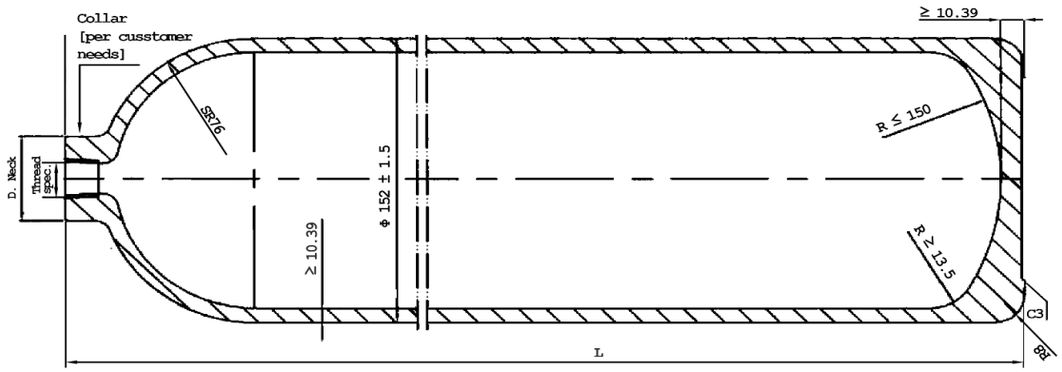
HPAL20.7H-152(10.39)-S02 REV.01

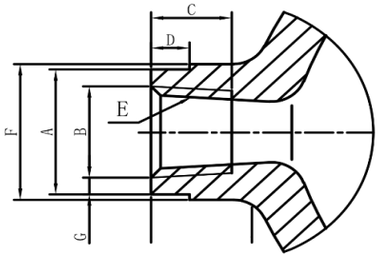
Thread spec. (S02)
17E [ISO11363-1 (UN)]
25E [ISO11363-1 (UN)]
W21.8mm×1/14" [DIN477 N°6]
25T [BS341-1991 (GB)]
1×14BS [BS341-1991 (GB)]
3/4"-14NGT [- ANSIB57.1]
3/4-14NPSM [ASME B1.20.1-2013]
M25×2 (25P) [ISO15245-1]

★ D. Neck ≥ Tmin×2 + Thread Max. major diameter

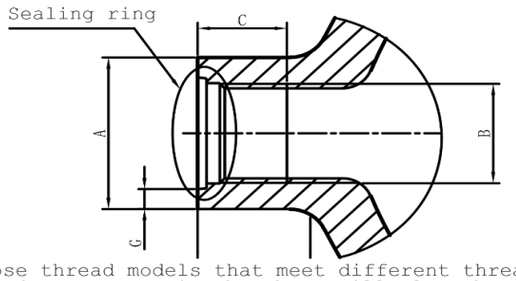
★ More thread spec. are available



Schematic diagram of bottle mouth cone thread



Schematic diagram of bottle mouth straight thread



	Name
A	Outer diameter of bottle mouth
B	Large diameter of thread base
C	Thread depth
D	Height of steps
E	Thread taper
F	Outer diameter
G	Wall thickness (not less Tmin)

Note: ★ Customers can freely choose thread models that meet different thread standards. Correspondingly, the thread parameters in the chart will also change.

★ The size of the straight thread sealing groove is related to the valve structure, which is usually provided by the customer, or designed according to the valve structure drawings provided by the customer.

WORKING PRESSURE TO (P.W.)	P.W.	
	Bar	psi
	207	3000

TEST PRESSURE (P.H.)	P.H.	
	Bar	psi
	310.5	4503

BURST PRESSURE min (P.B.)	P.B.	
	Bar	psi
	496.8	7205

MODEL	WATER CAPACITY -0/+5% LITERS	LENGTH "L" ±20mm MM	APPROX. WEIGHT -5/+10% KG	PED CATEGORY (GROUP 1 GASES)	PED CATEGORY (GROUP 2 GASES)	
HPAL20.7H-152(10.39)-S02-4L	4.0	400	6.3	III	II	← Vmin
HPAL20.7H-152(10.39)-S02-7L	7.0	625	9.2	IV	III	← Type
HPAL20.7H-152(10.39)-S02-10L	10.0	850	12.2	IV	III	← Vmax
Note: Model HPAL20.7H-152(10.39)-S02-7L is the design qualification test cylinder. Vmin and Vmax represent the range covered by the same design family. ★ PED CATEGORY (GR.1): III for 4L ≤ V < 4.83L; IV for 4.83L ≤ V ≤ 10L.						
HPAL20.7H-152(10.39)-S02-5L	5.0	475	7.3	IV	III	
HPAL20.7H-152(10.39)-S02-6L	6.0	550	8.2	IV	III	← Variants
HPAL20.7H-152(10.39)-S02-8L	8.0	700	10.2	IV	III	

TECHNICAL REQUIREMENTS

1 DESIGN SPECIFICATION(S): ***EN ISO 7866:2012***

2 SUPERVISING PROVISION(S): ***ADR/RID 2021 & DIRECTIVE 2010/35/EU (TPED)*** ***ADR/RID 2021 & DIRECTIVE 2014/68/EU (PED)***

