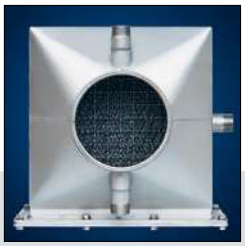
Rupture Disks

Průtržné membrány



STRIKO®

Verfahrenstechnik

Company

STRIKO Verfahrenstechnik has been a reliable partner for plant engineering and construct on including the chemical, petrochemical, pharmaceutical, food and process engineering industry for over 35 years.

Our high-quality products and engineering services guarantee highest plant and process safety as a result of the long-term experience of our employees and design of pressure vessels according to effective rules and standards.

Project-related drawings are generated in a 2D/3D CAD system. Product-related parameters like required minimum net flow area of rupture disks, pressure drop and mixing quality of static mixers, heating- or cooling performance of heat exchangers as well as deposition rate of demisters are calculated and the results will be tested in our in-house test facility if required. An extensive warehouse and flexible manufacturing processes provide a high level of availability of products, which are often custom-made.

From our head office in Wiehl-Bomig we advise and supply well-known chemical companies and numerous medium-sized companies from all branches. We also deliver customised solutions to complement our standard programme of services.

We will definitely find a solution for you, because our strengths are:

INNOVATION – QUALITY – RELIABILITY

So why not put us to the test!

Rupture Disks

STRIKO-rupture disks are pressure relief devices, what typically comprises a rupture disk, i.e. a pressure-containing and at the same time pressure-sensitive element and a rupture disk holder assembly.

Our diverse rupture disk variants made of metal or non-metal materials cover a comprehensive range of nominal widths, bursting pressures and temperatures. STRIKO rupture disks can therefore guard against overpressure or a vacuum condition when used in pressure devices (pressurised containers, pipelines, reactors or other closed pressurised systems).

Rupture disks are designed to burst open and relieve an overpressure or vacuum condition on reaching a predetermined differential pressure and, more importantly, do not re-close it, thus providing protection for the personnel, plant, and environment.

Rupture discs must be replaced after bursting at a specific predetermined differential pressure and temperature and so you always have a brand-new and virtually leak-free pressure relief device in use in your plant. This is an essential advantage compared to safety valve devices, which have higher leaking rates and also create higher costs in purchasing and maintenance.

The legal guidelines and safety demands are seen as the absolutely minimum requirements for STRIKO Verfahrenstechnik. STRIKO bursting safety devices are used and can be counted on wherever devices or plants require safeguarding such as, for example, in the chemicals, food engineering and process engineering industry. Our engineers will determine the best solution for the safety of your plant according to your specifications.

STRIKO bursting safety devices are an economical alternative to safety relief valves - and they are especially easy to install, too! Our rupture disks are, however, perfect for protecting the safety relief valves you've already had installed at great expense from highly corrosive materials. Our rupture discs are custom-made of stainless steel, graphite and special materials like e.g. Tantal, Hastelloy® or Inconel® to suit exactly what you need.

STRIKO rupture disks provide:

- exact response for pressure relief
- leak-free seal
- high-quality materials, yet still remaining reasonably priced due to low material usage
- system relief after a few milliseconds
- no maintenance required, disk is replaced every time after bursting with a brand-new bursting disk
- short changeover times

Product Range Rupture Disks

Rupture Disks, made of metal

STRIKO Flat Rupture Disks
Types: SF-M / SF-MV / SF-MD

- flat rupture disks, applicable without holder directly between flanges
- vacuum-sealed with vacuum support
- operating ratio: 80%
- preferred use at static pressures
- minimal fragmenting

STRIKO Aseptic Rupture Disks
Types: SF-M-S / SZ-X-S / SU-C-S

- flat, forward acting or reverse acting design
- applicable between Tri-clamps and screw-connections
- full opening non-fragmenting design
- operating ratio: depending on selected bursting disk type up to 90%

STRIKO Forward Acting Rupture Disks
Types: SZ-X / SZ-M / SZ-MV

- non-fragmenting bursting
- can be used as a stand-alone component or in combination with a safety relief valve
- operating ratio: up to 90%
- fail-safe mechanism: incorrect installation causes the SZ-X to burst at or below the actual bursting pressure

