The set vacuum of the relief device plus the accumulation to permit the required throughput to be achieved shall not exceed the design internal negative pressure.

Table 3 — Design pressure limits for tanks

Tank designation	Design pressure p mbar (g)	Design internal negative pressure p_v mbar (g)
Open top tanks or		
floating roof tanks [a]	0	5
Closed top tanks		
i) non-pressure tanks [b]	≤ 10	≤ 5
ii) low-pressure tanks [b c]	≤ 25	≤ 8,5
iii) high-pressure tanks [b c]	≤ 60	≤ 8,5
iv) very high-pressure tanks [b c d e]	≤ 500	≤ 20

The requirements of this document for roof plating and for roof nozzle reinforcement may not be adequate for some combinations of tank diameter and design pressure. Additional requirements necessary with regard to these aspects shall be subject to agreement (see A.2).

[a] Design internal negative pressure required for shell stability calculations only (see 9.3.)

[b] The design pressures specified are those that give rise to load conditions stated in Clause 7.2. and will be used in the calculation of shell thickness (see 9.2), shell stability (see 9.3.), roof thickness (see 10.4), shell/roof compression area (see 10.5), selection and sizing of vents (see 10.6), tank anchorage (see Clause 12), selection of type of roof and its detailed design.

[c] The requirements of 9.3. for shell stability do not apply for design internal negative pressures > 5,0 mbar. The design methodology and fabrication tolerances, for design internal negative pressures > 5,0 mbar shall be subject to agreement (see A.2).

[d] Actual design pressure and actual design internal negative pressure to be specified within the quoted ranges (see A.1).

[e] Practical considerations will limit the maximum diameter of tank which can be designed for very high-pressure tanks. The limiting diameter will depend upon the actual design pressure and design internal negative pressure selected when used for the design analysis identified in note 2) above.