Pressure and Vacuum Relief

Bursting discs
Breather valves
Signalling units

About us…

The REMBE® headquarters are located in Brilon/Germany. Since 1973 REMBE® GmbH Safety + Control has manufactured world class safety- and measurements products.

Our unique team at REMBE® is a highly motivated crew of 70 people comprising both, skilled craftsmen and degreed engineers. Combining their dedication with an unequalled track record in the safety and control business is a perfect starting point for worldwide success. Every REMBE® employee is an important component of this system, integrated into the whole by living it and consequently taking the tasks to heart. Quality became a way of life for us and is a decisive feature in the superb performance of all REMBE® products.

In the Safety Division we provide bursting discs for general applications and pressure / vacuum relief valves as well as explosion protection systems engineered for various applications.

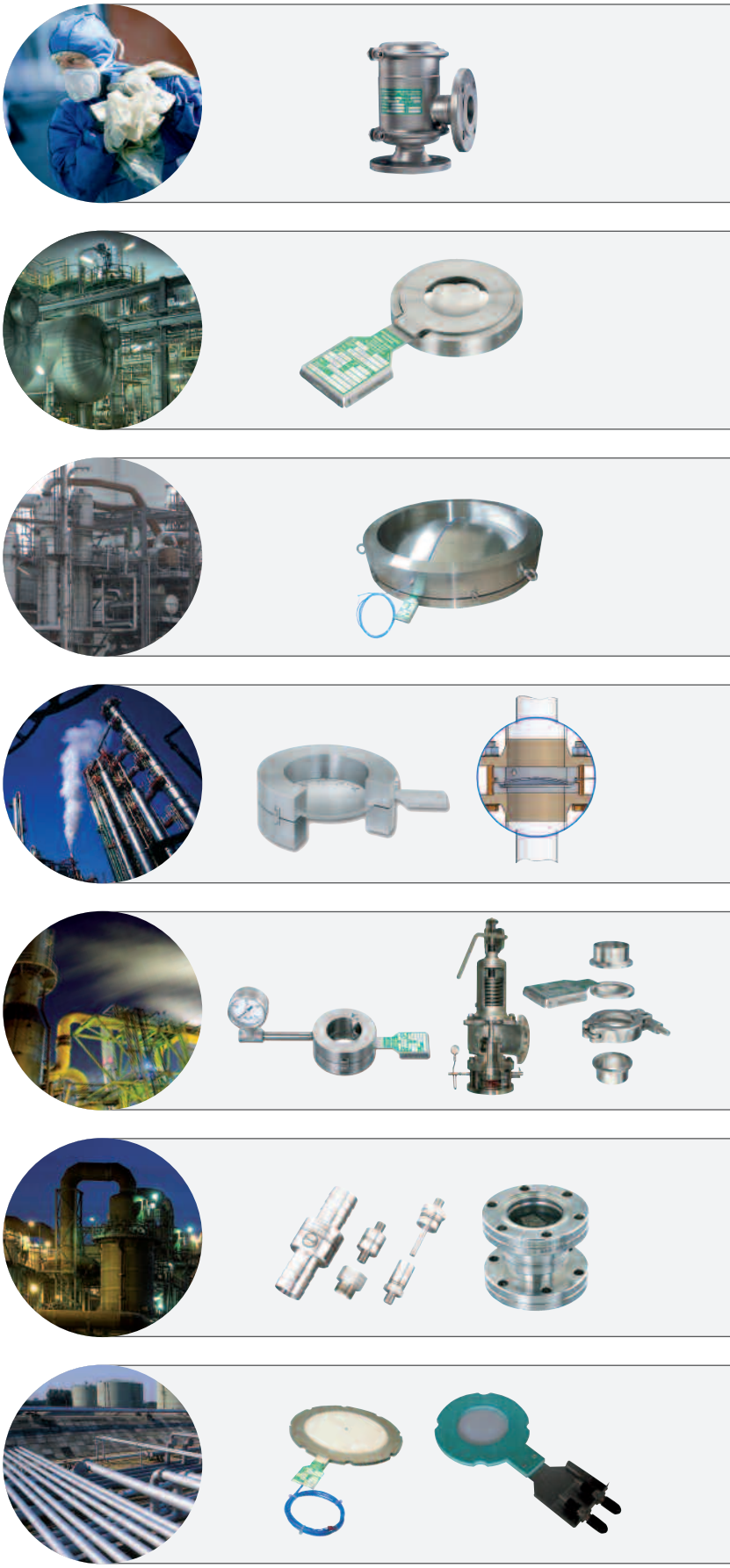
By means of the latest production technologies, as there are laser- and welding equipments combined with precision tools we are manufacturing the products of the Safety Division as standardised or engineered units.

Our extensive material stock is the basis for flexible production which offer you even exotic materials (Inconel, Hastelloy, Titanium, Tantalum, Aluminium, Monel, Gold, FEP, etc.) at any time. It enables us to realize even extraordinary customer requests at short term.

All REMBE® products are manufactured acc. to national and international guidelines / normatives including ASME, ATEX, DIN-EN ISO 4126-2,-4126-6, AD2000-Merkblatt A1, PED, Promatomnadzor, GOST, SQL, API, BS2915, KTA, NFPA...

Numerous applications in chemical-, plastics-, pharmaceutical- and food industries testify the reliability of the REMBE® products as well as the long-lasting, custom-designed experience of our degreed engineers.

