

Product Catalogue

IBS Flood Doors

IBS Flood Gates

IBS Flood Hatchets

IBS Flood Plates



Content

1	Standards and Load Criteria.....	4
1.1	Standards	4
1.2	Load Criteria	5
1.3	Terminology.....	5
2	IBS Flood Doors.....	6
2.1	FDTS-L/R – Single Leaf Flood Door On-Seating with Sill.....	6
2.2	FDTE-L/R – Single Leaf Flood Door On-Seating without Sill.....	9
2.3	FDDS-L/R – Single Leaf Flood Door On-Seating with Sill	12
2.4	FDDE-L/R – Single Leaf Flood Door On-Seating without Sill	15
2.5	FDZE-L/R – Single Leaf Flood Door Off-Seating without Sill.....	18
3	IBS Flood Gates.....	21
3.1	FGTS-L/R – Single Leaf Flood Gate On-Seating with Sill.....	21
3.2	FGTE-L/R – Single Leaf Flood Gate On-Seating without Sill	24
3.3	FGDS-L/R – Single Leaf Flood Gate On-Seating with Sill	27
3.4	FGDE-L/R – Single Leaf Flood Gate On-Seating without Sill	30
3.5	FGZE-L/R – Single Leaf Flood Gate Off-Seating without Sill	33
3.6	FGRS-L/R-50 – Single Leaf Flood Gate On-Seating with Sill (Aluminium)	36
3.7	FGRE-L/R-50 – Single Leaf Flood Gate On-Seating without Sill (Aluminium)	39
3.8	FGRS-L/R-100 – Single Leaf Flood Gate On-Seating with Sill (Aluminium)	42
3.9	FGRE-L/R-100 – Single Leaf Flood Gate On-Seating without Sill (Aluminium) ..	45
3.10	FGRE-L/R-2x100 – Double Leaf Flood Gate On-Seating without Sill (Aluminium).	48
4	Material Combinations.....	51
4.1	Availability.....	51
4.2	Specifications	52
4.2.1	Specification Material Combination 1	52
4.2.2	Specification Material Combination 2	53
4.2.3	Specification Material Combination 3	54
4.2.4	Specification Material Combination 4	55
4.2.5	Specification Material Combination 5	56
4.2.6	Specification Material Combination 6	56
4.2.7	Specification Material Combination 7	57

5	Flood Hatchet – FHZS-L/R/O/U	58
6	Flood Plates - FPD	61
7	Equipment.....	64
7.1	Door Stay.....	64
7.2	Wall Holder	65
7.3	Cover for lifting unit	66
7.4	Ratchet	67
7.5	Key for star handle operation	68
7.6	Padlock.....	69
8	Mounting Conditions / Materials	70
8.1	General Information	70
8.2	Mounting Surface	70
8.3	Evenness / Tolerances.....	70
8.4	Anchorage	70
8.5	Sealing to Concrete Surface	71

1 Standards and Load Criteria

1.1 Standards

DIN 19704-1: 2012-05 Hydraulic steel structures Part 1: Criteria for design and calculation

DIN EN 1990: 2010-12 Eurocode: Basis of structural design

DIN EN 1991-1-1: 2010-12 Eurocode 1: Actions on structures Part 1-1: General actions – Densities, self-weight, imposed loads for buildings

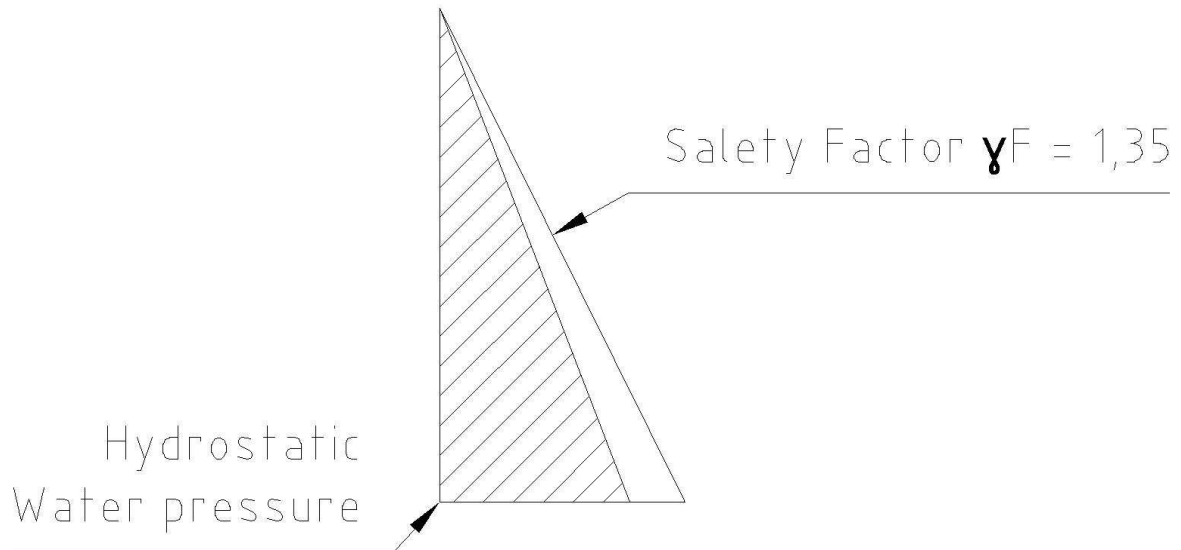
DIN EN 1993-1-1: 2010-12 Eurocode 3: Design of steel structures Part 1-1: General rules and rules for buildings

DIN EN1999-1-1: 2010-05: Eurocode 9: Design of Aluminium structures Part 1-1: General structural rules

DIN 19569-4: 2000-11: Wastewater treatment plants – Principles for the design of structures and technical equipment; Part 4: Specific principles for shutoff devices as penstocks, sluice gates, stop logs etc.; Table 1 Leakage Rates for Systems out of dam beams / stop logs

DIN EN ISO 12944-5:2008-01: Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems (ISO 12944-5:2007); German version EN ISO 12944-5:2007 (Attachment A, Table A.1)

1.2 Load Criteria



Calculation for hydrostatic water pressure is done with a specific weight of 10 kN/m³.

1.3 Terminology

Letter Group 1	Letter Group 2	Letter Group 3	Letter Group 4	Letter Group 5 only for FGR
FD = Flood Door FG = Flood Gate FH = Flood Hatch FP = Flood Plate	T = On-Seating Design, semi- finished steel profiles D = On-Seating Design Z = Off-Seating Design R = On-Seating Design Aluminium Profiles	S = With Sill E = Without Sill (Lift Hinge)	L = Hinge Left R = Hinge Right only for FHZ O = Hinge Top U = Hinge Bottom	50 = Aluminium Profile Width 50 100 = Aluminium Profile Width 100 2x100 = Double Leaf with Aluminium Profile Width 100

2 IBS Flood Doors

2.1 FDTs-L/R – Single Leaf Flood Door On-Seating with Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	1300 mm	2300 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head 4000 mm / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	No	No	Yes*
* only available for Gate Sizes $A = LB \times LH \leq 3,00m^2$						

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 5

G. Operation 2 Star Handles on Waterside only

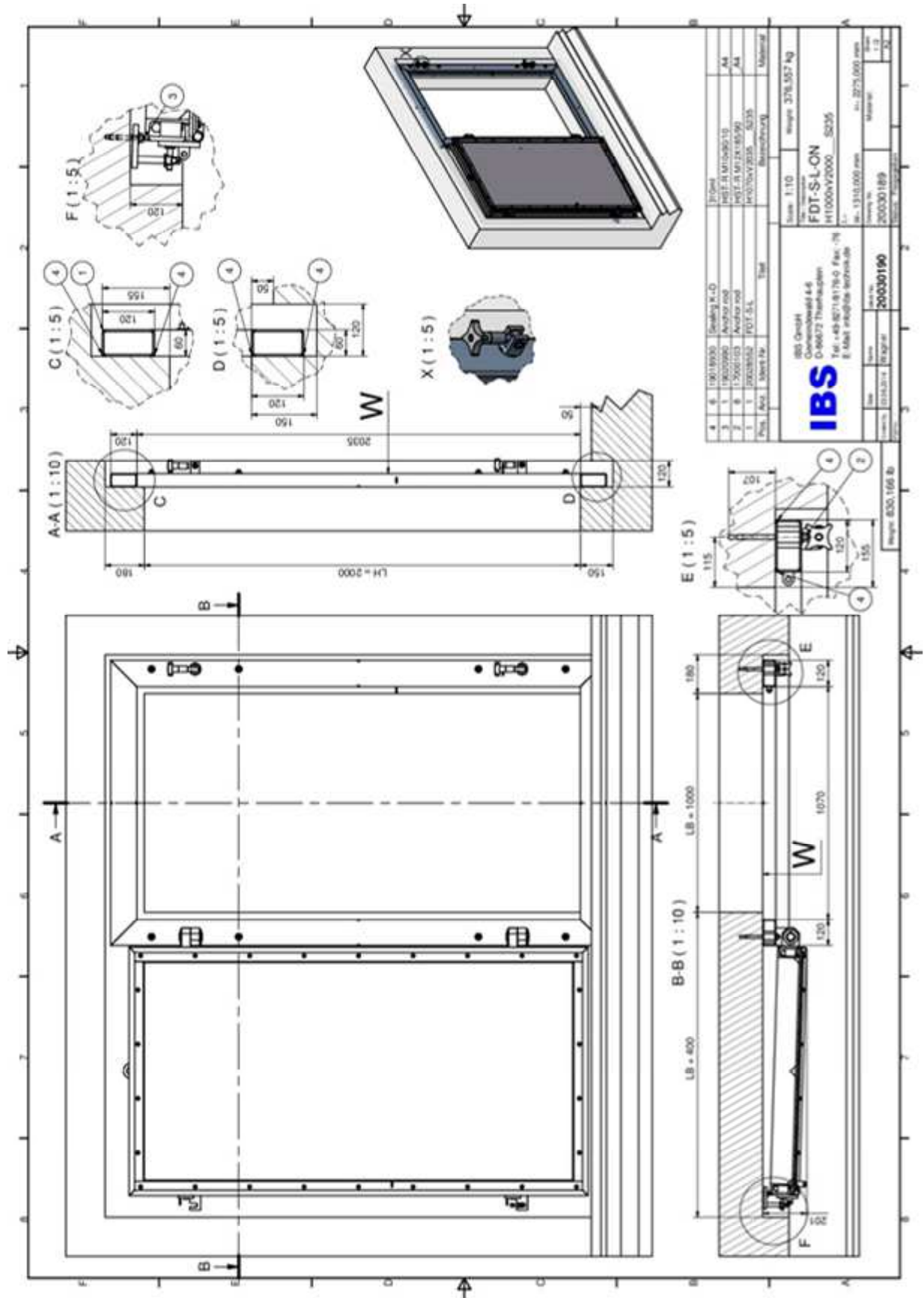
H. Mounting Types Side Frame: Wall Mounted On-Seating
 Invert Frame: Wall Mounted On-Seating

I. Frame Width 120 mm

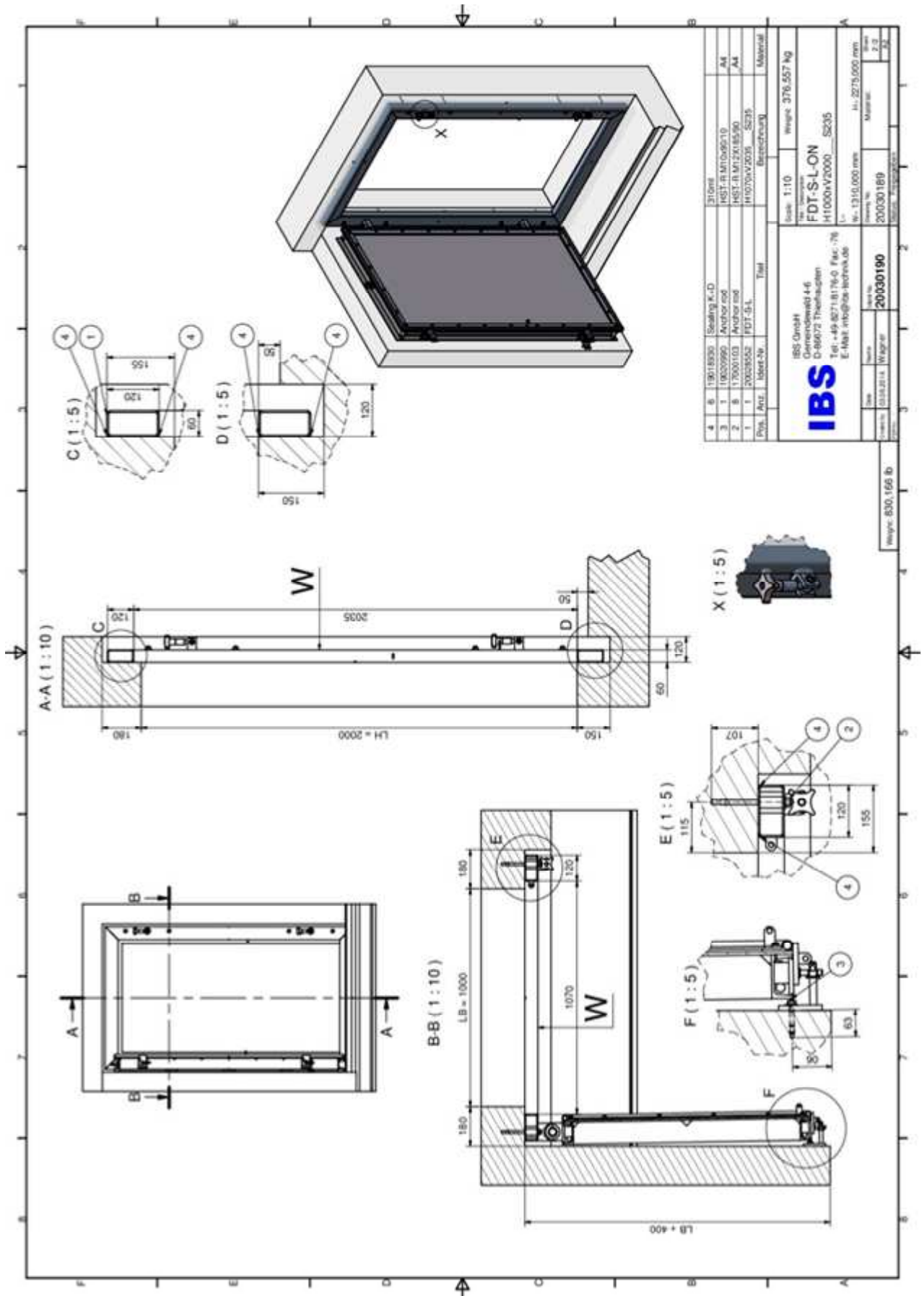
J. Min. remaining Sill Height 50 mm

K. Mounting Requirements 4-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FDT-S-L: 180° Opened



4	6	13018930	Sealing K.O	310ml				
3	1	10039960	Anchor rod	HST-B M12x160x10	A4			
2	6	17001103	Anchor rod	HST-B M12x165x90	A4			
1	1	20035562	FDT-S-L	H1070xV2000 - 5275	Material			
Qty. Art.		Ident-Nr.		Title		Electrotechnik		
						Scale 1:10		
						Weight: 376,557 kg		
						Type: FDT-S-L-ON		
						H1000xV2000 - 5205		
						L: 1310,000 mm		
						H: 275,000 mm		
						Material:		
						20030190		
						Weight: 830,166 lb		

FDTS-L: 90° Opened

2.2 FDTE-L/R – Single Leaf Flood Door On-Seating without Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	1300 mm	2300 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head 4000 mm / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	No	No	Yes*
* only available for Gate Sizes $A = LB \times LH \leq 3,00m^2$						

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 4

G. Operation 2 Star Handles on Waterside only
 Gate Lift with Ratchet on Waterside only

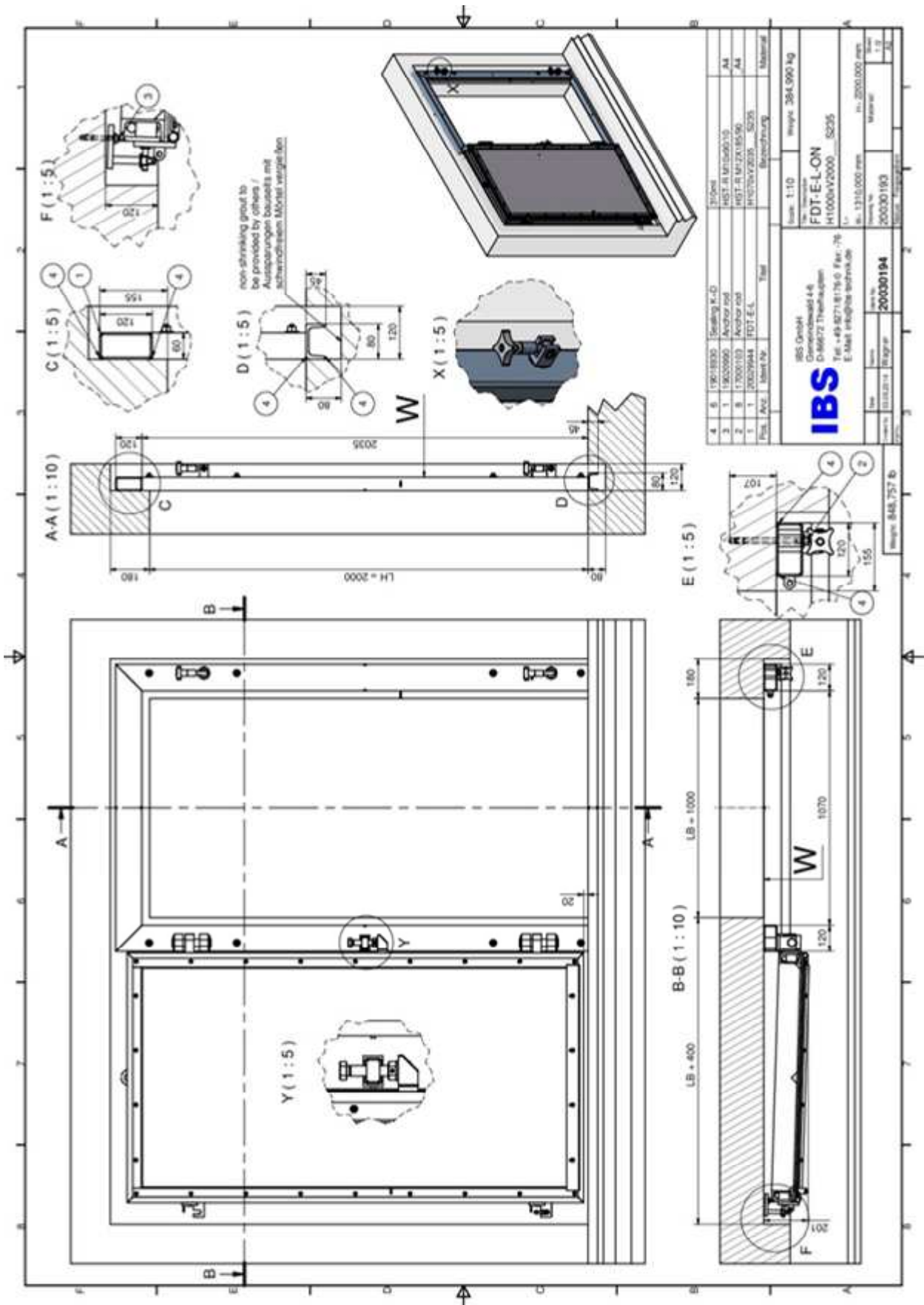
H. Mounting Types Side Frame: Wall Mounted On-Seating
 Invert Frame: Rebate Mounted with grout

