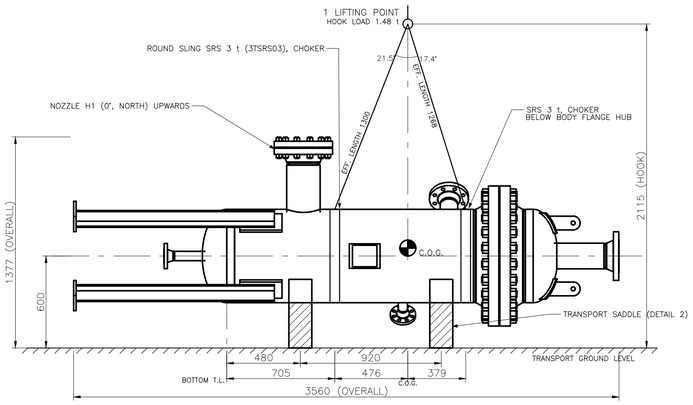


VESSEL LIFTING FOR TRANSPORT (HORIZONTAL) – LOOKING EAST
SCALE 1:20

LIFTING DATA	
LIFTING WEIGHT (FABRICATED, EMPTY, NO INSULATION)	1442 kg
HOOK LOAD, VERTICAL LIFT (VESSEL + RIGGING)	1.52 t
C.O.G. ABOVE BOTTOM T.L. / ELEVATION	1181 / EL +2.181
C.O.G. OFFSET FROM THE VESSEL AXIS	52 N / 8 E
OVERALL LENGTH (BASE PLATES – N3 R.F.)	3560 mm
SHIPPING DIMENSIONS L x W x H (ON SADDLES)	3.56 x 1.02 x 1.38 m
LIFTING LUGS (TOP HEAD, 0° / 180°)	2 x t20, HOLE ø26
MIN. MAIN HOOK HEIGHT (VERTICAL, ABOVE EL 0.00)	4.88 m
DESIGN FACTOR ON STATIC LOADS (RIGGING / LUGS)	2.0

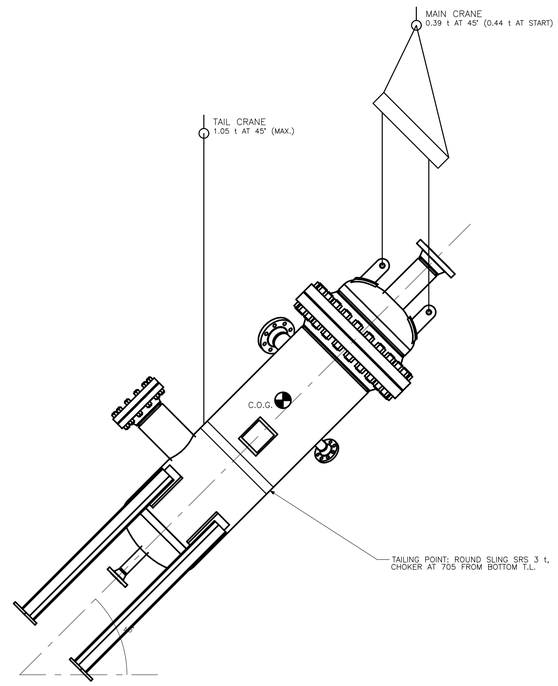
RIGGING LIST (BEZABALA CATALOGUE)

POS	QTY	DESCRIPTION	BEZABALA	WLL (t)	USE
1	6	BOW SHACKLE HC2 3/4" (BOLT, NUT, COTTER PIN), PIN ø22, JAW 32, SF 6:1	6GARLTP034BEZ	4.75	LUGS + SPREADER
2	2	WIRE ROPE SLING 1 LEG ø14, THIMBLE EYES (TYPE A), L = 1000 (EYE–EYE)	p.27 ø14	2.12	LUG – SPREADER
3	1	WIRE ROPE SLING 2 LEGS ø16 WITH MASTER LINK, L = 600	p.27 ø16	3.85	SPREADER – HOOK
4	1	SPREADER BEAM L = 600, LOWER PADEYES 430 c/c, UPPER 600 c/c (EN 13155)	CONTRACTOR	>= 3.0	VERTICAL LIFT
5	3	ROUND SLING SRS 3 t YELLOW, W = 63, L = 3.5 m, EN 1492–2, SF 7:1	3TSRS03	3.0 / 2.4	TRANSPORT + TAIL
6	3	SLEEVE / CORNER PROTECTION FOR ROUND SLINGS (BEZATEX)	p.75	–	PAINT PROTECTION

