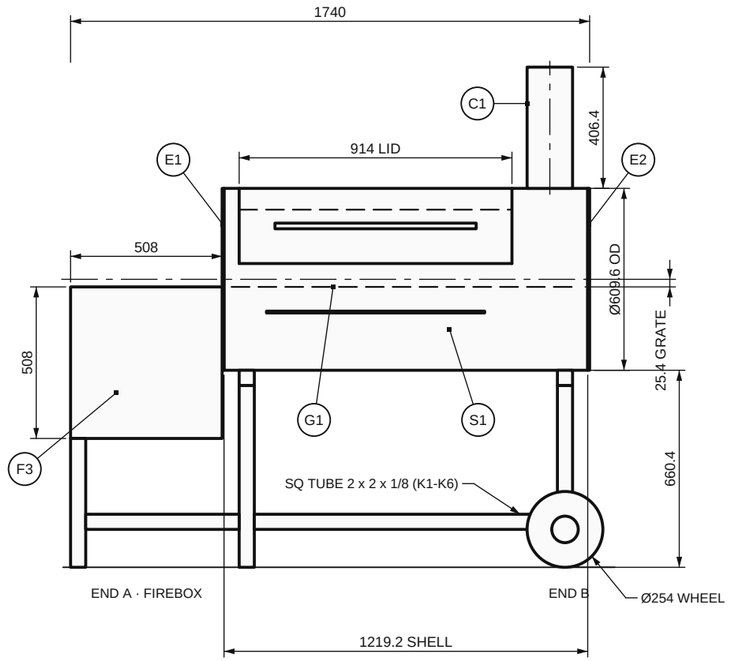
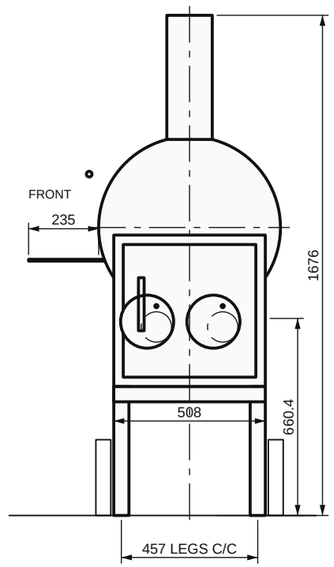



1 / 01 **FRONT ELEVATION**

SCALE 1:20




2 / 01 **VIEW ON END A**

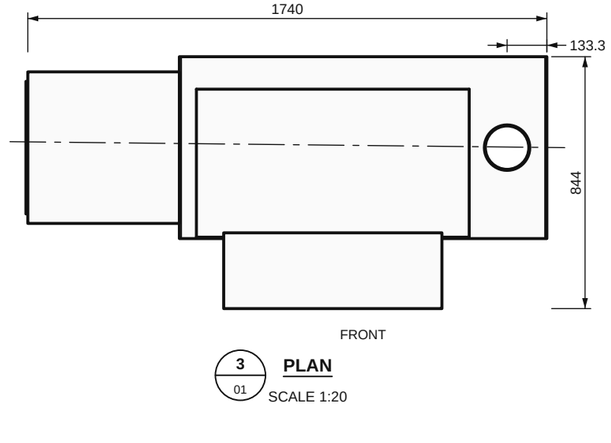
SCALE 1:20

## KEY SIZES

| | |
|---|---|
| **CHAMBER OD** | 609.6 |
| **SHELL LENGTH** | 1219.2 |
| **SHELL, CAPS** | 6.35 |
| **LID FRONT CUT** | 10° ABOVE AXIS |
| **LID ARC** | 120° |
| **LID END MARGIN** | 50.8 |
| **GRATE BELOW AXIS** | 25.4 |
| **FIREBOX W** | 508 |
| **FIREBOX L** | 508 |
| **FIREBOX H** | 508 |
| **FIREBOX PLATE** | 6.35 |
| **OPENING HEIGHT** | 101.6 |
| **AIR INLETS** | 2 |
| **INLET Ø** | 101.6 |
| **CHIMNEY OD** | 152.4 |
| **CHIMNEY WALL** | 3.4 |
| **CHIMNEY HEIGHT** | 406.4 |
| **FLOOR TO CHAMBER** | 660.4 |
| **WHEEL Ø** | 254 |

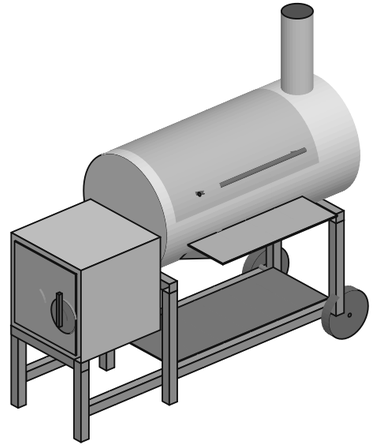
PARTS LIST, OPENINGS AND ITEM NUMBERS: RS3001-03. NOTES AND DESIGN DATA: RS3001-02.

UNITS: MILLIMETRES. DO NOT SCALE.




3 / 01 **PLAN**

SCALE 1:20



**ISOMETRIC**

NO SCALE

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

**RUTHEN SYSTEMS**

DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

TITLE

**OFFSET SMOKER — GENERAL ARRANGEMENT**

APPROVED BY

DRAWING NUMBER · SHEET · REV

**RS3001-01 · 1 OF 9 · A**

Drawn with the Ruthen Systems offset smoker drawing package generator · ruthensystems.com

## NOTES

### 1.0 GENERAL

- THESE DRAWINGS SHOW THE GEOMETRY AND FABRICATION OF A WOOD- OR CHARCOAL-FIRED OFFSET SMOKER FOR COOKING FOOD OUTDOORS. THEY DO NOT COVER THE STAND, WHEELS, HANDLES, HINGES, GASKETS OR THERMOMETERS, WHICH ARE BOUGHT OR DESIGNED BY THE PURCHASER.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS.
- THE SHELL IS DEVELOPED AT ITS MEAN DIAMETER WITH THE SEAM AT THE BOTTOM. FROM PLATE: CUT THE BLANK AND THE LID, ROLL, WELD THE SEAM. FROM PIPE: USE THE SAME LAYOUT AS A WRAP TEMPLATE FOR THE LID AND CHIMNEY HOLE.
- CUT PLATE PARTS FROM THE DXF FILES AT 1:1.

