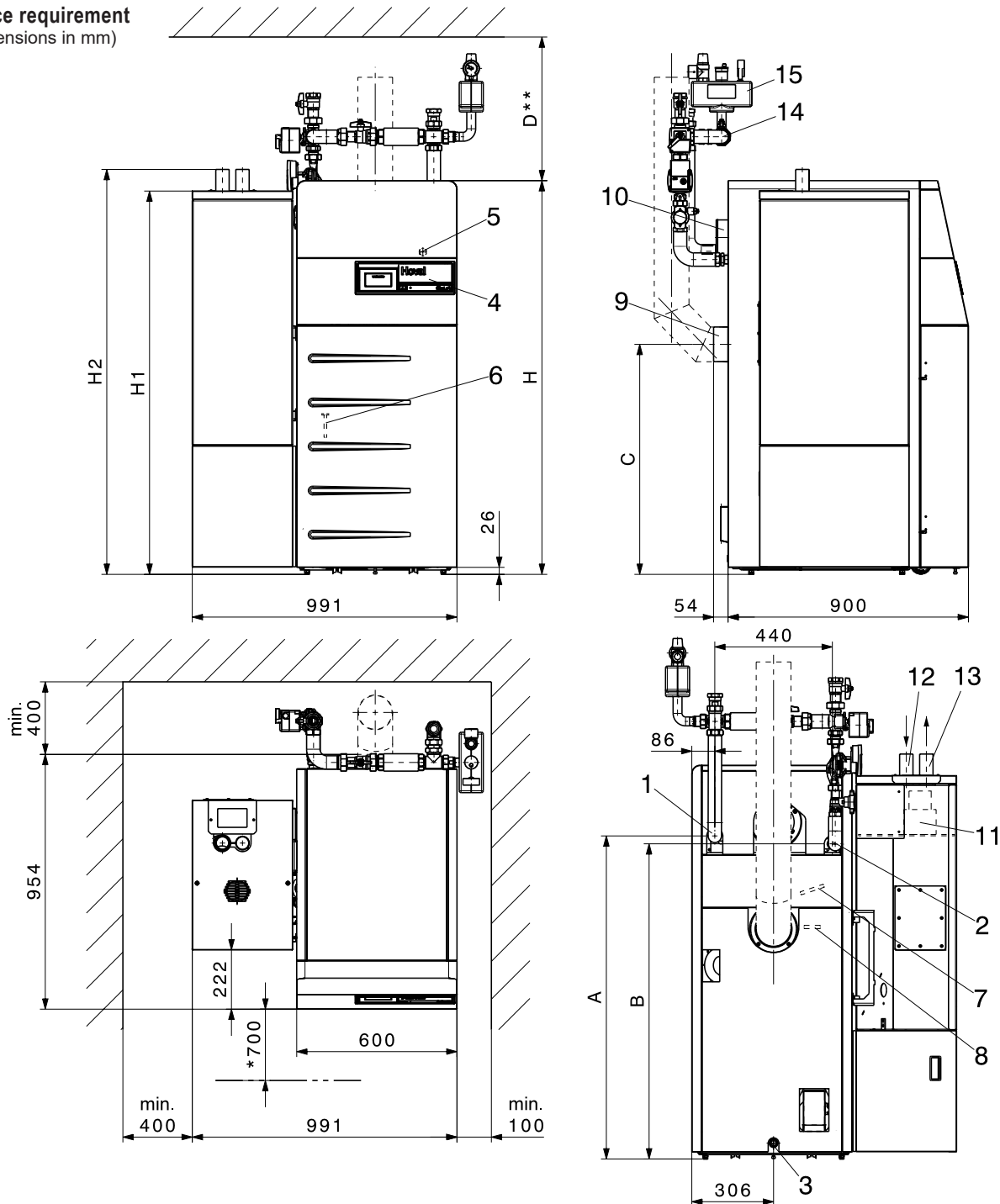
¹⁾ A damper and explosion damper must be installed.

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 | |

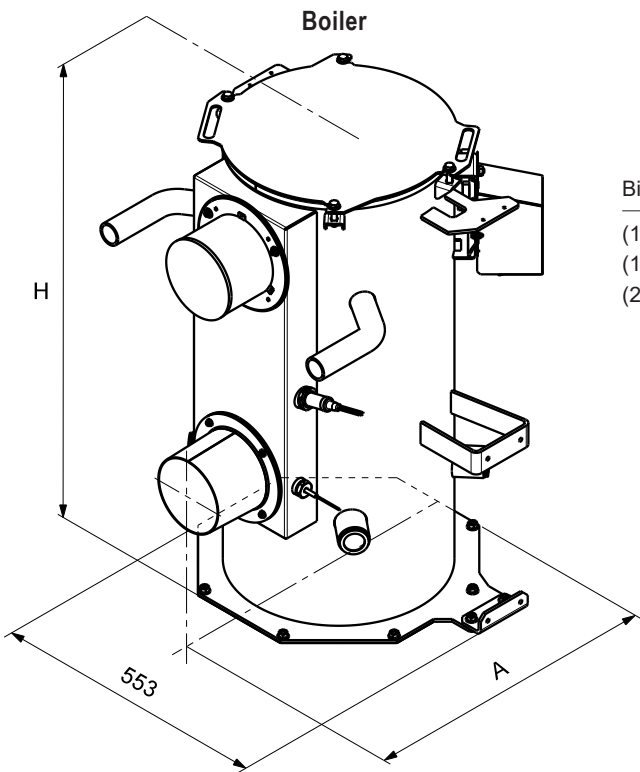
Boiler rear side must be accessible.

* 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

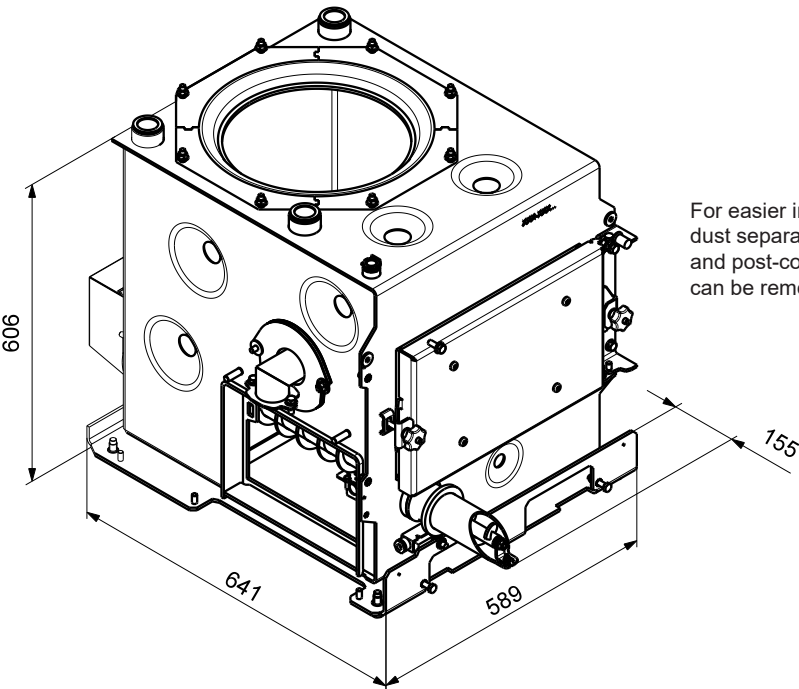
BioLyt	A	B	C	D	H	H1	H2
(13)	1010	996	741	400	1274	1435	1514
(15,23)	1210	1180	861	500	1474	1435	1514
(25-43)	1365	1254	1042	500	1667	1627	1708

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

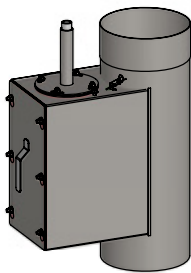
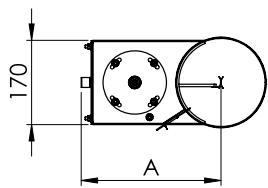
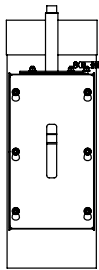
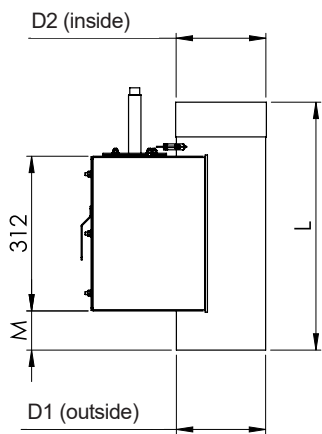
Boiler bottom section
Weight 144 kg



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:

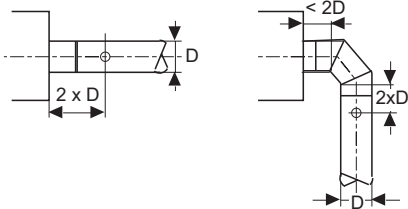
- Hoval's technical information and installation instructions
- Hoval's hydraulic and technical control regulations
- Country-specific and regional regulations and laws
- Relevant standards, especially EN 12828 "Heating systems in buildings - Design of hot water heating systems" EN 12831 "Heating systems 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

Pellets storage room with inclined floor

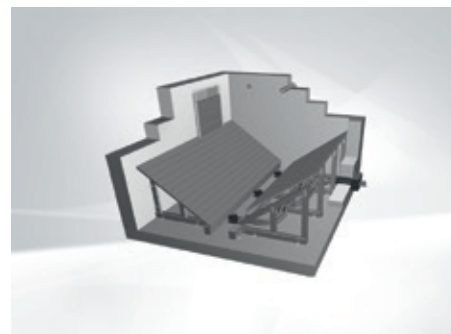
The term "storage room" is used to indicate a room specifically used for the storage of pellets. In existing buildings an oil storage room can be converted into a pellets storage room.

The storage room must be dry as pellets swell up if humidity is too high and consequently their quality may be impaired. If storage rooms present an increased air humidity the pellets should be stored in the fabric silo. The storage room must additionally be absolutely tight and its walls must be solid.

The storage room must be equipped with the corresponding components necessary for the filling procedure by the tanker.

Notice

Pellets storage rooms must be cleaned regularly (approx. every 2-3 fillings) and the residual sawdust must be removed!

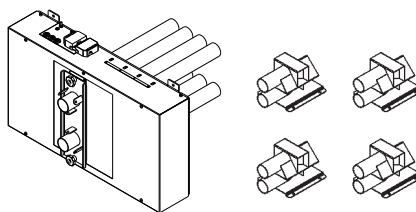


Extraction systems: different options for the storage room

Suction system with 4 suction outlets

for BioLyt (13-43,70)

- Cost-effective discharge system.
- Suitable for smaller storage rooms up to approx. 4 m in length.
- Automatic switchover to the suction outlet required
- With or without sloping floor depending on footprint.



Suction system with screw extraction

for BioLyt (13-43,70-160)

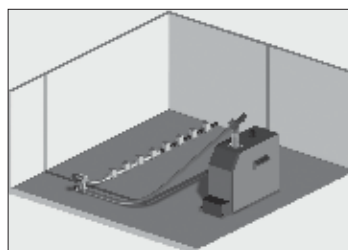
- Incl. control switch for avoiding blockage of the head piece
- Suitable for rectangular, oblong storage rooms up to approx. 7 m in length.
- Excellent emptying of the storage room.
- Storage room with sloping floor.



Flexible screw conveyors

for BioLyt (13-43,70-160)

- A wide range of applications and individual solutions possible.
- Very quiet output system (pellet supply without suction turbine possible).
- Storage room with sloping floor.

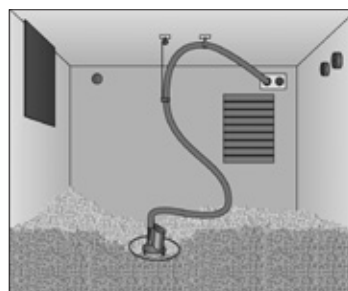


Individual system solution with/without suction turbine
on request.

