Pressures in the system

Valid for diaphragm pressure expansion vessels in drinking warm water systems

p_{SV}

$p_{fin} \leq p_{SV} - 0.5$ bar
(Reflex recommendation)

p_{ini}

$p_0 = p_{ini} - 0.2...1$ bar

Gas pre-pressure

Initial pressure / Set value pressure reducer

Final pressure

Safety valve actuating pressure

V_{res}

$V_e + V_{res}$
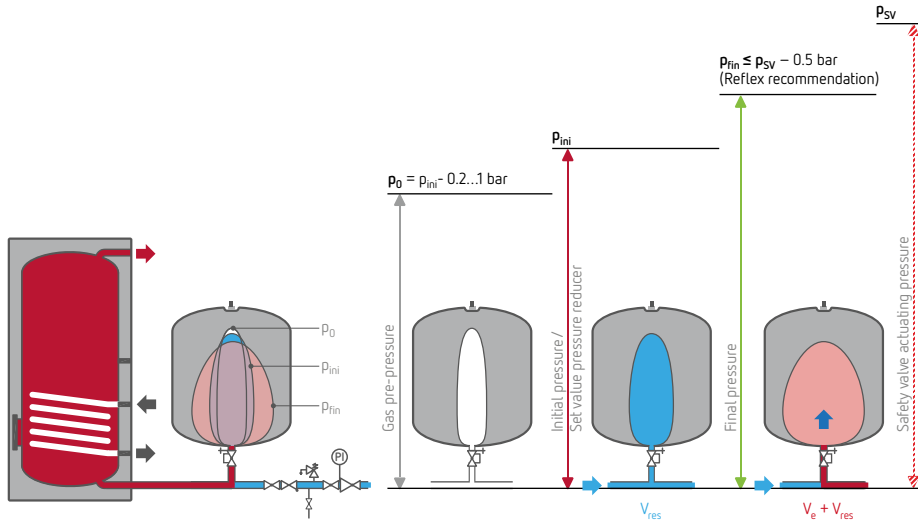
Diaphragm expansion vessel

Refix

p_{SV} Safety valve actuating pressure

The max. permissible operating overpressure of all components in the system must not be exceeded.

≥ 0.5 bar Closing pressure difference

p_{fin} Final pressure

Pressure in the storage tank after full heating.

≥ 0.5 bar Expansion volume V_e

p_{ini} Initial pressure

Set value pressure reducer, min. flow pressure

0.2 ... 1.0 bar* Water reserve volume V_{res}
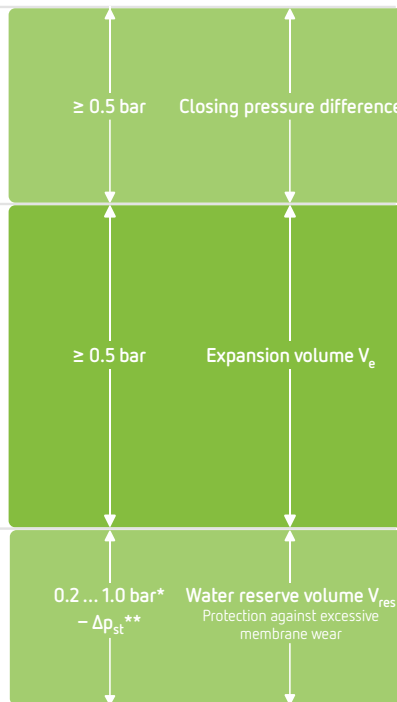$- \Delta p_{st}$** Protection against excessive membrane wear

p_0 Minimum operating pressure

= $p_{ini} - 0.2$ bar* $- \Delta p_{st}$**

* for large distances (pressure loss) to the pressure reducer, increase the differential to 1 bar
** $- \Delta p_{st}$ = stat. pressure loss with higher vessel to pressure reducer
$+ \Delta p_{st}$ = stat. pressure gain with lower vessel to the pressure reducer

Pressures are specified as gauge pressures and refer to the connection nozzle of the expansion vessel.