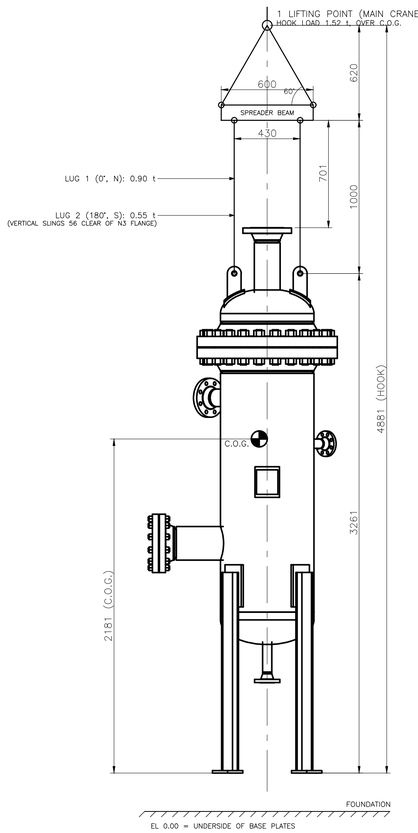
WLL 3.0 / 2.4 t: STRAIGHT / CHOKER HITCH (MODE FACTOR 0.8). WIRE ROPE: 1 LEG STRAIGHT / 2 LEGS AT <= 45° FROM VERTICAL.

LIFTING LOADS AND CHECKS

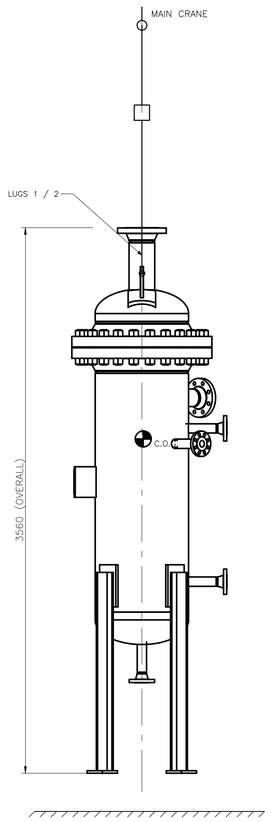
STAGE	ELEMENT	STATIC (kg)	DESIGN x2	CAPACITY (kg)	RATIO
TRANSPORT	ROUND SLING A (705 FROM B.T.L.)	686	1373	2400 (SRS 3 t, CHOKER)	0.57
TRANSPORT	ROUND SLING B (1560 FROM B.T.L.)	841	1683	2400 (SRS 3 t, CHOKER)	0.70
UPENDING	TAIL ROUND SLING (705), MAX.	1049	2097	2400 (SRS 3 t, CHOKER)	0.87
VERTICAL	SHACKLE HC2 3/4" ON LUG 1 (0°)	895	1791	4750 (WLL 4.75 t)	0.38
VERTICAL	WIRE ROPE SLING ø14 (LUG 1)	895	1791	2120 (WLL 2.12 t)	0.84
VERTICAL	SPREADER BEAM (TOTAL)	1442	2883	3000 (WLL >= 3 t)	0.96
VERTICAL	WIRE ROPE SLING 2 LEGS ø16	1442	2883	3850 (WLL 3.85 t (<= 45° FROM VERT.))	0.75
UPENDING	LUG 1 PLATE – START (LOAD NORMAL TO AXIS)	441	882	WELD SHEAR 44.8 / 67.6 MPa	0.66
VERTICAL	LUG 1 PLATE (VERTICAL LOAD)	895	1791	WELD SHEAR 14.1 / 67.6 MPa	0.21