REMBE®-headquarters in Brilon / Germany



Smart solutions for the safety of your facilities

ELEVENT®	Pressure and vacuum protection of non-pressure tanks and vessels from ± 2 mbar	*"…the outstanding tightness of the ELEVENT® guarantees reduced costs for nitrogen inert systems."*	4
IKB®	With imperfection technology to the perfect bursting disc	*"… the IKB® is the ideal alternative compared with the fragile graphite bursting disc."*	5
BT / ODV / STAR / VSI …	Pressure protection with triple-section and multi-layer bursting discs	*"… with the different layers of the ODV even low response pressures at full vacuum resistance can be realised."*	6
IG	Holder units for bursting discs	*"… the IG holder units provide safe seat between flanges."*	7
KUB® **KUB®-*V-Series*** **KUB®-*G-Series*** **TC(R)-KUB®** **ZW**	Reverse buckling-pin bursting disc Tri-clamp bursting disc Two-way bursting disc	*„… using the KUB-V-Series bursting disc in front of safety valves you benefit from reduced operational costs."*	8 9 10 11
UKB-LS	Compact bursting discs	*"… REMBE always offers even for extra-ordinary applications an attractive solution."*	12
Special-/Extruder bursting discs	…engineered for special applications		13
FOS **SK / BIRD / SB-S**	Signalling bursting discs for all applications	*"… as the fibre optical signalling bursting disc FOS runs without electricity, even critical operational sites can safely be monitored."*	13 14

Please see your competent contact on page 15!

Pressure / vacuum breather valves for relief settings from ± 2 mbar

ELEVENT®

The unique ELEVENT® valve design with deep-drawn full stainless steel resp. metal housing, modular assembly as well as interchangeable components offers an optimised protection for application with low bursting pressures.

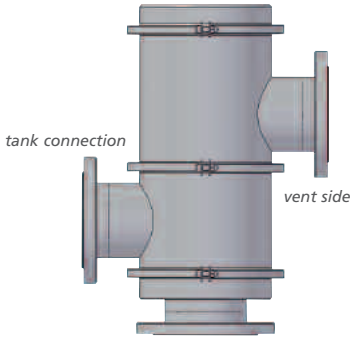
The relieving pressures range from 2 mbar to 200 mbar. The ELEVENT® provides advanced seal technology and extreme stability despite low weight. The uncomplicated assembly of the valve and the very easy disassembly by means of clamp body connections are additional path-finding features of the ELEVENT®.

Installation and storage costs are reduced to a minimum. Costs for maintenance and inspection have not been lower ever before!

The optimised "air cushion" sealing principle provides a smooth valve stroke and re-seating during operation and prevents from valve flutter and abrasion.

Further options

- HALAR-coating, various special materials
- steam jacketed or steam traced
- pressure and vacuum relief settings
- individual sizes, bursting pressures and connection flanges on request



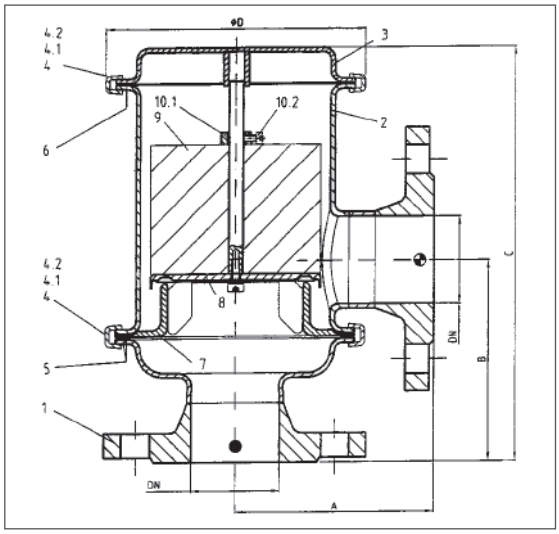
connection for vacuum relief

ELEVENT® concept

ELEVENT® pressure relief valve made from ss 316 L

ELEVENT® quality control

ELEVENT® "Fresh Air Supply" at a reactor



ELEVENT®
with swivel flanges

ELEVENT®
Pressure/vacuum relief valve E (dimensions please see below)

TYPE	DN	NPS	Dimensions [mm]				
			A	B	C	D	E
ELV E-1/1	25	1"	100	100	195	105	150
ELV E-2/2	50	2"	125	130	263	155	200
ELV E-3/3	80	3"	155	155	375	208	263
ELV E-4/4	100	4"	175	175	395	208	263
ELV E-6/6	150	6"	255	255	510	325	385

Dimensions valid for design with DIN EN 1092/PN16 flanges

advice

Your benefits:

- extreme stability
- low weight
- the outstanding tightness guarantees reduced costs for nitrogen inert system

With imperfection technology to the perfect bursting disc

IKB® Pat. pend. 10 2006 022 478.7

Bursting discs have successfully proven themselves not only as passive high pressure, but as vacuum pressure protection elements. In case of low pressure ≤ 15 psi (≤ 0.5 bar acc. to PED), the metal and graphite bursting discs meet their limits, also due to sensitivity. The graphite bursting disc has a further burden when it bursts as there is particle fragmentation.