### 2.0 MATERIALS AND SAFETY

- S1, E1, E2, F5: NEW MILD STEEL PLATE OR PIPE, 6.35 mm. F1 TO F4, D1, D2: NEW MILD STEEL PLATE, 6.35 mm. C1: NEW STEEL PIPE.
- NEVER CUT OR WELD A USED PROPANE, FUEL, AIR OR CHEMICAL TANK FOR THIS BUILD. HOT WORK ON TANKS THAT HELD FLAMMABLES HAS KILLED WORKERS EVEN WHEN THE TANK WAS THOUGHT EMPTY (US CHEMICAL SAFETY BOARD). THESE DRAWINGS GIVE NO PROCEDURE FOR IT.
- NO GALVANIZED OR PLATED STEEL ANYWHERE THE FIRE OR HOT SMOKE REACHES: HEATED ZINC GIVES OFF ZINC OXIDE FUMES.
- CHECK THE LOCAL FIRE AND OPEN-BURNING BYLAW FOR WHERE AND HOW A SMOKER MAY BE USED.

### 3.0 FABRICATION

- REMOVE BURRS AND SLAG. MARK EACH PART WITH ITS PIECE MARK.
- CUT THE LID LAST AND IN STAGES, TACKING STRAPS ACROSS THE CUT, SO THE SHELL DOES NOT SPRING OUT OF ROUND.
- WELDS: CONTINUOUS FILLETS FOR SMOKE TIGHTNESS UNLESS NOTED; WELDER TO SUIT THE MATERIAL. NO WELD SIZES ARE GIVEN.

### 4.0 FINISH

- OUTSIDE: HIGH-TEMPERATURE PAINT SUITABLE FOR GRILLS, BY PURCHASER. INSIDE: BARE STEEL, SEASONED WITH COOKING OIL AND A FIRST BURN BEFORE FOOD IS COOKED.

### 5.0 CHECKS

- SHELL ROUND WITHIN THE PURCHASER'S TOLERANCE AFTER THE LID IS CUT; LID CLOSES ALONG BOTH CUTS; FIREBOX SQUARE AND TIGHT TO E1 AND F5; GRATES LEVEL AT 25.4 BELOW THE AXIS.
- TOLERANCES TO BE AGREED BETWEEN PURCHASER AND FABRICATOR.

### 6.0 DESIGN BASIS

- SIZES AS TYPED: CHAMBER OD 609.6 x 1219.2; FIREBOX 508 x 508 x 508 OUTSIDE; OPENING 495 WIDE x 101.6; 2-Ø101.6 AIR INLETS; CHIMNEY OD 152.4 x 406.4 ABOVE THE SHELL.
- RULES OF THUMB IN THE TABLE ON THIS SHEET ARE FROM FELDON'S BBQ PIT / SMOKER BUILD CALCULATOR: FIREBOX ABOUT 1/3 OF THE COOK CHAMBER VOLUME ("A SLIGHTLY OVERSIZED FIREBOX IS PREFERABLE"); OPENING 0.008 SQ IN AND AIR INLET 0.003 SQ IN PER CU IN OF FIREBOX; CHIMNEY VOLUME 5% OF THE FIREBOX; A GREASE BRIDGE OF AT LEAST 1 1/2 IN BELOW THE OPENING. OTHER BUILDERS USE OTHER RATIOS; NONE IS A GUARANTEE OF HOW THE SMOKER DRAWS.
- NOT INCLUDED: STAND, WHEELS, TRAILER, LIFTING, HINGES, HANDLES, COUNTERWEIGHT, GASKETS, THERMOMETERS, GRATE FRAMES, PAINT, OR ANY FOOD-CONTACT OR REGULATORY REQUIREMENT.
- FLAT PATTERNS, CUT FILES AND THESE SHEETS ARE PRODUCED FROM THE SAME GEOMETRY.

### DESIGN DATA

| | |
|---|---|
| **COOK CHAMBER, INSIDE** | 341.2 L |
| **FIREBOX, INSIDE** | 123.1 L |
| **COOKING GRATES** | 2 x 569 x 581 = 6616 SQ CM |
| **COOKING HEIGHT (GRATE ABOVE FLOOR)** | 940 |
| **OVERALL L x W x H** | 1746 x 844 x 1676 |
| **STEEL WEIGHT, EMPTY** | 263.7 kg (BOUGHT PARTS, GRATES, SHELVES EXCLUDED) |
| **FUEL** | WOOD OR CHARCOAL |
| **PRESSURE** | NONE: OPEN TO THE AIR THROUGH C1, NOT A PRESSURE VESSEL |

### RULES OF THUMB (FELDON'S SMOKER CALCULATOR)

| CHECK | RULE | THIS DESIGN | % |
|---|---|---|---|
| FIREBOX VOLUME, INSIDE | 1/3 CHAMBER = 113.7 L | 123.1 L | 108% |
| OPENING FIREBOX TO CHAMBER | 388 SQ CM | 503 SQ CM | 130% |
| AIR INLET AREA | 145 SQ CM | 162 SQ CM | 112% |
| CHIMNEY VOLUME | 5% FIREBOX = 6.2 L | 6.9 L | 113% |
| GREASE BRIDGE BELOW OPENING | MIN 38.1 | 165 | 433% |

BUILDERS' RULES OF THUMB, NOT ENGINEERING; BUILDERS DISAGREE ON THEM (NOTE 6.0).

