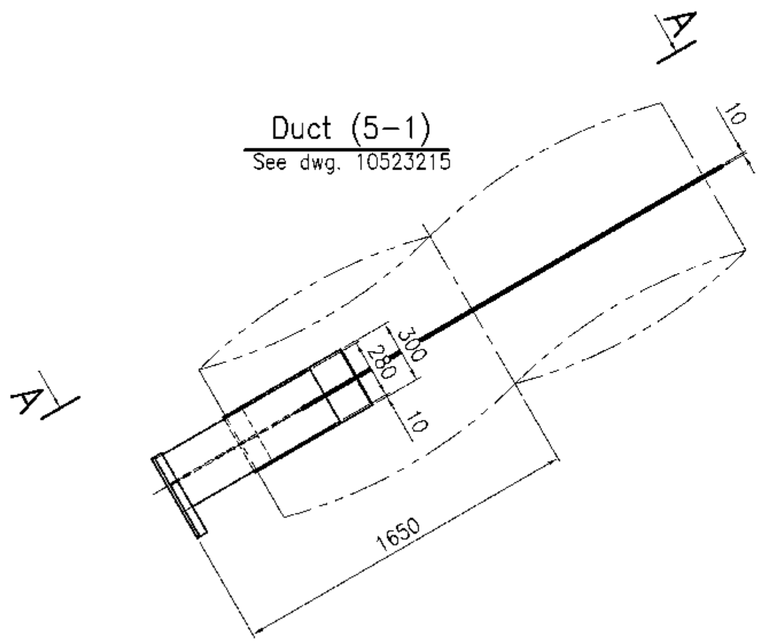

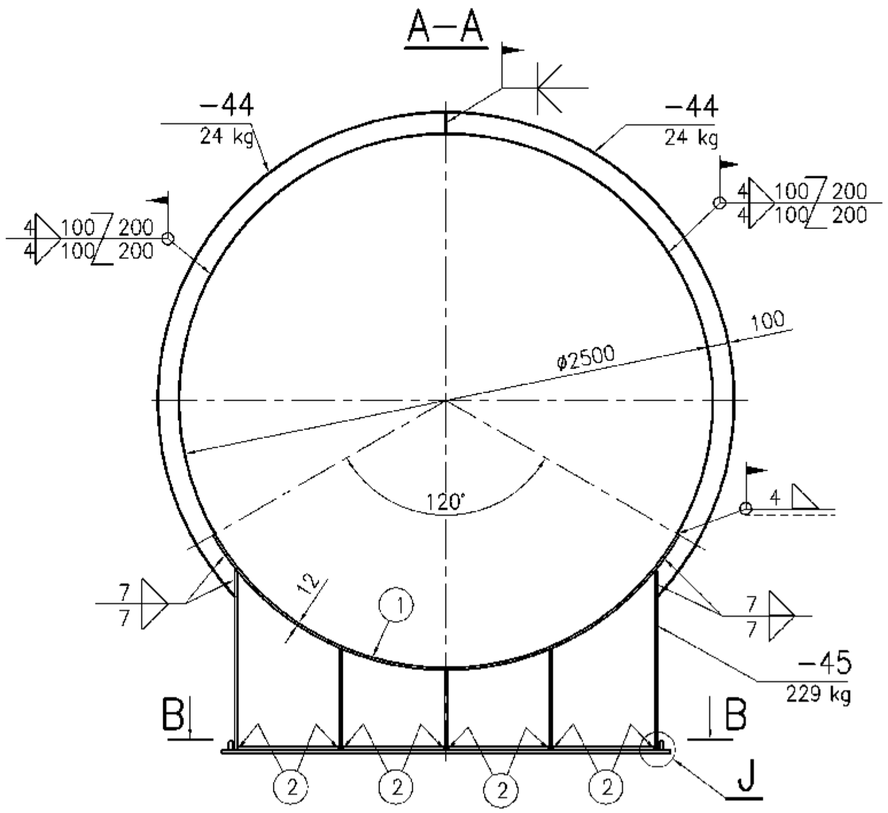

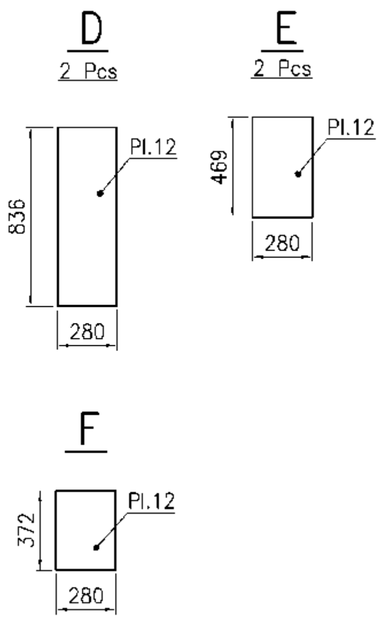

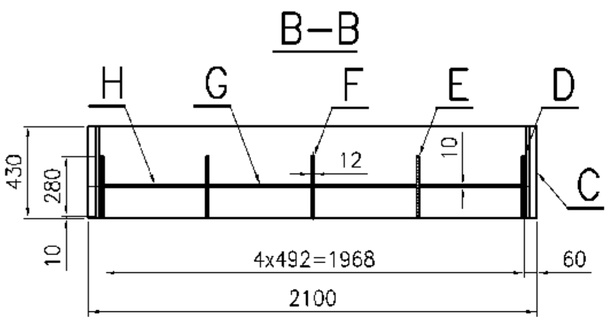

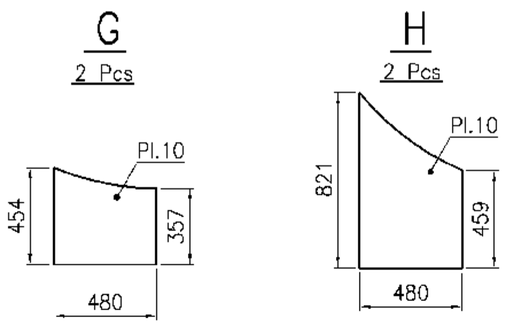

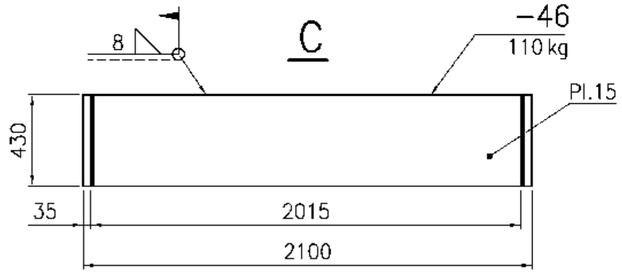

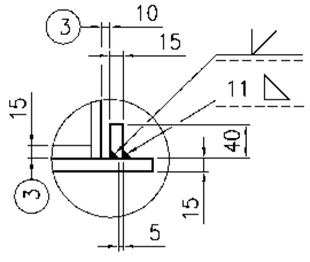

2 pcs –44
48 kg

0.7t

(3) Gap
(2) Not to be welded.
(1) Developed length 2631mm.

Markings to be painted on the individual parts with a weather-resistant white paint. Markings to be noted in each individual packing list.
Example: –44

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.10	Steel plate	1.56 m²	1100	123
5130.12	Steel plate	1.63 m²	1100	153
5130.15	Steel plate	0.94 m²	1100	110

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Slide saddle for duct (5-1)

Mat.: 1100	Weight: 386	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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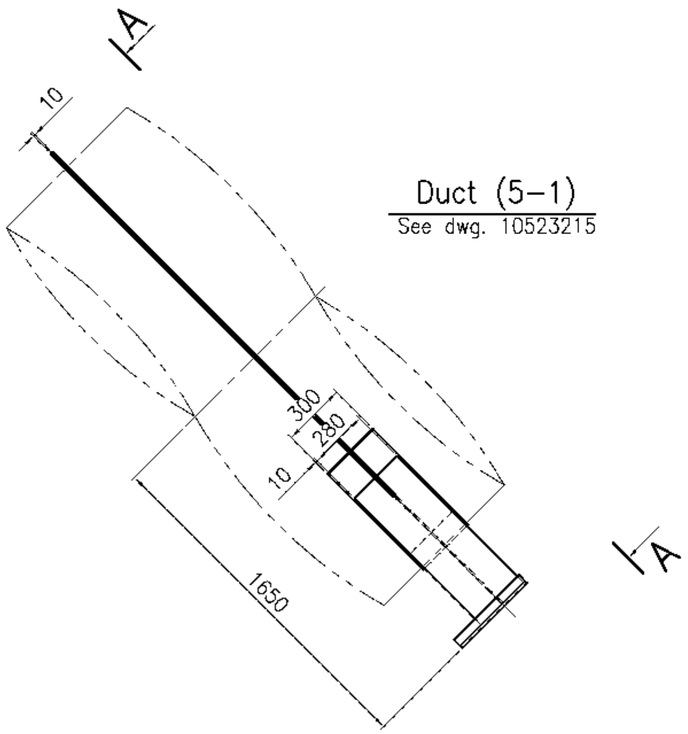
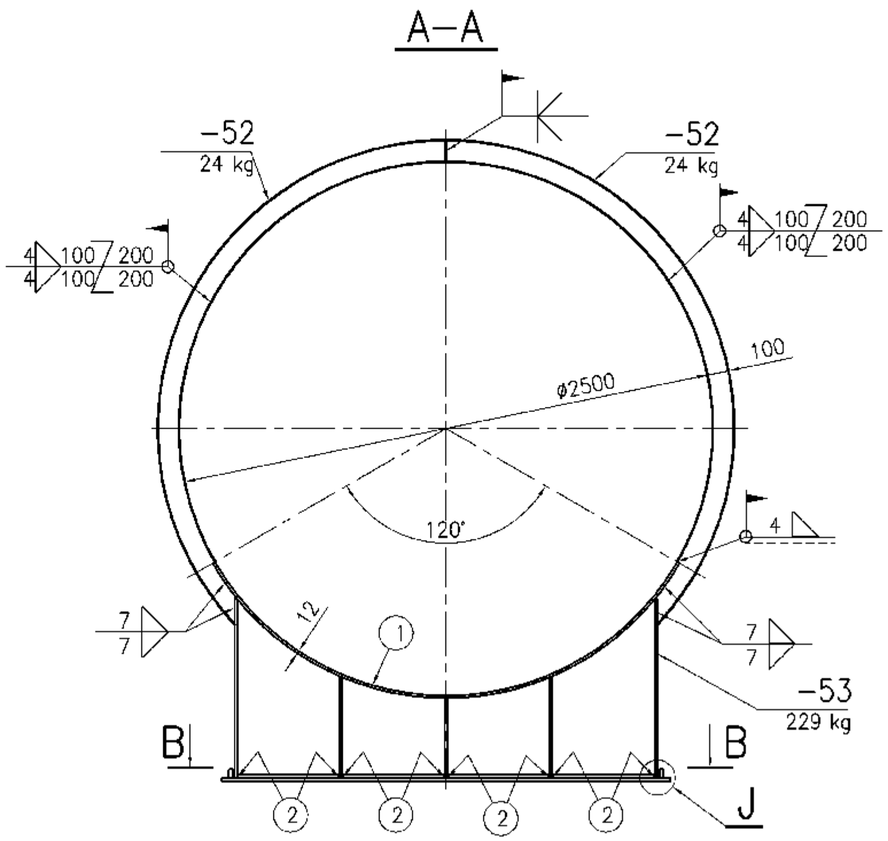
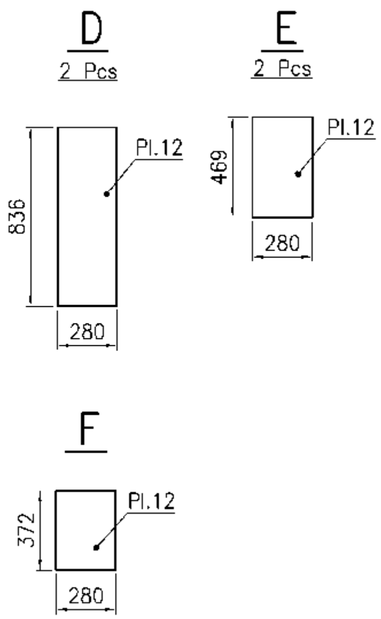


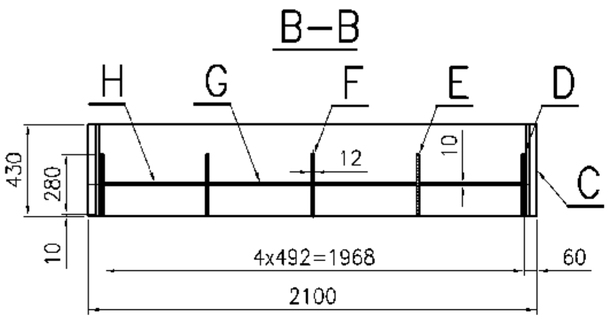
Duct (5-1)
See dwg. 10523215

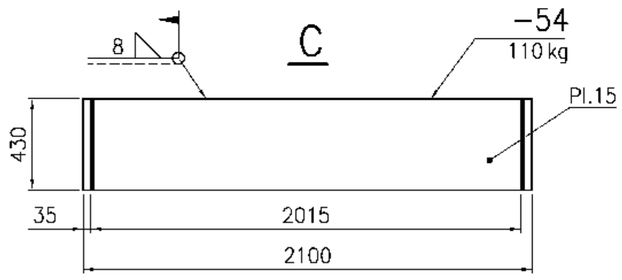


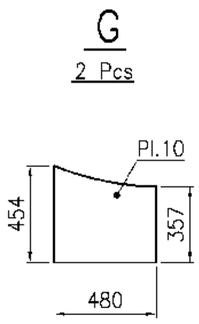


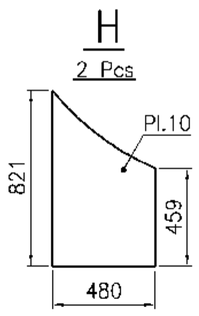
(3) Gap
(2) Not to be welded.
(1) Developed length 2631mm.

Markings to be painted on the individual parts with a weather-resistant white paint. Markings to be noted in each individual packing list.
Example: -52

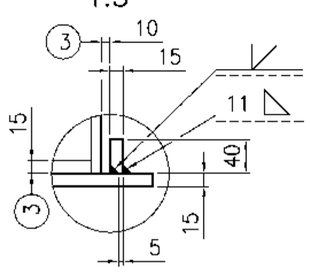








2 pcs -52
48 kg



0.7t

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.10	Steel plate	1.56 m²	1100	123
5130.12	Steel plate	1.63 m²	1100	153
5130.15	Steel plate	0.94 m²	1100	110

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Slide saddle for duct (5-1)

Mat.: 1100	Weight: 386	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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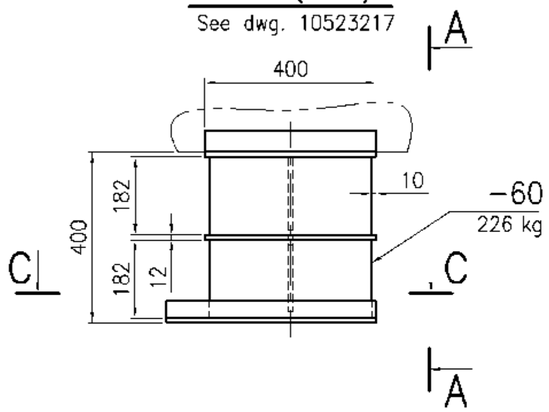
FLSmidth

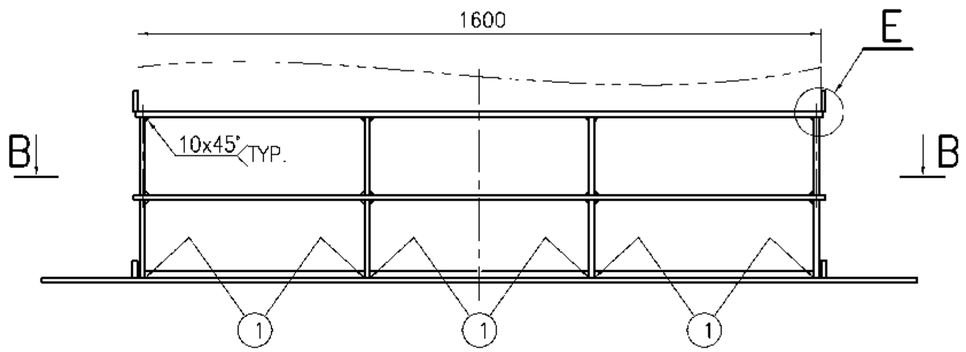
No.: 20188051 Ver.: 1.0

Duct (5-2)

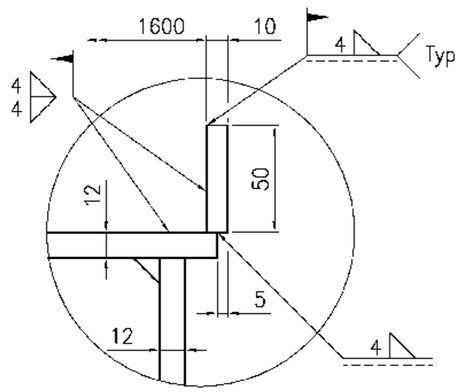
See dwg. 10523217



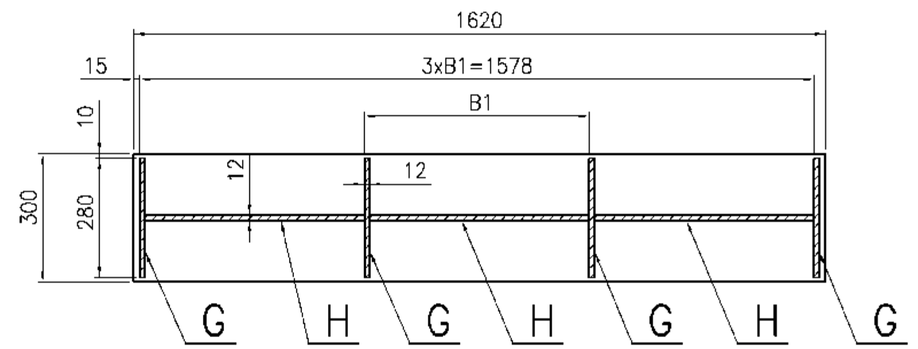
A–A



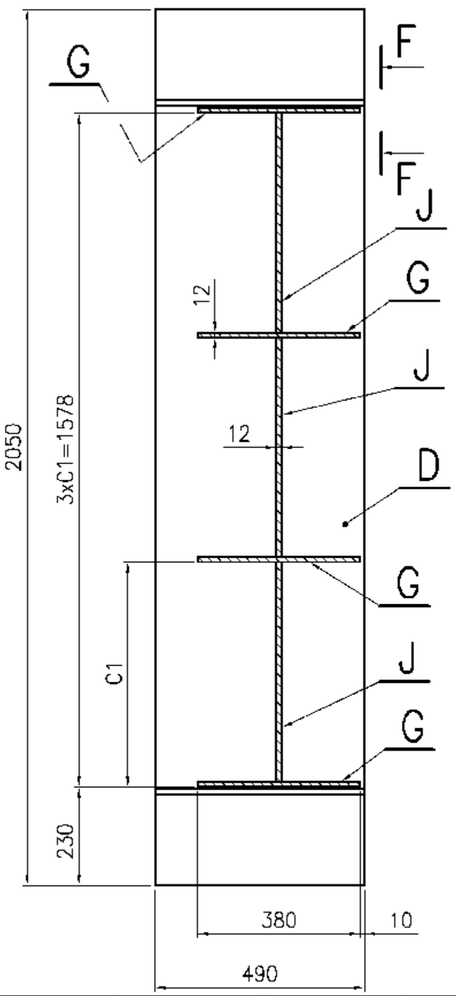
E
1:2



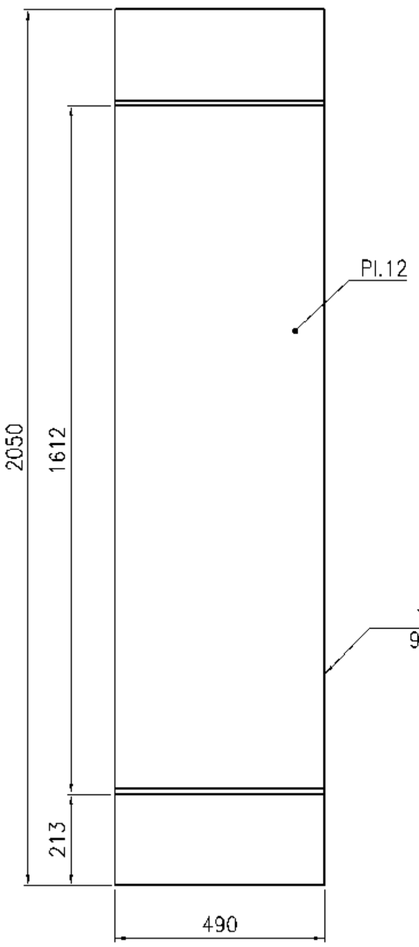
B–B



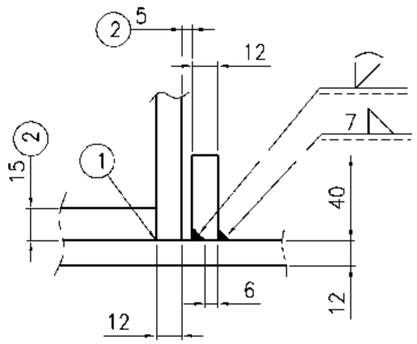
C–C



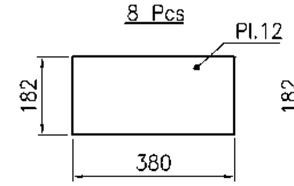
D



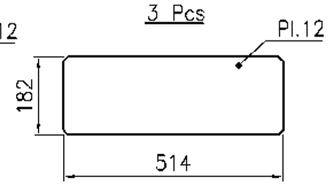
F–F
1:2



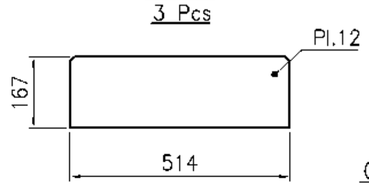
G
8 Pcs



H
3 Pcs



J
3 Pcs



0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: −60

(1) Not to be welded.
(2) Gap.

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.10	Steel plate	0.04 m²	1100	3.1
5130.12	Steel plate	3.41 m²	1100	322
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide saddle for duct (5–2)

Mat.: 1100	Weight: 325	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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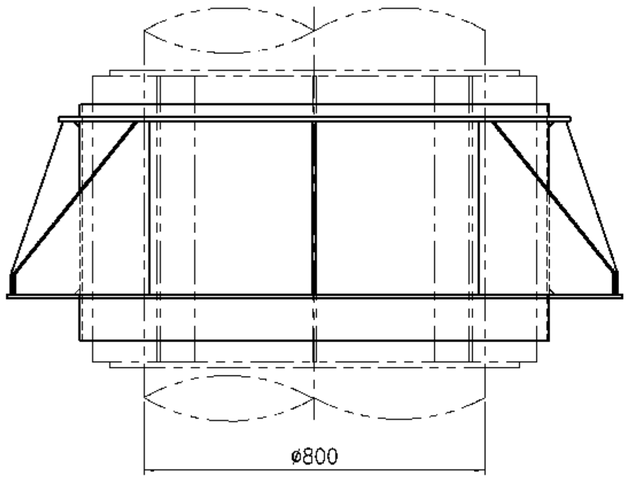
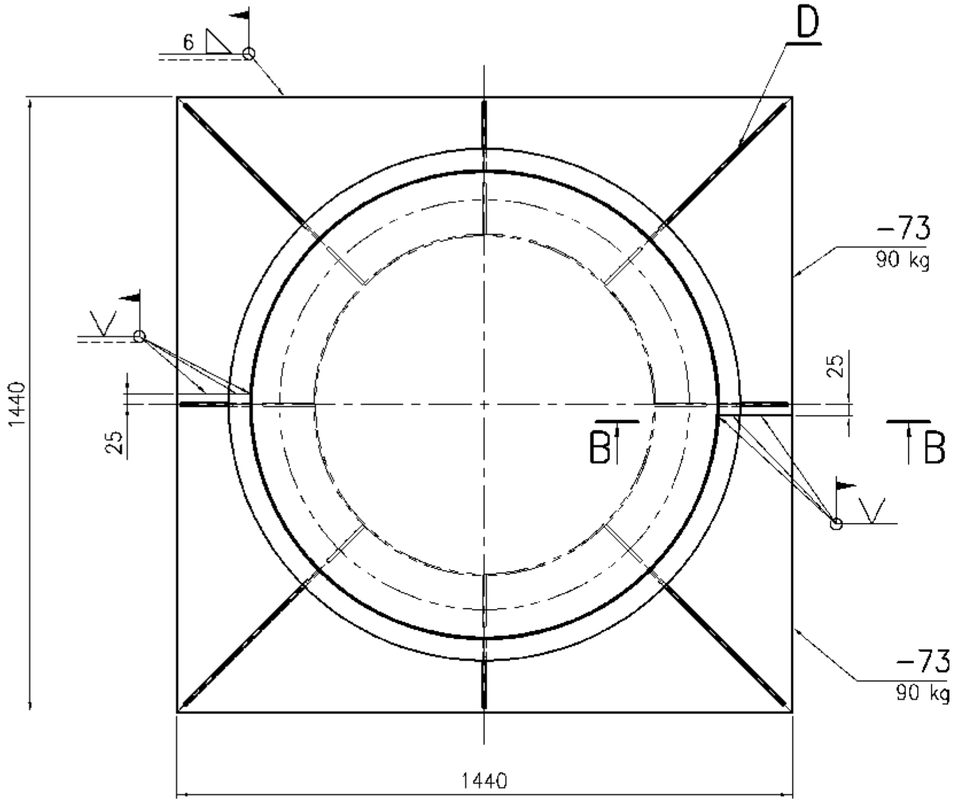
Duct (5–3)

See dwg. 10523218

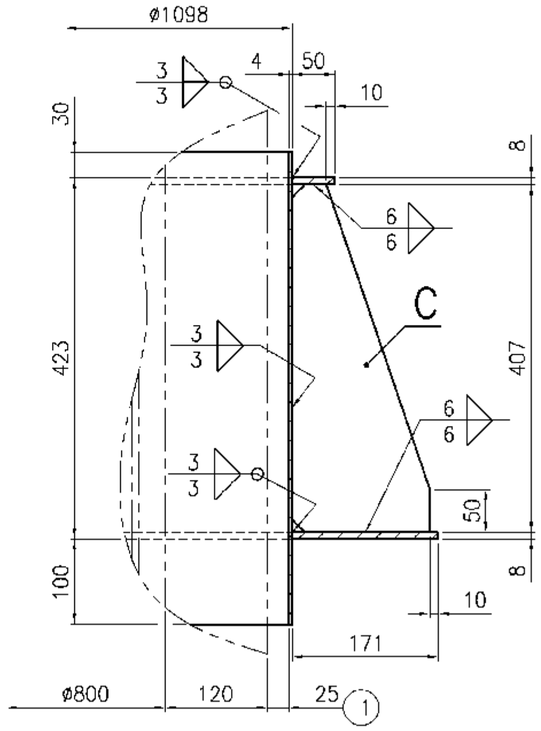


A–A



B–B

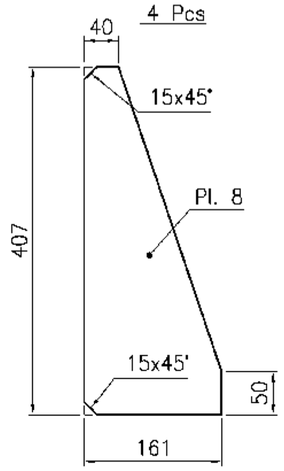
1:5



C

1:5

4 Pcs



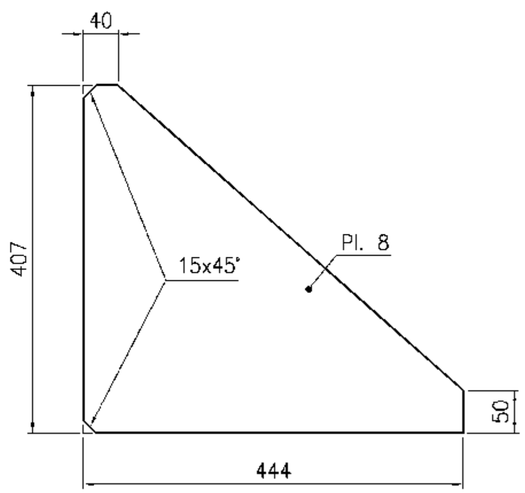
2 pcs –73

180 kg

D

1:5

4 Pcs



0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –73

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.4	Steel plate	1.9 m²	1100	60
5130.8	Steel plate	1.92 m²	1100	120
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide bracket for duct (5–3)

