

Product Information Expansion Systems for Chlorinators

Protection against overpressure

Liquid chlorine expands strongly when heated and can create extremely high pressure as a result. Consequently, all line systems for liquid chlorine must be equipped with a pressure relief system. Pressure relief systems are typically installed at the following locations:

- at each line section for liquid chlorine that can be blocked off at both ends and
- on the chlorine evaporator.

Safety along the entire line

Expansion systems consist of a rupture disk, a contact pressure gauge as well as an optional relief valve.

The rupture disk is a curved metal disk, which is mounted between flanges. When the response pressure is reached, the metal ruptures at the indented points and relieves the pressure system. Rupture disks offer a very high level of protection against overpressure because they do not contain any moving parts that could become clogged, for example, as a result of contamination.

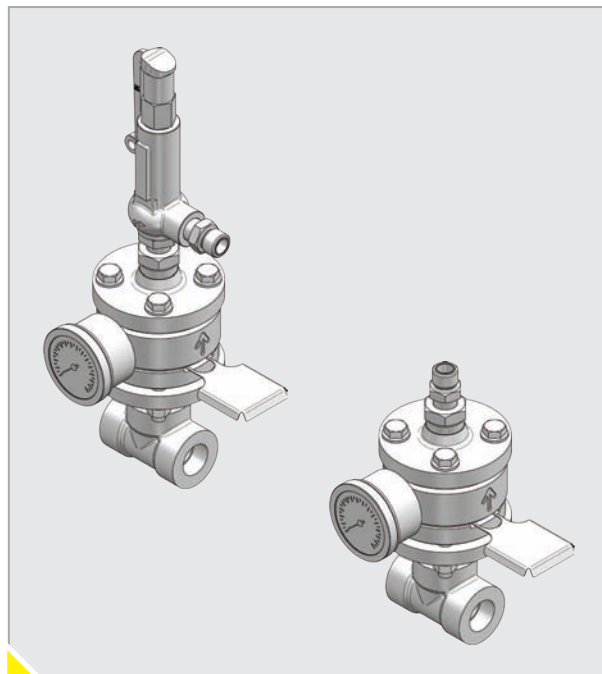
The integrated contact pressure gauge indicates and provides for remote signalling of the failure.

The relief valve is set to a higher pressure than the rupture disk. Therefore, the valve only opens after the pressure gauge has already signalled an alarm. Once the pressure has fallen, the valve closes again, thus preventing an unnecessarily large chlorine outbreak.

The use of relief valves is only necessary if there is a risk of further pressure increases after the rupture disk breaks. This is the case, for example, in chlorine evaporators as the water in the evaporator has stored a large amount of energy.

Escaping chlorine is collected in an expansion tank (chlorine gas bottle). To protect pipelines against excessive pressure, the expansion tank must be capable of collecting at least 20 % of the line volume. Accordingly, a 10 litre tank is sufficient for a 50 litre line volume - which is equivalent to a 100 metre pipeline with a nominal diameter of 1".

A simple and robust design of the expansion systems assures a long service life and minimum maintenance.



In Short

- Response pressure 22.5 bar
- Consisting of a rupture disk and contact pressure gauge
- Available with optional relief valve
- Expansion tanks as optional accessories
- Highly resistant materials
- Long service life
- Low maintenance effort

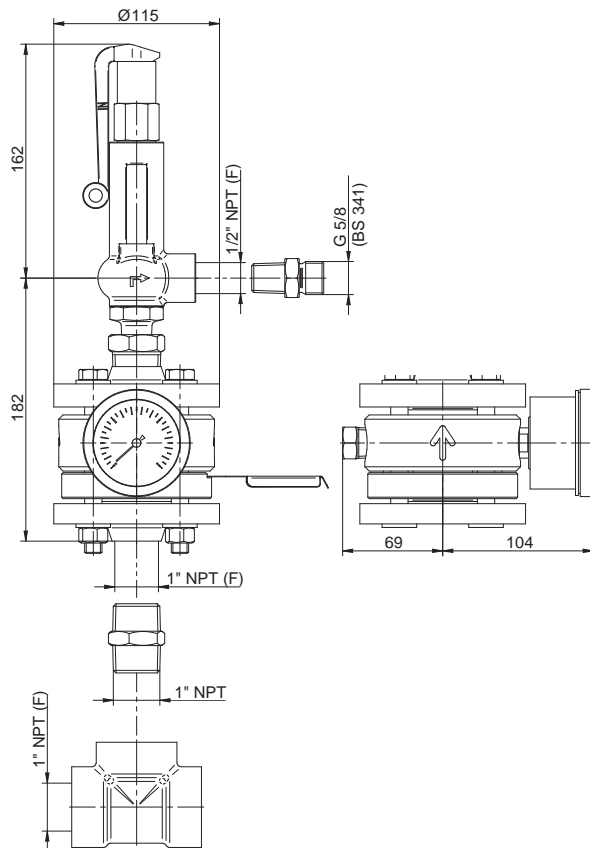
Technical data

Rupture disk		
Material		MONEL
Response pressure		22.5 bar at 20 °C 21.8 bar at 50 °C 20.9 bar at 100 °C
Tolerance		± 10 %
Vacuum-resistant		yes
Nominal width		DN25
Relief valve		
Material		C-steel
Response pressure		27.5 bar
Tolerance		± 10 %
Nominal width		DN12.5
Pressure gauge		
Material		Steel/Silver/FPM
Nominal size		Ø 63 mm
Accuracy		± 2.5 %
Contact load rating		50 V / 0.5 A / 10 W
Weight	Rupture disk with contact pressure gauge and relief valve	10.3 kg
	Rupture disk with contact pressure gauge	8.6 kg

