

Technical drawing of a pipe assembly showing a square end butt joint and a spool butt joint. The drawing includes dimensions for the finished assembly (2398.1) and the supply (2400 +/- 0.5). It also shows the location of the bottom cap and the P-15b collars.

Labels and dimensions:

- BOTTOM CAP ± 0 (PHANTOM): P-08b BOSS + BELLWS — NO WELD TO THE PIPE
- SQUARE END, 30° BEVEL O/S: SITE BUTT TO THE ELBOW SPOOL AT -399 (SH03 / SH06)
- P-15b COLLARS $\pm 600 / 1200 / 1800$ (PHANTOM)
- SPOOL BUTT — DETAIL B
- 110
- 100
- 2398.1 FINISHED — SUPPLY 2400 $\pm 0/-0.5$

Technical drawing of a 316L foil assembly. The drawing includes a side view on the left and a cross-sectional view on the right.

Side View Dimensions:

- Top horizontal dimension: $\varnothing 82.8 \text{ H9 } (+0.087/0) \times 100 \text{ DEEP}$
- Vertical dimension: 100
- Bottom horizontal dimension: 110
- Bottom right corner detail: 0.8

Cross-sectional View Dimensions and Annotations:

- Top horizontal dimension: $\varnothing 82.0 \text{ f8 } (-0.036/-0.090)$
- Top right corner detail: M8 EXTRACTION BOSS $\varnothing 14 \times 8$ ON A 3-ARM SPIDER 6×4 — LIFT OUT VIA THE WEIR
- Left vertical dimension: 50 HONEYCOMB
- Right vertical dimension: 64
- Bottom horizontal dimension: $\varnothing 77 \text{ BORE}$
- Bottom left corner detail: 3.6 x 1.55 DEEP
- Bottom right corner detail: 12
- Bottom right corner detail: LAND 12 SOLID, $\varnothing 5$ ON 7.5 TRI. = 40 % OPEN
- Bottom right corner detail: O-RING

Annotations:

- WEIR EDGE R2 POLISHED; TOP FACE MACHINED R1000 ABOUT THE BALL CENTRE AFTER THE CROWN WELD (SH03 D1)
- 316L FOIL 0.1, NODES BRAZED OR RESISTANCE WELDED; AXIS $\parallel$ FLOW $\pm 1^\circ$, L/d 8.3

Fit and Retention Information:

FIG: $\varnothing 82.0 \text{ f8 } (-0.036/-0.090)$ in $\varnothing 82.8 \text{ H9 } (+0.087/0)$: radial clearance 0.418-0.489 — SEALED by the O-ring, not by the fit. O-RING FKM 2.62 (ISO 3601), SQUEEZE 22-25 %.

RETENTION: RESTS ON THE O78 SHOULDER of the machined top spool — a STOP, not a lock: upflow 0.8-1.2 N vs 9.8 N weight.

EDGE R2 POLISHED; TOP FACE MACHINED R1000
 AT THE BALL CENTRE AFTER THE CROWN WELD (SH03 D1)

M8 EXTRACTION BOSS Ø14 x 8 ON A
 3-ARM SPIDER 6 x 4 - LIFT OUT VIA THE WEIR

Ø82.0 f8 (-0.036/-0.090)

50 HONEYCOMB

64

3.6 x 1.55 DEEP

12

O-RING

LAND 12 SOLID, Ø5 ON 7.5 TRI. = 40 % OPEN

Ø77 BORE

316L FOIL 0.1, NODES BRAZED
 OR RESISTANCE-WELDED;
 AXIS || FLOW ±1°, L/d 8.3

6 A/F

316L FOIL 0.1, NODES BRAZED
OR RESISTANCE-WELDED;
AXIS | FLOW $\pm 1^\circ$, L/d 8.3

WEIR

The diagram shows a schematic of a weir structure. It consists of three hexagonal nodes arranged in a triangular pattern. The top node is connected to two bottom nodes. The bottom-left node is connected to the bottom-right node. A dimension line with arrows at both ends is positioned below the bottom-left node, indicating a length of 6 A/F.

MARK	ITEM	QTY	MATERIAL	kg EA
P-08	Riser DN80 sch10S 2398.1 incl. P-08a spool	1	A312 TP316L smls	15.81
P-08a	Crown spool 110, bore Ø82.8 H9 × 100, Ø78 land	1	316L 1.4404 bar	(in P-08)
P-08b	Bellows boss ring Ø140 / Ø110 × 25, R1000 concave top	1	316L 1.4404	1.20
P-16	Bellows seal: 316L single-ply, free 120, ±5, 2 collars	1 + 1	316L to datasheet	≈1.3
P-10	Conditioner cartridge Ø82.0 f8 × 64	1 + 1	316L 1.4404	1.09
—	FKM O-ring 2.62 section, ISO 3601	2 + 2	FKM 75 Sh	—

