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European Technical Assessment

ETA-11/0461
of 15.03.2021

General part

Technical Assessment Body issuing the European Technical Assessment

Österreichisches Institut für Bautechnik (OIB)
Austrian Institute of Construction Engineering

Trade name of the construction product

Schiedel KINGFIRE

Product family to which the construction product belongs

Kit for system stove-chimney with clay/ceramic
flue liner and integrated stove unit

Manufacturer

Schiedel GmbH
Friedrich-Schiedel-Straße 2-6
4542 Nußbach
Austria

Manufacturing plant

Schiedel GmbH & Co. KG
Am Wachhübel 2
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Germany

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An der Donaubrücke 2
89155 Erbach
Germany

This European Technical Assessment con- tains

73 pages including Annexes 1 to 3 which form an
integral part of this assessment.

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

European Assessment Document (EAD)
EAD 060009-00-0802, Kit for system stove -
chimney consisting of chimney kit with
clay/ceramic flue liner and integrated stove unit

This European Technical Assessment replaces

European Technical Assessment
ETA-11/0461 of 19.11.2018

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Specific parts

1

Technical description of the product

Schiedel KINGFIRE as system stove-chimney with clay/ceramic flue liner is operating with an integrated roomsealed stove, whereas the products of combustion are launched vertically in the chimney system.

The chimney kit is related to the following classifications: T 400 N1 D3 G50.

The kit for system stove-chimney consists of a chimney kit with clay/ceramic flue liner (defined in Table 1) and an integrated stove unit (defined in Table 2), whereas the stove unit acts as roomsealed heating appliance. The integrated stove-unit is used with/without water-run elements for the fuel types split logs and pellets with the trade names according to the details given in the Table 2 below.

Table 1: Types of chimney kit used in Schiedel Kingfire

Trade name	Schiedel ABSOLUT/ ABSOLUT PARAT	Schiedel SIH/ SIH PARAT	Schiedel ADVANCE/ ADVANCE PARAT	Schiedel ABSOLUT PLUS/ ABSOLUT PLUS PARAT
Outer wall without outer wall element made of concrete and foam glass partition	Yes	Yes	Yes	Yes
Outer wall with outer wall element made of concrete and foam glass partition	Yes	No	No	No
Outer wall without outer wall element made of cement bounded expanded glass	Yes	Yes	Yes	Yes
Outer wall with outer wall element made of cement bounded expanded glass	No	No	No	Yes
Outer wall with surface treatment made of foamed concrete	Yes	No	No	Yes
Thermal insulation between outer wall and flue liner	No	Yes	Yes	No
Type of the flue liner	Profiled spigot and socket pipe	Rebated pipe	Profiled spigot and socket pipe	Profiled spigot and socket pipe

Table 2: Stove-units used in Schiedel KINGFIRE

Trade name	CLASSICO S LINEARE S RONDO S LINEARE SC RONDO SC	GRANDE S GRANDE SC	AQUA S	AQUA PS
Fuel type	Split log	Split log	Split log	Split log (main heating appliance) Pellets (additional heating appliance)
Water run elements	--	--	Yes	Yes
Unit height [m]	2,64 2,74 2,86 2,96	2,86 2,96	2,86 2,96	2,86 2,96
Intended use	Intermittent burning appliance to be used with closed stove opening for roomheating of buildings			
Performances	Table 7a in this ETA	Table 7a in this ETA	Table 7b in this ETA	Table 7c in this ETA

Details regarding the design of the stove units are depicted in Annex 1 of this ETA.

The chimney kit with clay/ceramic flue liner for multiwall sootfire resistant chimneys, as defined for Schiedel ABSOLUT, Schiedel ABSOLUT PLUS, Schiedel SIH, Schiedel ADVANCE, Schiedel ABSOLUT PARAT, Schiedel ABSOLUT PLUS PARAT, Schiedel SIH PARAT, Schiedel ADVANCE PARAT, is working under dry conditions, with corrosion resistance class 3 according to EN 1443, Clause 4.5, operating under negative pressure and a working temperature class T400 according to EN 1443, Clause 4.2. The components of the chimney kit are defined in Table 10 in Annex 2 of this ETA.

Schiedel ABSOLUT PARAT, Schiedel ABSOLUT PLUS PARAT, Schiedel SIH PARAT, Schiedel ADVANCE PARAT is erected on site by assembling of storey height units whereas the height of the units is up to 8,00 m.

The chimney kit acts as air flue system (side by side) for roomsealed appliances. Due to the fact that the chimney kit itself does not contain an inspection door, products according to this ETA are manufactured in the following way:

- For CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, GRANDE S, GRANDE SC and AQUA S the door of the stove-unit (combustion chamber) is taking over the function of the inspection door by means of equivalent performance to the performance of an inspection door.
- For AQUA PS the inspection opening in the connection elements, depicted in Annex 1, Figure 202, item 6 in the list of elements, is used as inspection opening for removal of the residue in case of sweeping the flue liner.
- Inspection of the chimney kit and of the stove unit is provided by appropriate measures (e.g. optional upper inspection door in the chimney kit, inspection opening in the stove unit, accessibility for inspection by means of appropriate design of the stove-unit).
- Covering of the chimney kit in order to prohibit wetness of the combustion collector and of the chimney kit.

Schiedel KINGFIRE is consisting of the following components:

Chimney kit (optionally as storey height units):

- clay/ceramic flue liner with internal diameter of
 - 0,14 m, 0,16 m and 0,18 m (Schiedel ABSOLUT/ ABSOLUT PARAT, Schiedel ABSOLUT PLUS/ ABSOLUT PLUS PARAT);
 - 0,18 m (Schiedel SIH/ SIH PARAT, Schiedel ADVANCE/ADVANCE PARAT)
- chimney fittings made of clay/ceramic
- outer wall made of concrete in case of Schiedel SIH/ SIH PARAT and Schiedel ADVANCE/ADVANCE PARAT or concrete including specific surface treatment in case of Schiedel ABSOLUT/ ABSOLUT PARAT, Schiedel ABSOLUT PLUS/ ABSOLUT PLUS PARAT; the surface treatment is made of foamed concrete in order to improve the thermal resistance of the kit
- thermal insulation made of mineral wool (in case of Schiedel SIH/SIH PARAT and Schiedel ADVANCE/ADVANCE PARAT)
- mortar for jointing outer walls and foam glass partition and cement bounded expanded glass elements
- mortar for jointing flue liners
- grout for outer walls (in case of storey height units)
- reinforcement and related ancillaries (in case of storey height units)
- optional outer wall element made of concrete and foam glass partition or of a cement bounded expanded glass, named "Thermo-Trennstein", according to Table 1 in this ETA and depicted in Figures 1, 2 in Annex 1 of this ETA, and including specific surface treatment; the surface treatment is made of foamed concrete according to Table 1 in this ETA
- upper cleaning door (as an optional equipment)
- closing devices in case of more than one heating appliance (optional, depending on intended use)
- covering made of metal, consisting of three elements in order to prohibit wetness of the stove-element and of the chimney kit as a whole

Stove unit, manufactured as storey height unit:

- outer wall made of steel fibres reinforced concrete
- covering plate and socket for the stove-unit, made of concrete
- stove elements for fuel types split log and pellets
- additional heating appliance for fuel type pellets
- thermal protection shield, made of metal and including thermal insulation made of mineral wool, as an optional component for the stove-units CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, GRANDE S and GRANDE SC
- thermal insulation material consisting of mineral wool (optional component), applied between the outer wall(s) and the stove unit and/or within the stove unit
- grout for the connection of the covering-plate to the outer wall of stove-unit
- reinforcement and related ancillaries
- connecting elements made of metal, in addition operating in the sense of heat exchanger
- water run elements for the stove-units AQUA S and AQUA PS
- door for opening of the stove-unit, consisting of metal frame and glass filling material
- additional inspection door in case of stove unit AQUA PS
- air flue pipe made of metal
- temperature resistant sealants and seals
- pellets storage box made of steel fibres reinforced concrete in case of stove-unit AQUA PS

The components of the stove-unit are defined in Table 11 in Annex 2 of this ETA.

Specific terms used in this ETA are defined in Clause 1.3 in the EAD referred to.

Drawings of Schiedel KINGFIRE and its components are given in Annex 1 of this ETA.

The connection of the chimney kit to the stove-unit is depicted in Annex 1, Figures 9a, 9b and 9c. Depending on individual design situation (e.g. wind loads), the connection of the storey height unit of the chimney kit with the stove-unit is done by means of rigid connections as depicted in Annex 1, Figure 10.

Schiedel KINGFIRE is operating with an integrated roomsealed stove, whereas the door of the stove-unit is taking over the function of the inspection door in case of stove units CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, GRANDE S, GRANDE SC and AQUA S. The inspection of the chimney kit and of the connection elements is provided by appropriate measures in the stove-unit, depicted in Annex 1, Figures 6a, 6b, 6c, 103, 202 and Figure 305. Therefore, separate inspection openings are not foreseen in the stove-unit. According to its design, the connecting elements ensure that remaining combustion products (soot, ash) will be led automatically to the stove-element, which takes over the function of the collector for combustion products. Wetness of the stove-element is prohibited by means of a covering depicted in Annex 1, Figure 16. Within the stove-unit convection openings, depicted in Annex 1, are foreseen for ventilation. For proper functioning in the area of ceiling penetration, the covering plate is equipped underneath with thermal insulation material as used for the heat plate, depicted in Annex 1, Figures 9a, 9b, and 9c. The insulation material is kept in its position by means of a distance holder, made of metal, defined in Annex 1, Figures 9a, 9b, and 9c and addressed in Annex 2 of this ETA.

Due to design without water run elements the stove-units CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, GRANDE S and GRANDE SC of Schiedel KINGFIRE may be equipped with a heat plate, made of metal, applied on the inner surface of the back of the stove unit. If so, in addition the external back of the outer wall of the stove unit is equipped with a thermal insulation board, made of a mineral wool board, in order to offer the possibility of non-ventilated design situation in the back of the stove-unit. This additional thermal insulation board may be used in case of design with stove-units CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, GRANDE S and GRANDE SC. The design of the heat plate and position of the insulation board is done according to the technical documentation and is depicted in Annex 1, Figures 4a, 4b, 4c and 304b.

RONDO S / LINEARE S differs from RONDO SC / LINEARE SC in the design of the air flue pipe, the position of the connecting elements, the tightness of the door for opening the stove-unit and the dimension of the convection opening in the lower part of the stove-unit.

GRANDE S differs from GRANDE SC in the design of the lining of the combustion chamber with combustion air baffles on the lower –and upper side of the opening of the stove-unit and the size of the combustion gas baffle.

In case of stove-units Schiedel Kingfire AQUA S and AQUA PS connecting elements are also used for connection of the water heat exchanger and the air heat exchanger and are depicted in Annex 1, Figures 103, 104, 201 and 202. Material properties are defined in Annex 2. In addition, the stove-units Schiedel Kingfire AQUA S and AQUA PS are equipped with an appropriate device in order to enable the connection of additional equipment for control of the allowable temperature in the water run elements, depicted in Annex 1, Figure 104 and 202.

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on the transport, storage, maintenance, replacement and repair of the product, as he considers necessary.

2 Specification of the intended use(s) in accordance with the applicable EAD

Schiedel KINGFIRE is intended to be used for the following intended uses:

- heating rooms and buildings respectively
- conveyance of the products of combustion from appliances to the outside atmosphere

Designation of the chimney kit is done on basis of the following information according to EN 1443:

- Temperature class
- Pressure class
- Condensate resistance class
- Corrosion resistance class
- Sootfire resistance class, followed by a distance to combustible materials

The designation of the stove-unit is done on basis of the following information:

- Type of product and intended use
- Minimum distances to combustible materials in all directions in mm
- Emission of combustion products
- Maximum operating pressure in case of water run components [bar]
- Fluegas temperature [°C] according to EN 13240 /EN 14785
- Nominal heating performance [kW]
- Efficiency of heating appliance
- Declaration of type of solid fuel

The provisions made in this European Technical Assessment are based on an intended working life for the intended use of 30 years, provided that the kit is subject to appropriate use and maintenance.

It is the responsibility of the manufacturer to ensure that each delivery contains proper information for the use of the kit including general guidance on the basis of the European Technical Assessment. Elements, which normally are to be expected for a shorter intended working life, are: Elements within the stove-units, connecting elements (including heat exchanger and water run elements, safety devices etc.), cleaning doors, coverings on top of the chimney kit. Schiedel KINGFIRE is designed in a way that these components are exchangeable.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the appropriate product in relation to the expected, economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Performance of the product

Basic requirements for construction works	Essential characteristics	Method of assessment	Performance
BWR 2	Reaction to fire for the components of the system stove-chimney	EAD, Clause 2.2.1.1	Table 11 in Annex 2 in this ETA
	Resistance to fire from internal to external (soot-fire resistance and thermal shock resistance) Fuel type split logs, pellets (Chimney-kit)	EAD, Clause 2.2.1.2	Class G50 In conjunction with Clause 3.1.1 in this ETA, including Table 4
	Minimum distances to combustible materials in all directions (Stove-unit)	EAD, Clause 2.2.1.3	Table 5 and Table 5a/ 5b in Clause 3.1.2 in this ETA
BWR 3	Gas tightness/leakage (Chimney-kit)	EAD, Clause 2.2.1.7	Class N1
	Flow resistance (Chimney-kit)	EAD, Clause 2.2.1.8 Flue liner	Mean roughness $r = 0,0015 \text{ m}$
		EAD, Clause 2.2.1.8 Chimney fittings	Conforming to the values given in EN 13384-1, Table B.8, Numbers 1 to 5
		EAD, Clause 2.2.1.8 Air flue duct	Mean roughness $r = 0,003 \text{ m}$
		EAD, Clause 2.2.1.8 Air inlet in the covering	Conforming to the values given in EN 13384-1, Table B.8, Number 11
	Thermal resistance (Chimney-kit)	EAD, Clause 2.2.1.9	Tables 6a, 6b, 6c, 6d in Clause 3.1.3 in this ETA
	Durability/Condensate resistance (Chimney-kit)	EAD, Clause 2.2.1.10	Class D
	Durability of gas tightness/leakage against chemicals/ corrosion (Chimney-kit) Durability of compressive strength against chemicals (Chimney-kit)	EAD, Clause 2.2.1.11	Class "3"
	Electrical safety, where relevant (Stove-unit)	EAD, Clause 2.2.1.12	Fulfilled, as detailed in Clause 3.1.4 in this ETA b
	Emissions of combustion products (Stove-unit)	EAD, Clause 2.2.1.13	Tables 7a, 7b and 7c in Clause 3.1.5 in this ETA this ETA
	Maximum operating pressure in case of water run components (Stove-unit)	EAD, Clause 2.2.1.14	Stove unit AQUA S: 2,5 bar Stove unit AQUA PS: 3,0 bar
	Nominal heating performance/ Efficiency of heating appliance (Stove-unit)	EAD, Clause 2.2.1.15	Tables 7a, 7b and 7c in Clause 3.1.5 in this ETA

Basic requirements for construction works	Essential characteristics	Method of assessment	Performance
BWR 3	Tightness of the stove-unit (Stove-unit)	EAD, Clause 2.2.1.16	Clause 3.1.6 in this ETA this ETA, including Tables 8a and 8b
	Cleanability (in case of use of pellets) (Stove-unit)	EAD, Clause 2.2.1.17	Fulfilled, Clause 3.1.7 in this ETA
	Durability (in case of use of pellets) (Stove-unit)	EAD, Clause 2.2.1.18	Clause 3.1.8 in this ETA
BWR 4	Maximum height (System-stove chimney)	EAD, Clause 2.2.1.19 and Clause 2.2.3.1.4	Assembled system stove-chimney with chimney kit Schiedel ABSOLUT/ ABSOLUT PARAT: max.42 m Assembled system stove-chimney with chimney kit Schiedel ABSOLUT PLUS/ ABSOLUT PLUS PARAT: max.42 m Assembled system stove-chimney with chimney kit Schiedel SIH/ SIH PARAT: max.35 m Assembled system stove-chimney with chimney kit Schiedel ADVANCE/ ADVANCE PARAT: max.35 m
			Above outer wall element made of foam glass partition "Thermo-Trennstein": max. 15 m Above outer wall element made of cement bonded expanded glass "Thermo-Trennstein": max.15 m
	Freeze/thaw resistance (Chimney-kit)	EAD, Clause 2.2.1.20	Flue liner and outer wall: Resistant

3.1.1

Resistance to fire from internal to external (sootfire resistance and thermal shock resistance) (Chimney-kit)

Resistance to fire from internal to external of the assembled system according to EN 13063-1, clauses 5.2.1.2 and 5.2.1.3 (including sootfire resistance and thermal shock resistance), is G50.

Results and conditions for the assessment with respect to increased thermal insulation of walls and ceilings are detailed in Table 4 in this ETA.

Table 4: Overview of the thermal performances assessed with increased thermal insulation

Chimney-kit	Position of in-creased thermal insula-tion	Thick-ness of thermal insula-tion ¹	Gap between chimney and combustible wall	Floor penetration
Schiedel ABSO-LUT/ ABSOLUT PARAT, Schiedel SIH/SIH PARAT ADVANCE / AD-VANCE PARAT ABSOLUT PLUS/ ABSOLUT PLUS PARAT T400 N1 D3 G50	Walls	Up to 400 mm	Ventilated or closed (mineral wool)	
	Floor penetra-tion	Up to 600 mm		Ventilated or closed (mineral wool)
	Roof penetra-tion	Up to 600 mm		

¹ Referring to mineral wool with thermal conductivity of 0,035 W/(m.K) ± 0,002 W/(m.K) and density 100 kg/m³

For assessment hot gas velocity as defined in EN 13216-1:2004-09.

3.1.2 Minimum distances to combustible materials in all directions (Stove-unit)

Table 5: Minimum distance to burnable materials of the stove units Schiedel Kingfire CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, AQUA S, AQUA PS

Type/Location of distance	Minimum distance (mm)
Distance to the back wall of the stove-unit with integrated thermal protection shield (non ventilated) Applies to Schiedel Kingfire CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC	0 mm with integrated insulation made of mineral wool with bulk density of $\geq 65 \text{ kg/m}^3$ and thermal conductivity = $0,032 \text{ W/mK}$, applied to the outer wall
Distance to the back wall of the stove-unit with integrated thermal protection shield (non ventilated) Applies to Schiedel Kingfire AQUA S, AQUA PS	0 mm with integrated insulation made of mineral wool with bulk density of $\geq 115 \text{ kg/m}^3$ and thermal conductivity = $0,035 \text{ W/mK}$, applied to the outer wall
Distance to the back wall of the stove-unit (ventilated)	50 mm
Distance to the back wall of the stove-unit in case of use of additional thermal protection shield (non ventilated)	50 mm with insulation made of mineral wool with bulk density of $\geq 115 \text{ kg/m}^3$ and thermal conductivity = $0,035 \text{ W/mK}$, applied to the outer wall
Distance to the side wall of the stove-unit (ventilated)	50 mm
Distance to the side wall of the stove-unit (non ventilated)	150 mm with insulation made of mineral wool with bulk density of $\geq 115 \text{ kg/m}^3$ and thermal conductivity = $0,035 \text{ W/mK}$, applied to the outer wall
Distance to the front site of the stove-unit in the area of radiation of the opening of the stove-unit	1050 mm
Distance to convection opening Convection opening depicted in Annex 1 of this ETA, Figures 4a, 4b, 4c, 101,102 and 200	250 mm (in front direction) 320 mm (in vertical direction)

Table 5a: Minimum distance to burnable materials of the stove units Schiedel GRANDE S and GRANDE SC (non ventilated design but with integrated thermal insulation in back wall)

Type/Location of distance	Minimum distance (mm)
Distance to the back wall (thickness ≤ 200 mm) of the stove-unit with integrated thermal insulation and integrated thermal protection shield (non ventilated) (Thermal resistance of back wall: $5,3 \text{ m}^2 \text{ K/W}$)	0 mm with integrated insulation made of mineral wool with bulk density 65 kg/m^3 and thermal conductivity = $0,032 \text{ W/mK}$, applied to the outer wall
Distance to the side wall of the stove-unit (non ventilated)	150 mm with insulation made of mineral wool with bulk density of $\geq 115 \text{ kg/m}^3$, and thermal conductivity = $0,035 \text{ W/mK}$, applied to the outer wall
Distance to the front and site of the stove-unit in the area of radiation of the opening of the stove-unit	850 mm (site) 1050 mm (front)
Distance to convection opening Convection opening depicted in Annex 1 of this ETA, Figure 304a	250 mm (in front direction) 320 mm (in vertical direction)

Table 5b: Minimum distance to burnable materials of the stove units Schiedel GRANDE S and GRANDE SC (ventilated design)

Type/Location of distance	Minimum distance (mm)
Distance to the back wall (thickness ≤ 500 mm) of the stove-unit and integrated thermal protection shields (ventilated) (Thermal resistance of back wall: $12,8 \text{ m}^2 \text{ K/W}$)	0 mm (ventilated)
Distance to the front and site of the stove-unit in the area of radiation of the opening of the stove-unit	850 mm (site) 1050 mm (front)
Distance to convection opening Convection opening depicted in Annex 1 of this ETA, Figure 304b	250 mm (in front direction) 320 mm (in vertical direction)

3.1.3 Thermal resistance

Table 6a: Thermal resistance of the assembled chimney kit Schiedel ABSOLUT/ ABSOLUT PARAT

Internal diameter of flue liner in m	Thermal resistance <i>R_{yy}</i>
0,14	R33
0,16	R37
0,18	R41

Regarding the assessment of the foam concrete results are stated in Annex 2, Table 10.

Table 6b: Thermal resistance of the assembled chimney kit Schiedel ABSOLUT PLUS/ ABSOLUT PLUS PARAT

Internal diameter of flue liner in m	Thermal resistance <i>R_{yy}</i>
0,14	R33
0,16	R37
0,18	R40

Regarding the assessment of the foam concrete results are stated in Annex 2, Table 10.

Table 6c: Thermal resistance of the assembled chimney kit Schiedel SIH/ SIH PARAT

Internal diameter of flue liner in m	Thermal resistance <i>R_{yy}</i>
0,16	R40
0,18	R53

Table 6d: Thermal resistance of the assembled chimney kit Schiedel ADVANCE/ ADVANCE PARAT

Internal diameter of flue liner in m	Thermal resistance <i>R_{yy}</i>
0,16	R53
0,18	R66

3.1.4 Electrical safety (Stove-unit)

Relevant for stove-unit Schiedel Kingfire AQUA PS only.

3.1.5 Emissions of combustion products/ Nominal heating performance/ Efficiency of heating appliance (Stove-unit)

Table 7a: Essential characteristics of the stove-unit Schiedel Kingfire CLASSICO S, LINEARE S, RONDO S, LINEARE SC, RONDO SC, GRANDE S and GRANDE SC

Parameter	CLASSICO S		LINEARE S		RONDO S		GRANDE S		LINEARE SC RONDO SC		GRANDE SC	
Minimum flue draught	11 Pa		11 Pa		14 Pa		12 Pa		12 Pa		12 Pa	
	[mg/m³]	[mg/MJ]	[mg/m³]	[mg/MJ]	[mg/m³]	[mg/MJ]	[mg/m³]	[mg/MJ]	[mg/m³]	[mg/MJ]	[mg/m³]	[mg/MJ]
Amount of CO-concentration related to 13 % O ₂	704	452 ¹⁾	1193	763 ¹⁾	1213	776 ¹⁾	1062	680 ¹⁾	944	626 ¹⁾	1091	728 ¹⁾
Amount of particulate emission related to 13 % O ₂	28	18 ¹⁾	22	14 ¹⁾	32	20 ¹⁾	20	13 ¹⁾	19	12 ¹⁾	25	17 ¹⁾
Amount of OGC related to 13 % O ₂	89	36 ¹⁾	142	45 ¹⁾	154	49 ¹⁾	97	35 ¹⁾	62	41 ¹⁾	80	26 ¹⁾
Amount of NO _x related to 13 % O ₂	110	71 ¹⁾	125	81 ¹⁾	128	83 ¹⁾	112	73 ¹⁾	62	42 ¹⁾	84	57 ¹⁾
Fluegas temperature [° C] according to EN 13240	Nominal unit height 2,64 m: 226 Nominal unit height 2,74 m: 224 Nominal unit height 2,86 m: 222 Nominal unit height 2,96 m: 220		Nominal unit height 2,64 m: 195 Nominal unit height 2,74 m: 194 Nominal unit height 2,86 m: 192 Nominal unit height 2,96 m: 191		Nominal unit height 2,64 m: 204 Nominal unit height 2,74 m: 203 Nominal unit height 2,86 m: 201 Nominal unit height 2,96 m: 200		Nominal unit height 2,86 m: 225 Nominal unit height 2,96 m: 225		Nominal unit height 2,64 m: 173 Nominal unit height 2,74 m: 173 Nominal unit height 2,86 m: 168 Nominal unit height 2,96 m: 168		Nominal unit height 2,86 m: 165 Nominal unit height 2,96 m: 165	
Nominal heating performance [kW]	Nominal unit height 2,64 m: 7,4 Nominal unit height 2,74 m: 7,4 Nominal unit height 2,86 m: 7,4 Nominal unit height 2,96 m: 7,4		Nominal unit height 2,64 m: 6,8 Nominal unit height 2,74 m: 6,8 Nominal unit height 2,86 m: 6,9 Nominal unit height 2,96 m: 6,9		Nominal unit height 2,64 m: 7,1 Nominal unit height 2,74 m: 7,1 Nominal unit height 2,86 m: 7,2 Nominal unit height 2,96 m: 7,2		Nominal unit height 2,86 m: 7,5 Unit height 2,96 m: 7,5		Nominal unit height 2,64 m: 6,0 Nominal unit height 2,74 m: 6,0 Nominal unit height 2,86 m: 6,0 Nominal unit height 2,96 m: 6,0		Nominal unit height 2,86 m: 5,8 Unit height 2,96 m: 5,8	
Efficiency of heating appliance [%]	Nominal unit height 2,64 m: 83,0 Nominal unit height 2,74 m: 83,1 Nominal unit height 2,86 m: 83,3 Nominal unit height 2,96 m: 83,5		Nominal unit height 2,64 m: 80,0 Nominal unit height 2,74 m: 80,0 Nominal unit height 2,86 m: 80,0 Nominal unit height 2,96 m: 80,0		Nominal unit height 2,64 m: 80,0 Nominal unit height 2,74 m: 80,0 Nominal unit height 2,86 m: 80,0 Nominal unit height 2,96 m: 81,0		Nominal unit height 2,86 m: 82,3 Nominal unit height 2,96 m: 82,3		Nominal unit height 2,64 m: 86,0 Nominal unit height 2,74 m: 86,0 Nominal unit height 2,86 m: 86,5 Nominal unit height 2,96 m: 86,5		Nominal unit height 2,86 m: 85,6 Nominal unit height 2,96 m: 85,6	
Maximum amount of solid fuel (split log) [kg]	1,6		1,6		1,7		1,7		1,3		1,3	

1) Results in [mg/MJ] are stated without relationship to the O₂ concentration.

Table 7b: Essential characteristics of the stove-unit Schiedel Kingfire AQUA S

Parameter	Priority room heating ¹⁾		Priority water heating ¹⁾	
Minimum flue draught (notwendiger Förderdruck)	12 Pa			
	[mg/m ³]	[mg/MJ]	[mg/m ³]	[mg/MJ]
Amount of CO-concentration related to 13 % O ₂	955	615 ²⁾	994	640 ²⁾
Amount of particulate emission related to 13 % O ₂	28	18 ²⁾	33	21 ²⁾
Amount of OGC related to 13 % O ₂	56	26 ²⁾	70	38 ²⁾
Amount of NOx related to 13 % O ₂	112	73 ²⁾	117	76 ²⁾
Fluegas temperature [° C] according to EN 13240	Nominal unit height 2,86 m: 113		Nominal unit height 2,86 m: 101	
	Nominal unit height 2,96 m: 112		Nominal unit height 2,96 m: 100	
Nominal heating performance [kW]	Nominal unit height 2,86 m: 7,6		Nominal unit height 2,86 m: 7,8	
	Nominal unit height 2,96 m: 7,6		Nominal unit height 2,96 m: 7,8	
Efficiency of heating appliance [%]	Nominal unit height 2,86 m: 90		Nominal unit height 2,86 m: 90	
	Nominal unit height 2,96 m: 90		Nominal unit height 2,96 m: 91	
Maximum amount of solid fuel (split log) [kg]	1,6			

- 1) Priority means that operation of the stove-unit cannot be done exclusively for one of the two addressed intended uses. Details are given in the operational manual.
2) Results in [mg/MJ] are stated without relationship to the O₂ concentration.