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

DESIGNED: — | DRAWN: RS 10 Nov 2026 | CHECKED: RS 10 Nov 2026

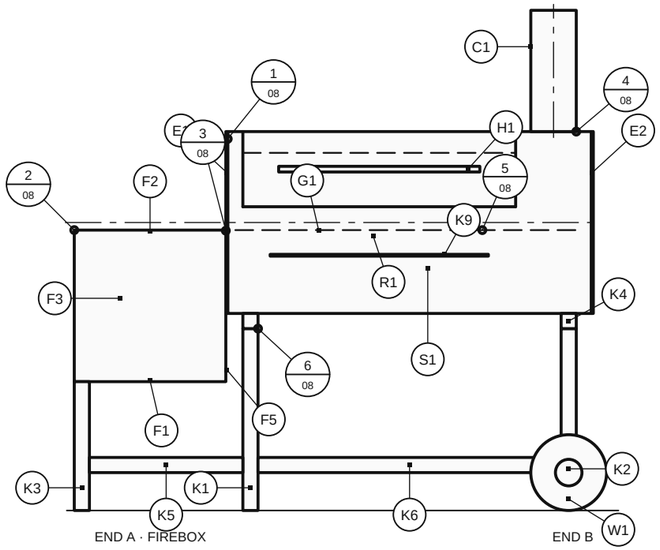
**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — GENERAL NOTES AND DESIGN DATA**

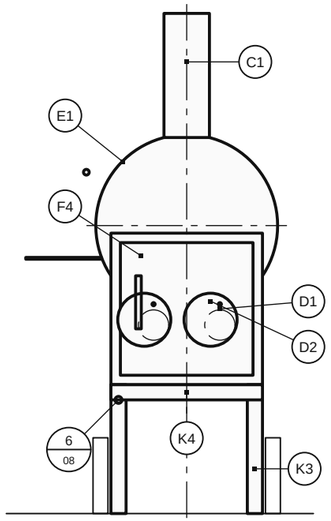
APPROVED BY

DRAWING NUMBER · SHEET · REV
**RS3001-02 · 2 OF 9 · A**




1 / 03 **FRONT ELEVATION**

SCALE 1:20




2 / 03 **VIEW ON END A**

SCALE 1:20

## NOTES

1. ITEM NUMBERS IN CIRCLES REFER TO THE PARTS LIST. DETAIL BUBBLES (NUMBER OVER SHEET) REFER TO RS3001-08.
2. WELDMENT OS1 IS BUILT AS THREE SUB-ASSEMBLIES: CHAMBER (S1, E1, E2, C1, R1), FIREBOX (F1 TO F5, D1, D2; RS3001-06) AND CART (K1 TO K9; RS3001-07).
3. READ WITH RS3001-02 GENERAL NOTES.

## PARTS LIST

| ITEM | QTY | DESCRIPTION | SIZE | MATERIAL | SHT |
|---|---|---|---|---|---|
| S1 | 1 | PL6.35 SHELL OD609.6 x 1219.2, LID CUT OUT | 1895 x 1219.2 BLANK | MS PLATE | 04 |
| E1 | 1 | PL6.35 END CAP A, FIREBOX OPENING | Ø609.6 | MS PLATE | 05 |
| E2 | 1 | PL6.35 END CAP B | Ø609.6 | MS PLATE | 05 |
| F1 | 1 | PL6.35 FIREBOX BOTTOM | 508 x 508 | MS PLATE | 06 |
| F2 | 1 | PL6.35 FIREBOX TOP | 508 x 508 | MS PLATE | 06 |
| F3 | 2 | PL6.35 FIREBOX SIDE | 508 x 495 | MS PLATE | 06 |
| F4 | 1 | PL6.35 FIREBOX BACK, DOOR OPENING | 495 x 495 | MS PLATE | 06 |
| F5 | 1 | PL6.35 FIREBOX FRONT, FITS ROUND E1 | 508 x 365 | MS PLATE | 05 |
| D1 | 1 | PL6.35 FIREBOX DOOR, 2-Ø101.6 INLETS | 445 x 445 | MS PLATE | 06 |
| D2 | 2 | PL6.35 INLET DAMPER DISC | Ø178 | MS PLATE | 06 |
| C1 | 1 | PIPE OD152.4 x 3.4 WALL, SADDLE END | 416 LONG | STEEL PIPE | 05 |
| G1 | 2 | COOKING GRATE, EXPANDED METAL IN A FLAT-BAR FRAME (BY SHOP) | 569 x 581 | EXP. METAL | 07 |
| R1 | 2 | ANGLE L38.1 x 38.1 x 4.76, GRATE RAIL | 1168 LONG | MS ANGLE | 07 |
| K1 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) LEG, END A | 610 LONG | MS SQ TUBE | 07 |
| K2 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) LEG, END B, Ø20.65 AXLE HOLE AT THE FOOT | 483 LONG | MS SQ TUBE | 07 |
| K3 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) LEG UNDER THE FIREBOX | 432 LONG | MS SQ TUBE | 07 |
| K4 | 3 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) CROSS MEMBER (2 UNDER THE CHAMBER, 1 UNDER THE FIREBOX) | 508 LONG | MS SQ TUBE | 07 |
| K5 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) SIDE RAIL, FIREBOX LEG TO LEG A | 514 LONG | MS SQ TUBE | 07 |
| K6 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) SIDE RAIL, LEG A TO LEG B | 1016 LONG | MS SQ TUBE | 07 |
| K7 | 1 | ROUND BAR Ø19.05, AXLE | 648 LONG | MS ROUND BAR | 07 |
| K8 | 1 | WOOD SHELF, EXPANDED METAL ON THE SIDE RAILS, BY SHOP | 1016 x 406 | EXP. METAL | 07 |
| K9 | 1 | FRONT SHELF ON TWO BRACKETS, BY SHOP | 732 x 254 | BY SHOP | 07 |
| W1 | 2 | WHEEL Ø254 FOR A Ø19.05 AXLE, BOUGHT | Ø254 | BOUGHT | 07 |
| H1 | 2 | HANDLE, LID AND DOOR, COOL-TOUCH SPRING OR ROUND BAR, BOUGHT | — | BOUGHT | 09 |

STEEL: 263.7 kg. MS = NEW MILD STEEL (NOTE 2.0).