Mat.: 1100	Weight: 180	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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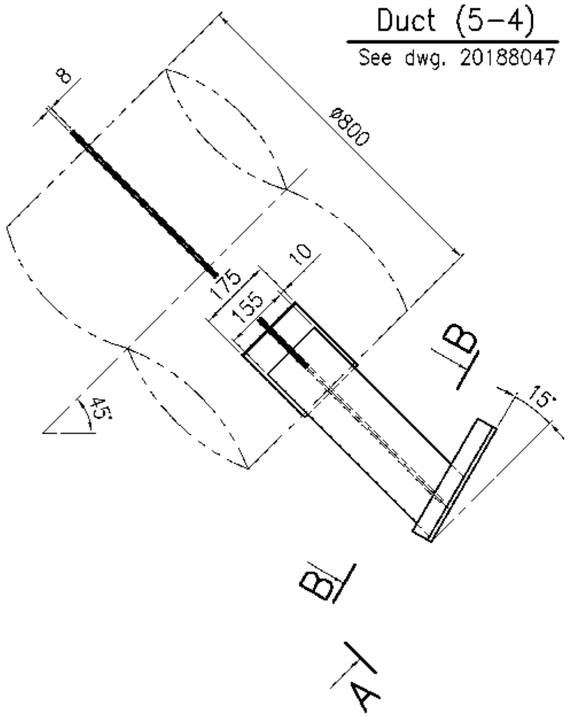
Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

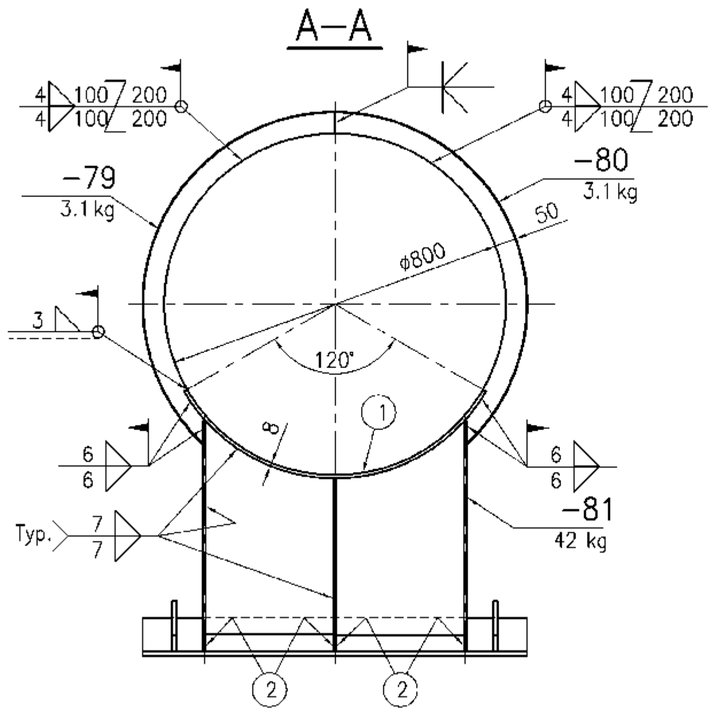
(1) Gap

Duct (5–4)

See dwg. 20188047

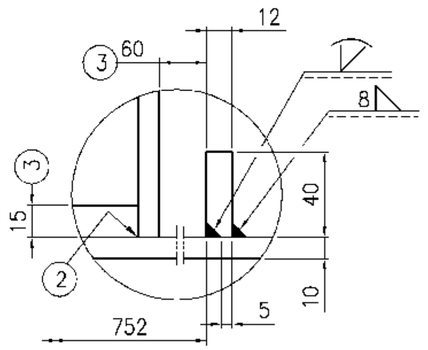


A–A



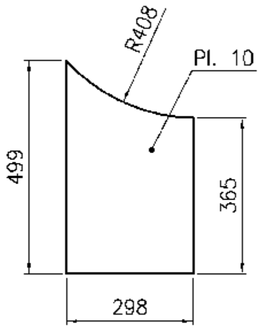
D–D

1:2

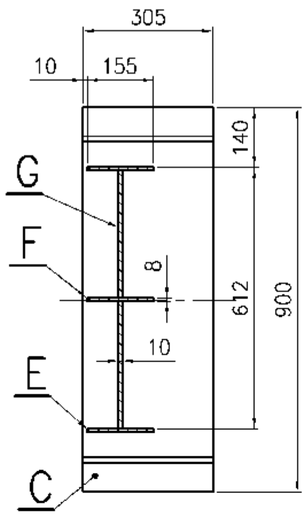


G

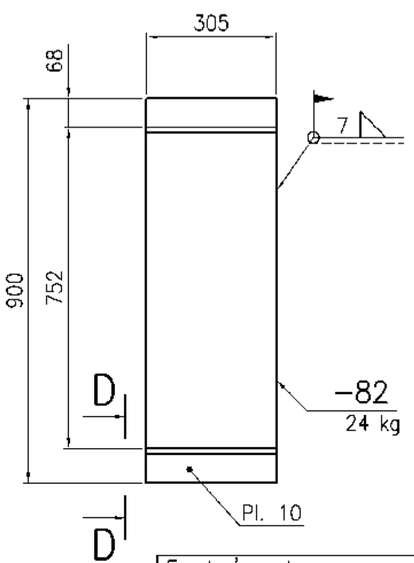
2 Pcs (1 mirror)



B–B

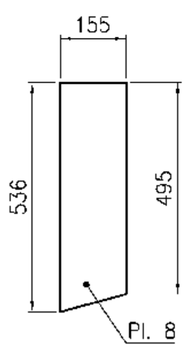


C

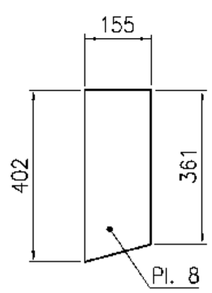


E

2 Pcs



F



(3) Gap

(2) Not to be welded.

(1) Developed length 846mm.

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –79

0.7t

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001

5130.10	Steel plate	0.52 m²	1100	41
5130.12	Steel plate	0.02 m²	1100	2.3
5130.8	Steel plate	0.46 m²	1100	29
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide saddle for duct (5–4)

Mat.: 1100	Weight: 72	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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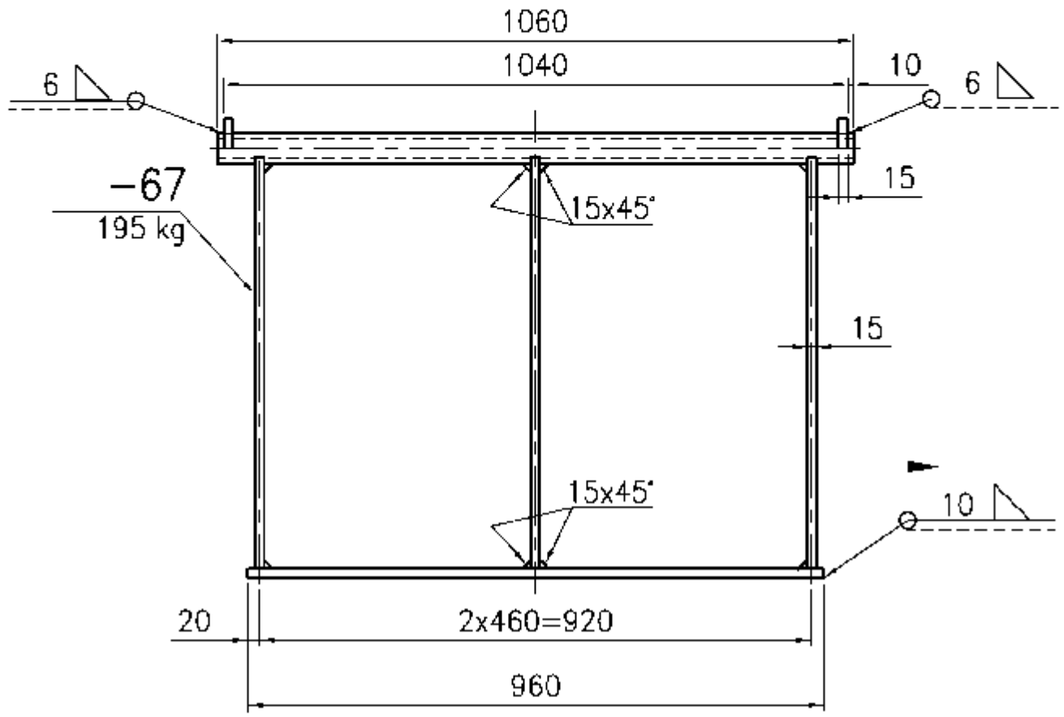
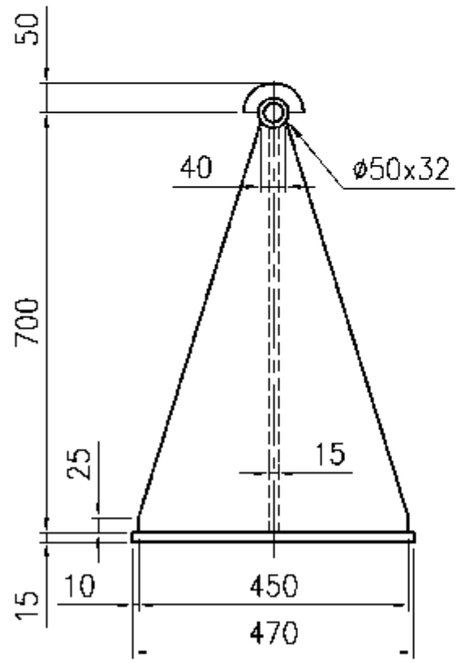
Duct (5-3)

See dwg. 10523218





Markings to be painted on the individual parts with a weather-resistant white paint. Markings to be noted in each individual packing list.
Example: -67

Bill of Quantities / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.15	Steel plate	1.58 m²	1100	186
5800.50x32	Hollow bar	1.06 m	XXX	9.6

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28 May 20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Fixed support for duct (5-3)

Mat.: 1100	Weight: 195	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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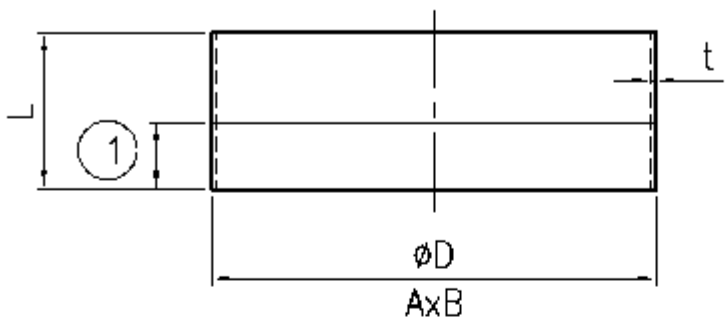
FLSmidth

No.: 30121487 Ver.: 1.0

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Duct Erection Adjustment



Type	Item No.	Duct Size		Length (L)	Thickness (t)	Area (m^2)	Weight (kg)
		øD (or) A	B				
Circular duct for erection adjustment	−88	2500	−	500	6	3.92	185
	−89	800	−	500	6	1.25	59
Rectangular duct for erection adjustment	−90	2800	1600	100	8	0.87	55

(1) Duct length to be suitably cut and weld at site as per the erection requirement for the respective duct size and thickness.

Markings to be painted on the Duct as Mentioned below
Size :− (ØD) or (AxB)xLxt
[For example:−[(Ø2500)x500x6]
[(2800x1600)x100x8]
Item :− Erection adjustment piece

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.6	Steel plate	5.17 m^2	1100	244
5130.8	Steel plate	0.87 m^2	1100	55

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:1	DA	NC	28−May−20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)−Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15−20000 331.XA910 Ducts
Duct for Erection adjustment

Mat.: 1100 | Weight: 298 | Welds: ISO−E | ISO−E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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FLSmidth

No.: 30121488 Ver.: 1.0

Flanges for rectangular low-pressure pipes, chutes and ducts

Pipe/Chute/Duct axb (1)	Flange ▭bxt	k1	e	k2	f	d2	[kg]	Screw No.	Dimension
125x100	40x6	170 ±0.5	3	145 ±0.5	3	14	1.1	12	M12x40
160x100	"	205 ±0.5	"	"	"	"	1.2	"	"
" x125	"	"	"	170 ±0.5	"	"	1.3	"	"
200x100	"	245 ±0.5	"	145 ±0.5	"	"	1.4	"	"
" x125	"	"	"	170 ±0.5	"	"	1.5	"	"
" x160	"	"	"	205 ±0.5	"	"	1.8	"	"
250x100	40x8	295 ±0.5	"	145 ±0.5	"	"	2.1	"	"
" x125	"	"	"	170 ±0.5	"	"	2.3	"	"
" x160	"	"	"	205 ±0.5	"	"	2.5	"	"
" x200	"	"	"	245 ±0.5	"	"	2.7	"	"
315x100	"	360 ±0.8	5	145 ±0.5	"	"	2.4	16	"
" x125	"	"	"	170 ±0.5	"	"	2.6	"	"
" x160	"	"	"	205 ±0.5	"	"	2.8	"	"
" x200	50x8	370 ±0.8	3	255 ±0.5	"	19	3.8	12	M16x50
" x250	"	"	"	305 ±0.5	"	"	4.1	"	"
" x280	"	"	"	335 ±0.8	"	"	4.4	"	"
355x200	"	410 ±0.8	5	255 ±0.8	"	"	7.4	16	"
" x280	"	"	"	335 ±0.8	"	"	4.5	"	"
" x315	"	"	"	370 ±0.8	"	"	5.0	"	"
400x100	"	455 ±0.8	"	155 ±0.5	"	"	3.6	"	"
" x125	"	"	"	180 ±0.5	"	"	3.8	"	"
" x160	"	"	"	215 ±0.5	"	"	4.0	"	"
" x200	"	"	"	255 ±0.5	"	"	4.4	"	"
" x250	"	"	"	305 ±0.5	"	"	4.6	"	"
" x280	"	"	"	335 ±0.8	"	"	4.8	"	"
" x315	"	"	"	370 ±0.8	"	"	5.0	"	"
" x355	"	"	"	410 ±0.8	5	"	5.5	20	"
450x280	"	505 ±0.8	"	335 ±0.8	3	"	5.2	16	"
" x315	"	"	"	370 ±0.8	"	"	5.6	"	"
" x355	"	"	"	410 ±0.8	5	"	5.8	20	"
" x400	"	"	"	455 ±0.8	"	"	6.2	"	"
500x125	"	555 ±0.8	"	180 ±0.5	3	"	4.4	16	"
" x160	"	"	"	215 ±0.5	"	"	4.6	"	"
" x200	"	"	"	255 ±0.5	"	"	4.9	"	"
" x250	"	"	"	305 ±0.8	"	"	5.2	"	"
" x280	"	"	"	335 ±0.8	"	"	5.5	"	"
" x315	"	"	"	370 ±0.8	"	"	5.6	"	"
" x355	"	"	"	410 ±0.8	5	"	6.2	20	"
" x400	"	"	"	455 ±0.8	"	"	6.4	"	"
" x450	"	"	"	505 ±0.8	"	"	6.7	"	"
560x280	"	615 ±0.8	"	335 ±0.5	3	"	5.8	16	"
" x315	"	"	"	370 ±0.8	"	"	6.3	"	"
" x355	"	"	"	410 ±0.8	5	"	6.5	20	"
" x400	"	"	"	455 ±0.8	"	"	6.9	"	"
" x450	"	"	"	505 ±0.8	"	"	7.1	"	"
" x500	"	"	"	555 ±0.8	"	"	7.5	"	"
630x160	50x10	685 ±0.8	7	215 ±0.5	3	"	6.7	"	"
" x200	"	"	"	255 ±0.5	"	"	7.0	"	"
" x250	"	"	"	305 ±0.8	"	"	7.5	"	"
" x315	"	"	"	370 ±0.8	"	"	8.0	"	"
" x355	"	"	"	410 ±0.8	5	"	8.8	24	"
" x400	"	"	"	455 ±0.8	"	"	9.0	"	"
" x450	"	"	"	505 ±0.8	"	"	9.5	"	"
" x500	"	"	"	555 ±0.8	"	"	9.8	"	"
" x560	"	"	"	615 +0.8	"	"	10.3	"	"

Pipe/Chute/Duct axb (1)	Flange ▭bxt	k1	e	k2	f	d2	[kg]	Screw No.	Dimension
710x315	50x10	765 ±0.8	"	370 ±0.8	3	"	9.0	20	"
" x355	"	"	"	410 ±0.8	5	"	9.5	24	"
" x400	"	"	"	455 ±0.8	"	"	9.8	"	"
" x450	"	"	"	505 ±0.8	"	"	10.3	"	"
" x500	"	"	"	555 ±0.8	"	"	10.6	"	"
" x560	"	"	"	615 ±0.8	"	"	11.2	"	"
" x630	"	"	"	685 ±0.8	7	"	11.5	28	"
800x200	"	855 ±0.8	"	255 ±0.8	3	"	8.5	20	"
" x250	"	"	"	305 ±0.8	3	19	8.8	20	M16x50
" x315	"	"	"	370 ±0.8	"	"	9.5	"	"
" x355	"	"	"	410 ±0.8	5	"	10.0	24	"
" x400	"	"	"	455 ±0.8	"	"	10.2	"	"
" x450	"	"	"	505 ±0.8	"	"	10.7	"	"
" x500	"	"	"	555 ±0.8	"	"	10.9	"	"
" x560	"	"	"	615 ±0.8	"	"	11.4	"	"
" x630	"	"	"	685 ±0.8	7	"	11.8	28	"
" x710	"	"	"	765 ±0.8	"	"	12.8	"	"
900x355	"	955 ±0.8	"	410 ±0.8	5	"	10.9	24	"
" x400	"	"	"	455 ±0.8	"	"	11.2	"	"
" x450	"	"	"	505 ±0.8	"	"	11.8	"	"
" x500	"	"	"	555 ±0.8	"	"	12.1	"	"
" x560	"	"	"	615 ±0.8	"	"	12.5	"	"
" x630	"	"	"	685 ±0.8	7	"	13.2	28	"
" x710	"	"	"	765 ±0.8	"	"	13.6	"	"
" x800	"	"	"	855 ±0.8	"	"	14.5	"	"
1000x250	60x10	1070 ±1.2	"	320 ±0.8	3	24	12.6	20	M20x60
" x315	"	"	"	385 ±0.8	"	"	13.4	"	"
" x355	"	"	"	425 ±0.8	"	"	13.8	"	"
" x400	"	"	"	470 ±0.8	"	"	14.3	"	"
" x450	"	"	"	520 ±0.8	5	"	14.8	24	"
" x500	"	"	"	570 ±0.8	"	"	15.2	"	"
" x560	"	"	"	630 ±0.8	"	"	16.2	"	"
" x630	"	"	"	700 ±0.8	7	"	16.6	28	"
" x710	"	"	"	780 ±0.8	"	"	17.5	"	"
" x800	"	"	"	870 ±0.8	"	"	18.2	"	"
" x900	"	"	"	970 ±0.8	"	"	19.6	"	"
1120x315	"	1190 ±1.2	9	385 ±0.8	3	"	15.2	24	"
" x355	"	"	"	425 ±0.8	"	"	15.7	"	"
" x400	"	"	"	470 ±0.8	"	"	16.2	"	"
" x450	"	"	"	520 ±0.8	5	"	16.6	28	"
" x500	"	"	"	570 ±0.8	"	"	17.1	"	"
" x560	"	"	"	630 ±0.8	"	"	17.5	"	"
" x630	"	"	"	700 ±0.8	7	"	18.0	32	"
" x710	"	"	"	780 ±0.8	"	"	19.0	"	"
" x800	"	"	"	870 ±0.8	"	"	19.6	"	"
" x900	"	"	"	970 ±0.8	"	"	20.7	"	"
" x1000	"	"	"	1070 ±1.2	"	"	21.8	"	"
1250x315	"	1320 ±1.2	"	385 ±0.8	3	"	15.7	24	"
" x355	"	"	"	425 ±0.8	"	"	16.2	"	"
" x400	"	"	"	470 ±0.8	"	"	16.6	"	"
" x450	"	"	"	520 ±0.8	5	"	17.1	28	"
" x500	"	"	"	570 ±0.8	"	"	17.5	"	"
" x560	"	"	"	630 ±0.8	"	"	18.3	"	"
" x630	"	"	"	700 ±0.8	7	"	18.7	32	"
" x710	"	"	"	780 ±0.8	"	"	19.6	"	"

Pipe/Chute/Duct axb (1)	Flange ▭bxt	k1	e	k2	f	d2	[kg]	Screw No.	Dimension
1250x800	60x10	1320 ±1.2	"	870 ±0.8	"	"	20.1	"	"
" x900	"	"	"	970 ±0.8	"	"	21.2	"	"
" x1000	"	"	"	1070 ±1.2	"	"	21.8	"	"
" x1120	"	"	"	1190 ±1.2	9	"	23.5	36	"
1400x355	"	1470 ±1.2	11	425 ±0.8	3	"	17.6	28	"
" x400	"	"	"	470 ±0.8	"	"	18.1	"	"
" x450	"	"	"	520 ±0.8	5	"	18.6	32	"
" x500	"	"	"	570 ±0.8	"	"	19.0	"	"
" x560	"	"	"	630 ±0.8	"	"	19.6	"	"
" x630	"	"	"	700 ±0.8	7	"	20.3	36	"
" x710	"	"	"	780 ±0.8	"	"	21.0	"	"
" x800	"	"	"	870 ±0.8	"	"	21.9	"	"
" x900	"	"	"	970 ±0.8	"	"	22.8	"	"
" x1000	"	"	"	1070 ±1.2	"	"	23.7	"	"
" x1120	"	"	"	1190 ±1.2	9	"	24.9	40	"
" x1250	"	"	"	1320 ±1.2	"	"	26.1	"	"
1600x400	"	1670 ±1.2	11	470 ±0.8	3	24	20.0	28	M20x60
" x450	"	"	"	520 ±0.8	5	"	20.4	32	"
" x500	"	"	"	570 ±0.8	"	"	20.9	"	"
" x560	"	"	"	630 ±0.8	"	"	21.5	"	"
" x630	"	"	"	700 ±0.8	7	"	22.1	36	"
" x710	"	"	"	780 ±0.8	"	"	22.9	"	"
" x800	"	"	"	870 ±0.8	"	"	23.7	"	"
" x900	"	"	"	970 ±0.8	"	"	24.7	"	"
" x1000	"	"	"	1070 ±1.2	"	"	25.6	"	"
" x1120	"	"	"	1190 ±1.2	9	"	26.8	40	"
" x1250	"	"	"	1320 ±1.2	"	"	28.0	"	"
" x1400	"	"	"	1470 ±1.2	11	"	29.4	44	"
1800x450	"	1870 ±1.2	13	520 ±0.8	5	"	22.3	36	"
" x500	"	"	"	570 ±0.8	"	"	22.8	"	"
" x560	"	"	"	630 ±0.8	"	"	23.4	"	"
" x630	"	"	"	700 ±0.8	7	"	24.0	40	"
" x710	"	"	"	780 ±0.8	"	"	24.8	"	"
" x800	"	"	"	870 ±0.8	"	"	25.6	"	"
" x900	"	"	"	970 ±0.8	"	"	26.6	"	"
" x1000	"	"	"	1070 ±1.2	"	"	27.5	"	"
" x1120	"	"	"	1190 ±1.2	9	"	28.6	44	"
" x1250	"	"	"	1320 ±1.2	"	"	29.9	"	"
" x1400	"	"	"	1470 ±1.2	11	"	31.3	48	"
" x1600	"	"	"	1670 ±1.2	"	"	33.2	"	"
2000x500	"	2070 ±2	15	570 ±0.8	5	"	24.7	40	"
" x560	"	"	"	630 ±0.8	"	"	25.2	"	"
" x630	"	"	"	700 ±0.8	7	"	25.9	44	"
" x710	"	"	"	780 ±0.8	"	"	26.7	"	"
" x800	"	"	"	870 ±0.8	"	"	27.5	"	"
" x900	"	"	"	970 ±0.8	"	"	28.4	"	"
" x1000	"	"	"	1070 ±1.2	"	"	29.4	"	"
" x1120	"	"	"	1190 ±1.2	9	"	30.5	48	"
" x1250	"	"	"	1320 ±1.2	"	"	31.7	"	"
" x1400	"	"	"	1470 ±1.2	11	"	33.2	52	"
" x1600	"	"	"	1670 ±1.2	"	"	35.0	"	"
" x1800	"	"	"	1870 ±1.2	13	"	36.9	56	"
2240x560	"	2310 ±2	"	630 ±0.8	5	"	27.5	40	"
" x630	"	"	"	700 ±0.8	7	"	28.2	44	"
" x710	"	"	"	780 ±0.8	"	"	28.9	"	"

Pipe/Chute/Duct axb (1)	Flange ▭bxt	k1	e	k2	f	d2	[kg]	Screw No.	Dimension
2240x800	60x10	2310 ±2	"	870 ±0.8	"	"	29.8	"	"
" x900	"	"	"	970 ±0.8	"	"	30.7	"	"
" x1000	"	"	"	1070 ±1.2	"	"	31.7	"	"
" x1120	"	"	"	1190 ±1.2	9	"	32.8	48	"
" x1250	"	"	"	1320 ±1.2	"	"	34.0	"	"
" x1400	"	"	"	1470 ±1.2	11	"	35.4	52	"
" x1600	"	"	"	1670 ±1.2	"	"	37.3	"	"
" x1800	"	"	"	1870 ±1.2	13	"	39.2	56	"
" x2000	"	"	"	2070 ±2	15	"	41.1	60	"
2500x630	"	2570 ±2	17	700 ±0.8	7	"	30.6	48	"
" x710	"	"	"	780 ±0.8	"	"	31.4	"	"
" x800	"	"	"	870 ±0.8	"	"	32.2	"	"
" x900	"	"	"	970 ±0.8	"	"	33.2	"	"
" x1000	"	"	"	1070 ±1.2	"	"	34.1	"	"
" x1120	"	"	"	1190 ±1.2	9	"	35.2	52	"
" x1250	"	"	"	1320 ±1.2	"	"	36.5	"	"
" x1400	"	"	"	1470 ±1.2	11	"	37.9	56	"
" x1600	"	"	"	1670 ±1.2	"	"	39.8	"	"
" x1800	"	"	"	1870 ±1.2	13	"	41.6	60	"
" x2000	"	"	"	2070 ±2	15	"	43.5	64	"
" x2240	"	"	"	2310 ±2	"	"	45.8	"	"
2800x710	60x12	2870 ±2	19	780 ±0.8	7	"	40.8	52	"
" x800	"	"	"	870 ±0.8	"	"	41.8	"	"
" x900	"	"	"	970 ±0.8	"	"	43.0	"	"
" x1000	"	"	"	1070 ±1.2	7	24	44.1	52	M20x60
" x1120	"	"	"	1190 ±1.2	9	"	45.4	56	"
" x1250	"	"	"	1320 ±1.2	"	"	46.9	"	"
" x1400	"	"	"	1470 ±1.2	11	"	48.6	60	"
" x1600	"	"	"	1670 ±1.2	"	"	50.9	"	"
" x1800	"	"	"	1870 ±1.2	13	"	53.1	64	"
" x2000	"	"	"	2070 ±2	15	"	55.4	68	"
" x2240	"	"	"	2310 ±2	"	"	58.1	"	"
" x2500	"	"	"	2570 ±2	17	"	61.0	72	"
3150x800	"	3220 ±2	21	870 ±0.8	7	"	45.8	56	"
" x900	"	"	"	970 ±0.8	"	"	46.9	"	"
" x1000	"	"	"	1070 ±1.2	"	"	48.0	"	"
" x1120	"	"	"	1190 ±1.2	9	"	49.4	60	"
" x1250	"	"	"	1320 ±1.2	"	"	50.9	"	"
" x1400	"	"	"	1470 ±1.2	11	"	52.6	64	"
" x1600	"	"	"	1670 ±1.2	"	"	54.8	"	"
" x1800	"	"	"	1870 ±1.2	13	"	57.1	68	"
" x2000	"	"	"	2070 ±2	15	"	59.3	72	"
" x2240	"	"	"	2310 ±2	"	"	62.1	"	"
" x2500	"	"	"	2570 ±2	17	"	65.0	76	"
" x2800	"	"	"	2870 ±2	19	"	68.4	80	"
3550x900	"	3620 ±2	23	970 ±0.8	7	"	51.4	60	"
" x1000	"	"	"	1070 ±1.2	"	"	52.6	"	"
" x1120	"	"	"	1190 ±1.2	9	"	53.9	64	"
" x1250	"	"	"	1320 ±1.2	"	"	55.4	"	"
" x1400	"	"	"	1470 ±1.2	11	"	57.1	68	"
" x1600	"	"	"	1670 ±1.2	"	"	59.3	"	"
" x1800	"	"	"	1870 ±1.2	13	"	61.6	72	"
" x2000	"	"	"	2070 ±2	15	"	63.9	76	"
" x2240	"	"	"	2310 ±2	"	"	66.6	"	"
" x2500	"	"	"	2570 +2	17	"	69.5	80	"