Suction system with mole Classic

for BioLyt (13-43)

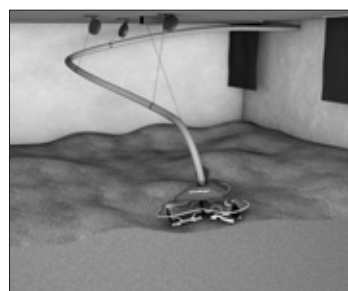
- For rectangular or square storage rooms
Footprint: max. 4 × 4 m
Room height: 1.8-3 m.
- Working floor space:
max. 2.5 × 2.5 m
(achieved by sloping floor if necessary).



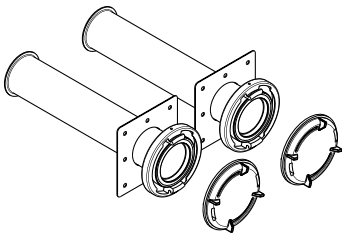
Suction system with mole unit E3

for BioLyt (13-43,70-160)

- For different footprints (circular, square, rectangular or asymmetrical) up to max.
 - 40 m² for room height up to 2.5 m
 - 35 m² for room height up to 3.0 m
 - 25 m² for room height up to 3.5 m.
- Storage room almost completely emptied.

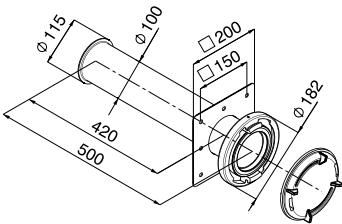


Components for charging the storage room from the pellets tanker



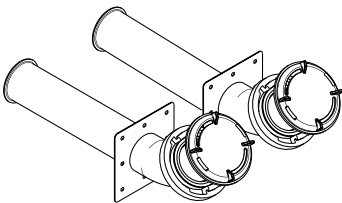
RAS 52 set filling coupling
 with flange pipe DN 100
 Consisting of:
 2 flange pipes straight, L = 500 mm
 length ground plate to flange = 420 mm
 2 filling couplings with clamping rings
 2 combination covers with vent
 2 locks

6034 938



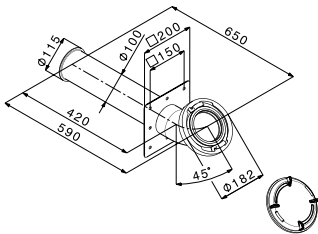
RAS 52-1 set filling coupling
 with flange pipe DN 100
 Consisting of:
 1 flange pipe straight, L = 500 mm
 length ground plate to flange = 420 mm
 1 filling coupling with clamping ring
 1 combination cover with vent
 1 lock

6034 939



RAS 53 set filler coupling curved
 with flange pipe DN 100
 Consisting of:
 2 flange pipes straight, L = 500 mm
 Length of base plate to flange = 420 mm
 2 45° bends with seal and clamping ring
 2 filling couplings with clamping rings
 2 ventable combi covers
 2 locks

6034 940



RAS 53-1 set filler coupling curved
 with flange pipe DN 100
 Consisting of:
 1 flange pipe straight, L = 500 mm
 Length of base plate to flange = 420 mm
 1 45° bend with seal and clamping ring
 1 filling coupling with clamping ring
 1 ventable combi cover
 1 lock

6034 941



Pipe extension DN 100
 for extending the filling and suction line

- L = 50 mm
 L = 200 mm
 L = 500 mm
 L = 1000 mm
 L = 2000 mm

6034 942
 6025 614
 6025 615
 6025 616
 6034 973



Pipe bend DN 100
 for adapting the filling and suction line
 Radius 200 mm

- 15° bend
 30° bend
 45° bend
 90° bend

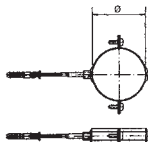
6034 974
 6025 619
 6025 618
 6025 617

Components for charging the storage room from the pellets tanker



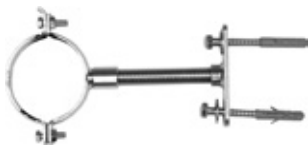
Clamping ring
for connecting the flange pipes
Electrically conductive between the connected flange pipes.

6034 975



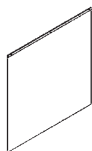
Pipe clamp E100 RAS 27-1
for ceiling mounting
including M8 metal dowels

641 160



Pipe clamp massive E100 RAS 27-2
for wall mounting

6013 129



Baffle mat RAS 54
including fastening material
Height x length: 1.5 x 1.2 m

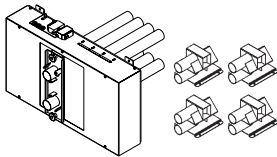
6034 976



Z-profile RAS 25
2 pieces each 2 m long
with screws and dowels
for storage room door boards 30 mm thick

641 158

Extraction systems for storage room



Automatic switchover unit RAS 82
for BioLyt (13-43)
with 4 suction outlets for efficient emptying of the storage room.
The switchover to the suction outlet required is automatic.

Part No.

6031 955

Fire protection unit RAS 83
for switchover unit RAS 82
consisting of fire protection sleeves and fittings

6031 959

Observe regional standards for fire protection!

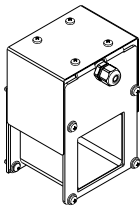


Foot RAS 84
Kit for attaching the automatic switchover unit RAS 82 to the floor

6031 958



Suction system with screw extraction RAS 42-x
for BioLyt (13-43,70-160)



Conveyor screw complete incl. motor and connectors for forwarding and return air pipe with control switch and motor connecting cable

Consisting of screw channel and screw coil incl. rolling bearing. Head piece with drive (geared motor) and connectors Ø 50 mm for forwarding and return pipe with integrated fire protection sleeves. Control switch for avoiding blockage of the head piece in case of fault.

Type RAS	length	minimum room depth	delivery
42-1	1300	1550	1 section
42-2	1800	2050	1 section
42-3	2300	2550	2 sections
42-4	2600	2850	2 sections
42-5	2800	3050	2 sections
42-6	3100	3350	2 sections
42-7	3600	3850	2 sections
42-8	4600	4850	3 sections
42-9	4900	5150	3 sections
42-10	5400	5650	3 sections

6037 363

6037 364

6037 365

6037 366

6037 367

6037 368

6037 369

6037 370

6037 371

6037 372

Delivery time approx. 3 weeks.

Extraction systems for storage room

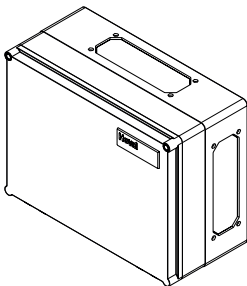
Part No.

Flexible screw conveyor outfeed
to BioLyt (13-43,70-160)

on request

**Individual system solution with/without
suction turbine** on request

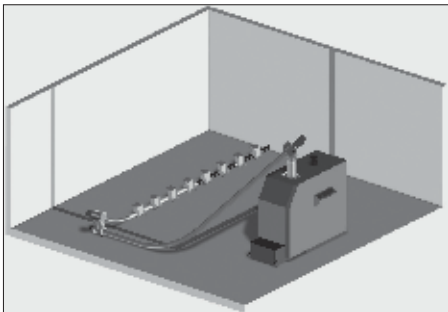
The electrical activation and control-related
integration of motors is implemented using
the special relay controllers listed below.



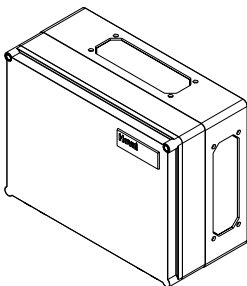
**Control boiler feeder for flexible screw
conveyor outfeed**
for connection of 1 to 5 screw drive motors
400 V (three-phase), as desired, together with
thermal circuit breaker and control switch for
connection to the BioLyt boiler controller incl.
fault evaluation via TopTronic® E

on request

Delivery time 4 weeks



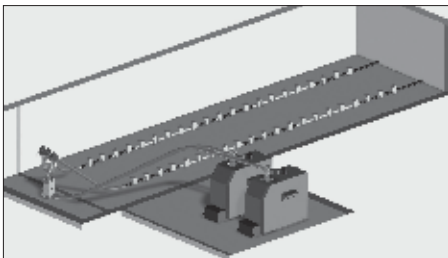
Example: boiler feeder with 2 screws



**Control intermediate container for flexible
screw conveyor outfeed**
for connection of 2 to 6 screw drive motors
400 V (three-phase), as desired, together with
thermal circuit breaker and control switch as
well as connection of the 2 filling level sensors
of the intermediate container

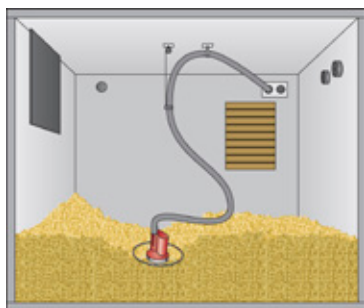
on request

Delivery time 4 weeks



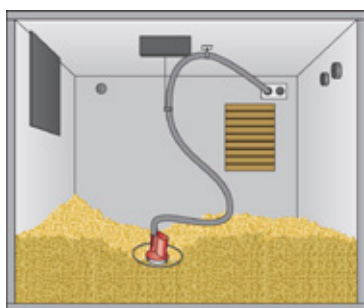
Example: intermediate container with 2 screws
plus 2 boiler feeders with 1 screw each

Extraction systems for storage room



Suction system with mole Classic RAS 74-1 with manual rope pull
for BioLyt (13-25)

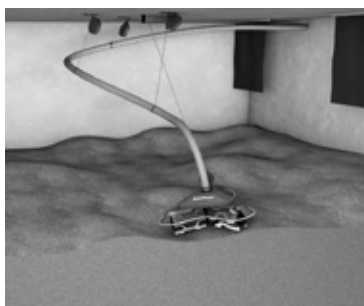
Mole system consisting of:
extraction device, special conveyor tube (5 m) and complete assembly accessories



Suction system w. mole Classic RAS 74-2 with comfort module
for BioLyt (13-25)

Mole system consisting of:
extraction device, special conveyor tube (5 m) and complete assembly accessories.

Including comfort module for mole in basement storage, consisting of lifting module with 24 V drive and comfort control. During filling, the mole can thus be lifted into the parking position at the touch of a button. During operation, the mole achieves a good working position through repeated, automatic lifting and lowering without manual corrections.

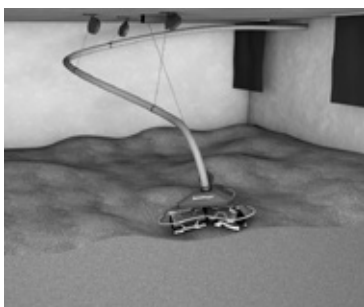


Suction system with mole E3 RAS 76-2 with automatic lifting device
to BioLyt (13-43)

Consisting of:
basic unit with 3 drive rollers,
special delivery hose (8 m),
control with electrical connection box,
automatic lifting device,
3 spring balancers (each with 3 m rope)
complete assembly accessories

Including automatic lifting device for even greater convenience when filling the pellet store. Advantageous for large pellet heating systems in which the store must be filled several times a year. Easier mounting because without rope guide to the outside.

Delivery time 2 weeks



Suction system mole E3 HD RAS 76-3 high pressure execution HD comfort
with automatic lifting device
for BioLyt (13-43)
As RAS 76-2, but reinforced version of the E3, plus hose 10 m, a steel pipe bend and additional spring-loaded fastener with 4.5 m PP cable.

For very large storage room volumes (> 60 m³) or filling quantities > 35 t or for storage room lengths > 6 m, if filling takes place from the narrow side.

Delivery time 2 weeks

Part No.

6030 467

6030 469

6048 767

6060 400

Extraction systems for storage room

Part No.

Spring balancer with 4.5 m PP rope
for mole E3
is also req. for storage rooms with
a diagonal over 6 m
or a room height in excess of
3.5 m for mole unit E3
to reach all corners.
(Must be ordered if specified
in the individual planning.)