3 Maximal/Minimal allowable Temperature, TSmax/min: ***-40℃ to +65℃***

4 Material: ***AA6061A*** CHEMICAL COMPOSITION (%)

Si	Fe	Cu	Mn	Mg	Cr	Zn
0.40~0.80	*MAX.0.70*	*0.15~0.40*	*MAX.0.15*	*0.80~1.20*	*0.04~0.35*	*MAX.0.25*
Ti	**Pb**	**Bi**	**Other each**	**Other total**	**Al**	
MAX.0.15	*MAX.0.003*	*MAX.0.003*	*MAX.0.050*	*MAX.0.150*	*Remain*	

5 Heat treatment: solution ***540 ±10℃*** for ***120±36 min***; ageing ***180 ±5℃*** for ***480±96 min***

6 CYLINDER MACHANICAL PROPERTIES AT ROOM TEMPERATURE, AFTER HEAT TREAMENT:

YIELD [MPa]	TENSILE [Mpa]	ELONG A [%]	Hardness [HBR]	Hardness [HB]
280	***325***	***≥ 12***	***76~45***	***90~125***

7 ***The body of the bottle shall be free of wrinkles, deformations, and visible cracks that would affect strength.***

8 Filling content: For DIRECTIVE 2010/35/EU (TPED): see "Filling Gas Table-HPAL20.7H-S02-GASES"; For DIRECTIVE 2014/68/EU (PED): diving breathing gas group 1.

9 ***Corrosion allowance: 0 mm.***

10 ***Pressure-cycling test:The gas cylinders to successive reversals the hydraulic test pressure.The gas cylinders shall withstand 12000 cycles without failure.***

11 ***The inner and external surface shall be free of any cracks and the defects shown in ISO10461 annex B table B.1 and B.2.***

12 ***The out-of-roundness of the cylindrical shell shall not exceed 2% of the diameters,the straightness of the cylindrical shell shall not exceed 3% and the vertical shall not exceed 10%.***

SINOGES INDUSTRY EQUIPMENT (WUHAN) CO., LTD.

DESCRIPTION **REFILLABLE SEAMLESS ALUMINIUM GAS CYLINDER**

SCALE	NOT TO SCALE		DRAWING NUMBER	HPAL20.7H-152(10.39)-S02
DRAWN BY		2023/5/19		
CHECKED BY		2023/5/19	REV.	01
APPROVED BY		2023/5/19	SHEET NO. 1	OF 3 SHEET(S)

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★ Where:

3/4-14NPSM	Identification of cylinder thread;
CN	Country of origin;
SINOGES	Manufacture's identification;
XXXXXXXXX	Serial No.;
AA6061 T6	Material of cylinder;
H	Only for contents with a risk of hydrogen embrittlement;
10.39MM	Minimum guaranteed wall thickness;
XX.XKG	Empty weight of cylinder;
XX.XL	Actual water capacity of cylinder;
PW207	Max. service pressure (NOT NEEDED FOR FILLING LIQUID GAS SUCH AS
PH310.5BAR	Hydraulic test pressure;
TAREXX.XKG	Tare weight (optional);
X.XXKG_XXX	Weight & name of gas to be filled (OPTIONAL);
XXXX	CE mark and the ID of notified body;
-40°C	Service Temperature (optional);
EN ISO 7866	Applied Standard;
P	Country of approval;
○	The inspector's mark;
20XX/XX	Date of initial inspection (year/month);
XXXXX	Customer required information (optional).

STAMP MARKINGS ACCORDING TO ADR/RID 2021 & DIRECTIVE 2010/35/EU (TPED)



★ Where:

M25×2	Identification of cylinder thread;
CN	Country of origin;
SINOGES	Manufacture's identification;
XXXXXXXXX	Serial No.;
AA6061 T6	Material of cylinder;
CAT.IV	Category of the pressure vessel (PED CATEGORY: III for 4L ≤ V < 4.83L; IV for 4.83L ≤ V ≤
10.39MM	Minimum guaranteed wall thickness;
XX.XKG	Empty weight of cylinder;
XX.XL	Actual water capacity of cylinder;
PW207 PH310.5BAR	Maximum allowed service pressure and hydraulic tested pressure;
DIVING_BREATHING_GAS_GR.1	Gas name and gas group;
CE1155	CE mark and the ID of notified body;
TS -40/65°C	Service Temperature (optional);
EN ISO 7866	Applied Standard;
P	Country of approval;
○	The inspector's mark;
20XX/XX	Date of initial inspection (year/month);
XXXXX	Customer required information (optional).