STRIKO Extruder Rupture Disks
Types: S-EB / S-EB-SVT

- available in different sizes / lengths
- operating ratio: 80%
- a purely passive safety device beside pressure- and temperature-measurement equipment
- S-EB-SVT with integrated burst indicator
- use at high pressure- and temperature-applications

STRIKO Reverse Acting Rupture Disks
Types: SU-R / SU-C / SU-X

- back pressures up to 1.4 times rated burst pressure possible
- non-fragmenting bursting
- can be used as a stand-alone component or in combination with a safety relief valve
- for testing safety relief valves without having to remove them
- operating ratio: 90%
- high resistance against alternating pressures
- ideal for materials, which tend to adhere and „cake“

STRIKO One-Way Units
Type: S-EW

- use for example in hydraulic machines
- full opening non-fragmenting design
- short changeover times
- can be used as a stand-alone component or in combination with a safety relief valve
- operating ratio: up to 90%

Product Range Rupture Disks

Rupture Disks, made of graphite

STRIKO Series **G2**

- flat graphite rupture disks
- to be assembled in holder HG2
- excellent corrosion resistance
- vacuum-sealed with optional vacuum support
- operating ratio: 80%
- dimensions: DN 25 up to DN 600

STRIKO Series **G3M / G3A**

- monobloc-graphite rupture disks
- useable directly between flanges without holder
- excellent corrosion resistance
- vacuum-sealed with optional vacuum support
- operating ratio: 80%
- dimensions: DN 25 up to DN 600
- G3A with stainless steel armour

Special Equipment

- with sintered Teflon-surface usage up to 260°C possible
- PTFE-Liner available at product side
- can be combined with all usual gasket materials
- holder HG2 for bursting disks of Series G2 is available in graphite, stainless steel 1.4571 or special materials like Hastelloy®, Tantal or with PTFE-Liner

Rupture Disk Holders

STRIKO Standard Holder Types: SHF / SHZ / SHU

- for all STRIKO-rupture disks made from metal
- holders are available in stainless steel 1.4571 or special materials like Hastelloy®, Tantal or with PTFE-Liner
- dimensions from DN 20 up to DN 250, depending on combined rupture disk type

STRIKO Pre-loaded Holder Types: SHF Pro / SHZ Pro / SHU Pro

- for all STRIKO-rupture disks made from metal
- holders are available in stainless steel 1.4571 or special materials like Hastelloy® or Tantal
- dimensions from DN 20 up to DN 150, depending on combined rupture disk type

STRIKO Screw Type Unit Type: F-ST

- for all STRIKO-rupture disks made from metal
- units are available in stainless steel 1.4571 or special materials like Hastelloy®, Inconel®, Monel® or Tantal
- dimensions from ⅛" up to 1"
- protection of high pressure vessels
- cost-efficient solution due to small dimensions
- in combination with burst indicator SVT F-ST for efficient burst indication

Product Range Burst Indicators

Burst Indicator SVT 02

- basic / effective tool to detect response of rupture disks
- in dimensions DN 25 up to DN 600
- installation behind rupture disk (outlet side)
- combination with rupture disks made from metal or graphite, also with products made by other vendors and safety relief valves
- slotted PEEK-foil with vacuum-metallised conductor path from silver
- closed circuit with max. 20Ω and max. 50mA
- two-core, Teflon-coated cable, length 2m
- continuous use at temperatures from -30°C up to +220°C
- usual dimensions on stock - delivery ready for installation

Leakage Sensor SVT 05

- advancement of burst indicator SVT 02
- in dimensions DN 25 up to DN 300
- is responding due to additional PTFE-foil at product-side already at lowest volume flows (e.g. caused by leaking bursting disks due to pitting corrosion or hairline crack)
- enabled fast detection of a breakdown
- combination with rupture disks made from metal or graphite, also with products made by other vendors and safety relief valves
- usual dimensions on stock - delivery ready for installation

Full-Metal Burst Indicator SVT AM

- Full-Metal burst indicator DN 25 up to DN 600
- operation temperature from -30°C up to +370°C (in combination with gasket made from Klingersil C-4400)
- burst indicator with metal-membrane made from stainless steel 1.4310, Hastelloy®, Tantal, Silver
- available gaskets: Klingersil C-4400, PTFE, Garlock Gylon blau
- special design SVT AM-L for low response pressures (from 10mbar)
- combination with rupture disks made from metal or graphite, also with products made by other vendors and safety relief valves
- delivery ready for installation