2068 527

Spring balancer with 3 m PP rope
for E3 mole
Also necessary for very large
storage rooms.
(Must be ordered if specified
in the individual planning.)

2068 525

Notice
Specific system planning by Hoval
is required for a binding offer.

Anti-slip mat
Roll of 10 m x 1.6 m

2082 146

Glue for anti-slip mat
Cartridge for 5 m²

2082 147

Accessories for pellets extraction system



Forwarding and return air pipe RAS 23
earthed, DN 51
Reinforced design for plants with delivery rates exceeding 20 tons per year

15 m roll
25 m roll
15 m roll, reinforced design
25 m roll, reinforced design

Part No.

2051 655
247 209
2051 656
2038 754



Pipe bend 90°
for pellet conveyor hose for routing of hoses with a radius smaller than 30 cm. For plants with a pellet throughput of more than 40 t/a, the use of a bend as 90° deflection, also for a radius larger than 30 cm, is recommended. Consisting of bend 90° and hose fixing clips. Ø 50, across corners dimension 250 mm

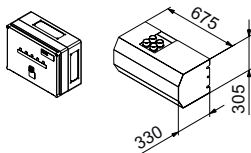
6031 960



Fire protection sleeves RAS 29
needed where forwarding and return air pipes must be directed through walls. The spread of fire from one room to another is prevented. 2 pieces incl. fittings

6014 716

Notice
If the hoses are run through a fire compartment-forming wall, additional fire protection sleeves are necessary on both sides.



Automatic switchover unit RAS 43
for BioLyt (13-43)
For connecting 2 BioLyt (13-43) to a conveyor screw resp. to a mole system or a fabric silo. Complete control box included

6019 577

Notice
Two screw conveyors or two mole unit systems or two fabric silos in combination with one boiler can be directly connected to the boiler controller of the BioLyt (70–160). Use the RAS 82 automatic switching unit and RAS 84 free-standing unit for this. If necessary, the pipes must be shortened on site.

Storage room for pellets

The requirements of EN ISO 20023 resp. VDI 3464 and the local building code and fire protection regulations must be met.

Pellets box (reservoir)

- There is a reservoir integrated into the boiler.
- The conveyor screw installed in the boiler transports the pellets from the reservoir to the burner.

Extraction system (automatic pellets supply)

- An automatic supply system is mounted on the reservoir.
- Distance from the feed unit (boiler) to the furthest suction probe or to the suction screw or to the mole

Maximum transport distance:

Transport distance [m]	Max. possible transport height* [m]
15 to 25	1.8
10 to 15	2.8
5 to 10	4.5

- * The delivery head is measured from the suction probe/suction screw to the top edge of the boiler or from the base of the silo or underground tank to the top edge of the boiler.

Forwarding and return air pipes

- Only materials supplied by Hoval may be used.
- Lay pipes as level as possible, without any dead ends, minimum bend radius 30 cm. If the minimum bending radius cannot be complied with, a corresponding pipe elbow must be used.
- Do not lay the pipes outside. The pipes are not UV resistant and should not be exposed to temperatures above 60 °C.
- Protect pipes from damage, e.g. from being trodden on.
- The inlet pipe must consist of one piece, whereas the return air pipe can consist of more than one section. Exception: pipe bend in the inlet pipe (connectors should be metal and electrically earthed).

- The hoses at the switchover unit must be moveable. The switchover unit moves in a linear direction.

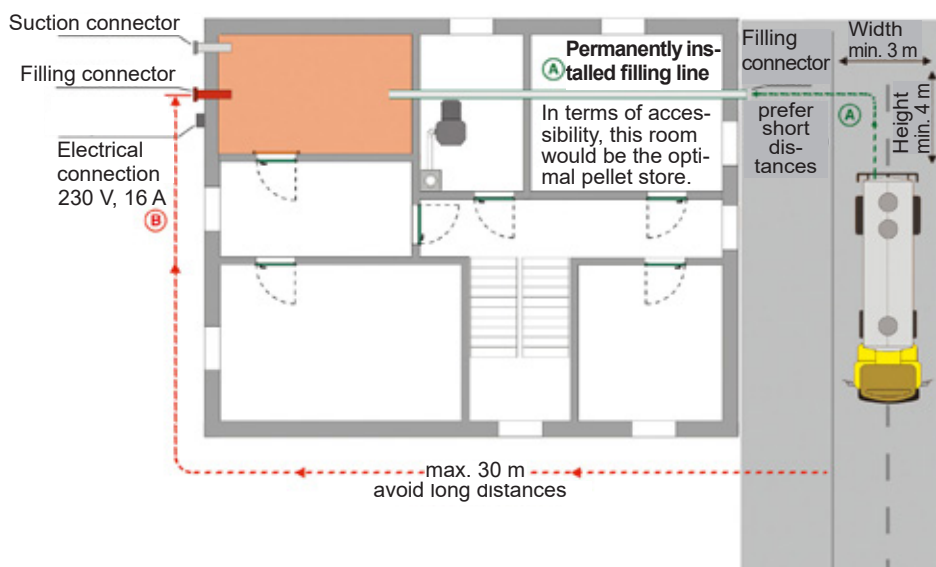
Location of the installation resp. the boiler room and the pellets storage room

- The pellets are delivered by tanker and air blown into the storage room whilst the exhaust air is recaptured.
- The tankers have a pumping hose which is a maximum of approx. 30 m long, therefore the pellets storage room (i.e. the filling couplings) must be less than 30 m from the closest point where the tanker can park.
- Before the new pellets are introduced the heating system should be properly shut down. Notices indicating this should be placed at the filling point and in the boiler room.
- If possible the pellets storage room should have an outside wall as the filling point must be accessible from the outside.
- If the storage room has no outside wall then the transport pipes must be extended to a suitable outlet (observe fire regulations). This means filling can be accomplished easily.

Requirements for storage room:

- absolutely dry, dust proof and free from foreign objects (cleared and swept)
- walls and ceiling must be massive and fire resistant (REI90/F90).
- fire protection door (T30) which opens outwards with seal and wooden boards in Z profile (see Accessories)
- no open installations, especially no electrical installations and lamps. Essential electrical installations must be protected from explosion and carried out according to current regulations.
- After the extraction system has been installed inclined flooring (approx. 45°) is to be installed laterally with sufficiently stable support constructions. The pellets weigh approx. 1900 kg/m³ at a storage level of 2.5 m.
- For introduction and extraction 2 couplings using Storj A 110 cover system (see Accessories) are necessary. To be installed 20 cm below the ceiling approx. 50-100 cm apart, if possible in the narrower wall of the storage room.

- The connecting sections and ducts should be metal and secured against static charging (earthed).
- The inlet and outlet connectors are to be clearly and permanently marked as such.
- Filling and extraction ducts which are led through other fire areas must be clad with fire resistant material.
- A baffle is to be installed opposite the entry so that the wall is protected during filling and the pellets do not get damaged (see Accessories).
- With small pellet stores of up to approx. 2 metres in length, the flight path of the pellets is very short, so that they would hit the impact mat in a straight line and at high speed. For this reason, the impact mat must be placed on a board of the same size and fixed firmly between the ceiling and the rear wall at an angle of 45° to 60° to eliminate the risk of penetration (see figure "Short storage rooms").
- Where suction inlets are used: Irrespective of the room size 3 or 4 inlets should be installed.
- There is no minimum spacing required for the suction inlets.
- For filling, i.e. for the suction device of the storage container the pellets tanker requires a 230 V, min. 16 A socket. This should be situated close to the filling inlet if possible, but under no circumstances in the storage room itself.
- The storage room must be adequately ventilated. Storage rooms and air-impermeable storage containers can be ventilated by natural air movement or with a fan. A pellet store should be ventilated to the outside air if possible. However, for storage rooms with a capacity of up to 15 t in existing buildings, ventilation into the room where the heating system is installed is also permissible.
- Hoval combination covers are sealed on delivery and can be converted to a ventilation cross-section of at least 30 cm².



A A permanently installed filling line keeps the blow-in path short and straight. The suction connection and socket for the suction blower should always be located directly on an outside wall of the store.

B A long hose path with changes in direction increases the fine content during filling and should be avoided.

Source: DEPI

Ventilation requirements for storage rooms and prefabricated stores made of air-impermeable material (according to DIN EN ISO 20023)

Ventilation distance	Requirements on the ventilation
0 m	<ul style="list-style-type: none"> Ventilation opening with a free opening $\geq 150 \text{ cm}^2$ and $\geq 10 \text{ cm}^2/\text{t}$ capacity
$\leq 2 \text{ m}$	<ul style="list-style-type: none"> Ventilating covers on at least two connection pieces with a free cross-sectional area $\geq 4 \text{ cm}^2/\text{t}$ capacity Outer opening at the same height or up to max. 50 cm higher than inner opening <p>Notice: Stores with $\leq 15 \text{ cm}^2/\text{t}$ capacity can also be ventilated into another room if this room is not used as living or working space and has a ventilation opening of $\geq 15 \text{ cm}^2/\text{t}$ capacity of the pellet store.</p>
$\leq 5 \text{ m}$	<ul style="list-style-type: none"> At least one pipe or duct for the outgoing air with a cross-section $\geq 100 \text{ cm}^2$ and $\geq 5 \text{ cm}^2/\text{t}$ capacity and external free opening $\geq 4 \text{ cm}^2/\text{t}$ at the same height or max. 50 cm higher than the internal opening At least one pipe or duct for the incoming air with a cross-section $\geq 75 \text{ cm}^2$ and $\geq 5 \text{ cm}^2/\text{t}$ capacity and external free opening $\geq 4 \text{ cm}^2/\text{t}$ capacity at the same height or lower than the internal opening <p>Notice: Filling connection pieces with ventilating covers contribute to the total cross-section of the incoming air.</p>
All	<p>Individual calculation of the required ventilation cross-sections as a function of the height difference between the higher-lying external exhaust air opening and the supply air opening in the store.</p> <p>Notice: Calculation acc. to DIN EN ISO 20023 required</p>
All	<ul style="list-style-type: none"> Mechanical ventilation to the outside via a pipe fan at the outlet of an extract air duct or pipe Air exchange rate $\geq 3 \times$ storage volume/hour when coupling the function of the fan with the opening of the storage room door Air exchange rate $\geq 3 \times$ storage volume/day for continuous or intermittent operation of the fan and additional supply air duct with a free cross-section $\geq 75 \text{ cm}^2$.

Notice:

- Ventilation for storage rooms $> 15 \text{ t}$ capacity always outside
- Tightness to the living and working areas of the building required
- Not applicable for underground storage

Source: DEPI

Ventilation requirements for the installation room of an air-permeable fabric silo (according to DIN EN ISO 20023)

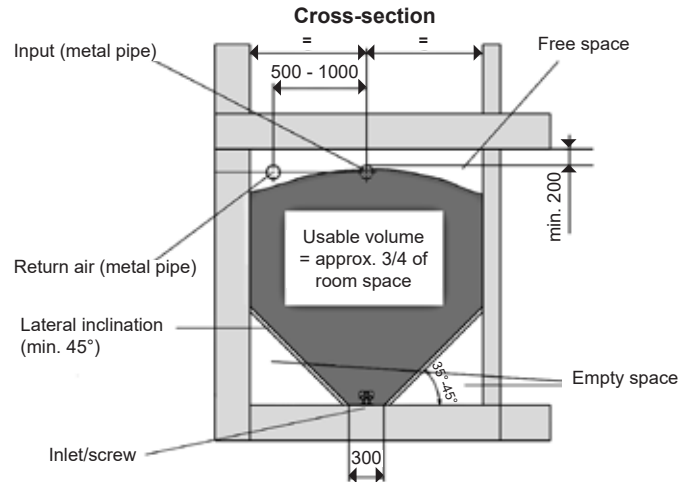
Capacity	Requirements on the ventilation of the installation room
$\leq 15 \text{ t}$	Ventilation opening to the outside with a free opening $\geq 15 \text{ cm}^2/\text{t}$
$> 15\text{-}100 \text{ t}$	<p>Ventilation opening to the outside with a free opening $\geq 150 \text{ cm}^2$ and $\geq 8 \text{ cm}^2/\text{t}$ pellets</p> <p>Notice: The installation room is not allowed to be used for any other purpose.</p>

Notice for both: A fabric silo without an exhaust port requires a temporary opening of at least 400 cm^2 so that the conveying air can escape when the pellets are blown in.