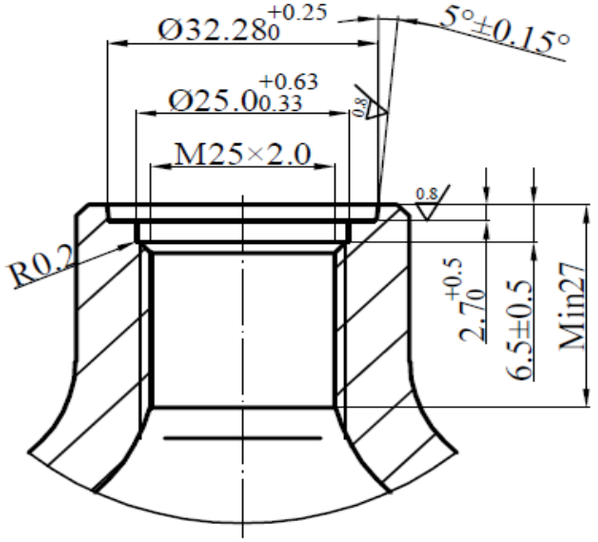
STAMP MARKINGS ACCORDING TO ADR/RID 2021 & DIRECTIVE 2014/68/EU (PED)

Note:
Each "_" in the stamped picture shown is a space between characters, and there is no need to type any content in actual production. 所示钢印图中每一个“_”为一个字符间距的留空，实际生产中不用打任何内容。

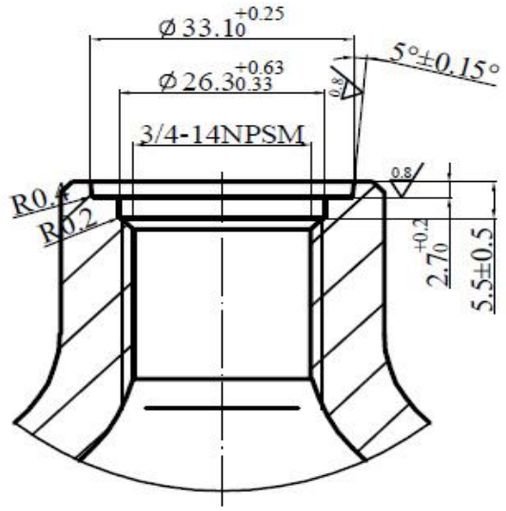
SINOGES INDUSTRY EQUIPMENT (WUHAN) CO., LTD.

DESCRIPTION	STAMP MARKINGS OF REFILLABLE SEAMLESS ALUMINIUM GAS CYLINDER			
SCALE	NOT TO SCALE		DRAWING NUMBER	HPAL20.7H-152(10.39)-S02-STP
DRAWN BY		2023/5/19		
CHECKED BY		2023/5/19	REV.	01
APPROVED BY		2023/5/19	SHEET NO. 2	OF 3 SHEET(S)

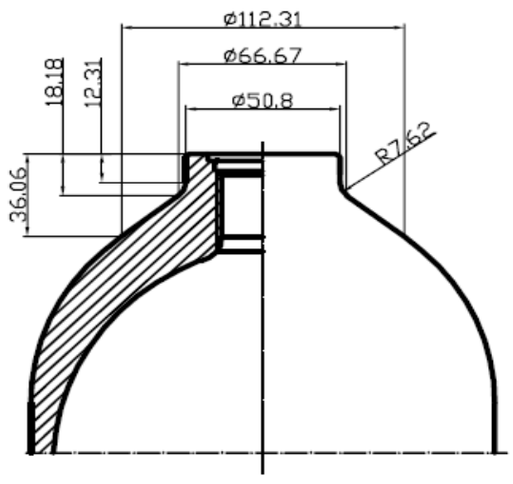
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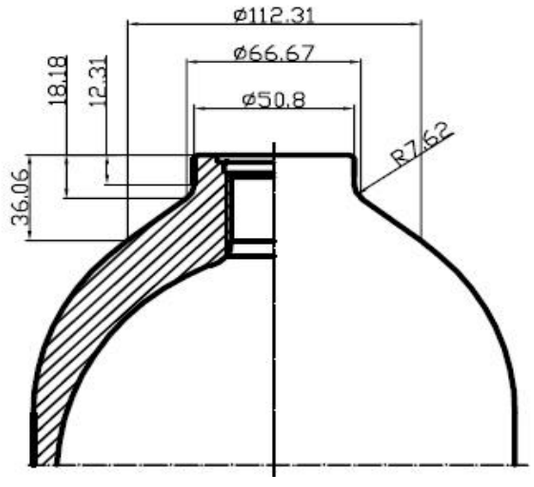
Thread For M25×2.0



小径：24.34-24.63
Thread For 3/4-14NPSM



Neck for thread M25×2



Neck for thread 3/4-14NPSM

SINOGES INDUSTRY EQUIPMENT (WUHAN) CO., LTD.				
DESCRIPTION	STAMP MARKINGS OF REFILLABLE SEAMLESS ALUMINIUM GAS CYLINDER			
SCALE	NOT TO SCALE		DRAWING NUMBER	HPAL20.7H-152(10.39)-S02-NECK
DRAWN BY		2023/5/19		
CHECKED BY		2023/5/19	REV.	01
APPROVED BY		2023/5/19	SHEET NO. 3	OF 3 SHEET(S)