Note: Compliance with “Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment” is not subject of this ETA.

Table 7c: Essential characteristics of the stove-unit Schiedel Kingfire AQUA PS

Parameter	Split log – Water heating		Pellets - Water heating	
Minimum flue draught (notwendiger Förderdruck)	12 Pa			
	[mg/m ³]	[mg/MJ]	[mg/m ³]	[mg/MJ]
Amount of CO-concentration related to 13 % O ₂	1084	696 ¹⁾	85	55
Amount of particulate emission related to 13 % O ₂	21	14 ¹⁾	23	15 ¹⁾
Amount of CxHy related to 13 % O ₂	44	28 ¹⁾	7	4 ¹⁾
Amount of OGC related to 13 % O ₂	36	23 ¹⁾	5	3 ¹⁾
Amount of NO _x related to 13 % O ₂	39	26 ¹⁾	124	81 ¹⁾
Fluegas temperature [° C] according to EN 13240	Nominal unit height 2,96 m: 98		Nominal unit height 2,96 m: 82	
Nominal heating performance [kW]	Nominal unit height 2,96 m: 9,5		Nominal unit height 2,96 m: 9,7	
Efficiency of heating appliance [%]	Nominal unit height 2,96 m: 93		Nominal unit height 2,96 m: 92	
Maximum amount of solid fuel (split log) [kg]	2,0		---	
Maximum amount of solid fuel (pellets) [kg]	---		2,2	

1) Results in [mg/MJ] are stated without relationship to the O₂ concentration.

Note: Compliance with “Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment” is not subject of this ETA.

3.1.6 Tightness of stove-unit (Stove-unit)

Table 8a: Tightness of the roomsealed stove unit

Stove unit	CLASSICO S LINEARE S RONDO S GRANDE S	LINEARE SC RONDO SC GRANDE SC	AQUA S	AQUA PS
Leakage rate [m ³ /h] after thermal and mechanical load	CLASSICO S: 2,14 LINEARE S: 1,65 RONDO S: 1,95 GRANDE S: 1,28	LINEARE SC: 1,87 RONDO SC: 1,87 GRANDE SC: 1,28	2,18	0,90
Number of opening and closing cycles	6000	6000	6000	6000
Testing pressure [Pa]	10	10	10	10

Tightness of the opening of the stove units where acting as inspection door of the chimney kit in relation to tightness N1 in analogy to EN 1443:

Due to the absence of an inspection door in the chimney kit, the air-tightness of the opening of the stove-unit was assessed with an increased pressure, leading to an average leakage amount, whereas for the used test specimen the leakage rate for a pressure of 10 Pa was assessed. In relation to the geometry of the stove-unit opening according to its design, the average leakage is leading to a leakage rate as given in Table 8b.

Table 8b: Tightness of the opening of the stove units acting as inspection door

Type	Increased pressure (Pa)	Average leakage amount related to the increased pressure (l/h)	Maximum leakage rate for a pressure of 10 Pa (l/sm ²)	Geometry of the stove-unit opening (m ²)	Leakage rate (l/sm ²)
CLASSICO S	40	4580	<2,0	0,324	3,93
LINEARE S	40	3884	<2,0	0,324	3,33
RONDO S	40	4450	<2,0	0,324	3,82
GRANDE S	40	3233	<2,0	0,375	2,39
LINEARE SC	40	4230	<2,0	0,324	3,63
RONDO SC	40	4700	<2,0	0,324	4,00
GRANDE SC	40	3740	<2,0	0,375	3,20
AQUA S	40	4000	<2,0	0,324	3,43
AQUA PS*	40	2533	--	0,158	4,45

*For AQUA PS the inspection opening in the connection elements, depicted in Annex 1, Figure 202, item 6 in the list of elements, is used according to the operation manual as inspection opening for removal of the residue in case of sweeping the flue liner.

3.1.7 Cleanability (in case of use of pellets) (Stove-unit)

According to technical documentation. Respectively special tools and brushes are supplied.

3.1.8 Durability of the stove-unit AQUA PS (Stove-unit)

Durability according to EN 14785, Clause 4.2, fulfilled with the following limitation:

Component parts such as covers, operating controls, safety devices and electrical accessories shall be arranged in such a way that their surface temperatures, under the test conditions described in A.4.7, do not exceed those specified either by the manufacturer or in the relevant component part standard: No performance assessed, as regards inside components.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

According to the decision 95/467/EC of the European Commission¹, amended by the Commission Decision 2001/596/EC² and 2002/592/EC³ and 2010/679/EC⁴ (EU) as amended, the system(s) of assessment and verification of constancy of performance (see Annex V of Regulation (EU) No 305/2011) is 1-3-4 (Reaction to fire), 2+.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in in the control plan deposited by the Technical Assessment Body Österreichisches Institut für Bautechnik.

The notified production control certification body shall visit the factory once a year for surveillance of the AVCP.

Issued in Vienna on 15.03.2021
by Österreichisches Institut für Bautechnik

The original document is signed by:

Rainer Mikulits
Managing Director

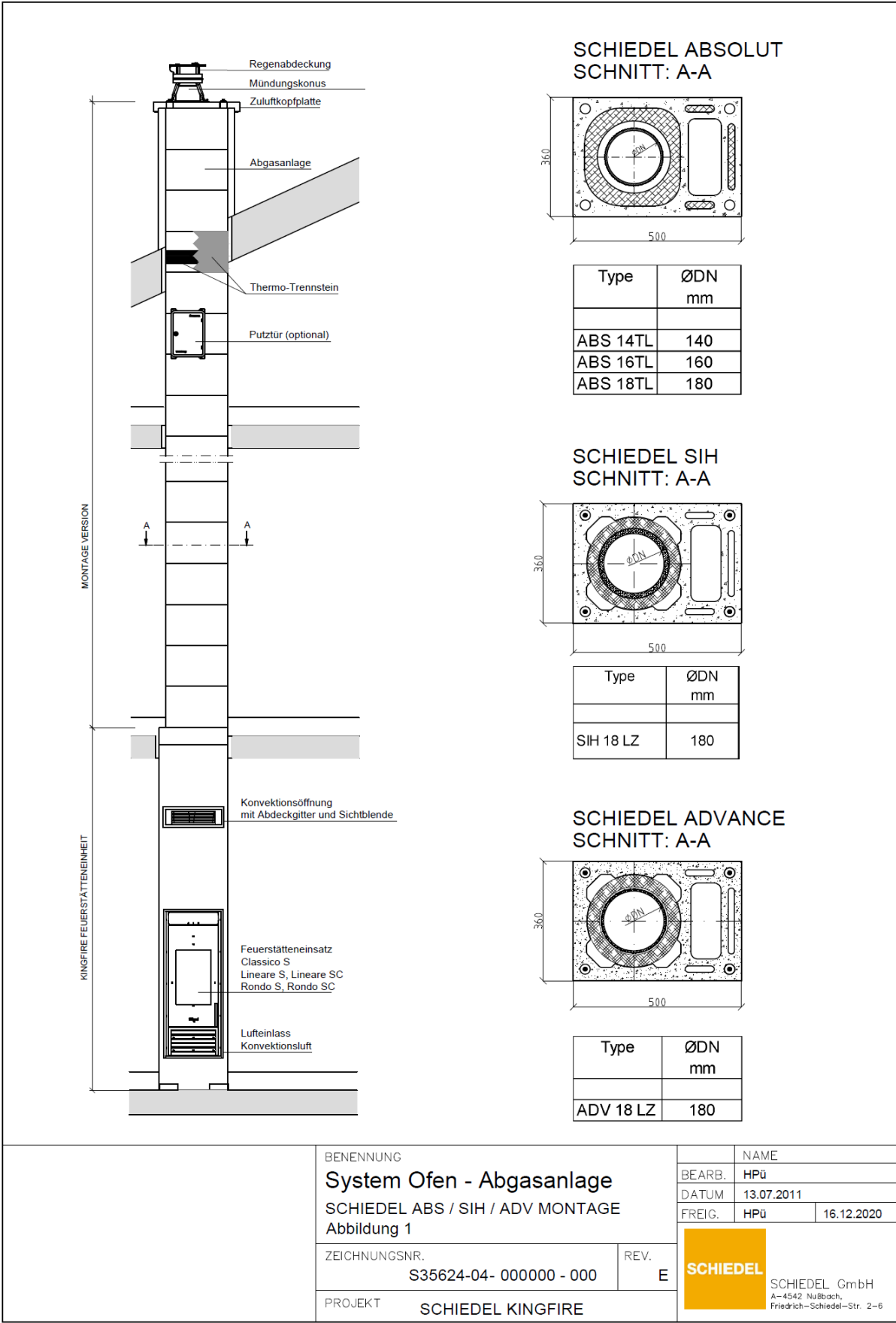
¹ Official Journal of the European Communities L 268/29 of 10.11.1995

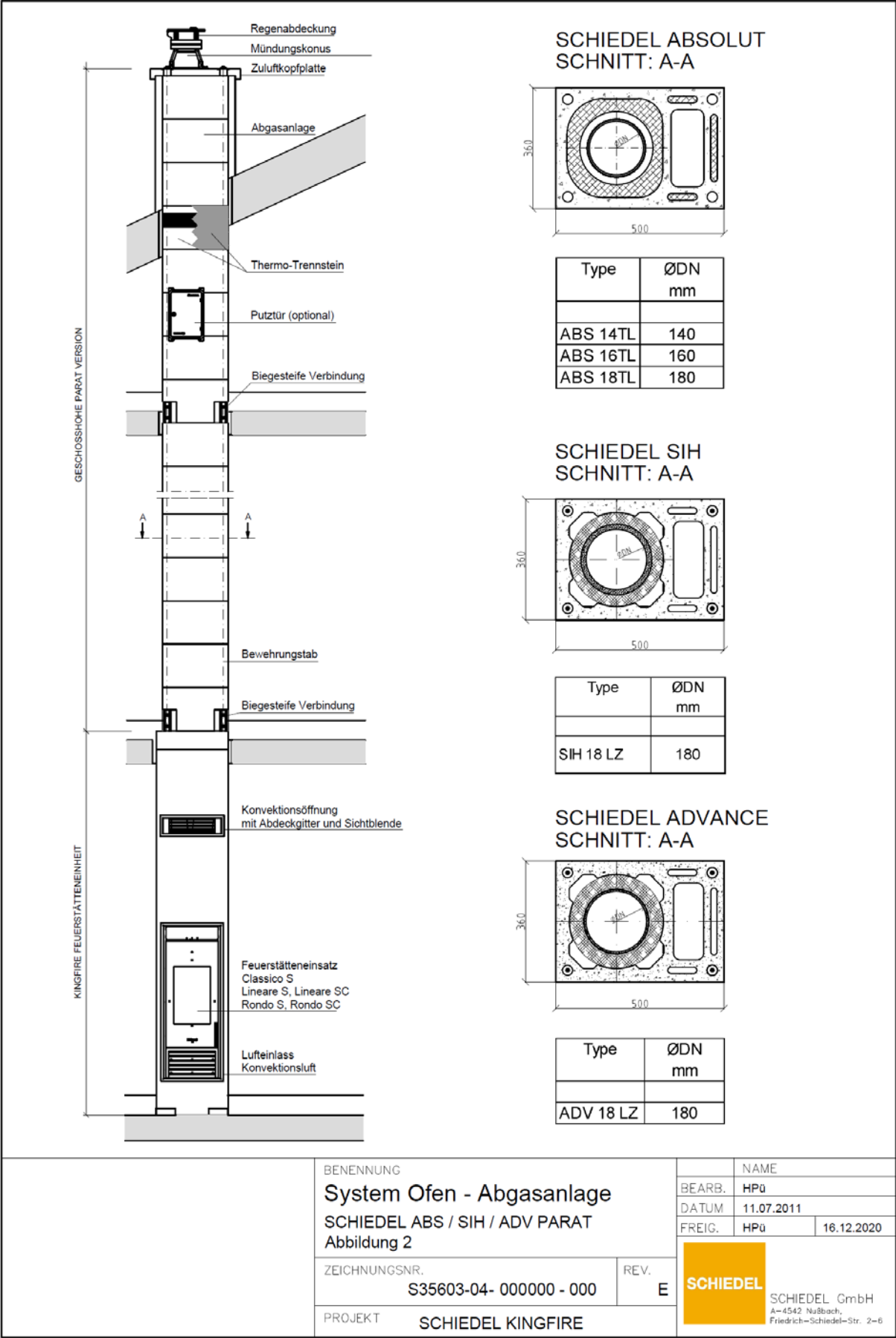
² Official Journal of the European Communities L 209/33 of 2.8.2001

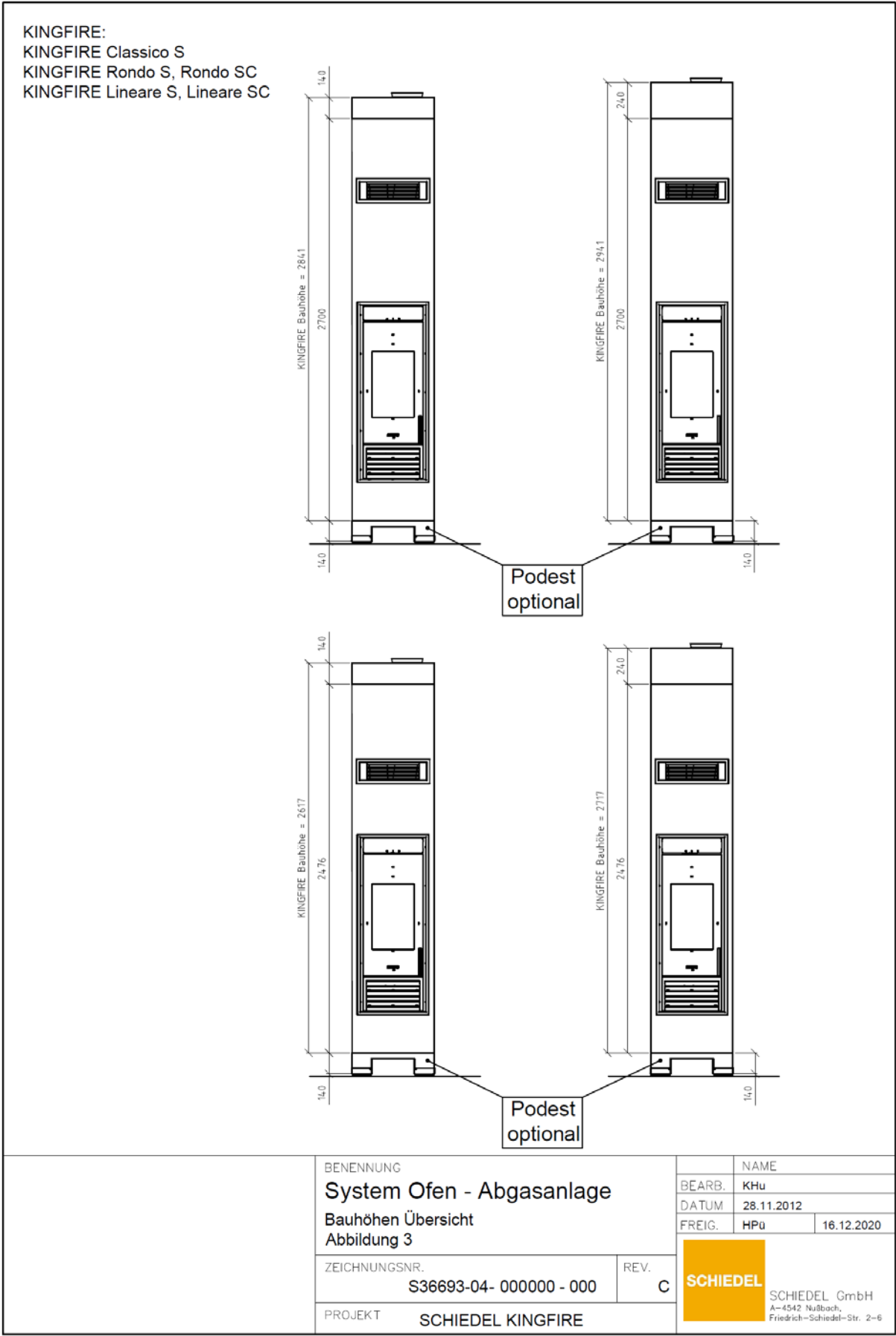
³ Official Journal of the European Communities L 192/57 of 20.7.2002

⁴ Official Journal of the European Communities L 292/1 of 10.11.2010

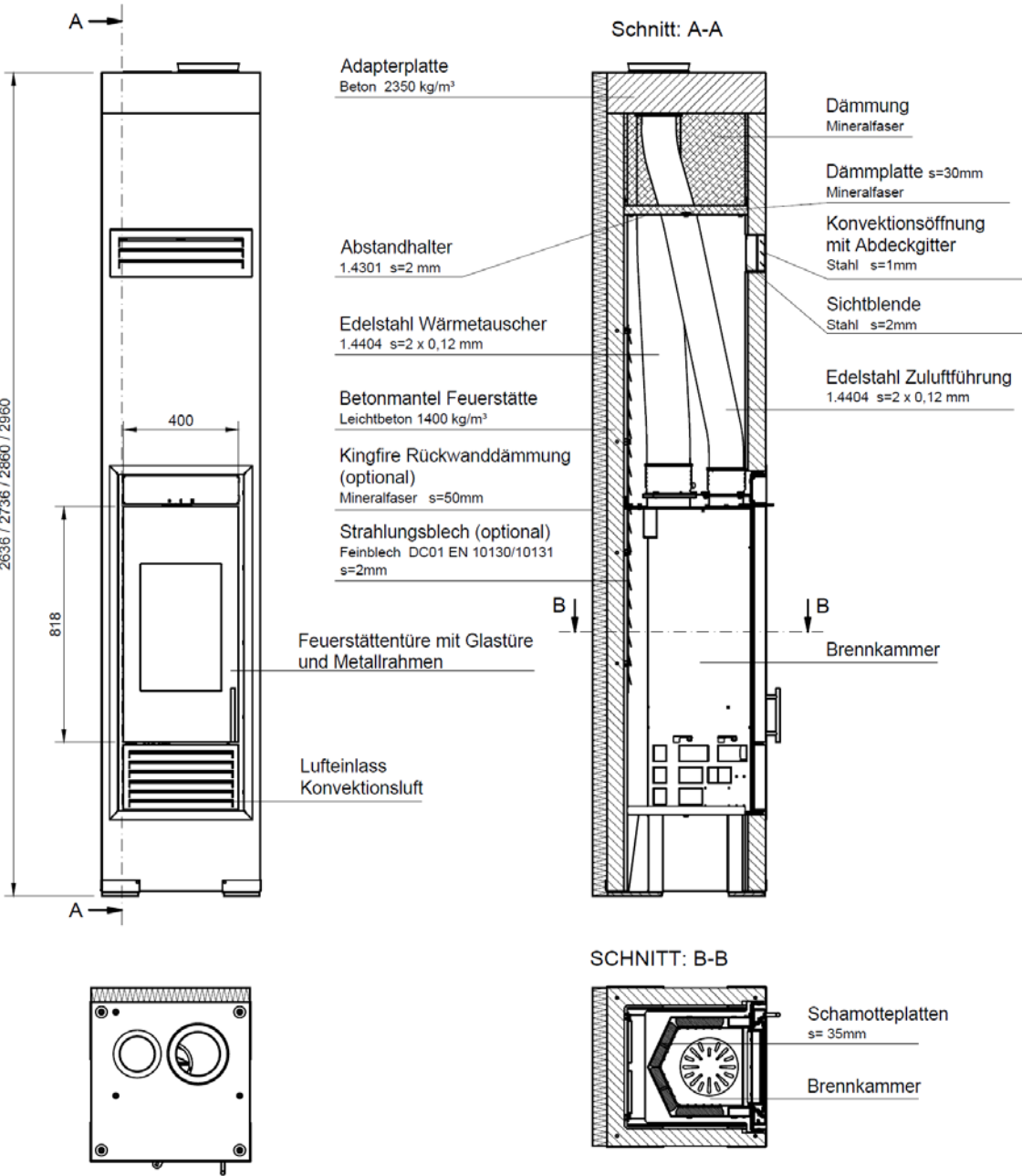
Drawings (caption German/English: see page 67)




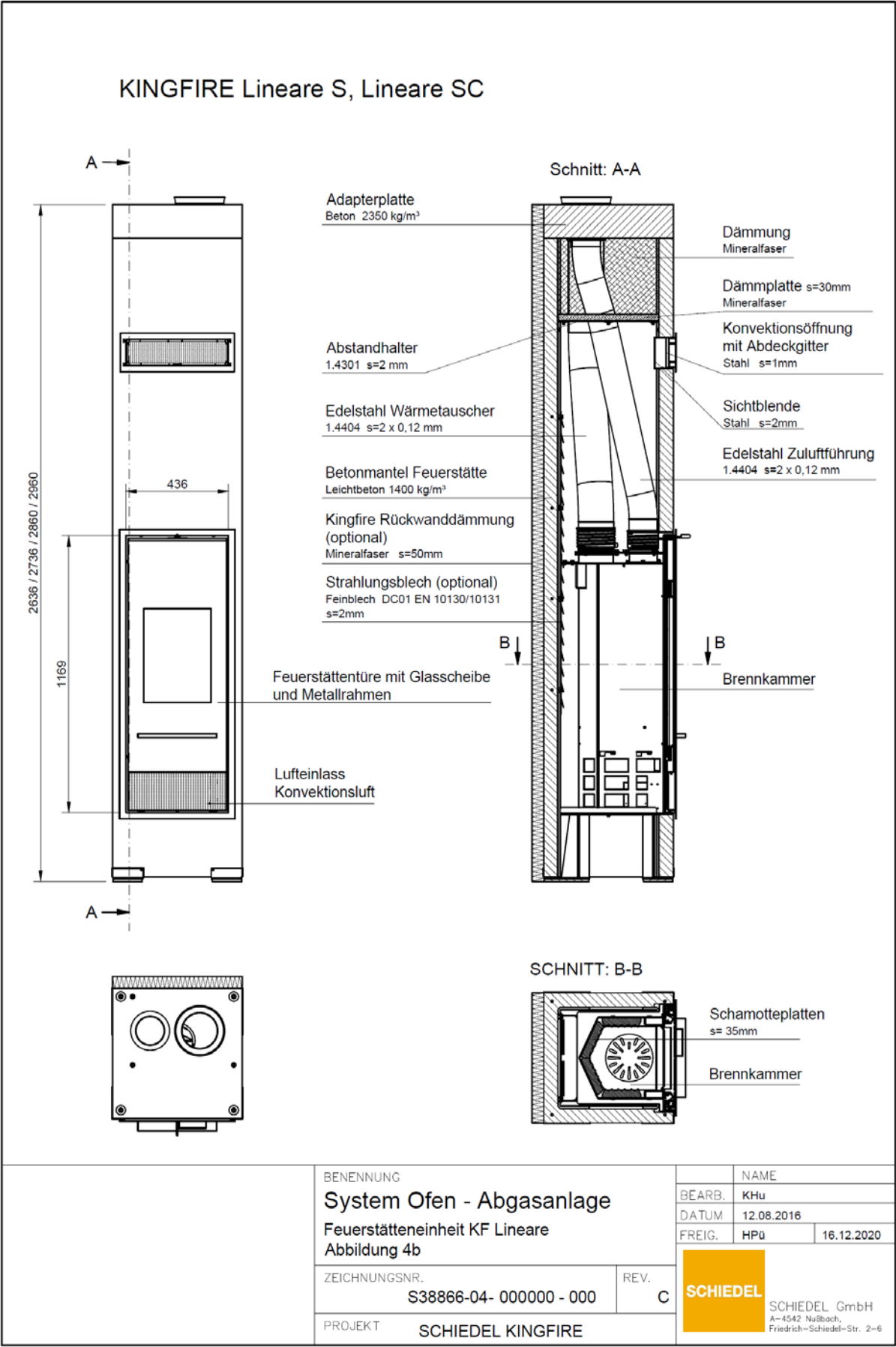


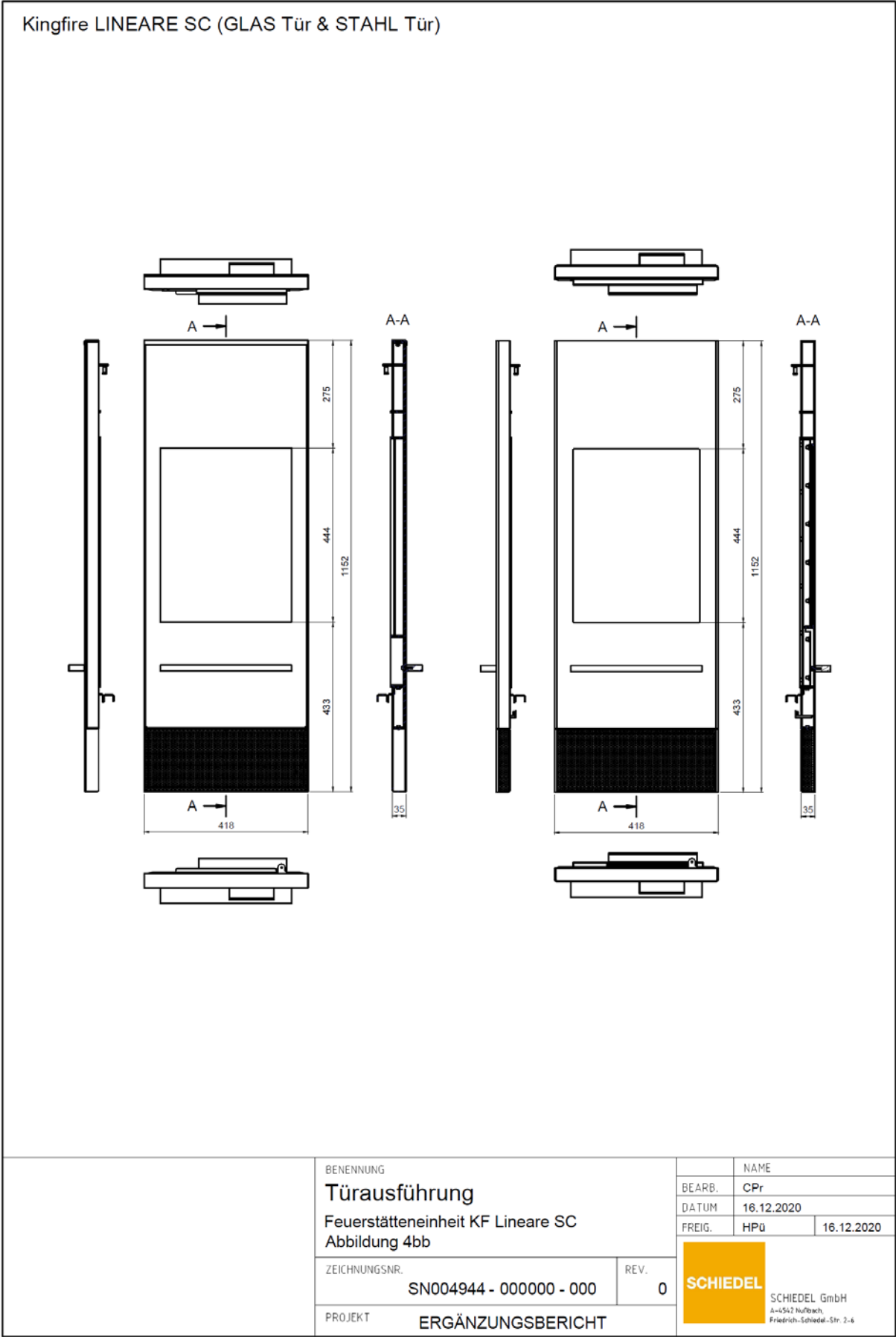


KINGFIRE Classico S

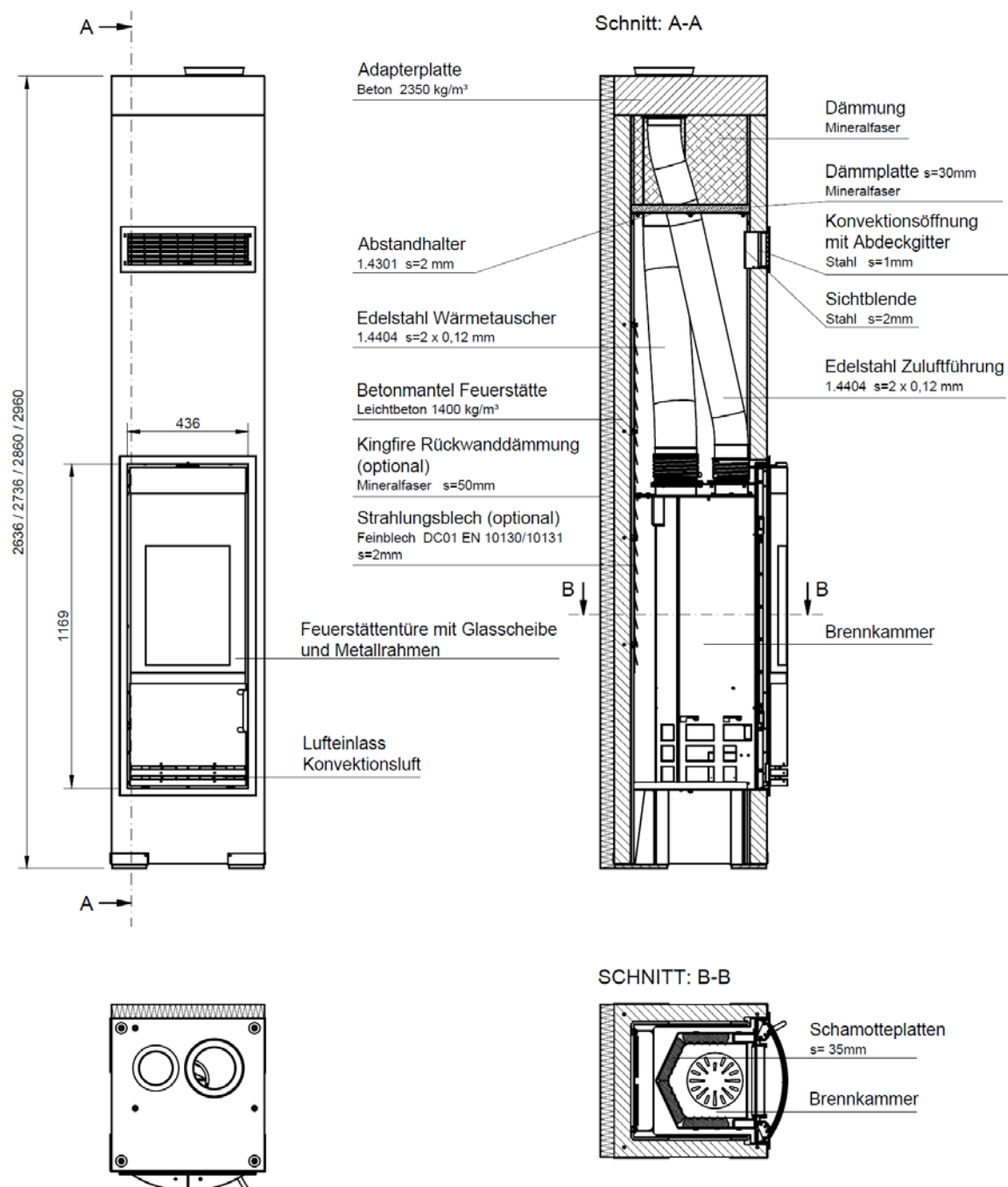


	BENENNUNG		NAME
	System Ofen - Abgasanlage		BEARB. HPü
	Feuerstätteneinheit KF Classico S		GEPR. KHu
	Abbildung 4a		Maße in mm
ZEICHNUNGSNR.		S35606-04-D	 Schiedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach
PROJEKT		SCHIEDEL KINGFIRE	