Source: DEPI

Size of the pellets storage room

- Basically, the pellet storage room should have an oblong, rectangular shape when extraction probes or extraction augers are used. The narrower the room, the less "dead space" there will be. If a mole suction system is used, a storage room as square as possible is ideal.
- The storage room size depends on the building heat load, but should be selected sufficiently large so that the amount of fuel that can be stored is sufficient for one year's requirement (recommendation for 1-2 family house). For large systems, it should be possible to store a minimum of one tank load (15 to 25 t).



Determination of the approximate yearly pellet consumption (rule of thumb)
per kW heat load = 400-500 kg pellets

Example:

Detached house, heating demand 10 kW

Yearly consumption = 10 x 500 kg = 5 t
Pellet bulk density = 0.75 t/m³
Usable room volume = 75 %

Required storage room volume [m³]

$$\frac{\text{Yearly consumption [t]}}{\text{Bulk density [t/m}^3\text{] x usable room volume [\%]}} = \frac{5 \text{ t}}{0.65 \text{ t/m}^3 \times 0.75} = 10 \text{ m}^3$$

Required storage room floor area [m²]

$$\frac{\text{Storage room volume (gross) [m}^3\text{]}}{\text{Room height [m]}} = \frac{10 \text{ m}^3}{2.4 \text{ m}} = 4 \text{ m}^2$$

Pellets storage room and boiler room

- The structural walls and ceiling of the pellets storage room and the boiler room must satisfy the requirements of fire category REI90/F90.
- Adequate ventilation must be ensured, see VDI 3464.

Important

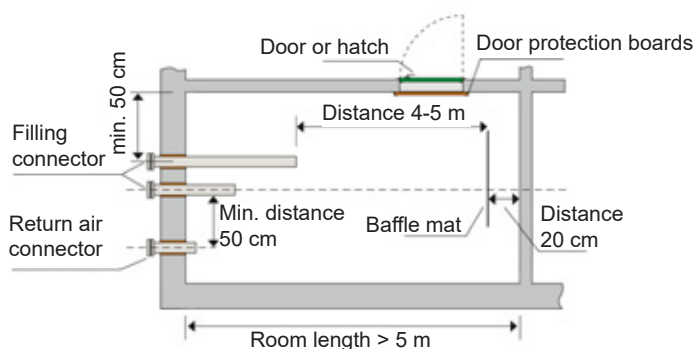
All pellet storage rooms, fabric containers, fabric silos and underground tanks may be filled with pellets only after putting into operation.
Please keep five to ten 15 kg sacks available for the first operation!

Filling and extraction

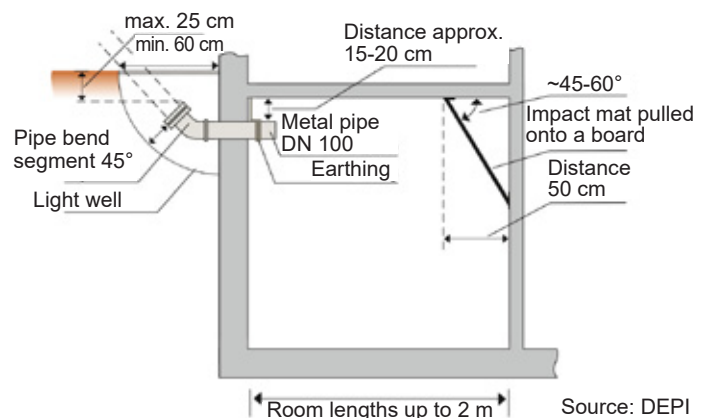
Connect all connectors and pipes with the potential equalisation!

Placement of filling and return air connectors

Long storage rooms



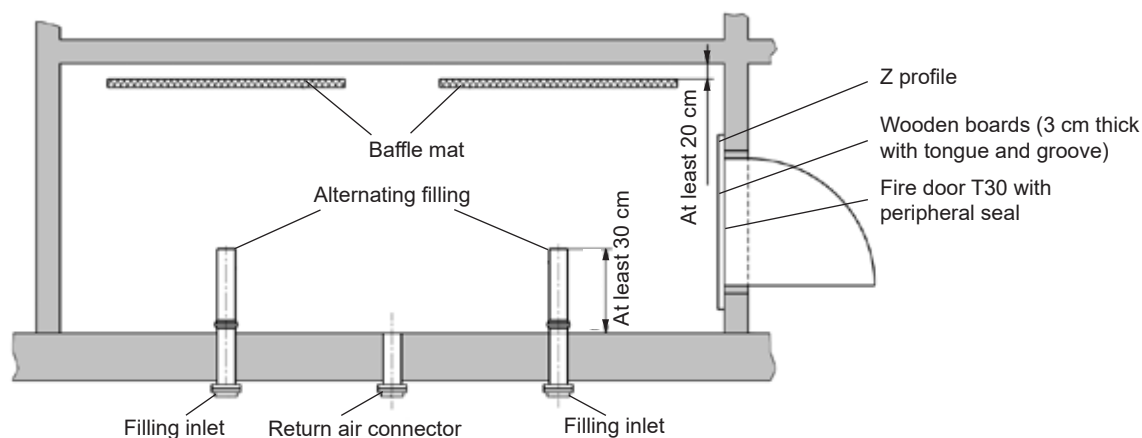
Short storage rooms



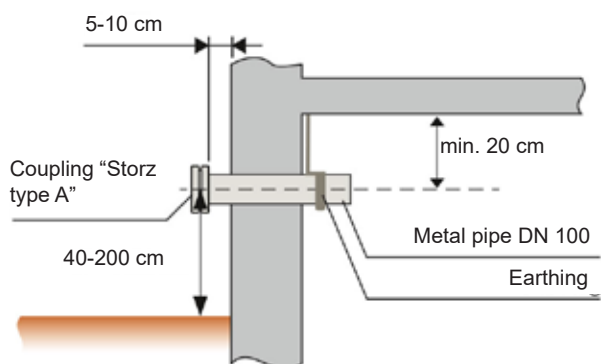
Source: DEPI

Placement of filling and return air connectors

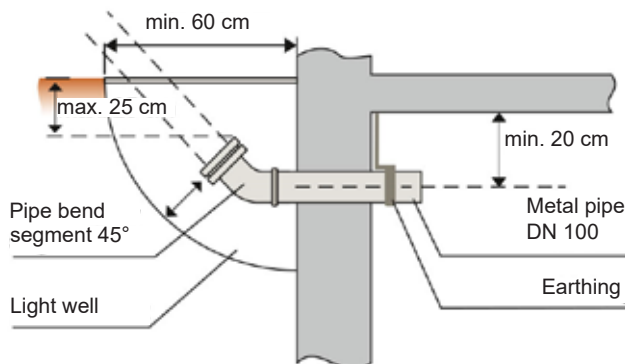
If the filling inlet side is > 3 m, we recommend to mount 2 filling inlets in order to ensure that the storage room is being filled evenly (alternating filling).



Securing connectors by walling in/screw fastening

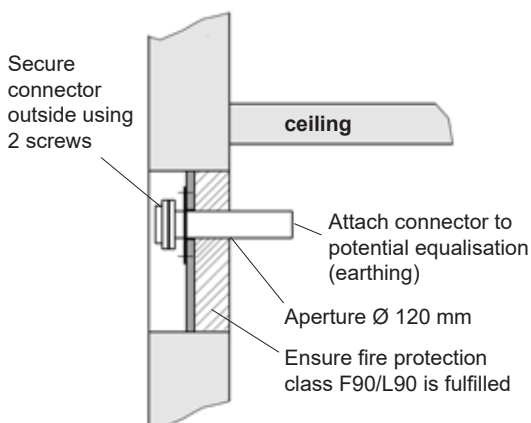


Securing connectors in light well

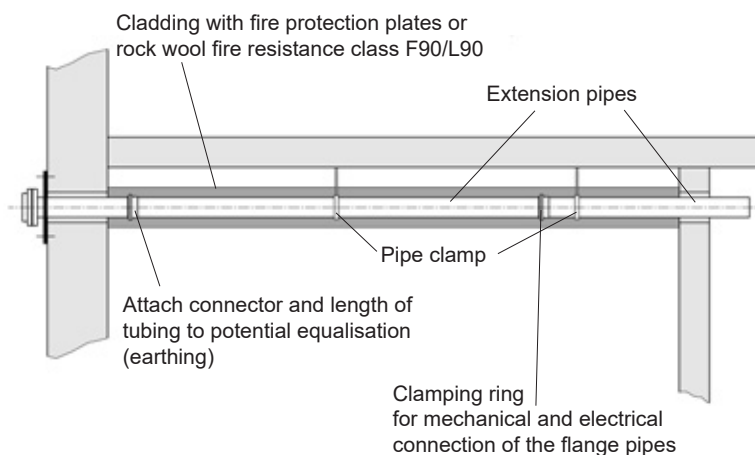


Source: DEPI

Securing connectors integrated in window opening

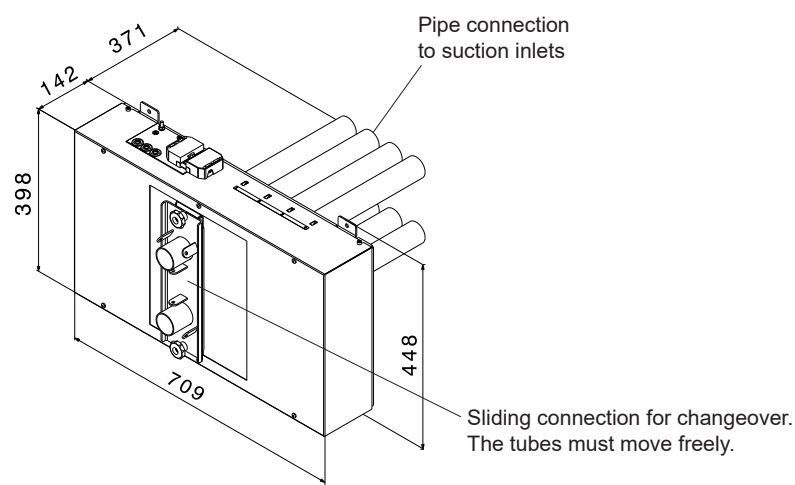


Use of extension pipes

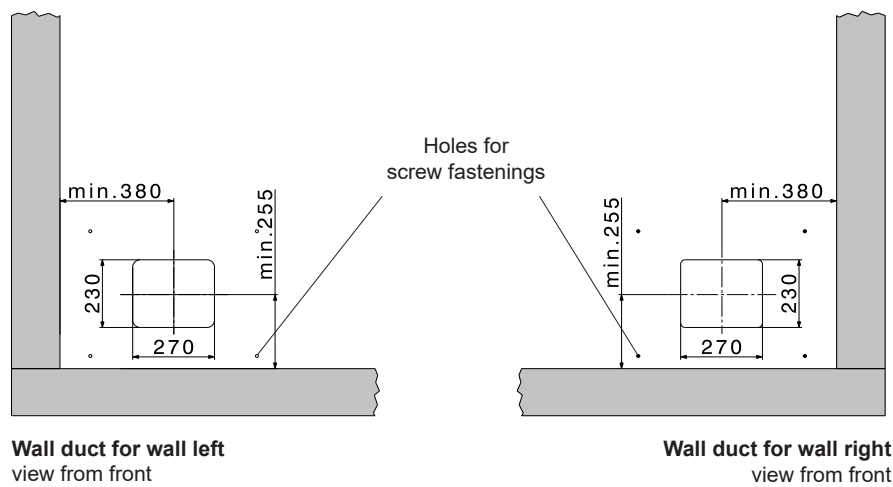


Suction system with 4 suction outlets
for BioLyt (13-43,70-160)

