PRESSURE VESSEL DATASHEET

Doc. No. DMX-DS-V101 · Rev. A · Sheet 1 of 2

Item No.		**V-101** · Vertical liquid drum · Qty 1 · Date 2026-10-18
1. GENERAL DATA		
1.1	Equipment tag	V-101
1.2	Equipment name	Vertical liquid drum
1.3	Quantity	1
1.4	Design code	ASME Section VIII, Division 1, 2019 Edition
1.5	Installation	Outdoor
1.6	Configuration	Vertical, on 4 support lugs
1.7	Vessel content	Process liquid
1.8	Fluid density	880 kg/m³
1.9	Lethal service	No
1.10	PWHT	Not required (P-No. 8, UHA-32)
1.11	Impact test	Exempt, UHA-51(d) at MDMT 5 °C
1.12	ASME stamp	No
1.13	Capacity	1.68 m³ (shell 1.41 + 2 heads 0.26)
1.14	Physical state	Liquid
2. COMPONENTS AND MATERIALS		
2.1	Shell	SA-240 Gr. 304/304L (dual certified), 4 mm
2.2	Heads	SA-240 Gr. 304/304L, 2:1 ellipsoidal, 4 mm min. after forming
2.3	Body flange	None
2.4	Jacket / limpet coil	None
2.5	Heat tracing	None
2.6	Internals	Fixed, 304 stainless steel
2.7	Welded attachments	SA-240 Gr. 304/304L; pads under lugs
2.8	Flanges	SA-182 F304/304L, ASME B16.5 WN-RF
2.9	Nozzle necks	SA-312 TP304/304L seamless, SCH 80S (M1 SCH 10S)
2.10	Supports	4 lugs type 2B: SA-240 304L pad, SA-516 Gr. 60 gussets and base
2.11	Anchor bolts	4 × M16, SA-193 B7, on Ø1508 PCD
2.12	Bolting, M1	SA-193 B7 / SA-194 2H
2.13	Gaskets	Spiral-wound 304 / graphite, ASME B16.20
3. DESIGN DATA		
3.1	Internal design pressure	3.5 barg
3.2	External design pressure	0.01 barg
3.3	Operating pressure / temperature	0.1 barg / 30 °C
3.4	Design temperature	150 °C
3.5	MDMT	5 °C
3.6	MAWP	3.5 barg at 150 °C (shell alone 9.3 barg)
3.7	Hydrostatic test	4.6 barg at top, UG-99(b), shop vertical
3.8	Corrosion allowance	0 mm
3.9	Joint efficiency	Shell and heads 0.85, spot RT, UW-11(a)(5)(b)
3.10	Radiography	Spot
3.11	Insulation	Hot, mineral wool 30 mm, aluminium cladding
3.12	Wind / seismic	Per site data; shear 150 / 1050 kgf
3.13	Overturning moment	Wind 100 kg·m · seismic 250 kg·m
3.14	Fireproofing	None

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4. DESIGN CHECKS		
4.1	Shell, UG-27	t = PR/(SE − 0.6P) = 1.49 mm ≤ 4 mm
4.2	Heads, UG-32(d)	t = PD/(2SE − 0.2P) = 1.49 mm ≤ 4 mm
4.3	Allowable stress, S	138 MPa at 150 °C (304, dual certified)
4.4	Nozzle reinforcement	UG-37, all openings adequate
5. DIMENSIONS AND WEIGHTS		
5.1	Inside diameter	1000 mm
5.2	Length, TL–TL	1800 mm
5.3	Head height (inside)	250 mm
5.4	Fabrication (empty) weight	450 kg
5.5	Erected weight (insulated)	485 kg
5.6	Operating weight (liquid to HHL 1350)	1,535 kg
5.7	Hydrotest weight, shop	2,130 kg

6. NOZZLE SCHEDULE

Mark	Service	Size	Class	Type / facing	Location
P1	Inlet	1½″	300#	WN-RF	Top head
P2	Discharge	1½″	300#	WN-RF	Bottom head
P3	Oil inlet	1½″	300#	WN-RF	Top head
P4	Spare	3″	300#	WN-RF	Top head
S1	Vent	1½″	300#	WN-RF	Top head
S2	Drain	1½″	300#	WN-RF	Bottom head
S3	Spare	2″	150#	WN-RF	Top head
K1A	Level gauge	1″	300#	WN-RF	Bottom head
K1B	Level gauge	1″	300#	WN-RF	Shell, ▽1650
K2	Level alarm low	1″	300#	WN-RF	Shell, ▽130
M1	Handhole	10″	150#	WN-RF, blind	Shell, ▽1450

7. NOTES

1. Dimensions in mm unless noted. Elevations from bottom tangent line ▽0.000.
2. Hydrotest with chloride-controlled water (≤ 50 ppm Cl^-); drain and dry after test.
3. Lug pads continuously welded; earthing lugs 2 off on lug base plates.
4. Nameplate bracket at ▽1500, stainless steel.