The utilization of the directives ASME SEC. VIII, Div. 1 provide the possibility to avoid expensive and returning inspections when either a pressure protection ≤ 15 psi (ASME) or ≤ 0.5 bar (PED) is installed.

The team-play consisting of 35 years of bursting disc experience, cooperation with leading universities and the use of mainframe computers led to a completely new design of the bursting disc. For the first time imperfection technology was successfully implemented for the opening of a bursting disc. Even with this low bursting pressure, the largest venting areas can be achieved without fragmentation.

Further advantages are its aseptic design, vacuum resistance, pressure cycle resistance and a working area of up to 96%. For the most common areas of application, there are materials such as 316 (L) and Hastelloy C276 available on stock.

The newest generation of bursting disc IKB® is supplied in a sandwich construction. It is installed between all common flange and pipe connections. The torque pressure on the flange bolts does not influence the function of the bursting disc.

Low pressure bursting disc IKB®

advice

Your benefits:

- fully metallic, robust design
- easy installation
- no influence on torque pressure
- longer maintenance intervals

DN	NPS	min. burst pressure		max. burst pressure		relief area		height	
		pmin*[barg]	pmin*[psig]	pmax [barg]	pmax [psig]	[cm²]	[in²]	[mm]	[in]
25	1"	0.60	8.70	4.5	58.0	4.5	0.698	22	0.87
40	1.5"	0.50	7.25	4.5	58.0	11.0	1.705	25	0.98
50	2"	0.35	5.08	3.0	43.5	22.0	3.410	26	1.04
65	2.5"	0.35	5.08	3.0	43.5	35.0	5.425	30	1.18
80	3"	0.30	4.35	2.0	29.0	50.0	7.750	35	1.38
100	4"	0.30	4.35	2.0	29.0	80.0	12.400	37	1.46

* reduced relief area
bursting tolerance range : < 0.5 bar (15 psi) ± 0,1 bar and ≥ 0,5 bar (15 psi) ± 10%
bursting tolerance range : > 0.5 bar (15 psi) ± 2% on request

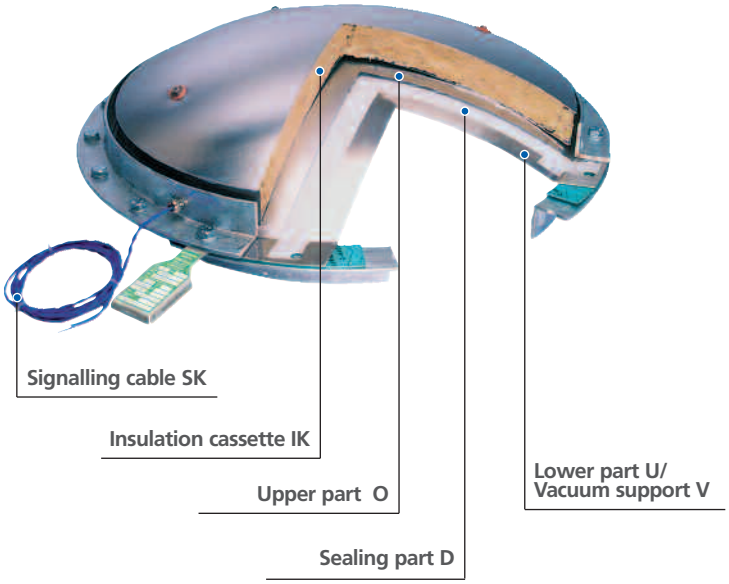
Pressure protection with triple-section- and multi-layer bursting discs

BT / ODV / STAR / VSI ...

Process bursting discs BT (bursting disc with tag plate) and BT-VSI (with integrated vacuum support) are used for medium to high burst pressures. Safe installation in pipeline systems is ensured by means of holder units. Working pressure can go up to 70 % of the burst pressure (MAWP).

Triple-section bursting discs ODV, etc. are utilised for low and medium pressures. They work up to 80 % of the burst pressure. Both types are suitable for gases and liquids and resist vacuum in V-version. Triple-section bursting discs are most commonly used for low burst pressures up to 1 bar. The extremely stable construction offers easy handling. The F-version is installed between regular flanges, the FL-version between angular frames and rings. REMBE® triple-section bursting discs guarantee unlimited lifetime even under pulsation or changing pressure conditions.

BT-SK/ODV-HL bursting disc with holder



BT-IKSKODV-FL cut-away sample with signalling unit and insulation IK

BT-STAR with star-shaped opening

The STAR bursting disk has especially been designed for higher response pressures.

For all bursting disc types there are many accessories available:

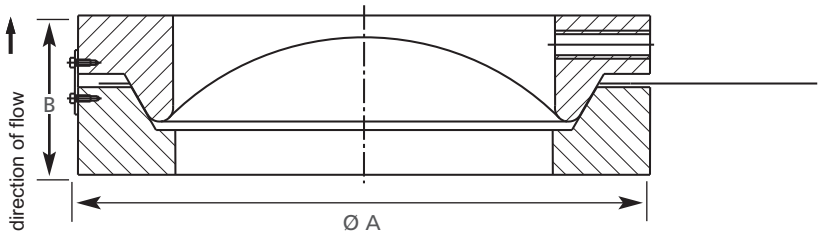
- signalling devices
- controllers
- weatherproof insulation IK or IAD preventing from reduced dew point or noise
- integrated heat insulations (up to 1,400 °C / 2,552 °F and more)
- sealings in all kind of qualities
- flanges, rings and frames