## SCHEDULE OF OPENINGS

| SYM | IN | DESCRIPTION | SIZE / POSITION | SHT |
|---|---|---|---|---|
| L | S1 | LID, CUT FROM THE SHELL, HINGED ON ITS REAR CUT | 632 x 914 FLAT; 10° TO 130° | 04 |
| C | S1 | CHIMNEY HOLE = C1 BORE, ON TOP | Ø145.6 @ 1092 FROM END A | 04 |
| T | E1 | FIREBOX OPENING (THROAT) | 495 x 101.6; TOP 31.8 BELOW AXIS | 05 |
| D | F4 | FIREBOX DOOR OPENING | 394 x 394, 50.8 MARGIN | 06 |
| I | D1 | AIR INLETS WITH D2 DAMPERS | 2-Ø101.6 @ 168 UP | 06 |
| A | K2 | AXLE HOLES AT THE FOOT | Ø20.65 THRU | 07 |

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

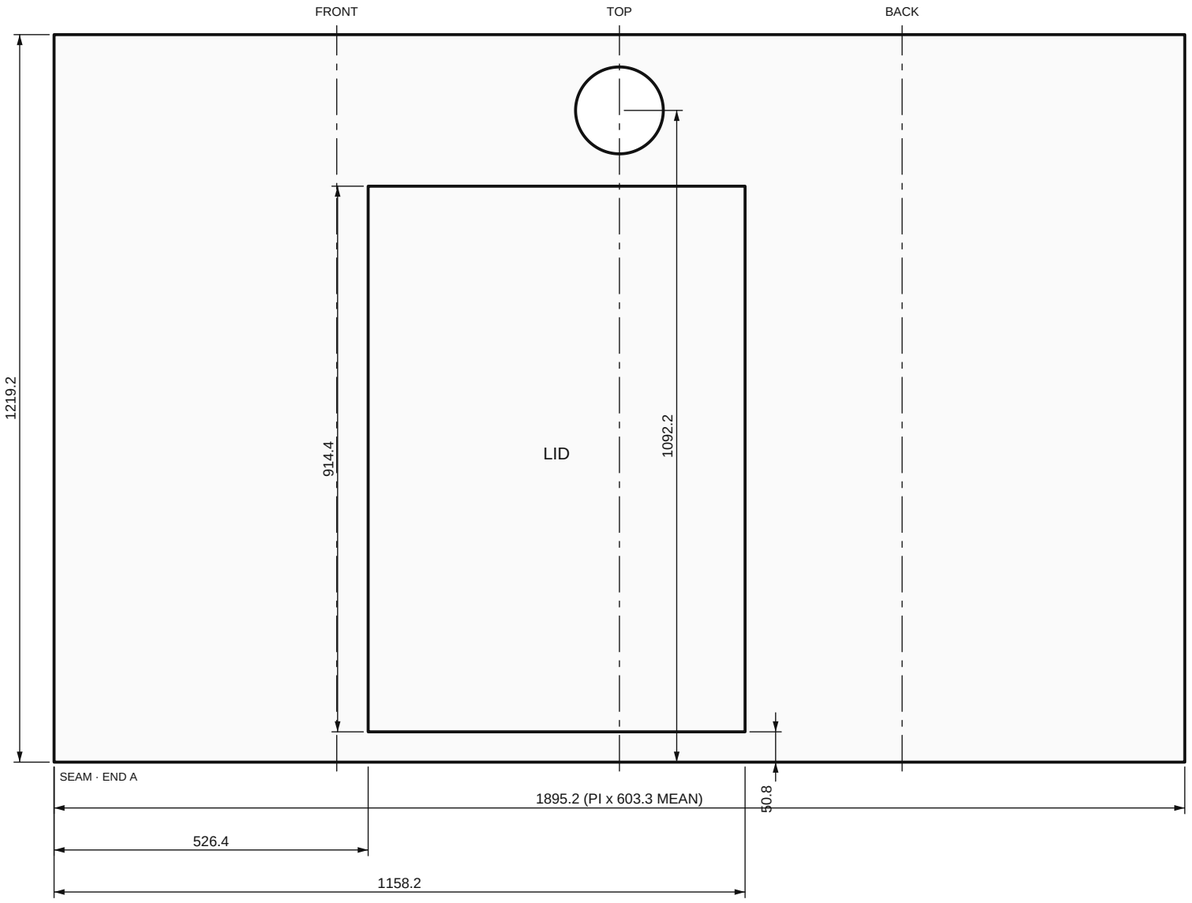
**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — WELDMENT ASSEMBLY OS1 — PARTS LIST**

APPROVED BY

DRAWING NUMBER · SHEET · REV
**RS3001-03 · 3 OF 9 · A**




1 / 04 **S1 — SHELL DEVELOPED AT MEAN DIAMETER (OUTSIDE FACE UP)**

SCALE 1:10 · PL6.35

## S1 SHELL

| | |
|---|---|
| **BLANK** | 1895.2 x 1219.2 |
| **MEAN DIAMETER** | 603.3 |
| **LID, ROUND** | 526.4 TO 1158.2 FROM SEAM |
| **LID, ALONG** | 50.8 TO 965.2 FROM END A |
| **LID SIZE (FLAT)** | 631.7 x 914.4 |
| **CHIMNEY HOLE** | Ø145.6 (C1 INSIDE), CENTRE 1092.2 FROM END A, ON TOP |

ROUND DISTANCES ARE ON THE DEVELOPED BLANK (MEAN DIAMETER), FROM THE SEAM AT THE BOTTOM: FRONT AT 473.8, TOP AT 947.6, BACK AT 1421.4.

THE CHIMNEY HOLE IS THE INTERSECTION OF C1'S BORE WITH THE SHELL AT MEAN DIAMETER, SAMPLED AT 144 POINTS.

THE LID IS THE PIECE CUT OUT OF S1; IT IS HINGED BACK ON ALONG ITS REAR CUT. HINGES, HANDLE AND ANY COUNTERWEIGHT BY PURCHASER; OFFSET THE HINGE PIN FROM THE CUT SO THE LID CLEARS.