I. Frame Width 120 mm

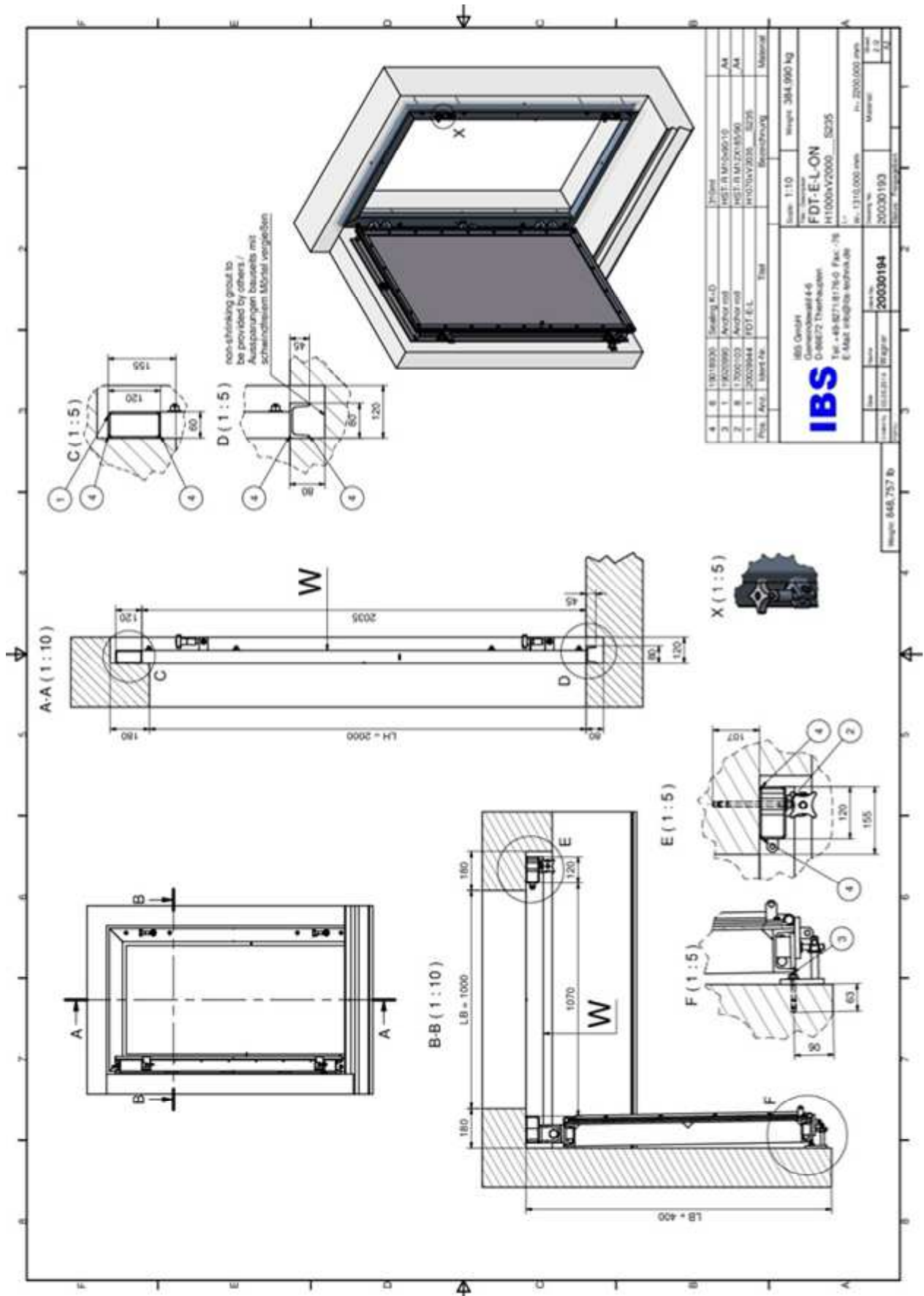
J. Min. remaining Sill Height Flush with ground level

K. Mounting Requirements 4-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FDTE-L: 180° Opened



FDTE-L: 90° Opened

2.3 FDDS-L/R – Single Leaf Flood Door On-Seating with Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	1300 mm	2300 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head 4000 mm / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	Yes	Yes	No

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 5

G. Operation 2 Handles on Water- and Landside side

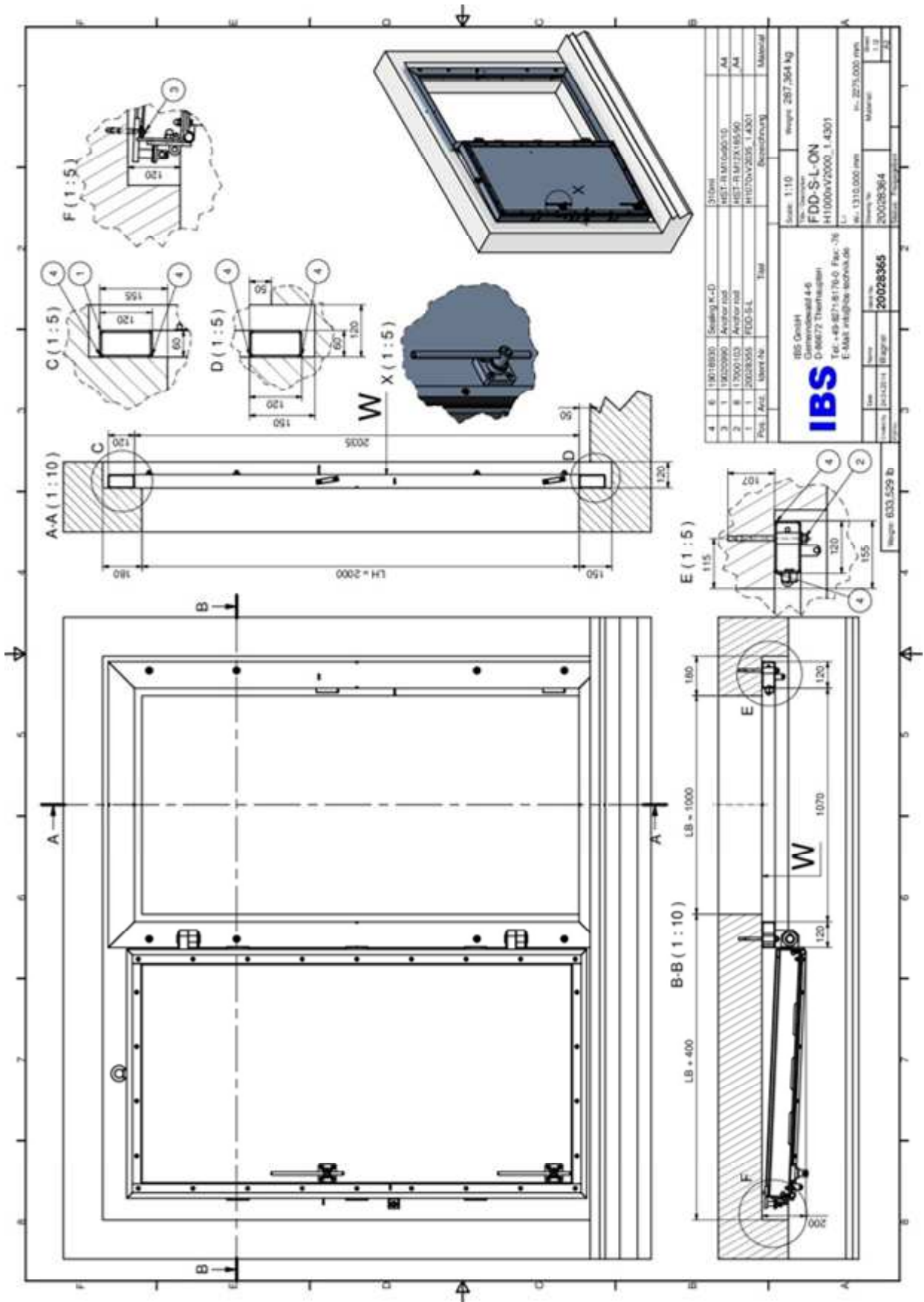
H. Mounting Types Side Frame: Wall Mounted On-Seating
 Invert Frame: Wall Mounted On-Seating

I. Frame Width 120 mm

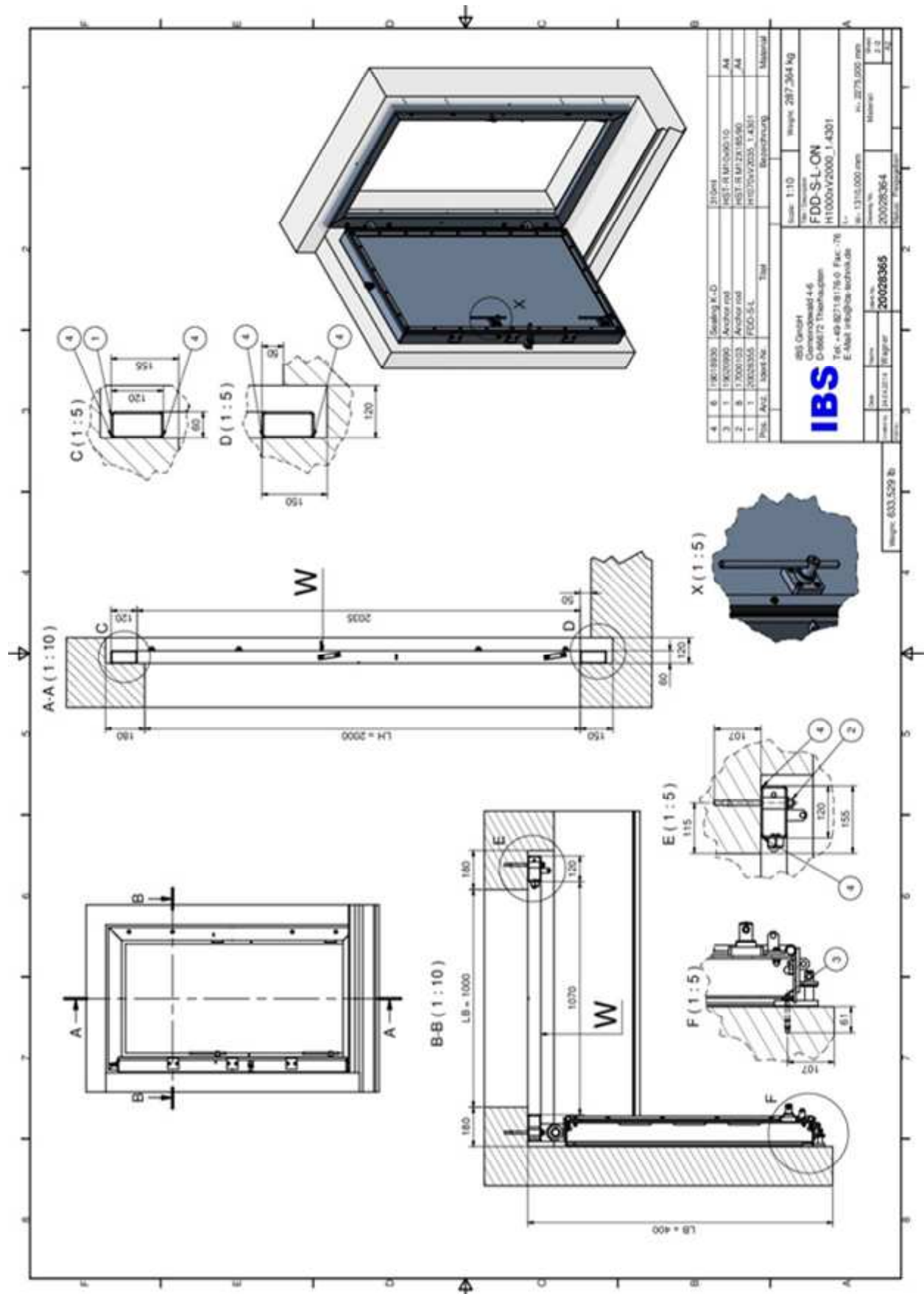
J. Min. Remaining Sill Height 50 mm

K. Mounting Requirements 4-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FDDS-L: 180° Opened



FDD-S-L: 90° Opened

2.4 FDDE-L/R – Single Leaf Flood Door On-Seating without Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	1300 mm	2300 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head 4000 mm / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	Yes	Yes	No

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 4

G. Operation 2 Handles on Water- and Landside side
Gate Lift with Ratchet on Waterside only

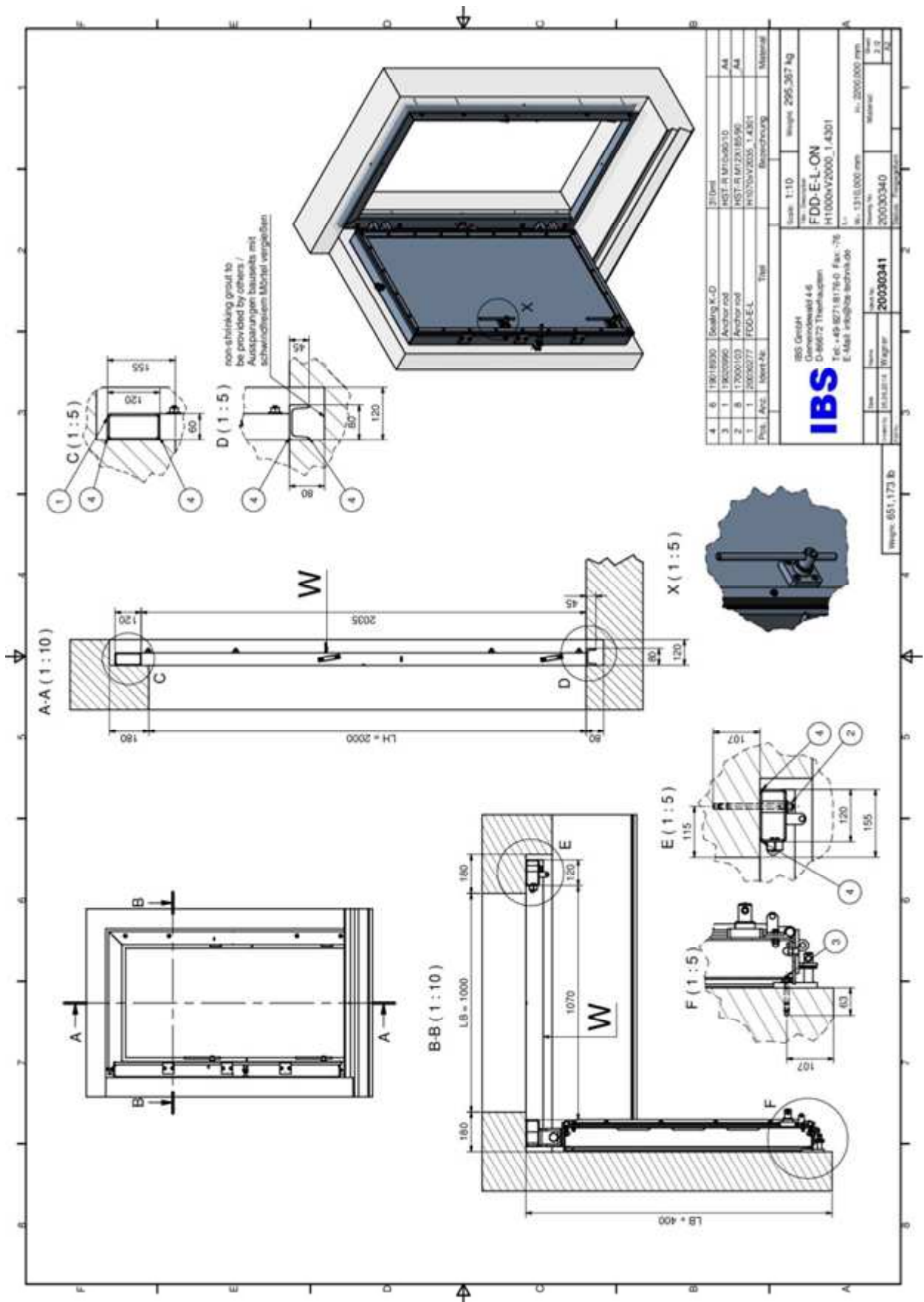
H. Mounting Types Side Frame: Wall Mounted On-Seating
Invert Frame: Rebate Mounted with grout

I. Frame Width 120 mm

J. Min. remaining Sill Height Flush with ground level

K. Mounting Requirements 4-sided even reinforced concrete surface
Maximum surface unevenness +/- 2 mm
Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FDDE-L: 90° Opened

2.5 FDZE-L/R – Single Leaf Flood Door Off-Seating without Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	1300 mm	2300 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head 4000 mm / on- and off-seating

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	Yes	Yes	No
* only available for Gate Sizes A = LB x LH <= 3,00m ²						

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 3

G. Operation 2 Handles on Water- and Landside side
 Gate Lift with Ratchet on Waterside only

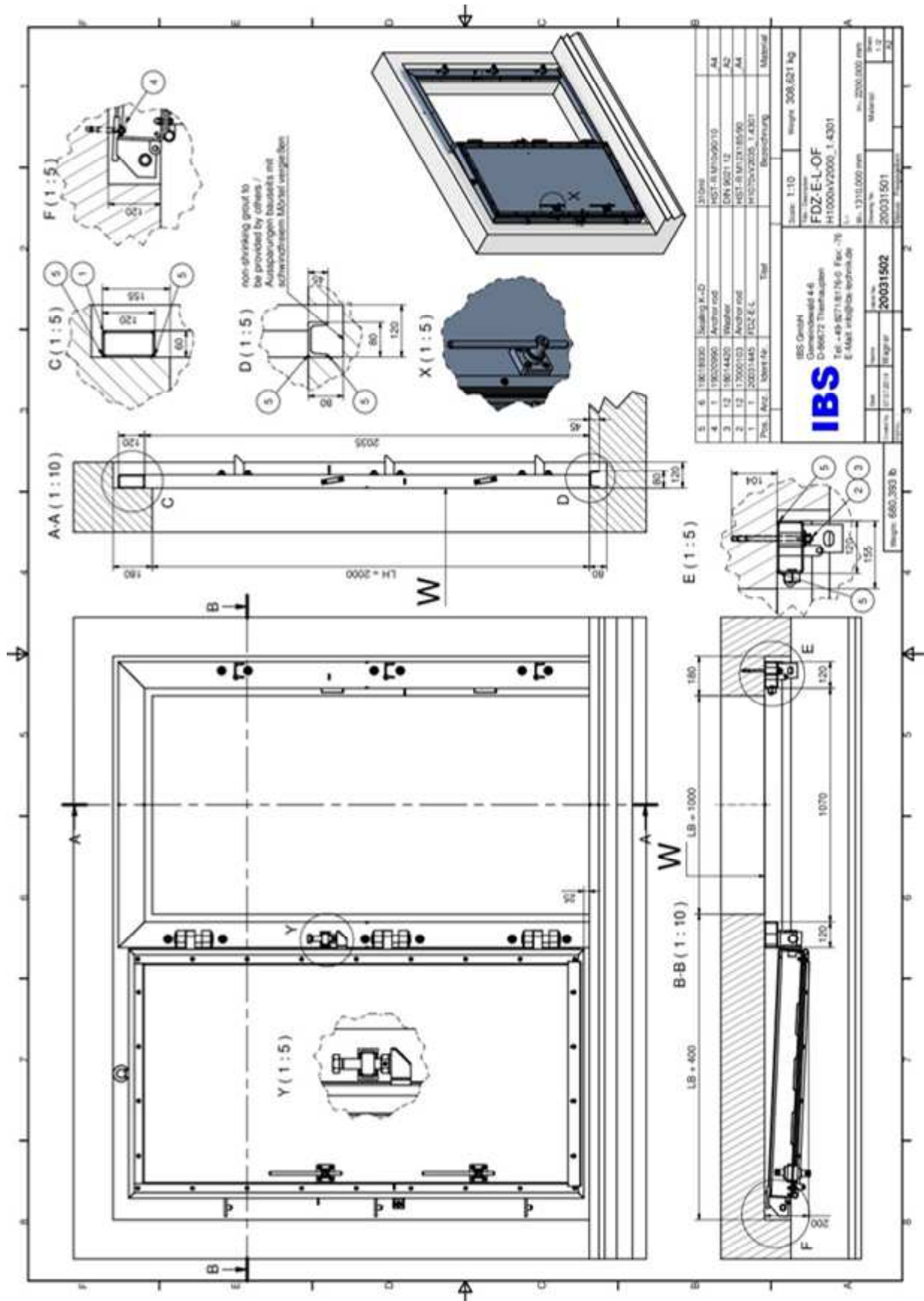
H. Mounting Types Side Frame: Wall Mounted On-Seating
 Invert Frame: Rebate Mounted with grout