KINGFIRE Rondo S, Rondo SC



BENENNUNG
System Ofen - Abgasanlage
Feuerstätteneinheit KF Rondo
Abbildung 4c

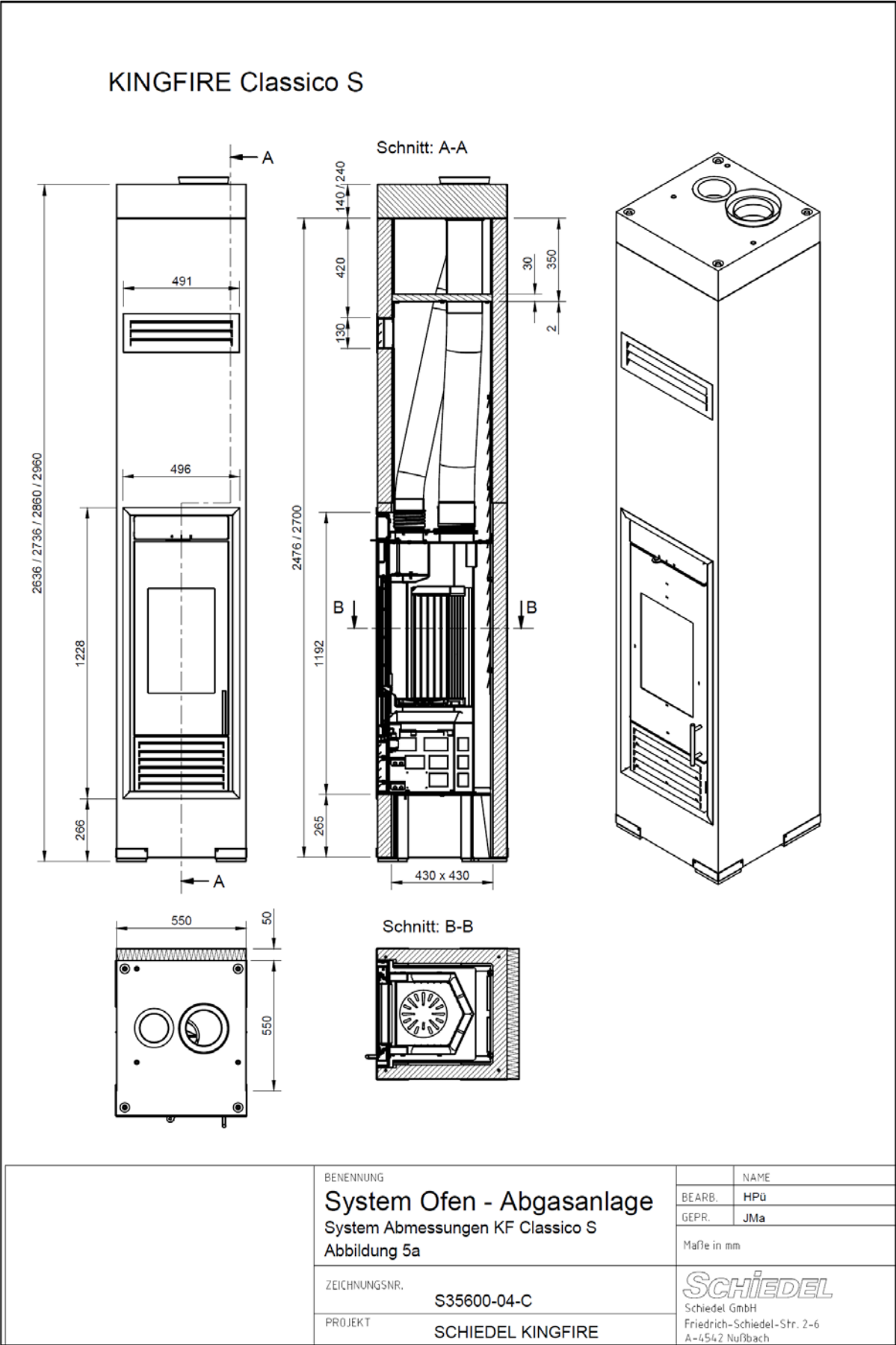
ZEICHNUNGSNR.
S38867-04- 000000 - 000

PROJEKT
SCHIEDEL KINGFIRE

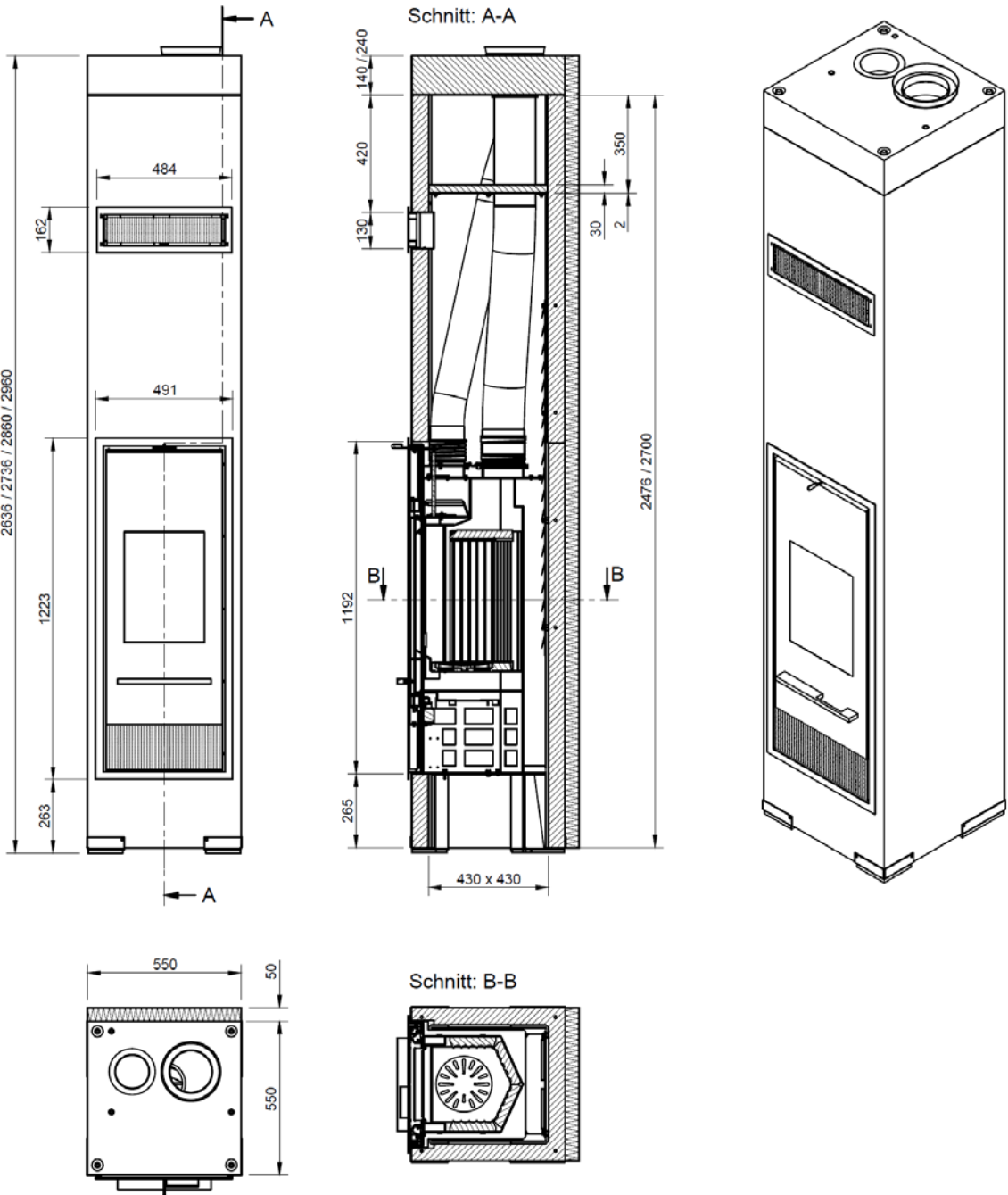
REV.
C


NAME	
BEARB.	KHu
DATUM	12.08.2016
FREIG.	HPu 16.12.2020

SCHIEDEL
SCHIEDEL GmbH
A-4542 Nußbach,
Friedrich-Schiedel-Str. 2-6

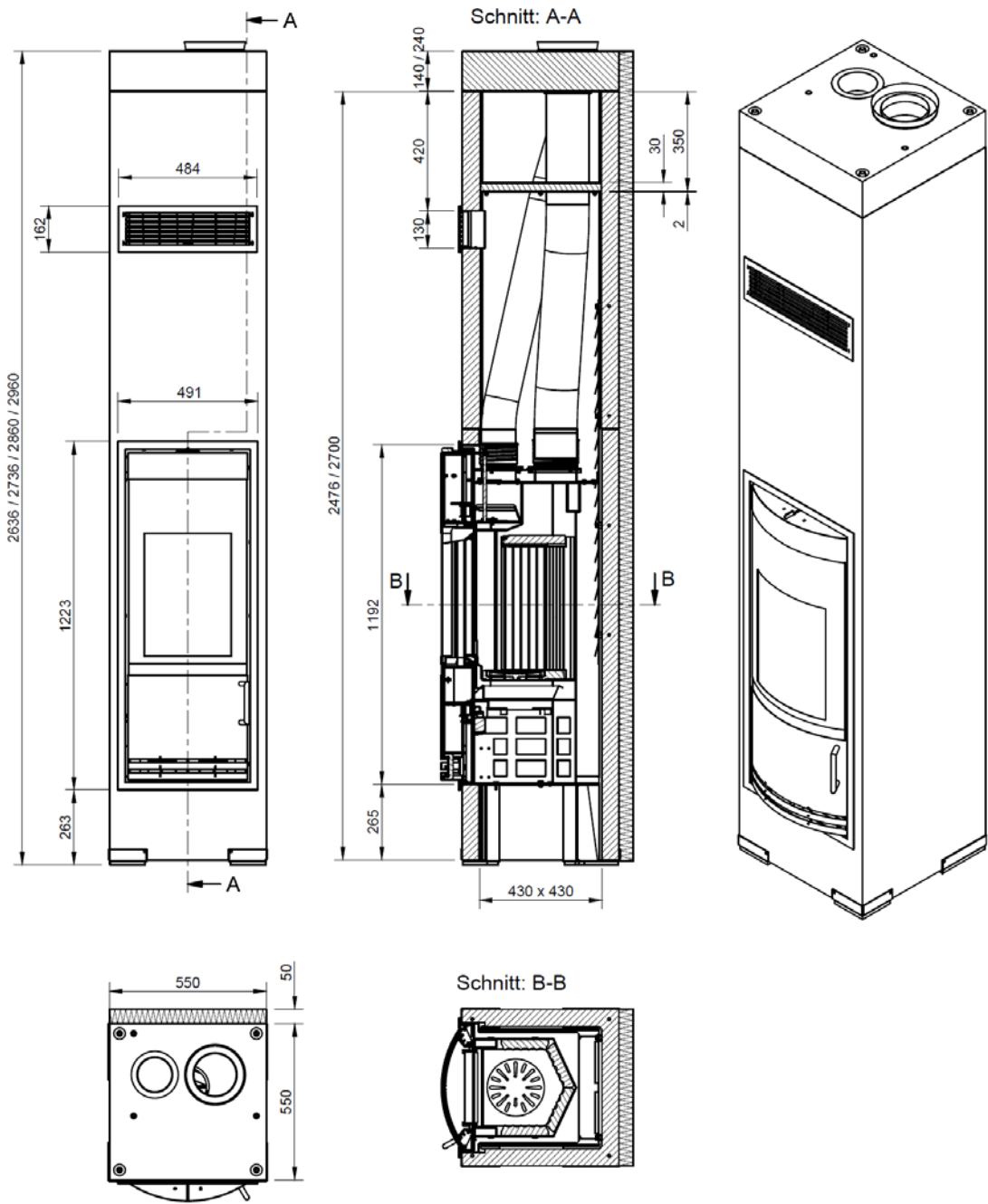



KINGFIRE Lineare S, Lineare SC



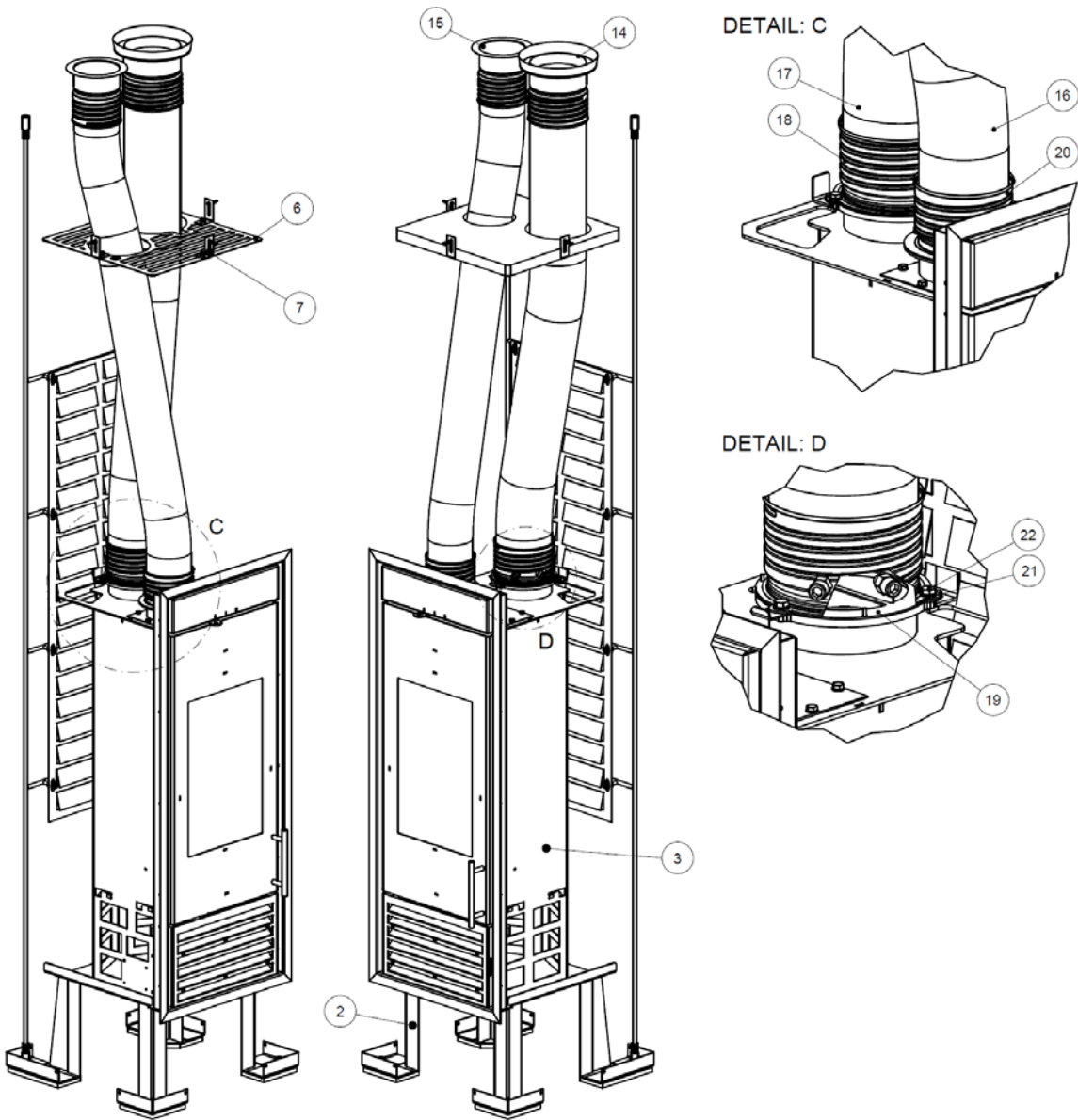
BENENNUNG		NAME	
System Ofen - Abgasanlage		BEARB.	KHu
System Abmessungen KF Lineare		DATUM	29.07.2016
Abbildung 5b		FREIG.	HPü 16.12.2020
ZEICHNUNGSNR.	S38847-04- 000000 - 000	REV.	B
PROJEKT	SCHIEDEL KINGFIRE	 SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6	

KINGFIRE Rondo S, Rondo SC



BENENNUNG		NAME	
System Ofen - Abgasanlage		BEARB.	KHu
System Abmessungen KF Rondo		DATUM	10.08.2016
Abbildung 5c		FREIG.	HPü 16.12.2020
ZEICHNUNGSNR.	S38864-04- 000000 - 000	REV.	B
PROJEKT	SCHIEDEL KINGFIRE	 SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6	

KINGFIRE Classico S

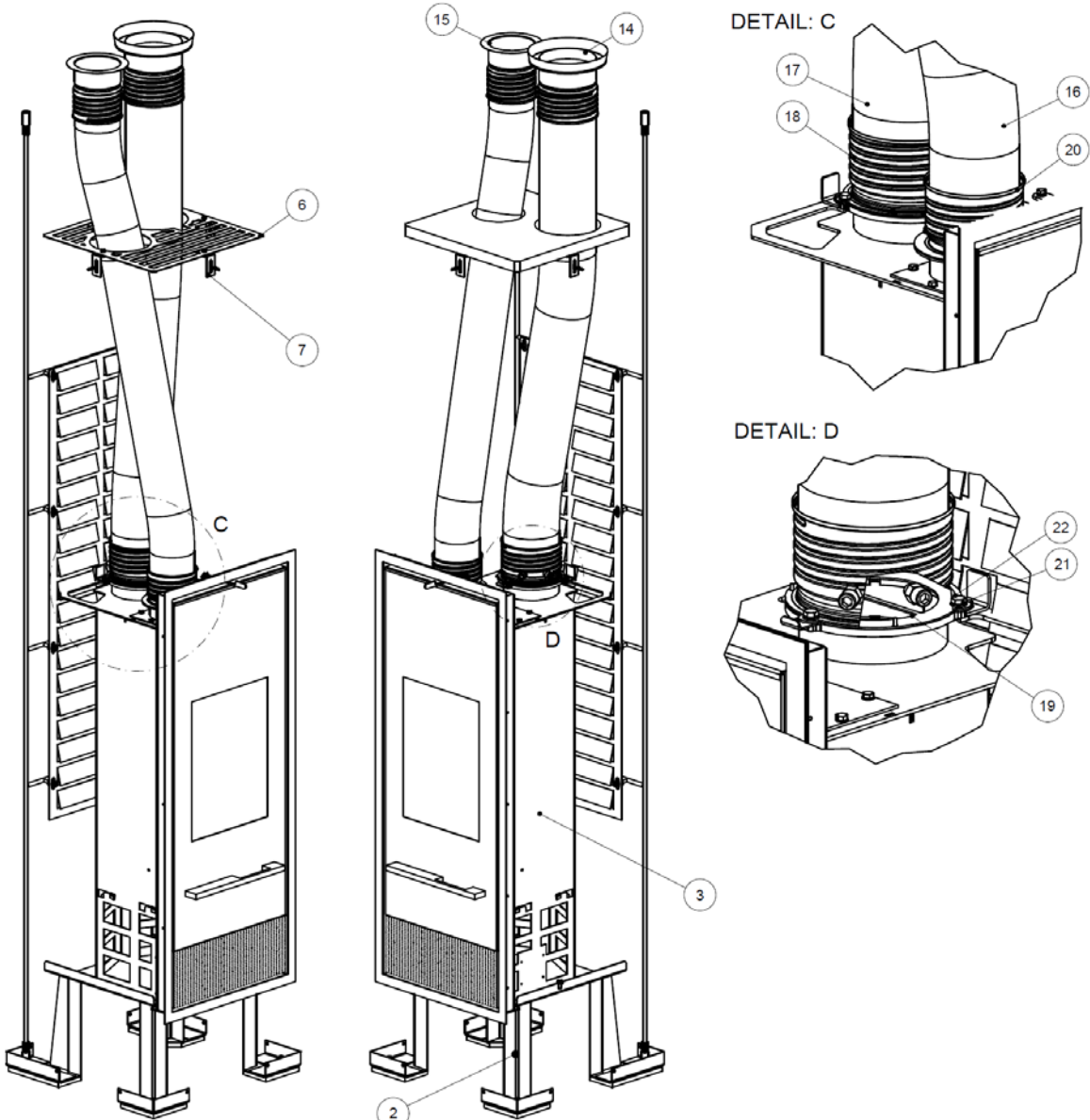


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6	Abstandhalter	s=2,0mm	1.4301 (V2A)
3	Heizeinsatz KF Classico S		
2	Traglager KFP + KFP AS		
POS.	BEZEICHNUNG	ABMESSUNG	MATERIAL

22	Sechskantschraube ISO 4017 - M8 x 16		1.4301 (V2A)
21	Scheibe ISO 7089 - 8 - 140 HV		1.4301 (V2A)
20	Luftadapter PPL DN120	s=0,6mm	1.4404 (V4A)
19	Kugelfang DN150	s=2,0mm	1.4404 (V4A)
18	Ofenadapter PPL DN150	s=0,6mm	1.4404 (V4A)
17	Flexrohr 150/1/316L TECFLX	s=2x0,12mm	1.4404 (V4A)
16	Flexrohr 120/1/316L TECFLX	s=2x0,12mm	1.4404 (V4A)
15	Adapter Flex PPL120	s=0,6mm	1.4404 (V4A)
14	Montagetrichter	s=0,6mm	1.4404 (V4A)
POS.	BEZEICHNUNG	ABMESSUNG	MATERIAL


	BENENNUNG		NAME
	System Ofen - Abgasanlage	BEARB.	HPü
	Brennkammer + Wärmetauscher	GEPR.	JMa
	Abbildung 6a KF Classico S	Maße in mm	
	ZEICHNUNGSNR.	S35601-04-B	
PROJEKT	SCHIEDEL KINGFIRE	 Schiedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach	

KINGFIRE Lineare S, Lineare SC

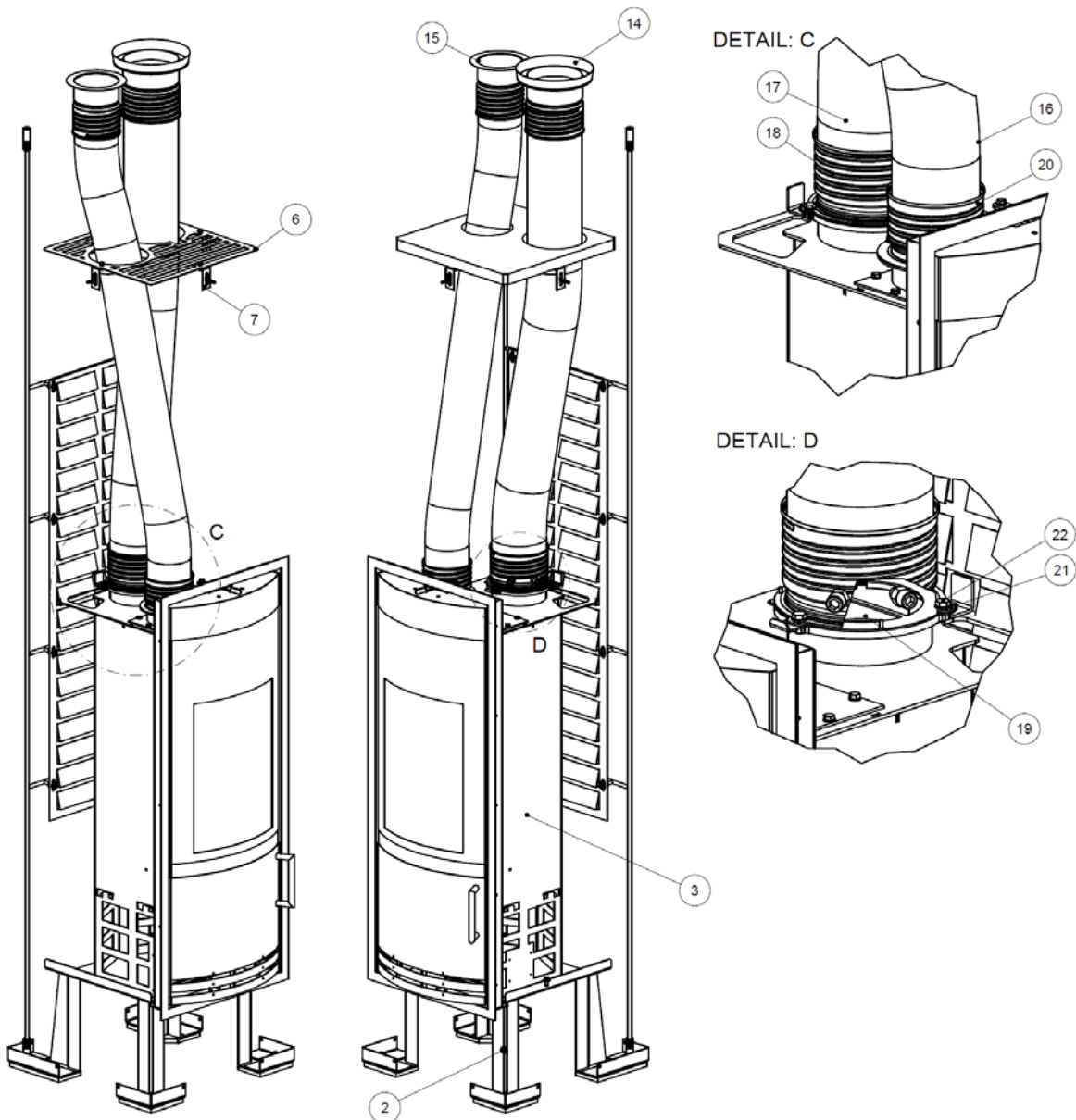


7	Haltewinkel Abstandhalter	s=1,5mm	1.4301 (V2A)
6	Abstandhalter	s=2,0mm	1.4301 (V2A)
3	Heizeinsatz KF Lineare S		
2	Traglager KFP + KFP AS		
POS.	BEZEICHNUNG	ABMESSUNG	MATERIAL