Automatic switchover unit RAS 82



Dimensions for ducting switchover unit through wall RAS 82
(Dimensions in mm)

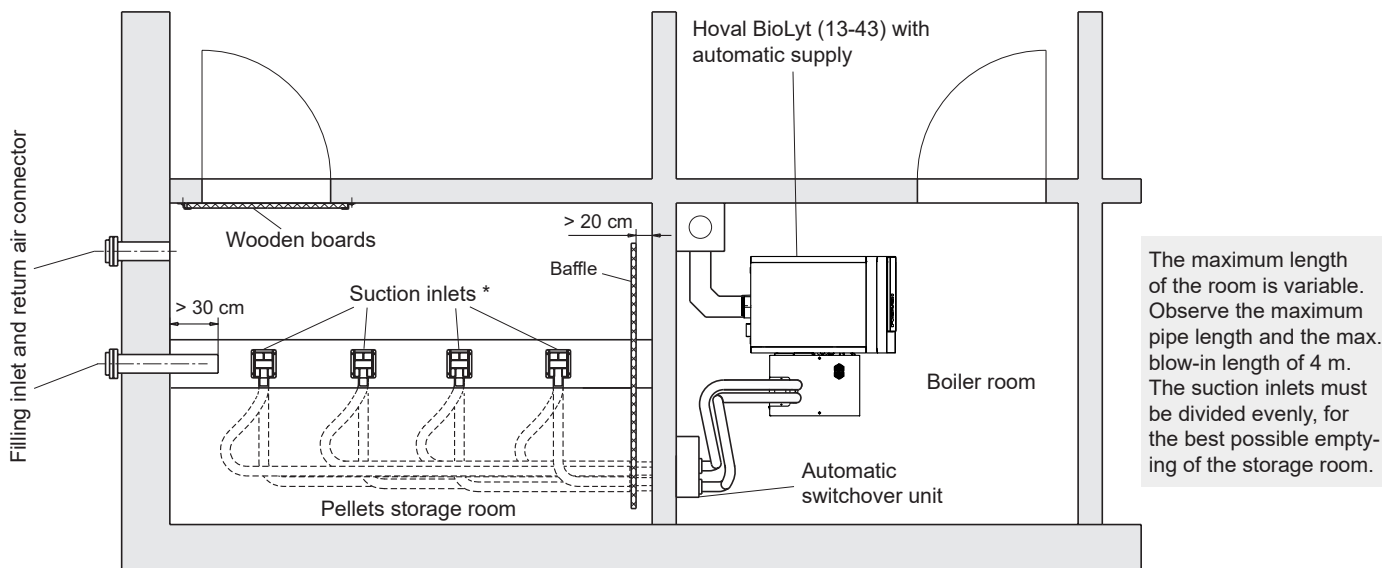


Calculation of the pipe length required

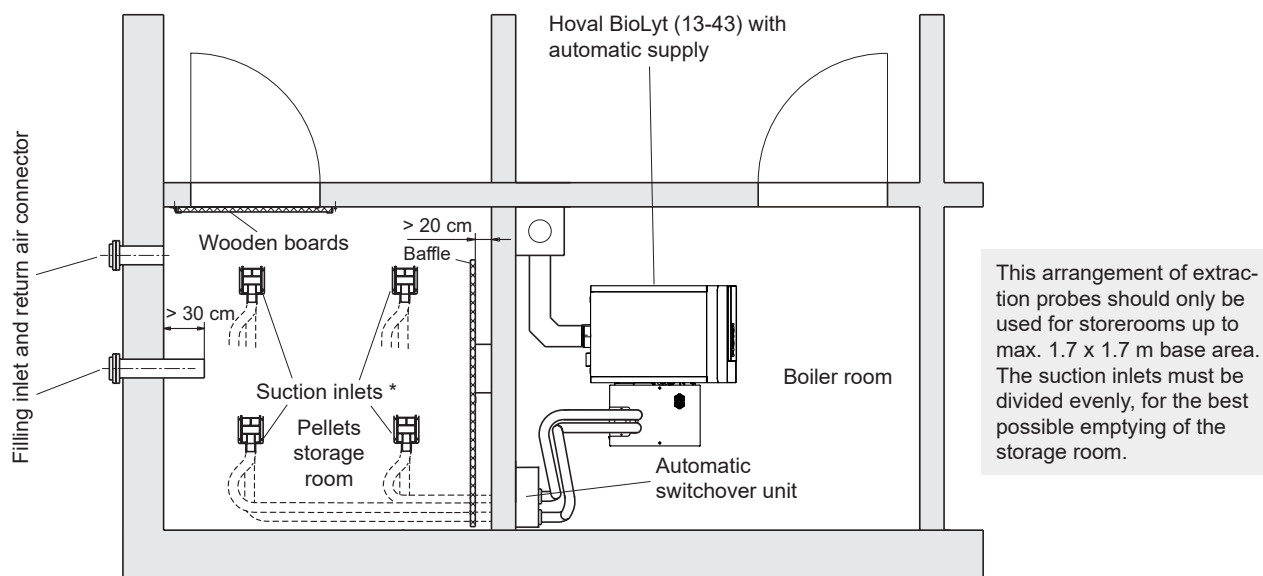
distance input unit to switchover unit
distance switchover unit to suction inlet 1
distance switchover unit to suction inlet 2
distance switchover unit to suction inlet 3
distance switchover unit to suction inlet 4

distance	m x 2 =	m
distance	m x 2 =	m
distance	m x 2 =	m
distance	m x 2 =	m
distance	m x 2 =	m
<hr/>		
required pipe length:m	

Plan storage and boiler room



* Suction inlets can also be installed turned through 45° or 90°.



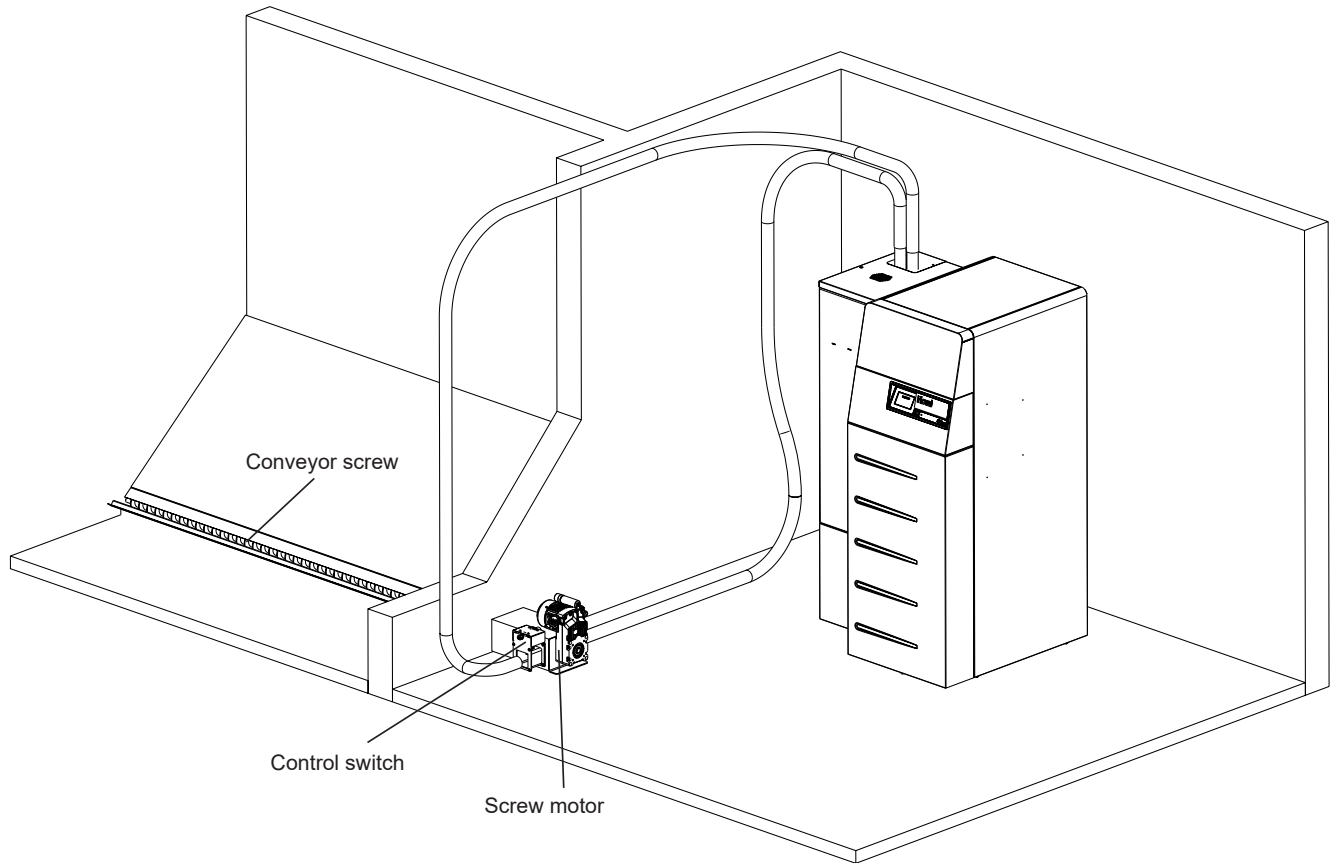
* Suction inlets can also be installed turned through 45° or 90°.

In order to limit the residual quantity between the suction probes, the following is recommended:

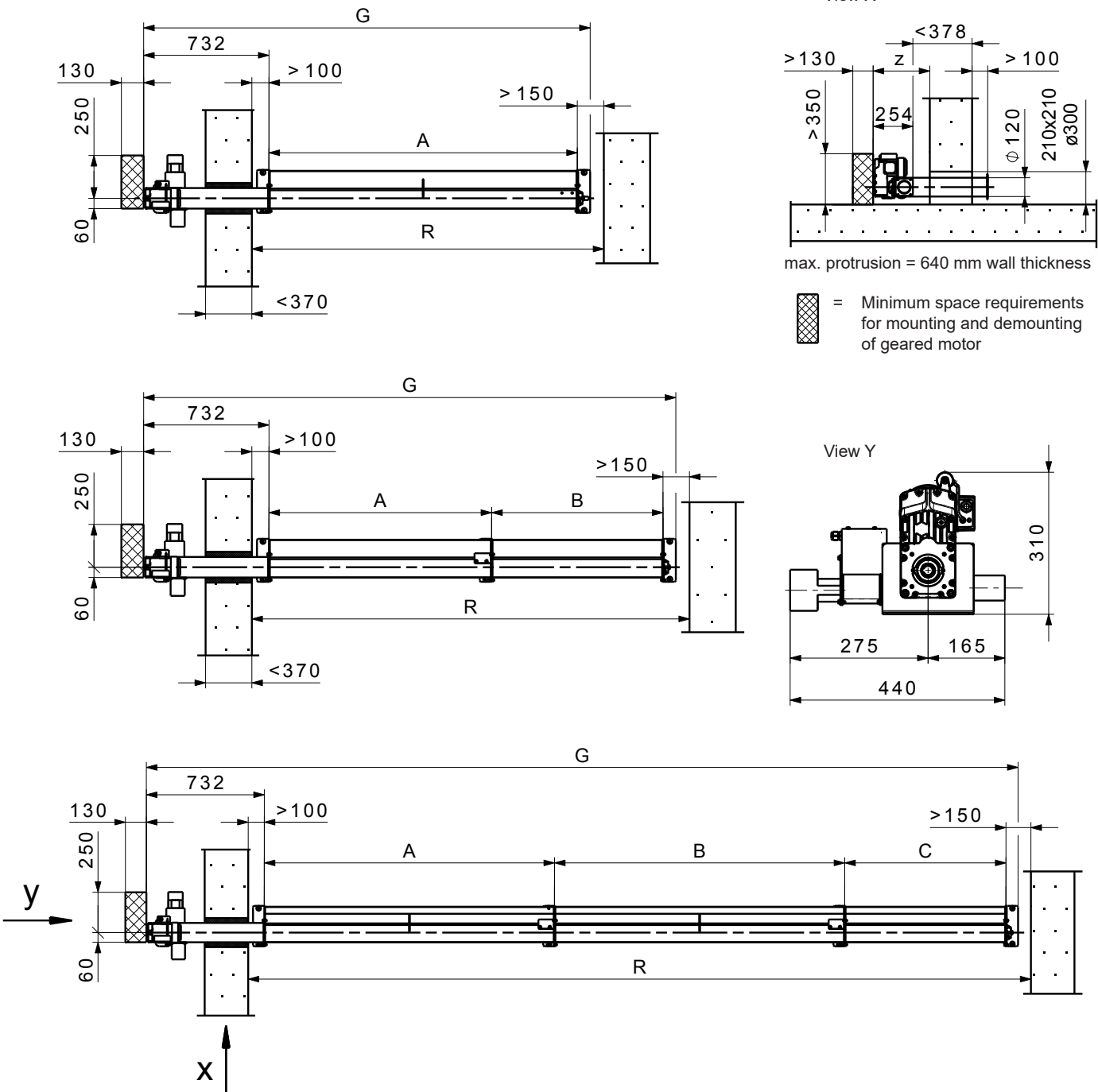
- distance between the suction probes < 1.0 m
- for larger distances, installation of additional slopes between the suction probes and at the ends of the storage room