I. Frame Width 120 mm

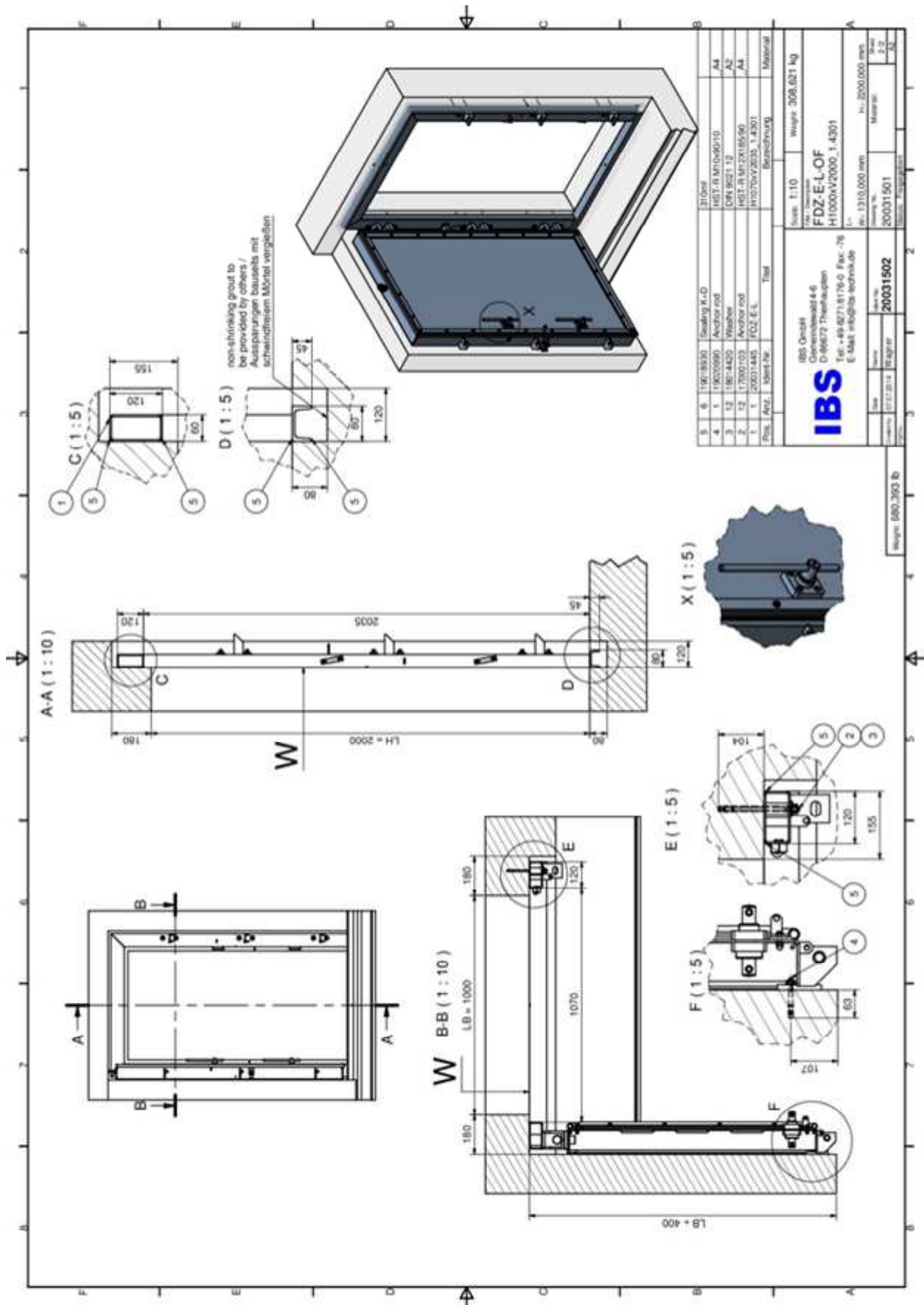
J. Min. remaining Sill Height Flush with ground level

K. Mounting Requirements 4-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FDZE-L: 180° Opened



FDZE-L: 90° Opened

3 IBS Flood Gates

3.1 FGTS-L/R – Single Leaf Flood Gate On-Seating with Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head Clear Height [LH] / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	No	No	Yes*
* only available for Gate Sizes $A = LB \times LH \leq 3,00m^2$						

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 5

G. Operation 2 Star Handles on Waterside only

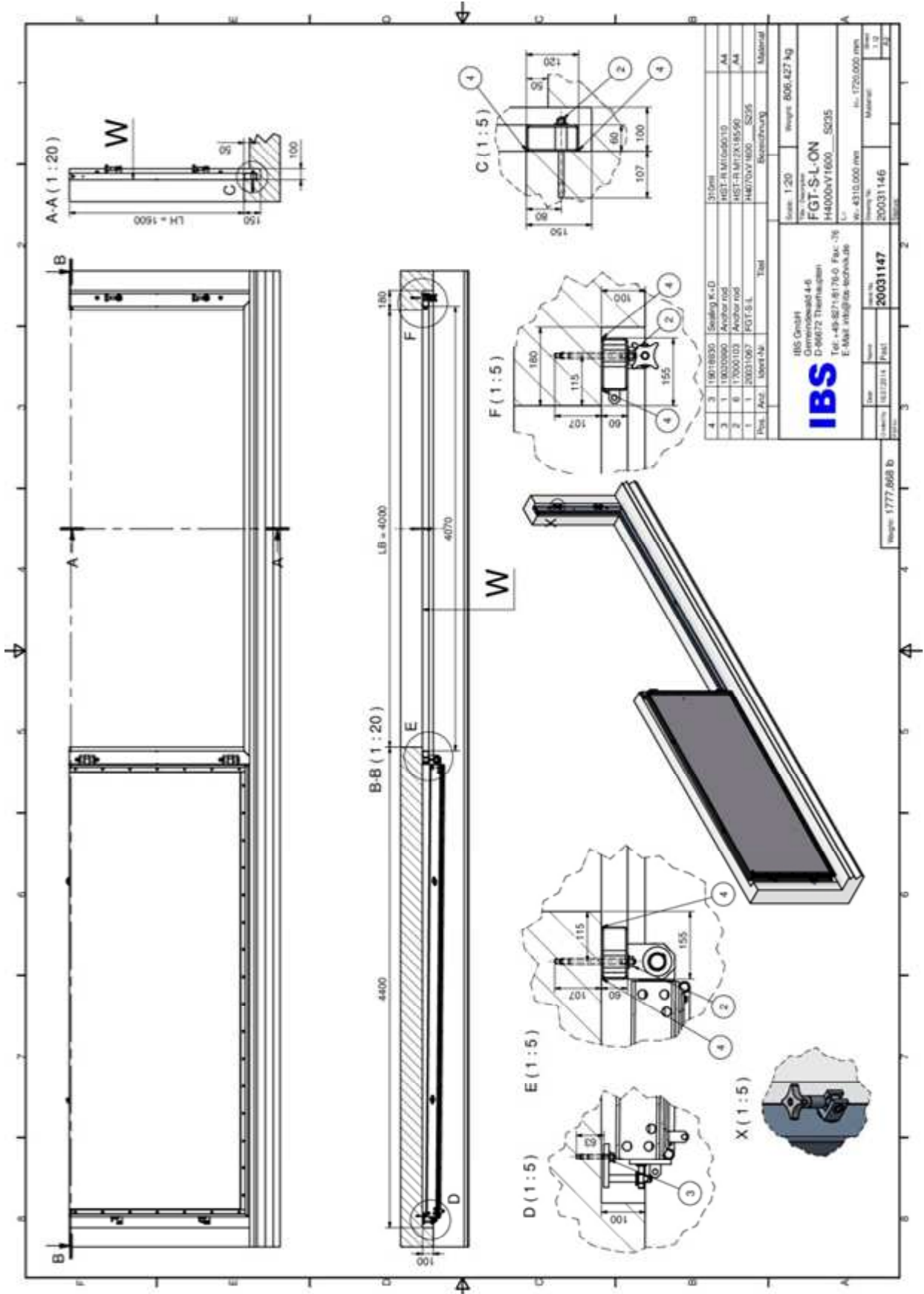
H. Mounting Types Side Frame: Wall Mounted On-Seating
Invert Frame: Wall Mounted On-Seating

I. Frame Width 120 mm

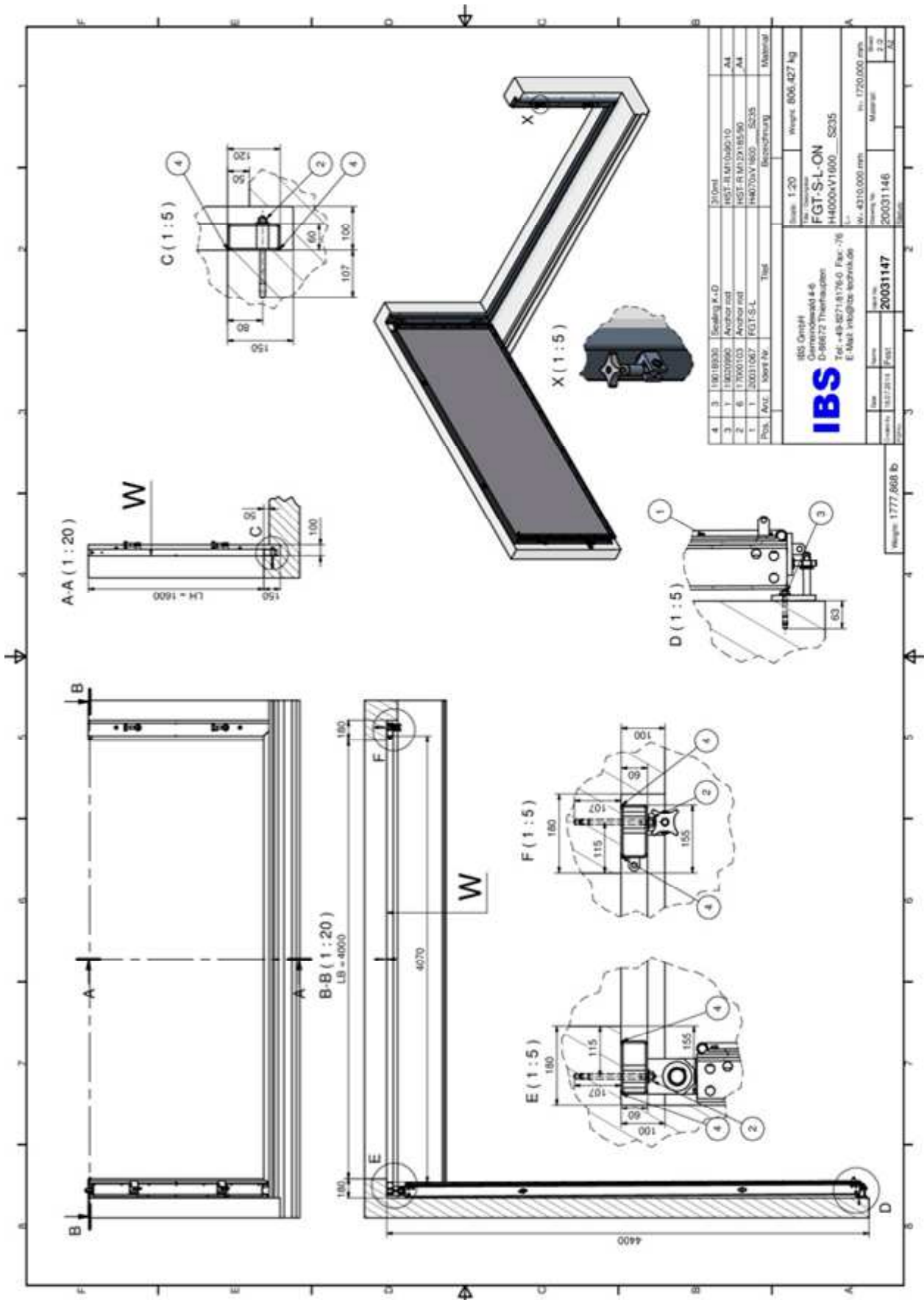
J. Min. Remaining Sill Height 50 mm

K. Mounting Requirements 3-sided even reinforced concrete surface
Maximum surface unevenness +/- 2 mm
Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FGTS-L: 180° Opened



FGTS-L: 90° Opened

3.2 FGTE-L/R – Single Leaf Flood Gate On-Seating without Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head Clear Height [LH] / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	No	No	Yes*
* only available for Gate Sizes $A = LB \times LH \leq 3,00m^2$						

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 4

G. Operation 2 Star Handles on Waterside only
 Gate Lift with Ratchet at Top Hinge

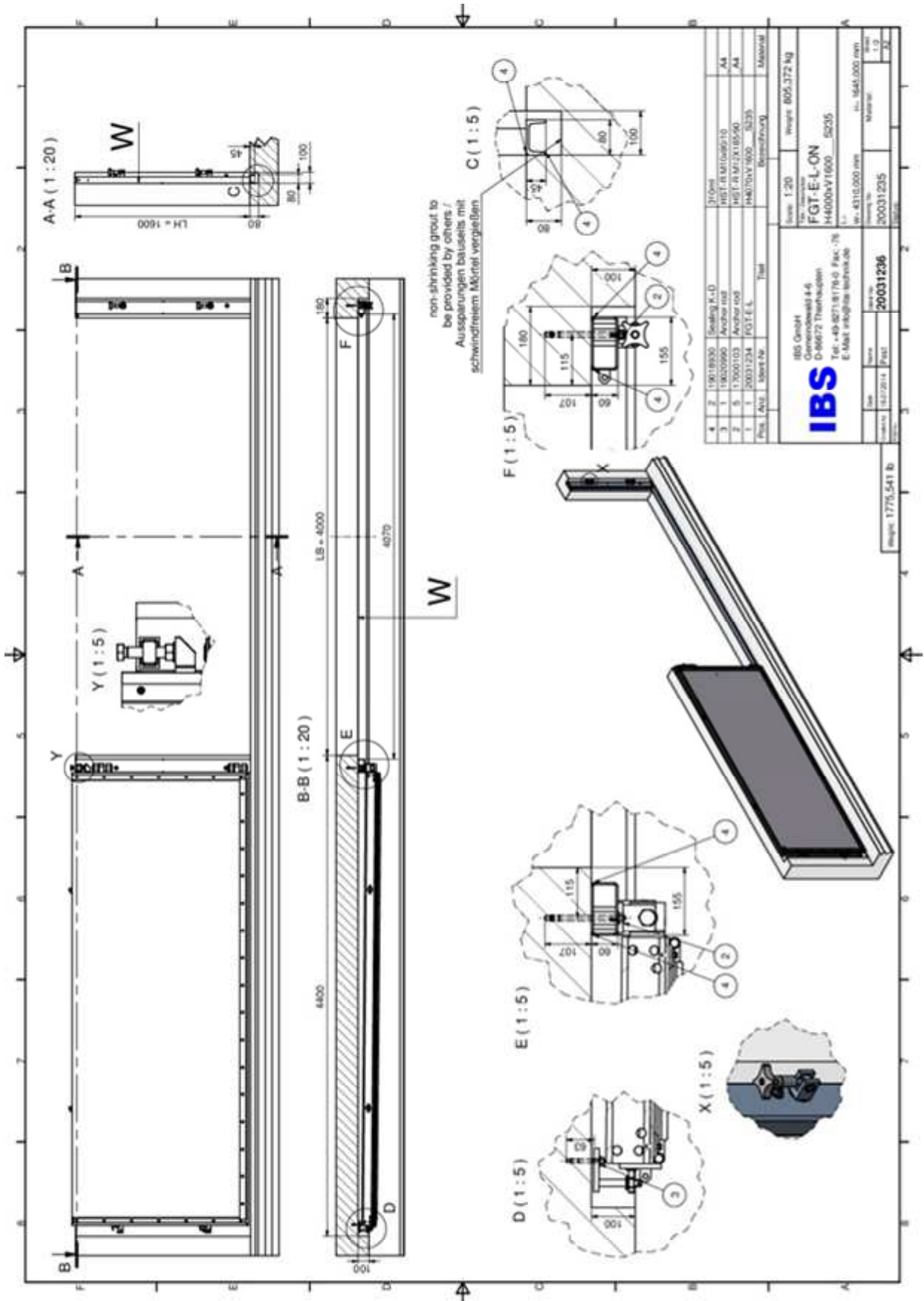
H. Mounting Types Side Frame: Wall Mounted On-Seating
 Invert Frame: Rebate Mounted with grout