Sealing material		FEP/PTFE		Aluminium		Nickel		Monel		Inconel		Stainless Steel	
Max. temperature		205 / 230° C	401 / 446° F	120° C	248° F	120° C	248° F	120° C	248° F	120° C	248° F	120° C	248° F
DN	NPS	bar g	psig	bar g	psig	bar g	psig	bar g	psig	bar g	psig	bar g	psig
20	3/4"	1.7	24.70	6.0	87.00	14.0	203.0	18.0	261.0	35.0	508.0	39.0	566.0
25	1"	1.6	23.20	3.5	50.80	12.0	174.0	17.0	247.0	28.0	406.0	33.0	479.0
40	1,5"	1.0	14.50	2.5	36.30	10.0	145.0	12.0	174.0	20.0	290.0	25.0	363.0
50	2"	1.0	14.50	1.5	21.80	6.0	87.0	7.0	102.0	12.0	174.0	13.0	189.0
65	2,5"	1.0	14.50	1.3	18.90	4.0	58.0	5.0	72.5	10.0	145.0	11.0	160.0
80	3"	0.7	10.20	1.0	14.50	3.0	43.5	6.0	87.0	9.0	131.0	9.0	131.0
100	4"	0.4	5.80	0.8	11.60	3.0	43.5	4.0	58.0	7.0	102.0	7.0	102.0
150	6"	0.2	2.90	0.5	7.25	2.5	36.3	3.0	43.5	5.0	72.5	6.0	87.0
200	8"	0.1	1.45	0.3	4.35	2.0	29.0	2.5	36.3	3.0	43.5	4.5	65.3
250	10"	0.1	1.45	0.3	4.35	1.5	21.8	2.0	29.0	2.5	36.3	3.5	50.8
300	12"	0.1	1.45	0.2	2.90	1.5	21.8	2.0	29.0	2.0	29.0	3.5	50.8
350	14"	0.1	1.45	0.2	2.90	1.5	21.8	2.0	29.0	1.5	21.8	3.5	50.8
400	16"	0.1	1.45	0.1	1.45	1.5	21.8	2.0	29.0	1.5	21.8	3.0	43.5
450	18"	0.1	1.45	0.1	1.45	1.5	21.8	2.0	29.0	1.5	21.8	3.0	43.5
500	20"	0.05	0.725	0.1	1.45	1.5	21.8	1.5	21.8	1.5	21.8	2.0	29.0
600	24"	0.05	0.725	0.1	1.45	3.0	43.5	4.0	58.0	3.5	50.8	2.0	29.0

Minimum possible burst pressure at a temperature of 22 °C (71.6 ° F) in dependence of nominal pipe size and the used material of the sealing part. Higher temperatures cause a lower burst pressure, lower temperatures an increase in burst pressure. Other sizes on request!

Bursting disc holder unit

IG



DN	NPS	ANSI Rating	Ø A mm	B mm
15	1/2"	150 300 / 600 900	44 50 60	42 42 42
20	3/4"	150 300 / 600 900 / 1500	53 63 66	42 42 42
25	1"	150 300 / 600 900 / 1500	63 69 76	42 42 42
32	1,25"	150 300 / 600 900 / 1500	73 79 85	42 42 42
40	1,5"	150 300 / 600 900 / 1500	82 92 95	42 42 42
50	2"	150 300 / 600 900 / 1500	101 107 139	42 42 42
65	2,5"	150 300 / 600 900 / 1500	120 127 162	42 42 42
80	3"	150 300 / 600 900 1500	133 146 165 171	42 42 42 42
100	4"	150 300 600 900 / 1500	171 177 190 203	45 45 45 45
125	5"	150 300 600 900	193 209 238 244	55 55 55 55
150	6"	150 300 600 900	219 247 263 285	55 55 55 88
200	8"	150 300 600	276 304 317	55 55 88
250	10"	150 300	336 358	62 62
300	12"	150 300	406 419	63 63
350	14"	150 300	447 482	75 75
400	16"	150 300	511 536	78 78
450	18"	150 300	546 593	78 78
500	20"	150 300	603 647	87 87
600	24"	150 300	714 771	96 96
650	26"	150 300	771 831	150 150
700	28"	150 300	828 895	150 150
750	30"	150 300	879 949	150 150
800	32"	150 300	936 1003	150 150

British Standard 3293

DN	NPS	PN	Ø A mm	B mm
15	1/2"	10-40 64-160	51 61	42 42
20	3/4"	10-40	61	42
25	1"	10-40 64-160	71 82	42 42
32	1,25"	10-40	82	42
40	1,5"	10-40 64-160	92 103	42 42
50	2"	10-40 64	105 113	42 42
65	2,5"	10-25 40 64 100	125 127 138 144	42 42 42 42
80	3"	10-40 64 100	142 148 154	42 54 54
100	4"	10/16 25/40 64	162 167 174	45 45 54
125	5"	10/16 25/40 64	192 194 210	55 55 55
150	6"	10/16 25/40 64	217 223 247	55 55 88
200	8"	10/16 25 40	272 283 290	55 55 88
250	10"	10/16 25 40	325 340 352	62 62 62
300	12"	10 16 25	375 383 400	63 63 63
350	14"	10 16 25	435 443 457	75 75 75
400	16"	10 16 25	485 496 514	78 78 78
500	20"	10 16 25	594 617 624	87 87 87
600	24"	6 10 16 25	679 695 734 731	96 96 96 96
700	28"	6 10 16 25	784 810 804 833	150 150 150 150
800	32"	6 10 16 25	890 917 911 942	150 150 150 150