Pipe/Chute/Duct cxb (1)	Flange ▭bxt	k1	e	k2	f	d2	[kg]	Screw No.	Dimension
3550x2800	60x12	3620 ±2	23	2870 ±2	19	"	72.9	84	"
" x3150	"	"	"	3220 ±2	21	"	76.9	88	"
4000x1000	"	4070 ±2	27	1070 ±1.2	7	"	57.7	68	"
" x1120	"	"	"	1190 ±1.2	9	"	59.0	72	"
" x1250	"	"	"	1320 ±1.2	"	"	60.5	"	"
" x1400	"	"	"	1470 ±1.2	11	"	62.2	76	"
" x1600	"	"	"	1670 ±1.2	"	"	64.4	"	"
" x1800	"	"	"	1870 ±1.2	13	"	66.7	80	"
" x2000	"	"	"	2070 ±2	15	"	69.0	84	"
" x2240	"	"	"	2310 ±2	"	"	71.7	"	"
" x2500	"	"	"	2570 ±2	17	"	74.6	88	"
" x2800	"	"	"	2870 ±2	19	"	78.0	92	"
" x3150	"	"	"	3220 ±2	21	"	82.0	96	"
" x3550	"	"	"	3620 ±2	23	"	86.5	100	"
4500x1120	"	4570 ±2	29	1190 ±1.2	9	"	64.7	76	"
" x1250	"	"	"	1320 ±1.2	"	"	66.1	"	"
" x1400	"	"	"	1470 ±1.2	11	"	67.8	80	"
" x1600	"	"	"	1670 ±1.2	"	"	70.1	"	"
" x1800	"	"	"	1870 ±1.2	13	"	72.3	84	"
" x2000	"	"	"	2070 ±2	15	"	74.6	88	"
" x2240	"	"	"	2310 ±2	"	"	77.3	"	"
" x2500	"	"	"	2570 ±2	17	"	80.3	92	"
" x2800	"	"	"	2870 ±2	19	"	83.6	96	"
" x3150	"	"	"	3220 ±2	21	"	87.6	100	"
" x3550	"	"	"	3620 ±2	23	"	92.1	104	"
" x4000	"	"	"	4070 ±2	27	"	97.2	112	"
5000x1250	"	5070 ±2	33	1320 ±1.2	9	"	71.8	84	"
" x1400	"	"	"	1470 ±1.2	11	"	73.5	88	"
" x1600	"	"	"	1670 ±1.2	"	"	75.7	"	"
" x1800	"	"	"	1870 ±1.2	13	"	78.0	92	"
" x2000	"	"	"	2070 ±2	15	"	80.3	96	"
" x2240	"	"	"	2310 ±2	"	"	83.0	"	"
" x2500	"	"	"	2570 ±2	17	24	86.0	100	M20x60
" x2800	"	"	"	2870 ±2	19	"	89.3	104	"
" x3150	"	"	"	3220 ±2	21	"	93.3	108	"
" x3550	"	"	"	3620 ±2	23	"	97.8	112	"
" x4000	"	"	"	4070 ±2	27	"	103	120	"
" x4500	"	"	"	4570 ±2	29	"	109	124	"
5600x1400	"	5670 ±2	37	1470 ±1.2	11	"	80.3	96	"
" x1600	"	"	"	1670 ±1.2	"	"	82.5	"	"
" x1800	"	"	"	1870 ±1.2	13	"	84.8	100	"
" x2000	"	"	"	2070 ±2	15	"	87.0	104	"
" x2240	"	"	"	2310 ±2	"	"	89.8	"	"
" x2500	"	"	"	2570 ±2	17	"	80.3	108	"
" x2800	"	"	"	2870 ±2	19	"	89.3	112	"
" x3150	"	"	"	3220 ±2	21	"	93.3	116	"
" x3550	"	"	"	3620 ±2	23	"	97.8	120	"
" x4000	"	"	"	4070 ±2	27	"	103	128	"
" x4500	"	"	"	4570 ±2	29	"	109	132	"
" x5000	"	"	"	5070 ±2	33	"	109	140	"
6300x1600	"	6370 ±2	41	1670 ±2	11	"	90.4	104	"
" x1800	"	"	"	1870 ±1.2	13	"	92.7	108	"
" x2000	"	"	"	2070 ±2	15	"	95.0	112	"
" x2240	"	"	"	2310 ±2	"	"	97.7	"	"
" x2500	"	"	"	2570 +2	17	"	101	116	"

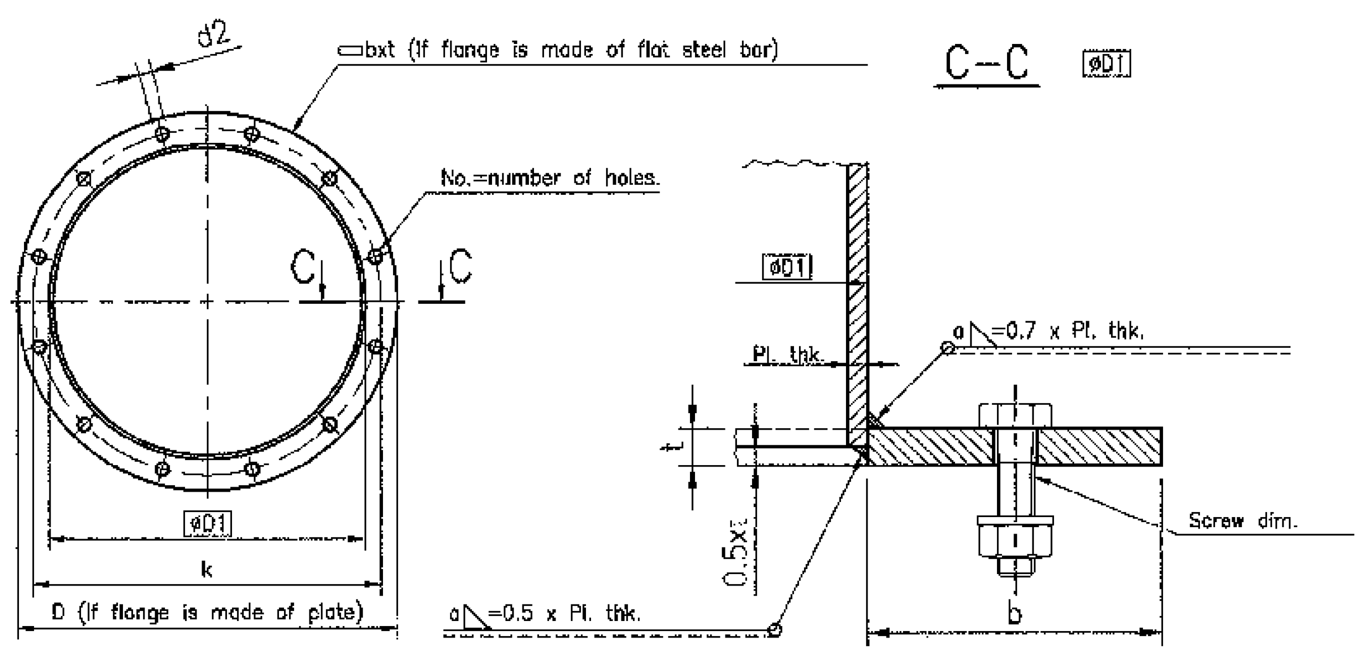
Pipe/Chute/Duct axb (1)	Flange ▭bxt	k1	e	k2	f	d2	[kg]	Screw No.	Dimension
6300x2800	60x12	6370 ±2	41	2870 ±2	19	"	104	120	"
" x3150	"	"	"	3220 ±2	21	"	108	124	"
" x3550	"	"	"	3620 ±2	23	"	112	128	"
" x4000	"	"	"	4070 ±2	27	"	118	136	"
" x4500	"	"	"	4570 ±2	29	"	123	140	"
" x5000	"	"	"	5070 ±2	33	"	129	148	"
" x5600	"	"	"	5670 +2	37	"	136	156	"
7100x1800	"	7170 ±2	45	1870 ±2	13	"	102	116	"
" x2000	"	"	"	2070 ±2	15	"	104	120	"
" x2240	"	"	"	2310 ±2	"	"	107	"	"
" x2500	"	"	"	2570 ±2	17	"	110	124	"
" x2800	"	"	"	2870 ±2	19	"	113	128	"
" x3150	"	"	"	3220 ±2	21	"	117	132	"
" x3550	"	"	"	3620 ±2	23	"	122	136	"
" x4000	"	"	"	4070 ±2	27	"	127	144	"
" x4500	"	"	"	4570 ±2	29	"	132	148	"
" x5000	"	"	"	5070 ±2	33	"	138	156	"
" x5600	"	"	"	5670 ±2	37	"	145	164	"
" x6300	"	"	"	6370 ±2	41	"	153	172	"
8000x2000	"	8070 ±2	51	2070 ±2	15	"	114	132	"
" x2240	"	"	"	2310 ±2	"	"	117	"	"
" x2500	"	"	"	2570 ±2	17	"	120	136	"
" x2800	"	"	"	2870 ±2	19	"	123	140	"
" x3150	"	"	"	3220 ±2	21	"	127	144	"
" x3550	"	"	"	3620 ±2	23	"	132	148	"
" x4000	"	"	"	4070 ±2	27	"	137	156	"
" x4500	"	"	"	4570 ±2	29	"	142	160	"
" x5000	"	"	"	5070 ±2	33	"	148	168	"
" x5600	"	"	"	5670 ±2	37	"	155	176	"
" x6300	"	"	"	6370 ±2	41	"	163	184	"
" x7100	"	"	"	7170 ±2	45	"	172	192	"
9000x2240	"	9070 ±2	57	2310 ±2	15	"	128	144	"
" x2500	"	"	"	2570 ±2	17	"	131	148	"
" x2800	"	"	"	2870 ±2	19	"	135	152	"
" x3150	"	"	"	3220 ±2	21	"	138	156	"
" x3550	"	"	"	3620 ±2	23	"	143	160	"
" x4000	"	"	"	4070 ±2	27	"	148	168	"
" x4500	"	"	"	4570 ±2	29	"	154	172	"
" x5000	"	"	"	5070 ±2	33	"	159	180	"
" x5600	"	"	"	5670 ±2	37	"	166	188	"
9000x6300	"	"	"	6370 ±2	41	24	174	196	M20x60
" x7100	"	"	"	7170 ±2	45	"	183	204	"
" x8000	"	"	"	8070 ±2	51	"	193	216	"
10000x2500	"	10070 ±2	63	2570 ±2	17	"	142	160	"
" x2800	"	"	"	2870 ±2	19	"	146	164	"
" x3150	"	"	"	3220 ±2	21	"	150	168	"
" x3550	"	"	"	3620 ±2	23	"	154	172	"
" x4000	"	"	"	4070 ±2	27	"	159	180	"
" x4500	"	"	"	4570 ±2	29	"	165	184	"
" x5000	"	"	"	5070 ±2	33	"	171	192	"
" x5600	"	"	"	5670 ±2	37	"	177	200	"
" x6300	"	"	"	6370 ±2	41	"	185	208	"
" x7100	"	"	"	7170 ±2	45	"	194	216	"
" x8000	"	"	"	8070 ±2	51	"	205	228	"
" x9000	"	"	"	9070 +2	57	"	216	240	"

Flanges for circular low-pressure pipes, chutes and ducts

Pipe/Chute/Duct ø01 (1)	Plate t	Plate D	Flange ▭bxt	k	d2	[kg]	Screw No.	Dimension
100	6	180		145 ± 0.5	14	0.8	4	M12x40
112	6	195		160 "	"	0.9	"	"
125	6	205		170 "	"	1	8	"
140	8	220		185 "	"	1.4	"	"
160	"	240		205 "	"	1.6	"	"
180	"	260		225 "	"	1.7	"	"
200	"	280		245 "	"	2	"	"
224	"	325		280 + 0.8	19	2.7	"	M16x50
250	"	350		305 "	"	2.8	12	"
280			50x8	335 "	"	3.2	"	"
315			"	370 "	"	3.6	"	"
355			"	410 "	"	4	"	"
400			"	455 "	"	4.5	16	"
450			"	505 "	"	5	"	"
500			"	555 "	"	5.6	20	"
560			50x10	615 "	"	7.5	"	"
630			"	685 "	"	8.5	"	"
710			"	765 "	"	9.5	24	"
800			60x10	870 "	24	12.9	"	M20x60
900			"	970 "	"	14.3	"	"
1000			"	1070 ± 1.2	"	15.7	28	"
1060			"	1130 "	"	16.6	"	"
1120			"	1190 "	"	17.5	"	"
1180			"	1250 "	"	18.5	"	"
1250			"	1320 "	"	19.6	32	"
1320			"	1390 "	"	20.7	"	"
1400			"	1470 "	"	21.8	36	"
1500			"	1570 "	"	23.1	"	"
1600			"	1670 "	"	24.5	40	"
1700			"	1770 "	"	25.8	"	"
1800			"	1870 "	"	27.7	44	"
1900			"	1970 "	"	29.5	"	"
2000			"	2070 ± 2	"	30.5	48	"
2120			"	2190 "	"	33.2	"	"
2240			60x12	2310 "	"	41.5	"	"
2360			"	2430 "	"	44.3	"	"
2500			"	2570 "	"	46.2	52	"
2650			"	2720 "	"	48.9	56	"
2800			"	2870 "	"	51.7	60	"
3000			"	3070 "	"	55.4	"	"
3150			"	3220 "	"	58.2	64	"
3350			"	3420 "	"	61.8	68	"
3550			"	3620 "	"	65.5	72	"
3750			"	3820 "	"	69.2	76	"
4000			"	4070 "	"	73.8	80	"
4250			"	4320 "	"	78.5	84	"
4500			"	4570 "	"	82	92	"
4750			"	4820 "	"	86.5	96	"
5000			"	5070 "	"	91	100	"
5300			"	5370 "	"	96.2	108	"
5600			"	5670 "	"	101.6	112	"
6000			"	6070 "	"	108.7	120	"

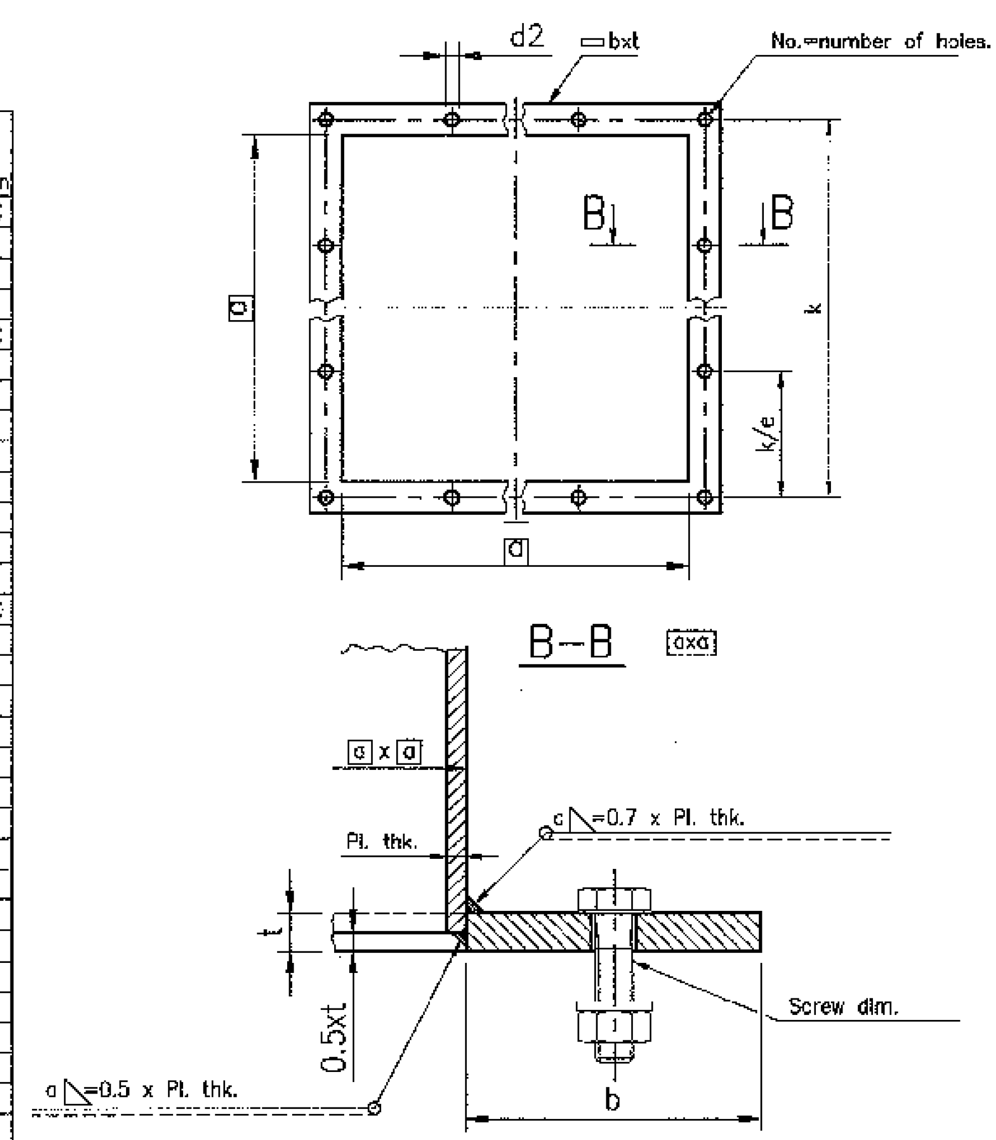
Flanges for circular low-pressure pipes FLS code 2130 and 2140

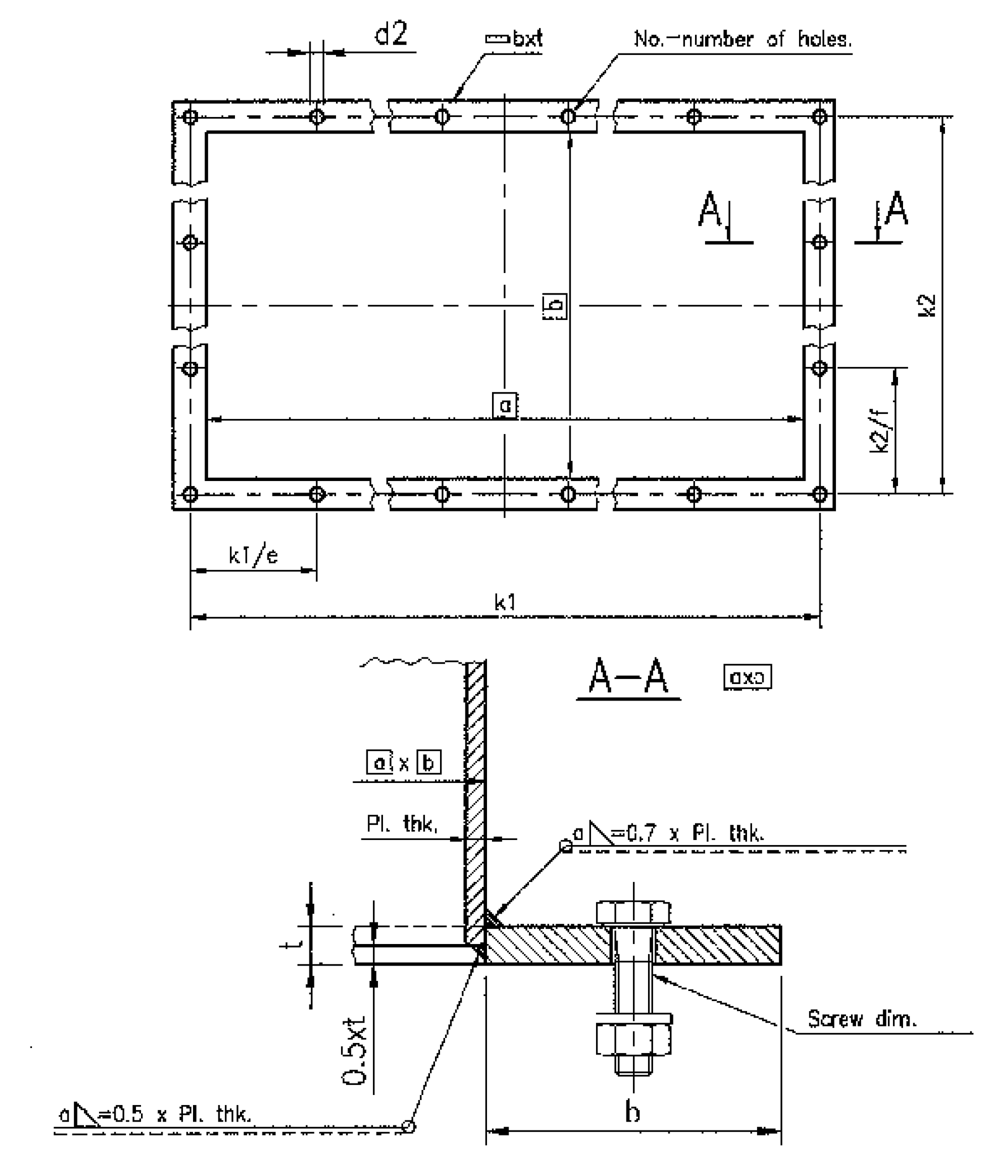
Pipe ø01 (1)	Plate t	Plate D	Flange ▭bxt	k	d2	[kg]	Screw No.	Dimension
114.3	8	195		160 ± 0.5	14	1.2	4	M12x40
139.7	"	220		185 "	"	1.4	8	"
168.3	10	240		205 "	"	1.8	"	"
193.7	"	280		245 "	"	2.5	"	"
219.1	"	325		280 "	19	3.6	"	M16x50
244.5	"	350		305 "	"	4.4	12	"
273			50x12	335 "	"	4.8	"	"
323.9			"	370 ± 0.8	"	5.5	"	"
355.6			"	410 "	"	6.0	"	"
406.4			"	455 "	"	6.8	16	"
457			"	505 "	"	7.5	"	"
508			"	555 "	"	8.3	20	"



Flanges for square low-pressure pipes, chutes and ducts

Pipe/chute/duct axa (1)	Flange ▭bxt	k	e	d2	[kg]	Screw No.	Dimension
100x100	40x6	145 ±0.5	3	14	1.1	12	M12x40
125x125	"	170 ±0.5	"	"	1.2	"	"
160x160	40x8	205 ±0.5	"	"	2.0	"	"
200x200	"	245 ±0.5	"	"	2.4	"	"
250x250	50x8	305 ±0.8	"	19	3.8	"	M16x50
315x315	"	370 ±0.8	"	"	4.6	"	"
355x355	"	410 ±0.8	5	"	5.1	20	"
400x400	"	455 ±0.8	"	"	5.6	"	"
450x450	"	505 ±0.8	"	"	6.3	"	"
500x500	"	555 ±0.8	"	"	6.9	"	"
560x560	50x10	615 ±0.8	"	"	9.6	"	"
630x630	"	685 ±0.8	7	"	10.7	28	"
710x710	"	765 ±0.8	"	"	11.9	"	"
800x800	60x10	870 ±0.8	"	24	16.2	"	M20x60
900x900	"	970 ±0.8	"	"	18.1	"	"
1000x1000	"	1070 ±1.2	"	"	20.0	"	"
1060x1060	"	1130 ±1.2	"	"	21.1	"	"
1120x1120	"	1190 ±1.2	9	"	22.2	36	"
1180x1180	"	1250 ±1.2	"	"	23.4	"	"
1250x1250	"	1320 ±1.2	"	"	24.7	"	"
1320x1320	"	1390 ±1.2	"	"	26.0	"	"
1400x1400	"	1470 ±1.2	11	"	27.5	44	"
1500x1500	"	1570 ±1.2	"	"	29.4	"	"
1600x1600	"	1670 ±1.2	"	"	31.3	"	"
1700x1700	"	1770 ±1.2	"	"	33.2	"	"
1800x1800	"	1870 ±1.2	13	"	35.4	52	"
1900x1900	"	1970 ±1.2	"	"	36.9	"	"
2000x2000	"	2070 ±2	15	"	38.8	60	"
2120x2120	"	2190 ±2	"	"	41.0	"	"
2240x2240	60x12	2310 ±2	"	"	52.0	"	"
2360x2360	"	2430 ±2	"	"	54.7	"	"
2500x2500	"	2570 ±2	17	"	57.9	68	"
2650x2650	"	2720 ±2	"	"	61.3	"	"
2800x2800	"	2870 ±2	19	"	64.7	76	"
3000x3000	"	3070 ±2	"	"	69.2	"	"
3150x3150	"	3220 ±2	21	"	72.3	84	"
3350x3350	"	3420 ±2	"	"	77.1	"	"
3550x3550	"	3620 ±2	23	"	81.6	92	"
3750x3750	"	3820 ±2	25	"	86.1	100	"
4000x4000	"	4070 ±2	27	"	91.8	108	"
4250x4250	"	4320 ±2	"	"	97.4	"	"
4500x4500	"	4570 ±2	29	"	103	116	"
4750x4750	"	4820 ±2	31	"	109	124	"
5000x5000	"	5070 ±2	33	"	114	132	"
5300x5300	"	5370 ±2	35	"	121	140	"
5600x5600	"	5670 ±2	37	"	128	148	"
6000x6000	"	6070 +2	39	"	137	156	"





(1) Tolerances for inside dimension of flanges.

Dimension	Tolerance
100– 315	+1 +2
355– 1000	+1 +3
1120– 2000	+1 +4
2120– 3350	+1 +5
3550– 5000	+1 +6
5300– 8000	+1 +7
9000–10000	+1 +8

Screw holes to be placed symmetrically around the main axes, but not in these.

Signature	AO	AO	AO	17-Mar-03	Zone/Descr.: Text in drawing head added
Scale: 1:1	Drawn	Chkd.	Appr.	Appr. Date	Mat.: 1100 / Weight: ------- / Welds: ISO–E / ISO–E

FLS standard flanges
For ducts, chutes, pipes, etc.