I. Frame Width 120 mm

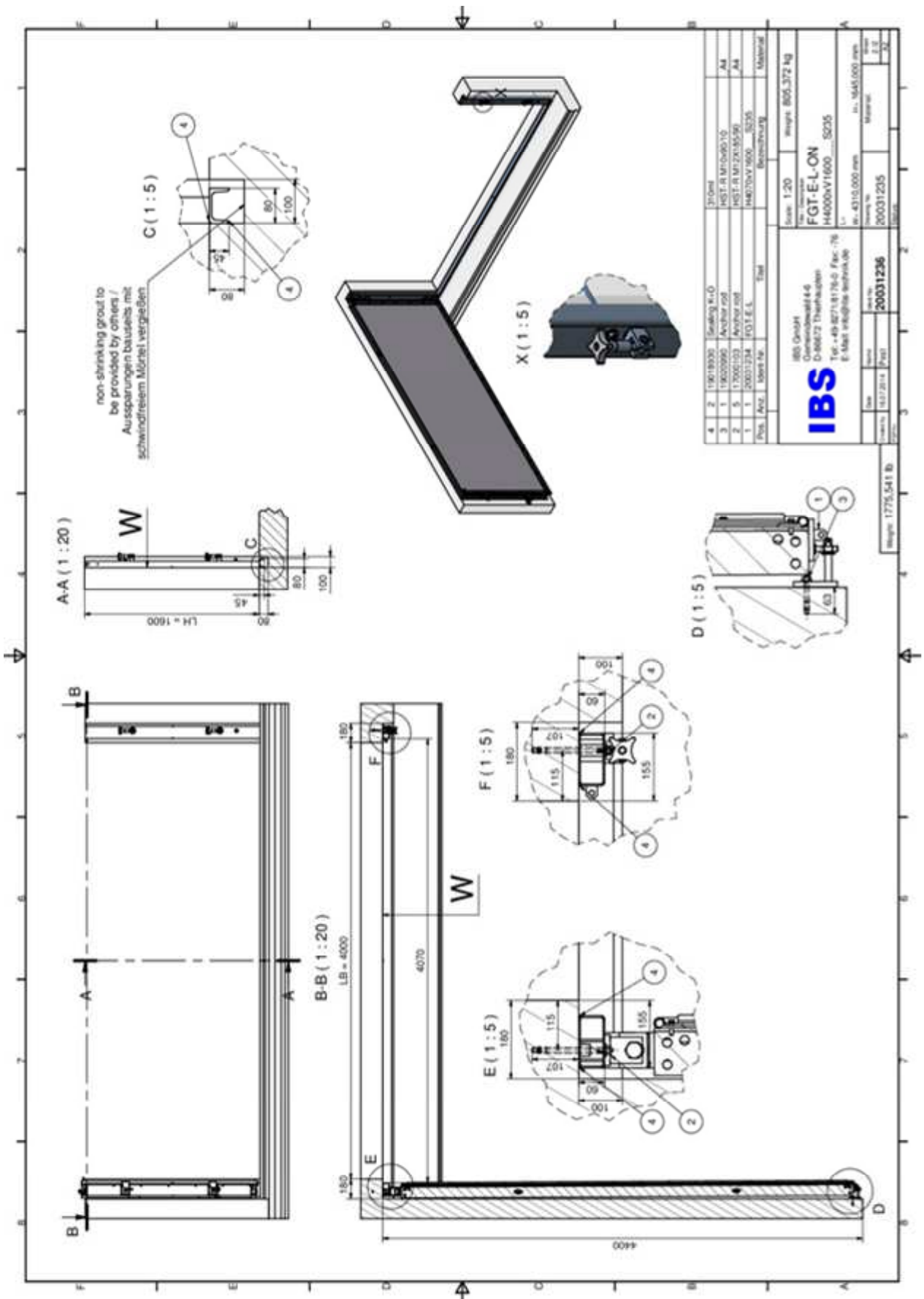
J. Min. remaining Sill Height Flush with ground level

K. Mounting Requirements 3-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FGTE-L: 180° Opened



FGTE-L: 90° Opened

3.3 FGDS-L/R – Single Leaf Flood Gate On-Seating with Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head Clear Height [LH] / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	Yes	Yes	No

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 5

G. Operation 2 Handles on Water- and Landside side

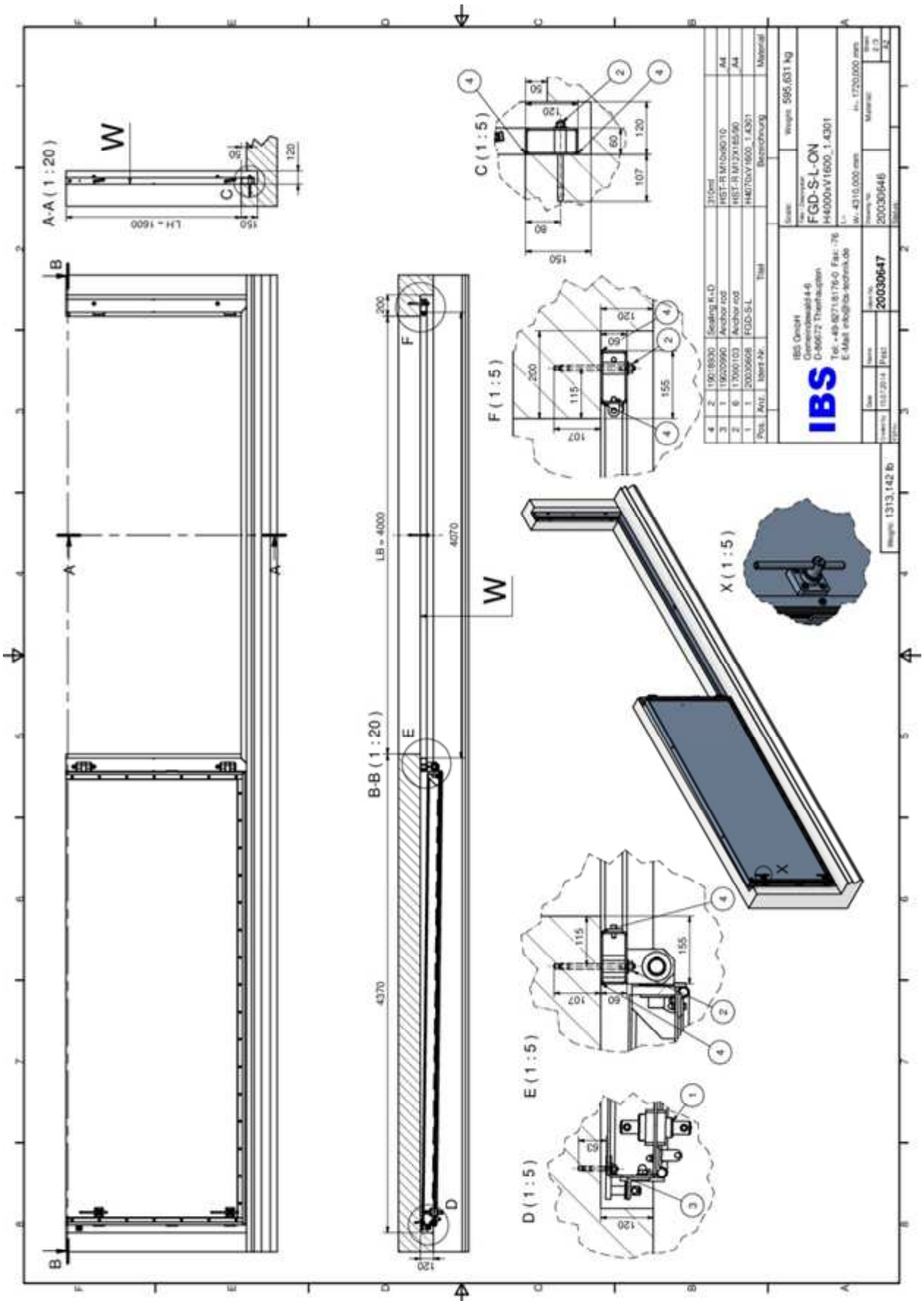
H. Mounting Types Side Frame: Wall Mounted On-Seating
Invert Frame: Wall Mounted On-Seating

I. Frame Width 120 mm

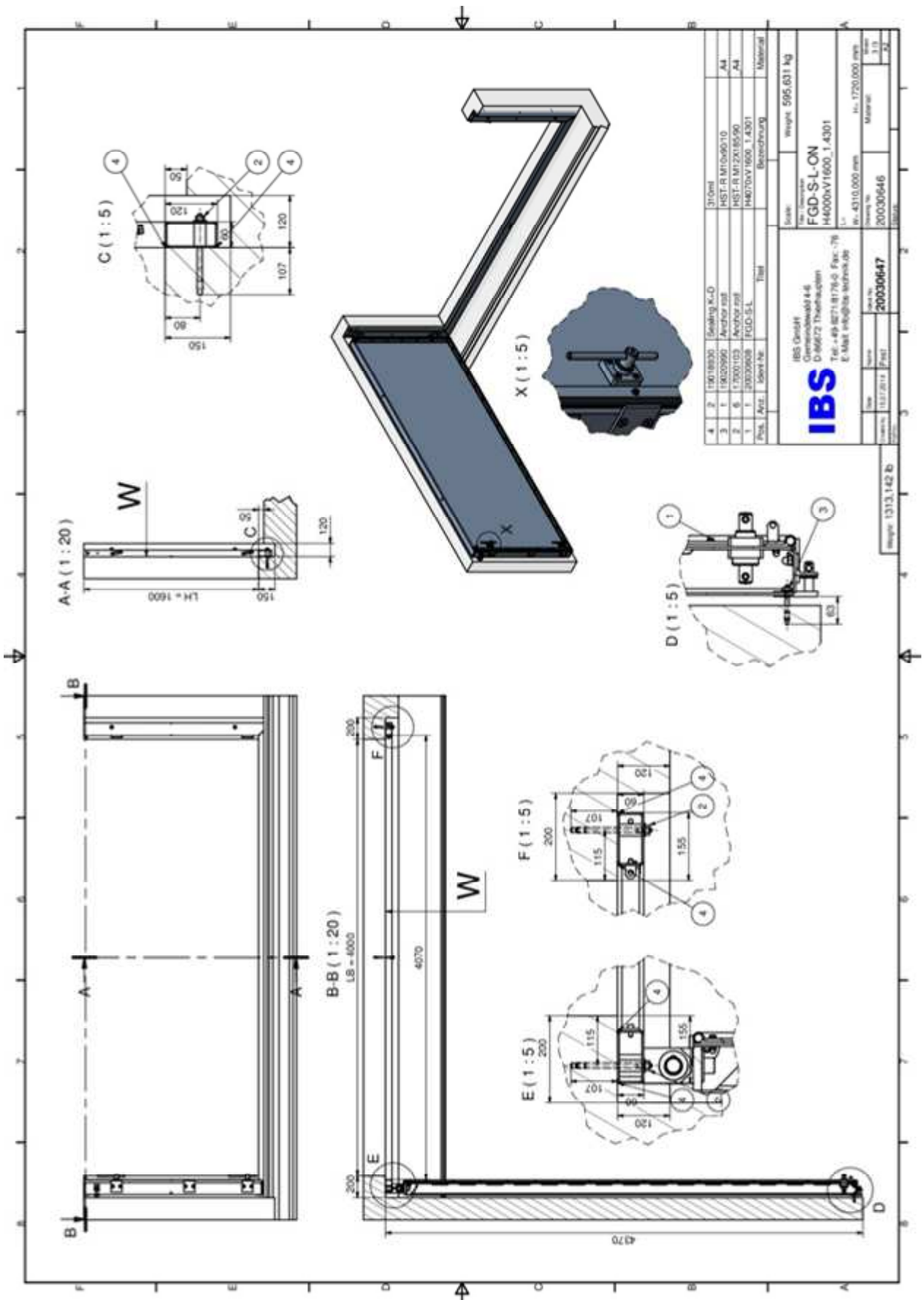
J. Min. Remaining Sill Height 50 mm

K. Mounting Requirements 3-sided even reinforced concrete surface
Maximum surface unevenness +/- 2 mm
Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FGDS-L: 180° Opened



FGDS-L: 90° Opened

3.4 FGDE-L/R – Single Leaf Flood Gate On-Seating without Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head Clear Height [LH] / on-seating only

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	Yes	Yes	No

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 4

G. Operation 2 Handles on Water- and Landside side
Gate Lift with Ratchet at Top Hinge

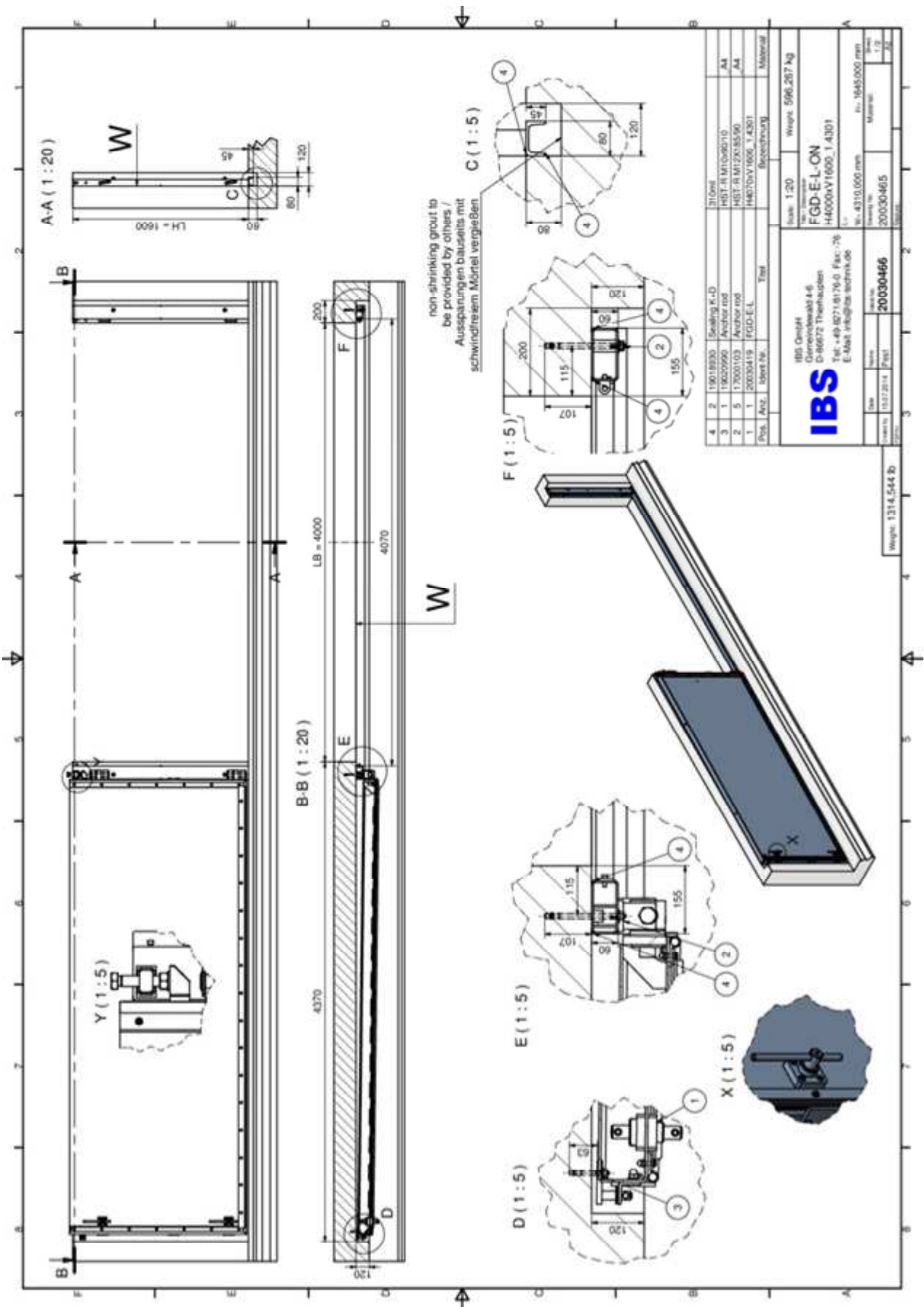
H. Mounting Types Side Frame: Wall Mounted On-Seating
Invert Frame: Rebate Mounted with grout

I. Frame Width 120 mm

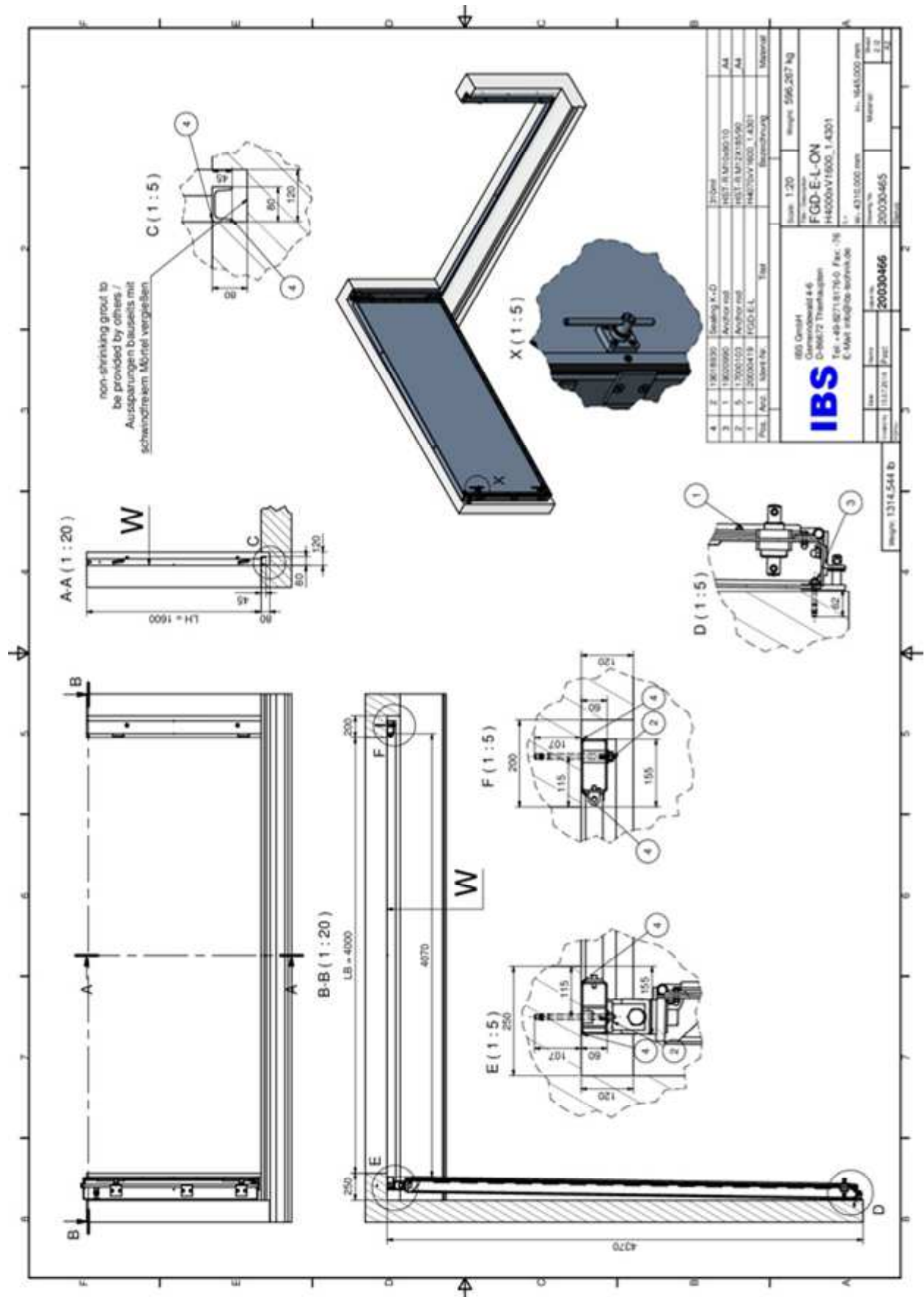
J. Min. remaining Sill Height Flush with ground level

K. Mounting Requirements 3-sided even reinforced concrete surface
Maximum surface unevenness +/- 2 mm
Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FGDE-L: 180° Opened



FGDE-L: 90° Opened

3.5 FGZE-L/R – Single Leaf Flood Gate Off-Seating without Sill

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Maximum Area	$A = LB \times LH \leq 3,00m^2$	
Available for Sizes LB & LH in increments of 50 mm		