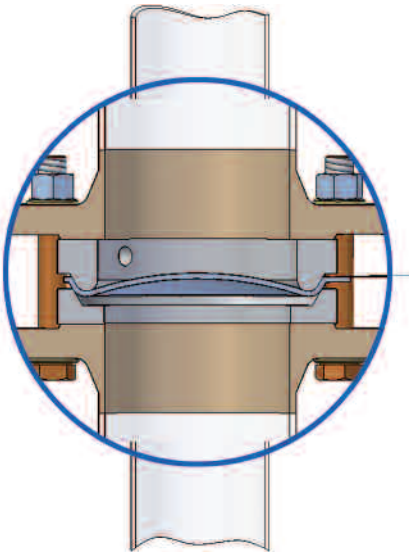
Further pressures and nominal pipe sizes on request!

The bursting disc holder unit IG has been designed for bursting discs with angular sealing surfaces, e. g. BT, BT-ODV, etc. The holder unit consists of an inlet and outlet part. It can directly be installed between flanges.

The bursting disc unit is installed between flanges. At the same time it disposes of a sufficient leak-proof, even in case of high pressures.

The installation of the bursting disc in the pipe system on site is considerably simplified by pre-assembling it into the holder unit. In case of bursting the bursting disc is replaced. The holder unit can be used again.

The holder unit IG can be produced from Carbon-Steel, Stainless Steel, Titanium, Nickel, Hastelloy, Inconel and other special materials. The selection of the materials depending on the specification, the temperature resp. corrosion resistance is individually agreed with the customer.



Bursting disc pre-assembled in disc holder IG and sandwiched between flanges.

The installation is made (s. above) between flanges. This model range is available for all kind of flanges (DIN / ANSI / JIS s. table). Seal faces and dimensions of the holder units can be suited to all current standards.

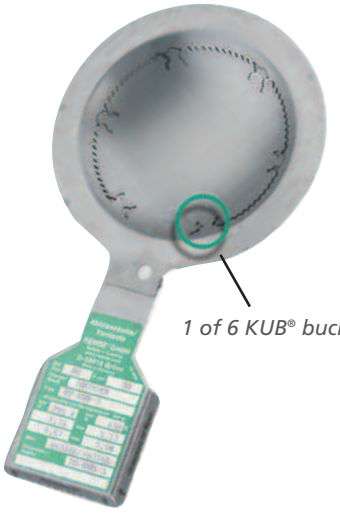
Reverse buckling pin bursting disc

KUB® Pat. pend.

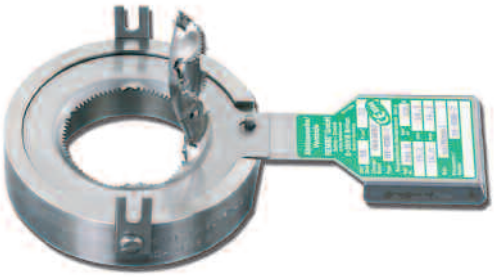
In 1774 Leonard Euler developed the formula for buckling of pins. His aid was his knowledge of mathematics. In 1991 REMBE® introduced the patented reverse buckling pin bursting disc KUB®. This time, the aid was the most modern production technology which made it possible to integrate the buckling pins directly into the dome of the bursting disc. Computer controlled KUB® production enables ± 2 % bursting tolerance with the most accurate response pressures.

The process side consists of an integrated convex, smooth reverse sealing-membrane. Thus, the first essentials of sterile, sanitary service are met. Moreover, the sealing membrane protects the buckling pin element from corrosion. Constant burst pressure and unlimited service lifetime are guaranteed.

KUB® bursting discs are fully torque independent. Torque of the flange bolts is only defined by the sealing and pressure rating requirements. The KUB® can be installed using the KUB® holder unit or, at low to medium pressures, directly between standard DIN or ANSI flanges without specially trained personell.Testing acc. to PED 97/23/EG-Modul B or ASME guideline is part of every supply.

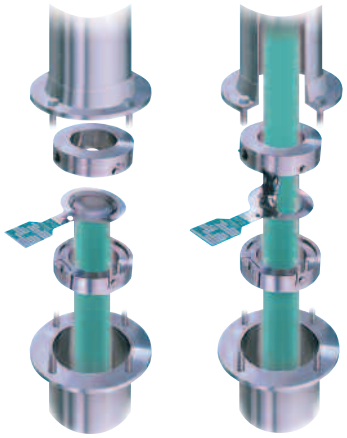


1 of 6 KUB® buckling-pins



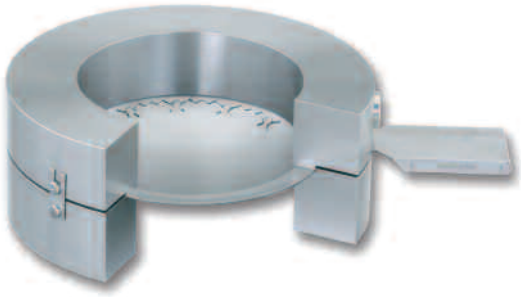
KUB® after responding

The buckling pin layer element defines the bursting pressure without being effected by the process media.