Flanges for low-pressure

⊗

⊗ Pattern number, embossed / countersunk

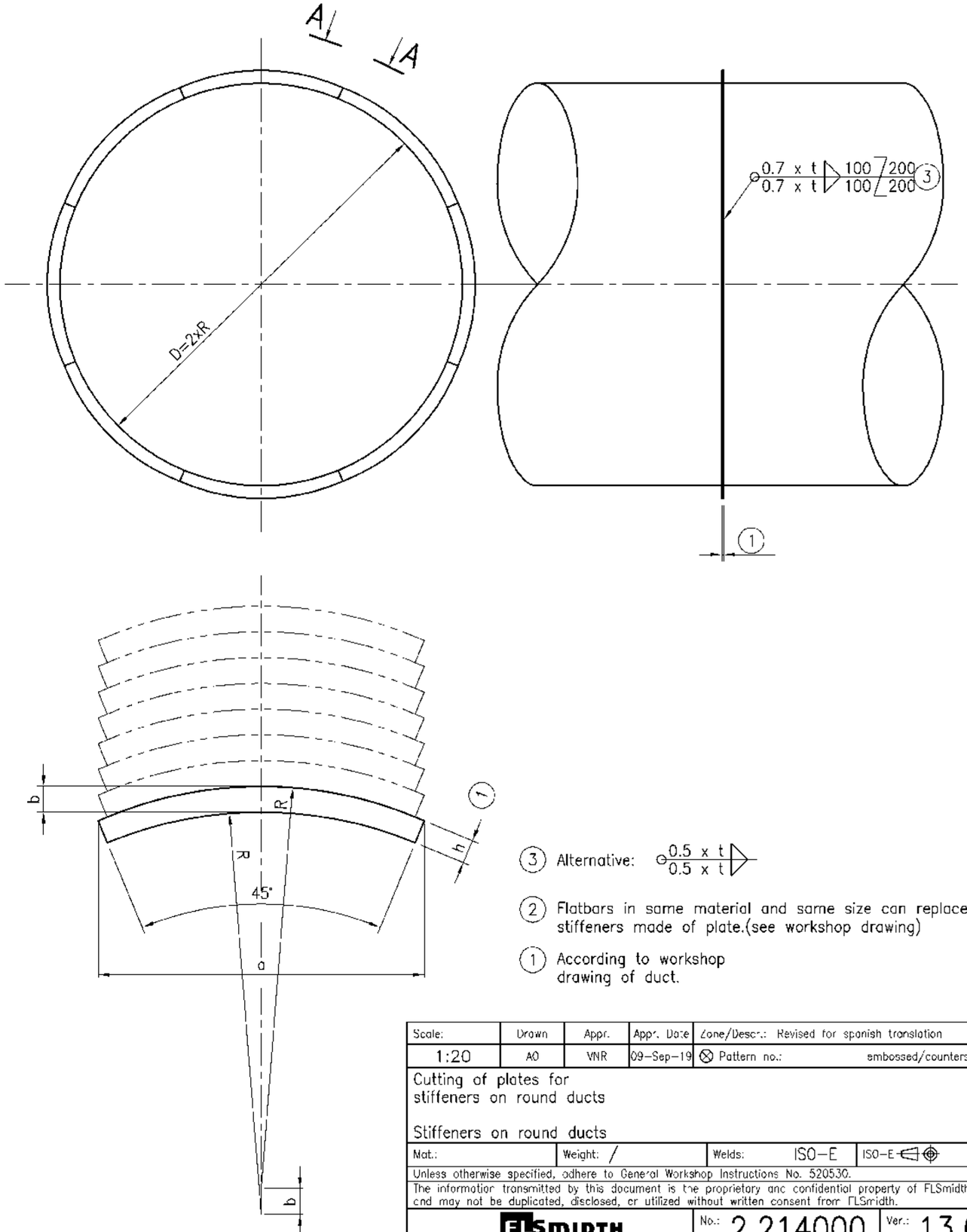
Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

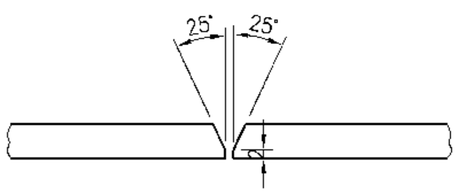
PC: PL

FLSMIDTH

No.: 1.138000 Ver.: 6.0

		h=40		h=60		h=80		h=100		h=120		h=150		h=200	
D	R	a	b	a	b	a	b	a	b	a	b	a	b	a	b
1000	500	413	44	429	66	444	88	459	110	475	133	497	161	536	214
1060	530	436	44	452	66	467	88	482	110	497	133	520	161	559	214
1120	560	459	44	475	66	490	88	505	110	520	132	543	161	528	214
1180	590	482	44	497	66	513	88	528	110	543	132	566	161	605	214
1250	625	509	44	524	65	540	88	555	110	570	132	593	161	631	214
1320	660	536	44	551	65	566	88	582	110	597	132	620	161	658	214
1400	700	566	44	582	65	597	87	612	110	628	132	651	161	689	214
1500	750	605	43	620	65	635	87	651	110	666	132	689	161	727	214
1600	800	643	43	658	65	674	87	689	109	704	132	727	161	765	214
1700	850	681	43	696	65	712	87	727	109	742	132	765	161	804	214
1800	900	719	43	735	65	750	87	765	109	781	131	804	161	842	214
1900	950	758	43	773	65	788	87	804	109	819	131	842	161	880	214
2000	1000	796	43	811	65	827	87	842	109	857	131	880	161	918	214
2120	1060	842	43	857	65	873	87	888	109	903	131	926	161	964	214
2240	1120	888	43	903	65	918	87	934	109	949	131	972	161	1010	214
2360	1180	934	43	949	65	964	87	980	109	995	131	1018	161	1056	214
2500	1250	987	43	1003	65	1018	87	1033	109	1049	131	1072	161	1110	214
2650	1325	1045	43	1060	65	1075	87	1091	109	1106	131	1129	161	1167	214
2800	1400	1102	43	1117	65	1133	87	1148	109	1163	131	1186	161	1225	214
3000	1500	1179	43	1194	65	1209	87	1225	109	1240	131	1263	161	1301	214
3150	1575	1236	43	1251	65	1267	87	1282	109	1297	131	1320	161	1359	214
3350	1675	1313	43	1328	65	1343	87	1359	109	1374	131	1397	161	1435	214
3550	1775	1389	43	1404	65	1420	87	1435	109	1450	131	1473	161	1512	214
3750	1875	1466	43	1481	65	1496	87	1512	109	1527	131	1550	161	1588	214
4000	2000	1561	43	1577	65	1592	87	1607	109	1623	131	1646	161	1684	214
4250	2125	1657	43	1672	65	1688	87	1703	109	1718	131	1741	161	1779	214
4750	2375	1848	43	1864	65	1879	87	1894	109	1910	130	1933	161	1971	214
5000	2500	1944	43	1959	65	1975	87	1990	109	2005	130	2028	161	2066	214
5300	2650	2059	43	2074	65	2089	87	2105	109	2120	130	2143	161	2181	214
5600	2800	2174	43	2189	65	2204	87	2220	109	2235	130	2258	161	2296	214
6000	3000	2327	43	2342	65	2357	87	2373	109	2388	130	2411	161	2449	214





(3) Alternative: 0.5 x t / 0.5 x t

(2) Flatbars in same material and same size can replace stiffeners made of plate.(see workshop drawing)

(1) According to workshop drawing of duct.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.: Revised for spanish translation
1:20	AO	VNR	09-Sep-19	⊗ Pattern no.: embossed/countersunk

Cutting of plates for stiffeners on round ducts

Stiffeners on round ducts

Mat.:	Weight: /	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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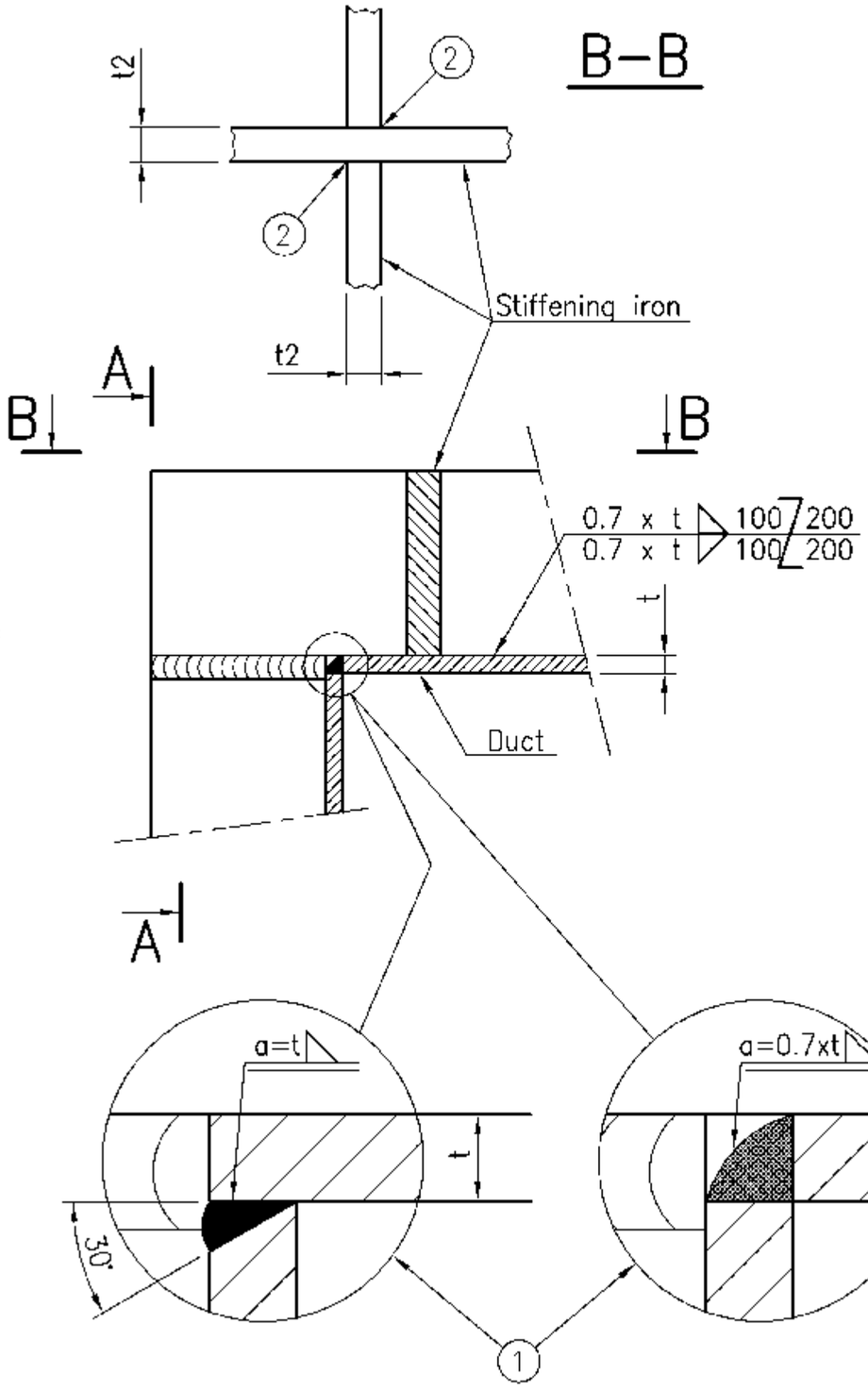

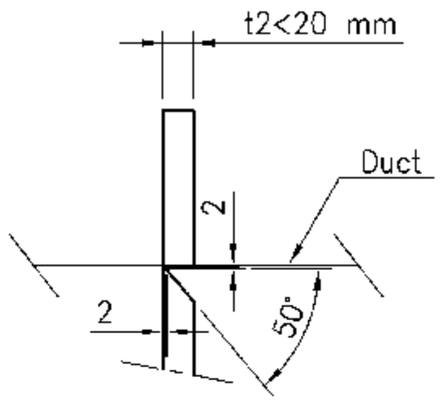

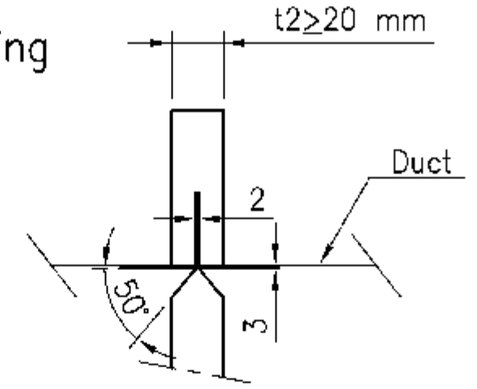

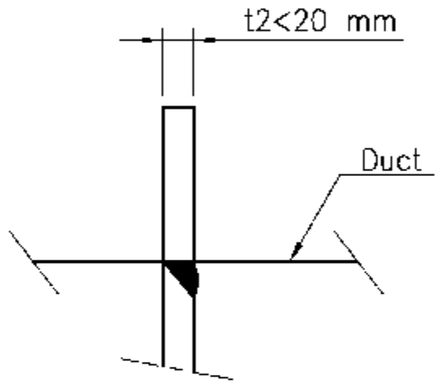

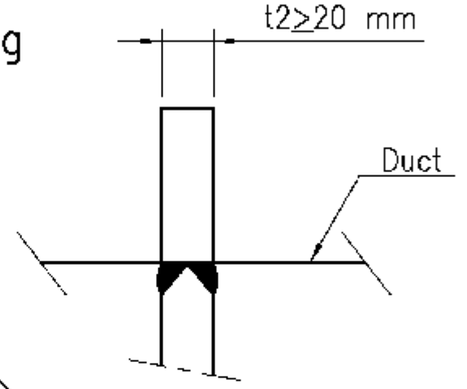

A–A
Before welding

A–A
After welding

For t2 ≤ 10mm 0.5xt / 0.5xt

For 10 < t2 ≤ 20mm 0.3xt / 0.3xt

(2) For t2 > 20mm 0.2xt / 0.2xt

(1) How to weld plates together

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:	
1:1	TBP	AO	21-Jan-09	⊗ Pattern no.:	embossed/countersunk

GENERAL WELDING TECHNIQUE
FOR SQUARE DUCTS, AND
FOR SQUARE DUCTS, AND
BRACING FOR DUCTS

Mat.:	Weight:	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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FLSmidth | No.: 3.132400 | Ver.: 9.0

Markings must be made according to purchase order and further more each part must be marked with part number. Part number must be minimum 100 mm high.

All parts in a given packing list must be marked clearly for later identification. Part number must be written.

Part number (example: −10) is written next to each part (between 2 erection weldings).
1 drawing can contain many part numbers.

Markings to be painted on the individual parts with a weather−resistant white paint.
Markings to be noted in each individual packing list.
Example: −10

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.: Spanish text added
1:1	EXTRAVIKS	GONA	26−Nov−19	⊗ Pattern no.: embossed/countersunk

Markings of ducts, chutes, stacks
Silos, dedusting pipes, platforms
and supports before shipping.
Note to Workshop

Mat.: −	Weight: −	Welds: ISO−E	ISO−E

Unless otherwise specified, achere to Genera Workshop Instructions No. 520530.

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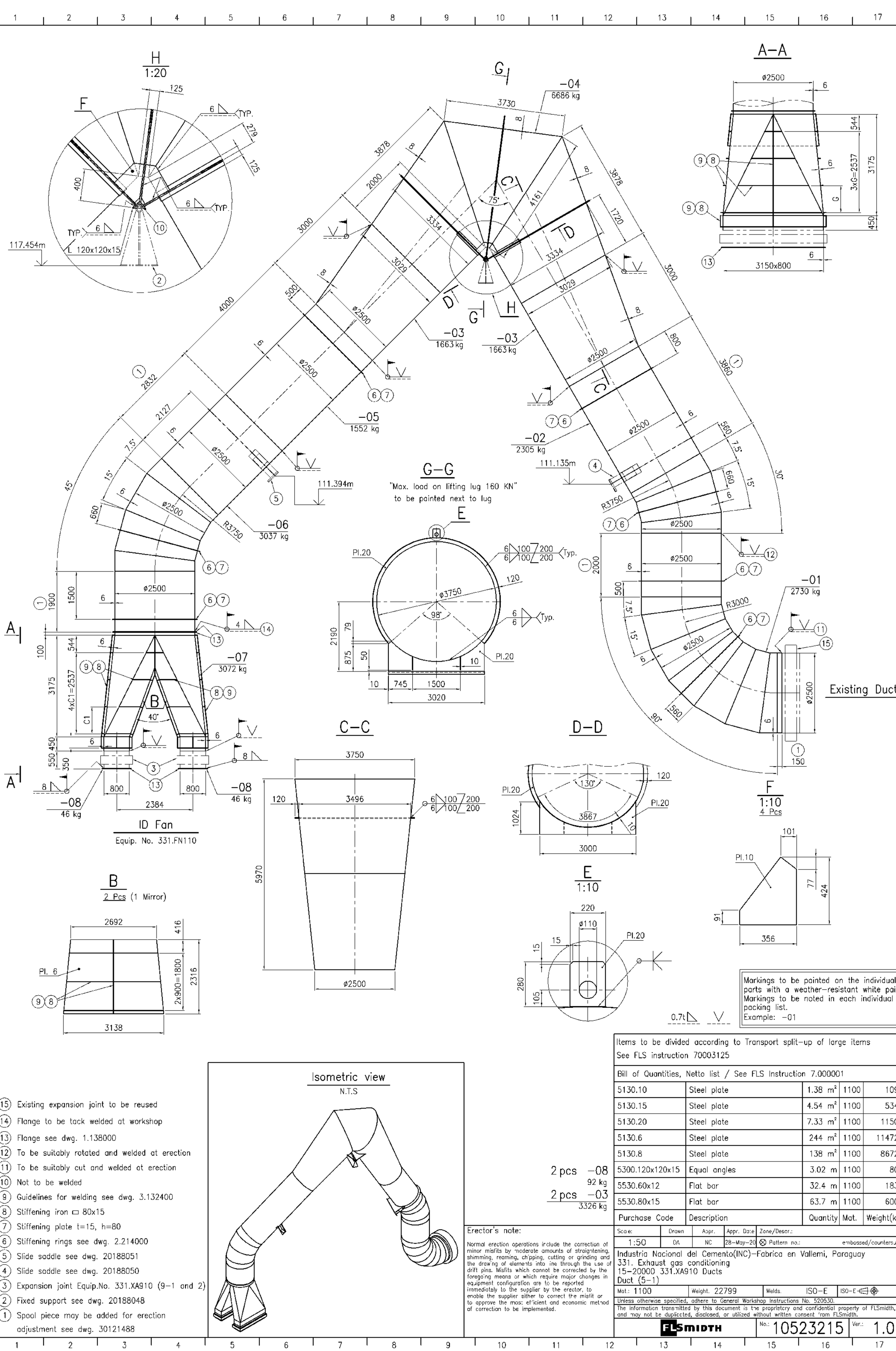
FLSmidth

No.: 4.213934 Ver.: 8.0

H
1:20

A–A



Existing Duct

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –01

0.7t

(15) Existing expansion joint to be reused
(14) Flange to be tack welded at workshop
(13) Flange see dwg. 1.138000
(12) To be suitably rotated and welded at erection
(11) To be suitably cut and welded at erection
(10) Not to be welded
(9) Guidelines for welding see dwg. 3.132400
(8) Stiffening iron □ 80x15
(7) Stiffening plate t=15, h=80
(6) Stiffening rings see dwg. 2.214000
(5) Slide saddle see dwg. 20188051
(4) Slide saddle see dwg. 20188050
(3) Expansion joint Equip.No. 331.XA910 (9–1 and 2)
(2) Fixed support see dwg. 20188048
(1) Spool piece may be added for erection adjustment see dwg. 30121488

Isometric view
N.T.S

2 pcs –08 92 kg
2 pcs –03 3326 kg

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Items to be divided according to Transport split–up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.10	Steel plate	1.38 m²	1100	109
5130.15	Steel plate	4.54 m²	1100	534
5130.20	Steel plate	7.33 m²	1100	1150
5130.6	Steel plate	244 m²	1100	11472
5130.8	Steel plate	138 m²	1100	8672
5300.120x120x15	Equal angles	3.02 m	1100	80
5530.60x12	Flat bar	32.4 m	1100	183
5530.80x15	Flat bar	63.7 m	1100	600

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:50	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Duct (5–1)

Mat.: 1100	Weight. 22799	Welds. ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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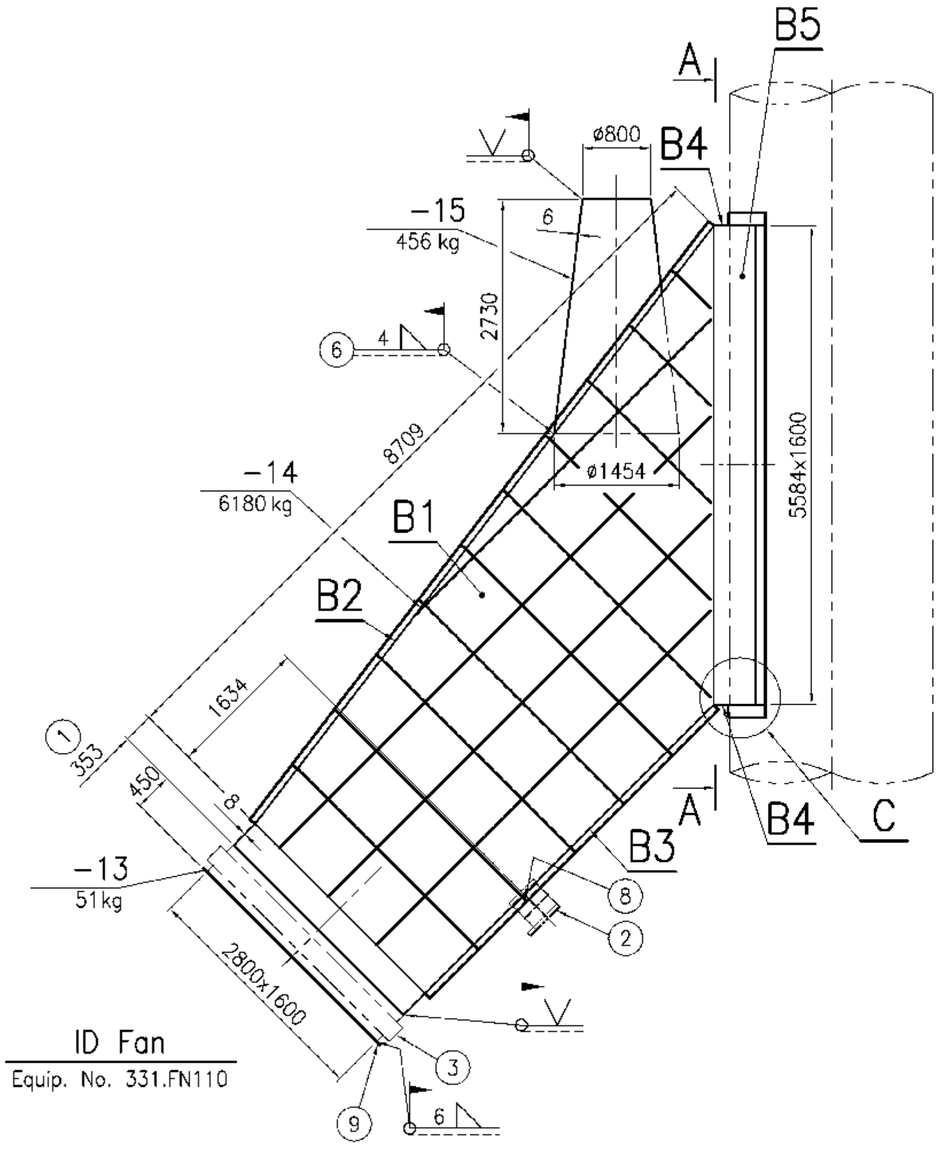
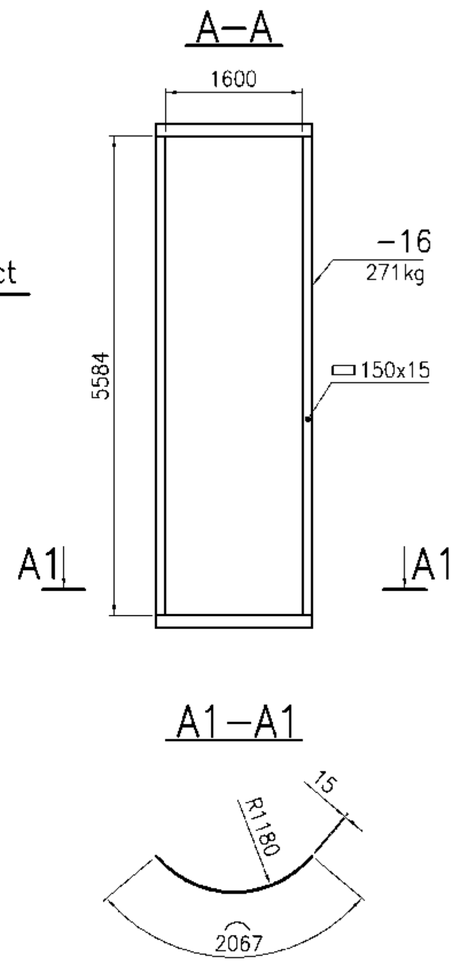
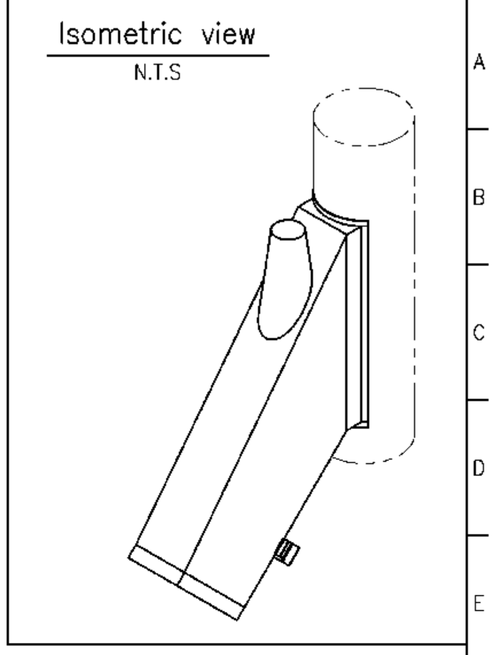
FLSmidth No.: 10523215 Ver.: 1.0

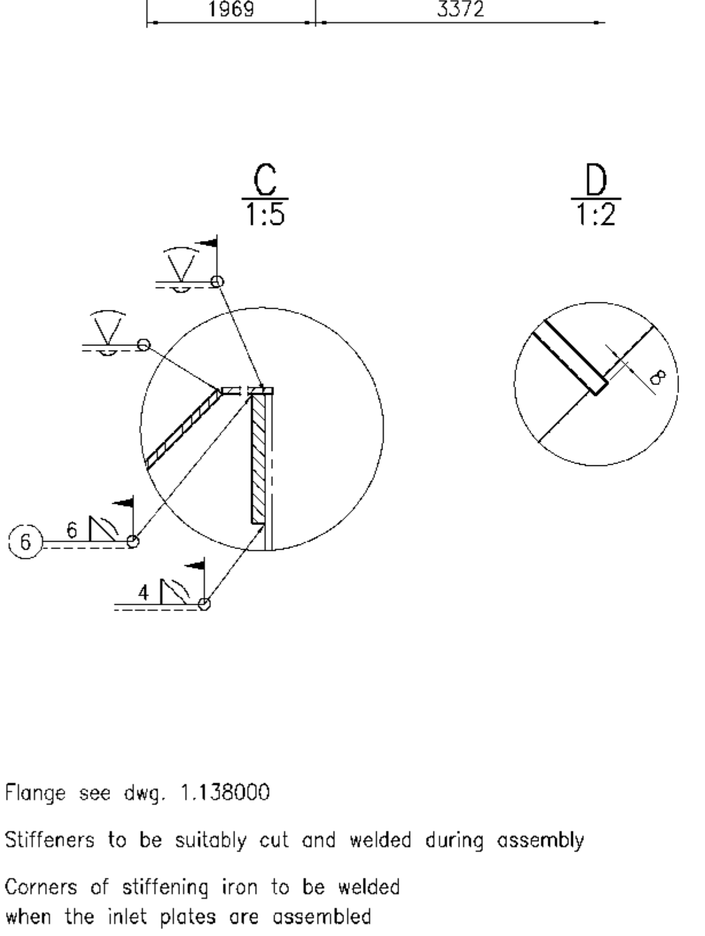


Existing Duct

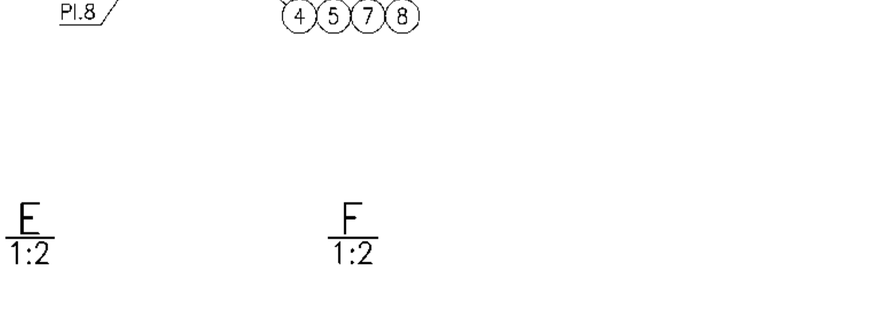




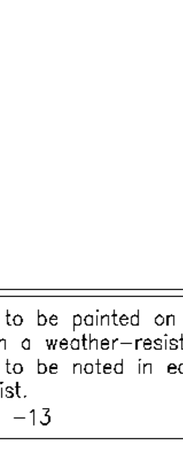
B1
2 Pcs (1 mirror)



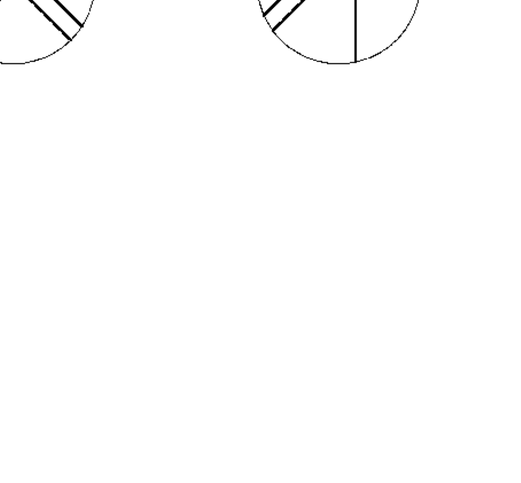
B2



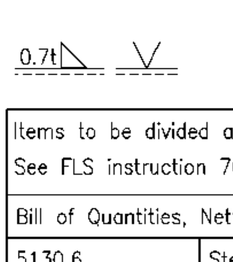
B5
2 Pcs



B3



B4
2 Pcs



C
1:5

D
1:2

E
1:2

F
1:2

0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: −13

(9) Flange see dwg. 1.138000
(8) Stiffeners to be suitably cut and welded during assembly
(7) Corners of stiffening iron to be welded when the inlet plates are assembled
(6) To be suitably cut and welded at erection
(5) Guidelines for welding see dwg. 3.132400
(4) Stiffening iron □ 80x20
(3) Expansion joint Equip.No. 331.XA910 (9–3)
(2) Slide saddle see dwg. 20188052
(1) Spool piece may be added for erection adjustment see dwg. 30121488

Items to be divided according to Transport split–up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

5130.6	Steel plate	9.68 m²	1100	456
5130.8	Steel plate	70.7 m²	1100	4439
5530.150x15	Flat bar	15.3 m	1100	271
5530.60x12	Flat bar	9.04 m	1100	51
5530.80x20	Flat bar	138 m	1100	1741
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:50	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Duct (5–2)