B. Design Water Head Clear Height [LH] / off- and on-seating

C. Hinge Sides Left or Right

D. Pivotability 0° to 180°

E. Material Material Combinations as per Section 4

Material Combination Availability						
1	2	3	4	5	6	7
Yes	Yes	Yes	Yes	Yes	Yes	No

F. Guaranteed Leakage Rate In accordance with DIN 19569-4 Table 1, Class 3

G. Operation 2 Handles on Water- and Landside side
 Gate Lift with Ratchet at Top Hinge

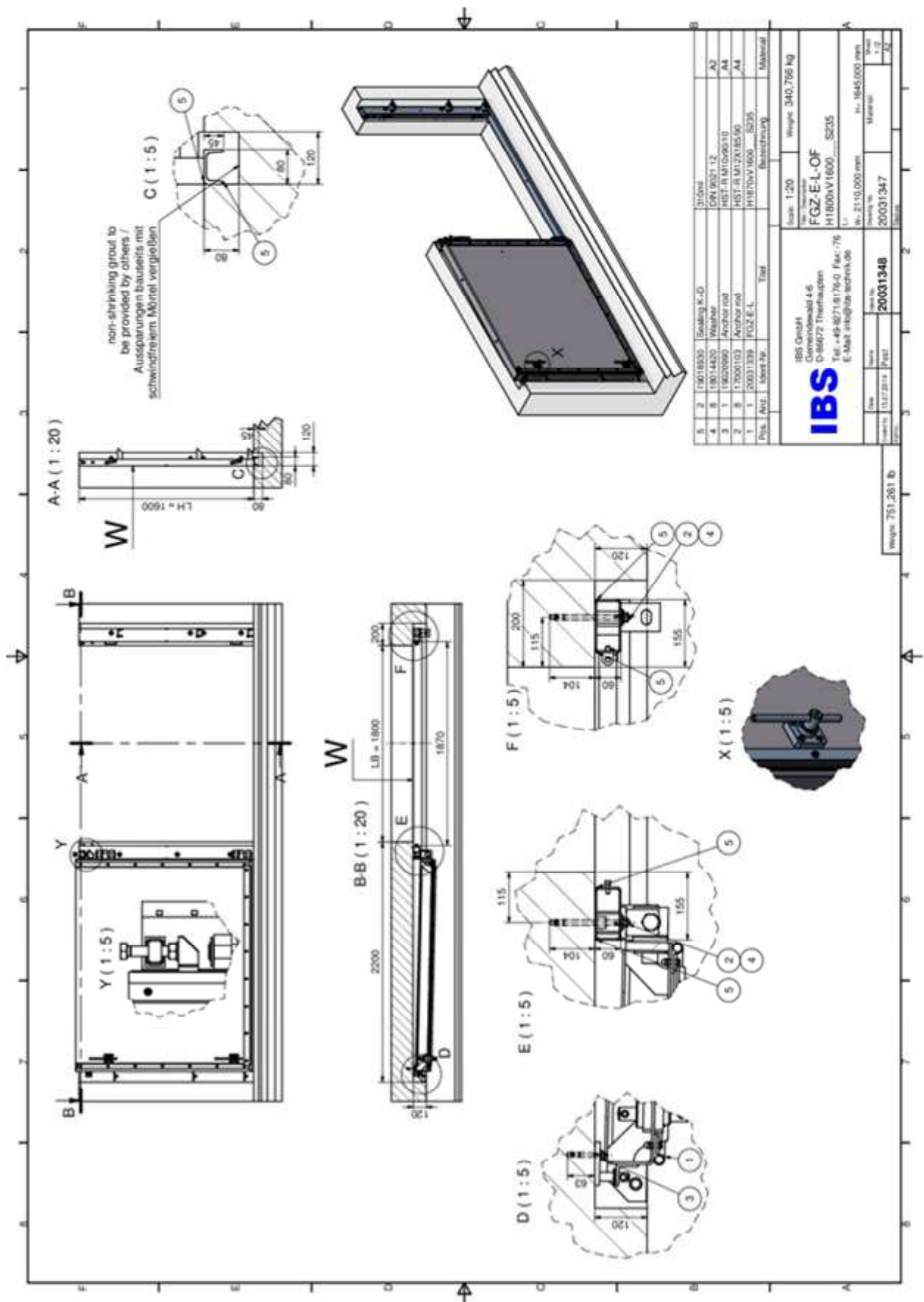
H. Mounting Types Side Frame: Wall Mounted On-Seating
 Invert Frame: Rebate Mounted with grout

I. Frame Width 120 mm

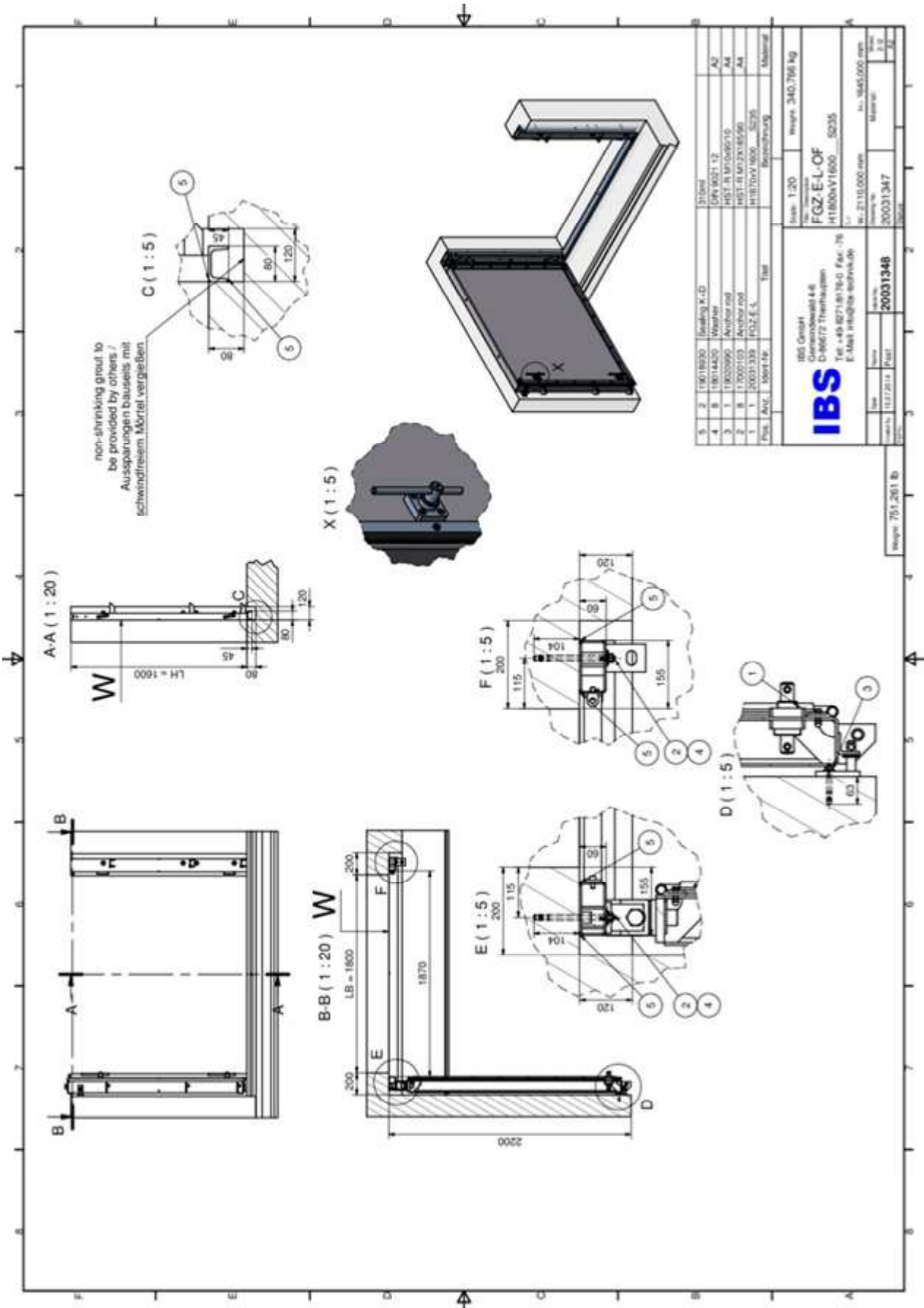
J. Min. remaining Sill Height Flush with ground level

K. Mounting Requirements 3-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25

L. Lockable in opened and closed Position with Padlock



FGZE-L: 180° Opened



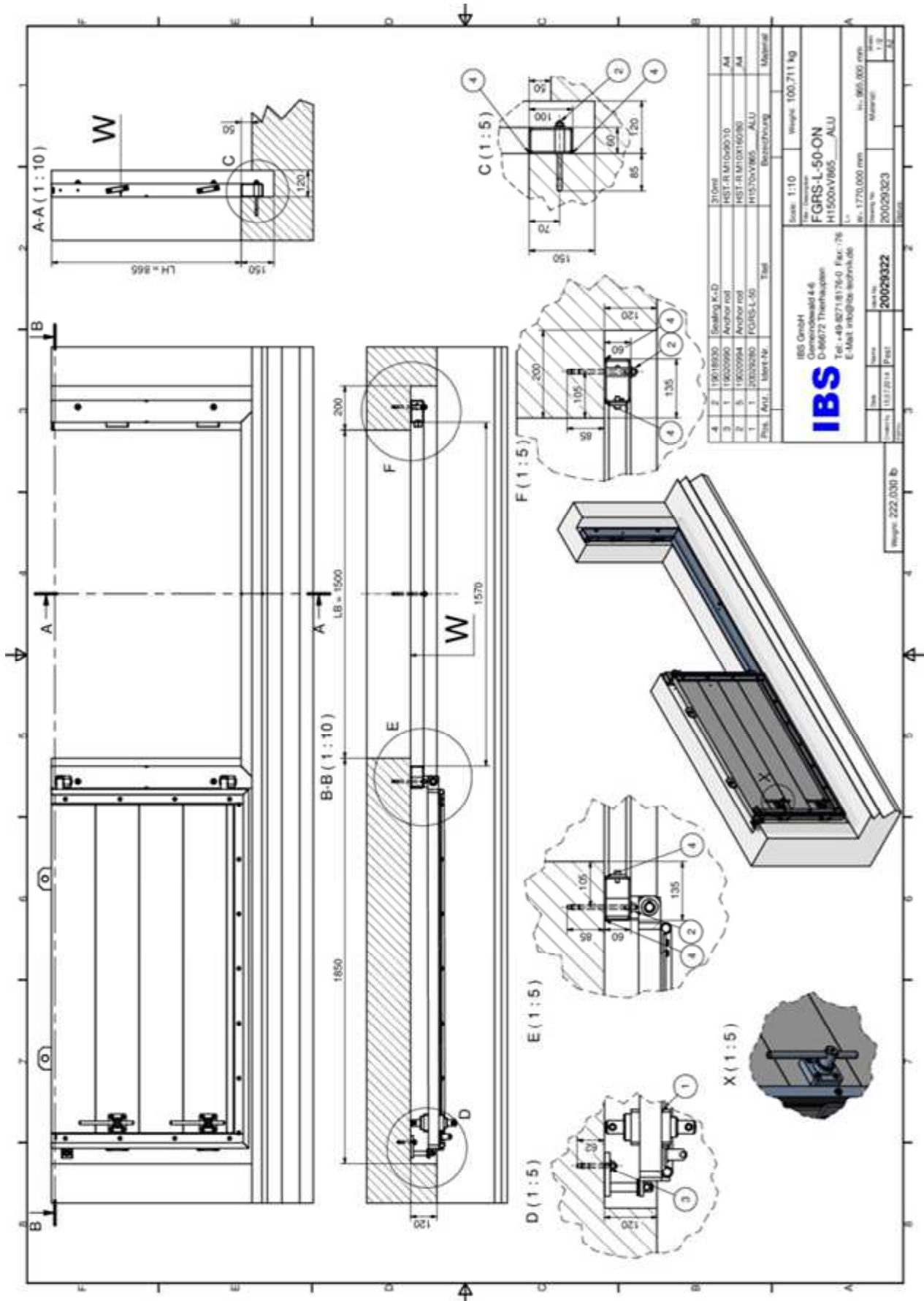
FGZE-L: 90° Opened

3.6 FGRS-L/R-50 – Single Leaf Flood Gate On-Seating with Sill (Aluminium)

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	2000 mm	1600 mm
Available for Size LB in increments of 50 mm Available for Size LH in increments of 100 mm		

- B. Design Water Head** Clear Height [LH] / on-seating only
- C. Hinge Sides** Left or Right
- D. Pivotability** 0° to 180°
- E. Material**
 Frame: Stainless Steel SS304 / SS316L
 Fittings: Stainless Steel SS304 / SS316L
 Leaf: Aluminium powder coated
 Seals: EPDM
- F. Colour**
 Frame: Self-colour
 Leaf: RAL Number to be specified
- G. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 5
- H. Operation** 2 Handles on Water- and Landside side
- I. Mounting Types**
 Side Frame: Wall Mounted On-Seating
 Invert Frame: Wall Mounted On-Seating
- J. Frame Width** 120 mm
- K. Min. Remaining Sill Height** 50 mm
- L. Mounting Requirements** 3-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25
- M. Lockable** in opened and closed Position with Padlock



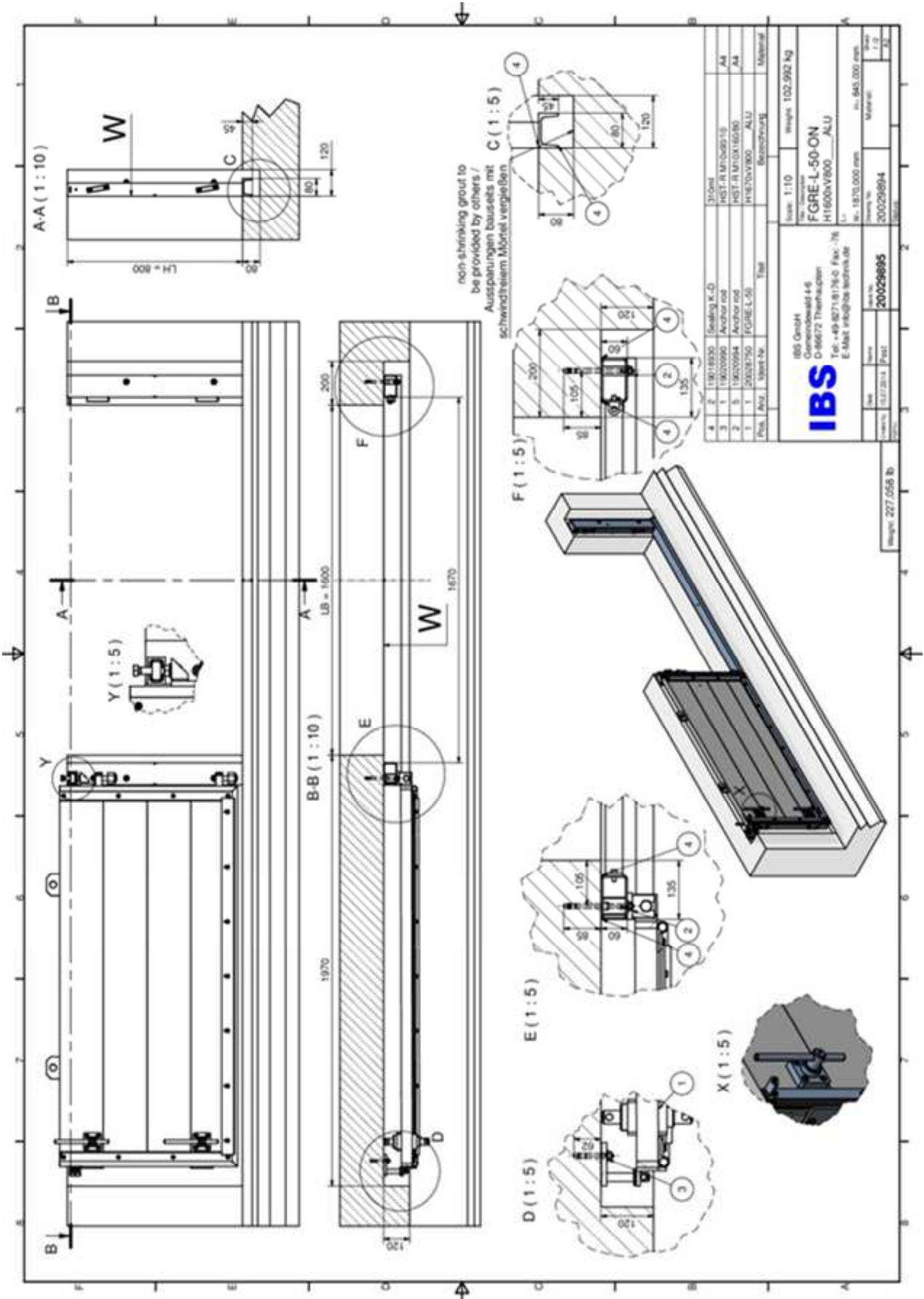
FGRS-L-50: 180° Opened

3.7 FGRE-L/R-50 – Single Leaf Flood Gate On-Seating without Sill (Aluminium)

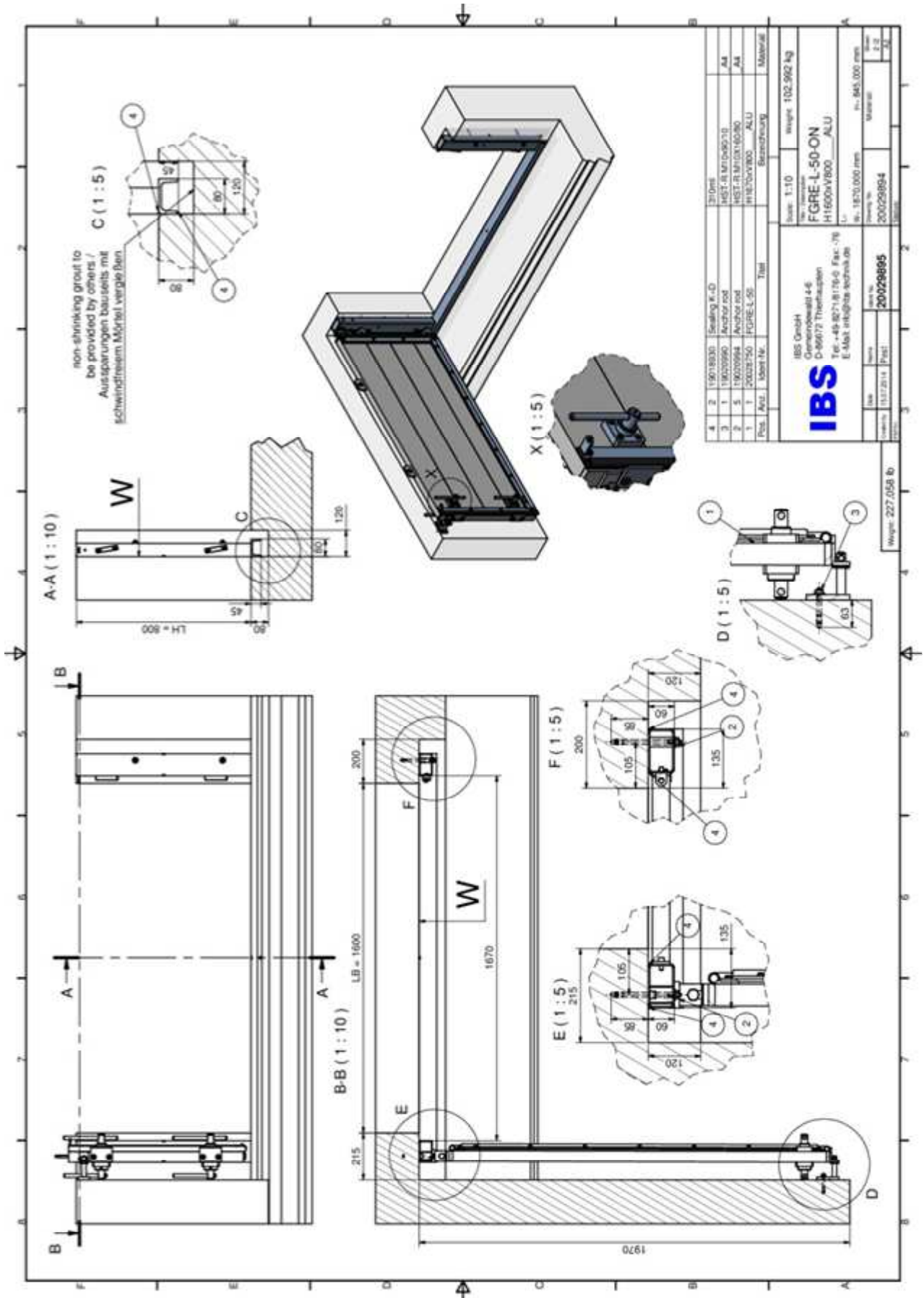
A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	2000 mm	1600 mm
Available for Size LB in increments of 50 mm Available for Size LH in increments of 100 mm		