22	Sechskantschraube ISO 4017 - M8 x 16		1.4301 (V2A)
21	Scheibe ISO 7089 - 8 - 140 HV		1.4301 (V2A)
20	Luftadapter PPL DN120	s=0,6mm	1.4404 (V4A)
19	Kugelfang DN150	s=2,0mm	1.4404 (V4A)
18	Ofenadapter PPL DN150	s=0,6mm	1.4404 (V4A)
17	Flexrohr 150/1/316L TECFLX	s=2x0,12mm	1.4404 (V4A)
16	Flexrohr 120/1/316L TECFLX	s=2x0,12mm	1.4404 (V4A)
15	Adapter Flex PPL 120	s=0,6mm	1.4404 (V4A)
14	Montagetrichter	s=0,6mm	1.4404 (V4A)
POS.	BEZEICHNUNG	ABMESSUNG	MATERIAL

<div>BENENNUNG</div> <div>System Ofen - Abgasanlage</div> <div>Brennkammer + Wärmetauscher</div> <div>Abbildung 6b KF Lineare</div>		NAME	
		BEARB.	KHu
		DATUM	12.08.2016
		FREIG.	HPü 16.12.2020
ZEICHNUNGSNR.		REV.	
S38868-04- 000000 - 000		B	
PROJEKT		SCHIEDEL KINGFIRE	
		<div><div></div><div>SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6</div></div>	

KINGFIRE Rondo S, Rondo SC

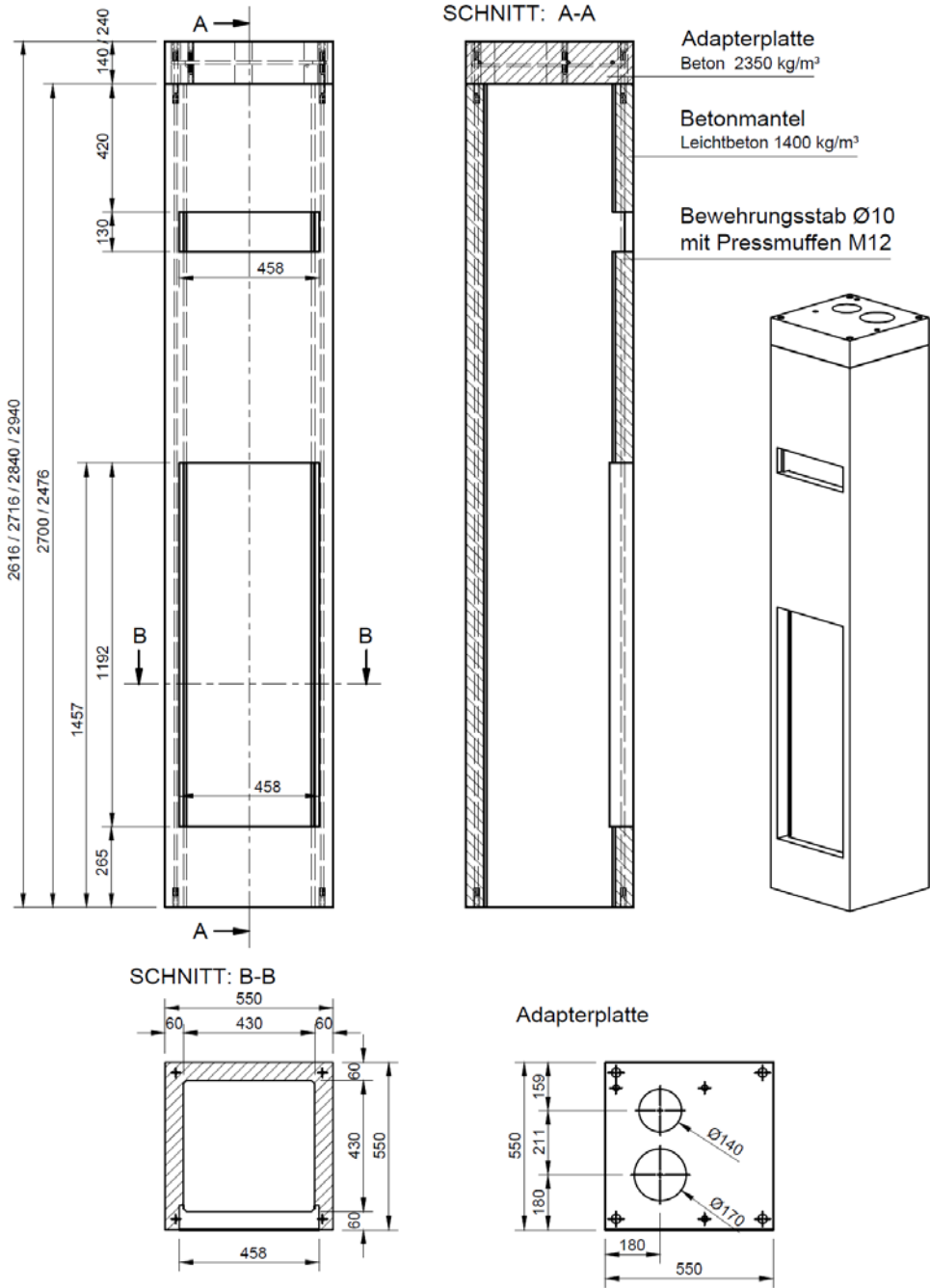



7	Haltewinkel Abstandhalter	s=1,5mm	1.4301 (V2A)
6	Abstandhalter	s=2,0mm	1.4301 (V2A)
3	Heizeinsatz KF Rondo S		
2	Traglager KFP + KFP AS		
POS.	BEZEICHNUNG	ABMESSUNG	MATERIAL

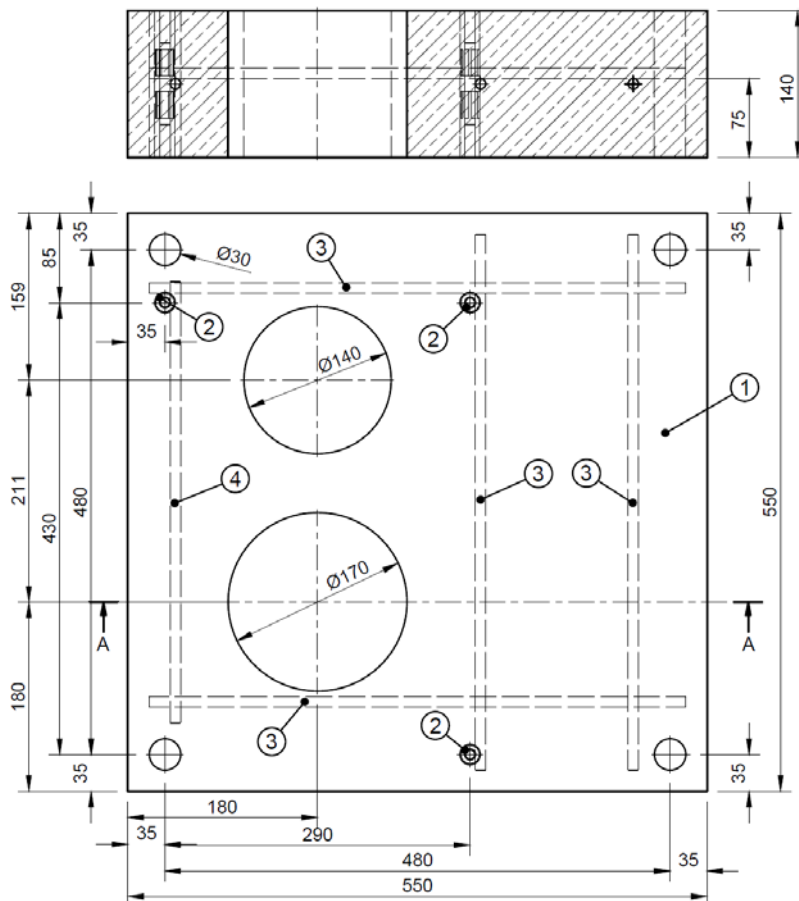
22	Sechskantschraube ISO 4017 - M8 x 16		1.4301 (V2A)
21	Scheibe ISO 7089 - 8 - 140 HV		1.4301 (V2A)
20	Luftadapter PPL DN120	s=0,6mm	1.4404 (V4A)
19	Kugelfang DN150	s=2,0mm	1.4404 (V4A)
18	Ofenadapter PPL DN150	s=0,6mm	1.4404 (V4A)
17	Flexrohr 150/1/316L TECFLX	s=2x0,12mm	1.4404 (V4A)
16	Flexrohr 120/1/316L TECFLX	s=2x0,12mm	1.4404 (V4A)
15	Adapter Flex PPL120	s=0,6mm	1.4404 (V4A)
14	Montagetrichter	s=0,6mm	1.4404 (V4A)
POS.	BEZEICHNUNG	ABMESSUNG	MATERIAL

<div>BENENNUNG</div> <div>System Ofen - Abgasanlage</div> <div>Brennkammer + Wärmetauscher</div> <div>Abbildung 6c KF Rondo</div>		NAME	
		BEARB. KHu	
		DATUM 12.08.2016	
		FREIG. HPü	16.12.2020
		<div></div> <div>SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6</div>	
ZEICHNUNGSNR.	REV.		
S38869-04- 000000 - 000	B		
PROJEKT		SCHIEDEL KINGFIRE	

KINGFIRE Betonmantel + Adapterplatte für:
KINGFIRE Classico S
KINGFIRE Lineare S, Lineare SC
KINGFIRE Rondo S, Rondo SC

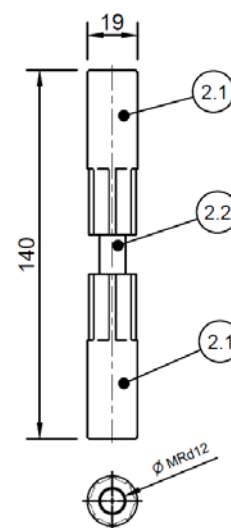


BENENNUNG System Ofen - Abgasanlage Betonmantel + Adapterplatte Abbildung 7		NAME	
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		DATUM	11.07.2011
		FREIG.	HPü 16.12.2020
ZEICHNUNGSNR.	S35602-04- 000000 - 000	REV.	D
PROJEKT	SCHIEDEL KINGFIRE	 SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6	



4	Bewehrungsstab Ø10x420	BST 500S
3	Bewehrungsstab Ø10x510	BST 500S
2.2	Bewehrungsstab Ø10x80	BST 500S
2.1	Presshülse MRd12x1,75	S355
2	Doppel-Presshülse MRd12	
1	Adapterplatte	Beton 2350 kg/m³
POS.	BEZEICHNUNG	MATERIAL

Doppel-Presshülse:
(POS.2)



BENENNUNG
System Ofen - Abgasanlage
Adapterplatte ABS / SIH / ADV
Abbildung 8a

ZEICHNUNGSNR.
S35620-04- 000000 - 000

PROJEKT SCHIEDEL KINGFIRE

	NAME	
BEARB.	HPÜ	
DATUM	12.07.2011	
FREIG.	HPÜ	16.12.2020

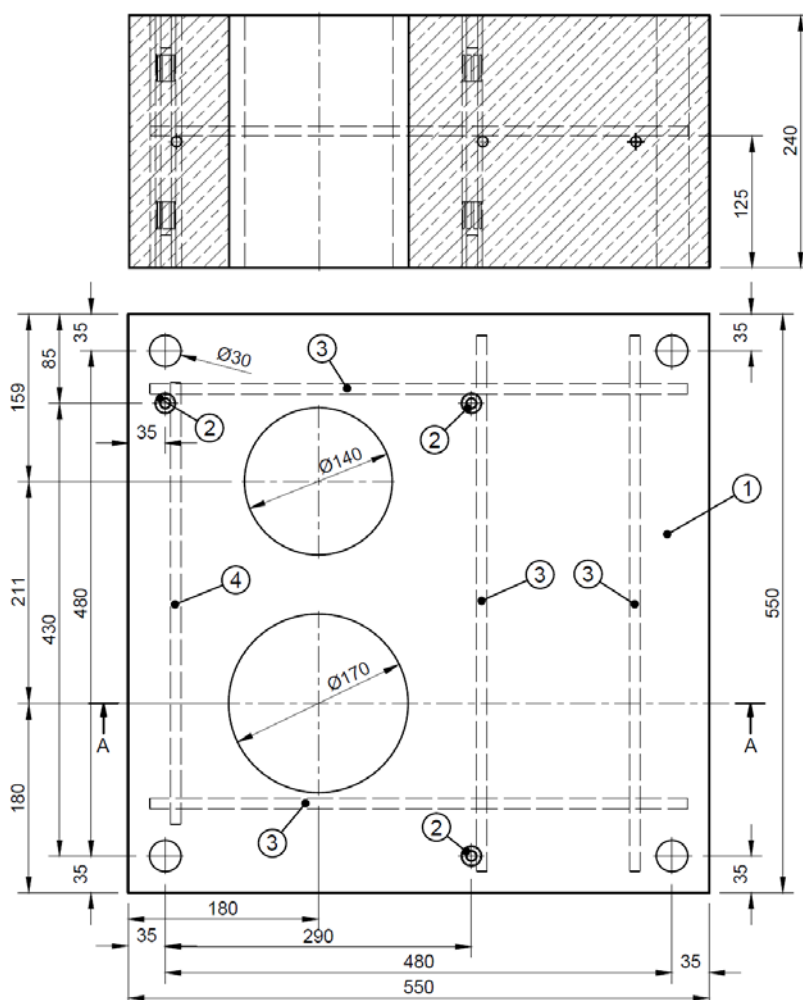
SCHIEDEL

SCHIEDEL GmbH
A-4542 Nußbach,
Friedrich-Schiedel-Str. 2-6

KINGFIRE Adapterplatte für :

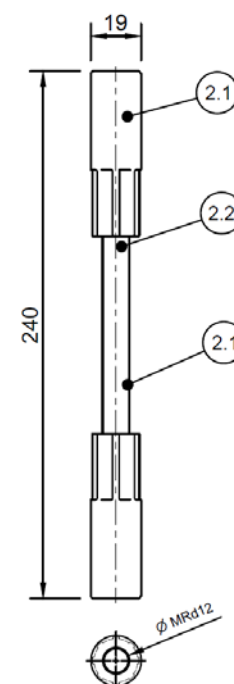
KINGFIRE Classico S
KINGFIRE Lineare S, Lineare SC
KINGFIRE Rondo S, Rondo SC
KINGFIRE Aqua S
KINGFIRE Aqua PS
KINGFIRE Grande S, Grande SC

SNITT: A-A



4	Bewehrungsstab Ø10x420	BST 500S
3	Bewehrungsstab Ø10x510	BST 500S
2.2	Bewehrungsstab Ø10x180	BST 500S
2.1	Presshülse MRd12x1,75	S355
2	Doppel-Presshülse MRd12	
1	Adapterplatte	Beton 2350 kg/m³
POS.	BEZEICHNUNG	MATERIAL

Doppel-Presshülse:
(POS.2)



BENENNUNG

System Ofen - Abgasanlage
Adapterplatte ABS / SIH / ADV
Abbildung 8b

ZEICHNUNGSNR.

S36293-01- 000000 - 000

REV.

D

PROJEKT

SCHIEDEL KINGFIRE

NAME

BEARB.

HPü

DATUM

06.07.2012

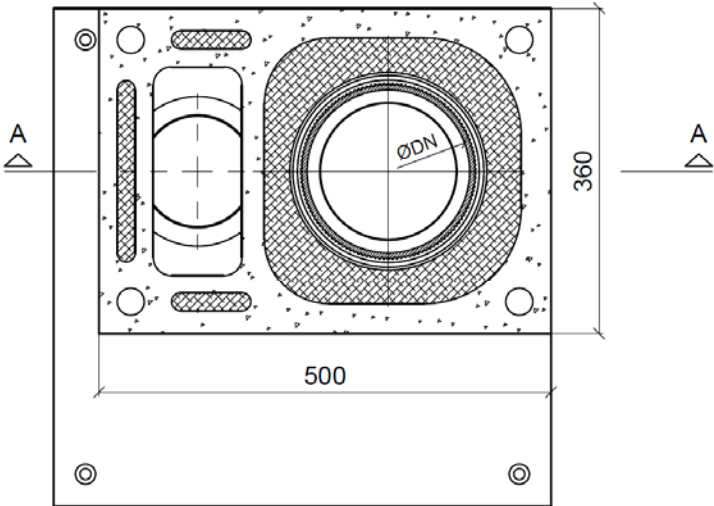
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HPü

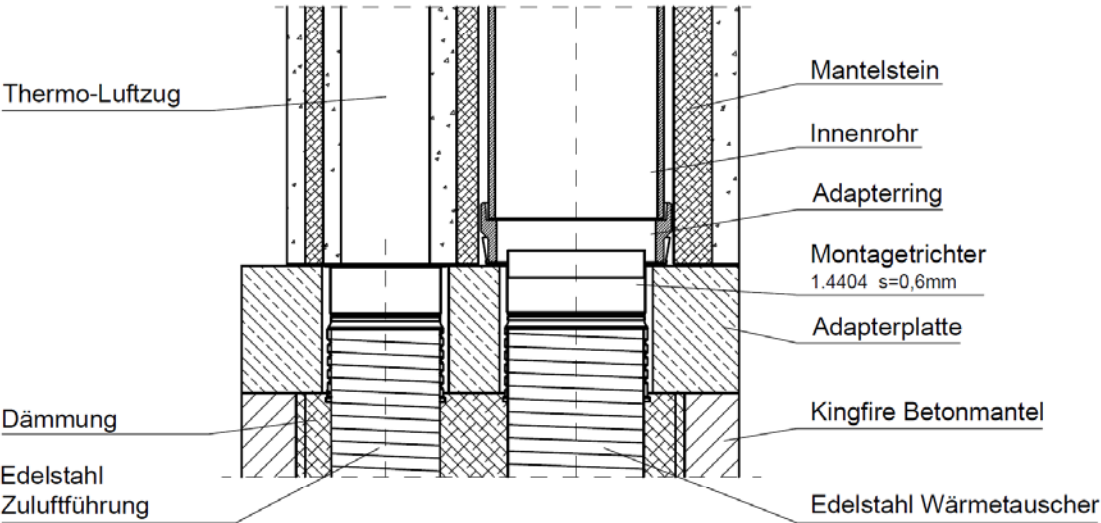
16.12.2020



SCHIEDEL GmbH
A-4542 Nußbach,
Friedrich-Schiedel-Str. 2-6

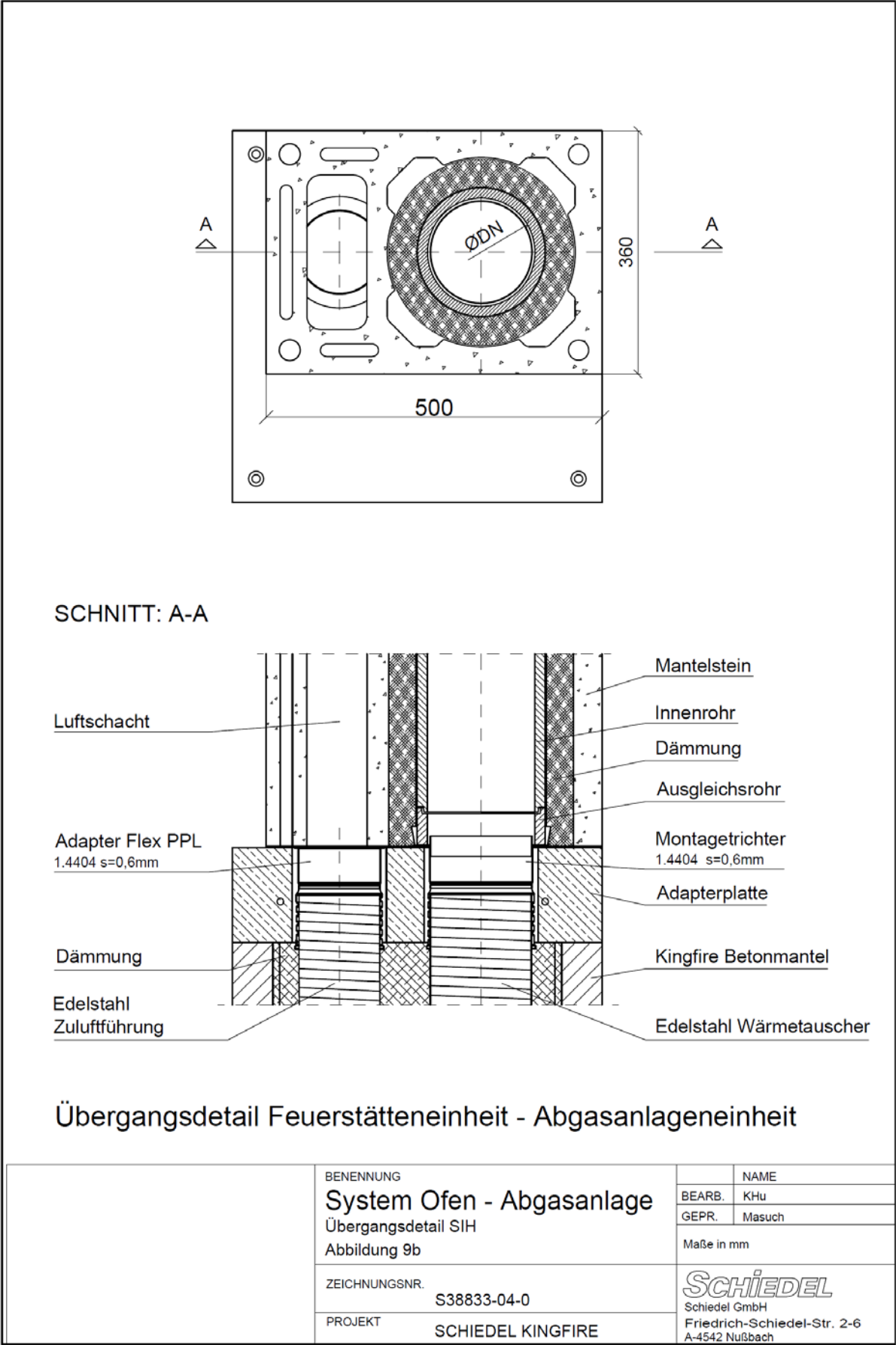


SCHNITT: A-A



Übergangsdetail Feuerstätteneinheit - Abgasanlageneinheit

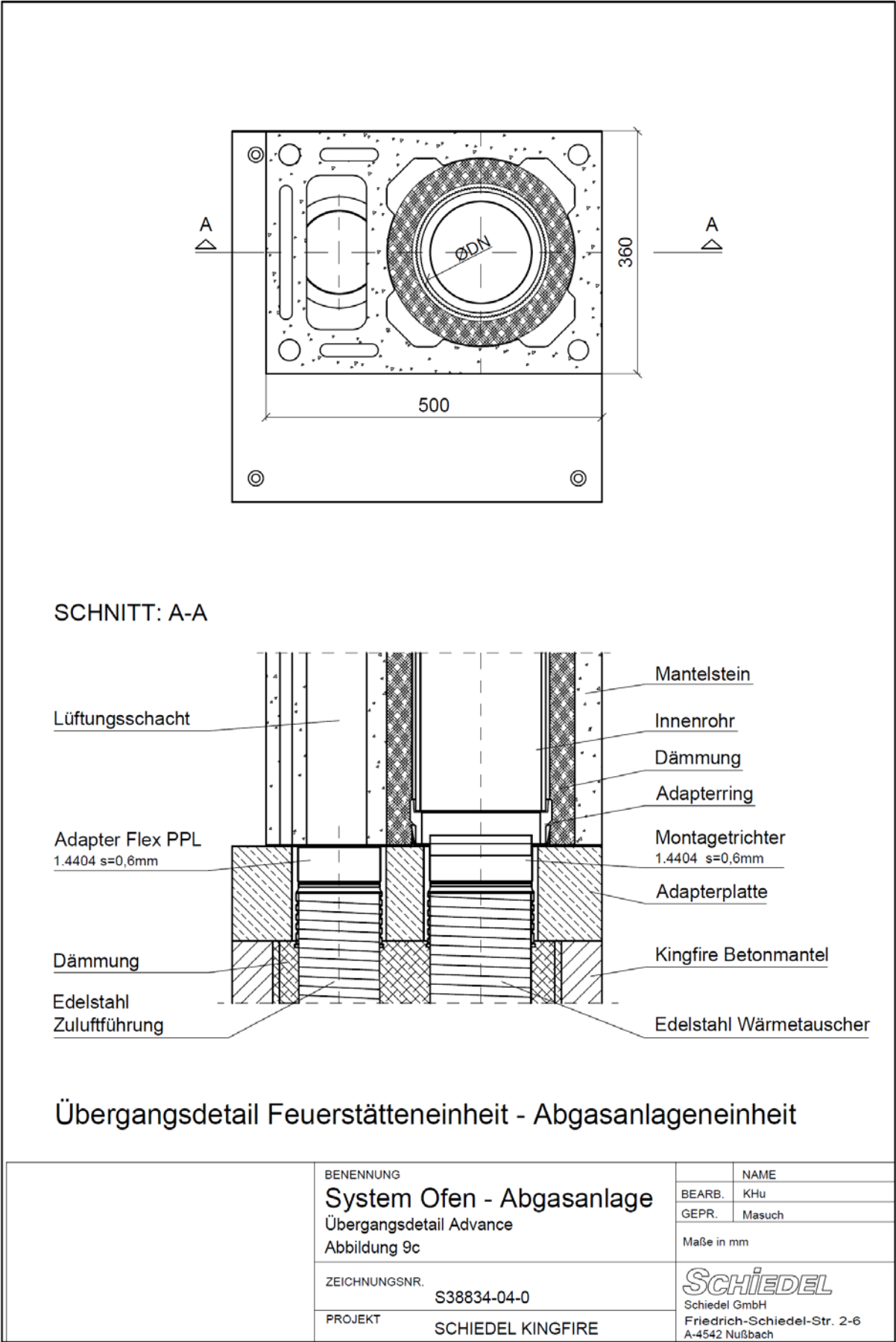
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	System Ofen - Abgasanlage	BEARB. HPü
	Übergangsdetail Absolut	GEPR. Masuch
	Abbildung 9a	Maße in mm
	ZEICHNUNGSNR. S35604-04-A	SCHIEDEL Schiedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach
	PROJEKT SCHIEDEL KINGFIRE	