Mat.: 1100	Weight. 6958	Welds. ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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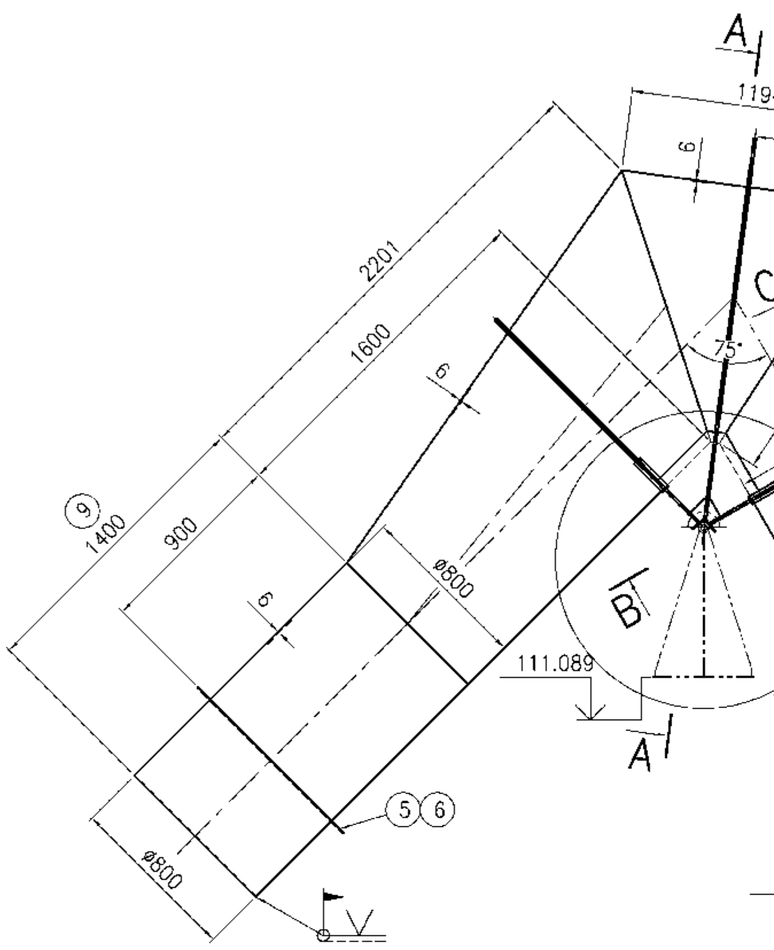
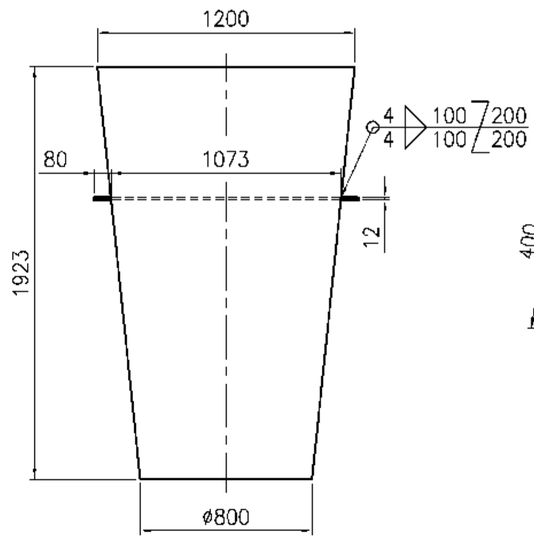
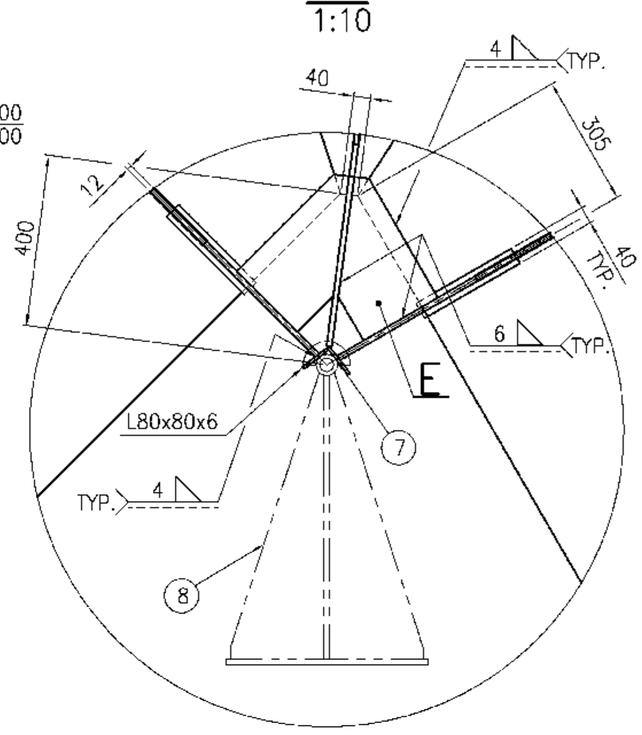
FLSmidth | No.: 10523217 | Ver.: 1.0

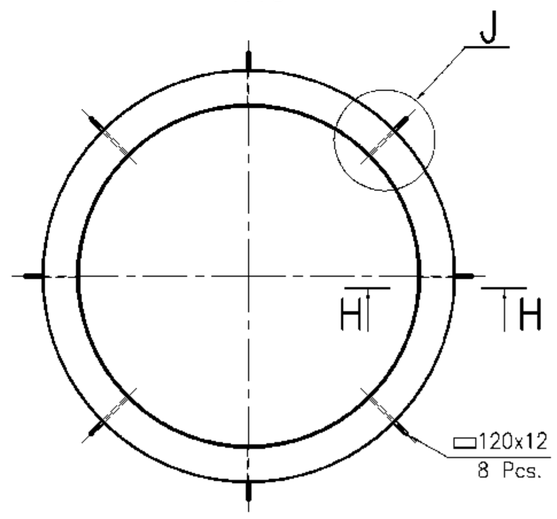


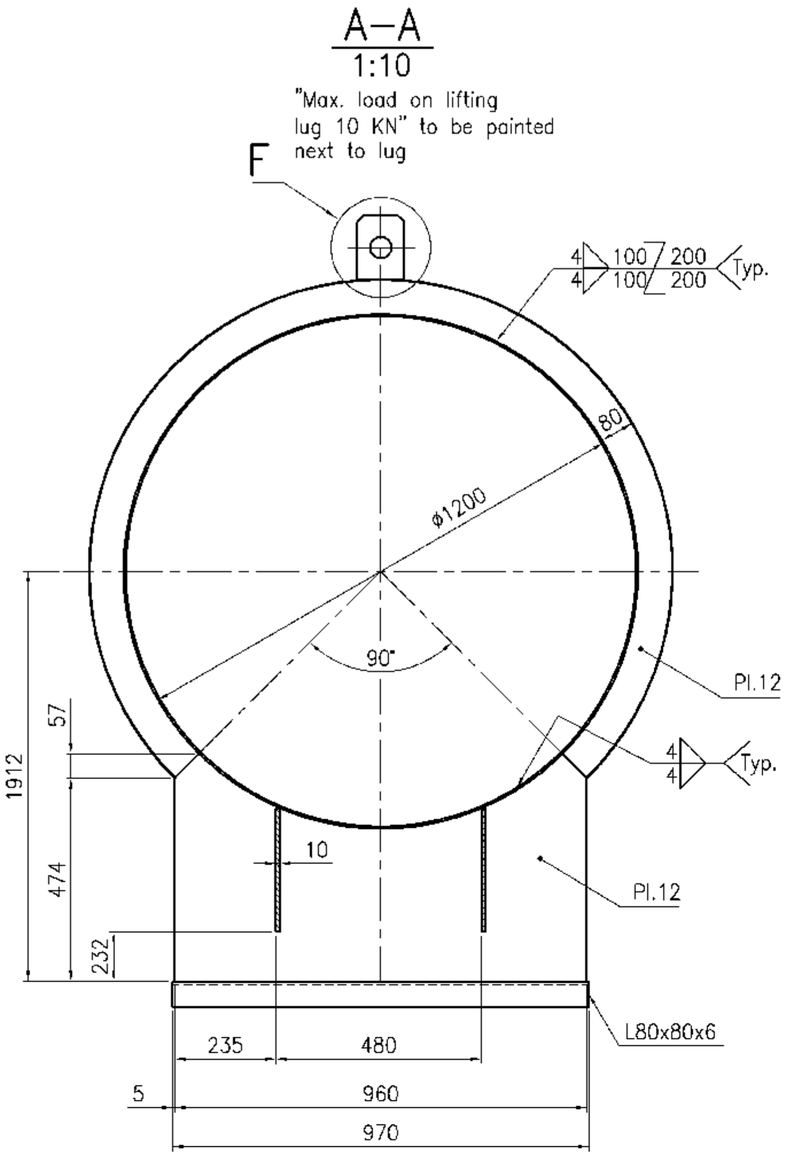
Duct (5-4)
See dwg. 20188047

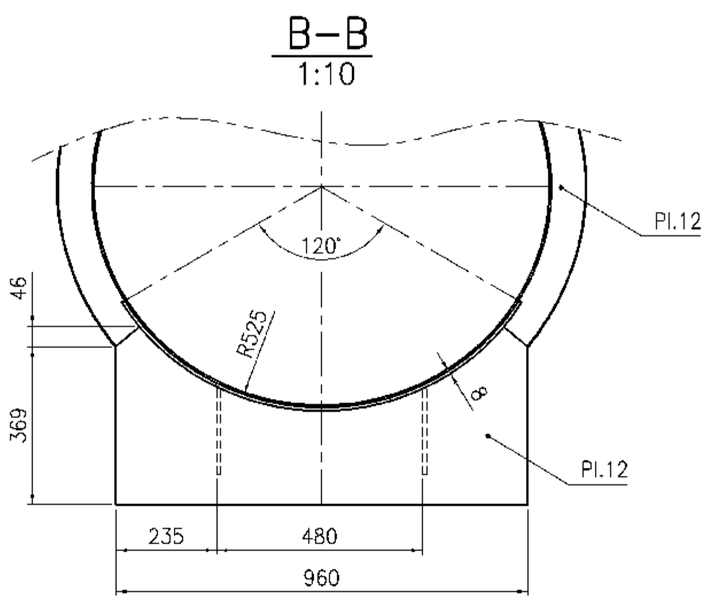
Duct (5-2)
See dwg. 10523217

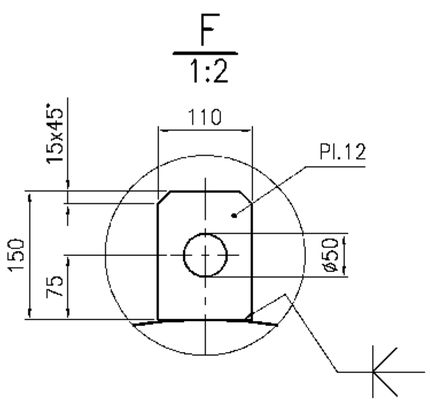


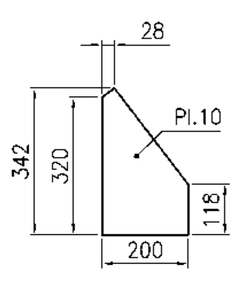


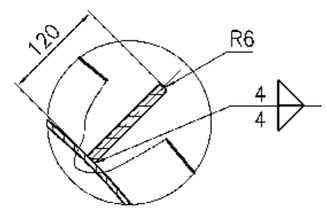


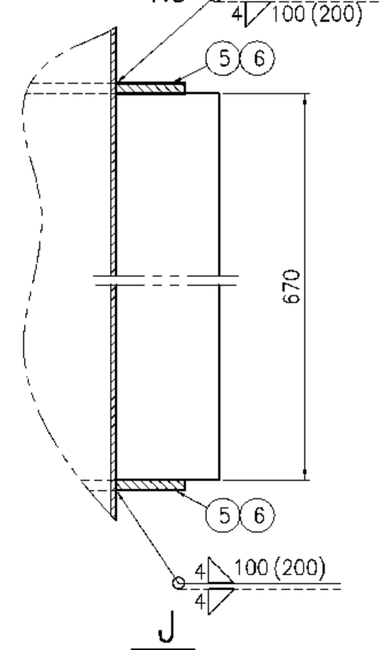








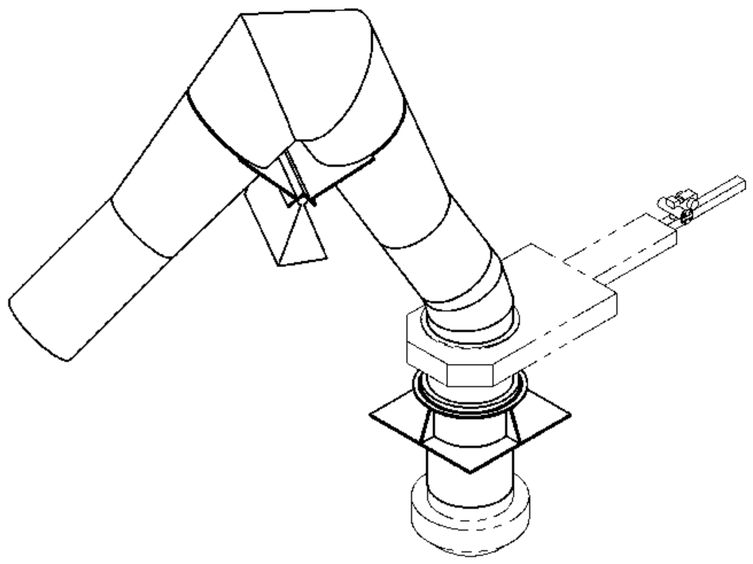




Markings to be painted on the individual parts with a weather-resistant white paint.
Markings to be noted in each individual packing list.
Example: -21

0.7t

Isometric view
N.T.S



(10) Flange to be tack welded at workshop
(9) Spool piece may be added for erection adjustment see dwg. 30121488
(8) Fixed bracket see dwg. 30121487
(7) Not to be weld
(6) Stiffening rings see dwg. 2.214000
(5) Stiffening ring h=80, t=12
(4) Existing Guillotine damper to be reused
(3) Slide bracket see dwg. 20188053
(2) Existing expansion joint to be reused
(1) FLS Standard Flange see dwg. 1.138000

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Items to be divided according to Transport split-up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

5130.10	Steel plate	0.2 m²	1100	15
5130.12	Steel plate	2.59 m²	1100	244
5130.6	Steel plate	26 m²	1100	1224
5130.8	Steel plate	0.18 m²	1100	11
5300.80x80x6	Equal angles	0.97 m	1100	7.2
5530.120x12	Flat bar	5.36 m	1100	61
5530.60x10	Flat bar	5.4 m	1100	25
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Duct (5-3)

Mat.: 1100	Weight. 1587	Welds. ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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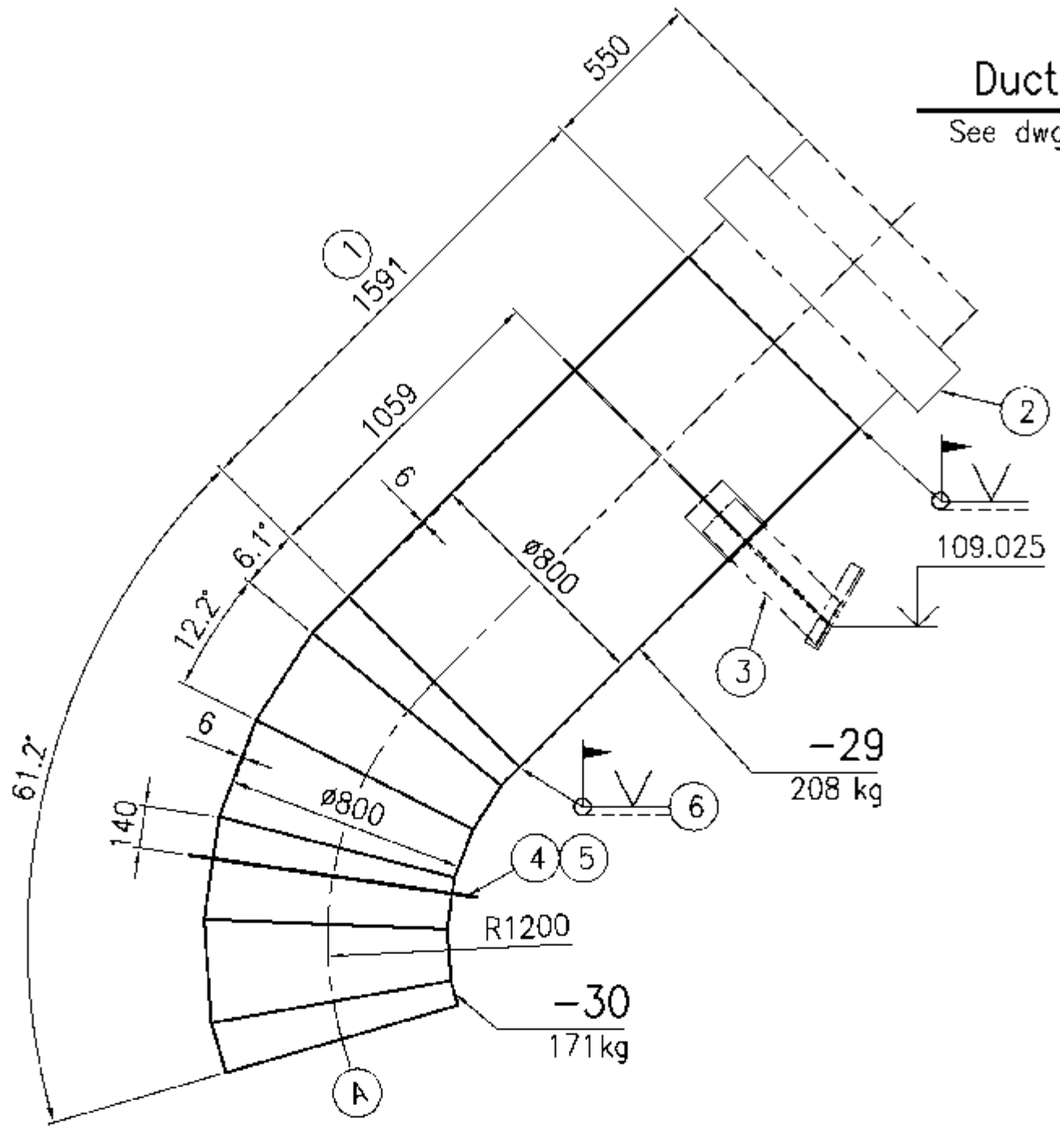
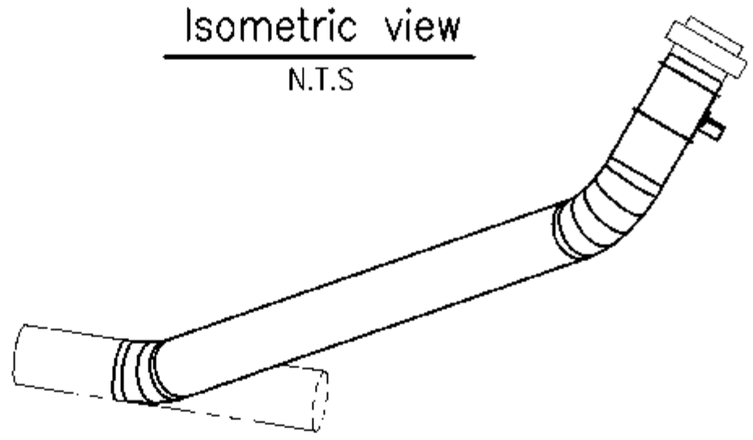
Duct (5–3)

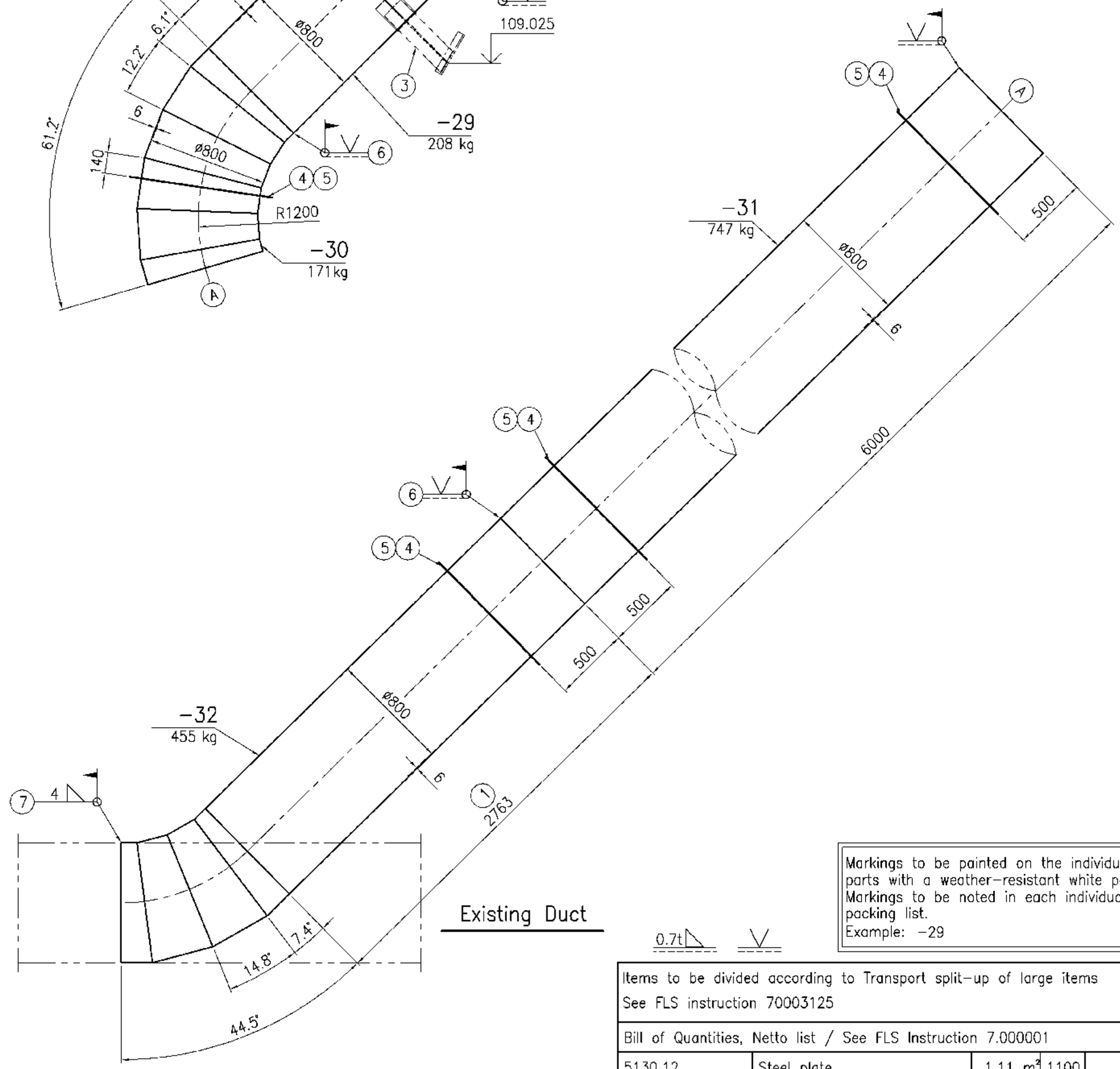
See dwg. 10523218



Isometric view

N.T.S





Existing Duct

0.7t

Markings to be painted on the individual parts with a weather–resistant white paint.
Markings to be noted in each individual packing list.
Example: −29

Items to be divided according to Transport split–up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.12	Steel plate	1.11 m²	1100	104
5130.6	Steel plate	31.3 m²	1100	1476

(7) To be suitably cut and welded at erection
(6) To be suitably rotated and welded at erection
(5) Stiffening rings see dwg. 2.214000
(4) Stiffening ring h=80, t=12
(3) Slide saddle see dwg. 20188055
(2) Existing expansion joint to be reused
(1) Spool piece may be added for erection adjustment see dwg. 30121488

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Duct (5–4)

Mat.: 1100	Weight: 1580	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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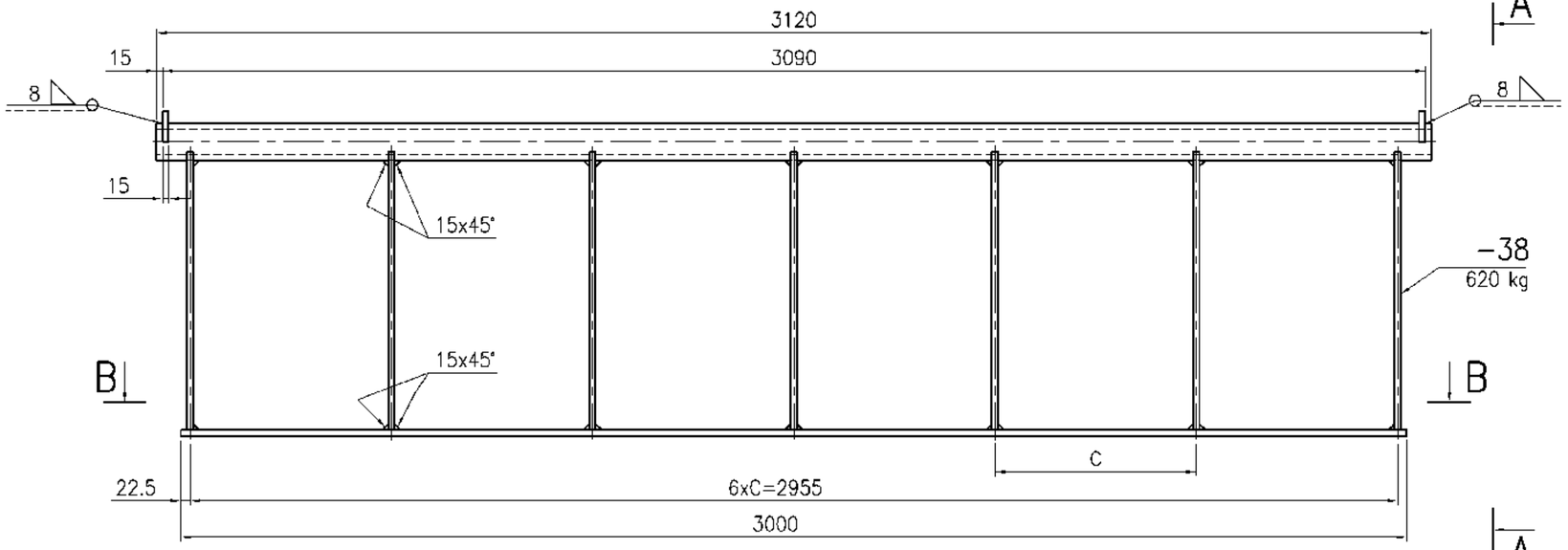
FLSmidth

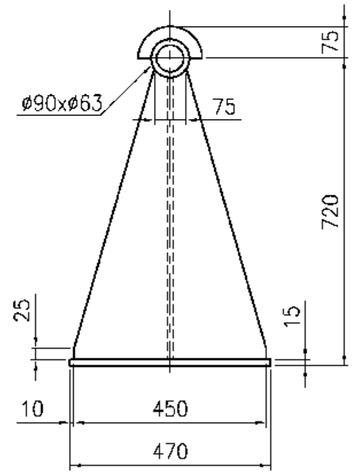
No.: 20188047 Ver.: 1.0

Duct (5-1)

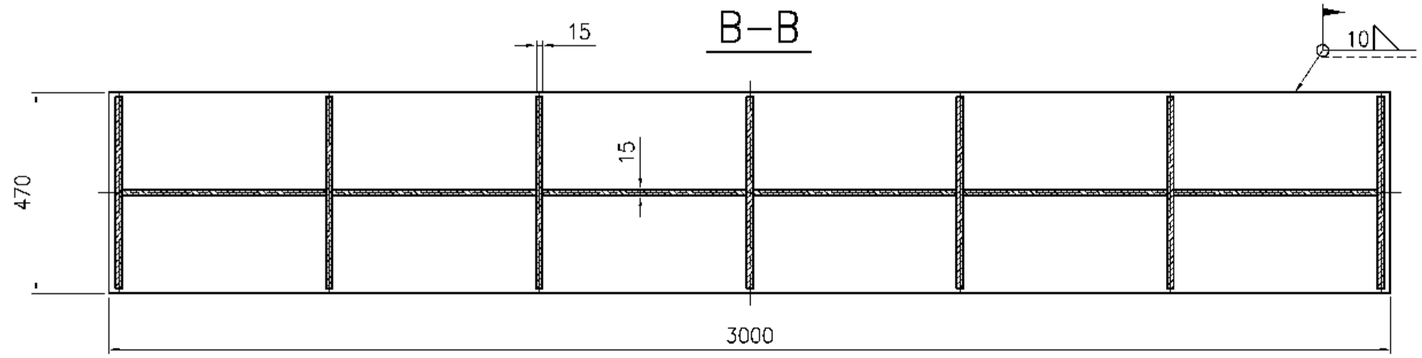
See dwg. 10523215



A-A



B-B



0.7t

Markings to be painted on the individual parts with a weather-resistant white paint. Markings to be noted in each individual packing list.
Example: -38

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.15	Steel plate	4.59 m²	1100	540
5800.90x63	Hollow bar	3.12 m	XXX	80

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Fixed support for duct (5-1)