- B. Design Water Head** Clear Height [LH] / on-seating only
- C. Hinge Sides** Left or Right
- D. Pivotability** 0° to 180°
- E. Material**
 Frame: Stainless Steel SS304 / SS316L
 Fittings: Stainless Steel SS304 / SS316L
 Leaf: Aluminium powder coated
 Seals: EPDM
- F. Colour**
 Frame: Self-colour
 Leaf: RAL Number to be specified
- G. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 4
- H. Operation** 2 Handles on Water- and Landside side
Gate Lift with Ratchet at Top Hinge
- I. Mounting Types**
 Side Frame: Wall Mounted On-Seating
 Invert Frame: Rebate Mounted with grout
- J. Frame Width** 120 mm
- K. Min. remaining Sill Height** Flush with ground level
- L. Mounting Requirements** 3-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25
- M. Lockable** in opened and closed Position with Padlock



FGRE-L-50: 180° Opened



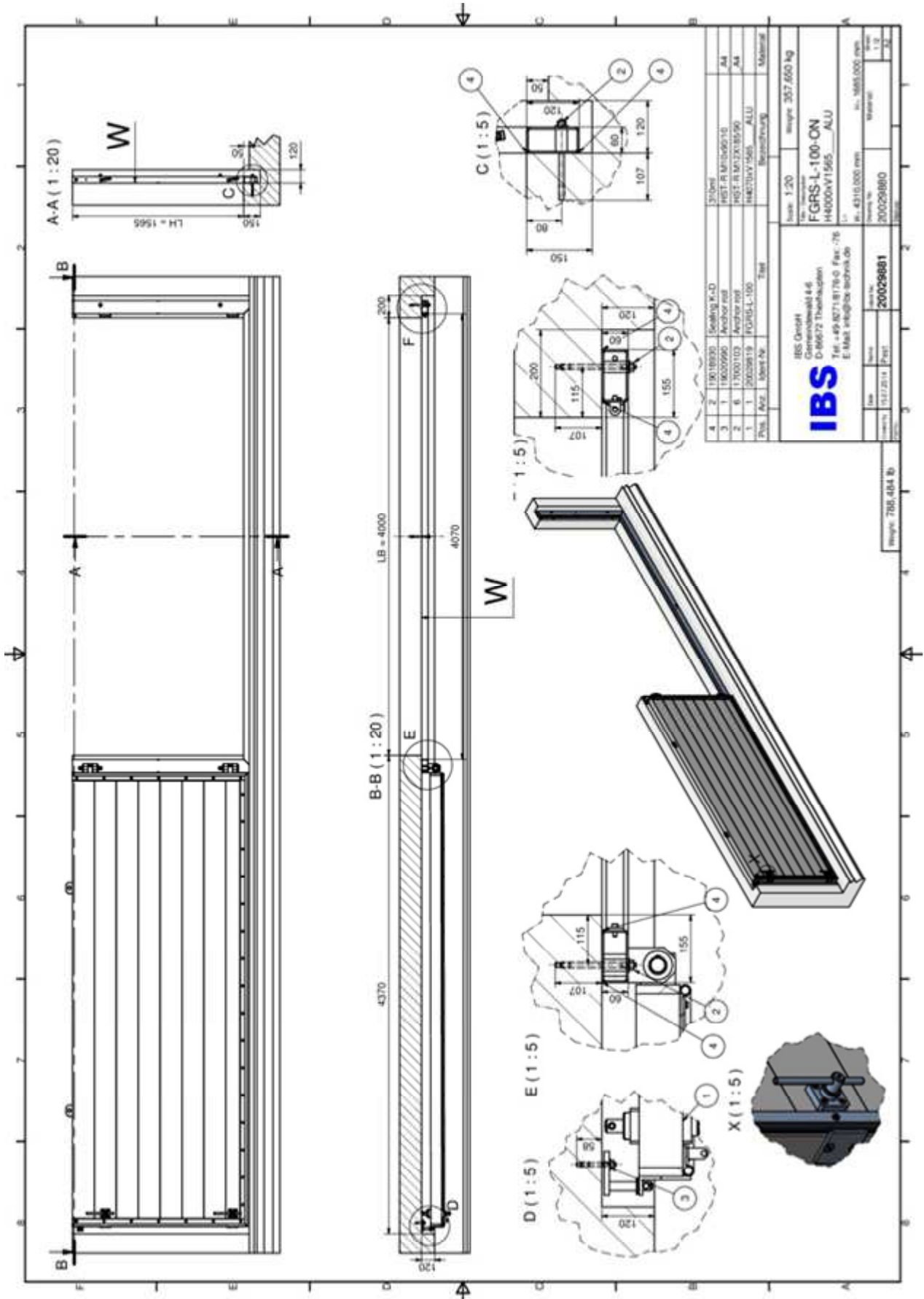
FGRE-L-50: 180° Opened

3.8 FGRS-L/R-100 – Single Leaf Flood Gate On-Seating with Sill (Aluminium)

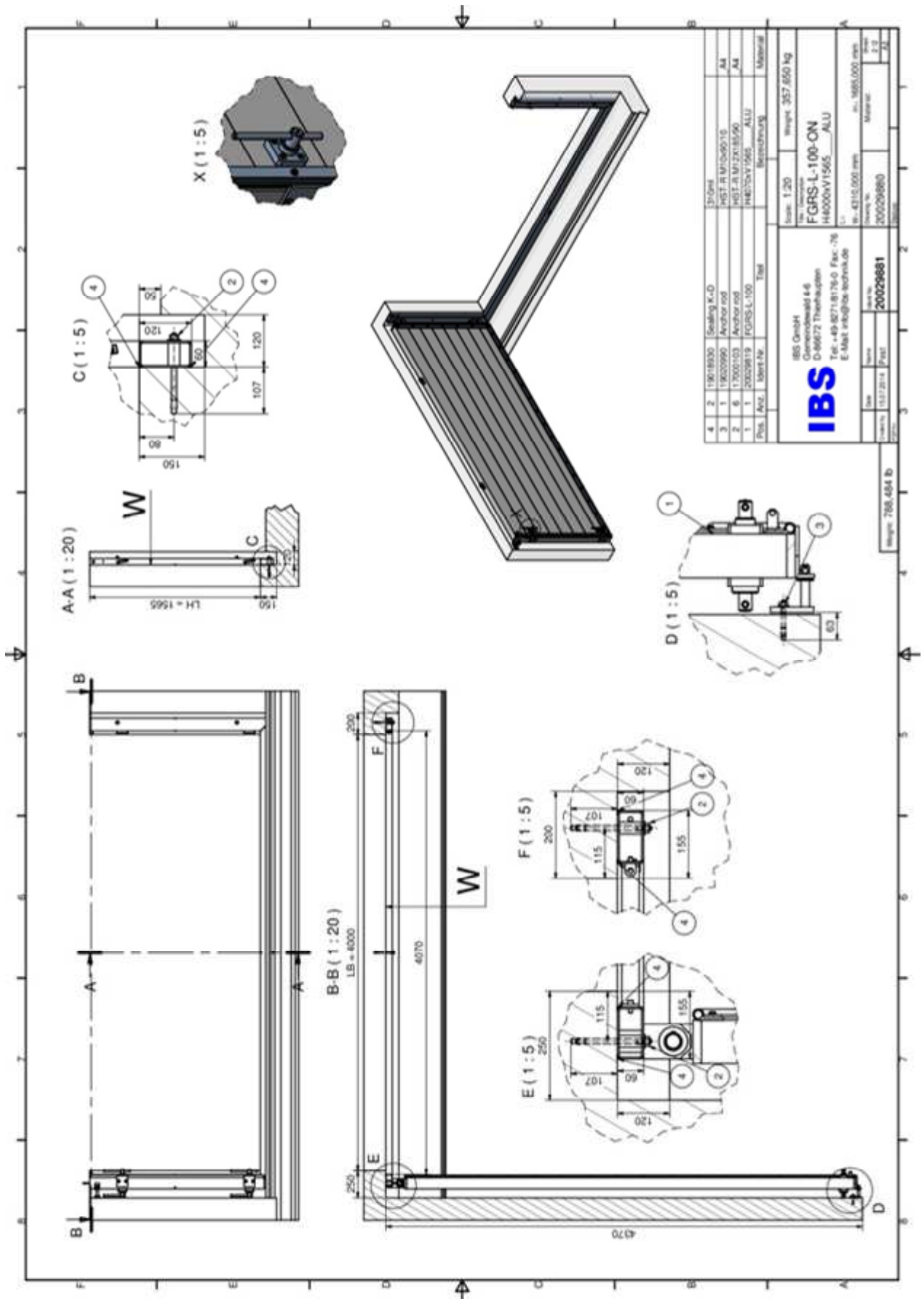
A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Available for Size LB in increments of 50 mm Available for Size LH in increments of 100 mm		

- B. Design Water Head** Clear Height [LH] / on-seating only
- C. Hinge Sides** Left or Right
- D. Pivotability** 0° to 180°
- E. Material**
 Frame: Stainless Steel SS304 / SS316L
 Fittings: Stainless Steel SS304 / SS316L
 Leaf: Aluminium powder coated
 Seals: EPDM
- F. Colour**
 Frame: Self-colour
 Leaf: RAL Number to be specified
- G. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 5
- H. Operation** 2 Handles on Water- and Landside side
- I. Mounting Types**
 Side Frame: Wall Mounted On-Seating
 Invert Frame: Wall Mounted On-Seating
- J. Frame Width** 120 mm
- K. Min. Remaining Sill Height** 50 mm
- L. Mounting Requirements** 3-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25
- M. Lockable** in opened and closed Position with Padlock



FGRS-L-100: 180° Opened



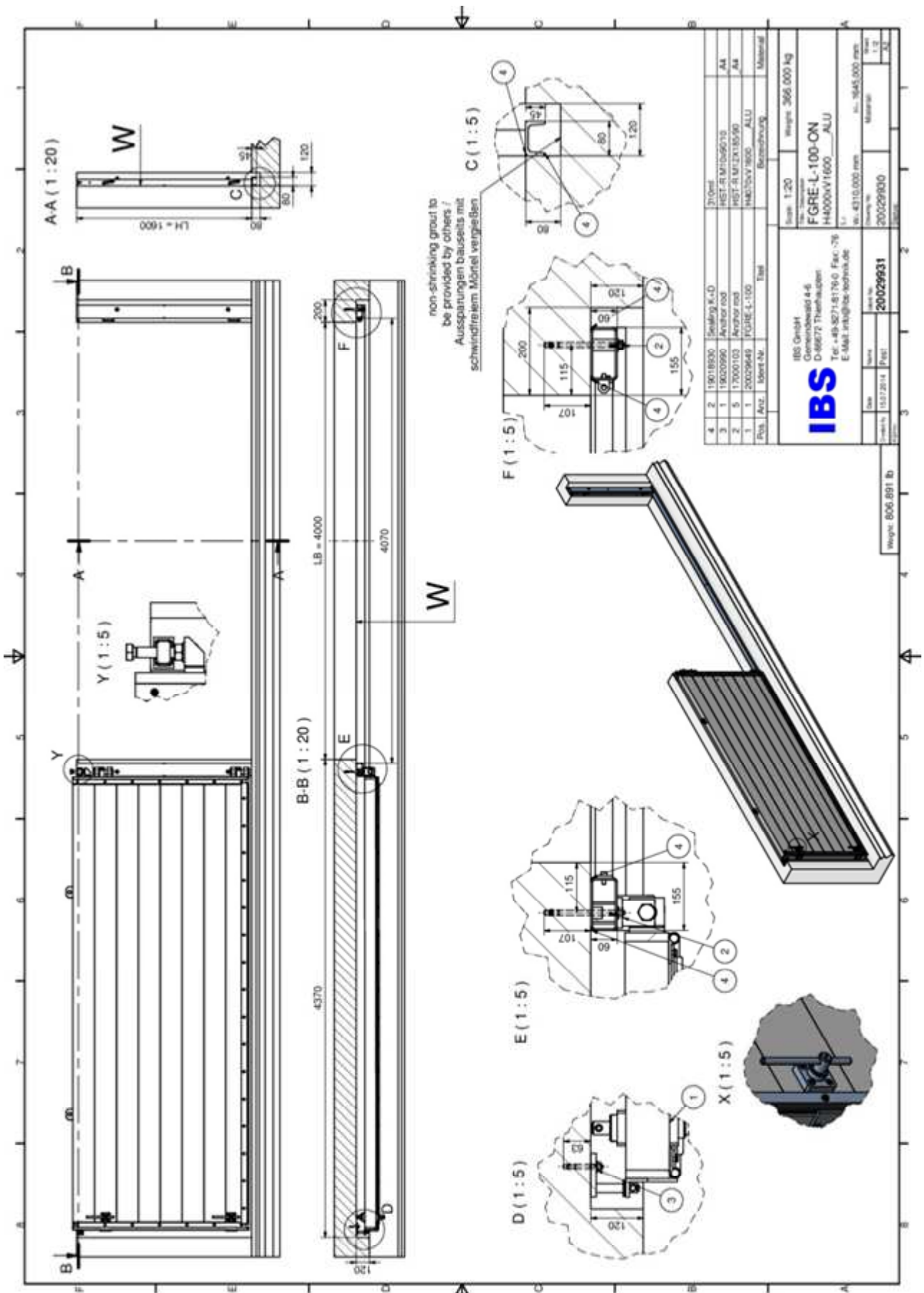
FGRS-L-100: 90° Opened

3.9 FGRE-L/R-100 – Single Leaf Flood Gate On-Seating without Sill (Aluminium)

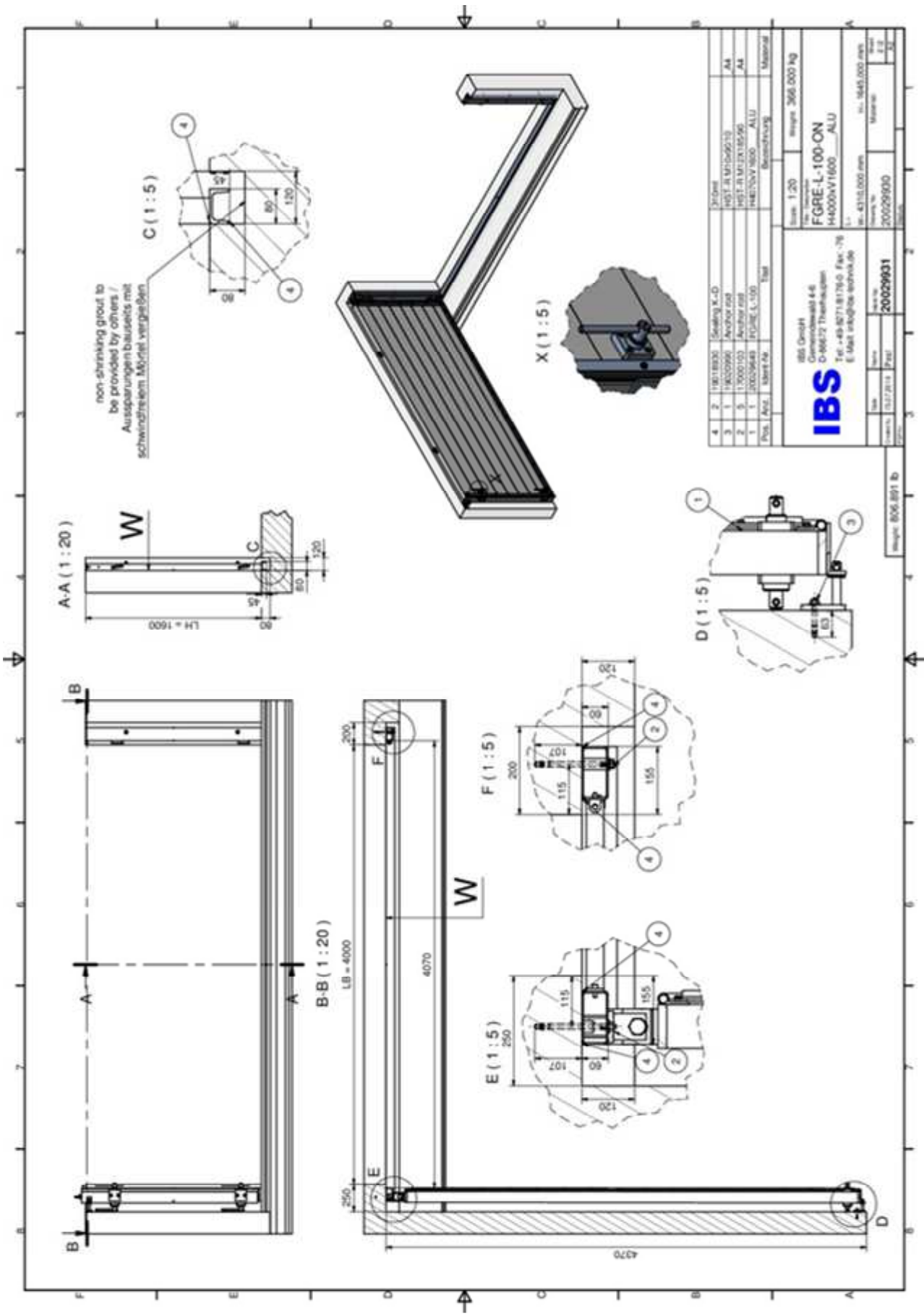
A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	800 mm	800 mm
Maximum	4000 mm	1600 mm
Available for Size LB in increments of 50 mm Available for Size LH in increments of 100 mm		