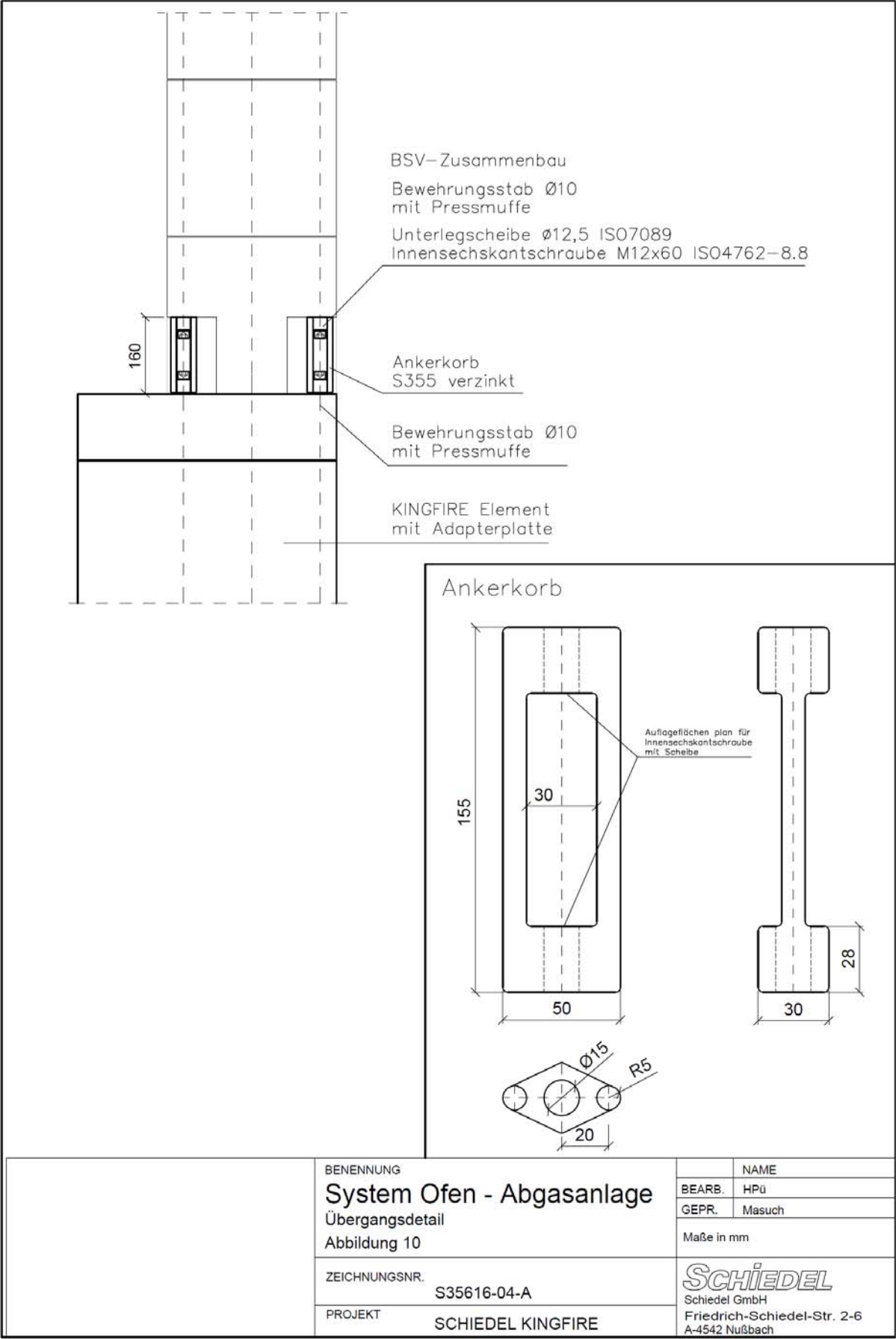


SCHNITT: A-A

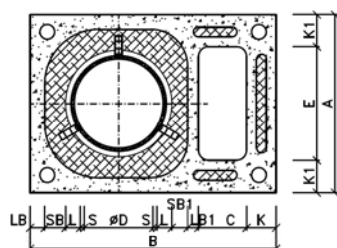
Übergangsdetail Feuerstätteneinheit - Abgasanlageneinheit

	BENENNUNG	NAME
	System Ofen - Abgasanlage	BEARB. KHu
	Übergangsdetail SIH	GEPR. Masuch
	Abbildung 9b	Maße in mm
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	PROJEKT SCHIEDEL KINGFIRE	



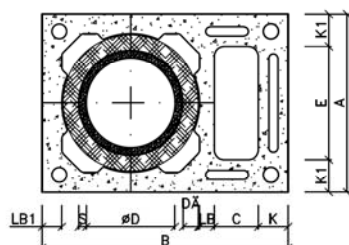


ABSOLUT und ABSOLUT PLUS



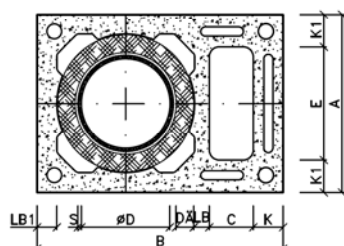
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14 TL	360	500	140	6,5	32,5	38	28	33	25	98	230	60	65
16 TL	360	500	160	7	22	38	28	33	25	98	230	60	65
18 TL	360	500	180	7	12	38	28	33	25	98	230	60	65

SIH



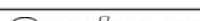
Typ SIH	A	B	Ø D	S	DA	LB	LB1	C	E	K	K1
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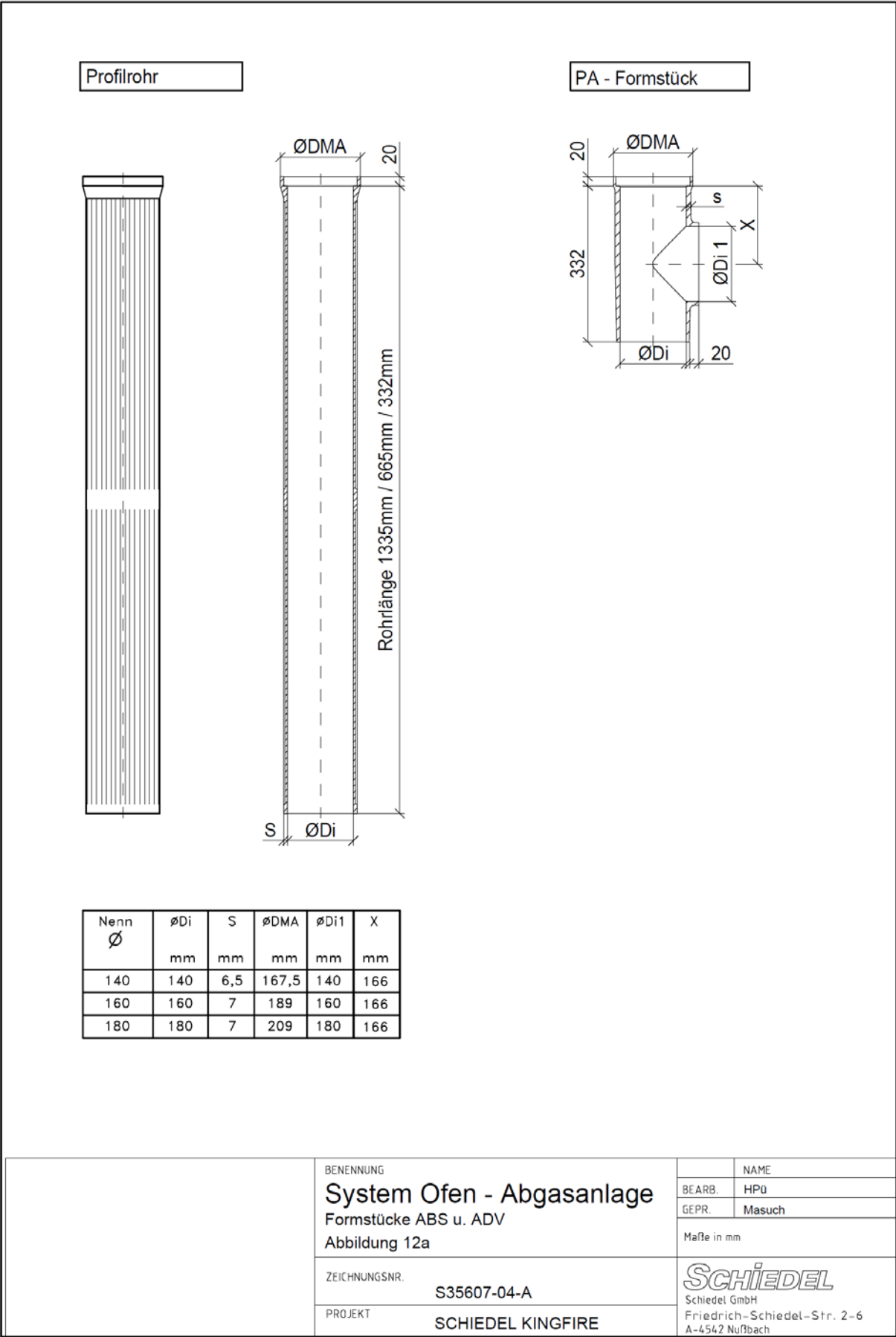
ADVANCE

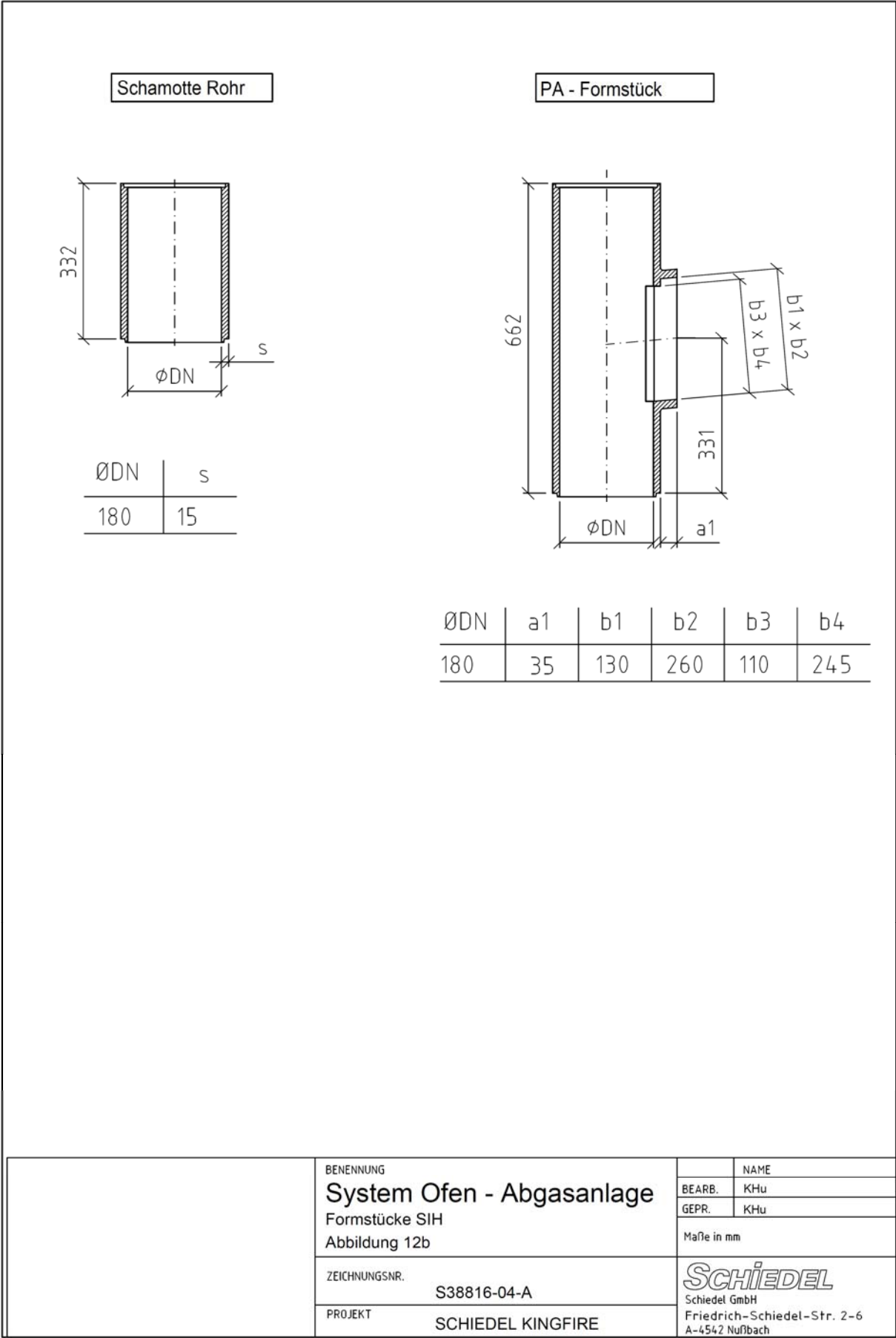


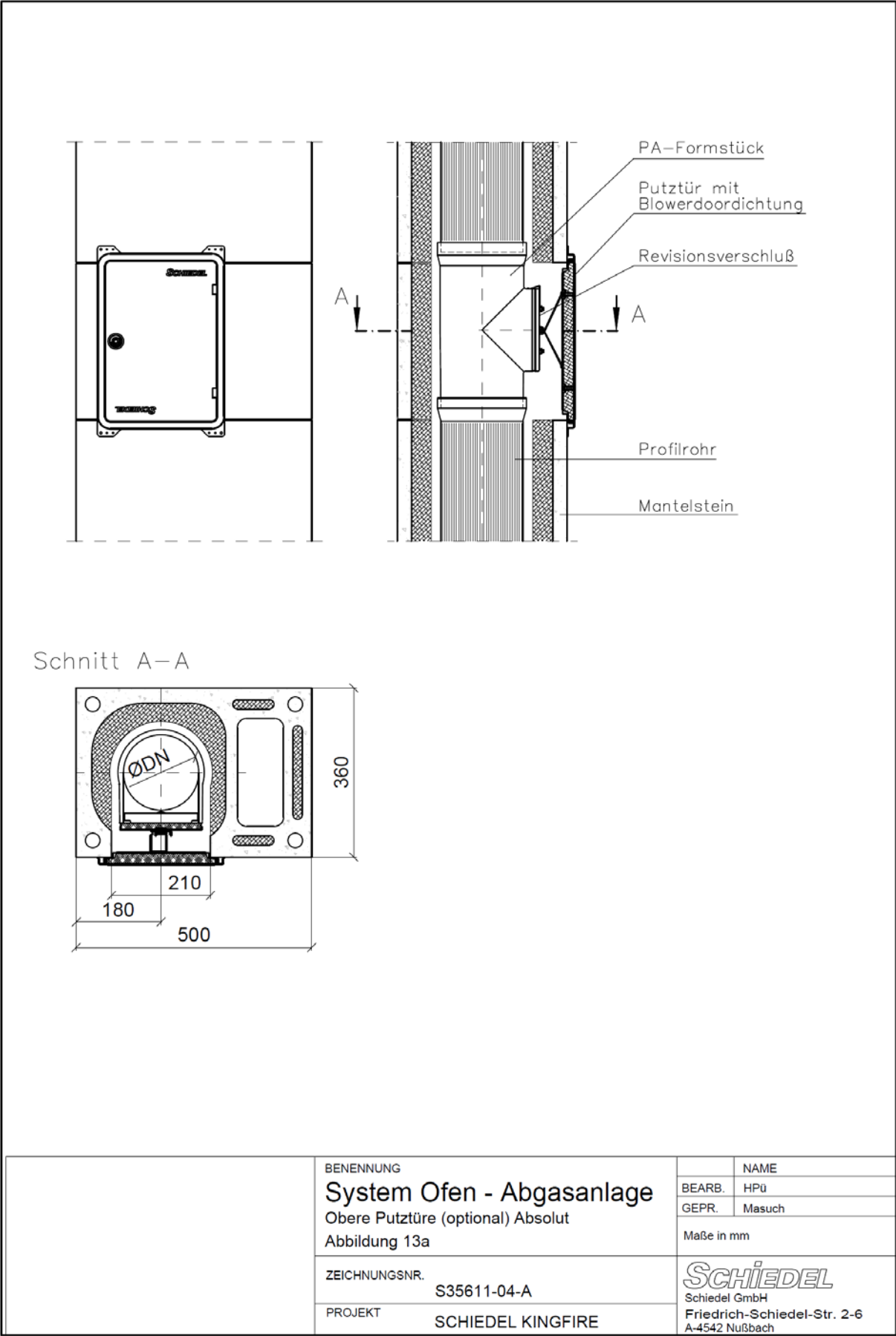
Typ ADVANCE	A	B	Ø D	S	DA	LB	LB1	C	E	K	K1
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
18 LZ	360	500	180	7	43	30	40	90	230	60	65

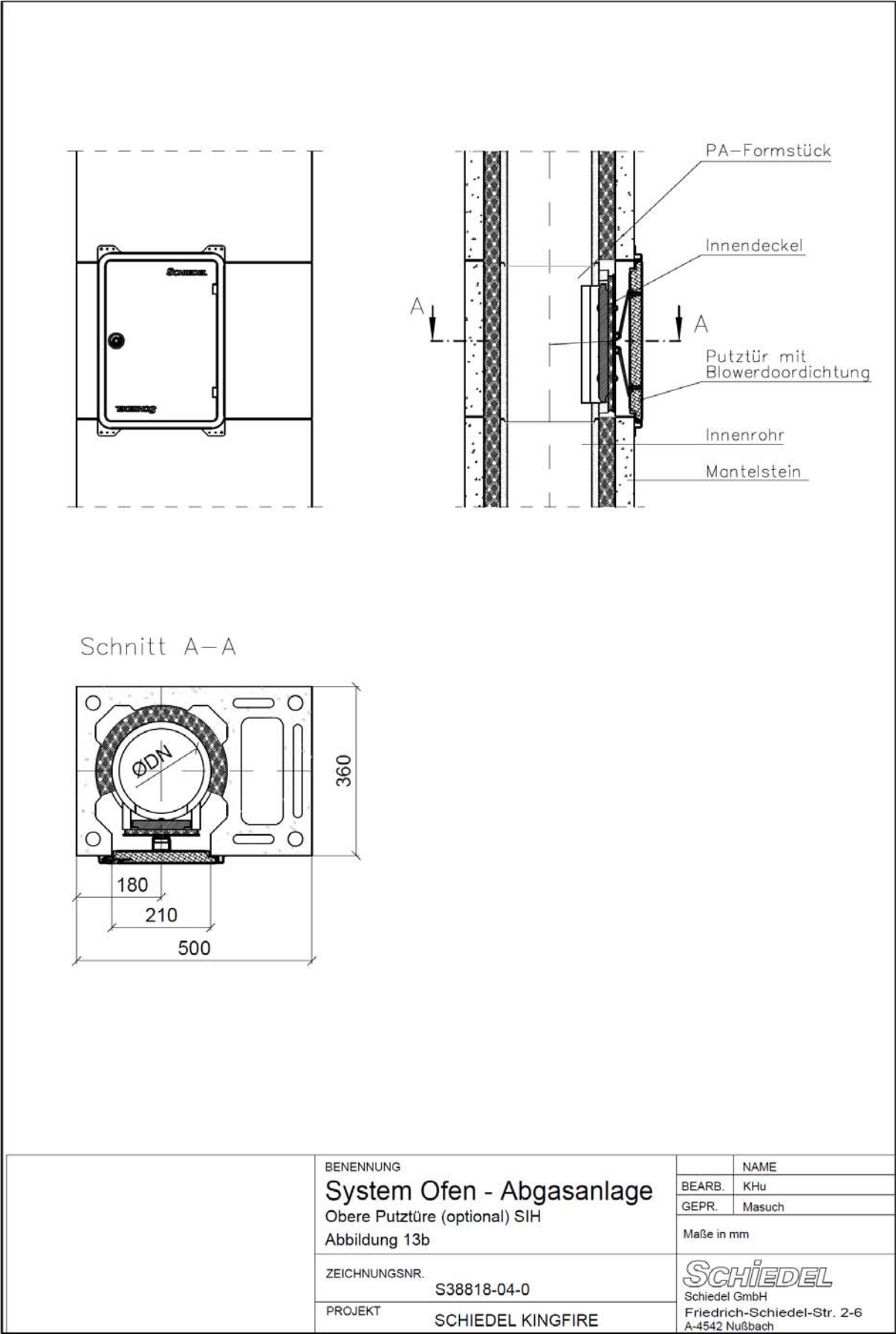
gleiche Mantelsteinabmessungen für Montage und Parat Ausführung

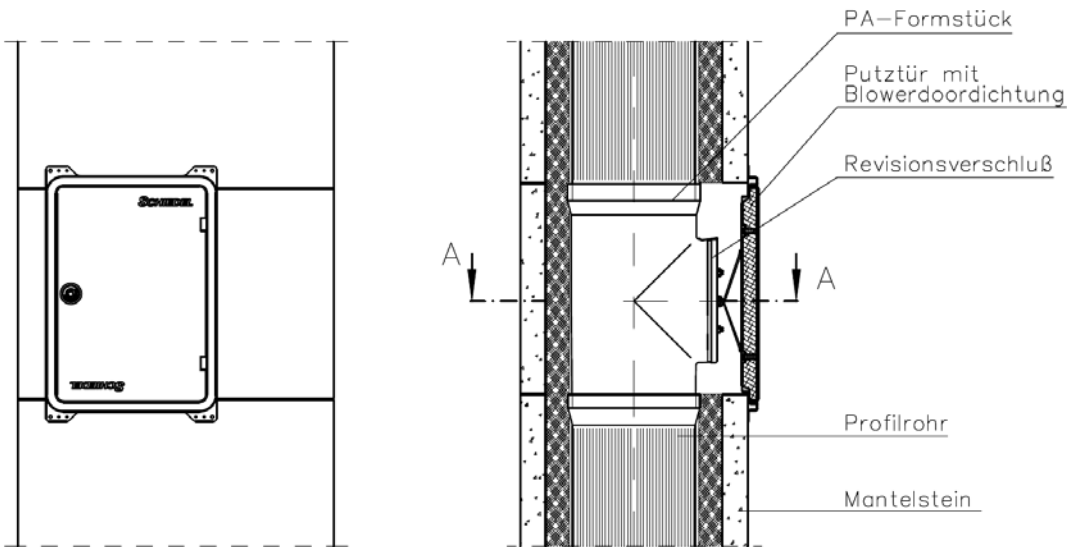
	BENENNUNG	NAME
	System Ofen - Abgasanlage	BEARB. HPü
	System Abmessungen	GEPR. KHu
	Abbildung 11	Maße in mm
	ZEICHNUNGSNR.	 Schiedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach
	S35609-04-C	
	PROJEKT	
	SCHIEDEL KINGFIRE	