CUT FILE: RS3001-101_A_shell-developed.dxf

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

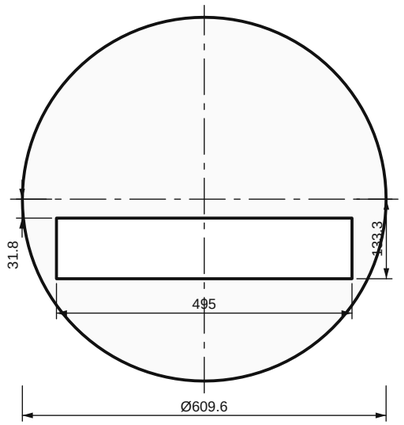
ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — S1 SHELL — DEVELOPED**

APPROVED BY

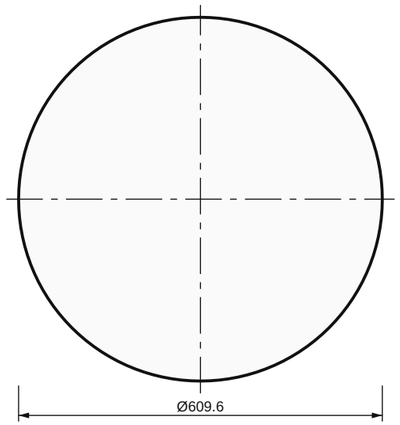
DRAWING NUMBER · SHEET · REV
**RS3001-04 · 4 OF 9 · A**

Drawn with the Ruthen Systems offset smoker drawing package generator · ruthensystems.com



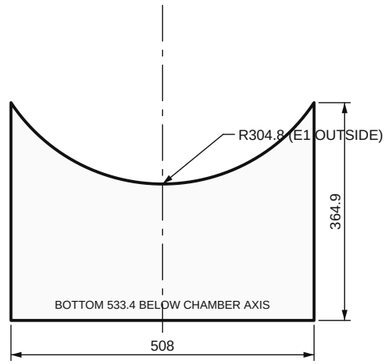

1 / 05 — **E1 — END CAP A**

SCALE 1:10 · PL6.35



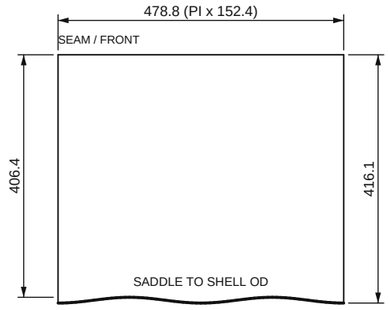

2 / 05 — **E2 — END CAP B**

SCALE 1:10 · PL6.35




3 / 05 — **F5 — FIREBOX FRONT**

SCALE 1:10 · PL6.35




4 / 05 — **C1 — CHIMNEY WRAP TEMPLATE (OUTSIDE OF THE PIPE)**

SCALE 1:10

## NOTES

E1: THE OPENING IS THE FIREBOX'S INSIDE WIDTH (495) BY 101.6 DOWN FROM THE FIREBOX'S INSIDE TOP, KEPT INSIDE THE SHELL. GREASE BRIDGE 165 BELOW IT.

E1, E2: CAPS SIT ON THE SHELL ENDS, FLUSH WITH THE OUTSIDE.

F5: LIES IN THE PLANE OF E1 AND CLOSES THE FIREBOX FRONT BELOW AND BESIDE THE CHAMBER; ITS ARC FITS ROUND E1.

C1: CUT LENGTH 416.1 AT THE SIDES, 406.4 AT THE FRONT AND BACK; THE SADDLE (9.7 DEEP) FITS THE SHELL'S OUTSIDE. PRINT THE TEMPLATE AT 1:1 FROM ITS DXF AND WRAP IT ROUND THE PIPE, SEAM LINES AT THE FRONT.

CUT FILES: RS3001-102_A_end-cap-a.dxf, RS3001-103_A_end-cap-b.dxf, RS3001-108_A_firebox-front.dxf, RS3001-111_A_chimney-wrap-template.dxf

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

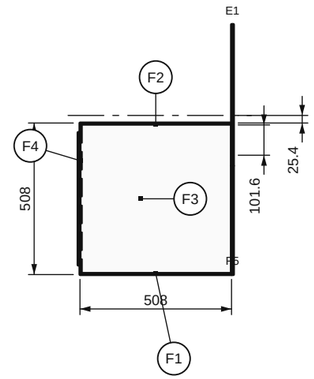
**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — END CAPS, FIREBOX FRONT, CHIMNEY**