- B. Design Water Head** Clear Height [LH] / on-seating only
- C. Hinge Sides** Left or Right
- D. Pivotability** 0° to 180°
- E. Material**
 Frame: Stainless Steel SS304 / SS316L
 Fittings: Stainless Steel SS304 / SS316L
 Leaf: Aluminium powder coated
 Seals: EPDM
- F. Colour**
 Frame: Self-colour
 Leaf: RAL Number to be specified
- G. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 4
- H. Operation** 2 Handles on Water- and Landside side
Gate Lift with Ratchet at Top Hinge
- I. Mounting Types**
 Side Frame: Wall Mounted On-Seating
 Invert Frame: Rebate Mounted with grout
- J. Frame Width** 120 mm
- K. Min. remaining Sill Height** Flush with ground level
- L. Mounting Requirements** 3-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25
- M. Lockable** in opened and closed Position with Padlock



FGRE-L-100: 180° Opened



FGRE-L-100: 90° Opened

3.10 FGRE-L/R-2x100 – Double Leaf Flood Gate On-Seating without Sill (Aluminium)

A. Available Sizes

	Clear Height [LH]	Clear Widths		
		LB = LB1 + LB2	LB1	LB2
Minimum	800 mm	3000 mm	800	2200
Maximum	1600 mm	6000 mm	2000	4000
Available for Size LB (LB1 / LB2) in increments of 50 mm Available for Size LH in increments of 100 mm				

- B. Design Water Head** Clear Height [LH] / on-seating only
- C. Hinge Sides** Left or Right
- D. Pivotability** 0° to 180°
- E. Material**
- Frame: Stainless Steel SS304 / SS316L
 - Fittings: Stainless Steel SS304 / SS316L
 - Anchor Plate: Stainless Steel SS304 / SS316L
 - Leaf: Aluminium powder coated
 - Post: Aluminium
 - Seals: EPDM
- F. Colour**
- Frame: Self-colour
 - Anchor Plate: Self-colour
 - Leaf: RAL Number to be specified
 - Post: Self-colour
- G. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 4
- H. Operation** 2 Handles on Water- and Landside side
Gate Lifts with Ratchets at Top Hinges
- I. Mounting Types**
- Side Frame: Wall Mounted On-Seating
 - Invert Frame: Rebate Mounted with grout
 - Anchor Plate: Rebate Mounted with grout
- J. Frame Width** 120 mm
- K. Min. remaining Sill Height** Flush with ground level
- L. Mounting Requirements** 3-sided even reinforced concrete surface
Maximum surface unevenness +/- 2 mm
Minimum Concrete Quality C20/25
- M. Lockable** in opened and closed Position with Padlock

4 Material Combinations

4.1 Availability

Flood Doors

		Flood Door Types				
		FDTS	FDTE	FDDS	FDDE	FDZE
Material Combination	1	X	X	X	X	X
	2	X	X	X	X	X
	3	X	X	X	X	X
	4	X	X	X	X	X
	5	-	-	X	X	X
	6	-	-	X	X	X
	7	X	X	-	-	-

Flood Gates

		Flood Door Types				
		FGTS	FGTE	FGDS	FGDE	FGZE
Material Combination	1	X	X	X	X	X
	2	X	X	X	X	X
	3	X	X	X	X	X
	4	X	X	X	X	X
	5	-	-	X	X	X
	6	-	-	X	X	X
	7	X	X	-	-	-

4.2 Specifications

4.2.1 Specification Material Combination 1

Material Frame	Stainless Steel SS304	
Material Leaf	Mild Steel Type S235 primed	
Material Fittings	Stainless Steel Type SS304	
Material Invert Frame	Type S – With Sill	Stainless Steel SS304
	Type E – Without Sill	Stainless Steel SS304
Material Seals	EPDM	

Primer Coat

Surface Preparation	Sand Blasting Type Sa 2.5
Two Component Primer	Epoxy Coating (60µm)
Leaf Colour	grey

4.2.2 Specification Material Combination 2

Material Frame	Stainless Steel SS316L	
Material Leaf	Mild Steel Type S235 primed	
Material Fittings	Stainless Steel Type SS316L	
Material Invert Frame	Type S – With Sill	Stainless Steel SS316L
	Type E – Without Sill	Stainless Steel SS316L
Material Seals	EPDM	
 <u>Primer Coat</u>		
Surface Preparation	Sand Blasting Type Sa 2.5	
Two Component Primer	Epoxy Coating (60µm)	
Leaf Colour	grey	

4.2.3 Specification Material Combination 3

Material Frame	Stainless Steel SS304	
Material Leaf	Mild Steel Type S235 wet paint coated	
Material Fittings	Stainless Steel Type SS304	
Material Invert Frame	Type S – With Sill	Stainless Steel SS304
	Type E – Without Sill	Stainless Steel SS304
Material Seals	EPDM	

Wet paint coating

Coating Structure	in acc. with DIN EN ISO 12944-5:2008-01, Attachment A, Table A1	
Class	C3	
Period of protection	L	
Surface Preparation	Sand Blasting Type Sa 2.5	
Two Component Primer	Epoxy Coating;	
Thickness of Coating	160 µm	
Leaf Colour	RAL number to be specified	

4.2.4 Specification Material Combination 4

Material Frame	Stainless Steel SS316L
Material Leaf	Mild Steel Type S235 wet paint coated
Material Fittings	Stainless Steel Type SS316L
Material Invert Frame	Type S – With Sill Stainless Steel SS316L Type E – Without Sill Stainless Steel SS316L
Material Seals	EPDM

Wet paint coating

Coating Structure	in acc. with DIN EN ISO 12944-5:2008-01, Attachment A, Table A1
Class	C5M
Period of protection	L
Surface Preparation	Sand Blasting Type Sa 2.5
Prime Coat	Epoxy Coating
Intermediate Coat	2K Epoxy
Finishing Coat	Polyacrylat
Thickness of Coating	500 µm
Leaf Colour	RAL number to be specified

4.2.5 Specification Material Combination 5

Material Frame	Stainless Steel Type SS304
Material Leaf	Stainless Steel Type SS304
Material Fittings	Stainless Steel Type SS304
Material Invert Frame	Type S – With Sill Stainless Steel Type SS304 Type E – Without Sill Stainless Steel Type SS304
Material Seals	EPDM
Leaf Colour	Self-colour

4.2.6 Specification Material Combination 6

Material Frame	Stainless Steel Type SS316L
Material Leaf	Stainless Steel Type SS316L
Material Fittings	Stainless Steel Type SS316L
Material Invert Frame	Type S – With Sill Stainless Steel Type SS316L Type E – Without Sill Stainless Steel Type SS316L
Material Seals	EPDM
Leaf Colour	Self-colour

4.2.7 Specification Material Combination 7

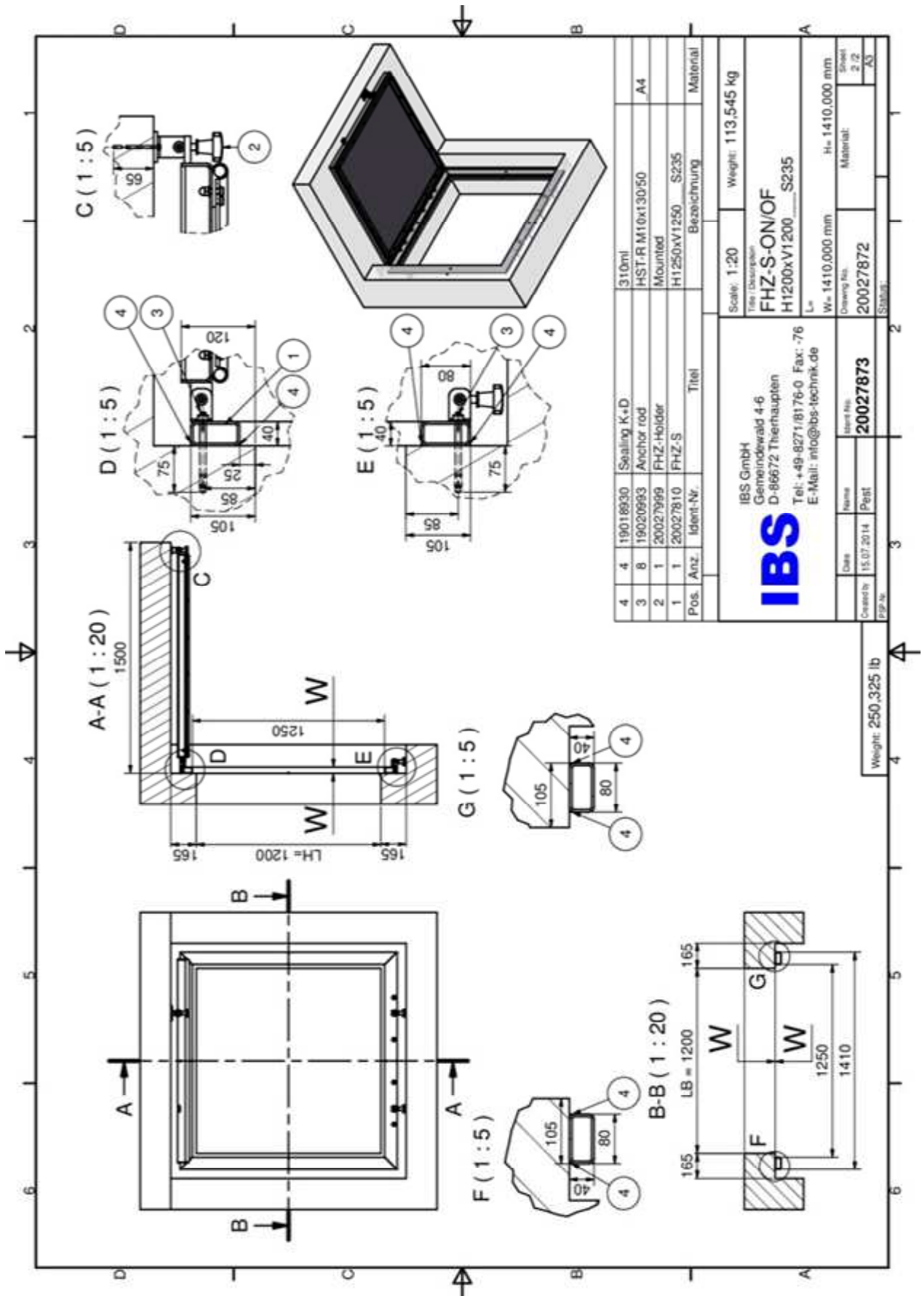
Material Frame	Stainless Steel Type SS304
Material Leaf	Mild Steel Type S235 hot galvanized
Material Fittings	Stainless Steel Type SS304
Material Invert Frame	Type S – With Sill Stainless Steel Type SS304 Type E – Without Sill Stainless Steel Type SS304
Material Seals	EPDM
Leaf Colour	Self-colour

5 Flood Hatchet – FHZS-L/R/O/U

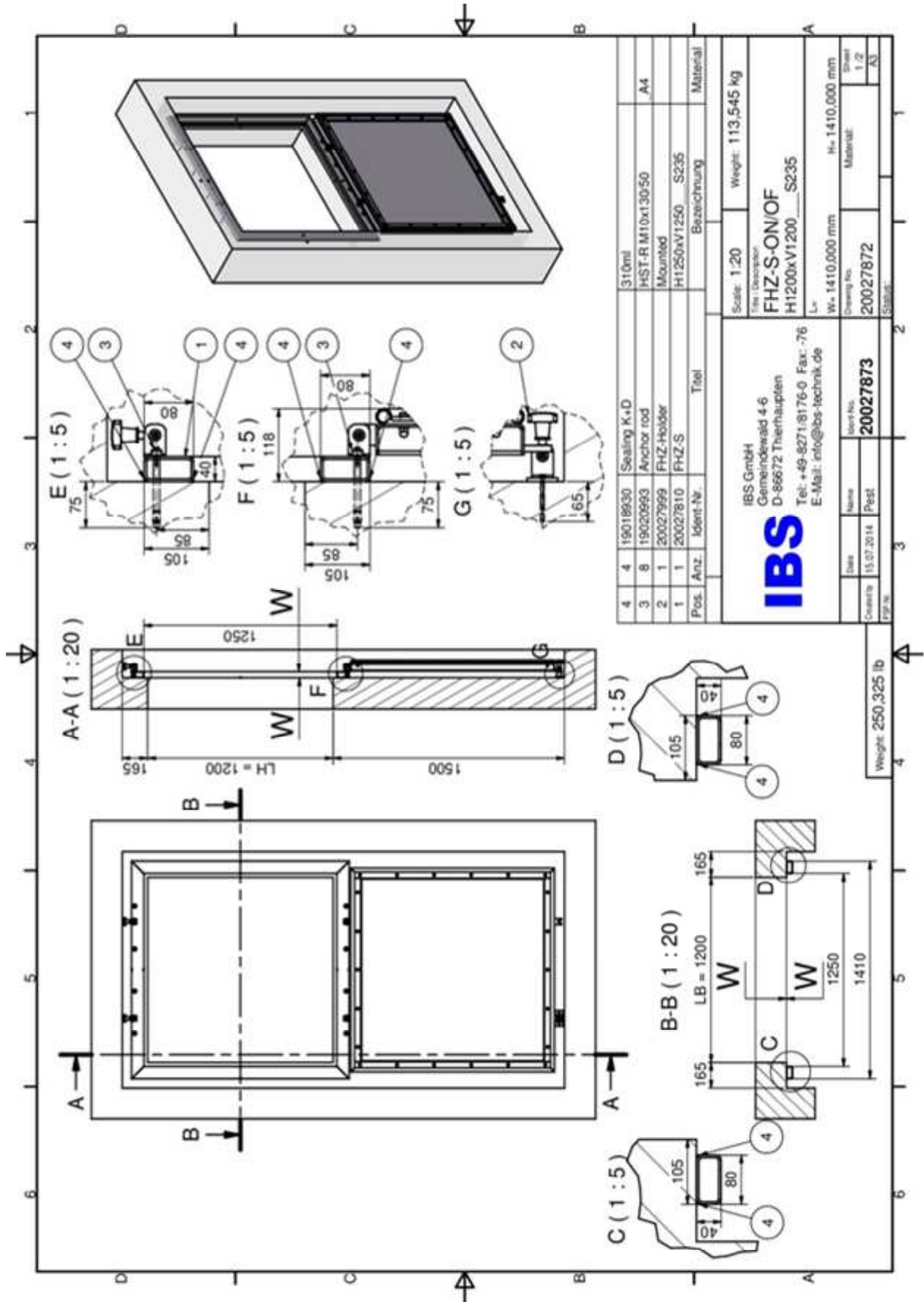
A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	500 mm	500 mm
Maximum	1200 mm	1200 mm
Available for Sizes LH & LB in increments of 50 mm		

- B. Design Water Head** 2000 mm On- and Off-seating
- C. Hinge Sides** Left / Right / Top / Bottom
- D. Pivotability** 0° to 180°
- E. Material**
- | | |
|-------------|-----------------------------|
| Frame: | Mild Steel Type S235 primed |
| Leaf: | Mild Steel Type S235 primed |
| Hinges: | Mild Steel Type S235 primed |
| Hinge Bolt: | SS304 |
| Seals: | EPDM |
- F. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 4
- G. Operation** 2 Star Handles from Water or Landside side
(From Mounting Side)
- H. Mounting Types** Wall Mounted
- I. Frame Width** 80 mm
- J. Min. remaining Sill Height** Flush with ground level
- K. Mounting Requirements** 4-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25
- L. Primer Coat**
- | | |
|----------------------|---------------------------|
| Surface Preparation | Sand Blasting Type Sa 2.5 |
| Two Component Primer | Epoxy Coating (60µm) |
| Colour | grey |



FHZO: 90° Opened



FHZU: 180° Opened

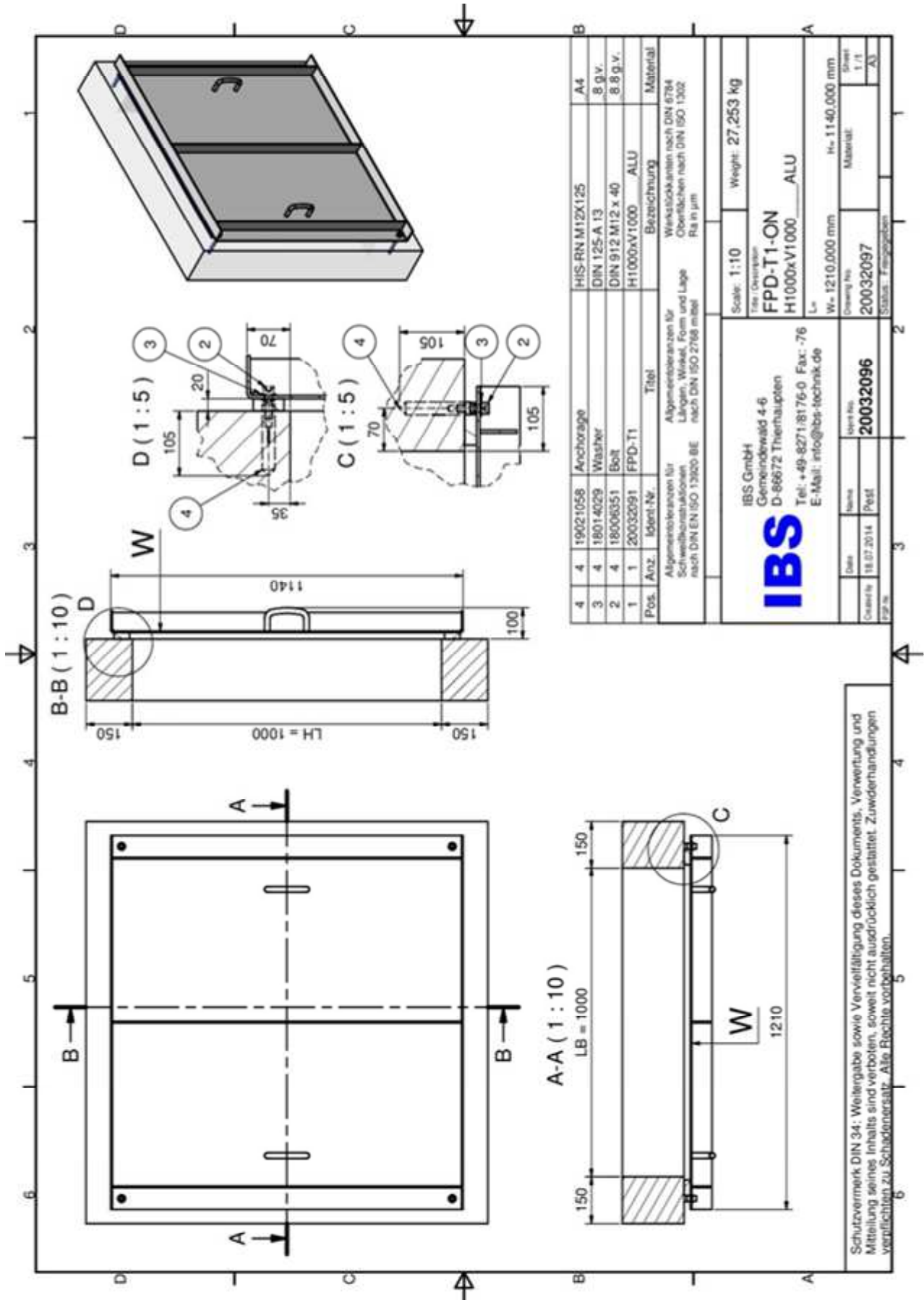
4	4	19018930	Sealing K+D	310ml		
3	8	19020993	Anchor rod	HST-R M10x130-50		A4
2	1	20027999	FHZ-Holder	Mounted		
1	1	20027810	FHZ-S	H1250xV1250_S235		Material
Pos.	Anz.	Ident-Nr.	Titel	Bezeichnung		
<p>Scale: 1:20 Weight: 113,545 kg</p> <p>Title / Description: FHZ-S-ON/OF</p> <p>H1200xV1200_S235</p> <p>W. 1410,000 mm H. 1410,000 mm</p> <p>IBS GmbH Gemeindefeld 4-6 D-86672 Thierhaupten Tel: +49-8271-8176-0 Fax: -76 E-Mail: info@ibs-technik.de</p> <p>IBS</p>						
Drawn	Checked	Released	Material	Sheet		
Quantity	15,07.2014	Post	20027872	1/2		
Proj. No.	20027873	Scale	20027872	A3		
Weight: 250,325 lb						