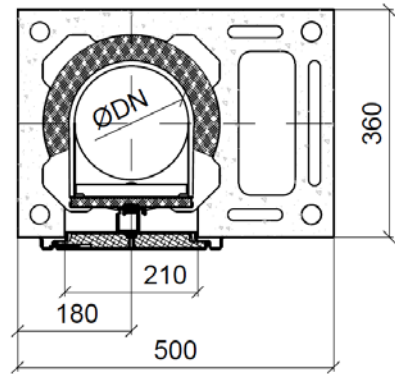





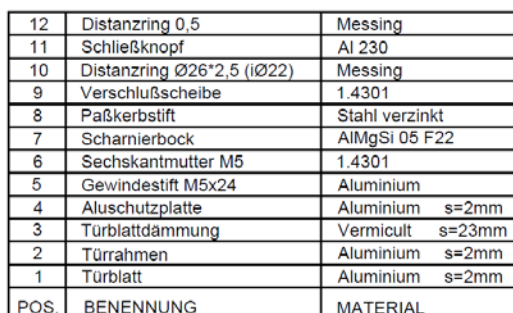





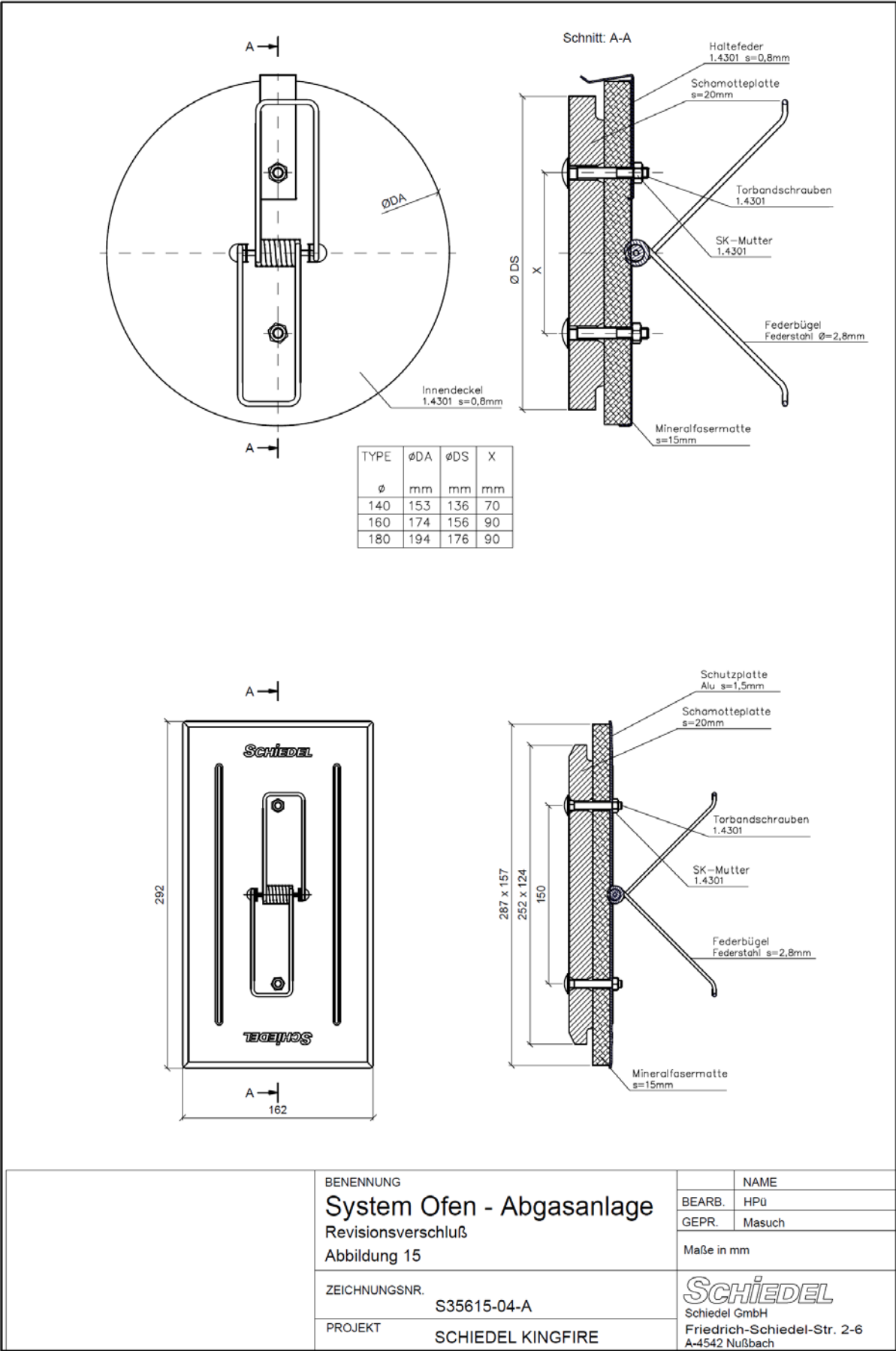
Schnitt A-A

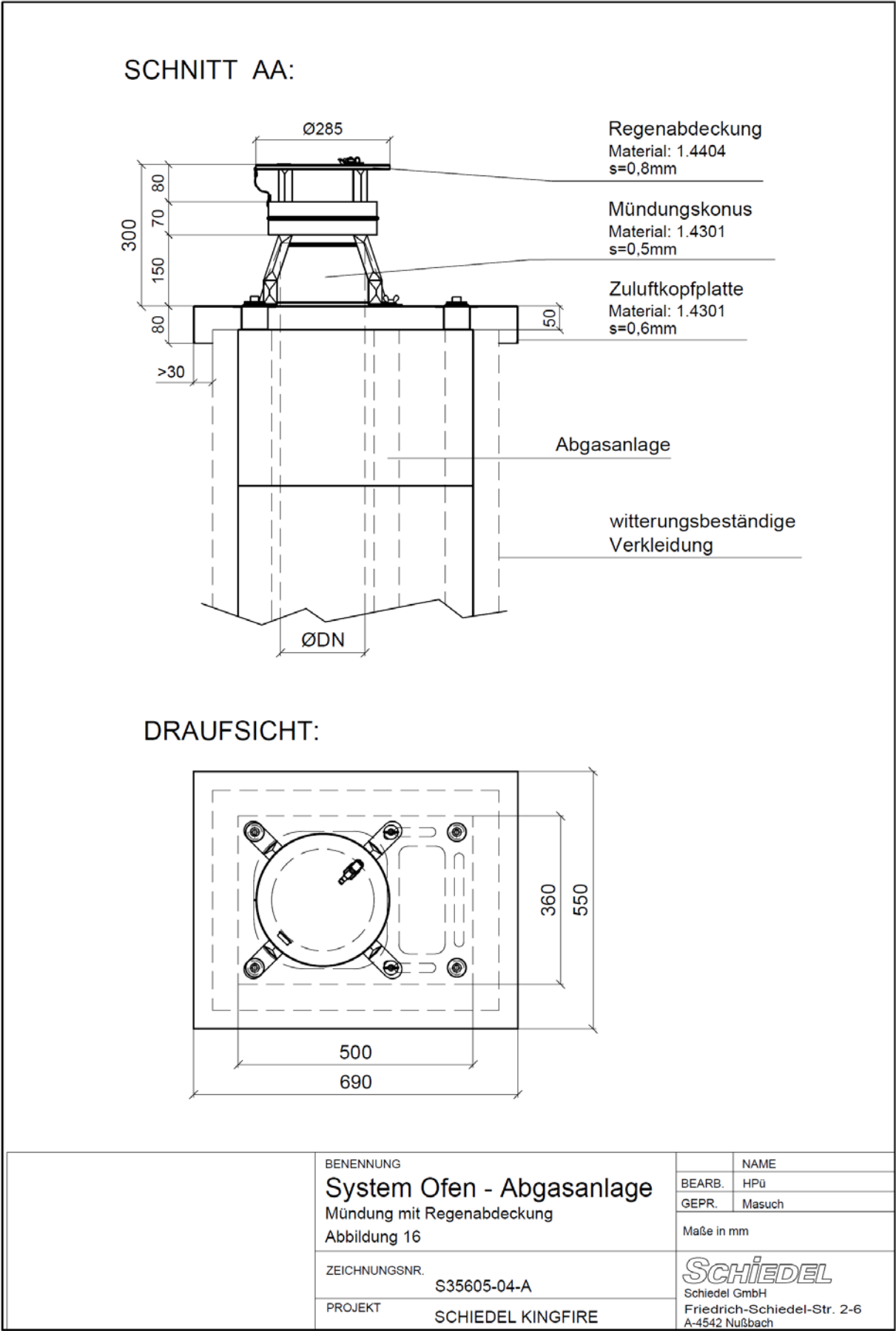


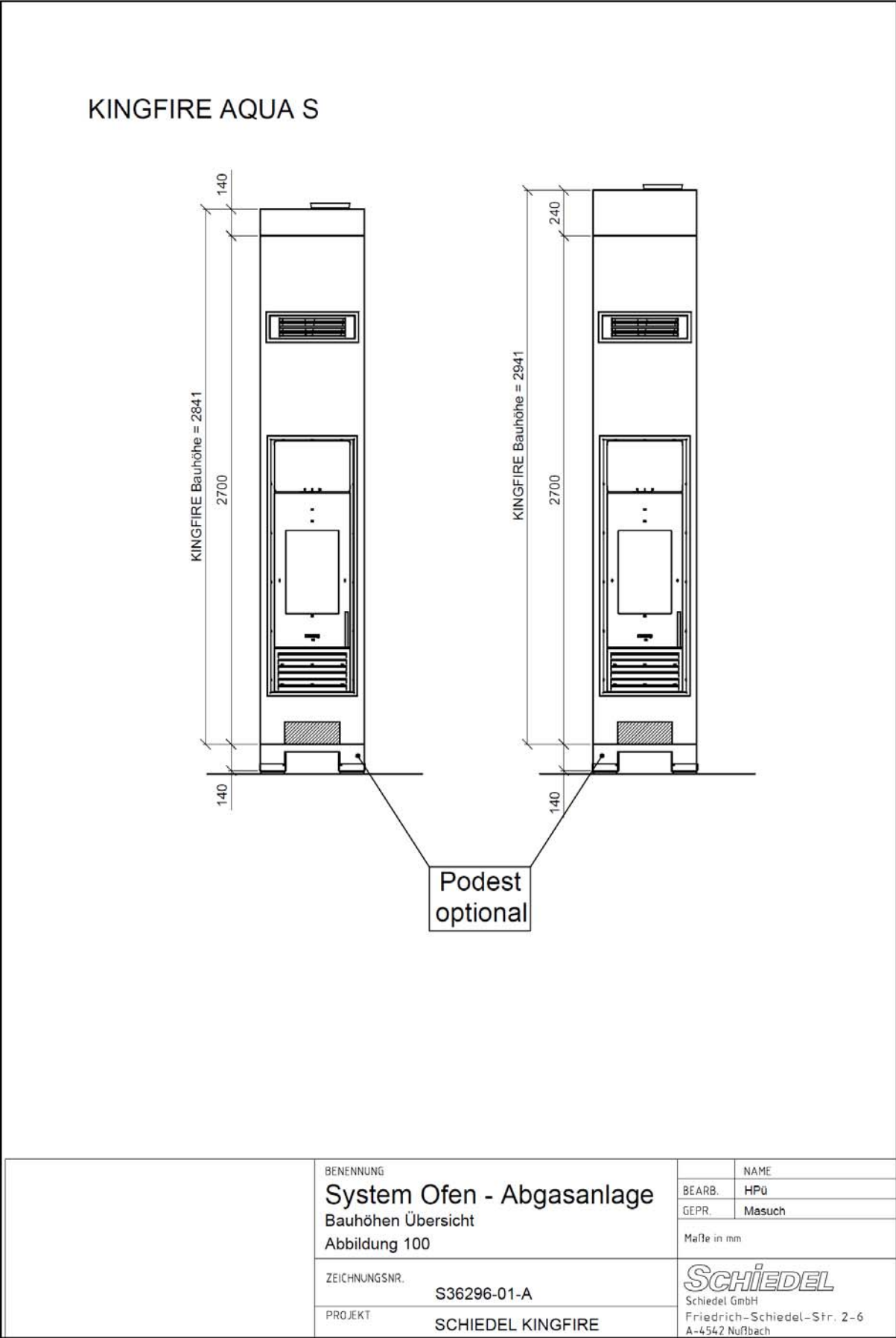
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	System Ofen - Abgasanlage Obere Putztüre (optional) ADVANCE Abbildung 13c		BEARB.	KHu
			GEPR.	Masuch
			Maße in mm	
	ZEICHNUNGSNR.		 Schiedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach	
S38819-04-0				
PROJEKT		SCHIEDEL KINGFIRE		

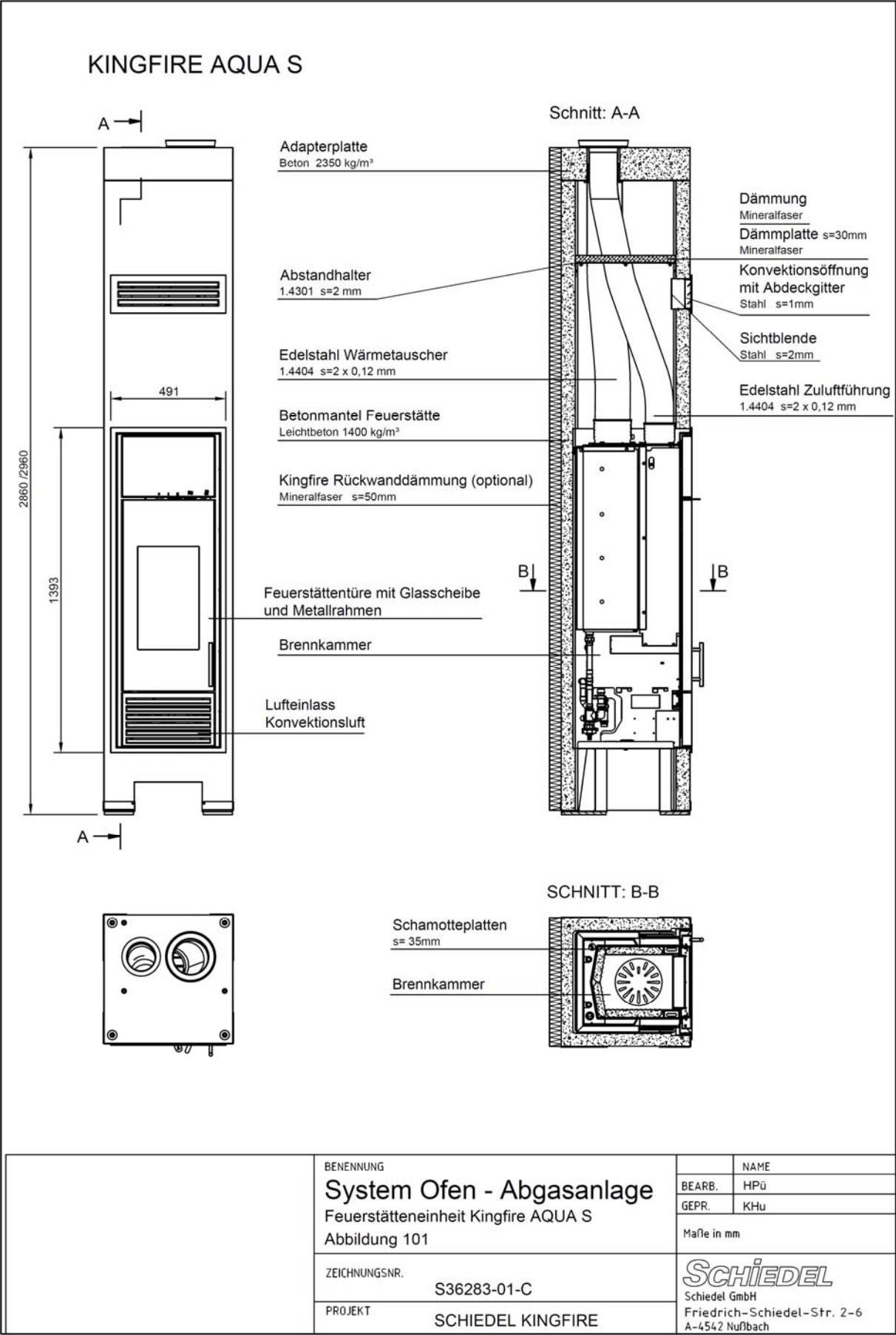


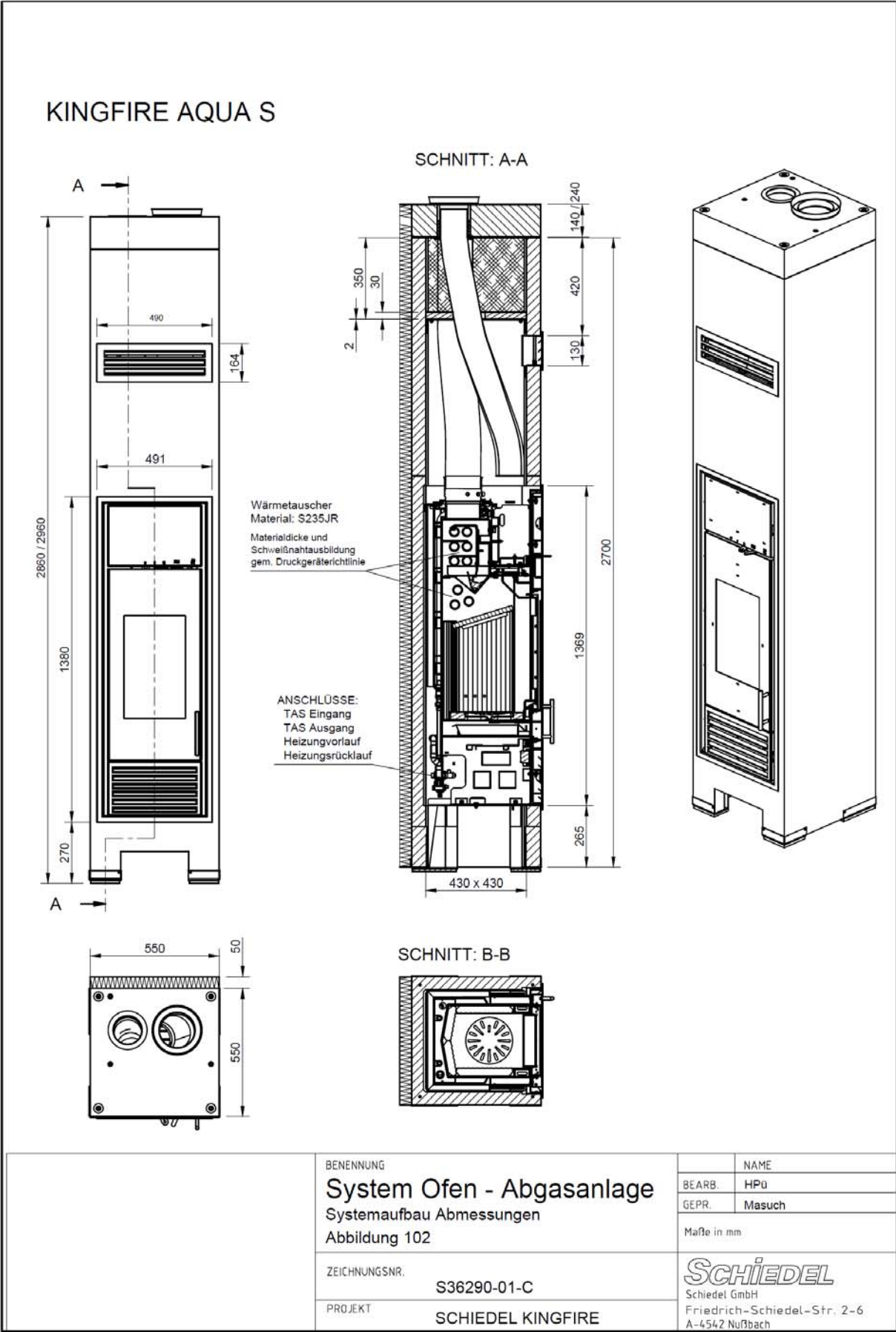
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	System Ofen - Abgasanlage Putztüre (optional) Abbildung 14	BEARB. HPü
		GEPR. Masuch
		Maße in mm
	ZEICHNUNGSNR.	 Schieedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach
S35612-04-A		
	PROJEKT	
	SCHIEDEL KINGFIRE	