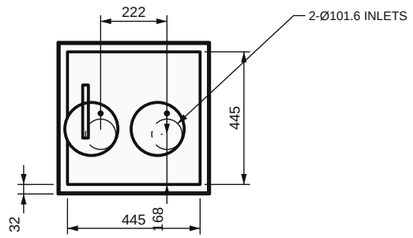
APPROVED BY

DRAWING NUMBER · SHEET · REV
**RS3001-05 · 5 OF 9 · A**



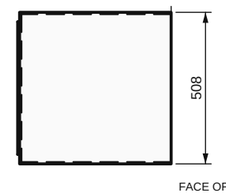

1 / 06 **FIREBOX — FRONT**

SCALE 1:20



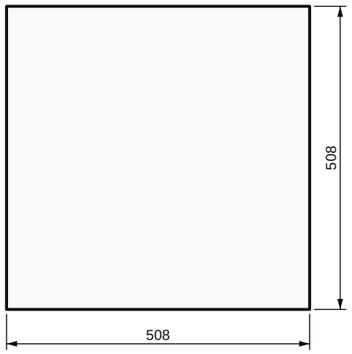

2 / 06 **FIREBOX — VIEW ON DOOR**

SCALE 1:20



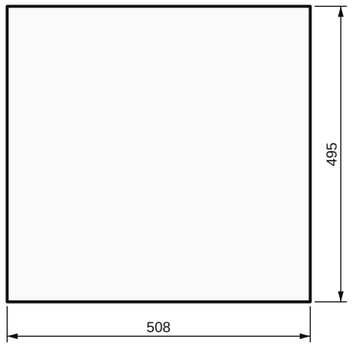

3 / 06 **FIREBOX — TOP**

SCALE 1:20



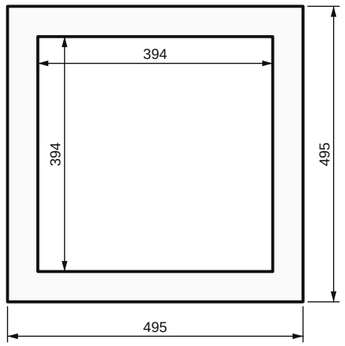

4 / 06 **F1, F2**

SCALE 1:10 · PL6.35



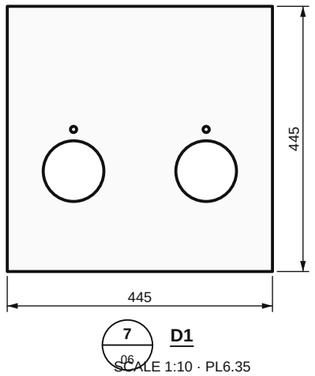

5 / 06 **F3 (2)**

SCALE 1:10 · PL6.35




6 / 06 **F4**

SCALE 1:10 · PL6.35




7 / 06 **D1**

SCALE 1:10 · PL6.35

## NOTES

1. F1, F2 RUN THE FULL WIDTH; F3 FITS BETWEEN THEM; F4 FITS INSIDE ALL FOUR AT THE BACK. FRONT EDGES BUTT ON E1 AND F5 (DETAIL 3/08).
2. D1 LAPS THE F4 OPENING 25.4 ALL ROUND; HINGES AND LATCH BY PURCHASER. D2 (QTY 2): DISC Ø178 PL6.35, PIVOT HOLE Ø10.3 70 FROM ITS CENTRE, ON A BOLT THROUGH THE D1 PIVOT HOLE.
3. CHECK THE FIREBOX SQUARE AND ITS INSIDE 495 x 495 BEFORE WELDING TO E1.

CUT FILES: RS3001-104_A_firebox-bottom.dxf, RS3001-105_A_firebox-top.dxf, RS3001-106_A_firebox-side.dxf, RS3001-107_A_firebox-back.dxf, RS3001-109_A_firebox-door.dxf, RS3001-110_A_inlet-damper.dxf

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

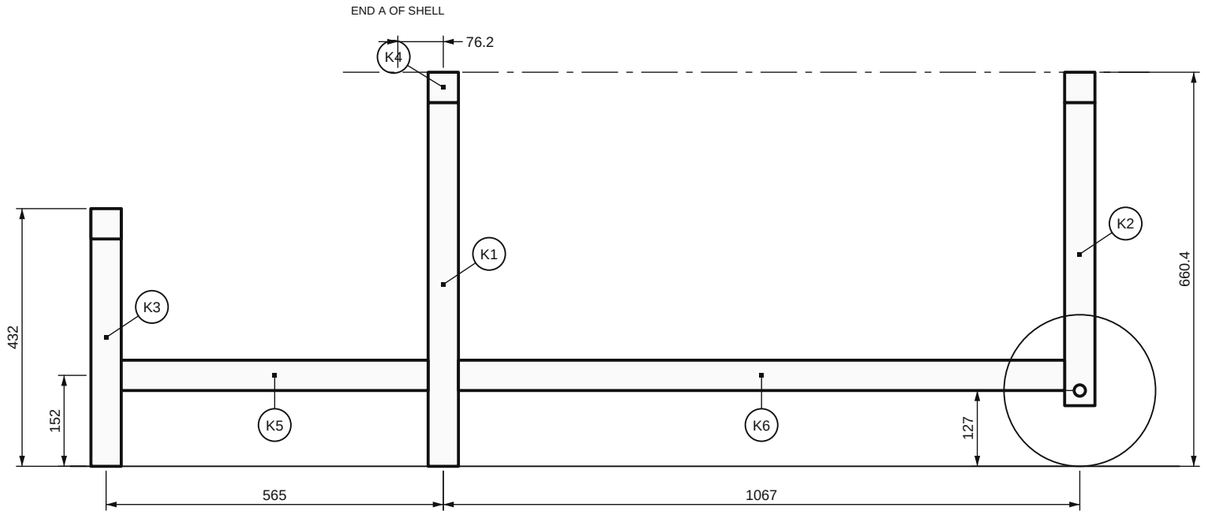
**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — FIREBOX WELDMENT AND PLATES**