Mat.: 1100	Weight: 620	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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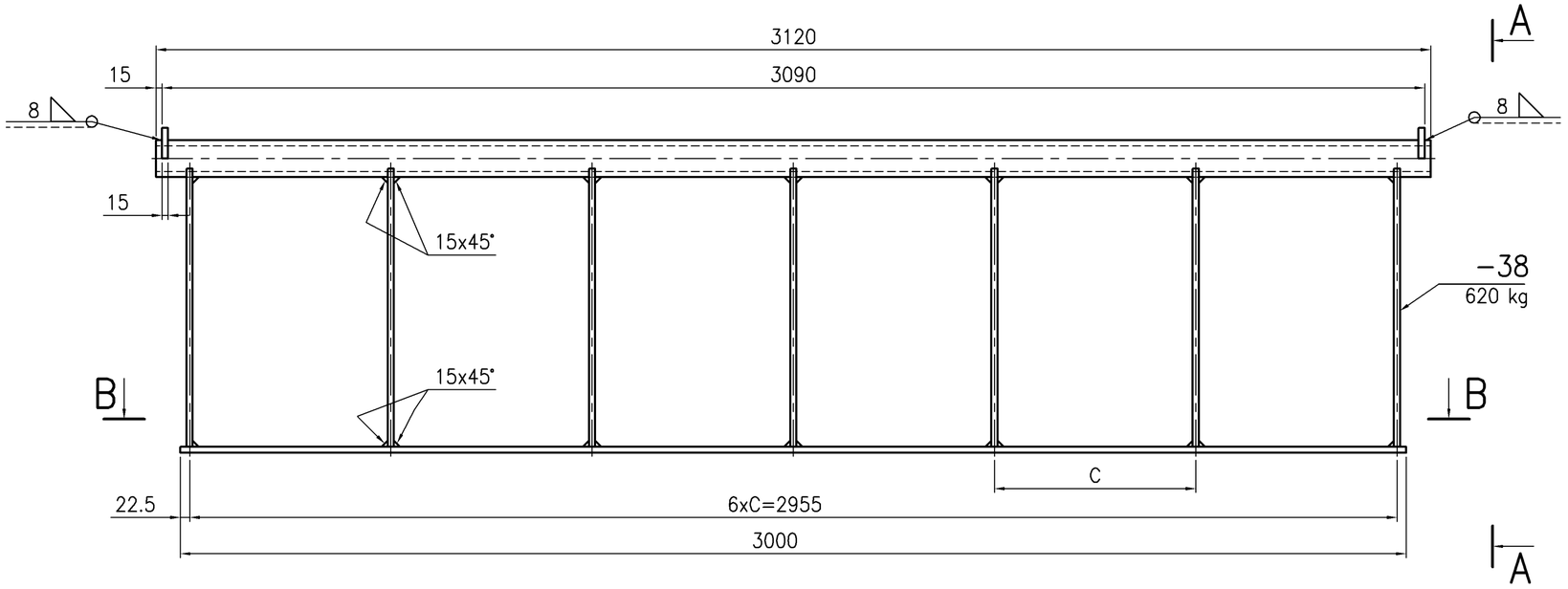
Erector's note:

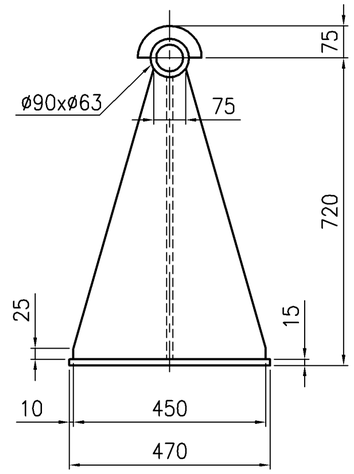
Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Duct (5-1)

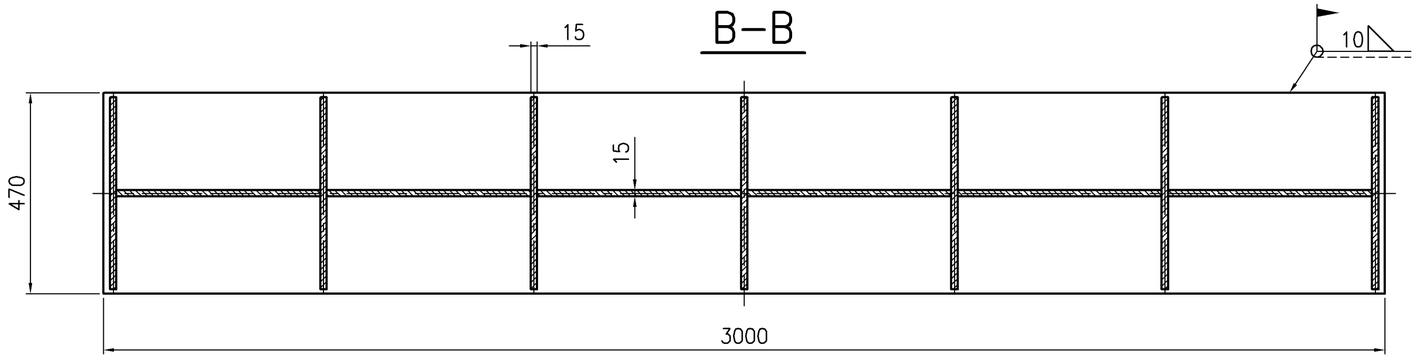
See dwg. 10523215



A-A



B-B



0.7t

Markings to be painted on the individual parts with a weather-resistant white paint. Markings to be noted in each individual packing list.
Example: -38

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.15	Steel plate	4.59 m²	1100	540
5800.90x63	Hollow bar	3.12 m	XXX	80
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Fixed support for duct (5-1)

Mat.: 1100	Weight: 620	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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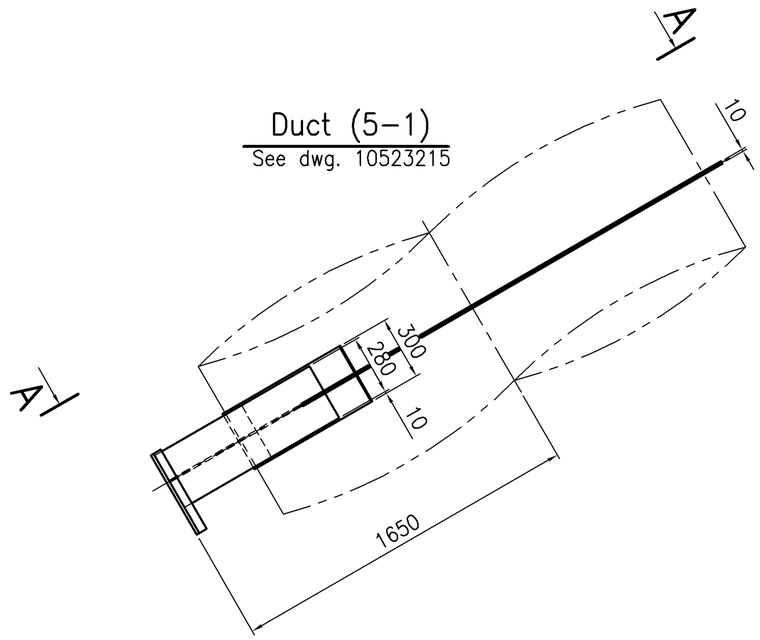
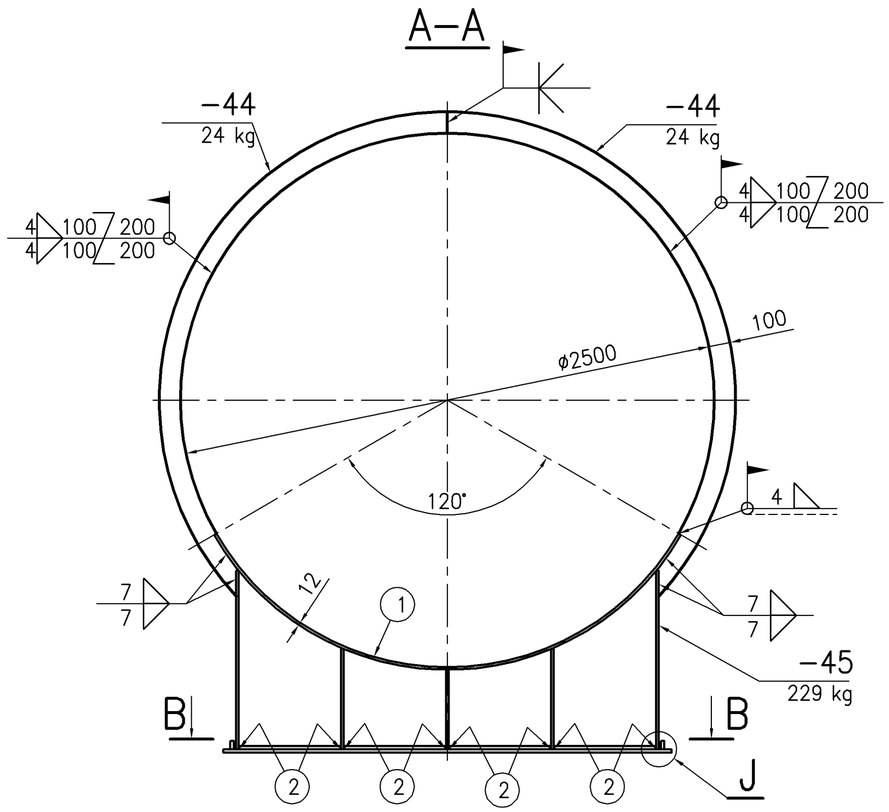
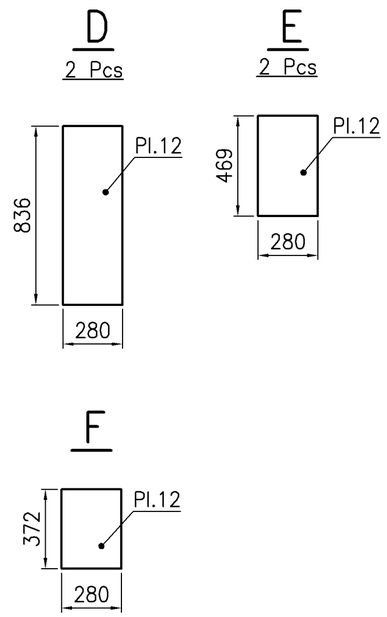


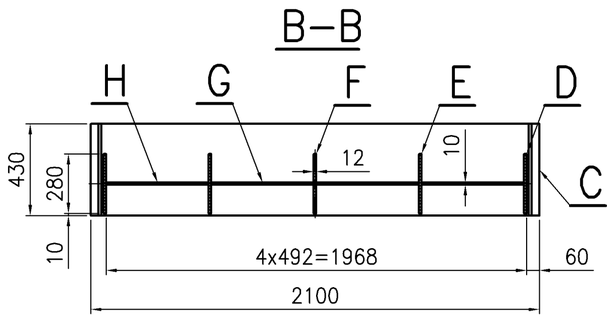


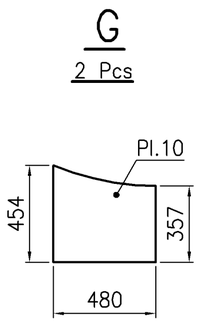


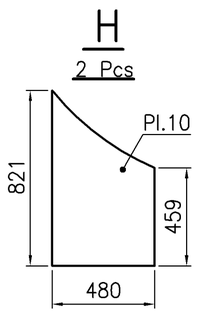
3 Gap

2 Not to be welded.

1 Developed length 2631mm.

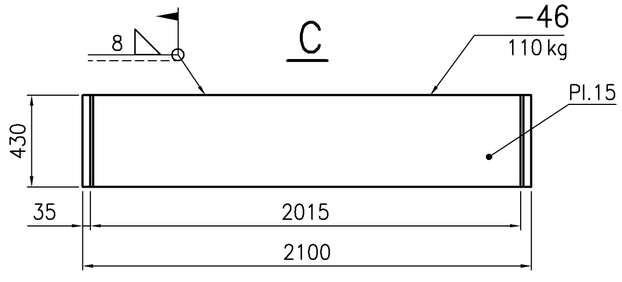


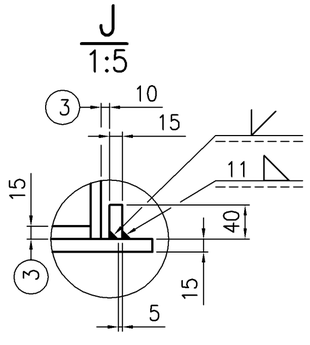




Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –44

0.7t





2 pcs –44
48 kg

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.10	Steel plate	1.56 m²	1100	123
5130.12	Steel plate	1.63 m²	1100	153
5130.15	Steel plate	0.94 m²	1100	110
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide saddle for duct (5–1)

Mat.: 1100	Weight: 386	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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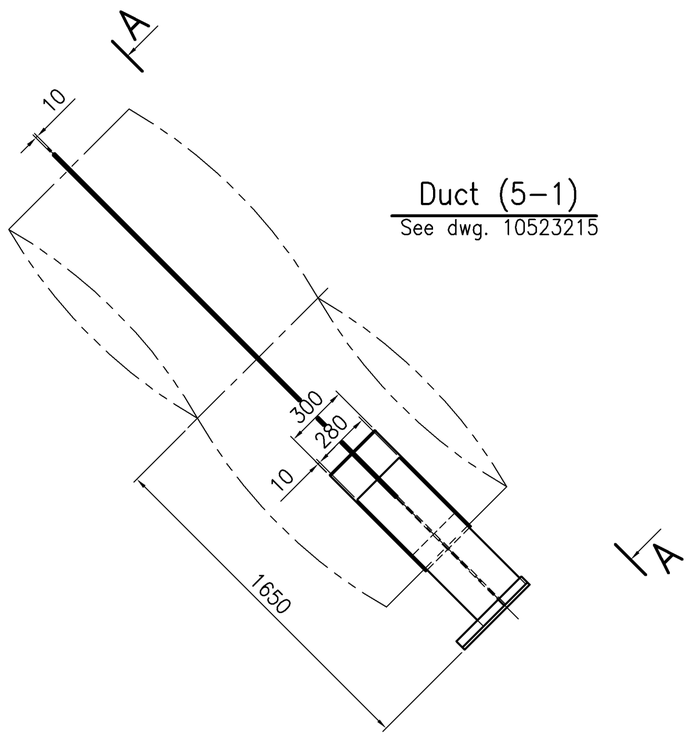
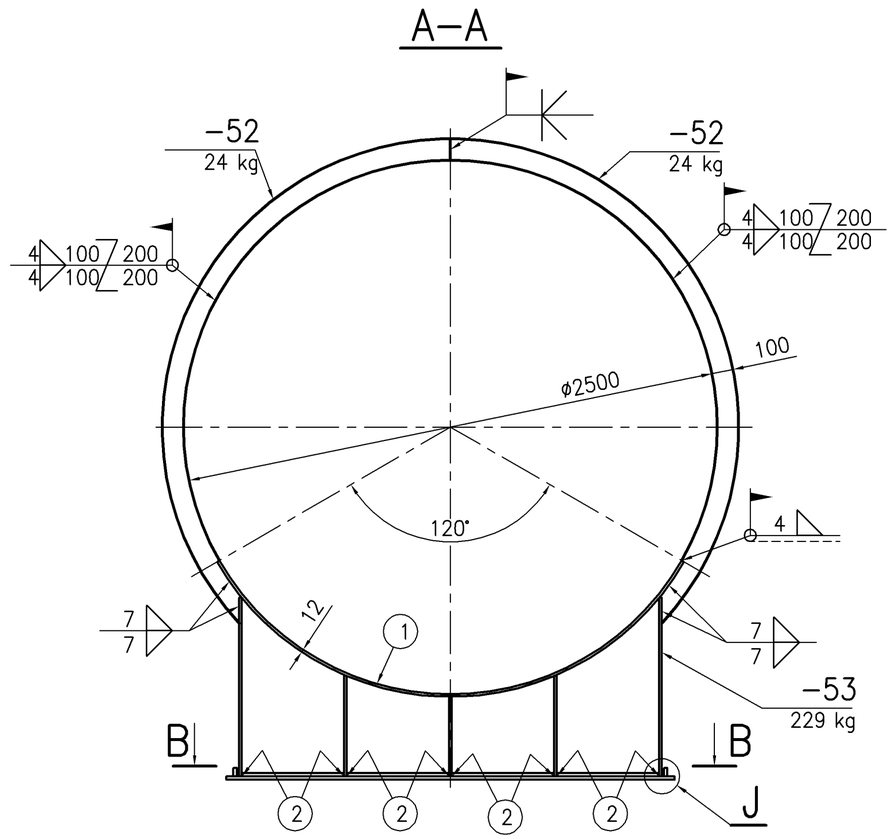
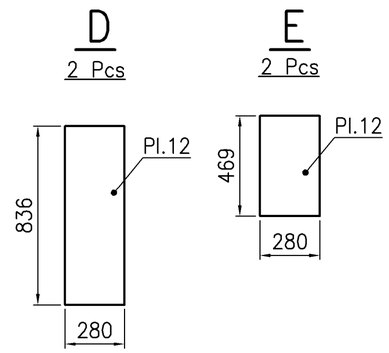


Duct (5-1)
See dwg. 10523215





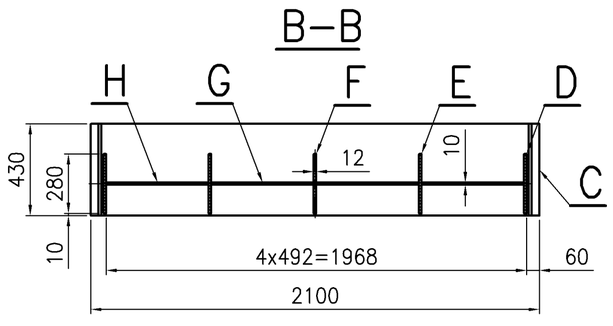
3 Gap

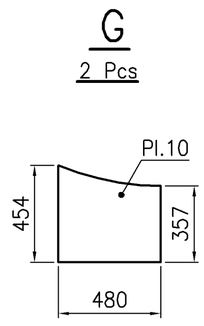
2 Not to be welded.

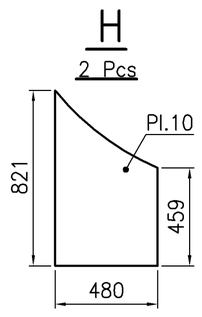
1 Developed length 2631mm.

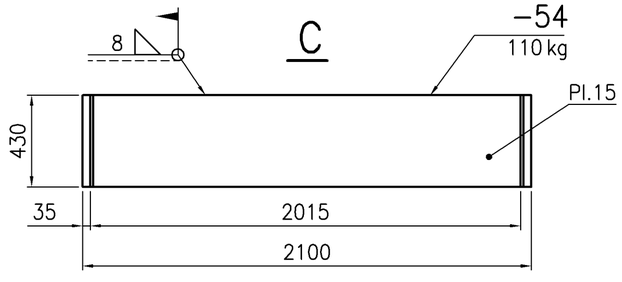
Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –52

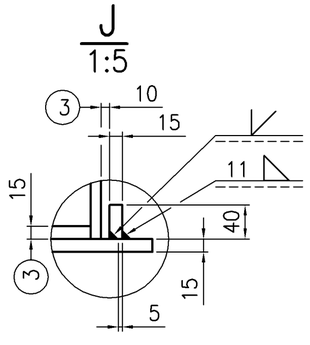
0.7t











2 pcs –52
48 kg

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.10	Steel plate	1.56 m²	1100	123
5130.12	Steel plate	1.63 m²	1100	153
5130.15	Steel plate	0.94 m²	1100	110
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide saddle for duct (5–1)

Mat.: 1100	Weight: 386	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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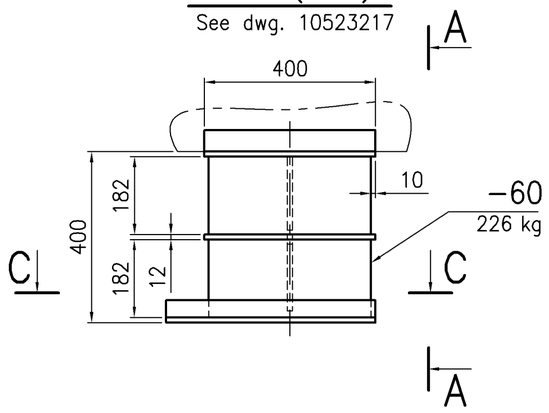
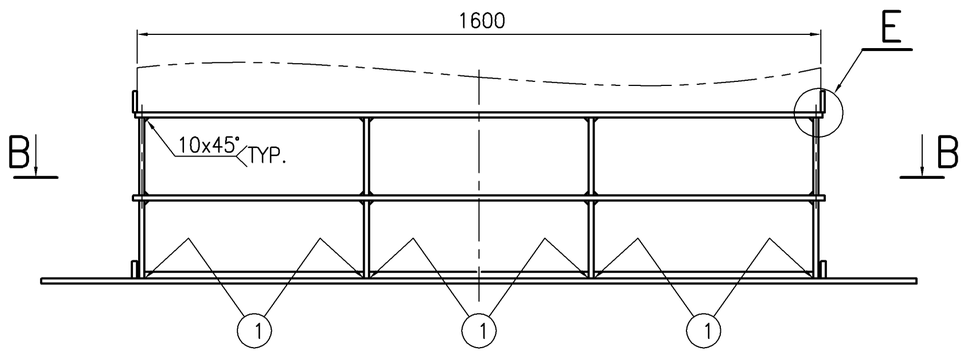
Duct (5-2)

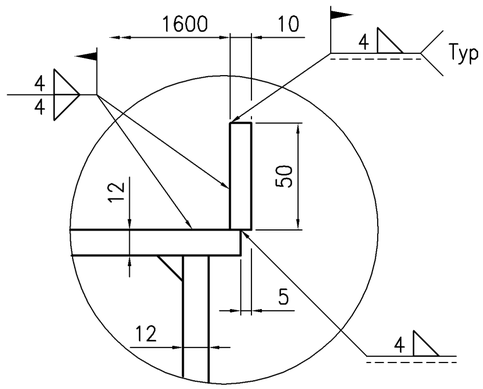
See dwg. 10523217



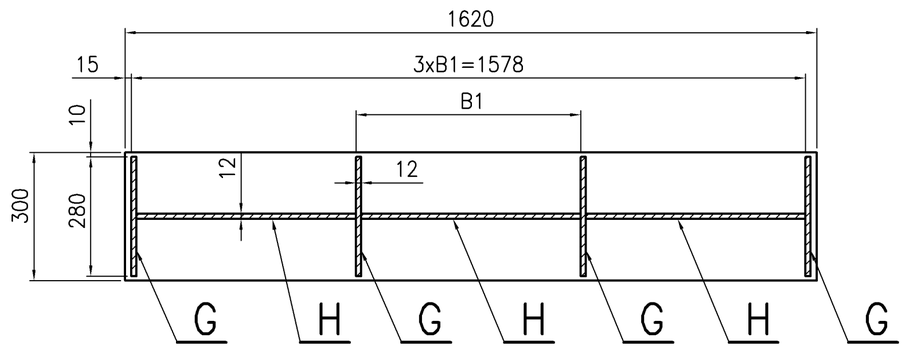
A–A



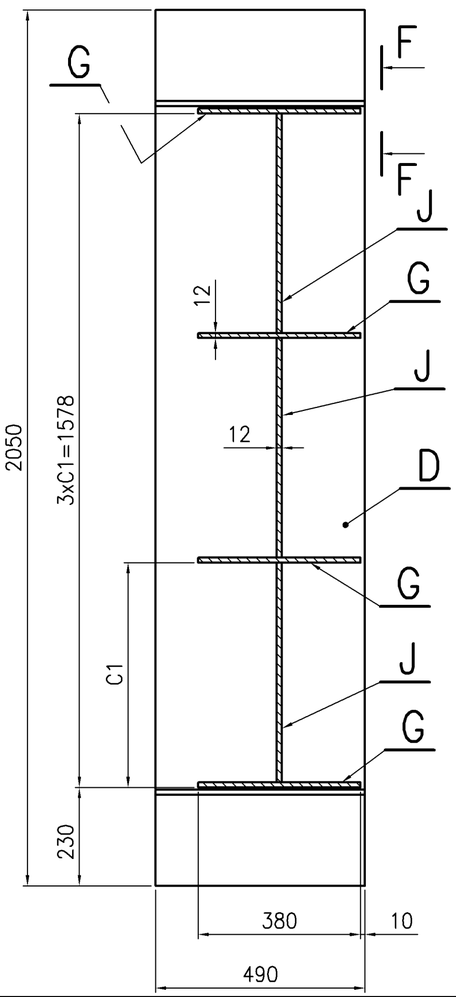
E
1:2



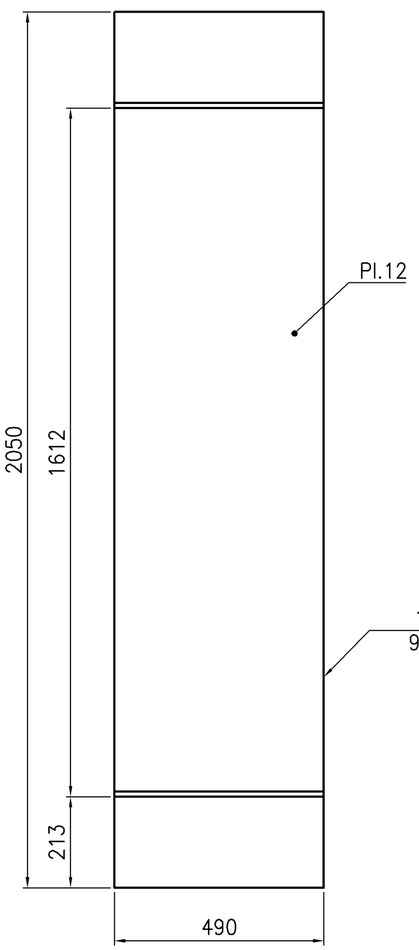
B–B



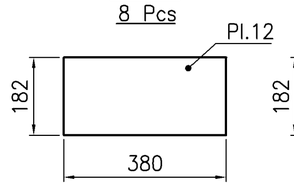
C–C



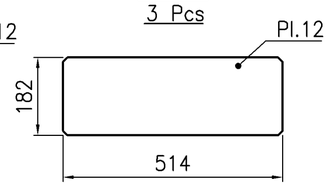
D



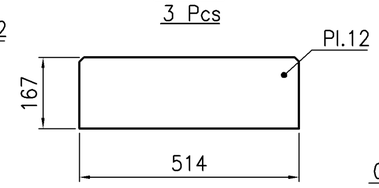
G
8 Pcs



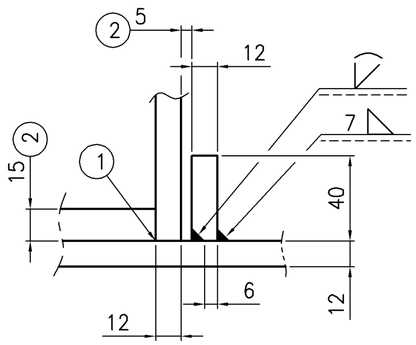
H
3 Pcs



J
3 Pcs



F–F
1:2



0.7t

Markings to be painted on the individual parts with a weather-resistant white paint. Markings to be noted in each individual packing list.
Example: −60

(1) Not to be welded.

(2) Gap.