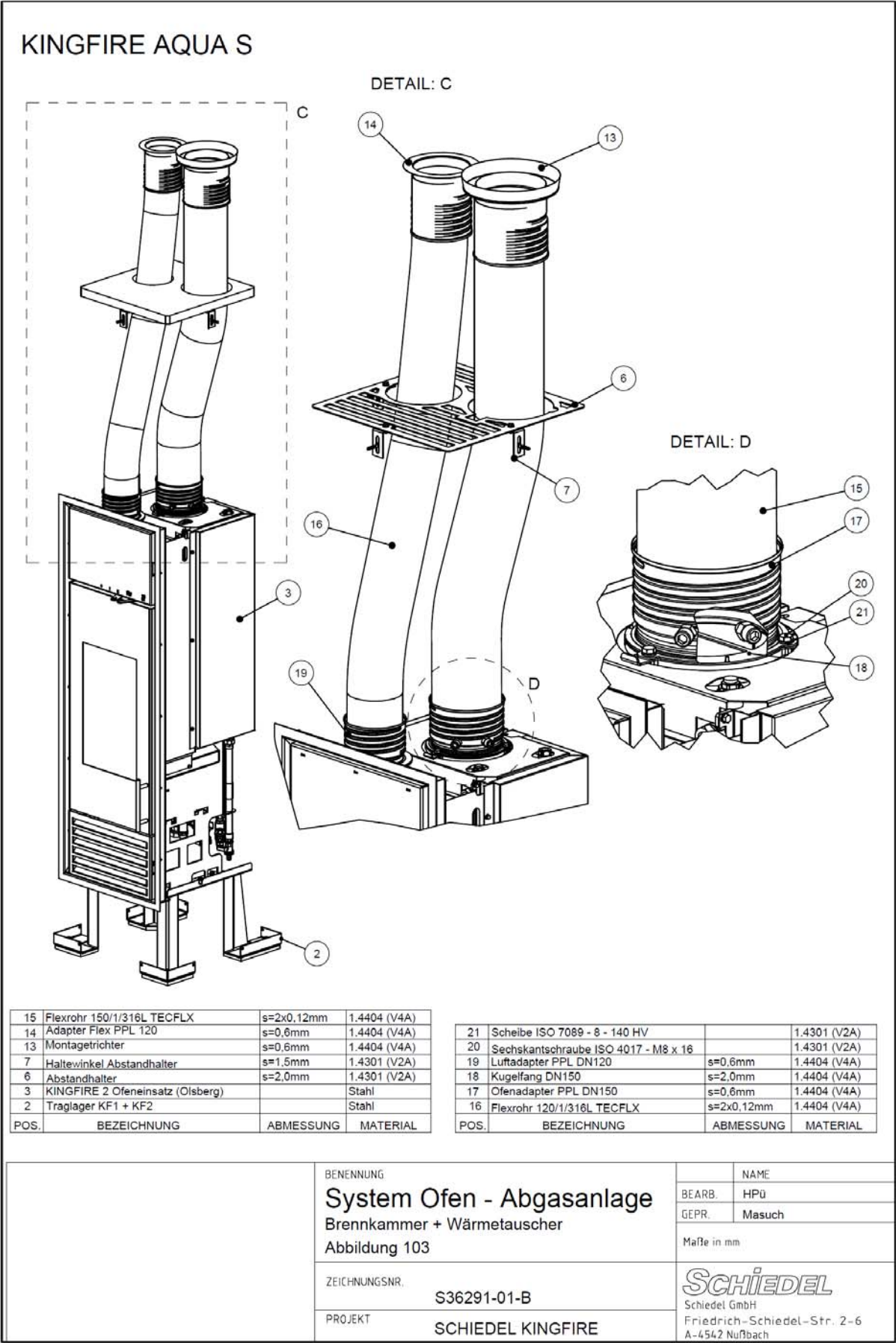


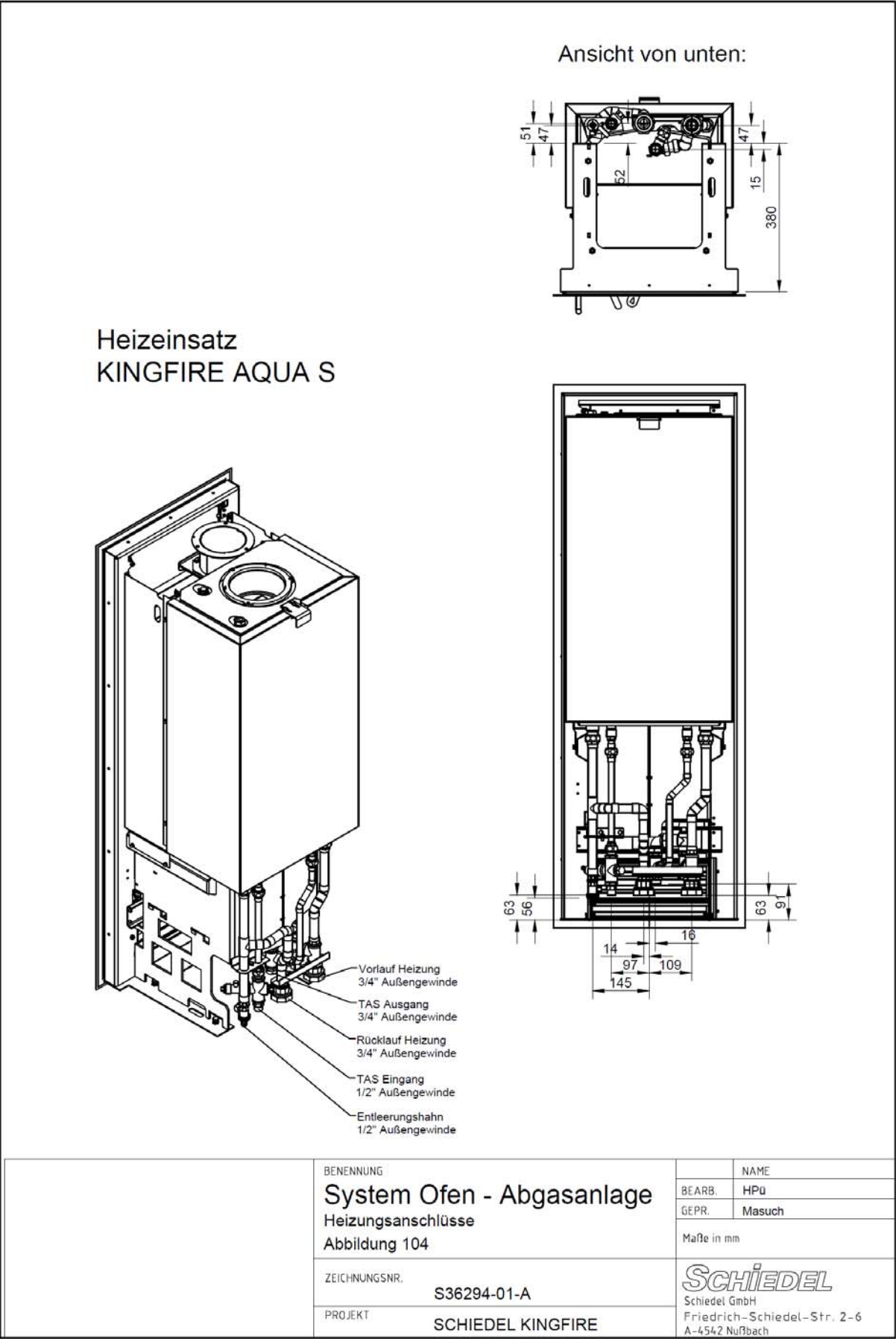


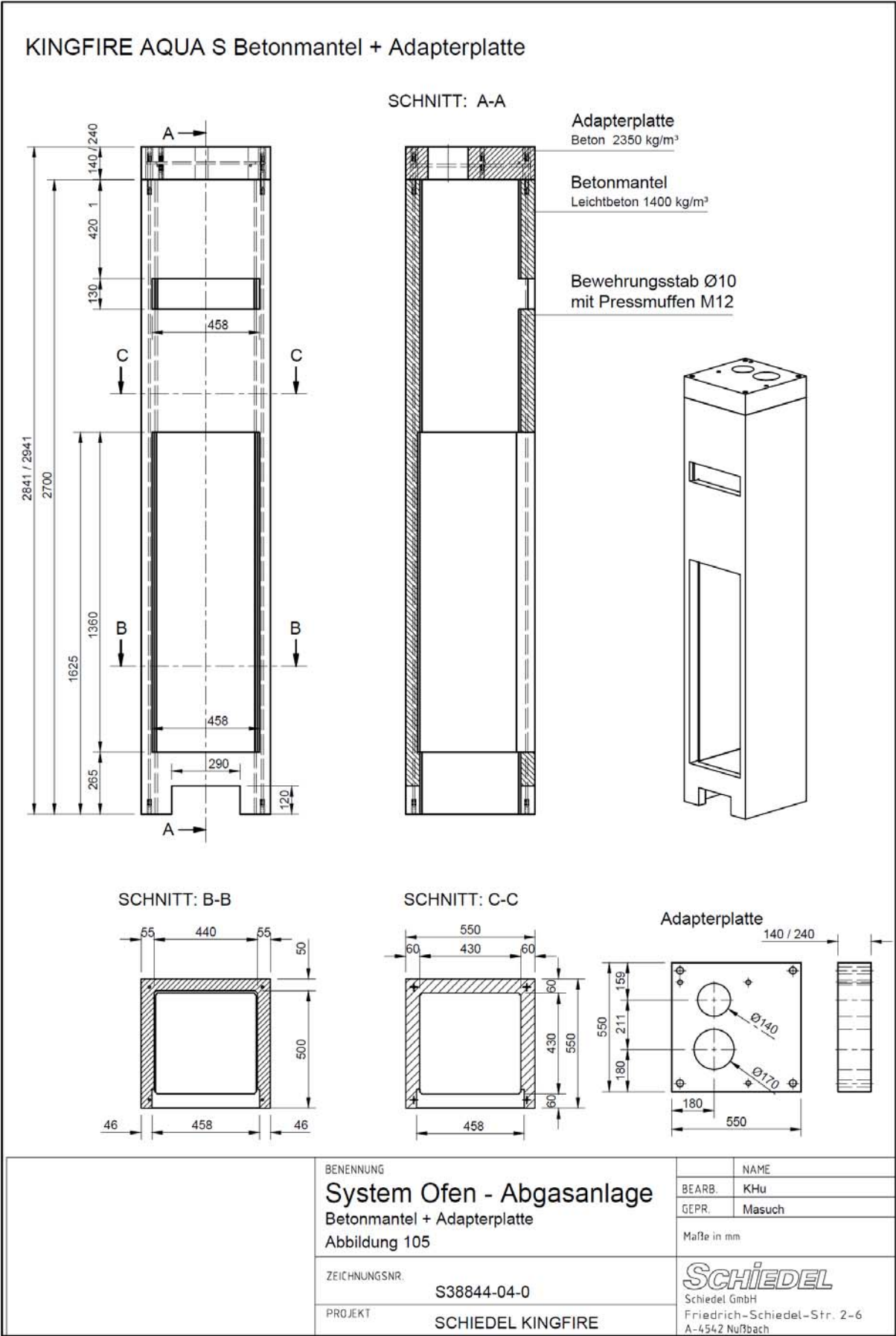


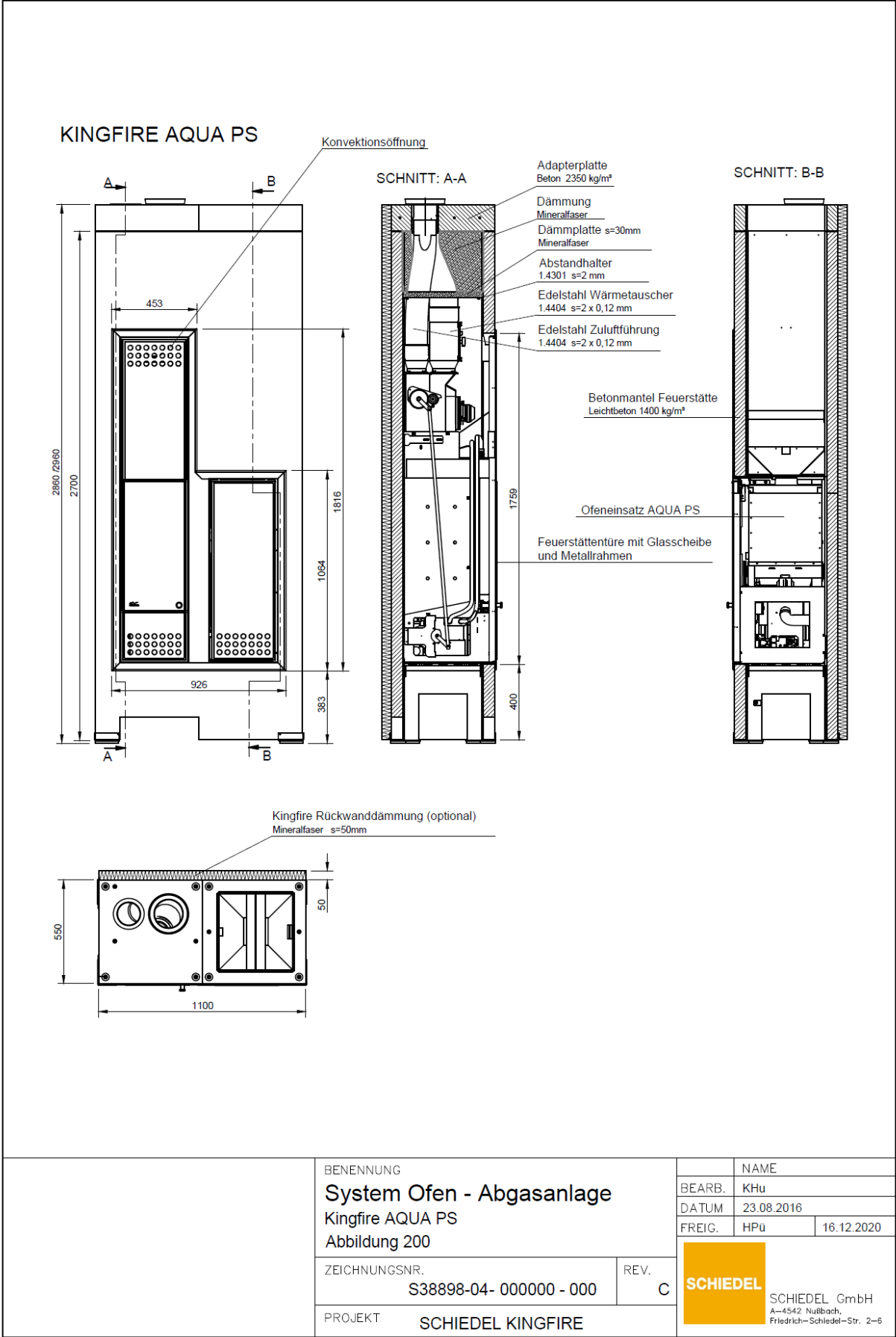




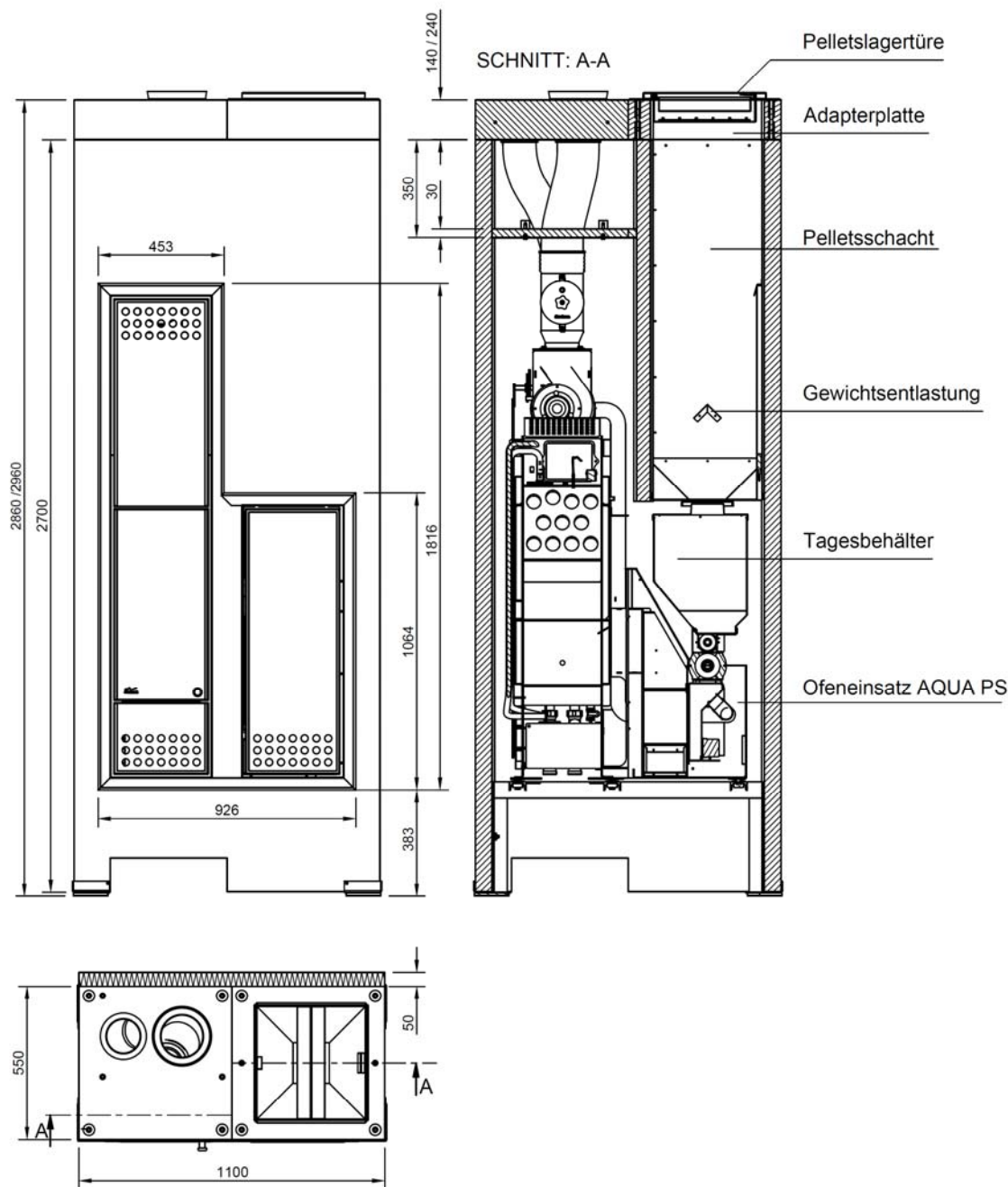




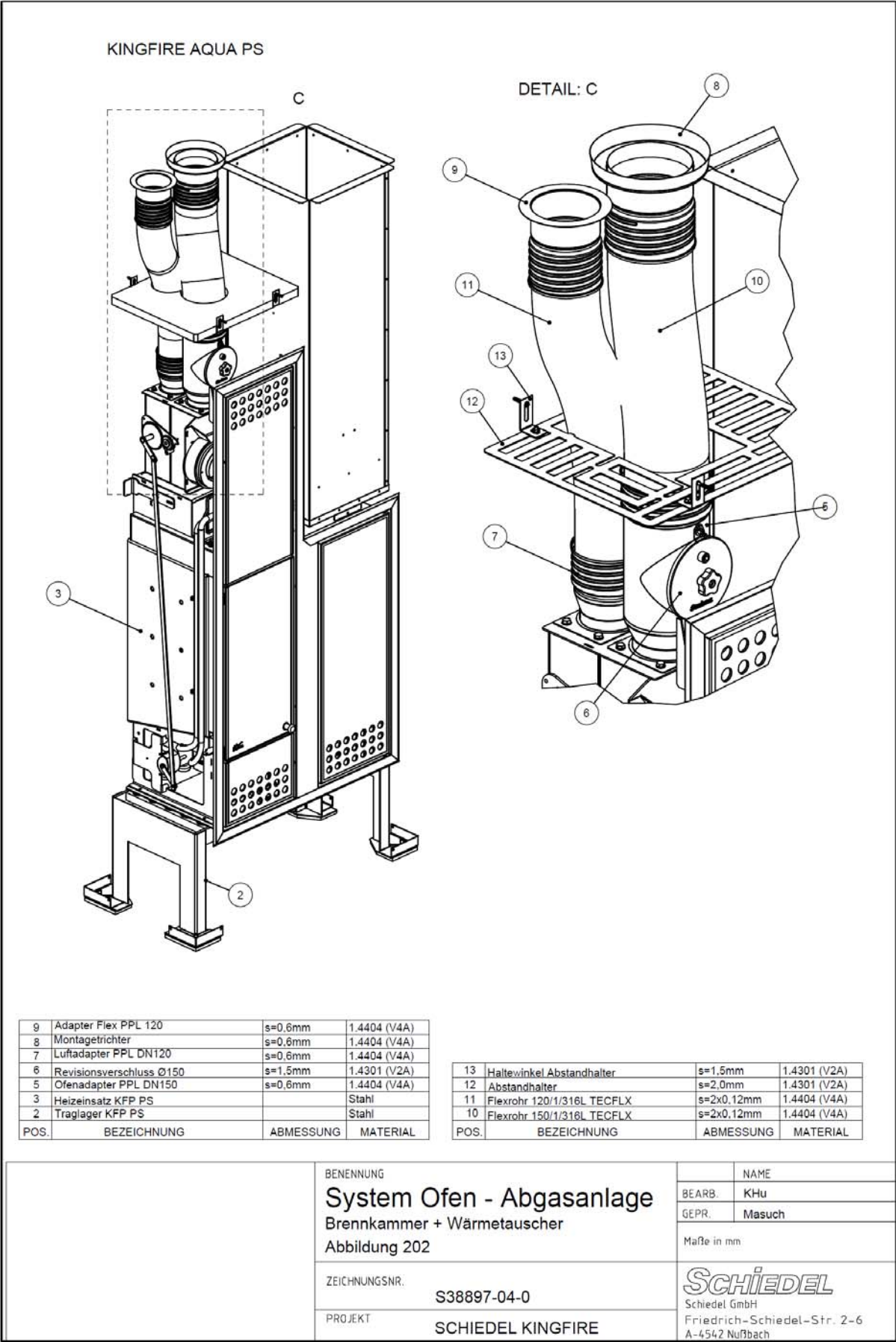


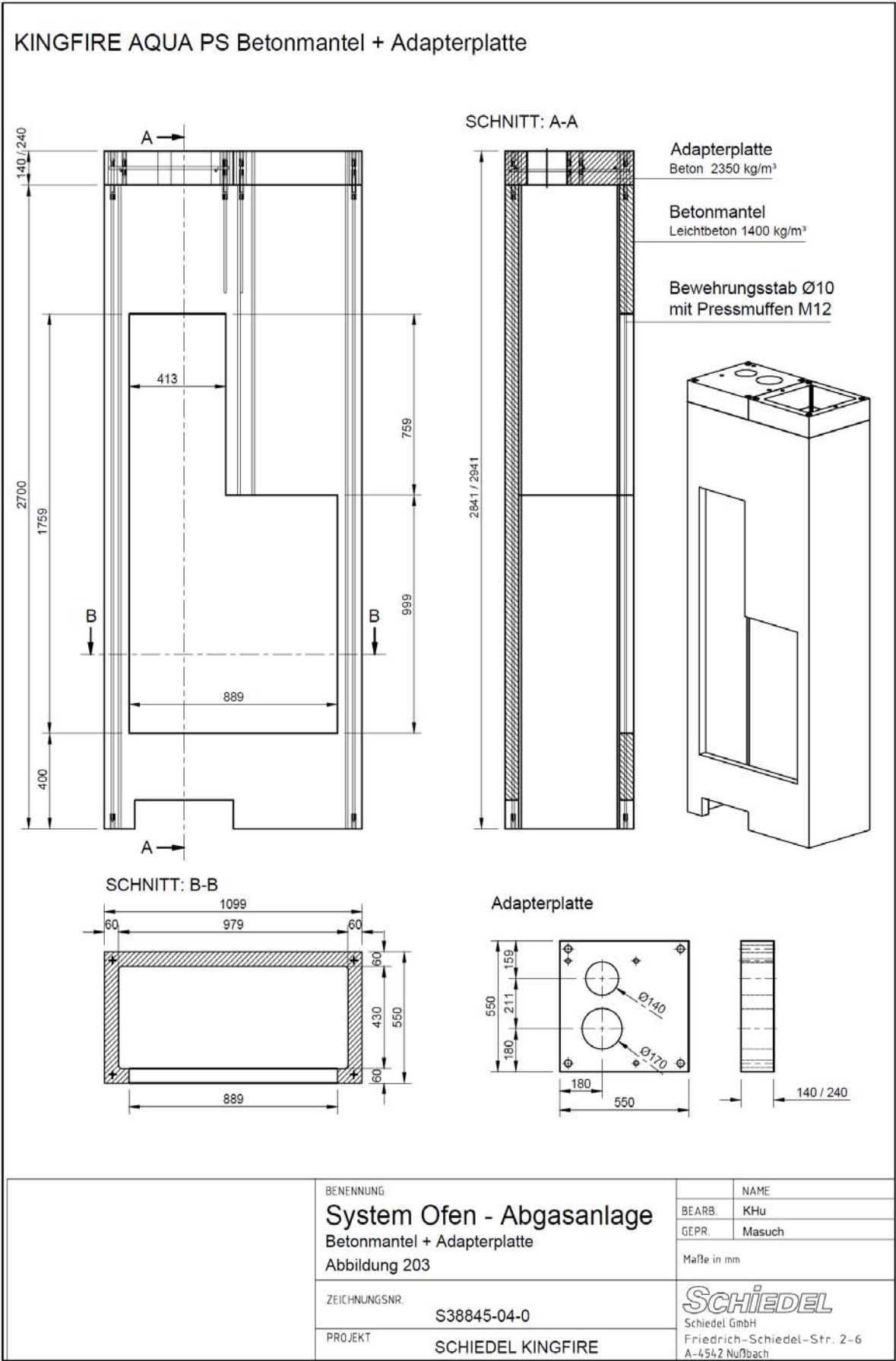


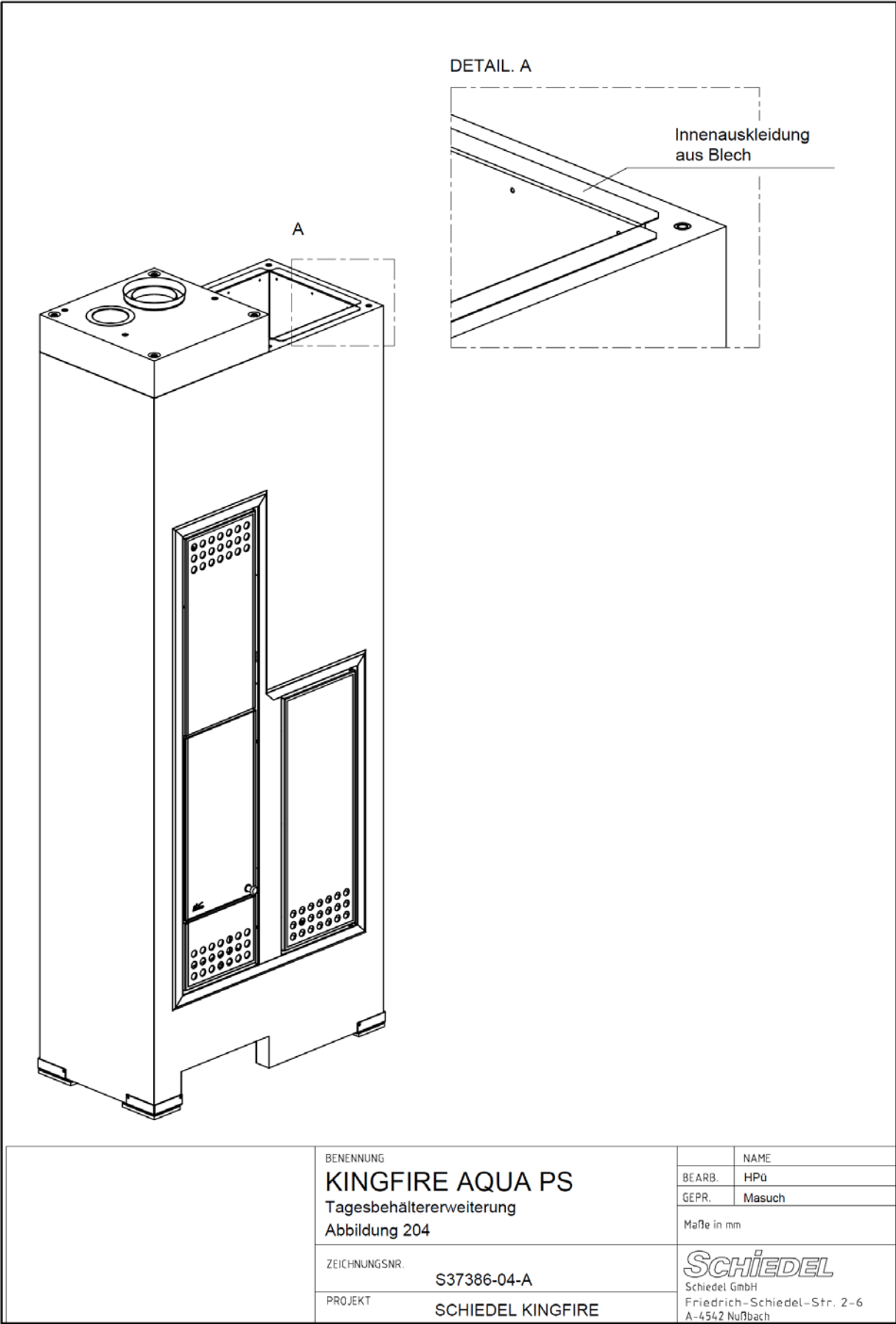
KINGFIRE AQUA PS

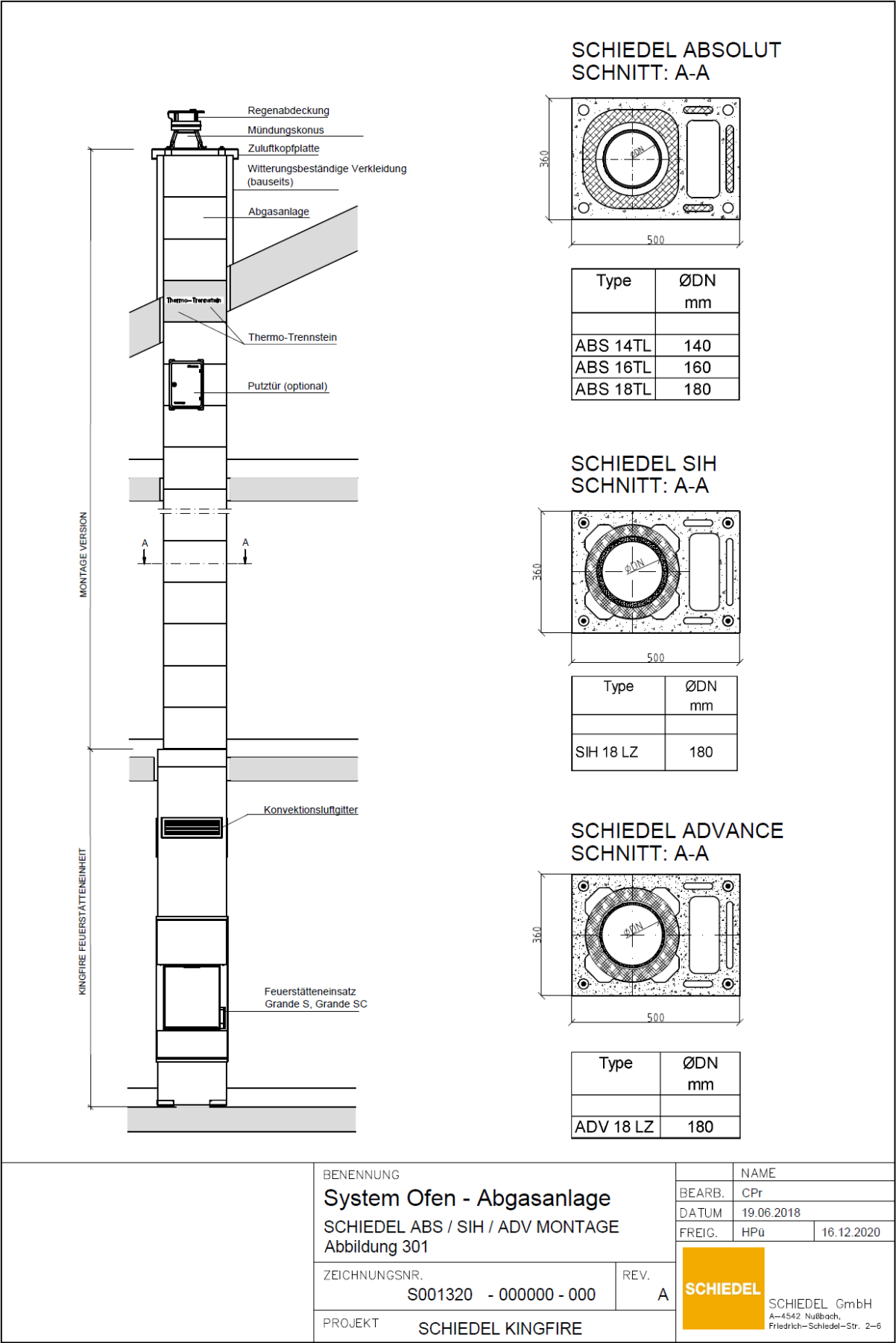


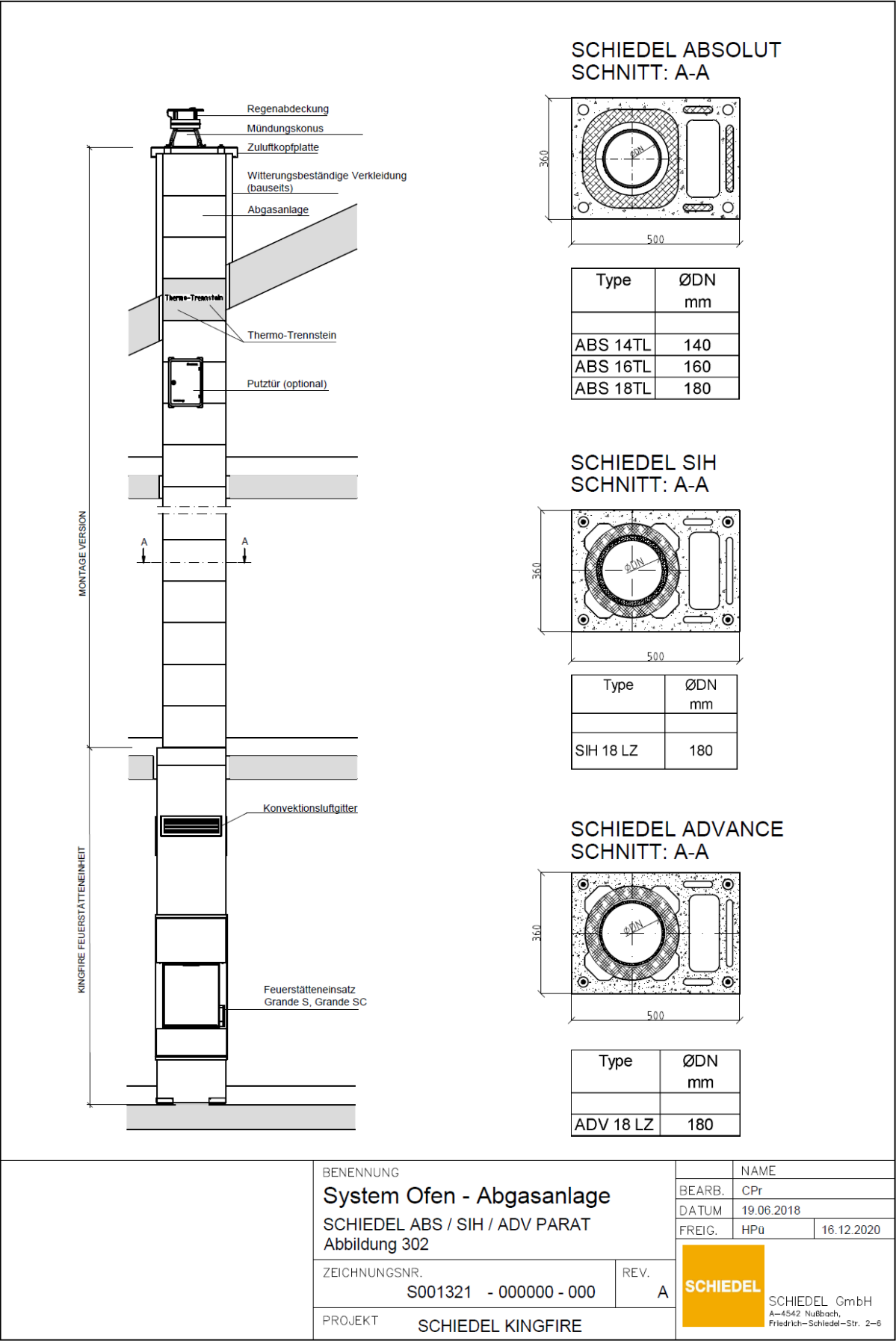
	BENENNUNG	KINGFIRE AQUA PS		NAME	
	Zusammenbaudarstellung			BEARB.	HPü
	Abbildung 201			GEPR.	KHu
	ZEICHNUNGSNR.	S37389-04-B		Maße in mm	
PROJEKT	SCHIEDEL KINGFIRE			SCHIEDEL Schiedel GmbH Friedrich-Schiedel-Str. 2-6 A-4542 Nußbach	

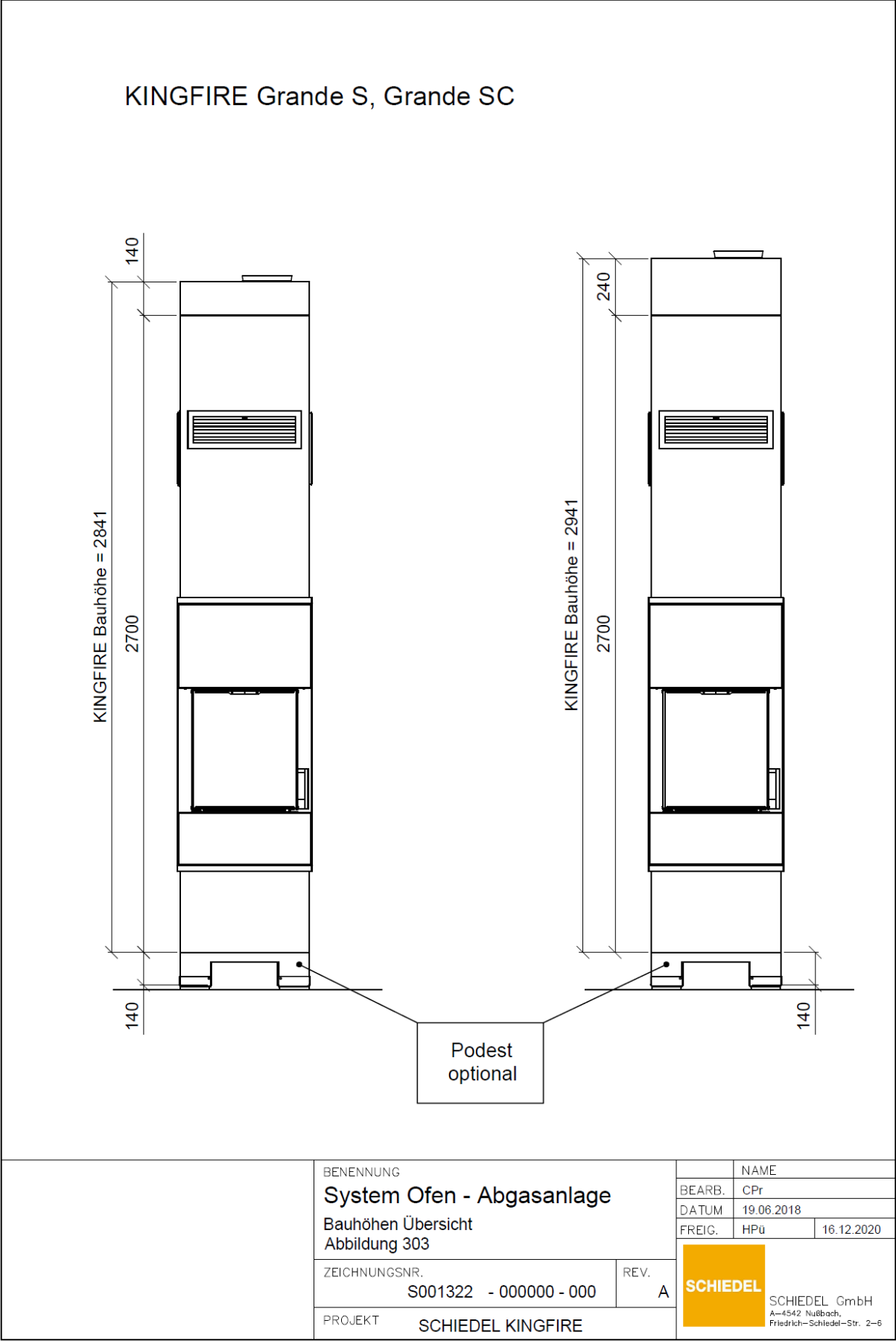




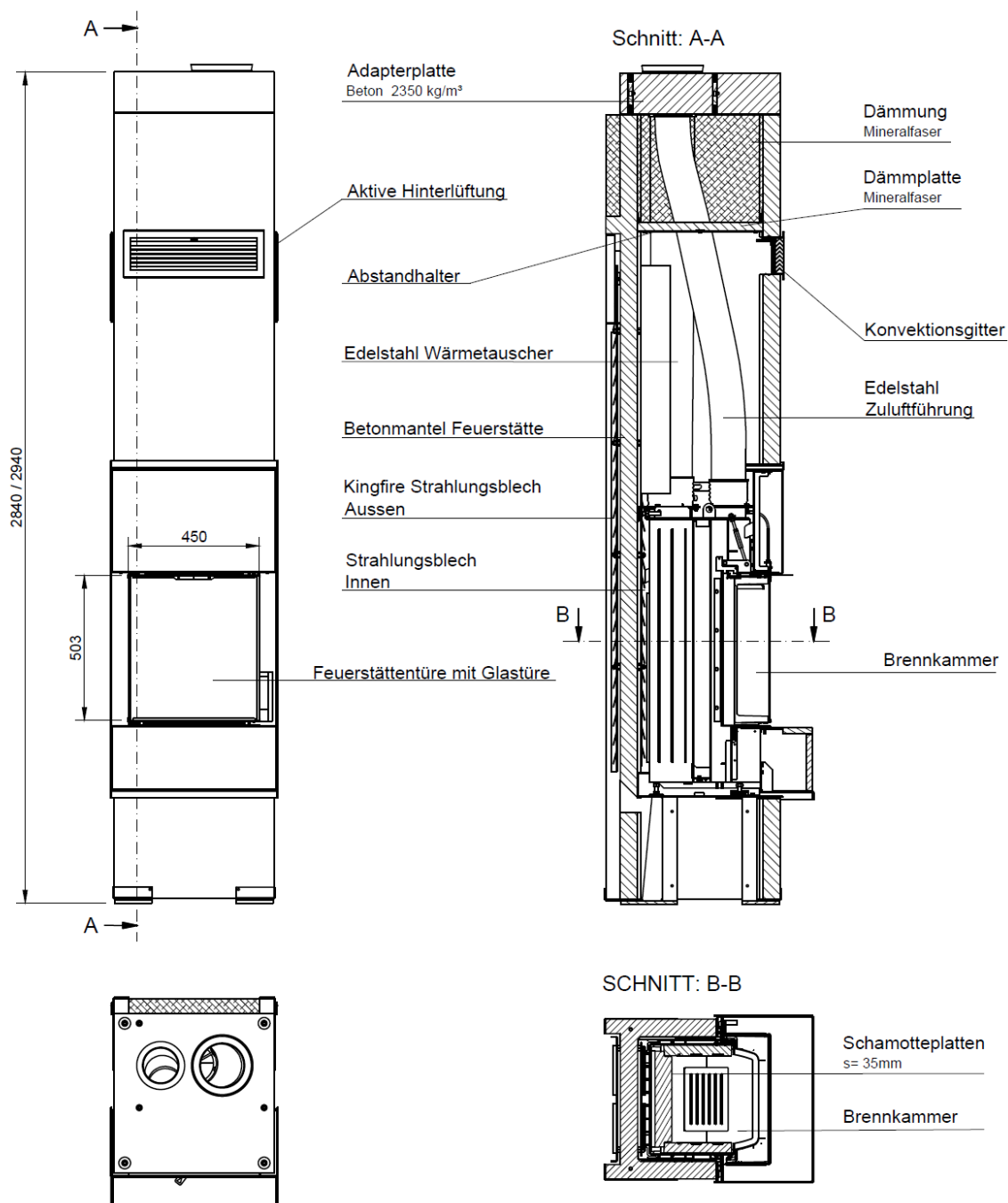








KINGFIRE Grande S, Grande SC (aktive Hinterlüftung)



BENENNUNG

System Ofen - Abgasanlage

Feuerstätteneinheit KF Grande

Abbildung 304a

ZEICHNUNGSNR.