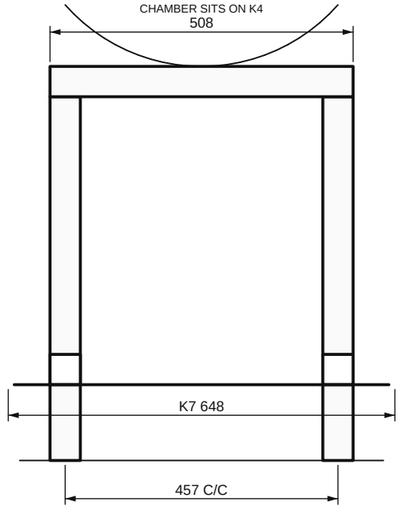
APPROVED BY

DRAWING NUMBER · SHEET · REV
**RS3001-06 · 6 OF 9 · A**



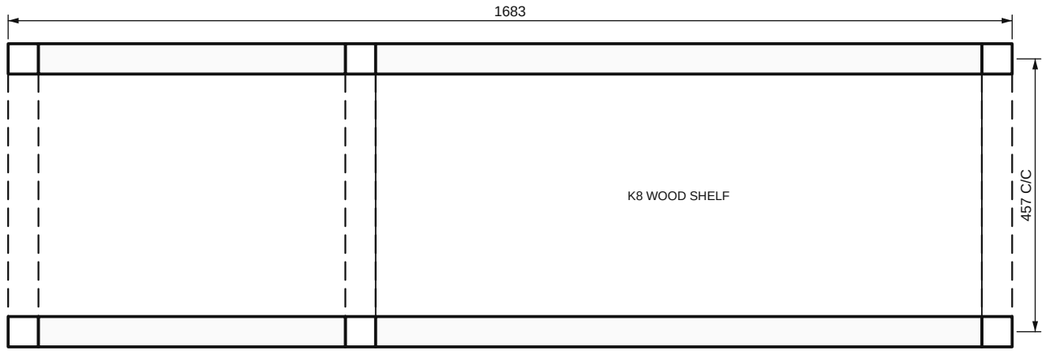

1 / 07 **CART — FRONT**

SCALE 1:10




2 / 07 **CART — VIEW ON END A**

SCALE 1:10




3 / 07 **CART — PLAN**

SCALE 1:10

## CUT LIST

| ITEM | QTY | DESCRIPTION | CUT / SIZE |
|---|---|---|---|
| G1 | 2 | COOKING GRATE, EXPANDED METAL IN A FLAT-BAR FRAME (BY SHOP) | 569 x 581 |
| R1 | 2 | ANGLE L38.1 x 38.1 x 4.76, GRATE RAIL | 1168 LONG |
| K1 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) LEG, END A | 610 LONG |
| K2 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) LEG, END B, Ø20.65 AXLE HOLE AT THE FOOT | 483 LONG |
| K3 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) LEG UNDER THE FIREBOX | 432 LONG |
| K4 | 3 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) CROSS MEMBER (2 UNDER THE CHAMBER, 1 UNDER THE FIREBOX) | 508 LONG |
| K5 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) SIDE RAIL, FIREBOX LEG TO LEG A | 514 LONG |
| K6 | 2 | SQUARE TUBE 50.8 x 50.8 x 3.18 (2 x 2 x 1/8 IN) SIDE RAIL, LEG A TO LEG B | 1016 LONG |
| K7 | 1 | ROUND BAR Ø19.05, AXLE | 648 LONG |
| K8 | 1 | WOOD SHELF, EXPANDED METAL ON THE SIDE RAILS, BY SHOP | 1016 x 406 |
| K9 | 1 | FRONT SHELF ON TWO BRACKETS, BY SHOP | 732 x 254 |
| W1 | 2 | WHEEL Ø254 FOR A Ø19.05 AXLE, BOUGHT | Ø254 |

SQUARE TUBE 2 x 2 x 1/8 IN (50.8 x 50.8 x 3.18), ANY COMMON MILD-STEEL TUBE; SQUARE CUTS. LEGS ON 457 CENTRES (FIREBOX WIDTH LESS ONE TUBE). K4 CARRY THE CHAMBER (DETAIL 6/08) AND THE FIREBOX. NOT FOR TOWING OR LIFTING.

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

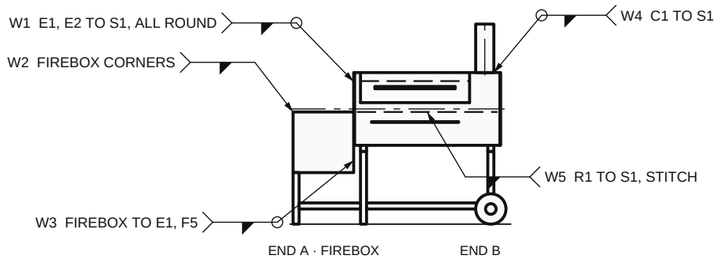
ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — CART WELDMENT AND CUT LIST**

APPROVED BY

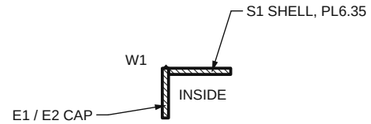
DRAWING NUMBER · SHEET · REV
**RS3001-07 · 7 OF 9 · A**

Drawn with the Ruthen Systems offset smoker drawing package generator · ruthensystems.com



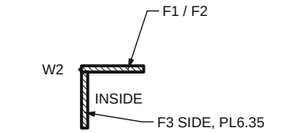

**WELD LOCATIONS**

SCALE 1:50



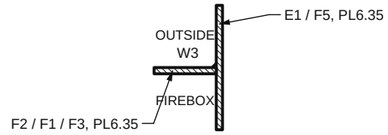

1 / 08 **CAP TO SHELL (W1)**

NO SCALE




2 / 08 **FIREBOX CORNER (W2)**

NO SCALE



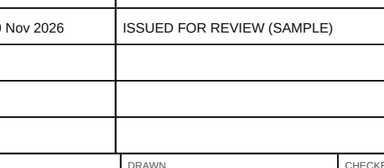

3 / 08 **FIREBOX TO E1, F5 (W3)**

NO SCALE

## WELD LIST

| MARK | LOCATION | WELD | SEQ | DET |
|---|---|---|---|---|
| W0 | S1 SEAM AT THE BOTTOM (PLATE SHELL ONLY) | BUTT, FULL | 1 | — |
| W1 | E1 AND E2 TO S1, ALL ROUND | CORNER, OUT | 2 | 1 |
| W2 | FIREBOX CORNERS F1 TO F4 | CORNER, OUT | 3 | 2 |
| W3 | FIREBOX TO E1 AND F5; F5 TO E1 ALONG THE ARC | FILLET | 4 | 3 |
| W4 | C1 TO S1, ALL ROUND | FILLET | 5 | 4 |
| W5 | R1 TO S1, BOTH RAILS | STITCH | 6 | 5 |
| W6 | K4 TO S1 AND TO F1, BOTH SIDES | FILLET | 7 | 6 |
| W7 | CART JOINTS K1 TO K6 | FILLET, ALL ROUND | 0 | — |

1. SHADED AREAS TO BE WELDED. DETAILS ARE SCHEMATIC; NO WELD SIZES ARE GIVEN. WELD SMOKE-TIGHT WHERE SMOKE OR FIRE IS INSIDE.
2. CUT THE LID LAST (NOTE 3.0); GRIND WELDS SMOOTH WHERE THE LID AND THE DOOR CLOSE.