Basics

Function

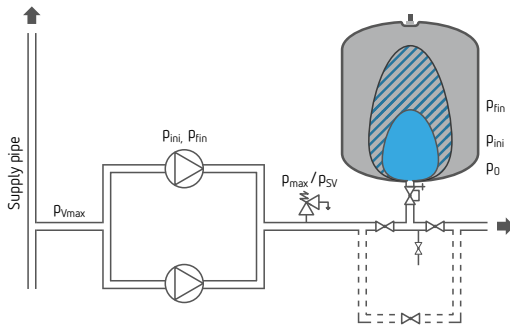Operation & Maintenance

Basics
Pressures in the system

Valid for diaphragm pressure expansion vessels in pressure boosting systems

Basics

Refix in pressure boosting systems
pressure side

p_0 (bar) = p_{ini} – 0.5 bar

p_{max} / max. permissible operating pressure
p_{SV}* opt. safety valve actuating pressure

p_{fin} Final pressure
Base load pump OFF

p_{ini} Initial pressure
Base load pump ON

p_{Vmax} max. supply pressure

p_0 Gas pre-pressure

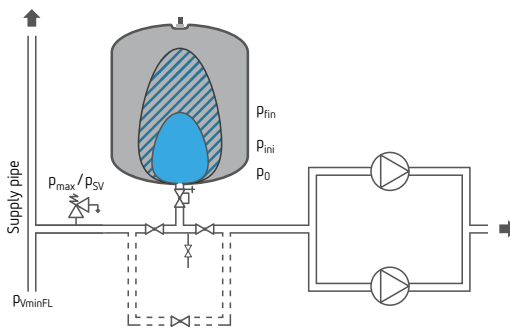≥ 0.5 bar (Recommendation)
≥ 0.3 bar
0.5 bar
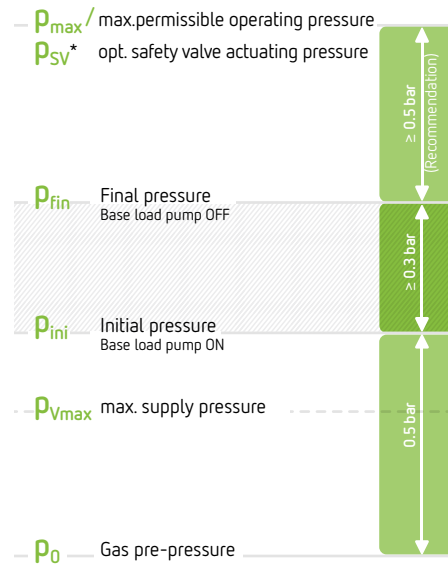
* Safety valve only required if p_{Vmax} + Δp_{pump} > p_{max}

Function

Operation & Maintenance

Refix in pressure boosting systems
suction side

p_0 (bar) = p_{ini} – 0.5 bar

p_{max} / max. permissible operating pressure
p_{SV}* opt. safety valve actuating pressure

p_{fin} Final pressure
= max. supply pressure / idle pressure

p_{ini} Initial pressure
p_{VminFL} min. supply flowing pressure

p_0 Gas pre-pressure

≥ 0.5 bar (Recommendation)
≤ 0.5 bar
0.5 bar
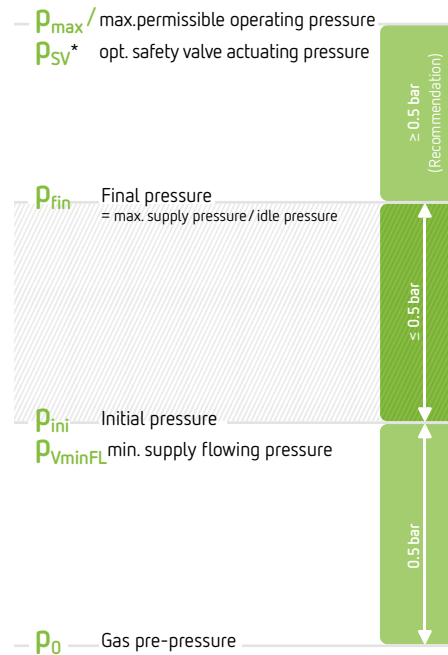
* Safety valve only required if temporarily p_{fin} > p_{max}

aftersales@reflex.de • **www.reflex-winkelmann.com/en**