S001323 - 000000 - 000

REV.

A

PROJEKT

SCHIEDEL KINGFIRE

NAME

BEARB.

CPr

DATUM

19.06.2018

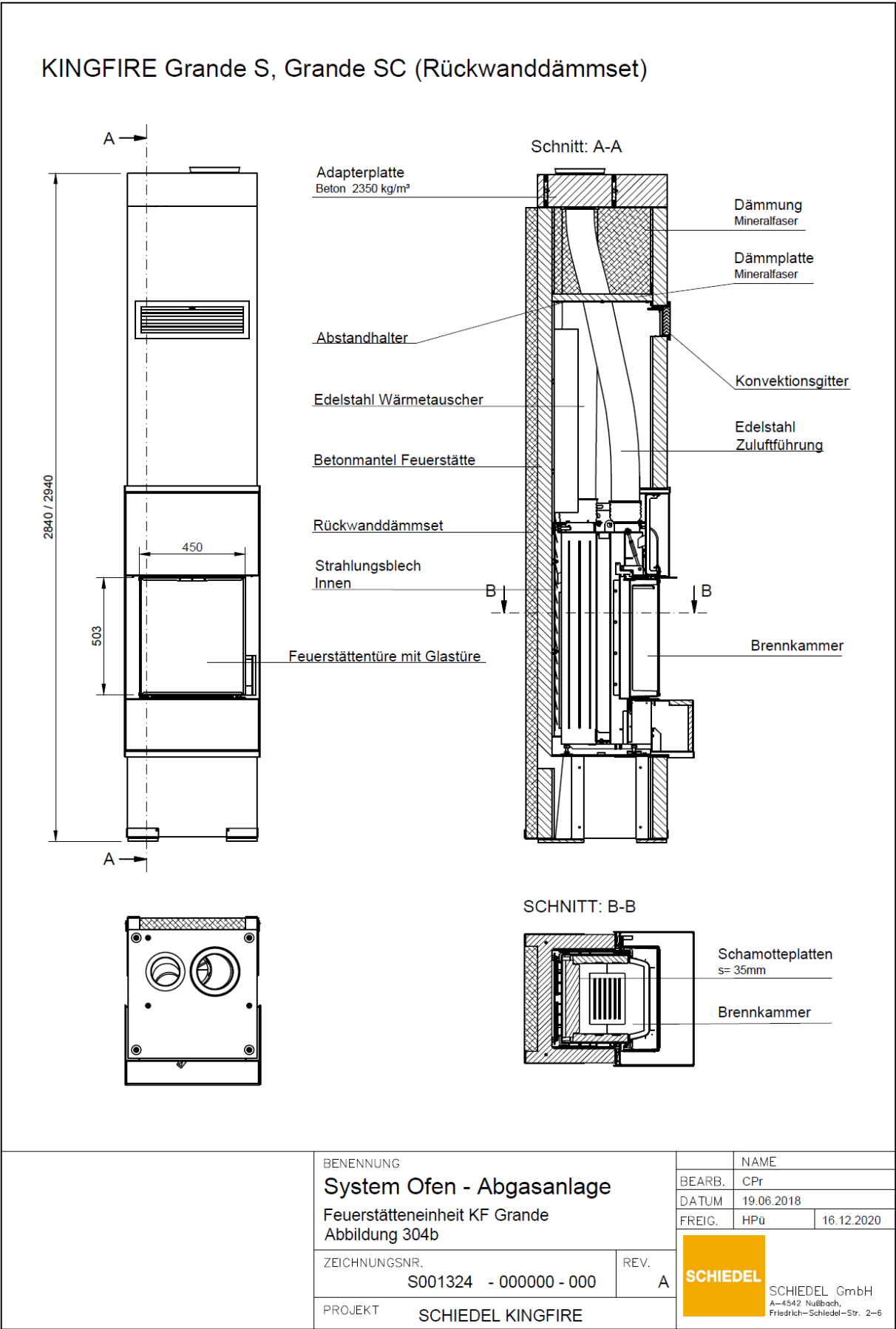
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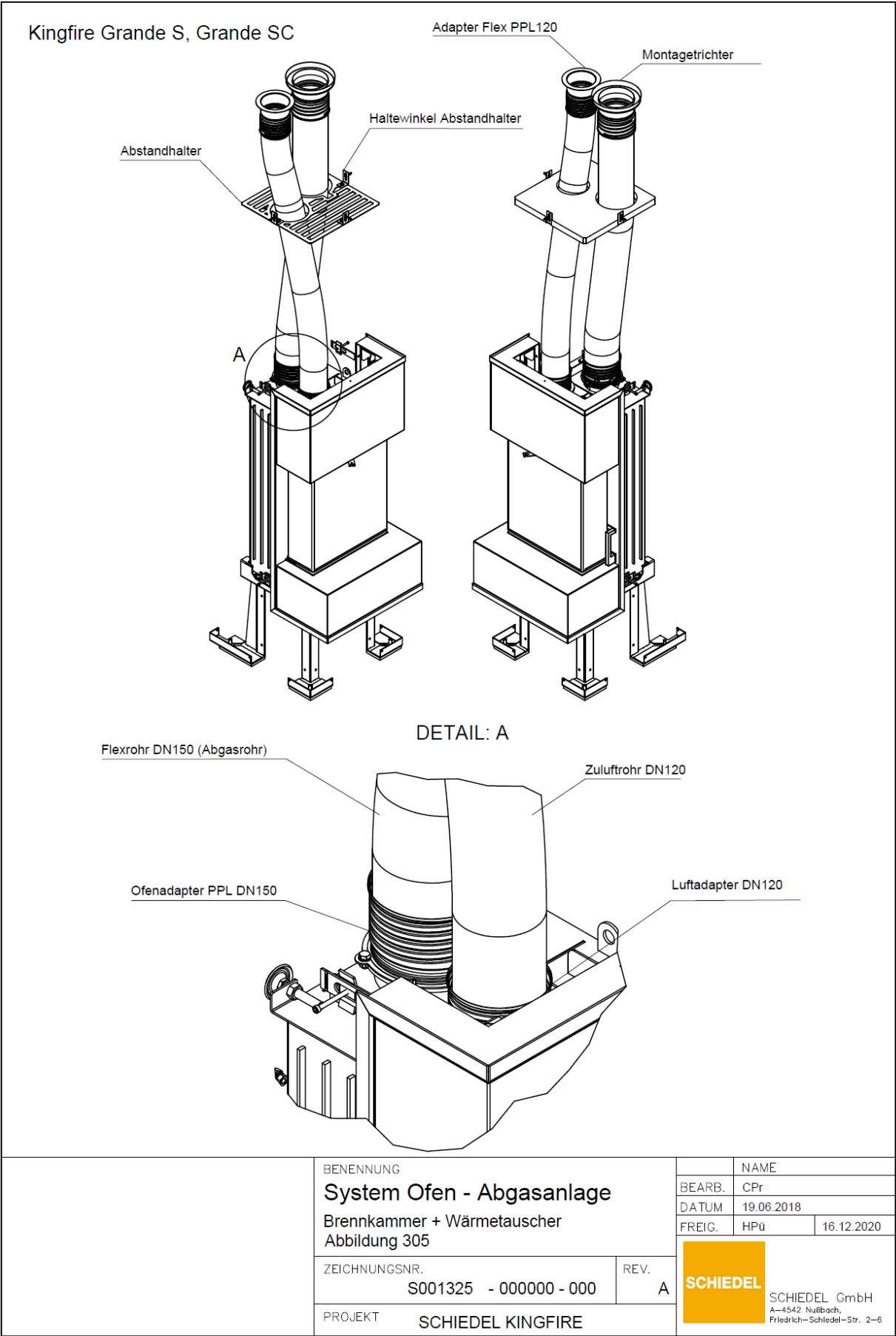
HPü

16.12.2020



SCHIEDEL GmbH
A-4542 Nußbach,
Friedrich-Schiedel-Str. 2-6






Hauptplatte
 Beton 2350 kg/m³

Betonmantel
 Leichtbeton 1400 kg/m³

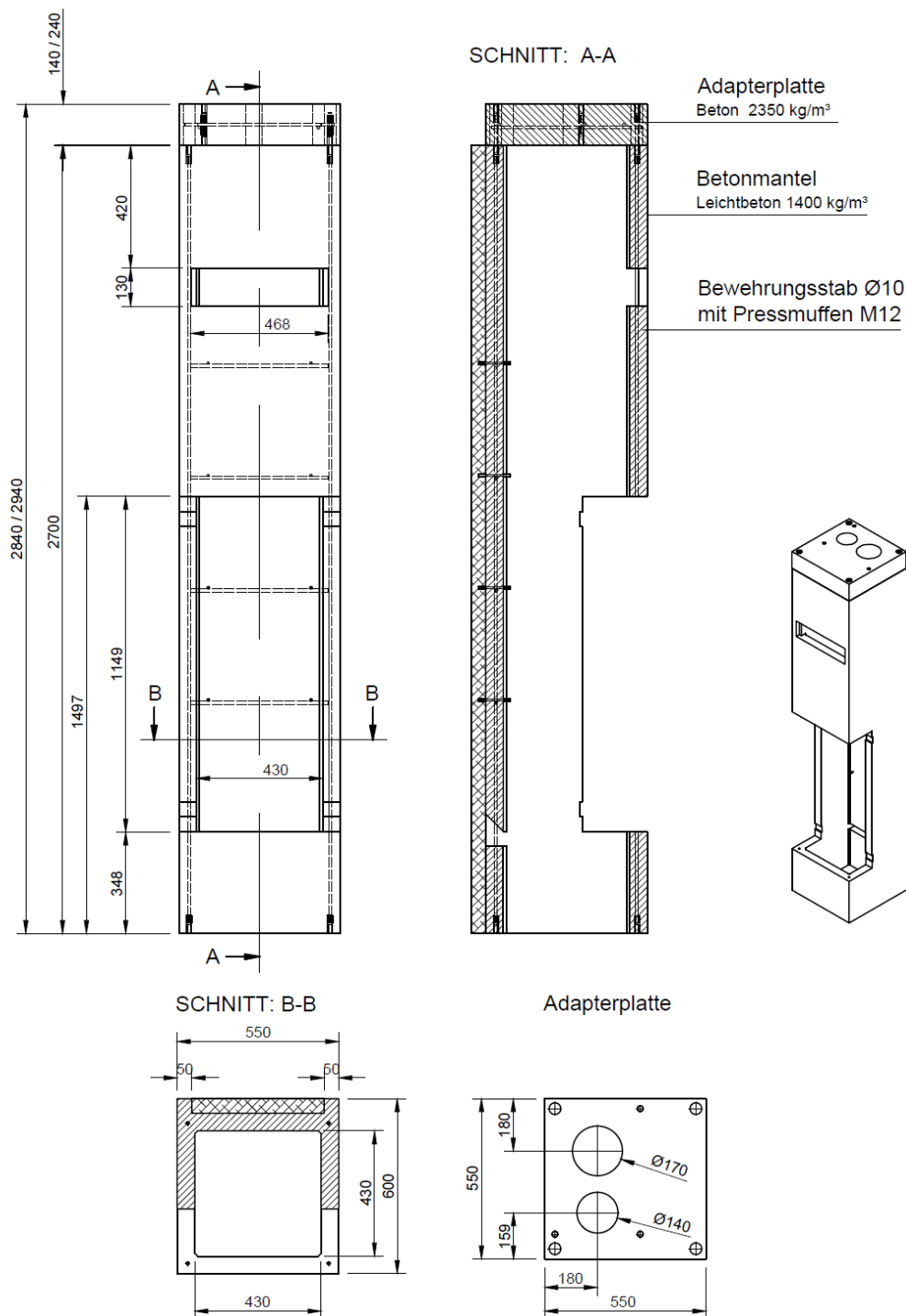
Bewehrungsstab Ø10
 mit Pressmuffen M12

The drawing shows a cross-section of a concrete structure. The top part is a thick slab (Hauptplatte) made of concrete (Beton 2350 kg/m³). Below it is a concrete mantle (Betonmantel) made of lightweight concrete (Leichtbeton 1400 kg/m³). The mantle is reinforced with steel bars (Bewehrungsstab Ø10) connected by press sleeves (Pressmuffen M12). A 3D perspective view of the mantle is shown on the right.

Technical drawing of a square plate with a central square hole. The outer dimensions are 550 mm by 600 mm. The inner square hole has dimensions of 430 mm by 430 mm. The plate has a uniform thickness of 50 mm. The central hole is shaded with diagonal lines.

	BENENNUNG System Ofen - Abgasanlage Betonmantel + Adapterplatte Abbildung 306a		NAME	
			BEARB. CPr	
			DATUM 20.06.2018	
			FREIG. HPü	16.12.2020
	ZEICHNUNGSNR. S001326 - 000000 - 000		REV. A	 SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6
PROJEKT SCHIEDEL KINGFIRE				

KINGFIRE Betonmantel + Adapterplatte für :
KINGFIRE Grande S, Grande SC (Rückwanddämmset)




<div>BENENNUNG</div> <div>System Ofen - Abgasanlage</div> <div>Betonmantel + Adapterplatte</div> <div>Abbildung 306b</div>		NAME	
		BEARB.	CPr
		DATUM	20.06.2018
		FREIG.	HPü16.12.2020
<div>ZEICHNUNGSNR.</div> <div>S001327 - 000000 - 000</div>		<div>REV.</div> <div>A</div>	
<div>PROJEKT</div> <div>SCHIEDEL KINGFIRE</div>		<div>SCHIEDEL</div> <div>SCHIEDEL GmbH A-4542 Nußbach, Friedrich-Schiedel-Str. 2-6</div>	

Table 9: Caption German/English

GERMAN	ENGLISH
Abdeckgitter	grating
Abstandhalter	distance holder
Abstützgriff	support grip
Adapterplatte	covering plate
Ankerkorb	anchoring cage
Betonmantel Feuerstätte	outer wall stove-unit
Bewehrungsstab	reinforcement bar
Biegesteife Verbindung	rigid connection
Brennkammer	burning chamber
Dämmplatte	insulation board
Doppelpresshülse	double pressed sleeve
Edelstahl Wärmetauscher	stainless steel heat exchanger
Edelstahl Zuluftführung	stainless steel air flue pipe
Einzügig mit Lüftung	single duct with ventilation
Feuerstätteneinheit	stove unit
Feuerstättentür	stove opening
Flexschlauch	flexible hose
Formstück	chimney fitting
Haltefeder	retaining spring
Heizungsvorlauf	heating flow
Heizungsrücklauf	heating return
Innendeckel	inside cover
Innensechskantschraube	hexagon socket screw
Konvektionsöffnung	convection opening
Kugelfang	butt
Mantelstein	outer wall element
Lufteinlass	air inlet
Luftführung	air duct
Mündungskonus	mouthpiece
Montagetrichter	assembling hopper
Pressmuffe	pressing socket
Profilrohr	profiled shaped flue liner
Putztür	inspection door
Regenabdeckung	rain cap
Revisionsverschluss	inspection door
Rückwanddämmung	back wall thermal insulation
Schamotteplatte	fireclay plate
Strahlungsblech	heat plate
Schweißnahtausbildung	weld formation
Torbandschraube	screw
Unterlegscheibe	washer
Verschluss	closing device
Zuluftkopfplatte	covering plate
Verputz	plaster

Description of the components

Table 10: Description of the components of the chimney-kit

Component	Technical specification	Essential characteristic	Result
Clay/ceramic flue liner - Profiled spigot and socket pipe - Rebated pipe	EN 1457-1	Type	A1N1
		Gas tightness	N1
		Flow resistance	0,0015 m
		Thermal resistance	0,00463 m ² K/W
		Resistance to fire	G
		Compressive strength	≥10 MN/m ²
		Durability against acid	≤5 %
		Durability against Freeze/Thaw	Resistant
		Durability against abrasion	≤0,03 kg/m ²
Outer wall	EN 12446	Resistance to fire from internal to external - Heat resistance - Sootfire resistance	T400 G50
		Reaction to fire	A1
		Compressive strength: SIH/ SIH PARAT; ADVANCE/ ADVANCE PARAT	35 m
		ABSOLUT/ ABSOLUT PARAT; ABSOLUT PLUS/ ABSOLUT PLUS PARAT	42 m
		Freeze thaw resistance	Resistant
Surface treatment made of foamed concrete and applied on the inner side of the outer wall ¹⁾	EN 13063-2	Durability against heating – Increase of temperature	≤ 10 %
	DIN 52612 (equivalent to EN 12667)	Thermal conductivity	Thermal conductivity
		Mean temperature	
		50 °C	0,068 W/mK
		100 °C	0,073 W/mK
		150 °C	0,080 W/mK
		250 °C	0,087 W/mK
		250 °C	0,096 W/mK
		300 °C	0,106 W/mK
		350 °C	0,118 W/mK
	EN 772-13	Bulk density	300 kg/m ³ ± 50 kg/m ³

¹⁾ The foamed concrete as surface treatment contains organic components of < 0,5 %. The composition (aggregates, hardener and additives) is laid down in the technical documentation of the manufacturer.

Note: Table 10 is continued on pages 69 and 70

Table 10: Description of the components of the chimney-kit (continuation)

Component	Technical specification	Essential characteristic	Result
Outer wall element made of concrete and foam glass partition, named “Thermo-Trennstein”, according to this ETA, Annex 1, Figures 1, 2	EN 1602	Bulk density	Laid down in the technical documentation deposited with the Technical Assessment Body
	Equivalent to EN 826, Annex A	Compressive strength of element	Laid down in the technical documentation deposited with the Technical Assessment Body
Outer wall element made of cement bonded expanded glass, named “Thermo-Trennstein”, according to this ETA, Annex 1, Figures 1, 2	In equivalent to EN 12446	Compressive strength of element Bulk density	Laid down in the technical documentation deposited with the Technical Assessment Body
Chimney fittings - Profiled spigot and socket pipe - Rebated pipe	EN 1457-1	Type	A1N1
		Gas tightness	N1
		Flow resistance	0,0015 m
		Thermal resistance	0,00463 m²K/W
		Resistance to fire	G
		Compressive strength	42 m²)
		Durability against acid	≤5 %
		Durability against Freeze/Thaw	Resistant
		Durability against abrasion	≤0,03 kg/m²
2) Maximum height inner liner (by means of maximum load for opening sections) according to EN 13063-2, Clause 5.1.2			

Note: Table 10 is continued on page 70

Table 10: Description of the components of the chimney-kit (continuation)

Component	Technical specification	Essential characteristic	Result
Thermal insulation	EN 13063-1, Clause 5.1.5	Increase in temperature	≤ 10 %
Mortar for jointing of outer walls in case of non-storey height design	EN 13063-1, Clause 5.1.7, and EN 998-2, Table 1	Compressive strength jointing material	≥ M 5
Grout in case of storey height units	EN 12617-4	Degree of shrinkage	2,03 ‰
	EN 445	Expansion	> 0,0 Vol. %
Reinforcement bars in case of storey height units	EN ISO 15630-1 EN ISO 6892-1	Tensile strength	> 550 N/mm ²
		Yield strength	> 500 N/mm ²
Grip connector of reinforcement bars for connection in case of transport	Laid down in the technical documentation deposited with the Technical Assessment Body		
Mortar for jointing flue liners	EN 13063-1	Density	1,95 g/cm ³
		Compressive strength jointing material	≥ 10 N/mm ²
Upper cleaning and inspection door ³⁾	EN 13063-1, Clause 5.4	Leakage	< 2 l/(sm ²)
	EN 13063-1, Clause 5.4,	Surface temperature	< 140 K
	EN 13063-1, Clause 5.4	Restriction of relative movement of flue liner	No hindrance of the relative movement of the flue liner by the cleaning and inspection door
Covering plate and mouth piece	EN 10088-1	Steel quality	1.4301
	Drawing according to Annex 1, Figure 16, of this ETA	Dimensions	
Rain cap	Drawing according to Annex 1, Figure 16, of this ETA	Steel quality	1.4404
		Dimensions	

³⁾ Cleaning and inspection door of flue liner is made of clay/ceramic in conical shape and metal (ancillaries); the cleaning and inspection door of outer wall is made of metal and vermiculite as insulation material.

Table 11: Description of the components of the stove-unit

Component	technical specification	Essential characteristic	Result
Outer wall (stove-unit)	EN 206	Bulk density of steel fibre reinforced concrete	1650 kg/m ³
		Cube Compressive strength of steel fibre reinforced concrete	≥ 15 N/mm ²
	EN 14889-1	Steel fibres	Laid down in the technical documentation deposited with the Technical Assessment Body
	Reinforcement bars for stove-unit: see Table 10		
Pellets storage box	Equivalent to outer wall stove-unit		
Covering plate and socket for the stove-unit, made of concrete; depicted in Annex 1, Figures 8a and 8b	EN 206	Bulk density	2350 kg/m ³
		Compressive strength	≥ 15 N/mm ²
Grout and mortar for connection of covering plate to outer wall of stove-unit	According to Table 10: Grout used for storey height design and mortar according to EN 998-2 used for jointing of outer wall		
Fibred mineral wool used as thermal insulation (within the stove unit)	EN 13063-1	Bulk density	143 kg/m ³
		Thermal durability	fulfilled
Optional components: Thermal protection shield in conjunction with outside thermal insulation made of mineral wool boards: - backside thermal insulation - outside the stove unit (side thermal insulation)	EN 13501-1	Thermal protection shield/mineral wool boards: Reaction to fire	A1
	EN 10130	Material quality (thermal protection shield)	DC 01
	EN 14303 EN 13063-1	Bulk density Thermal durability	65 kg/m ³ 115 kg/m ³ fulfilled
Connecting elements (heat exchanger) with inspection door (for Kingfire Aqua PS) and adapters, depicted in Figures: 6b, 101, 202	According to EN 1856-2		

Note: Table 11 is continued on pages 72

Table 11: Description of the components of the stove-unit (continuation)

Component	technical specification	Essential characteristic	Result
Sealant of connecting elements	Technical data sheet		
	EN 13501-1	Reaction to fire	A1
Seal of stove unit	Seal made of E-glass yarns and threads, textured E-glass yarns, with fibres of diameter 9-13 µm according to technical data sheet.		
Seal of stove-opening			
CLASSICO S			
LINEARE S	Reaction to fire: A1 (according to EN 13501-1)		
RONDO S			
LINEARE SC			
RONDO SC			
GRANDE S			
GRANDE SC			
AQUA S			
AQUA PS			

Reference documents

- EAD European Assessment Document (EAD), EAD 060009-00-0802 Kit for system stove - chimney consisting of chimney kit with clay/ceramic flue liner and integrated stove unit
- DIN 52612-2 "Testing of thermal insulating materials; determination of thermal conductivity by means of the guarded hot plate apparatus; conversion of the measured values for building applications"
- EN 206 "Concrete - Part 1: Specification, performance, production and conformity"
- EN 445 "Grout for prestressing tendons – Test methods"
- EN 772-13 "Methods of test for masonry units - Part 13: Determination of net and gross dry density of masonry units (except for natural stone)"
- EN 826 "Thermal insulating products for building applications - Determination of compression behaviour"
- EN 998-2 "Specification for mortar for masonry - Part 2: Masonry mortar"
- EN 1015-3 "Methods of tests for mortar for masonry – Part 3: Determination of consistence of fresh mortar (by flow table)"
- EN 1443 "Chimneys - General requirements"
- EN 1457-1 "Chimney – Clay/ceramic flue liners – Part 1: Flue liners operating under dry conditions – Requirements and test methods"
- EN 1602 "Thermal insulating products for building applications — Determination of the apparent density"
- EN 1856-2 "Chimneys - Requirements for metal chimneys - Part 2: Metal flue liners and connecting flue pipes"
- EN 10002-1 "Metallic materials - Tensile testing - Part 1: Method of testing at ambient temperature"
- EN 10088-1 "Stainless steels – Part 1: List of stainless steels"
- EN 10130 "Cold rolled low carbon steel flat products for cold forming - Technical delivery conditions"
- EN 10131 "Cold rolled uncoated and zinc or zinc-nickel electrolytically coated low carbon and high yield strength steel flat products for cold forming - Tolerances on dimensions and shape"
- EN 12446 "Chimneys - Components - Concrete outer wall elements"
- EN 12617-4 "Products and systems for the protection and repair of concrete structures – Test methods – Part 4: Determination of shrinkage and expansion"
- EN 12667 "Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and hat flow meter methods – Products of high and medium thermal resistance"
- EN 13063-1 "Chimneys - System chimneys with clay/ceramic flue liners - Part 1: Requirements and test methods for sootfire resistance"
- EN 13240 "Roomheaters fired by solid fuel – Requirements and test methods (consolidated version)"
- EN 13384-1 "Chimneys - Thermal and fluid dynamic calculation methods - Part 1: Chimneys serving one appliance"
- EN 13501-1 "Fire classification of construction products and building elements - Part 1: Classification using data from the reaction to fire tests"
- EN 14303 "Thermal insulation products for building equipment and industrial installations – factory made mineral wool (MW) products – Specification"
- EN 14889-1 "Fibres for concrete – Part 1: Steel fibres – Definitions, specifications and conformity"
- EN 14785 "Residential space heating appliances fired by wood pellets - Requirements and test methods"
- EN 60335-2-102 "Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections"
- EN ISO 6892 "Metallic materials – Tensile testing – Part 1: Method of test at room temperature"
- EN ISO 15630-1 "Steel for the reinforcement and prestressing of concrete – Test methods – Part 1: Reinforcing bars, wire rod and wire"