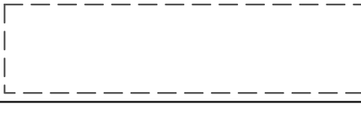

4 / 08 **CHIMNEY TO SHELL (W4)**

NO SCALE




5 / 08 **GRATE RAIL (W5)**

NO SCALE




6 / 08 **CROSS MEMBER TO SHELL (W6)**

NO SCALE

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

**RUTHEN SYSTEMS**

DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

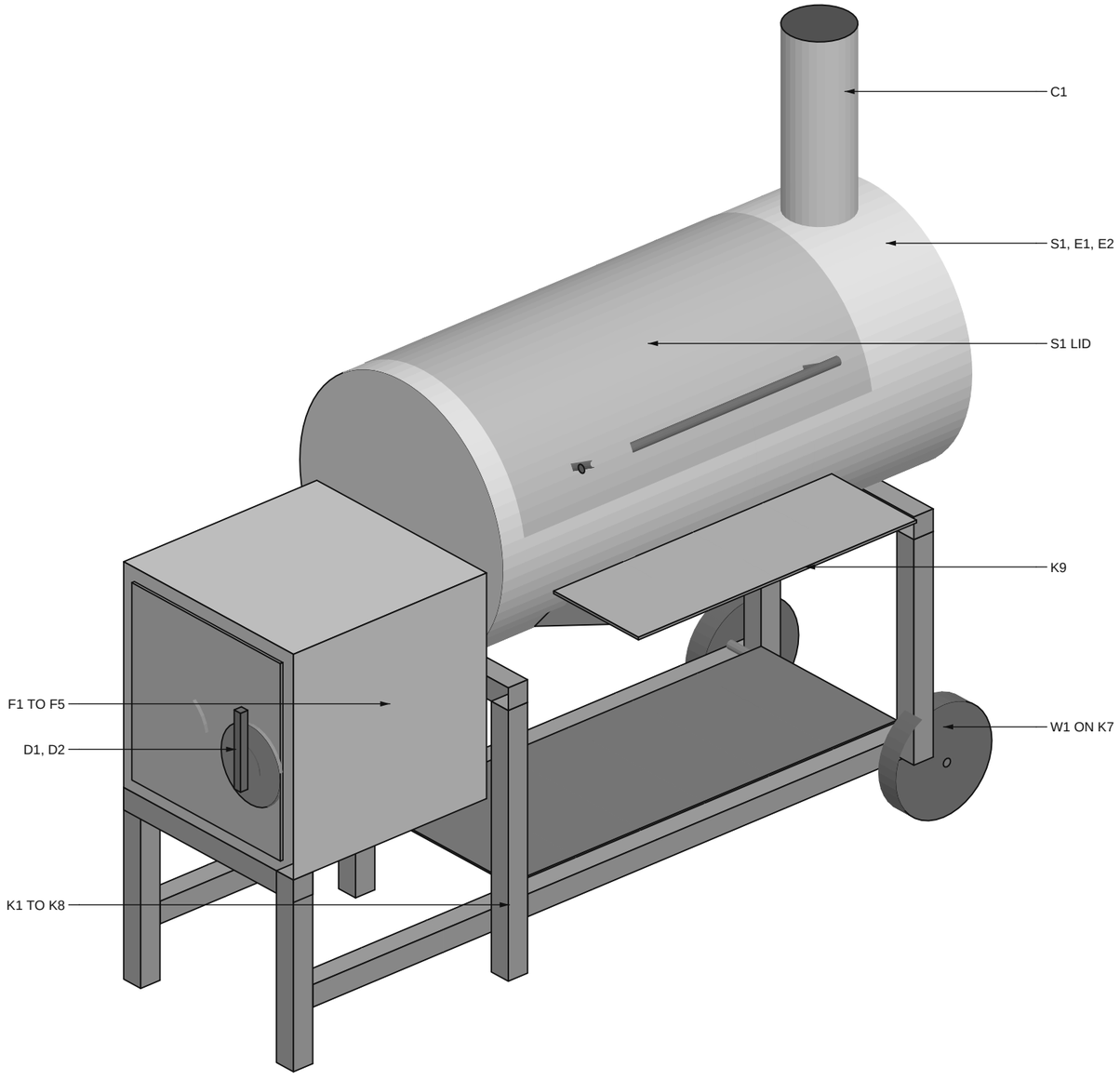
TITLE

**OFFSET SMOKER — WELDING DETAILS**

APPROVED BY

DRAWING NUMBER · SHEET · REV

**RS3001-08 · 8 OF 9 · A**




**ASSEMBLY OS1 — ISOMETRIC**

NO SCALE

## ASSEMBLY SEQUENCE

1. CHAMBER: PLATE SHELL — ROLL S1 (LID STILL IN) AND WELD THE SEAM W0. PIPE SHELL — CUT TO LENGTH AND MARK THE LID AND CHIMNEY HOLE FROM THE TEMPLATE (RS3001-04).
2. CUT THE CHIMNEY HOLE; FIT C1 ON TOP, SQUARE; WELD W4.
3. WELD R1 INSIDE AT 25.4 BELOW THE AXIS, LEG TOPS LEVEL (W5).
4. FIT E1 (OPENING DOWN, ON THE FIREBOX SIDE) AND E2; WELD W1.
5. FIREBOX: FIT F5 BELOW E1; BUILD F1 TO F4 AGAINST E1 AND F5; CHECK SQUARE; WELD W2, W3 (RS3001-06).
6. CART: BUILD K1 TO K7 SQUARE ON A FLAT FLOOR (RS3001-07); WELD W7. SET THE SMOKER ON IT; WELD K4 TO S1 AND F1 (W6). FIT K8, K9, THE AXLE AND WHEELS.
7. CUT THE LID IN STAGES (NOTE 3.0); HANG IT ON ITS HINGES; FIT D1, D2 AND THE HANDLES H1.
8. CLEAN, CHECK PER NOTE 5.0 ON RS3001-02, FINISH PER NOTE 4.0, SEASON BEFORE COOKING.

PARTS LIST: RS3001-03.

**SAMPLE**
**NOT FOR CONSTRUCTION**

| | |
|---|---|
| UNITS | **MILLIMETRES** |
| STEEL | NEW, PER NOTE 2.0 |
| GALVANIZED | NONE |
| WELDS | SMOKE-TIGHT |
| HINGES | BY PURCHASER |
| HANDLES | BOUGHT (H1) |
| FINISH | PER NOTE 4.0 |

| REV | DATE | DESCRIPTION | INITIAL |
|---|---|---|---|
| A | 10 Nov 2026 | ISSUED FOR REVIEW (SAMPLE) | RS |
| | | | |
| | | | |
| | | | |

| DESIGNED | DRAWN | CHECKED |
|---|---|---|
| — | RS 10 Nov 2026 | RS 10 Nov 2026 |

**RUTHEN SYSTEMS**
DRAFTING · ruthensystems.com

ORIGINAL SIGNED AND SEALED BY

TITLE
**OFFSET SMOKER — ISOMETRIC AND ASSEMBLY SEQUENCE**

APPROVED BY

DRAWING NUMBER · SHEET · REV
**RS3001-09 · 9 OF 9 · A**