

Marston



BURSTING DISCS

RBX

Reverse Acting Discs



Marston

Marston, a Division of Safety Systems UK Limited, has over 50 years experience of the design manufacture and application of bursting disc equipment.

The applications for bursting discs are as diverse as the Industries that use them. Chemical, Oil, Gas and food as well as cryogenic and transportation are typical examples. The selection of the most suitable bursting disc can be critical. The range of designs is extensive, and the optimum choice can be provided.

RBX Bursting Discs

A reverse buckling disc that incorporates a precise cruciform scoring on the vent side of the dome. When the disc is subjected to excessive pressure the dome inverts, bursts and opens along the scored groove without fragmentation making it an ideal disc for the upstream protection of safety relief valves, particularly as its open height, unlike circumferentially grooved discs, is only half of the disc Nominal Bore.

The RBX disc has a smooth process side surface which minimises the likelihood of product deposition and build-up.

The RBX disc can be designed for steam, gas and certain liquid applications and is suitable for operating ratios of up to 95% of minimum bursting pressure.



Quality

Marston is fully committed to an ongoing Total Quality Improvement programme. This was recognised with Marston audited and approved to design and manufacture bursting discs with its Quality Control procedures registered to the highest standards required by BS EN ISO 9001 Certification.

Quality is an integral part of all processes to provide customer satisfaction and confidence.

RBX bursting discs are manufactured and tested in accordance with the requirements of the relevant standard, including BS2915, AD Merkblatt A1, ISPEL, ISO 6718 and EN ISO 4126.

All of Marston standard disc designs have been approved for use in accordance with the requirements of the P.E.D., 97/23/EC.

Corrosion Resistance

RBX bursting discs can be manufactured from all commonly used disc materials, including Tantalum, Nickel alloys and Stainless Steel. Fluorocarbon lining or coating can also be considered when selecting for a corrosive duty.

The Effect of Temperature

Changes in temperature affect all bursting disc materials. Typically, as the temperature rises, the material strength reduces and the bursting pressure falls.

Reverse buckling discs depend on dome profile as well as the material thickness to determine the bursting pressure. The temperature effect varies with dome profile. It is therefore not possible to give typical temperature effects for reverse buckling bursting discs.

The effect is established at the time of ordering and is stated on the bursting disc test certification.

Allowable Temperature Ranges

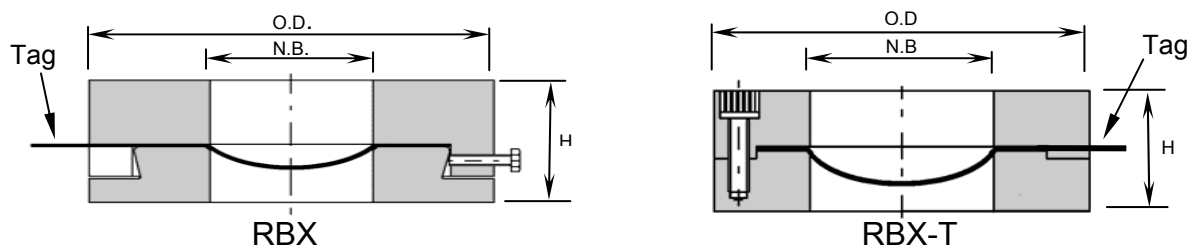
Maximum Temp. °C	Disc Material	Minimum Temp. °C
400	Nickel 200	-200
500	Monel 400	-200
550	Inconel 600	-200
450	St. St. 316	-200
500	Hastelloy C	-200
300	Tantalum	-200

Features

Feature	RBX Performance
Fragm	None
Operating Ratio	Up to 95%
Vacuum Duty	Generally Full Vacuum
Pressure Cycling Duties	Excellent
L	$<1 \times 10^{-6} \text{ mbar.l.sec}^{-1}$
Leak Tightness (To Atmosphere)	$<1 \times 10^{-5} \text{ mbar.l.sec}^{-1}$

Holders

The standard holder is a two-piece unit designed to fit inside the flange bolts of a system. When necessary, a full-face assembly having through boltholes can be supplied. Special designs are always available, providing specific facings, foolproofing devices or pressure tappings, for example. The bursting disc dome is fully protected during installation. Pre-torqued holder designs 'RBX-T' are also available. Marston standard holders are not sensitive to the flange bolt torque loading.



The tables below list the sizes of holders, for typical flat faced pipe flange ratings.