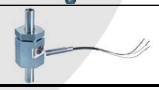
Safety Device Definitions

Rupture Disks

minimum net flow area:	minimum net flow area for discharge
operating ratio:	ratio of operating pressure to bursting pressure in percent
max. operating pressure:	maximum pressure, at which the rupture disk used achieves its longest service life lower burst tolerance * operating ratio
bursting temperature:	the temperature assigned to a bursting pressure, which complies with the expected temperature of the rupture disk at the time of activation
bursting pressure:	differential pressure between the inlet side and outlet side, at which the rupture disk opens
concave rupture disk:	rupture disc, whereby the pressure builds up against the concave side of the rupture disk
convex rupture disk:	rupture disc (also „reverse acting rupture disk“) whereby the pressure builds up against the convex side of the rupture disk

Overview

Rupture Disks and Equipment

Series	Description	Nominal Width	poss. Bursting Pressure in bar (g)	Tolerance	Operating Ratio	Illustration	Installation Position	poss. Operating Temperatures (depending on materials)	Necessary Holder Assembly	Available with Vacuum Support?	Can be installed with safety relief valve?
SF-M SF-MV SF-MD	flat, multi-part rupture disks for direct installation between flanges (SF-M) with vacuum support (SF-MV) double acting (SF-MD)	DN 15 up to DN 800	0,02 to 6,0	from +/-5%	80%			-120°C up to +260°C	optional applicable in holder types SHF / SHF Pro	yes	yes
SZ-X SZ-M SZ-MV	forward acting, pre-bulged rupture disks X-shaped scored (SZ-X) multi-part (SZ-M) multi-part, vacuum-resistant (SZ-MV)	DN 15 up to DN 800	0,02 to 250	from +/- 5%	90%			-200°C up to +480°C	SHZ / SHZ Pro	yes	yes
SU-R SU-C SU-X	reverse acting bursting disk with shear-ring (SU-R) C-shaped scored (SU-C) X-shaped scored (SU-X)	DN 15 up to DN 250	0,5 to 75	from +/-5%	90%			-200°C up to +480°C	SHU / SHU Pro	not necessary	yes
SF-M-S SZ-X-S SU-C-S	aseptic rupture disks for installation directly between clamps / screw connections	DN 25 up to DN 100	0,1 to 8,5	from +/-5%	80% - 90%		in dependence of rupture disk type	-80°C up to +230°C	directly between clamps or screw type connections	in dependence of rupture disk type	yes
S-EB S-EB-SVT	extruder rupture disk (S-EB) with integrated burst indicator (S-EB-SVT)	3/16", other on request	70 to 1200	from +/-5%	80%			based on application, up to max. 480°C	-	not necessary	-
S-EW	housing-/ rupture disk combination for fast changeover	¼" up to 1"	1,0 to 75	from +/-5%	80%		in dependence of rupture disk type	-200°C up to +480°C	-	yes	yes
G2	phenolic resin impregnated graphite rupture disk	DN 25 up to DN 600	0,07 to 28,0	from +/- 10%	80%			-50°C up to +180°C	HG2	yes	no
G3M G3A	phenolic resin impregnated graphite rupture disk, monobloc - type	DN 25 up to DN 600	0,07 to 83,0	from +/- 10%	80%			-50°C up to +180°C	-	yes	no
SVT 02	burst indicator for monitoring rupture disk relief	DN 25 up to DN 600	-	-	-			-30°C up to +220°C	-	-	yes
SVT 05	leakage sensor for monitoring rupture disk relief	DN 25 up to DN 300	-	-	-			-30°C up to +220°C	-	-	yes
SVT AM	full-metal sensor for monitoring rupture disk relief	DN 25 up to DN 600	-	-	-			-30°C up to +370°C	-	-	yes
SVT AM-L	burst indicator for monitoring rupture disk relief, with lowest response pressure	DN 25 up to DN 600	from 10mbar response pressure	-	-			-30°C up to +220°C	-	-	yes
SVT F-ST	burst indicator for monitoring rupture disk relief, in combination with holder F-ST	DN 8 up to DN 15	-	-	-		in dependence of rupture disk type	-25°C up to +100°C	-	-	yes