Model variants

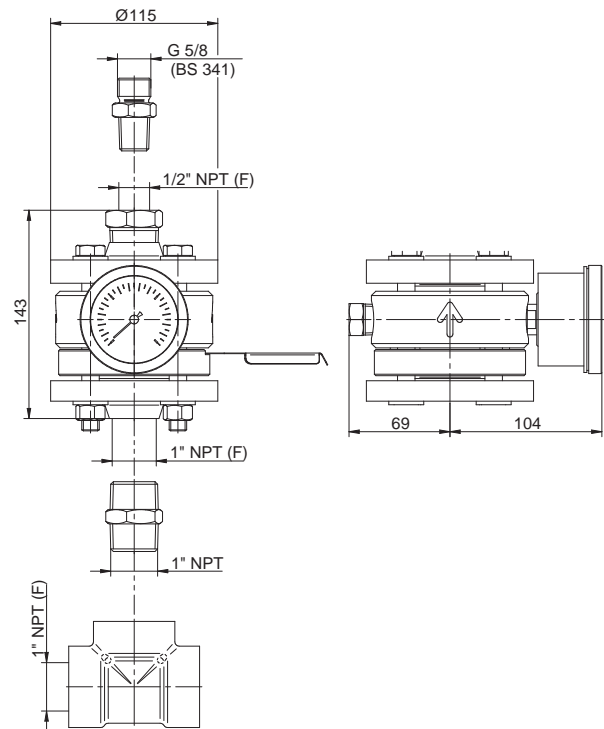
Description	Order no.
Rupture disk with contact pressure gauge and relief valve Connection kit with flanges, fittings, seals and thread sealant	22800003
Rupture disk with contact pressure gauge Connection kit with flanges, fittings, seals and thread sealant	22800005

Dimensional figure



Expansion system for chlorine evaporator

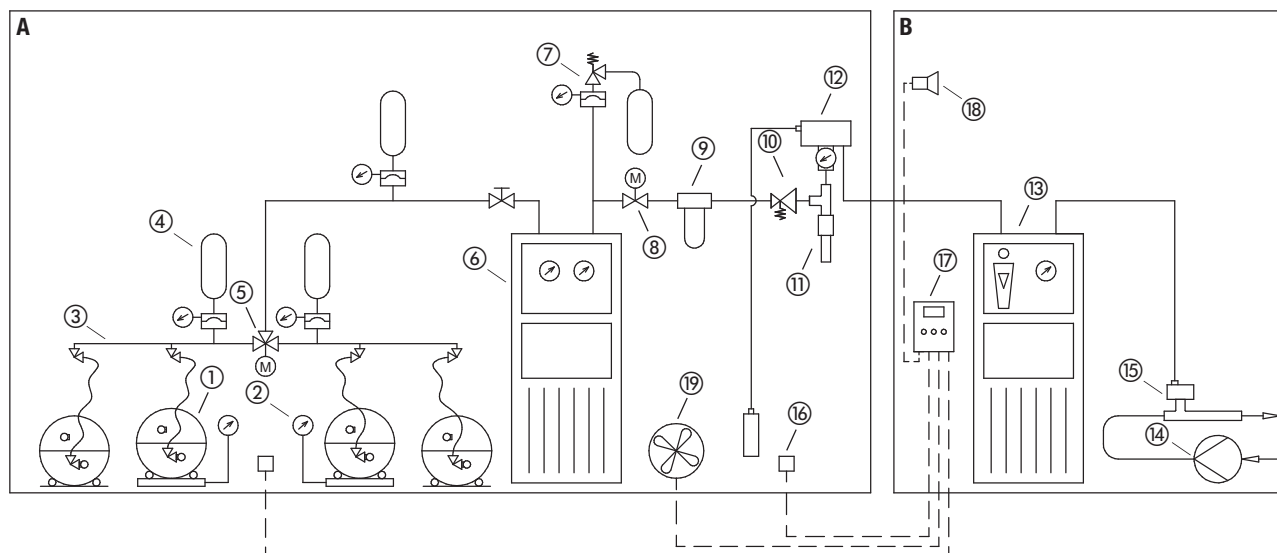
All dimensions in mm



Expansion system for pipelines

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Installation example



A	Room for the chlorine supply
①	Chlorine barrel
②	Chlorine barrel scale
③	Manifold
④	Expansion system for pipelines
⑤	Changeover valve
⑥	Chlorine capacity
⑦	Expansion system for chlorine evaporator
⑧	Quick-action valve
⑨	Chlorine gas filter
⑩	Pressure reducing valve
⑪	Moisture eliminator with heating collar
⑫	Vacuum regulator
⑬	Gas sensor
⑭	Entrance port of the chlorine eliminator

B	Dosing device room
⑬	Dosing device
⑭	Motive water pump
⑮	Injector with non-return valve
⑯	Gas warning device
⑰	Horn

Accessories

Description	Order no.
Flexible connection pipe 2 m with G 5/8 lock nuts on both sides	88566
Chlorine cylinder 10 dm ³ with wall holder Connection thread G 5/8 a	22100065
Chlorine cylinder 20 dm ³ with wall holder Connection thread G 5/8 a	22100066

Spare parts

Description	Order no.
Rupture disk DN25 22.5 bar, MONEL	23900002
Relief valve DN12.5 27.5 bar 1/2" NPT male - 1/2" NPT female	22800004
Contact pressure gauge 0 ... 40 bar Ø 63 mm, connection 1/4" NPT male Contact closed and de-pressurised	24000026
Maintenance kit for expansion system 2 flange gaskets, O-ring for rupture disk, 2 flat gaskets for connection G 5/8	40886