1. DN80 sch10s (Ø88.9 x 3.05) SEAMLESS A312 TP316L, EN 10204 3.1. Straightness ≤ 1 mm/m and ≤ 2.4 overall; the riser is the verticality datum (± 1.500 , SH03). Bore ID 82.0-83.96 as rolled — that is WHY the H9 seal lives in the machined spool.
2. Cut 2410, face both ends; weld P-08a on (WPS-01, purged, full penetration, ISO 5817 B), then finish-bore the spool if needed. Supply 2400 $+0/-0.5$ from the bottom square end; the crown end is final-machined R1000 in situ after the crown weld (SH03 D1).
3. RISER IS ANCHORED AT THE CROWN ONLY. Nothing is welded at the bottom pole: P-08b + the bellows seal the cap (SH03).
4. Collars P-15b clamp at $\pm 600 / 1200 / 1800$ (SH32). Bottom end: 30° bevel O/S for the site butt to the elbow spout at -399 .

1. One turned part from Ø85 316L bar: OD Ø80.0 f8, bore Ø77 × 52 leaving the 12 land; drill the Ø5 perforation on 7.5 triangular pitch (=95 holes, 40 % open) THROUGH the land; O-ring groove 3.6 wide × 1.55 deep, 0.2 R at the root, Ra 0.8 in the groove.
2. Honeycomb Øb77 –0.1 × 50 pressed in and spot-bonded at 3 points; spider 3 × (6 × 4) 316L welded 1.5 fillet, boss Ø14 × 8 tapped M8.
3. Passivate; verify the f8 OD on 3 diameters; trial-fit in the spool bore with the O-ring; must seat by hand and lift by hand with an M8 eye — if it needs a tool either way, reject. Mark P-10 on the spider. One complete spare with 2 spare O-rings at handover.

- 316L 1.4404/1.4435 single-ply 0.30, ID 96 / OD 134, 10 convolutions, free length 120 +/-2, axial +/-5 at >=165 cycles, lateral +/-2, rate <=60 N/mm, machined 316L end collars seal-welded both ends, pickled + passivated; NO water pressure (dry-side seal): design 0.2 bar, leak test 0.5 bar 30 min zero drop.
- Made to this datasheet by Witzemann (Hydra), BOA, Senior Flexonics, KSM — made to this datasheet; no catalogue part exists at this size. Submit: dimensional report, spring-rate certificate, leak-test record.
- It seals the DRY sphere from the skirt cavity — no water pressure on it; the 1702 N surge thrust belongs to the pit connector (SH37). Replaceable from the collector chamber by lifting one tray. One spare at handover.

Technical drawing of a vertical riser assembly, showing a cross-section with a central bore and a spring. The drawing includes the following labels and dimensions:

- Top Section:**
 - $\varnothing 110 +1/-0$ BOSS BORE
 - $\varnothing 90 +1/-0$ HOLE IN P-01c; BOSS TOP TURNED R1000 CONCAVE ONTO THE CAP OUTER FACE, GAP ≤ 0.3
 - WPS-01
 - 25
- Central Section:**
 - $\varnothing 140$
 - 10 CONVOLUTIONS, 316L 0.30 SINGLE
 - 120 FREE ± 2
- Bottom Section:**
 - $\varnothing 134$ O/S · $\varnothing 96$ I/S
 - $\varnothing 89.2$ H11 OVER THE RISER
 - WELD TO THE ALL ROUND
- Other Labels:**
 - PURGED
 - WPS-01
 - BOSS ROUND

B3: 2 SEAL WELD TO THE RISER, LOW HEAT, ALL ROUND

Ø134 O/S · Ø96 I/S

Ø89.2 H11 OVER THE RISER



REV	DATE	DESCRIPTION	BY
D	2026-08-05	CONCEALED SKIRT ANCHORAGE, RESERVOIR + PLANT, PEBBLE COLLECTOR	NX
E	2026-08-20	REV D.2 ALIGNMENT + VISUAL QA CORRECTIONS	NX
F	2026-09-03	LOGO ENGRAVING ADDED (SH15); SHEET COUNT 14 -> 15	NX
G	2026-09-05	AUDIT CLOSE-OUT: CART 082 FB, SLOT 24, 24 TRAYS, DN80	NX
G.2	2026-09-06	PART DRAWINGS SH30-38; SLOTS AZ22.5, DOUBLER R995	NX
G.3	2026-09-06	SH37 BRACKET, SH42 WELD MAP, P-16 BELLOWES; IFF	NX

DRAWN: NaXief Eng.		CHECKED: NX 2026-09-06	APPROVED: I. NAZEEF 2026-09-06	STATUS: IFF REV G.3
DATE: 2026-09-06	REV: G.3	UNITS: mm	SCALE: AS NOTED	A3 · SHEET 22/25

WORK TO FIGURED DIMENSIONS • ISO 2768-mK U.O.S.