Suction system with screw extraction for BioLyt (13-43,70-160)

Extraction system RAS 42-x



Conveyor screw
(Dimensions in mm)

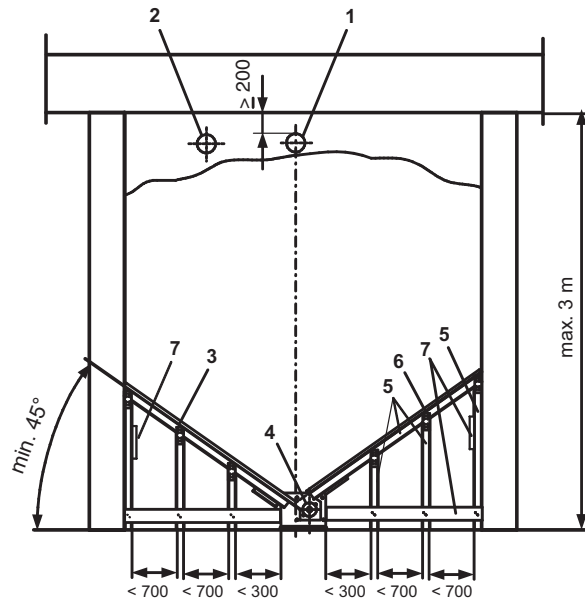


Cross section pellets storage room

(Dimensions in mm)

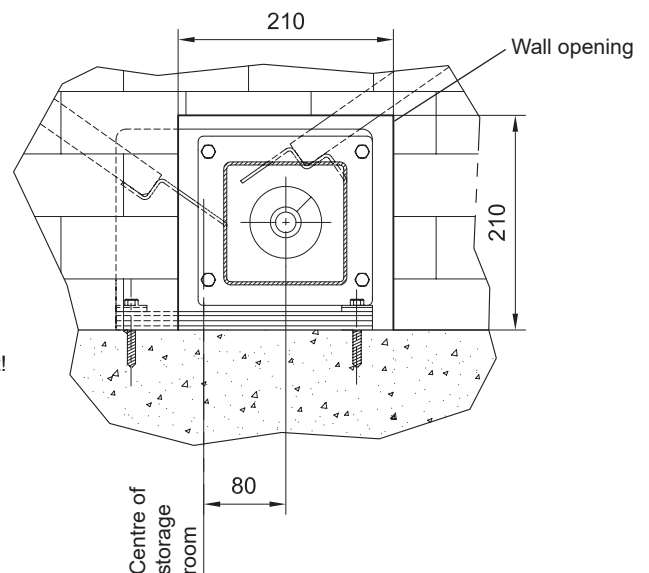
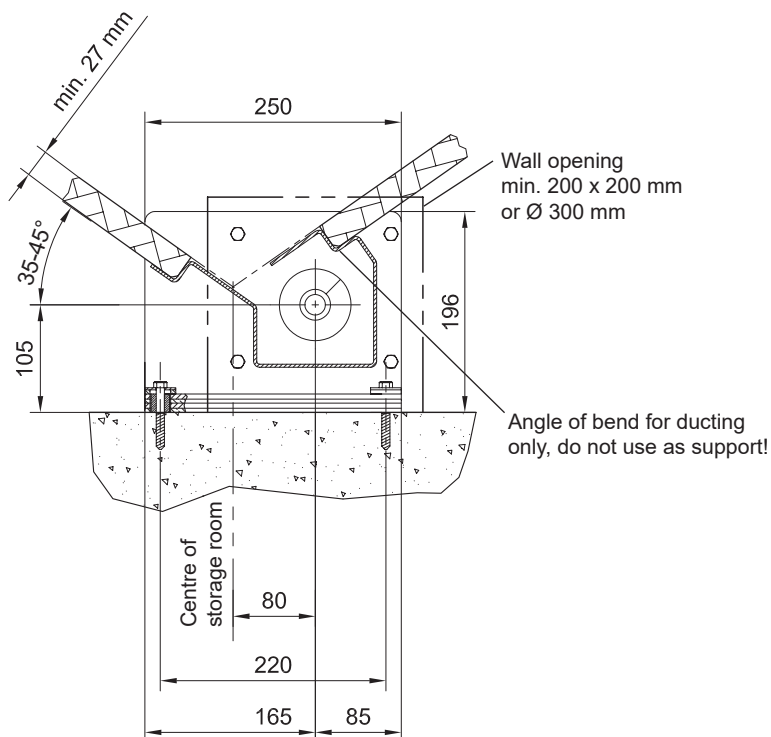
- 1 Pellets entry aperture
- 2 Suction inlet
- 3 Smooth panels at least 27 mm thick or 24 mm raw form work faced with hardboard
- 4 Conveyor screw
- 5 Square timber 80 x 80 mm
- 6 Metal plates
- 7 Wooden board for adjustment

With thicker square timbers larger heights are possible.



Inclined floor connection for conveyor screw

Note that the axis of the extraction screw and the wall opening to the room centre are displaced by 80 mm.



Room discharge suction system with mole Classic for BioLyt (13-25)

Extraction system RAS 74-x

The pellet mole is intended exclusively for the **pneumatic** discharge of wood pellets from a pellet storage room.

The pellet mole consists of a stable steel sheet housing, a synchronous gear motor (with electrical switching logic for change of direction) for connection to 230 V/50 Hz alternating voltage and a suction pipe for suction hoses DN 50 mm (inside). Additionally, a special flexible hose DN 50, cable and hose connections and the complete assembly accessories are contained in the system.

The pellet mole must **not** be spilt during filling of the storage room!

- Pellet mole unit
- Approx. 5 m flexible, antistatic special suction hose DN 50 incl. cable and cable plug-in connection
- Complete assembly accessories

Notice:

The max. working floor area of the mole system is 2.5 x 2.5 m and the height 1.8-3.0 m. If larger or rectangular geometries are involved, small inclines at 45° should be installed to reduce the working area to the maximum dimension or to achieve an approximately square base area. Triangular inclines at 45° can be used in the room corners. In oblong pellet storage rooms, it is also possible to install two hanging hooks (for repositioning). This will allow the rooms to be used and emptied more effectively.



- 1

Connection for suction hose DN 50 (earth the copper spiral)
- 2

Cable H05 BQ- F3G 1.0 with spark-proof screw coupling
- 3

Foot (pellet transport to the suction pipe and movement in the pellets and on the ground)
- 4

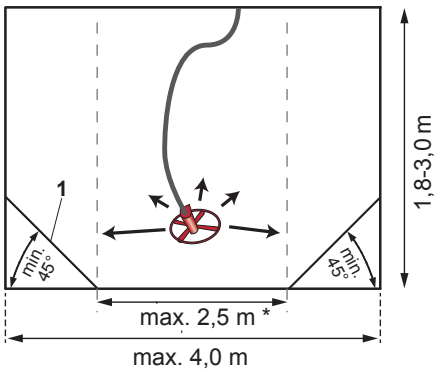
Inlet (concealed)
- 5

Buoyancy ring
- 6

Rotation reducer

Large rooms

(larger than 2.5 x 2.5 m)



1 Plates with very smooth surface, min. 27 mm thick or raw board 24 mm with laminate coating

* For room heights below 2 m, the floor area must not exceed 2 x 2 m.

■ Technical data

Pellet mole Classic

• Delivery rate (depending on suction system, hose length and hose installation)	kg/min	approx. 6
• Suction length (simple) (depending on transport height)	m	approx. 10-25
• Suction hose inner DN	mm	50
• Weight	kg	approx. 4.0
• Diameter	mm	approx. 410
• Height	mm	approx. 270
• Connection voltage		230 V AC/50 Hz
• Power consumption	W	< 30
• Protection class of the motor		F IP 55
• Cable plug-in connection		IP 67
• ATEX unit group		II
• ATEX unit category		3D T100

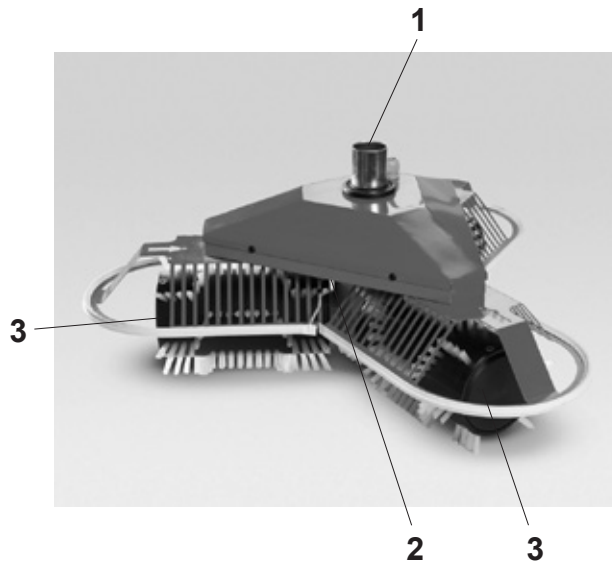
Room discharge suction system with mole unit E3 for BioLyt (13-160)

Extraction system RAS 76

The pellet mole unit E3 is intended exclusively for the **pneumatic** discharge of wood pellets from a pellet storage room.

The base unit of the pellet mole unit E3 consists of a sturdy steel sheet housing with suction pipe DN 50 mm, 3 drive rollers arranged in a star shape as well as the integrated, pre-wired controller with sensors.

Additionally, a special flexible hose DN 50, the electrical connection box, a manual or automatic lifting device (depending on version), several spring balancers as well as cable and hose connections and the complete assembly accessories are contained in the system.



- 1 Suction pipe, connection for suction hose DN 50 (earth with copper stranded wire)
- 2 Inlet (concealed)
- 3 Drive rollers

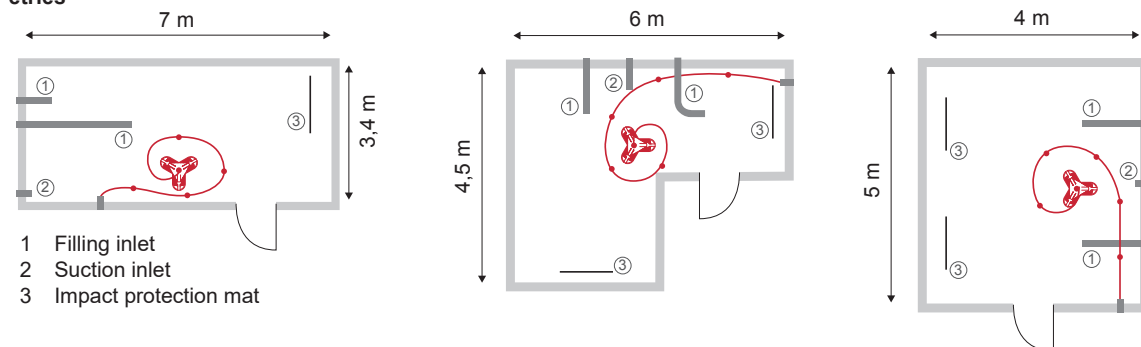
The pellet mole unit E3 must **not** be spilt during filling of the mole tank!