KUB® with holder unit under normal operation

KUB® after responding with 100 % opening



KUB® with cut away holder unit

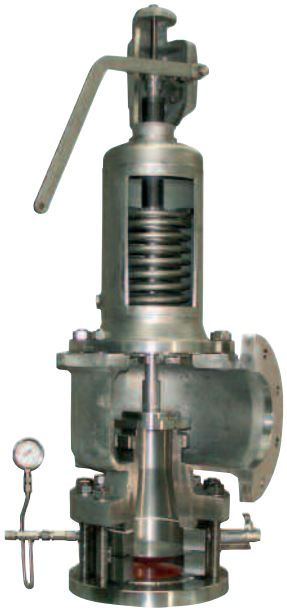
advice

Your benefits:

- torque independent
- no fragmentation
- separation of functioning
- suitable for all gases, vapour and liquids

Eliminating downtime
Stretching maintenance intervals

KUB®-*V-Series*



KUB®-V-Series keeps safety valves performing like new

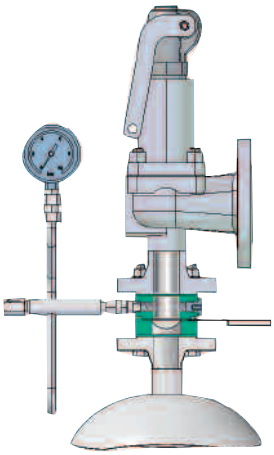
The KUB®-*V-Series* is the result of continued research and development. The benefit the KUB®-*V-Series* offers is as simple as ingenious: by putting the space between disc and safety valve slowly under pressure the valve can be checked for leakage or smooth performance. This unique durability against backpressure of the KUB®-*V-Series* is achieved by modifying the proven double layer KUB® design. It will never be obtained by single-layer or pre-weakened scored bursting discs.

Due to special reinforcements of the second protecting layer the V-Series withstands twice the pressure in reverse direction as it does in venting direction. Even after multiple valve-testing performance and durability of the bursting disc remain unchanged. Single-layer or pre-weakened bursting discs will never meet these requirements.

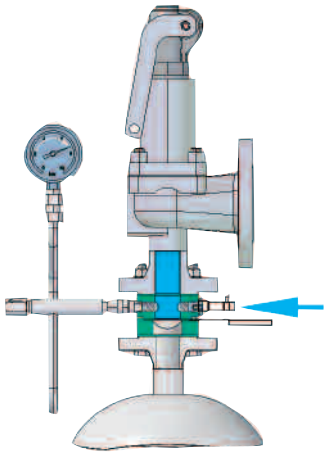
advice

Your benefits:

- easy and safe installation
- reduced maintenance
- extended valve durability

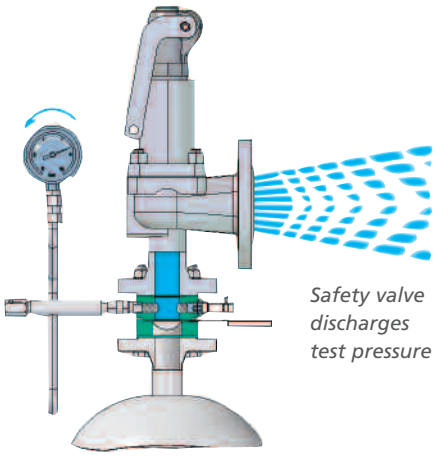


Step 1: *Normal operation, vessel under working pressure*



Putting the space between bursting disc and safety valve slowly under pressure by means of the volution-unit

Step 2: *Test operation, chamber in between pressurized with test pressure*



Safety valve discharges test pressure

Step 3: *Test operation, safety valve responds, function/leakage testing finalized*

Safety even under harshest conditions

KUB®-*G-Series*

Yet another highlight of the KUB®-family is the *G-Series*.

It is the world's first ever made bursting disc tailored to the challenging demands of geothermal power plant applications. For these applications the endurance of a bursting disc is defined by extreme temperatures and ongoing corrosion.

Special finishing technologies of the KUB®-G-Series withstand these aggressive effects and double the life time of the bursting disc.

advice

Your benefits:

- quick installation, double lifetime
- no special tools required
- specifically designed for geothermal applications




KUB®-G-Series
before and after responding

The KUB®, KUB®-*V-Series* and KUB®-*G-Series* bursting discs are available in following sizes:

KUB® Pat. pend.	DN [mm]	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600	700	800
	NPS [in]	1"	1,5"	2"	2,5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"
Eff. Venting Area [cm²]		4.5	11	22	35	50	80	180	280	440	650	860	1100	1485	1855	2710	3680	4850
Eff. Venting Area [in²]		0.7	1.70	3.29	4.72	7.33	12.4	27.9	43.4	68.2	100.7	133	171	230	288	420	570	752

All-purpose sanitary use

TC(R)-KUB®

TCR-KUB®
with clamp pipe connections

The TC(R)-KUB® is the result of a continuous development of the KUB® reverse buckling pin bursting disc. As the KUB® is now directly integrated into a clamp sealing ring a direct installation of this bursting disc into standard clamp pipe connections is now possible. Resulting from this the KUB® provides multiple options.