6 Flood Plates - FPD

A. Available Sizes

	Clear Width [LB]	Clear Height [LH]
Minimum	500 mm	500 mm
Maximum	1000 mm	1000 mm
Available for Sizes LH & LB in increments of 50 mm		

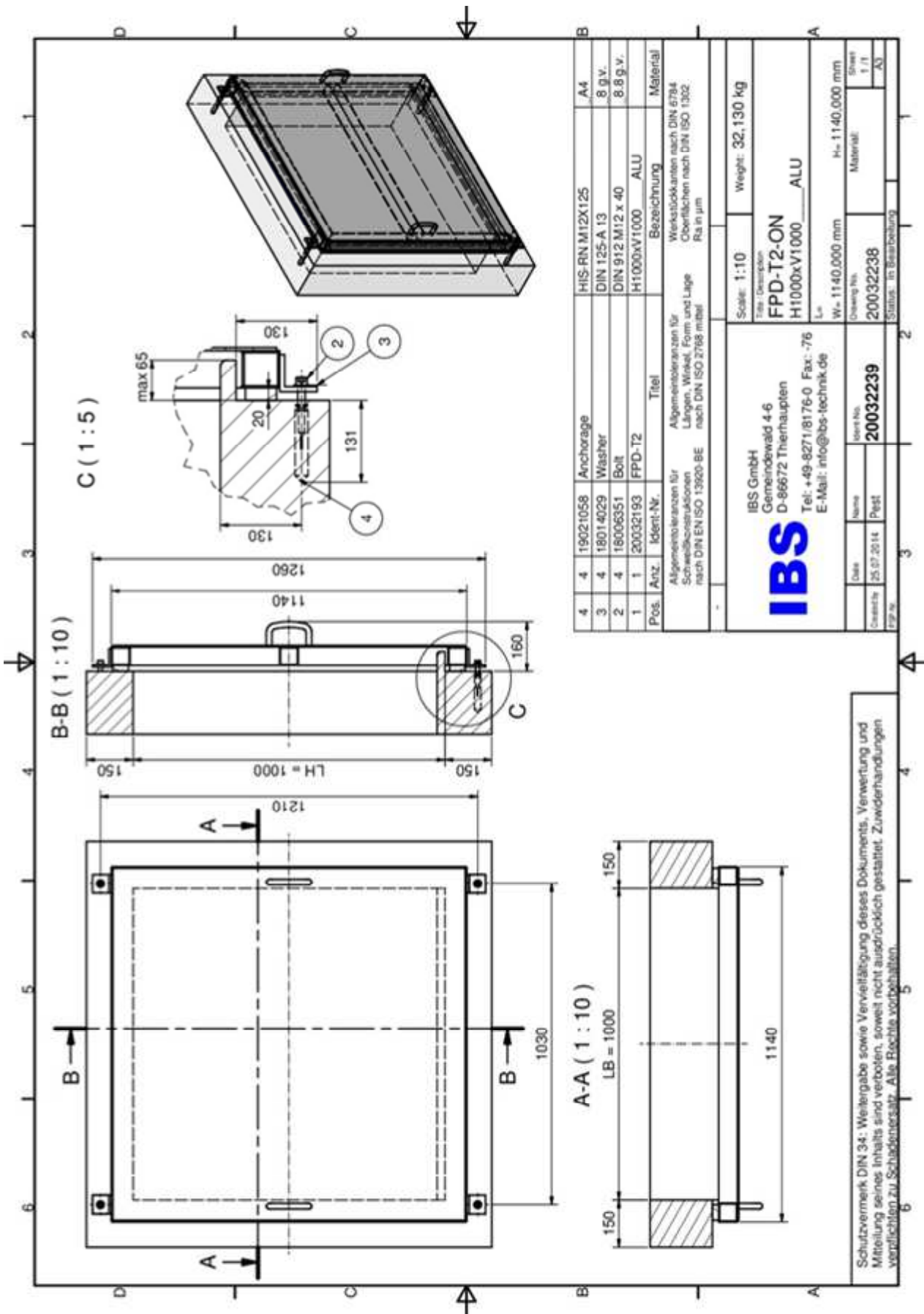
- B. Design Water Head** 2000 mm On-seating only
- C. Material**
 Plate: Aluminium EN AW 5754
 Seals: PVC
 Bolts: M12x40 - 8.8 Galvanized
- D. Colour** Self-colour
- E. Guaranteed Leakage Rate** In accordance with DIN 19569-4 Table 1, Class 4
- F. Operation** From Waterside only
- G. Mounting Types** Wall Mounted with internal threaded sleeves
 Type: HIS-RN M12x25
- H. Required Mounting Space** 150 mm
- I. Mounting Requirements** 4-sided even reinforced concrete surface
 Maximum surface unevenness +/- 2 mm
 Minimum Concrete Quality C20/25



4	4	19021058	Anchorage	HIS-RN M12X125	A4
3	4	18014029	Washer	DIN 125 A 13	8 g.v.
2	4	18006351	Bohr	DIN 912 M12 x 40	8.8 g.v.
1	1	20032091	FPD-T1	H1000xV1000	ALU
Pos.	Anz.	Ident.Nr.	Titel	Bezeichnung	Material
Allgemeine Anmerkungen für Schweißkonstruktionen nach DIN EN ISO 13020 BE			Allgemeine Anmerkungen für Längen, Winkel, Form und Lage nach DIN ISO 2768 mittel	Werkstoffkennlinie nach DIN 6784 Oberflächen nach DIN ISO 1302 Ra in µm	
IBS IBS GmbH Gemeindefeld 4-6 D-86672 Thierhaupten Tel.: +49-8271-8176-0 Fax: -76 E-Mail: info@ibs-technik.de			Scale: 1:10 Title Description: FPD-T1-ON H1000xV1000 ALU	Weight: 27,253 kg	L _w : 1210,000 mm H _w : 1140,000 mm Material:
Date	Name	Objekt-Nr.	Blatt-Nr.	Blatt-1/1	Blatt-1/1
18.07.2014		20032096	20032097		A3
Druck	Post	Status: Freigegeben			

Schutzvermerk DIN 34: Weitergabe sowie Vervielfältigung dieses Dokuments, Vervielfältigung und Mitteilung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet. Zuwiderhandlungen verpflichten zu Schadensersatz. Alle Rechte vorbehalten.

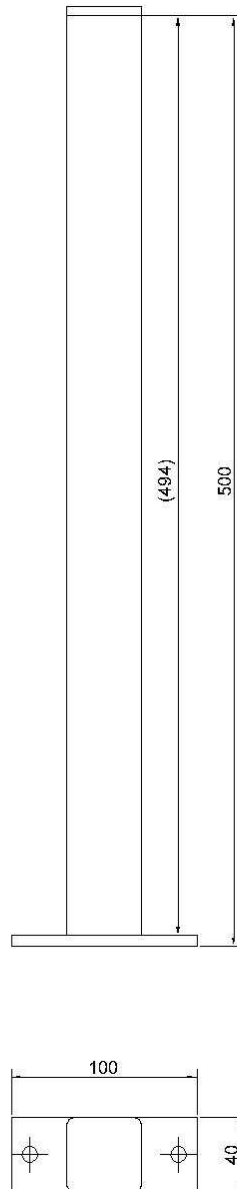
FPD-T1



FPD-T2

7 Equipment

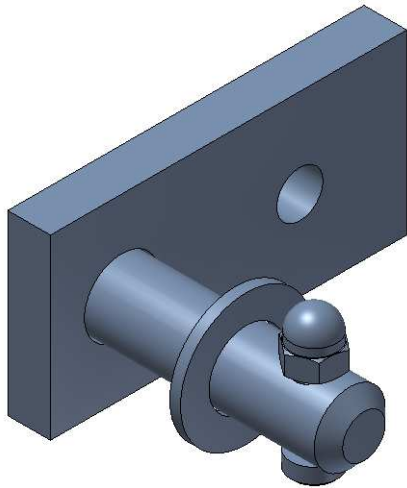
7.1 Door Stay ASB



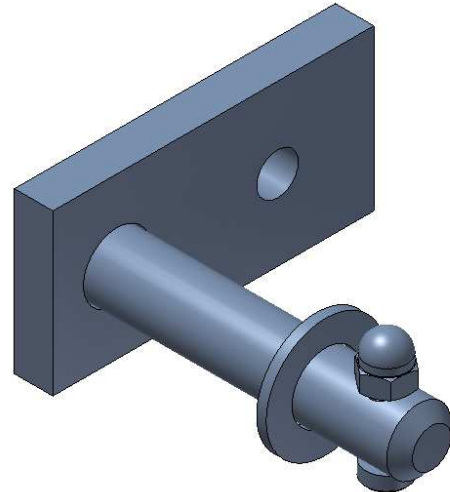
Description	Material
ASB FGD-FDD	SS304
ASB FGD-FDD	SS316L

7.2 Wall Holder

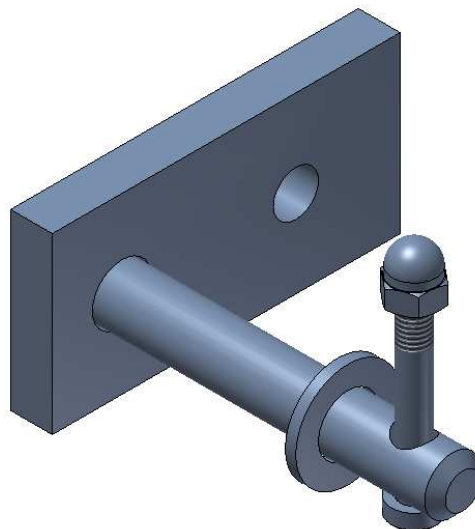
Type FDD / FGD



Type FGT / FDT

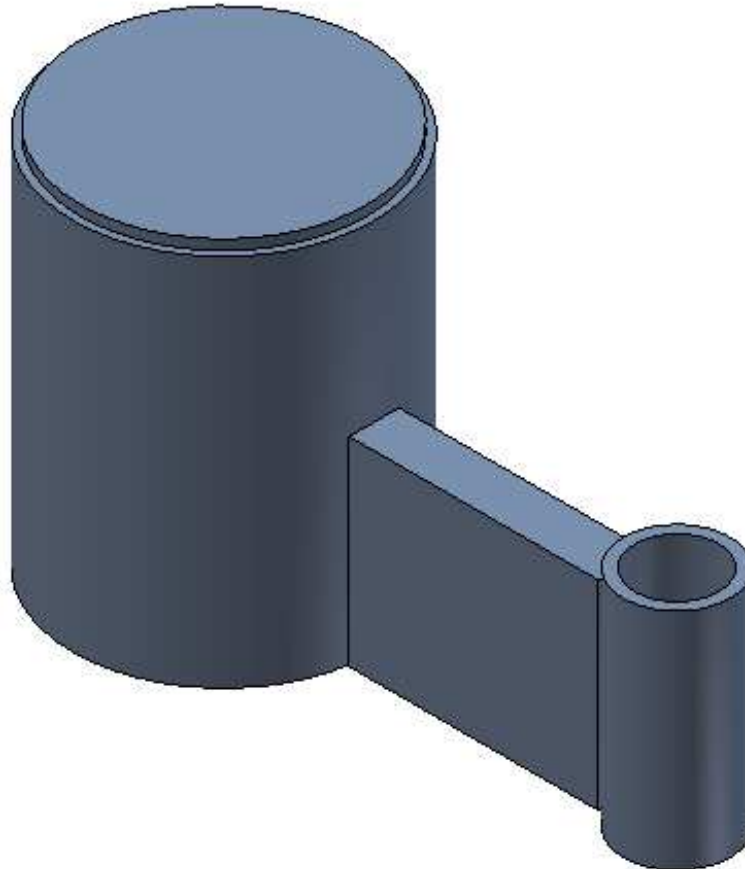


Type FGR



Description	Material
Wall Holder Doors and Gates	SS304
Wall Holder Doors and Gates	SS316L

7.3 Cover for lifting unit



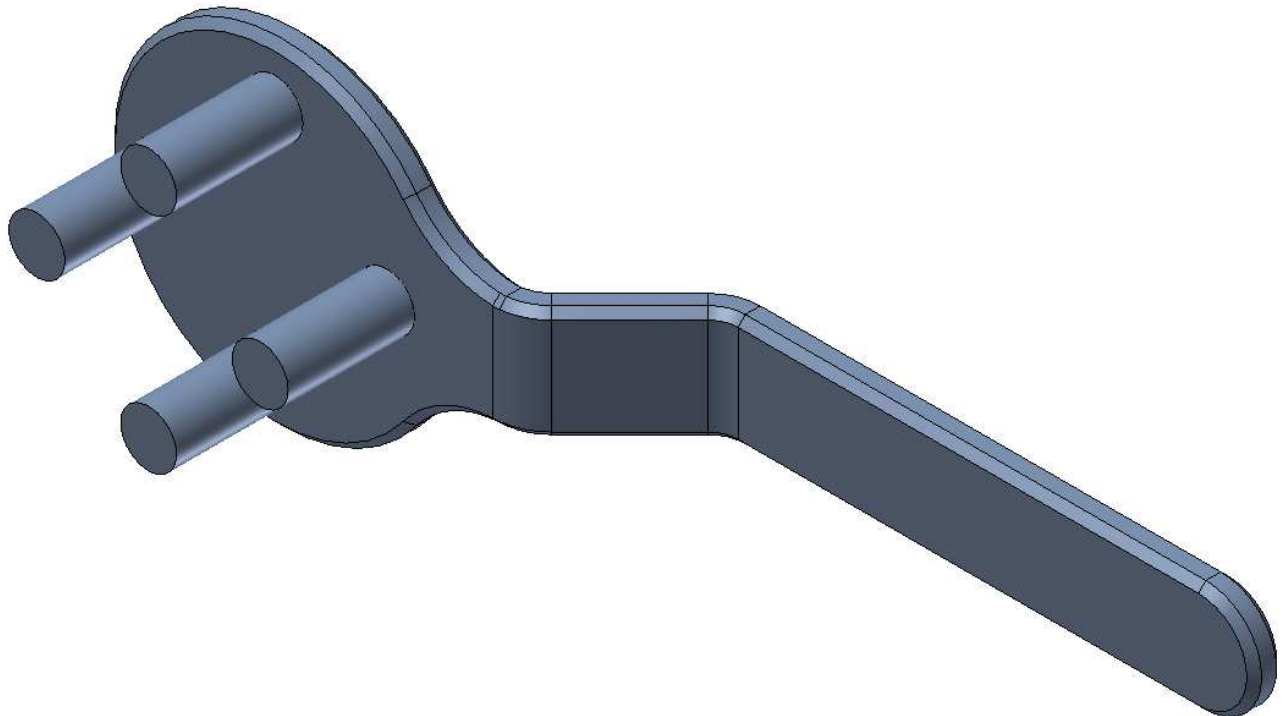
Description	Material
Cover for lifting unit	SS304
Cover for lifting unit	SS316L

7.4 Ratchet



Tool	Description
Ratchet	1/2" reversible
Transition part	1/2" - 3/4"
Hexagon socket	3/4" SW 36

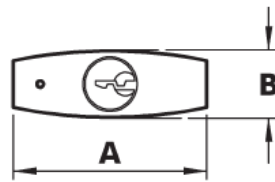
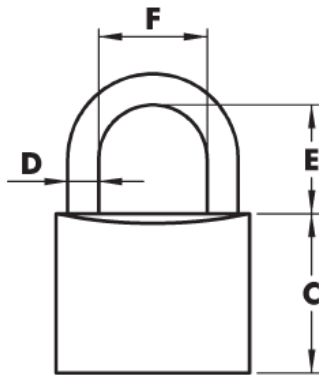
7.5 Key for star handle operation



Description	Material
Key for FDT / FGT star handles	SS304

7.6 Padlock

Mango 30GS W1-30,



Dimensions:

A	30	mm
B	12,8	mm
C	28,5	mm
D	5	mm
E	17,0	mm
F	16,0	mm



Description:

- Keyed alike
- Material: Casing: brass massive, Inside stainless
Bail: steel hardened, chromed
Key: brass nickel plated
- Scope of Supply: 2 keys per lock

8 Mounting Conditions / Materials

8.1 General Information

The installation of doors / gates accessories shall not take place under strain. Twisting of the frame shall be avoided under any circumstances. In addition, please observe the appropriate operating, maintenance and installation instructions.

8.2 Mounting Surface

The minimum prerequisite for the validity of the stated installation technology, in particular for the stated anchorage, is concrete quality C20/25 or higher.

8.3 Evenness / Tolerances

Construction tolerances: Surface unevenness of up to ± 2 mm are accommodated using the sealing materials recommended for installation.

8.4 Anchorage

The following list of anchor technology is purely for information purposes. In individual cases, numerous factors such as edge clearances, concrete strengths, concrete conditions, etc. play a major role in selecting the correctly dimensioned anchor technology. The correct selection of anchor technology is the responsibility of the person providing it for the purposes of installation.

	Hilti HST-R- M12x185/90	Hilti HST-R- M10x160/80	Hilti HST-R- M10x90/10	Washer DIN 9021 12
FDT-E	8	-	1	-
FDT-S	8	-	1	-
FDD-E	8	-	1	-
FDD-S	8	-	1	-
FDZ-E	12	-	1	12
FGT-E	5	-	1	-
FGT-S	6	-	1	-
FGD-E	5	-	1	-
FGD-S	6	-	1	-
FGZ-E	8	-	1	8
FGRS-50	-	5	1	-
FGRE-50	-	5	1	-
FGRS-100	6	-	1	-
FGRE-100	5	-	1	-
FGRE-2x100	6	-	2	-
FHZS	-	-	8	-

	Cylinder Bolt DIN 912 M12x40	Washer DIN 125-A 13	Anchorage HIS-RN M12x125
FPD-T1	4	4	4
FPD-T2	4	4	4

8.5 Sealing to Concrete Surface

for adequate sealing between the frame components and the installation surface the sealing line is in the form of an adhesive seam made of PU-Klebt+Dichtet along the frame flange around the clear frame aperture.

Contact:

IBS Industriembarrieren und Brandschutztechnik
Planungs- und Vertriebsgesellschaft mbH
Am Gemeindewald 6
86672 Thierhaupten
Germany

Tel: +49 8271 – 8176-0

Fax: +49 8271 – 8176-76

www.ibs-technics.de

info@ibs-technics.de