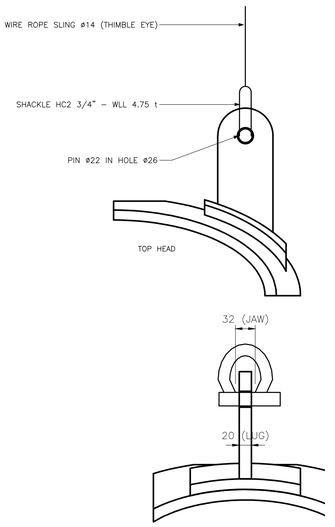
FIELD LIFT – STEP 1: UPENDING WITH MAIN + TAIL CRANE
SCALE 1:20



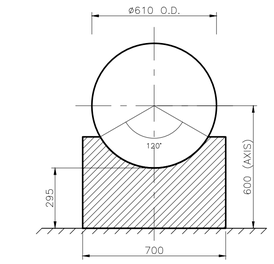
STEP 2: VERTICAL LIFT – LOOKING EAST
SCALE 1:20



VERTICAL LIFT – LOOKING NORTH
SCALE 1:20



DETAIL 1: LUG + SHACKLE HC2 3/4"
SCALE 1:5



THK. 150 ALONG THE AXIS, HARDWOOD OR STEEL
5 mm RUBBER PAD ON THE CONTACT

DETAIL 2: TRANSPORT SADDLE (2 OFF)
SCALE 1:15

LIFTING SEQUENCE

STEP 1) UNLOADING / TRANSPORT: 2 ROUND SLINGS IN CHOKER HITCH AT 705 AND 1560 FROM BOTTOM T.L., 1 HOOK OVER THE C.O.G. SET THE VESSEL ON THE 2 TRANSPORT SADDLES WITH H1 (0°, NORTH) UPWARDS.
STEP 2) RIG THE MAIN CRANE: SHACKLES HC2 3/4" ON BOTH LUGS, WIRE ROPE SLINGS ø14 x 1000, SPREADER BEAM, 2–LEG SLING ø16.
STEP 3) RIG THE TAIL CRANE: 1 ROUND SLING SRS 3 t IN CHOKER HITCH AT 705 FROM BOTTOM T.L. (TAILING POINT).
STEP 4) LIFT WITH BOTH CRANES CLEAR OF THE SADDLES; HOIST THE MAIN CRANE AND KEEP THE TAIL CRANE LOW UNTIL THE VESSEL IS VERTICAL (TAIL LOAD <= 1.05 t, MAIN <= 0.44 t DURING UPENDING).
STEP 5) SLACK AND REMOVE THE TAIL SLING: THE VESSEL HANGS FROM THE MAIN CRANE (HOOK LOAD 1.52 t, ~1° OUT OF PLUMB).
STEP 6) SET ON THE FOUNDATION WITH LEG 1 AT 45° (0° = NORTH), FIT THE ANCHOR BOLTS, THEN RELEASE THE MAIN CRANE.

REFERENCE DOCUMENT	DOC. NO.
VCAL GENERAL ARRANGEMENT DRAWING (LUG DETAIL: SHEET 2/2)	VCAL–06–DWG–00001
VCAL MECHANICAL CALCULATION DOSSIER – PART D LIFTING LUGS	VCAL–06–CSH–00001
VCAL 3D MODEL (WEIGHT AND C.O.G.)	VCAL_REV00.step
BEZABALA CATALOGUE: SHACKLES p.107, WIRE ROPE SLINGS p.27	BEZABALA
BEZABALA CATALOGUE: ROUND SLINGS SRS (EN 1492–2) p.72	BEZABALA
SLINGS ISO EN 13414–1 / EN 1492–2; SPREADER EN 13155	–