- Pellet mole unit E3 base unit.
- Approx. 8 m flexible, antistatic special suction hose DN 50
- Manual or automatic lifting device
- 3 spring balancers (reinforced design HD: 4 spring-loaded fasteners)
- Connection box, cable and hose connections
- Complete assembly accessories

Notice

The working floor space of the mole unit E3 systems can be highly diverse: round, square, rectangular or even asymmetrical.

Examples of possible storage area geometries



■ Technical data

Pellet mole unit E3

• Delivery rate (depending on hose length and hose installation)	kg/min	up to 15
• Suction length (simple) (depending on transport height)	m	approx. 10-25
• Suction hose inner DN	mm	50
• Weight	kg	14 (reinforced design HD: 19)
• Power consumption	W	< 80

Activation by the 230 V output of the Hoval BioLyt.
Intelligent sensors with microprocessor control.

Maximum possible floor spaces depending on the room heights:

- max. 40 m² with up to 2.5 m room height
- max. 35 m² with up to 3.0 m room height
- max. 25 m² with up to 3.5 m room height

In storage rooms with a room diagonal in excess of 6 m or a room height in excess of 3.0 m, it is additionally necessary to use a spring balancer with extended reach (4.5-m rope) so that the mole unit E3 can reach into all the corners. The storage room is not allowed to have any sloping surfaces, the mole unit E3 requires a horizontal floor and the walls should be vertical if possible (min. 70°).

Safety notices

Entering the pellet storage room or storage tank

Under unfavourable circumstances, it may occur that an increased concentration of harmful gases (such as carbon monoxide) arises in pellet storage rooms, possibly posing a risk when accumulating over a longer period of time. Despite the fact that under normal circumstances, there is no risk at all, one cannot rule out the possibility of such a scenario to occur.

- If work is being carried out in filled storage rooms, a second person must always be present outside the room for security reasons.
- Before entering the pellet storage room, it must always be thoroughly aerated. The storage room must be ventilated for at least 15 minutes. In the case of pellet storage rooms with a volume of more than 10 t, the duration of ventilation must be extended or mechanical ventilation provided.
- No one should enter the storage room in the four weeks following filling. If it is necessary for persons to enter the storage room, the room must be ventilated for at least 2 hours before entering.
- It must be ensured that the storage room door remains open while there are persons inside the storage room.
- Entering fuel storage rooms that have not been aerated (particularly underground tanks) must be avoided, only trained personnel is permitted to do so. Before entering the room or tank, the concentration of CO must be measured (the concentration must be less than 30 ppm). If necessary, thoroughly aerate the storage room or tank before entering it.
- If the storage is difficult to access or if it is accessible only from above (such as underground tanks), the person entering the tank must be additionally secured.
- Keep away children from the pellet storage place!
- If there are moving parts (screw conveyors) in the storage room, turn off the mains switch of the heating system before entering the storage room, as otherwise there is a risk of injury.
- Smoking, naked flames and other possible sources of ignition are prohibited inside the storage room.

Hoval fabric silo for pellets for BioLyt (13-43)

- Fabric silo for pellets consisting of:
 - fabric silo ABS made of antistatic, air-permeable, dust-proof fabric including sewn-in sound insulation and access opening
 - steel frame (galvanised) with bracing and silo cover suspension.
 - Filling ports including Storz A couplings and fixing bracket.
- Extraction unit:
 - Spiral conveyor with connections for pellet conveyor hose and return air pipes Ø 50 mm, with manual emergency pusher.
- For automatic charging of the pellet fired boiler Hoval BioLyt (13-43).
- For installation in boiler room or other suitable rooms.

Delivery

- Fabric silo, steel frame and bracing, spiral conveyor, screws, nuts and accessories on wooden pallet in individual pieces supplied separately packed.

On site

- Bringing in, setting up and installation of the steel frame and fabric silo.

These silos have no return air connection. The air escapes via the fabric (dust-proof) through an air exhaust opening in the installation room (minimum opening 400 cm²).



Silo **without** cone holding frame up to HP 24 x 24



Silo **with** cone holding frame from HP 28 x 28

Type	Storage quantity max. t	Storage contents max. m³
HP 15 x 15/1800/SFA	2.0	3.1
HP 15 x 15/2100/SFA	2.3	3.5
HP 15 x 15/2400/SFA	2.9	4.4
HP 15 x 15/2700/SFA	3.3	5.1
HP 18 x 18/1800/SFA	2.7	4.1
HP 18 x 18/2100/SFA	3.1	4.8
HP 18 x 18/2400/SFA	3.9	6.1
HP 18 x 18/2700/SFA	4.6	7.0
HP 21 x 21/1800/SFA	3.4	5.2
HP 21 x 21/2100/SFA	3.9	6.0
HP 21 x 21/2400/SFA	5.1	7.8
HP 21 x 21/2700/SFA	5.9	9.1
HP 24 x 24/1800/SFA	4.0	6.2
HP 24 x 24/2100/SFA	4.8	7.3
HP 24 x 24/2400/SFA	6.3	9.6
HP 24 x 24/2700/SFA	7.4	11.3
HP 28 x 28/2000/SFA	5.8	8.9
HP 28 x 28/2400/SFA	7.8	12.0
HP 28 x 28/2700/SFA	8.6	13.2
HP 30 x 30/2300/SFA	8.6	13.2
HP 30 x 30/2700/SFA	9.4	14.4
HP 21 x 28/2000/SFA	4.4	6.7
HP 21 x 28/2400/SFA	5.9	9.1
HP 21 x 28/2700/SFA	7.0	10.8

Additional measurements and special solutions
on request



Pellets storage in fabric silo



Silo **without** cone holding frame up to HP 24 x 24



Silo **with** cone holding frame from HP 28 x 28

Hoval fabric silo for pellets

for BioLyt (13-160)

Consisting of:

- Silo made of antistatic fabric
- Steel frame (galvanised) with cross-members
- Suspension for silo cover
- Filling inlet including Storz A couplings
- Spiral conveyor with connection for pellets hoses
- Installation material

Delivery

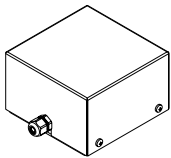
- Fabric silo supplied separately packed without bringing in and setting up

Fabric silo for pellets

Type HP	Frame Dimensions ¹ W x D [m]	Min. room height [m]	Max. quantity stored t	Part No.
15 x 15/1800/SFA	1.6 x 1.6	2.0	2.0	6025 590
15 x 15/2100/SFA	1.6 x 1.6	2.3	2.3	6025 591
15 x 15/2400/SFA	1.6 x 1.6	2.6	2.9	6025 592
15 x 15/2700/SFA	1.6 x 1.6	2.9	3.3	6025 593
18 x 18/1800/SFA	1.9 x 1.9	2.0	2.7	6025 594
18 x 18/2100/SFA	1.9 x 1.9	2.3	3.1	6025 595
18 x 18/2400/SFA	1.9 x 1.9	2.6	3.9	6025 596
18 x 18/2700/SFA	1.9 x 1.9	2.9	4.6	6025 597
21 x 21/1800/SFA	2.2 x 2.2	2.0	3.4	6025 598
21 x 21/2100/SFA	2.2 x 2.2	2.3	3.9	6025 599
21 x 21/2400/SFA	2.2 x 2.2	2.6	5.1	6025 600
21 x 21/2700/SFA	2.2 x 2.2	2.9	5.9	6025 601
24 x 24/1800/SFA	2.5 x 2.5	2.0	4.0	6025 602
24 x 24/2100/SFA	2.5 x 2.5	2.3	4.8	6025 603
24 x 24/2400/SFA	2.5 x 2.5	2.6	6.3	6025 604
24 x 24/2700/SFA	2.5 x 2.5	2.9	7.4	6025 605
28 x 28/2000/SFA	2.9 x 2.9	2.2	5.8	6025 606
28 x 28/2400/SFA	2.9 x 2.9	2.6	7.8	6025 607
28 x 28/2700/SFA	2.9 x 2.9	2.9	8.6	6025 608
30 x 30/2300/SFA	3.1 x 3.1	2.5	8.6	6025 609
30 x 30/2700/SFA	3.1 x 3.1	2.9	9.4	6025 610
21 x 28/2000/SFA	2.2 x 2.9	2.2	4.4	6025 611
21 x 28/2400/SFA	2.2 x 2.9	2.6	5.9	6025 612
21 x 28/2700/SFA	2.2 x 2.9	2.9	7.0	6025 613

¹⁾ Minimum distance to wall: Width/depth + 100 mm
Filling side + 800 mm

Additional silos with different dimensions and special solutions, e.g. cascades (also for large systems) on request



RAS 48-4 control switch for fabric silo for pellets

for avoiding blockage of the screw head piece in case of fault

6038 149

Motor connecting cable

for connecting the screw motor with a robust plug. For simple removal of the motor in case of a fault. Mandatory if control switch is ordered as well.

6038 159

Accessories for pellets extraction system

Part No.



Pipe extension DN 100
for extending the filling and suction line

- L = 50 mm
- L = 200 mm
- L = 500 mm
- L = 1000 mm
- L = 2000 mm

- 6034 942
- 6025 614
- 6025 615
- 6025 616
- 6034 973



Pipe bend DN 100
for adapting the filling and suction line
Radius 200 mm

- 15° bend
- 30° bend
- 45° bend
- 90° bend

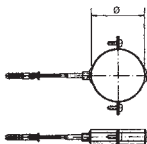
- 6034 974
- 6025 619
- 6025 618
- 6025 617

Pipe bend DN 100, 5° and 60°
on request



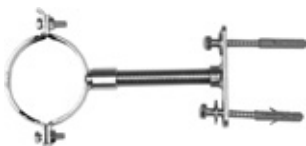
Clamping ring
for connecting the flange pipes
Electrically conductive between the
connected flange pipes.

- 6034 975



Pipe clamp E100 RAS 27-1
for ceiling mounting
including M8 metal dowels

- 641 160



Pipe clamp massive E100 RAS 27-2
for wall mounting

- 6013 129



Forwarding and return air pipe RAS 23
earthed, DN 51
Reinforced design for plants with delivery rates
exceeding 20 tons per year

- 15 m roll
- 25 m roll
- 15 m roll, reinforced design
- 25 m roll, reinforced design

- 2051 655
- 247 209
- 2051 656
- 2038 754

Accessories for pellets extraction system



Pipe bend 90°
for pellet conveyor hose for routing of hoses with a radius smaller than 30 cm. For plants with a pellet throughput of more than 40 t/a, the use of a bend as 90° deflection, also for a radius larger than 30 cm, is recommended. Consisting of bend 90° and hose fixing clips. Ø 50, across corners dimension 250 mm



Fire protection sleeves RAS 29
needed where forwarding and return air pipes must be directed through walls. The spread of fire from one room to another is prevented. 2 pieces incl. fittings

Part No.