The TC(R)-KUB® bursting disc has a smooth convex surface on the pressure side which definitely guarantees sterility.

The TC(R)-KUB® was specifically developed for pressure protection that demands aseptic and sterile conditions, e.g. in the pharmaceutical-, biotechnical- and food industries. The especially stable and robust construction enables a safe and easy installation. The TCR-KUB® is fitted with an integrated PTFE-gasket (FDA/USPS class VI) conformity) that can be renewed on demand.

DN	NPS	Eff. Venting Area [1]	
mm	in	cm²	in²
25*	1"	3	0.47
40*	1,5"	8	1.24
50*	2"	14	2.17
65	2,5"	25	3.88
80	3"	40	6.20
100	4"	62	9.61

* Available in TC(R)-KUB®-version, further sizes on request
[1] Clamp standard ISO2852 and pipe standard DIN11850 correspond to DIN32676. TC(R)-KUB® bursting discs are also available for other systems.

TC(R)-KUB® in a test laboratory

advice

Your benefits:

- smooth application in pharmaceutical-, biotechnical- and food industries
- safeguarding sterility
- direct mounting between clamp fittings

Two-in-one bursting disc **ZW**

Two-Way bursting disc
with proximity switch

ZW special design at a vessel
in the chemical industry

advice

Your benefits:

- easy and safe mounting
- no special tools required
- reduced operational costs

The bi-directional acting bursting disc has the function of two bursting discs, but only requires one installation point. It protects in one direction against inadmissible pressure and in the opposite direction against inadmissible vacuum. Due to its construction the two-in-one bursting disc offers benefits like stability and robustness. It is maintenance-free, even at low response pressures.

The ZW opens in both directions and is fragmentation-free. The bursting disc is suitable for liquid and gaseous media.

ZW	DN [mm]	DN 50	DN 65	DN 80	DN 100	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400	DN 500	DN 600	DN 700	DN 800
	NPS [in]	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"	28"	32"
pmin. pressure [barg]		1.0	1.0	0.7	0.35	0.2	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.045	0.035
pmin. pressure [psig]		14.5	14.5	10.2	5.08	2.9	1.45	1.45	1.45	1.45	1.45	0.73	0.73	0.65	0.65
pmin. vacuum [barg]		-0.400	-0.300	-0.150	-0.025	-0.020	-0.020	-0.020	-0.015	-0.015	-0.015	-0.015	-0.010	-0.010	-0.010
pmin. vacuum [psig]		-5.8	-4.35	-2.18	-0.36	-0.29	-0.29	-0.29	-2.18	-2.18	-2.18	-2.18	-0.145	-0.145	-0.145

Compact bursting discs

UKB-LS

Bursting disc with high gas tightness, e.g. for cryogenic systems

Special applications require special bursting discs. The UKB-LS meets critical features such as highly leakproofness (Helium), cleanroom demand, fully metal design – even at lowest burst pressures. Furthermore this vacuum resistant compact bursting disc distinguishes itself by high working pressure and back pressure resistance as well as by lowest tolerances. In addition to many standard sizes the UKB-LS is manufactured to specific customer's requirements.

UKB-LS bursting discs are suited to applications in the aerospace-, hydraulic, cryogenic-, pharmaceutical- and medical technology and there where compact pressure protection is requested combined with the lowest possible weight and easy handling.

The compact bursting discs are absolute tightly welded via laser- or micro welding with the respective swivel. The "gentle" welding method provides an excellent leakproofness – even on thinnest burst membranes. Installation is effected torque independent and timesaving.

For example, when ESA required a lightweight, easy to handle bursting disc protecting a deep cold gas vessel they chose the UKB-LS.

astrium esa

Reverse acting bursting disc UKB-LS with guaranteed helium tightness

Bursting disc for cryogenic application

Bursting discs individually manufactured acc. to customers' requirements

advice

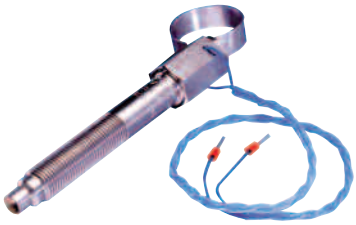
Your benefits:

- maintenance-free
- easy installation
- unlimited lifetime
- bursting pressures from 100 mbar (1.45 psi) to 500 bar (7250 psi)
- sizes from DN 15 (1/2") to DN 600 (24")

Bursting discs for special applications
Signalling bursting disc

Bursting plugs / Extruder bursting discs

Bursting disc for hydraulic systems



Extruder bursting disc with signalling unit

REMBE® offers so-called extruder bursting disc units for safeguarding both, extruders and moulding machines in the plastics processing industry against pressure.

Bursting plugs are used in hydraulic systems and in compressed air systems. The gas-tight bursting membrane – welded or soldered – is directly located next to the process. Therefore a high fitting accuracy as well as wall-flush sealing in the melting channel with 100 % tightness is ensured.

Extruder bursting discs

Bursting discs for compressed air systems

The bursting pressures are in accordance to the individual application. Pressures up to some thousand bar (psi) and temperatures of 600° C (1,112 °F) are possible.