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.10	Steel plate	0.04 m²	1100	3.1
5130.12	Steel plate	3.41 m²	1100	322
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Slide saddle for duct (5-2)

Mat.: 1100	Weight: 325	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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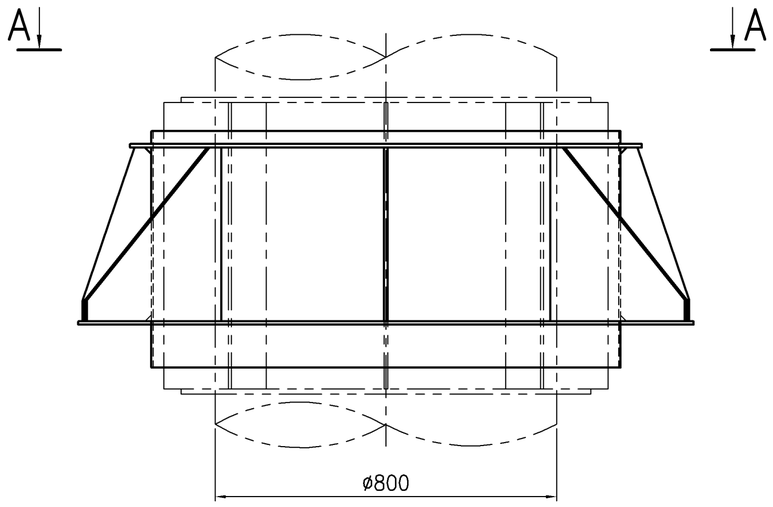
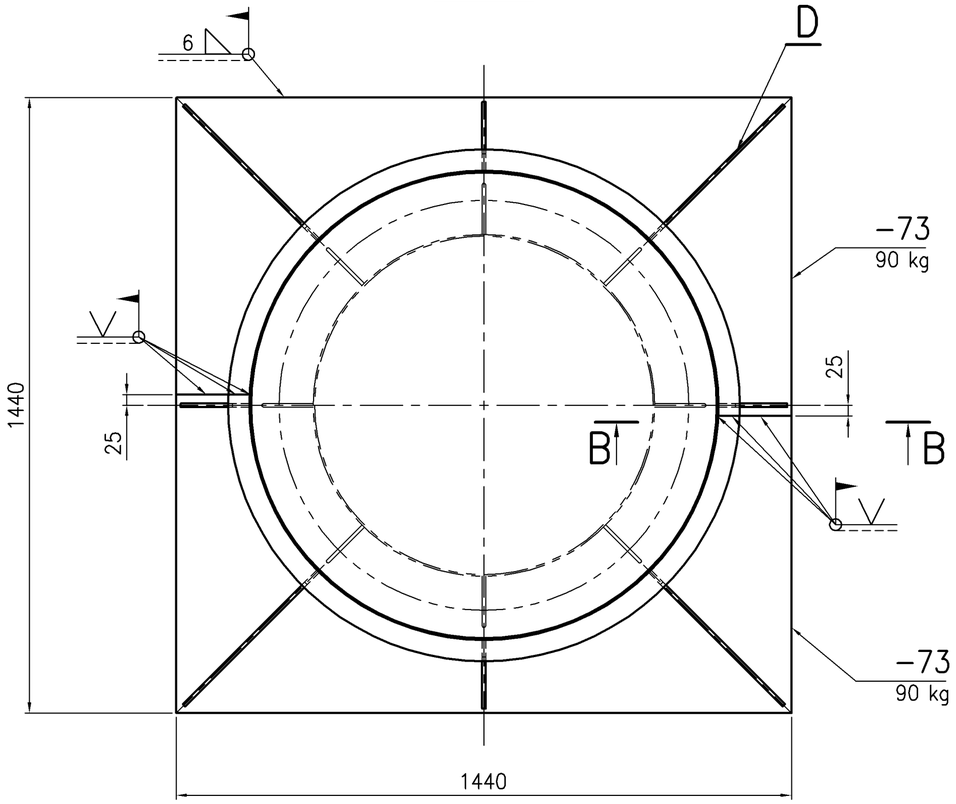
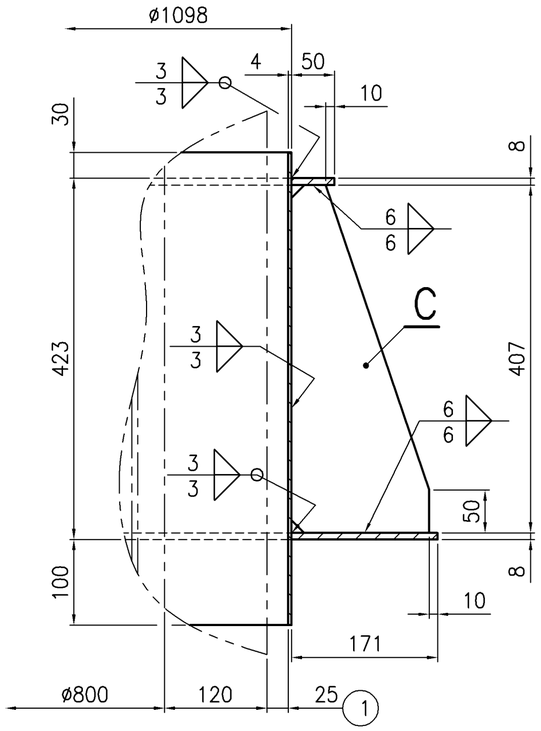
Duct (5-3)
See dwg. 10523218



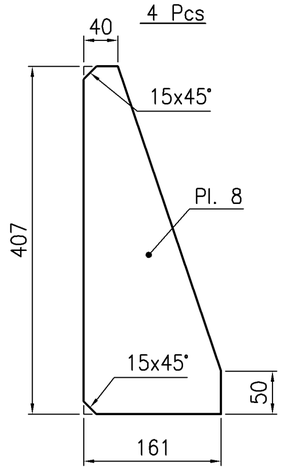
A–A



B–B
1:5

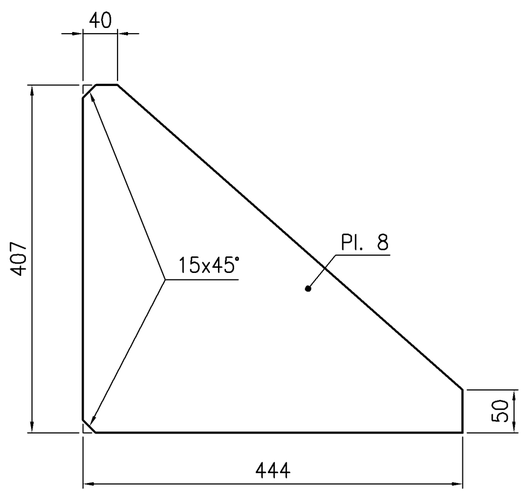


C
1:5
4 Pcs



2 pcs –73
180 kg

D
1:5
4 Pcs



0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –73

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.4	Steel plate	1.9 m²	1100	60
5130.8	Steel plate	1.92 m²	1100	120
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide bracket for duct (5–3)

Mat.: 1100	Weight: 180	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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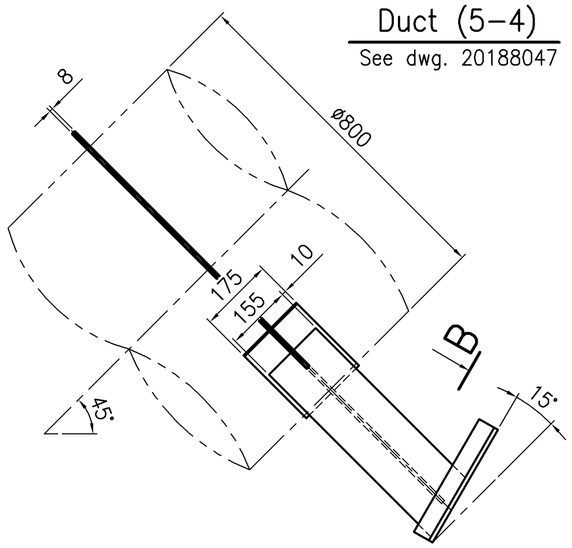
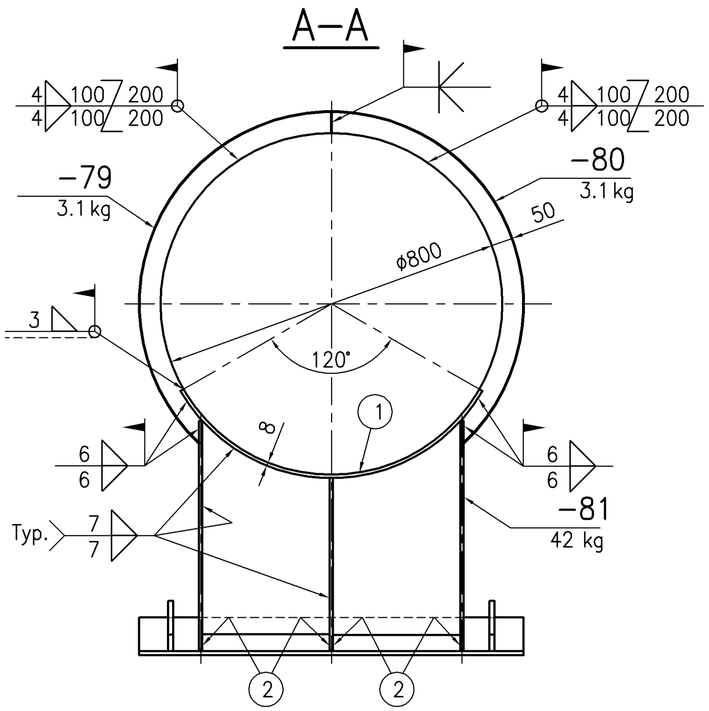
(1) Gap

Duct (5–4)

See dwg. 20188047

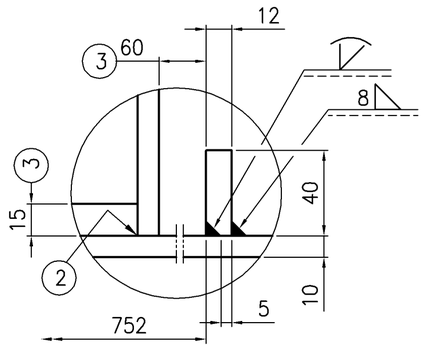


A–A



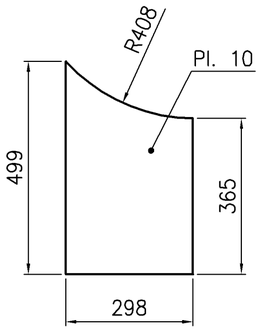
D–D

1:2

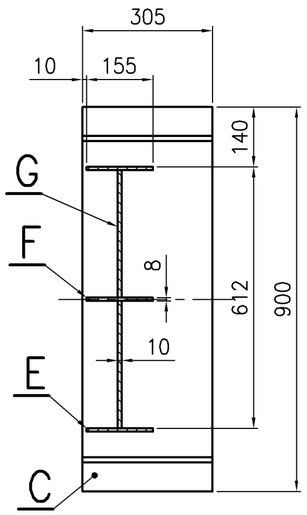


G

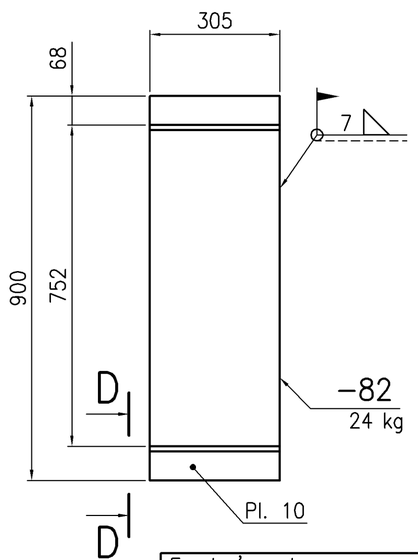
2 Pcs (1 mirror)



B–B

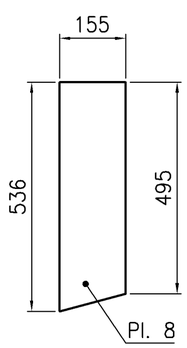


C

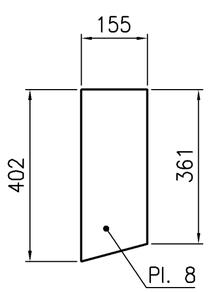


E

2 Pcs



F



(3) Gap

(2) Not to be welded.

(1) Developed length 846mm.

0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: −79

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Bill of Quantities, Netto list / See FLS Instruction 7.000001				
5130.10	Steel plate	0.52 m²	1100	41
5130.12	Steel plate	0.02 m²	1100	2.3
5130.8	Steel plate	0.46 m²	1100	29
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Slide saddle for duct (5–4)

Mat.: 1100	Weight: 72	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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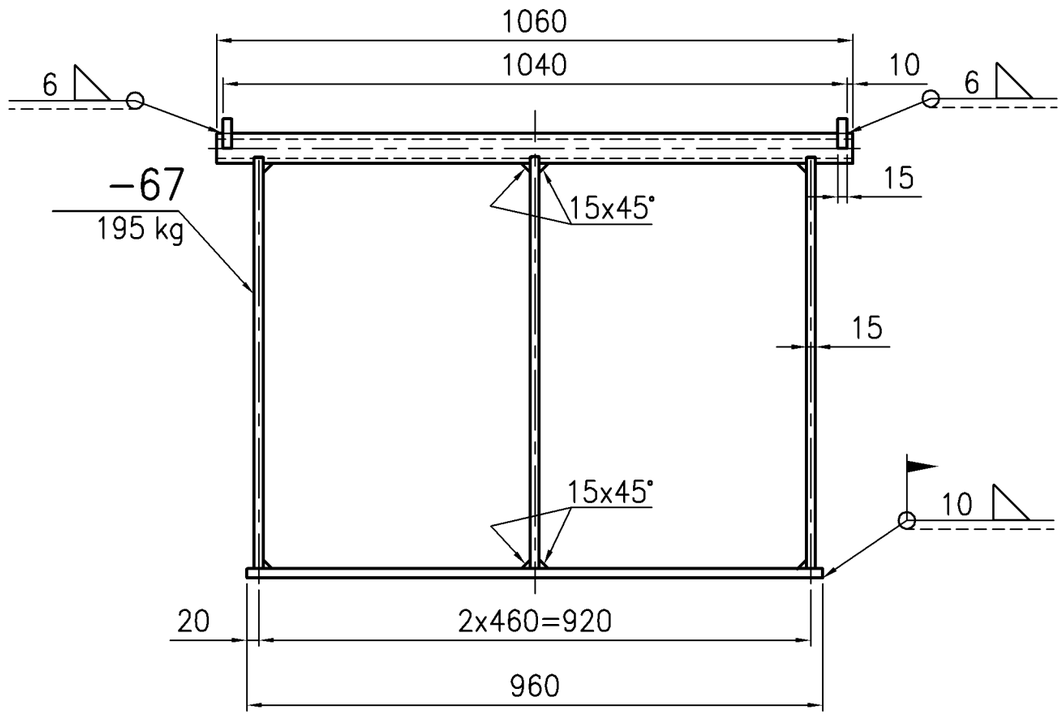
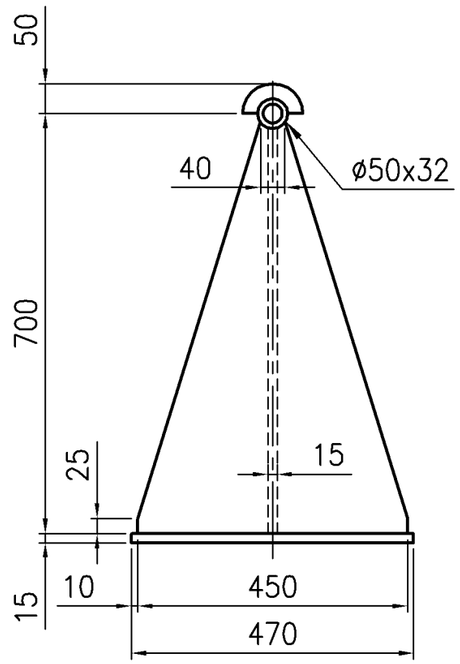
FLSmidth | No.: 20188055 | Ver.: 1.0

Duct (5–3)

See dwg. 10523218





0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –67

Bill of Quantities / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.15	Steel plate	1.58 m²	1100	186
5800.50x32	Hollow bar	1.06 m	XXX	9.6

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:10	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Fixed support for duct (5–3)

Mat.: 1100	Weight: 195	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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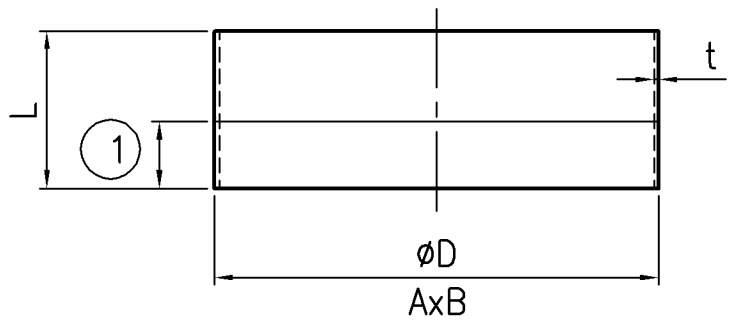
FLSmidth

No.: 30121487 Ver.: 1.0

Duct Erection Adjustment



Type	Item No.	Duct Size		Length (L)	Thickness (t)	Area (m^2)	Weight (kg)
		øD (or) A	B				
Circular duct for erection adjustment	−88	2500	−	500	6	3.92	185
	−89	800	−	500	6	1.25	59
Rectangular duct for erection adjustment	−90	2800	1600	100	8	0.87	55

(1) Duct length to be suitably cut and weld at site as per the erection requirement for the respective duct size and thickness.

Markings to be painted on the Duct as Mentioned below
Size :− (ØD) or (AxB)xLxt
[For example:−[(Ø2500)x500x6]
[(2800x1600)x100x8]
Item :− Erection adjustment piece

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.6	Steel plate	5.17 m^2	1100	244
5130.8	Steel plate	0.87 m^2	1100	55

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:1	DA	NC	28−May−20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)−Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15−20000 331.XA910 Ducts
Duct for Erection adjustment

Mat.: 1100	Weight: 298	Welds: ISO−E	ISO−E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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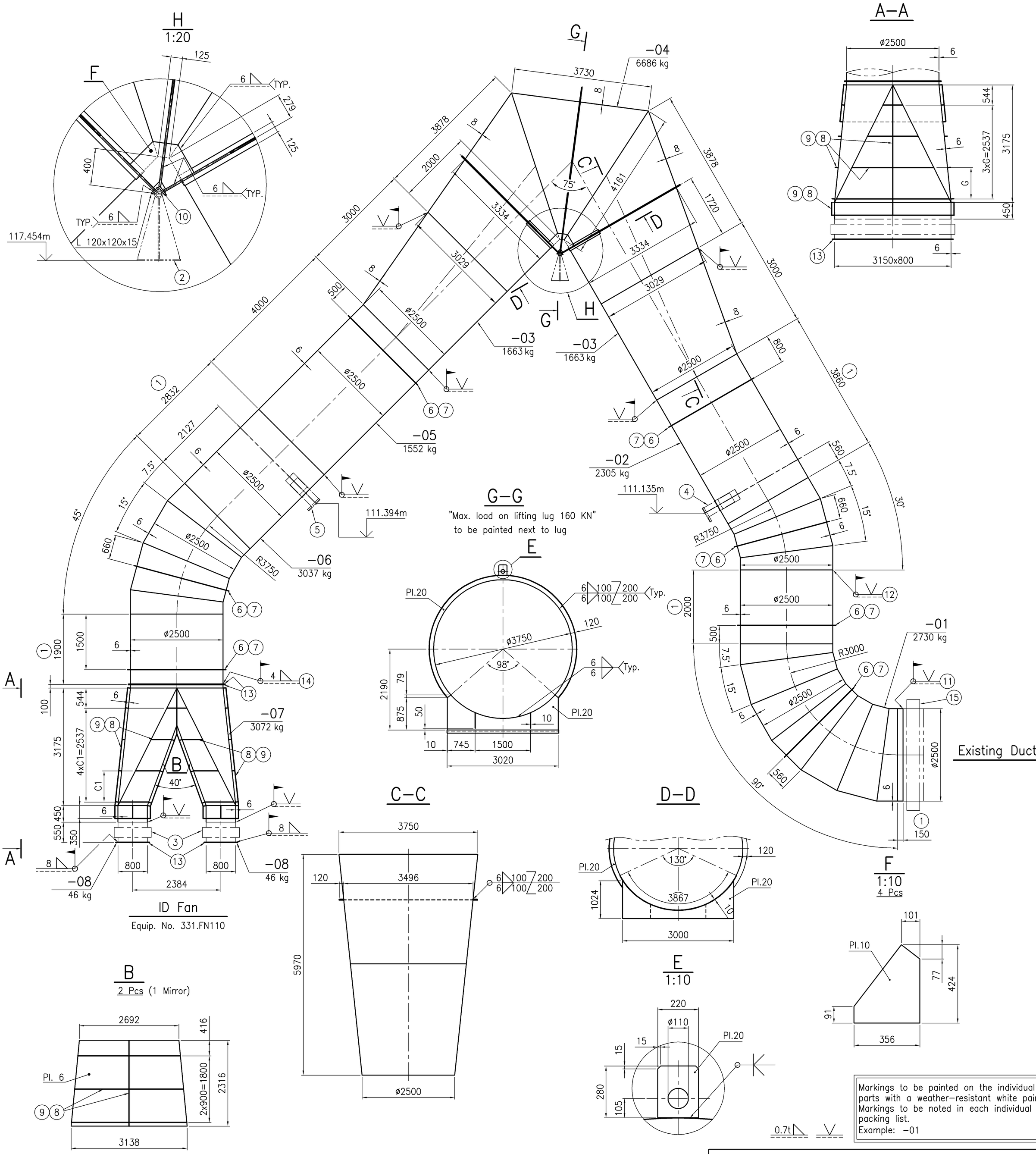
FLSmidth

No.: 30121488 Ver.: 1.0

H
1:20

A–A



ID Fan

Equip. No. 331.FN110

G–G

"Max. load on lifting lug 160 KN"
to be painted next to lug

C–C

D–D

F
1:10
4 Pcs

E
1:10

B
2 Pcs (1 Mirror)

Existing Duct

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –01

0.7t

Items to be divided according to Transport split–up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

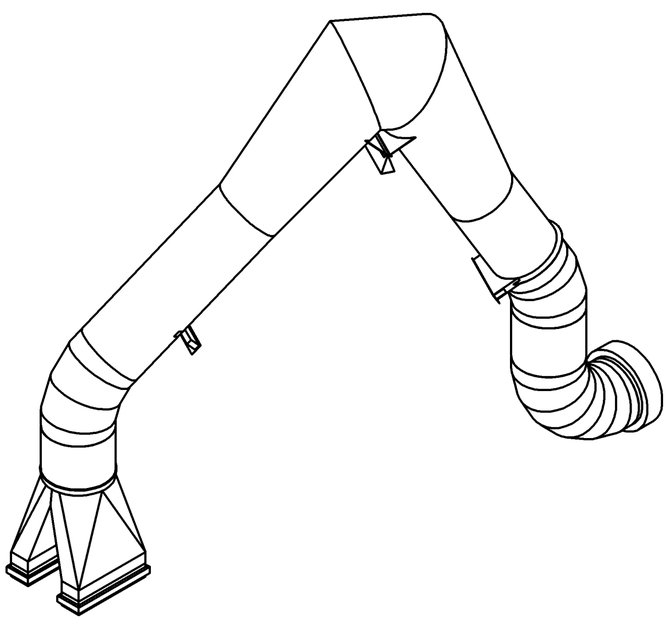
Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.10	Steel plate	1.38 m²	1100	109
5130.15	Steel plate	4.54 m²	1100	534
5130.20	Steel plate	7.33 m²	1100	1150
5130.6	Steel plate	244 m²	1100	11472
5130.8	Steel plate	138 m²	1100	8672
5300.120x120x15	Equal angles	3.02 m	1100	80
5530.60x12	Flat bar	32.4 m	1100	183
5530.80x15	Flat bar	63.7 m	1100	600

2 pcs –08
92 kg

2 pcs –03
3326 kg

(15) Existing expansion joint to be reused
(14) Flange to be tack welded at workshop
(13) Flange see dwg. 1.138000
(12) To be suitably rotated and welded at erection
(11) To be suitably cut and welded at erection
(10) Not to be welded
(9) Guidelines for welding see dwg. 3.132400
(8) Stiffening iron ▭ 80x15
(7) Stiffening plate t=15, h=80
(6) Stiffening rings see dwg. 2.214000
(5) Slide saddle see dwg. 20188051
(4) Slide saddle see dwg. 20188050
(3) Expansion joint Equip.No. 331.XA910 (9–1 and 2)
(2) Fixed support see dwg. 20188048
(1) Spool piece may be added for erection adjustment see dwg. 30121488

Isometric view
N.T.S



Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:50	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Duct (5–1)

Mat.: 1100 | Weight: 22799 | Welds: ISO–E | ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.
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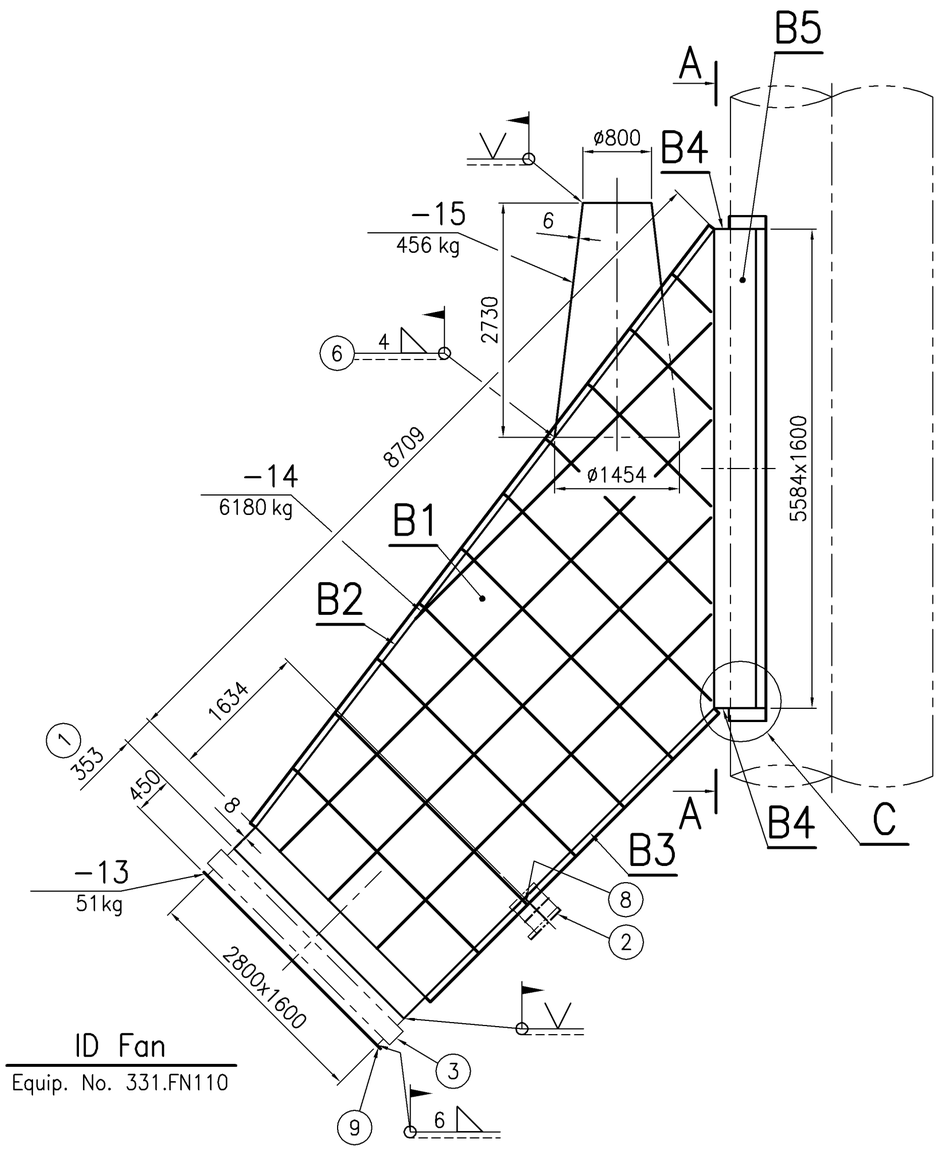
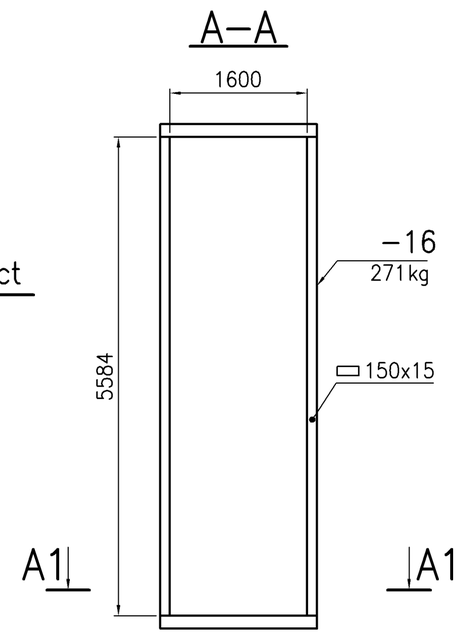
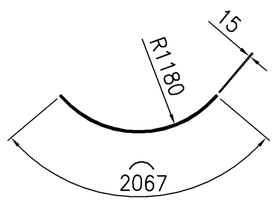
FLSmidth | No.: 10523215 | Ver.: 1.0

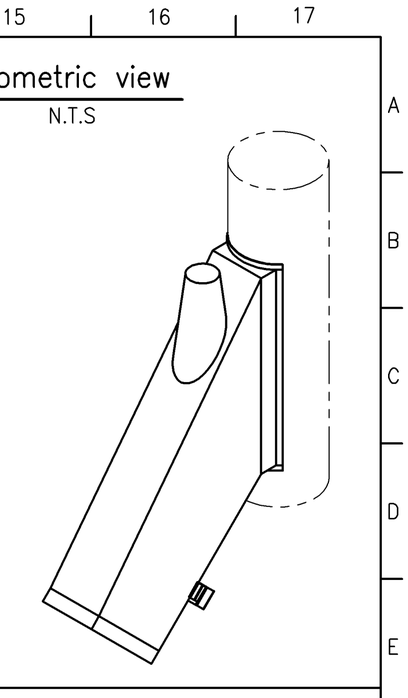


ID Fan
Equip. No. 331.FN110

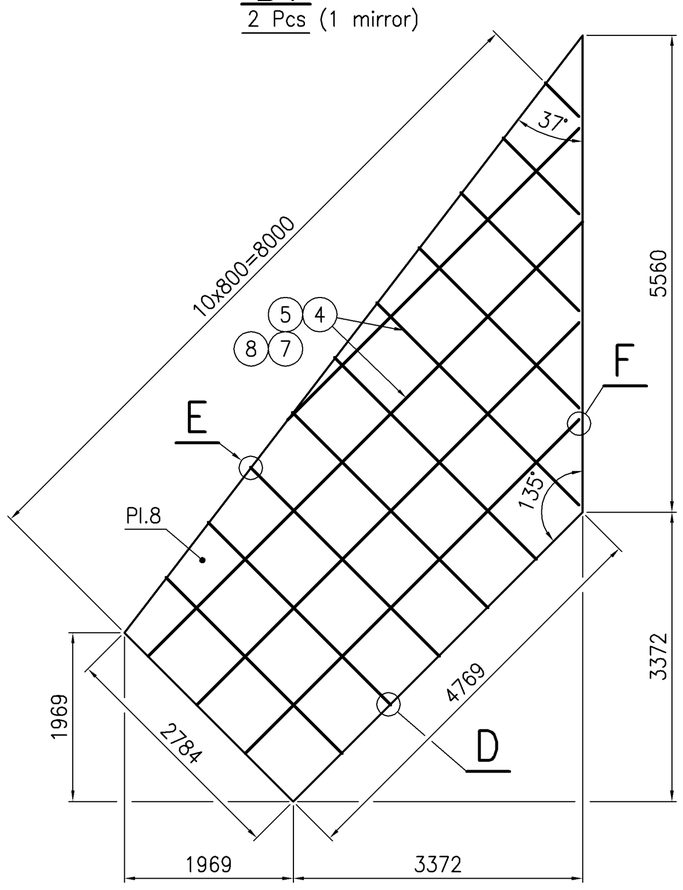
Existing Duct



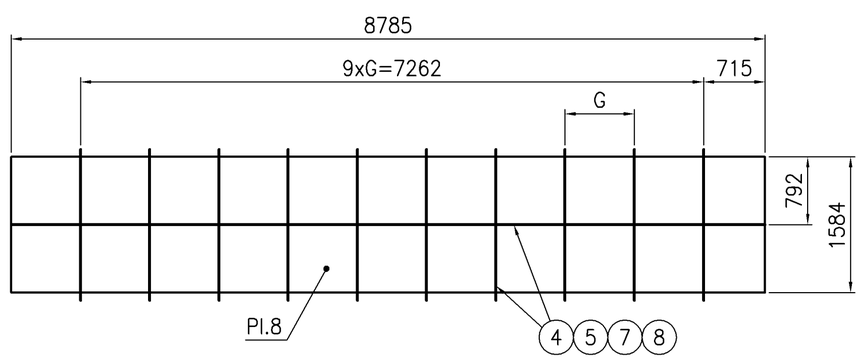




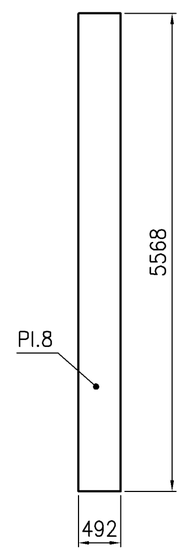
B1
2 Pcs (1 mirror)



