

Threaded to customer's requirement

Calculation of the wall thickness

$$t_{min} = \frac{0,3 \times P_1 \times D_o}{7 \times f_e - 0,4 \times P_1} = \frac{0,3 \times 348 \times 140}{7 \times 660,625 - 0,4 \times 348} = 3,26$$

$$t_{min} = 3,3 \text{ mm}$$

Charging pressure at 15°C: 232 bar

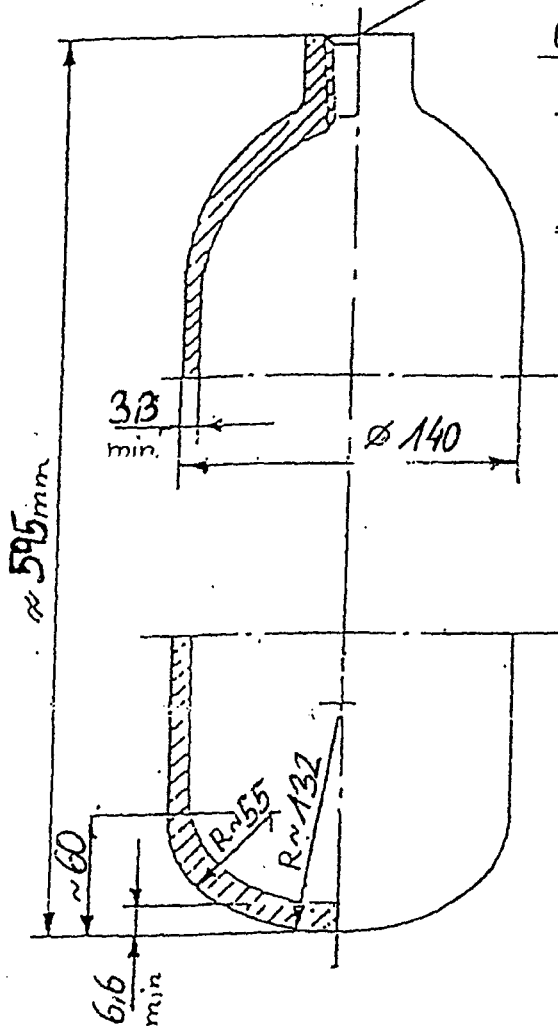
Developed pressure at 60°C(P): 286,3 bar

Maxim. permissible equivalent stress at test pressure (f_e): 660,625 N/mm²

Outside diameter (D_o): 140 mm

Test pressure (P_1):

$$P_1 = CP \times 1,5 = 232 \times 1,5 = 348 \text{ BAR}$$



REVIEWED

against the codes and standards
listed on Certificate / Drawing

ref. 01.A.D. 342.5.2

signature *Thomas Kull*

date 17.12.2011

Aberteen
Technical Centre

BUREAU
VERITAS
AG Ref. N. 0135AGD 1239

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Worthington Heiser Cylinders GmbH A-3291 Kienberg/Gaming, Austria

Specification BS 5045/71CMIS		Material Cr Mo - Steel "VCL"		Yield point min. 755 N/mm ²	
		Heat treatment quenched and tempered		U.T.S. min. 890 - max. 1030 N/mm ²	
Type R-EXTRA	Chemical composition			Elongation min. 14	% (R _m > 1,4 & 50)
Name of gas AIR	C ≤ 0,37 %	S ≤ 0,050 %	Impact value long — J/cm ²		
Water capacity 7,0 l	Mn 0,40 - 0,90 %	Cr 0,80 - 1,20 %	cross — J/cm ²		
Filling weight — kg	Si 0,10 - 0,35 %	Mo 0,15 - 0,25 %	Drawn	Amend	Rev.1
Working pressure 232 bar	P ≤ 0,050 %	%	GA	Name	Rev.2
Test pressure 348 bar	Replaces chr.no.		6.9.2011	Date	Rev.3
Weight empty APPR. 8,0 kg	Replaced by chr.no.			Checked	
Notes			Drw.no. R 700 132 33 20-7		