



Statement

SIHI – LPG pump compare to API 610 - pumps

API 610 is American standard mainly for refineries to handle liquid hydrocarbon, LPG in a liquefied gas and it need to be to consider all special physical conditions of this "liquid".

Special features of the liquid gas pumps:

Liquid gas is not a liquid in the usual sense, but rather a liquefied gas under pressure. This fact is especially important for a true liquid gas pump. Even small changes in temperature can cause the formation of gas, resulting in significant process problems and increased wear of the pump. Specially developed hydraulics for this area of application can prevent internal out gassing and therefore increased wear from dry running.

Requirements of a real liquid gas pump:

1. High pressure rise
2. Mix flow rate
3. Gas flow rate
4. Low NPSH values

Special for LPG API 610 pumps has following disadvantages:

- API 610 pumps are single stage volute casing pumps which are able to handle not more than 7% gas without hydraulic collapses. This is not enough for real LPG pumps.
- The high peripheral speed create a 3 to 4 times higher NPSHR
- The single stage design is a low efficiency for low flow and high head.
- 24 h continue operation at 50°C environment temperature is not possible, internal evaporation.
- High vibration, high notice.

Sterling LPG pumps CEH, CEB, SC and UEA :

- This multistage Sterling SIHI-pumps type CEH, CEB, SC and UEA are designed especially for LPG and consider all special physical conditions. Side channel stages can handle gas up to 100%.
- In CEH, CEB and SC a special for low NPSHA developed prim impeller in combination with multistage side channel stages.
- For flow rates more than 35 m³/h a combination of three different hydraulics systems, prime impeller, multistage centrifugal stages together with a gas handling side channel stage gave all necessary characteristics for a real LPG pump.

This pumps are used world wide more than 30 years with excellent experience in this LPG application.

The pumps are in different cases certificated to:

- ATEX 94/9/EG
- UL 51 – U.S.
- Stroomwezer – Netherland
- GOST Russia
- Department of Explosive in India
- TRB 801 – Germany

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