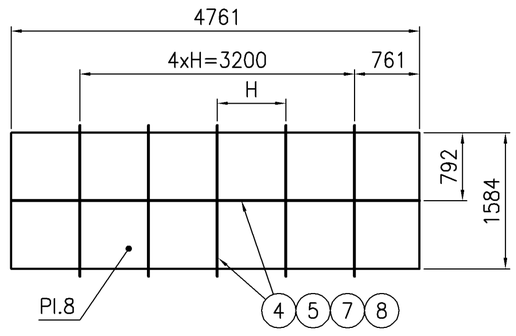
B2



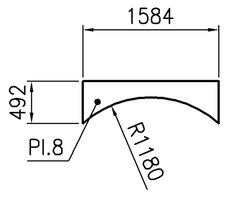
B5
2 Pcs



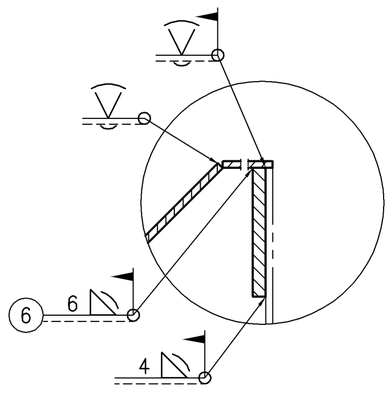
B3



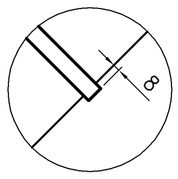
B4
2 Pcs



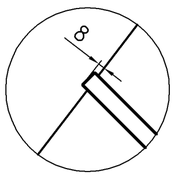
C
1:5



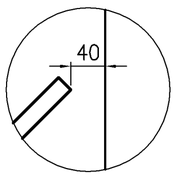
D
1:2



E
1:2



F
1:2



0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: −13

(9) Flange see dwg. 1.138000
(8) Stiffeners to be suitably cut and welded during assembly
(7) Corners of stiffening iron to be welded when the inlet plates are assembled
(6) To be suitably cut and welded at erection
(5) Guidelines for welding see dwg. 3.132400
(4) Stiffening iron ▭ 80x20
(3) Expansion joint Equip.No. 331.XA910 (9–3)
(2) Slide saddle see dwg. 20188052
(1) Spool piece may be added for erection adjustment see dwg. 30121488

Items to be divided according to Transport split–up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

5130.6	Steel plate	9.68 m²	1100	456
5130.8	Steel plate	70.7 m²	1100	4439
5530.150x15	Flat bar	15.3 m	1100	271
5530.60x12	Flat bar	9.04 m	1100	51
5530.80x20	Flat bar	138 m	1100	1741
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:50	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Duct (5–2)

Mat.: 1100 | Weight: 6958 | Welds: ISO–E | ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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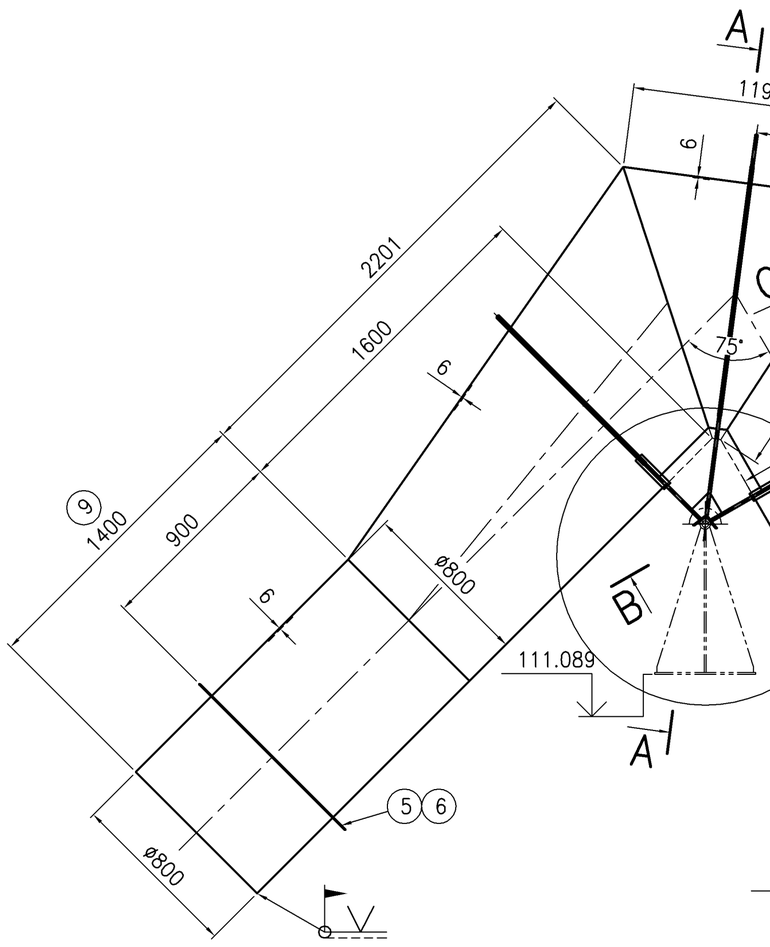
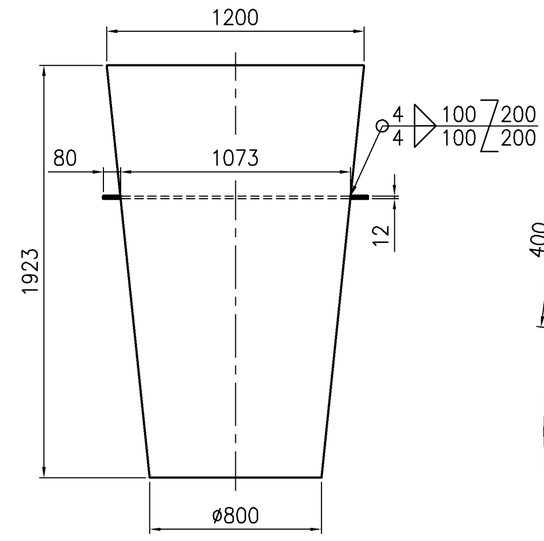
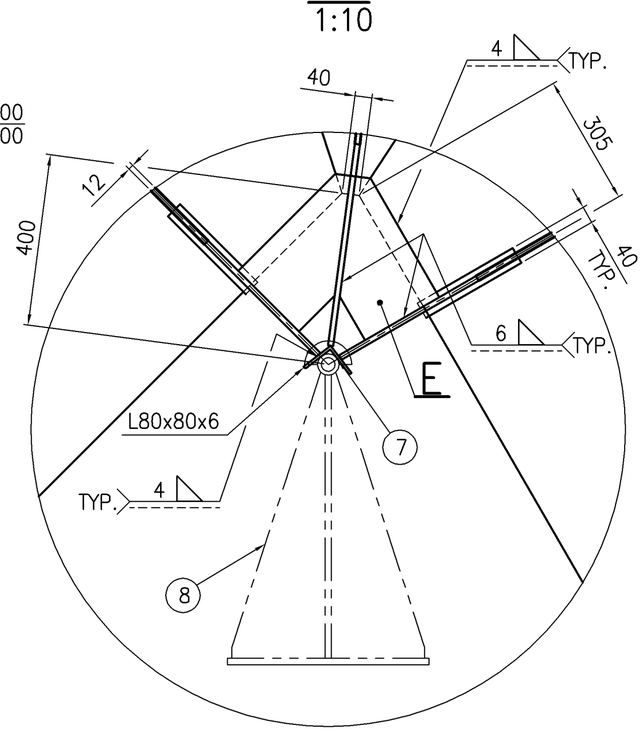
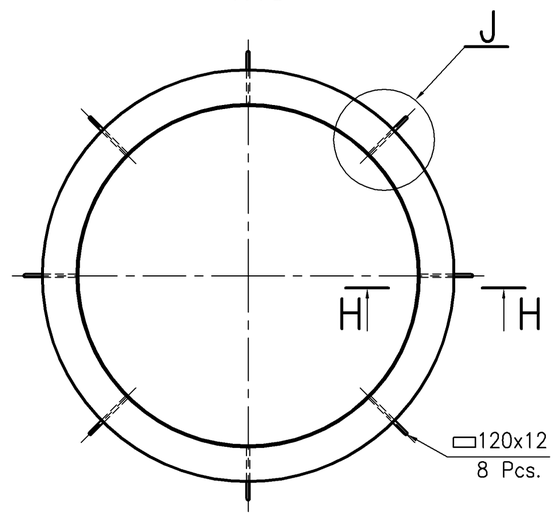


Duct (5-4)

See dwg. 20188047

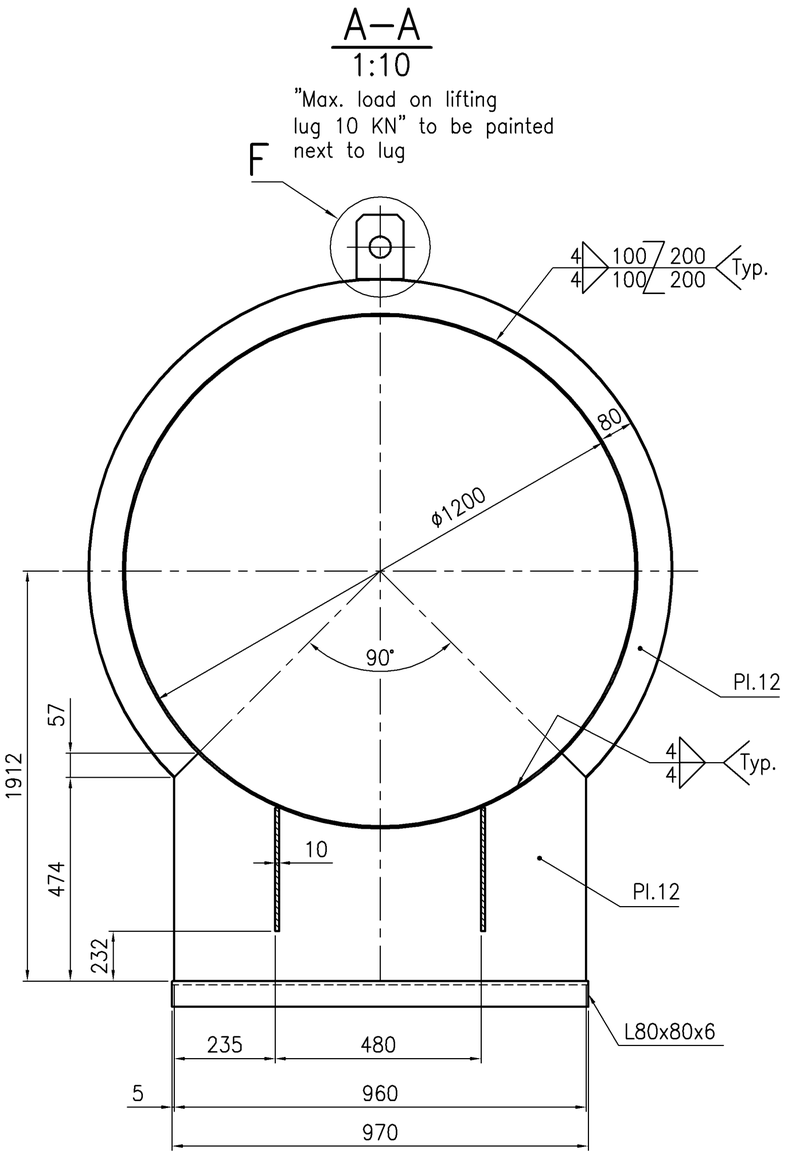


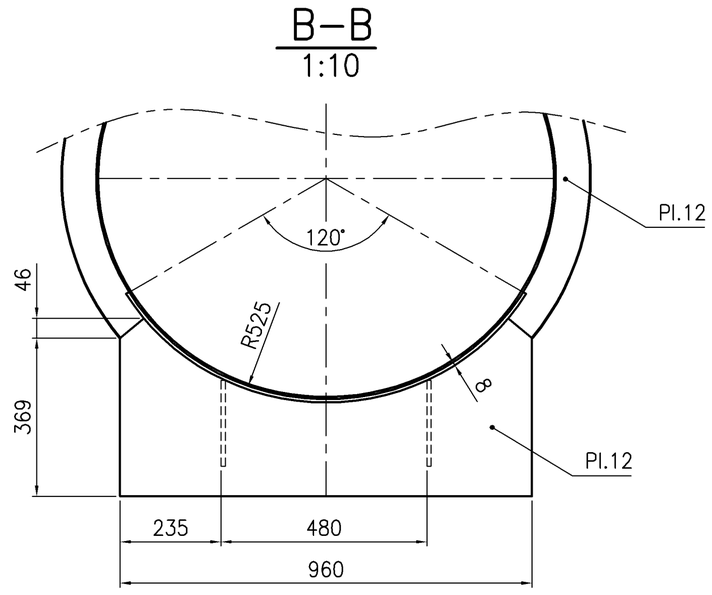


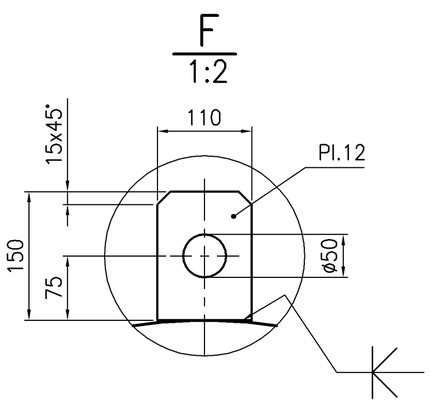


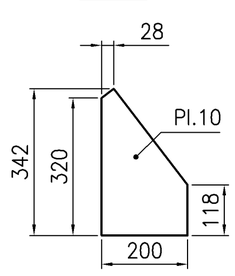
Duct (5-2)

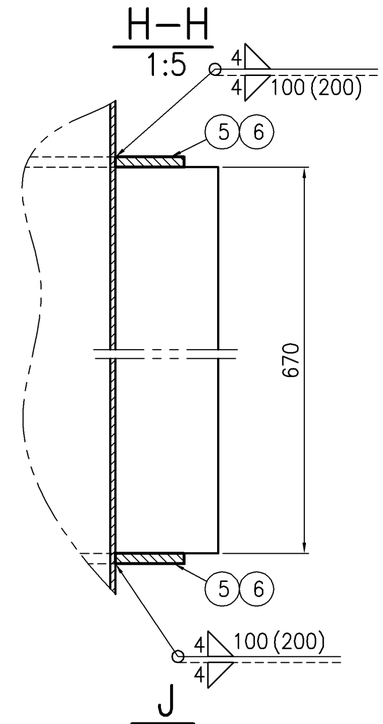
See dwg. 10523217

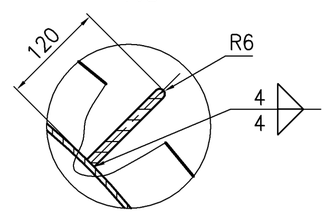










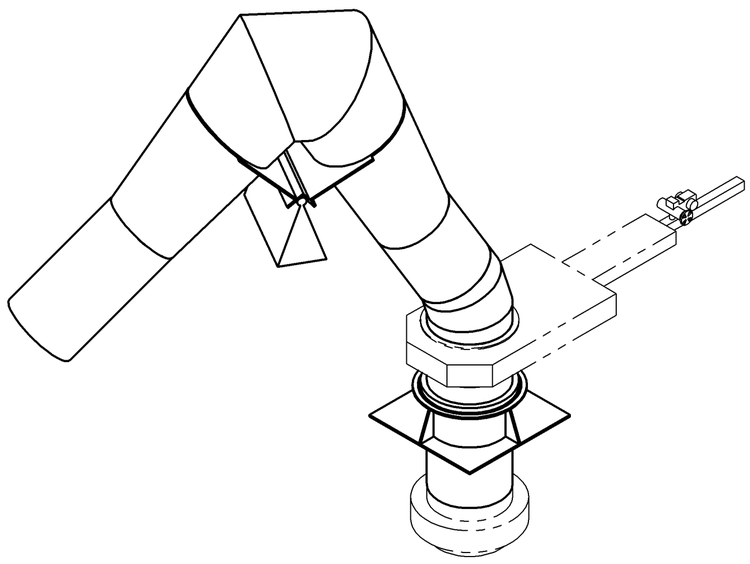


Markings to be painted on the individual parts with a weather-resistant white paint.
Markings to be noted in each individual packing list.
Example: -21

0.7t

Isometric view

N.T.S



(10) Flange to be tack welded at workshop
(9) Spool piece may be added for erection adjustment see dwg. 30121488
(8) Fixed bracket see dwg. 30121487
(7) Not to be weld
(6) Stiffening rings see dwg. 2.214000
(5) Stiffening ring h=80, t=12
(4) Existing Guillotine damper to be reused
(3) Slide bracket see dwg. 20188053
(2) Existing expansion joint to be reused
(1) FLS Standard Flange see dwg. 1.138000

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Items to be divided according to Transport split-up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

5130.10	Steel plate	0.2 m²	1100	15
5130.12	Steel plate	2.59 m²	1100	244
5130.6	Steel plate	26 m²	1100	1224
5130.8	Steel plate	0.18 m²	1100	11
5300.80x80x6	Equal angles	0.97 m	1100	7.2
5530.120x12	Flat bar	5.36 m	1100	61
5530.60x10	Flat bar	5.4 m	1100	25
Purchase Code	Description	Quantity	Mat.	Weight(kg)

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28-May-20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)-Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15-20000 331.XA910 Ducts
Duct (5-3)

Mat.: 1100	Weight: 1587	Welds: ISO-E	ISO-E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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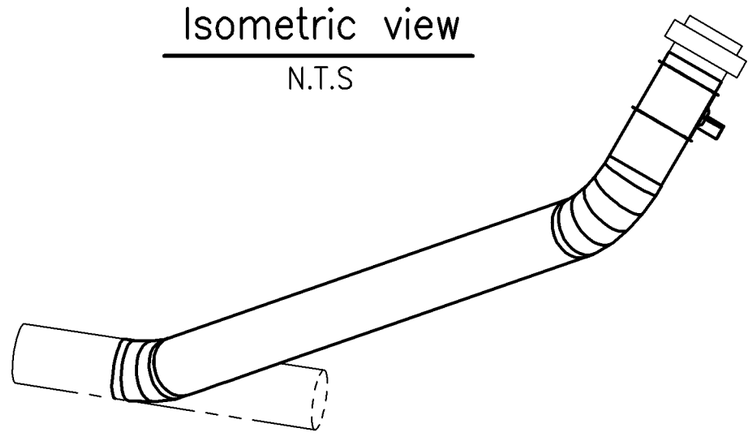
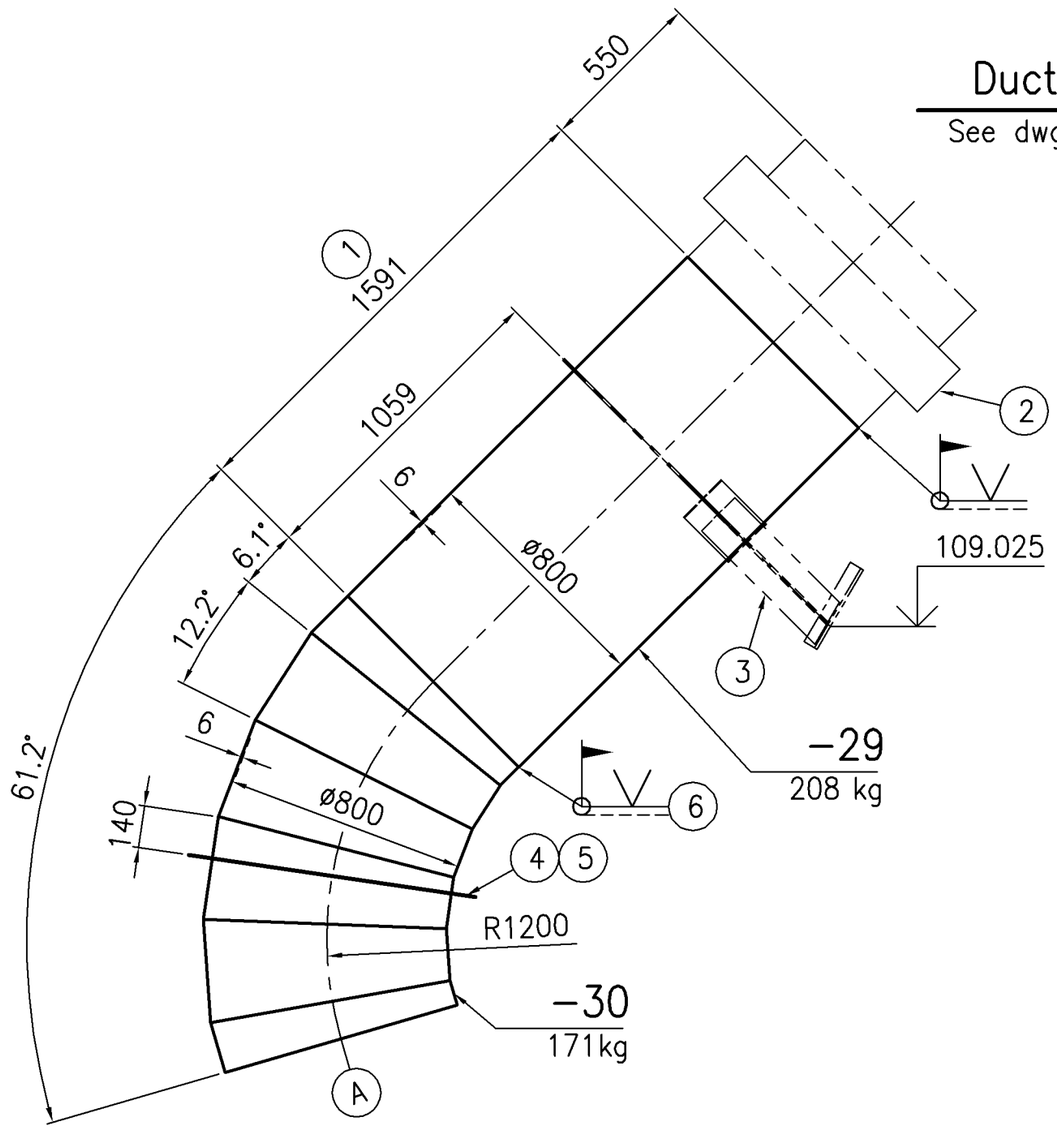
Isometric view

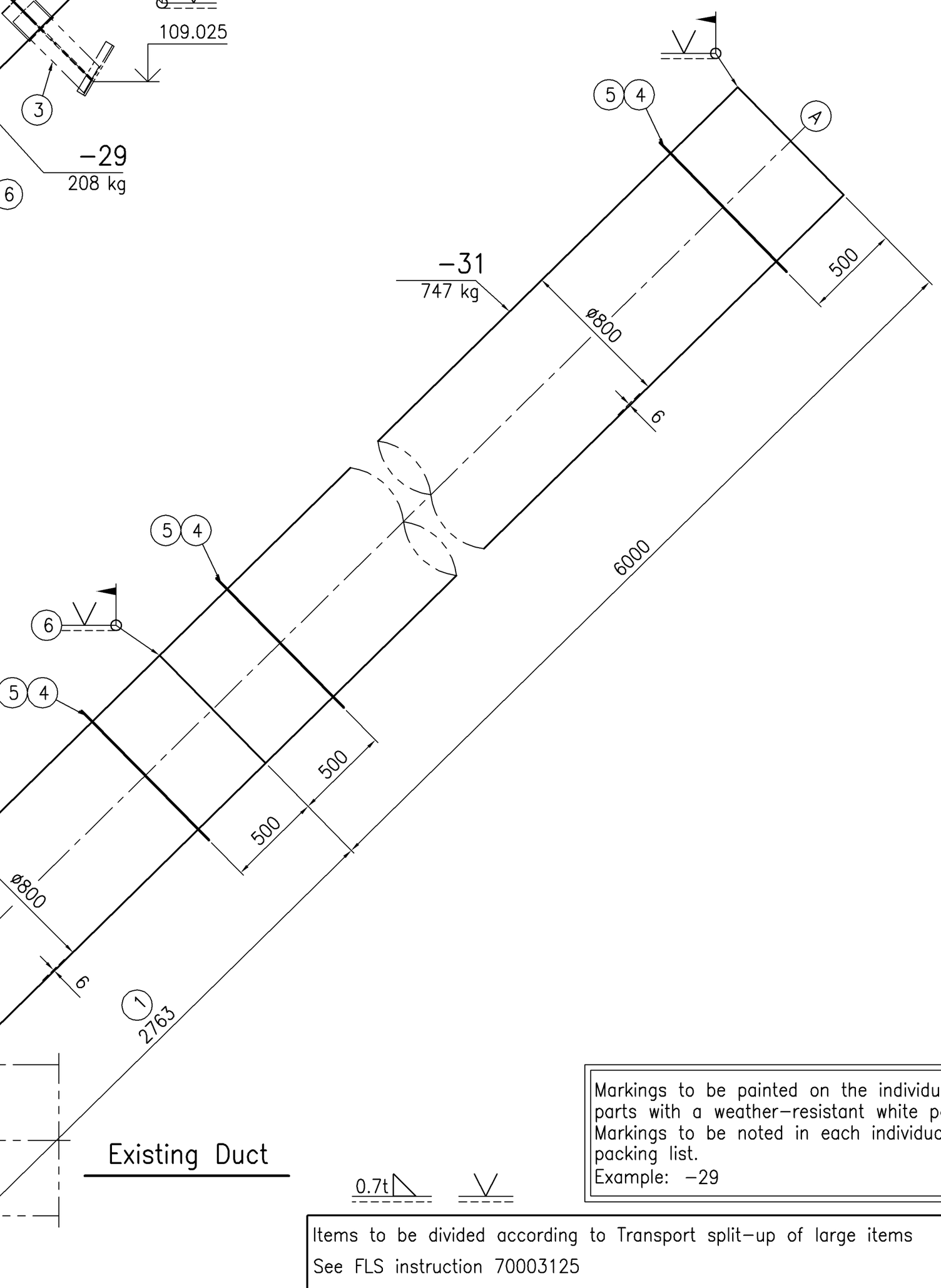
N.T.S



Duct (5–3)

See dwg. 10523218





Existing Duct

0.7t

Markings to be painted on the individual parts with a weather–resistant white paint. Markings to be noted in each individual packing list.
Example: –29

Items to be divided according to Transport split–up of large items
See FLS instruction 70003125

Bill of Quantities, Netto list / See FLS Instruction 7.000001

Purchase Code	Description	Quantity	Mat.	Weight(kg)
5130.12	Steel plate	1.11 m²	1100	104
5130.6	Steel plate	31.3 m²	1100	1476

(7) To be suitably cut and welded at erection
(6) To be suitably rotated and welded at erection
(5) Stiffening rings see dwg. 2.214000
(4) Stiffening ring h=80, t=12
(3) Slide saddle see dwg. 20188055
(2) Existing expansion joint to be reused
(1) Spool piece may be added for erection adjustment see dwg. 30121488

Erector's note:

Normal erection operations include the correction of minor misfits by moderate amounts of straightening, shimming, reaming, chipping, cutting or grinding and the drawing of elements into line through the use of drift pins. Misfits which cannot be corrected by the foregoing means or which require major changes in equipment configuration are to be reported immediately to the supplier by the erector, to enable the supplier either to correct the misfit or to approve the most efficient and economic method of correction to be implemented.

Scale:	Drawn	Appr.	Appr. Date	Zone/Descr.:
1:20	DA	NC	28–May–20	⊗ Pattern no.: embossed/countersunk

Industria Nacional del Cemento(INC)–Fabrica en Vallemi, Paraguay
331. Exhaust gas conditioning
15–20000 331.XA910 Ducts
Duct (5–4)

Mat.: 1100	Weight: 1580	Welds: ISO–E	ISO–E

Unless otherwise specified, adhere to General Workshop Instructions No. 520530.

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