LIFTING NOTES

1) ALL DIMENSIONS IN mm, WEIGHTS IN kg. EL 0.00 = UNDERSIDE OF BASE PLATES.
2) LIFTING WEIGHT = FABRICATED WEIGHT 1442 kg (EMPTY, WITHOUT INSULATION, H1 BLIND FLANGE FITTED). C.O.G. FROM THE 3D MODEL: 1181 ABOVE BOTTOM T.L., 52 NORTH / 8 EAST OF THE AXIS.
3) TRANSPORT AND UPENDING WITH NOZZLE H1 (0°, NORTH) UPWARDS: THE TWO LIFTING LUGS (0° / 180°) THEN LIE IN THE VERTICAL PLANE OF ROTATION AND ARE ALWAYS LOADED IN THEIR OWN PLANE.
4) HORIZONTAL LIFTS ONLY WITH 2 ROUND SLINGS IN CHOKER HITCH AT 705 AND 1560 FROM BOTTOM T.L. NEVER LIFT FROM NOZZLES, LEGS, BODY FLANGE OR NAMEPLATE BRACKET.
5) UPENDING: MAIN CRANE ON THE 2 TOP–HEAD LUGS THROUGH THE SPREADER BEAM, TAIL CRANE ON 1 ROUND SLING AT 705 FROM BOTTOM T.L. LOWER THE TAIL UNTIL THE VESSEL HANGS VERTICAL, THEN REMOVE THE TAIL SLING.
6) VERTICAL LIFT: HOOK OVER THE C.O.G. (52 mm TOWARDS NORTH); THE VESSEL HANGS ~1.1° OUT OF PLUMB. SLINGS SHALL NOT BEAR ON NOZZLE N3 (CLEARANCE 56 mm WITH THE SPREADER).
7) RIGGING FROM THE BEZABALA CATALOGUE, WLL >= 2 x STATIC LOAD (SAME FACTOR AS THE LUG DESIGN, CALC. DOSSIER PART D). ALL RIGGING CERTIFIED, MARKED AND INSPECTED BEFORE USE.
8) CRANES, WORKING RADIUS, GROUND BEARING AND SLING LENGTH ADJUSTMENT BY THE ERECTION CONTRACTOR (LIFTING PLAN). NO LIFTING WITH WIND SPEED ABOVE 9.8 m/s.
9) PROTECT THE PAINT UNDER THE ROUND SLINGS (SLEEVES / CORNER PADS); REPAIR ANY DAMAGE. TAG LINES ON BOTH ENDS.
10) SPRAY THE C.O.G. MARK ON BOTH SIDES OF THE SHELL; TRANSPORT ON 2 SADDLES (DETAIL 2), SEA–FASTENED.

LEGEND

THICK LINE (CYAN IN THE DWG): SLINGS, SPREADER AND SHACKLES (RIGGING)
CIRCLE WITH 2 FILLED QUADRANTS: CENTRE OF GRAVITY (C.O.G.)
SMALL CIRCLE ON A HOOK LINE: CRANE HOOK (LIFTING POINT)
T.L.: TANGENT LINE EL: ELEVATION WLL: WORKING LOAD LIMIT

		COMPANY DOCUMENT APPROVAL STATUS
	A	Approved with no comments. Works can proceed.
	B	Approved with comments as noted. Contractor can proceed with work implementing the comment indicated by Company.
	C	NOT APPROVED. Revise and/or resubmit. Contractor cannot proceed with works.
SUBMITTAL DESCRIPTION	X	Issued for approval
		Issued for information

REV.	DATE	DESIGN AUTHOR	ROLE DESCRIPTION
00	14/11/2026	Iñigo Ozcariz Garcia	Chief Design Engineer

Date	14/11/2026
DWN.	CLAUDE (AI)
REV.	PENDING
APPR.	PENDING

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Project	PURCHASE ORDER:	Document No.	Rev.
VCAL – VERTICAL PRESSURE VESSEL LIFTING WEIGHT 1442 kg – C.O.G. EL +2.181	–	VCAL–06–DWG–00002	00

Title	Scale	Format
LIFTING DRAWING SHEET 1/1 – TRANSPORT LIFT, UPENDING, VERTICAL LIFT, RIGGING	AS SHOWN	A1
	ISO – E	Sheet: 1/1

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