6031 960

6014 716

Fabric silo for pellets

Type			HP 15 x 15/1800/SFA ¹	HP 15 x 15/2100/SFA	HP 15 x 15/2400/SFA	HP 15 x 15/2700/SFA
• Contents		t	2.0	2.3	2.9	3.3
		m ³	3.1	3.5	4.4	5.1
• Outer dimensions ²	width	m	1.6	1.6	1.6	1.6
	depth	m	1.6	1.6	1.6	1.6
	height	m	1.8	2.1	2.4	2.7
• Min. room height		m	2.0	2.3	2.6	2.9
• Cone holding frame	with/without		without	without	without	without
• Filling inlet	number		1	1	1	1
	position		centred	centred	centred	centred

Type			HP 18 x 18/1800/SFA ¹	HP 18 x 18/2100/SFA	HP 18 x 18/2400/SFA	HP 18 x 18/2700/SFA
• Contents		t	2.7	3.1	3.9	4.6
		m ³	4.1	4.8	6.1	7.0
• Outer dimensions ²	width	m	1.9	1.9	1.9	1.9
	depth	m	1.9	1.9	1.9	1.9
	height	m	1.8	2.1	2.4	2.7
• Min. room height		m	2.0	2.3	2.6	2.9
• Cone holding frame	with/without		without	without	without	without
• Filling inlet	number		1	1	1	1
	position		centred	centred	centred	centred

Type			HP 21 x 21/1800/SFA ¹	HP 21 x 21/2100/SFA	HP 21 x 21/2400/SFA	HP 21 x 21/2700/SFA
• Contents		t	3.4	3.9	5.1	5.9
		m ³	5.2	6.0	7.8	9.1
• Outer dimensions ²	width	m	2.2	2.2	2.2	2.2
	depth	m	2.2	2.2	2.2	2.2
	height	m	1.8	2.1	2.4	2.7
• Min. room height		m	2.0	2.3	2.6	2.9
• Cone holding frame	with/without		without	without	without	without
• Filling inlet	number		1	1	1	1
	position		centred	centred	centred	centred

Type			HP 24 x 24/1800/SFA ¹	HP 24 x 24/2100/SFA	HP 24 x 24/2400/SFA	HP 24 x 24/2700/SFA
• Contents		t	4.0	4.8	6.3	7.4
		m ³	6.2	7.3	9.6	11.3
• Outer dimensions ²	width	m	2.5	2.5	2.5	2.5
	depth	m	2.5	2.5	2.5	2.5
	height	m	1.8	2.1	2.4	2.7
• Min. room height		m	2.0	2.3	2.6	2.9
• Cone holding frame	with/without		without	without	without	without
• Filling inlet	number		2	2	2	2
	position		Distance 1200 mm	Distance 1200 mm	Distance 1200 mm	Distance 1200 mm

¹ SFA = Spiral conveyor system² Minimum space requirements:

Wall clearances: frame dimension + at least 100 mm, at least 800 mm

Minimum room height = frame height + 200 mm

Type			HP 28 x 28/2000/SFA ¹	HP 28 x 28/2400/SFA	HP 28 x 28/2700/SFA
• Contents		t	5.8	7.8	8.6
		m ³	8.9	12.0	13.2
• Outer dimensions ²	width	m	2.9	2.9	2.9
	depth	m	2.9	2.9	2.9
	height	m	2.0	2.4	2.7
• Min. room height		m	2.2	2.6	2.9
• Cone holding frame	with/without		with	with	with
• Filling inlet	number		2	2	2
	position		Distance 1400 mm	Distance 1400 mm	Distance 1400 mm

Type			HP 30 x 30/2300/SFA ¹	HP 30 x 30/2700/SFA
• Contents		t	8.6	9.4
		m ³	13.2	14.4
• Outer dimensions ²	width	m	3.1	3.1
	depth	m	3.1	3.1
	height	m	2.3	2.7
• Min. room height		m	2.5	2.9
• Cone holding frame	with/without		with	with
• Filling inlet	number		2	2
	position		Distance 1500 mm	Distance 1500 mm

Type			HP 21 x 28/2000/SFA ¹	HP 21 x 28/2400/SFA	HP 21 x 28/2700/SFA
• Contents		t	4.4	5.9	7.0
		m ³	6.7	9.1	10.8
• Outer dimensions ²	width	m	2.2	2.2	2.2
	depth	m	2.9	2.9	2.9
	height	m	2.0	2.4	2.7
• Min. room height		m	2.2	2.6	2.9
• Cone holding frame	with/without		with	with	with
• Filling inlet	number		1	1	1
	position		centred narrow side	centred narrow side	centred narrow side

¹ SFA = Spiral conveyor system

² Minimum space requirements:

Wall clearances: frame dimension + at least 100 mm, at least 800 mm

Ceiling clearance: minimum room height = frame height + 200 mm

Extraction unit

Motor spiral conveyor: 250 W

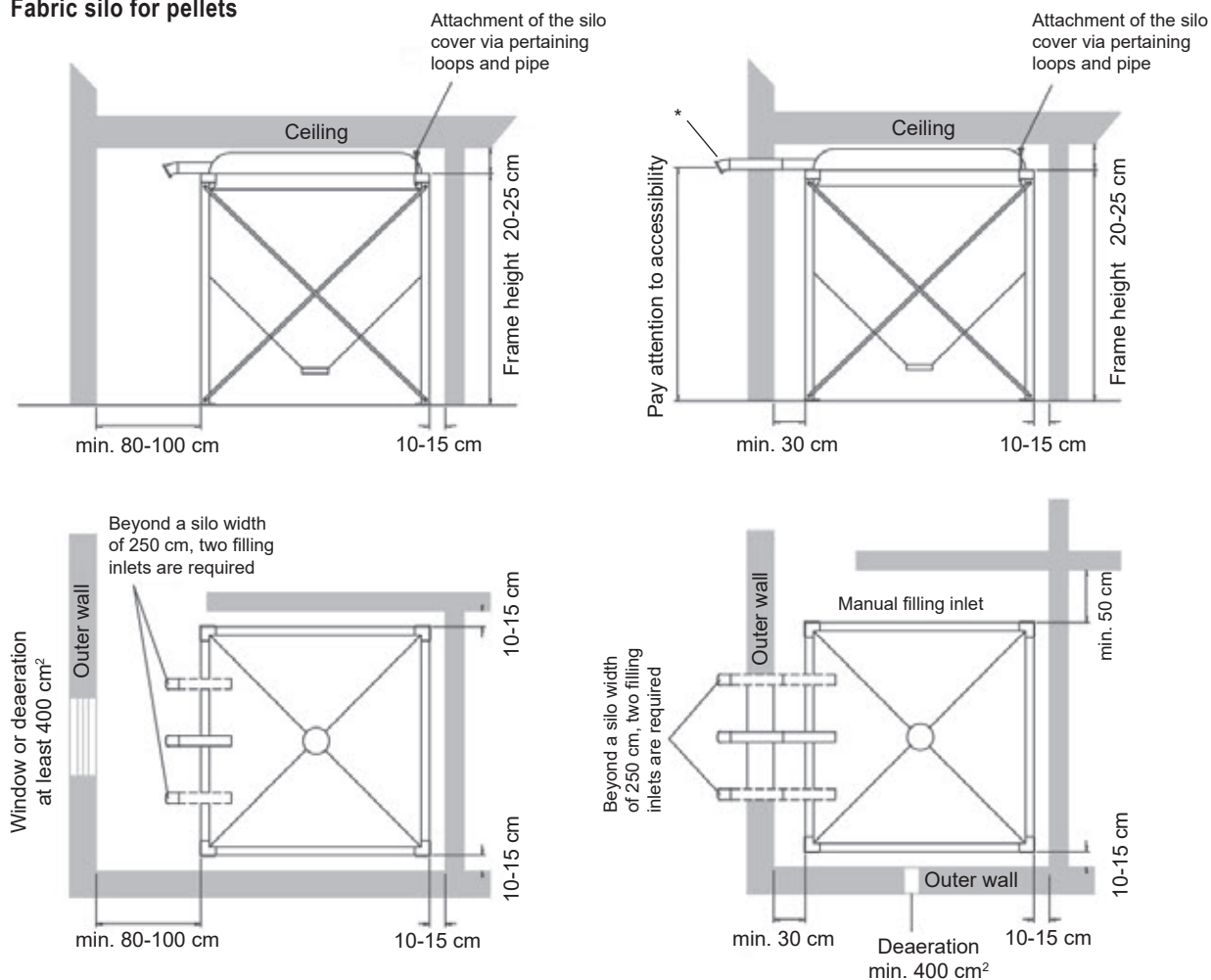
Speed: 57 rpm

Electrical connection: 230 V/1.75 A/IP54

Maximum delivery rate: 290 kg/h

Space requirements

Fabric silo for pellets



* Pipe axis = frame height + 106 mm

The manual filling connection is located on the filling side as a standard. Deviations must be stated in the order.

Fabric silo for pellets

Scope of use

The fabric silo may only be used for storage of wood pellets according to EN 14961-2 resp. EN plus A1.

Selecting the silo size

- Ideally the silo should accommodate a year's supply of pellets.
- Guide value pellets consumption: 400-500 kg per kW heating load
- The selection is based on the available space (floor area, height).

Installation room

Depending on the local regulations storage containers of pellets can be maintained:

- In a separate, fire resistant storage room (F90/REI90)
or
- directly in the boiler installation room

Notice

- VKF fire protection declaration for pellet-burning boilers 05.05.2003/ 106-03d.
- DIN EN ISO 20023 "Safe handling and storage of wood pellets in residential and other small-scale applications".

The following distances must be complied with between the silo frame and walls for the rear ventilation, for protection against mechanical damage and for the accessibility when filling:

Wall clearances:

Frame dimension + at least 100 mm;
for the filling side at least 800 mm

Ceiling clearance:

Frame dimension + at least 200 mm

- The fabric may not have contact with the walls nor with sharp or pointed objects.
- To protect the cover fabric of the silo during filling, there must be no pointed or sharp edges on the room ceiling.
- The fabric must be protected from direct sunlight.
- Moist side walls are permitted if the set-up room is ventilated and if ceiling as well as set up surfaces are dry.

Room ventilation

A ventilation opening of min. 400 cm², nonlockable, is required to prevent a dangerous CO concentration in the installation room, and to allow the transport air to escape into the atmosphere during the filling procedure.

The blown-in air escapes through the cover fabric of the silo. Thus, no extraction of the blown-in air is necessary during filling of the silo.

Access

The room where the container is installed should be secured against improper access (e.g. children and pets).

Set-up area

The floor must be capable of bearing the load. Observe the point loading at the support legs! Special care should be taken with layered floors, e.g. concrete - thermal insulation - screed!

Floor: level and dry

Placement out of doors

As well as the requirements noted, the following should be observed:

- Protection from rain, snow, humidity and direct sunlight (container must be boarded on all sides).
- Locally applicable fire regulations (minimum distances, fire protection zones).

Filling

- The fabric silo can be filled directly from the tanker by installing a filling hose.
- For easier filling the filling connector can also be mounted on the outside wall. To this end the ducts to the fabric tank must be extended, fixed and connected to equipotential bonding on site.

Filling pressure

The filling pressure should amount to between 0.3 bar (approx. 10 m hose length) and 0.6 bar (approx. 30 m hose length). The max. filling pressure may not exceed 0.8 bar.

Extraction system (automatic pellet supply)

Only pipes supplied by Hoval may be used.

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

- Lay pipes as level as possible, without any dead ends, minimum bend radius 30 cm. Protect from sunlight and exposure to temperatures above 60 °C.
- Do not use more than one section for the input pipe.
- All pipes must be earthed at both ends.

Fire protection sleeves

Fire protection sleeves are required for the wall feedthroughs of the hoses in the boiler room. If the hoses are run through intermediate rooms, additional fire protection sleeves RAS 29 (see Accessories) are necessary on the wall of the storage room on both sides.

Delivery of pellets with the tanker

- When positioning the couplings it should be noted that the pipe length between the tanker and the pellets inlet can be a maximum of 30 m.
- Before the new pellets are introduced the heating system should be properly shut down. Notices indicating this should be placed at the filling point and in the boiler room.
- The connecting sections and ducts should be metal and secured against static charging. The connection on the potential equalisation must be earthed.
- Filling ducts which are led through rooms where there is an increased danger of fire (garage, boiler room) must be clad with fire resistant material (requirements of fire category F90/L90).

Installation instructions

Please note the contents of the installation instructions.