The extruder bursting disc units are optionally available with integral signalling unit.

advice

Your benefits:

- easy installation
- tag number hard stamped
- pressures from 30 bar (435 psi) to 7000 bar (100000 psi)
- sizes DN 4 (1/8”) to DN 200 (8”), standard tolerance ± 10 %

Fibre optic signalling bursting disc **FOS**

In case of a bursting disc response the new fibre optic signalling bursting disc generates an optical signal and takes it to the process monitoring unit via EMI (Electro Magnetic Interference) and high voltage insensitive fibre optic cables for evaluation.

In case of the signalling bursting disc being set in motion, the luminous flux is interrupted due to the tear of the optical fibre. The following FOA (fibre optic evaluation unit) immediately provides an electrical signal for optical or acoustic alert that can also be used for further data processing. If necessary, several signalling bursting discs can be interconnected, forming an optical chain, so that only one FOA is required for evaluation.

advice

Your benefits:

- suitable for use in hazardous areas (Ex) since no electricity at site
- disturbance-free signal transmission

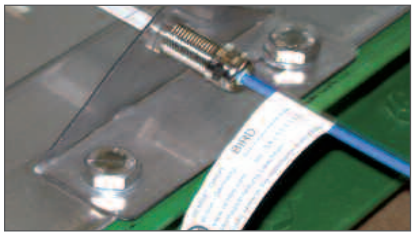
Fibre optical signalling bursting disc FOS for use in hazardous areas (Ex)

SK / BIRD / SB-S

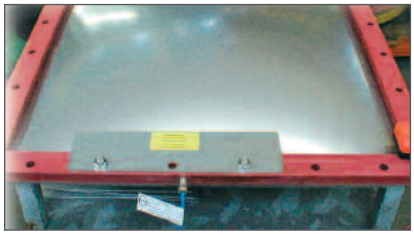
A responded disc has to be detected either it has opened fully or only lifted to release little pressure or vacuum. Several systems with different methods of signalling are available – integrated and refittable signalling units as well as separate ones.

The basic principle is an intrinsically safe low voltage power circuit that is interrupted when the disc responds. The interruption is caused by tearing a smart wire or thin foil apart or breaking a special detection pin. This signal can be implemented into the local control panel, monitoring system or just trigger an alert or alarm device. In connection with purpose designed monitoring units and separation amplifiers the use of such signalling devices and membranes is suitable for hazardous areas (Ex).

REMBE® signalling bursting discs can also be used to detect leakages, especially in combination with safety valves either in front of the valve or behind.



BIRD (Burst Indicator REMBE® design) – retrofitable



BIRD with protection shield

advice

Your benefits:

- monitoring of upstream bursting discs
- immediate system deactivation after response of the signalling unit

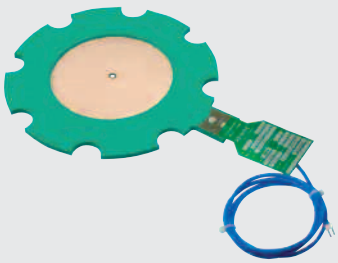
Proximity switch for response monitoring of ZW bursting discs

Signalling bursting disc SB for leakage monitoring and signalling of bursting discs

BIRD for response monitoring of triple-section bursting discs

Hot BIRD with silicon coated cable for response monitoring of triple-section bursting discs at high temperatures

Signal cable for response monitoring of explosion panels



Signal bursting disc SB-S for response monitoring of bursting discs

SMART SAFETY CONCEPTS FROM SPECIALISTS IN THE REMBE®-NETWORK

In 35 years REMBE® has built-up a highly qualified team of experts. This unique experience in applications combined with our technical know-how gives you the confidence required when planning and carrying out your explosion protection concept.

Your benefits from REMBE®:

1. **Active cooperation in international standardisation committees and boards**
   REMBE® has brought its knowledge into the following European and international boards such as CEN, NFPA, ESMG, VDMA, WJI, VDI, ABNT and RosGORTECHNADZOR.

2. **REMBE® technical seminars**
   We provide training of our products including live demonstrations locally or in groups of up to 200 people on site.

3. **On site consultation**
   Request a visit from our specialists. After taking a look at your site we will create an appropriate tailor-made concept for you. REMBE® engineering relishes an excellent worldwide reputation.

4. **Optimised process safety - big cost savings**
   Reduce your insurance payments by implementing a comprehensive safety concept. If you are thinking about an investment in your safety concept - we will advise you.

Contact us! We'll help you immediately.

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In affiliation with **REMBE®, Inc.**

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Safety Division

Process Safety

Breather Valve for low Response Pressure
ELEVENT®

Bursting Discs for all Process Applications / Industries
KUB® *Pat. pend.* **/ TC(R)-KUB® / ZW / ODV / UKB / IKB®**

Signalling Units

Explosion Protection

Single-Layer and Triple-Section Bursting Discs
ERO *Pat.-No. EP 07 73 393* **/ ODV / ODU / EDP / EX-GO-VENT**

Indoor-Venting-Systeme
Q-Rohr®-3 *Pat.-No. DE 38 22 012* **/ Q-Box /**

Explosion Isolation
EXKOP® II *Pat.-No. EP 05 59 968* **/ Q-Flap**

Protection Concept for Bucket Elevators
ElevatorEX®

Explosion Suppression
Q-Bic

Control Division

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Flow Metering System for Bulk & Solids
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C-LEVER® II *MINI*

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MicroFlow

Emptying of Big-Bags and barrels
Docking Station
Pump System

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