Holder Dimensions (mm)

N.B.	Height	Outside Diameter			
		ASA 150	ASA 300	PN10	PN16
25	26	66	73	73	73
40	26	85	95	94	94
50	28	104	111	109	109
65	29	123	130	129	129
80	30	136	149	144	144
100	32	174	181	164	164
150	42	222	251	220	220
200	52	279	308	275	275
250	70	339	362	330	331
300	80	409	422	380	386
350	90	450	485	440	446
400	105	514	539	491	498
500	130	606	654	596	620

RBX Minimum Bursting Pressures (Barg @ 20° C)

N.B.(mm)	25	40	50	65	80	100	150	200	250	300	350	400	500
Nickel 200	10	7.5	5.0	4.0	3.1	2.5	1.7	1.2	1.0	1.0	1.0	1.0	1.0
Monel 400	10	7.5	5.0	4.0	3.1	2.5	1.7	1.2	1.0	1.0	1.0	1.0	1.0
Inconel 600	10	7.5	5.0	4.0	3.1	2.5	1.7	1.2	1.0	1.0	1.0	1.0	1.0
St. St. 316	10	7.5	5.0	4.0	3.1	2.5	1.7	1.2	1.0	1.0	1.0	1.0	1.0
Hastelloy C	20	15	10	8.0	6.0	5.0	3.5	2.5	2.0	2.0	2.0	2.0	2.0

RBX Maximum Bursting Pressures (Barg @ 20°C)

N.B.(mm)	25	40	50	65	80	100	150	200	250	300	350	400	500
Nickel 200	100	75	50	40	40	30	20	15	12	10	8.5	7.5	6.0
Monel 400	120	90	60	55	50	40	30	20	15	12	11	10	8.0
Inconel 600	150	110	75	70	60	50	30	25	20	15	14	12	10
St. St. 316	150	110	75	70	60	50	30	25	20	15	14	12	10
Hastelloy C	150	110	75	70	60	50	30	25	20	15	14	12	10

- Lower / higher Bursting Pressures may be available. Please consult Marston for further assistance.

Tolerances

Standard tolerances on all RBX bursting discs are +/-5%. Improved tolerances may be available. Please consult Marston for further assistance.

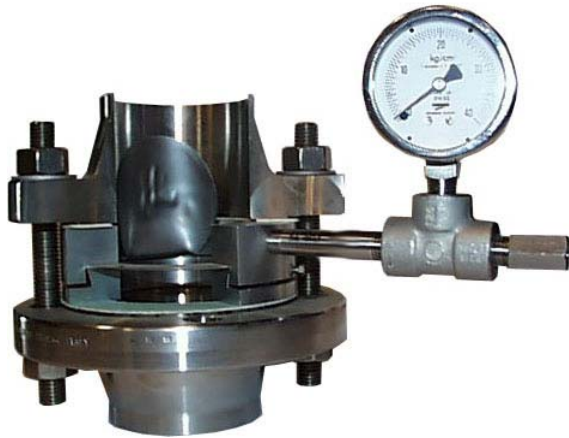
Marston

A Division of Safety Systems UK Ltd
Wobaston Road, Fordhouses
Wolverhampton, WV10 6QJ, UK.
Tel: +44 (0)1902 623550
Fax: +44 (0) 1902 623555
e.mail: marston@safetysystemsuk.com
Web Site:www.safetysystemsuk.com

Accessories:

EFV, Nipple, Tee and Pressure Gauge

An Excess Flow Valve (EFV) is a device to prevent the build up of any back pressure between a disc and any other equipment located downstream. This is recommended particularly when a disc is used upstream of a Safety Relief Valve. It is often used in conjunction with a Pressure Gauge which provides simple visual indication of disc failure.



Burst Disc Indicator



A Burst Disc Indicator is a simple circuit, usually fitted downstream of the bursting disc, which is broken on rupture. Marston manufacture burst indicators which are fitted directly to the disc as shown and to fit between the holder and the downstream pipe flange

BS EN ISO 9001
TÜV
Chinese SQL



Worldwide Regional Offices

As part of Marston's commitment to serving its customers, several regional offices have been established across the world.

Local representatives are also available for consultation throughout the world. Contact details can be supplied on request or obtained directly from our Web Site.

Marston Deutschland

Wiesenweg 6, D21524 Brunstorf, Germany.

Tel: +49 (0)4151 7377 Fax: +49 (0)4151 7327
e.mail: marston.ger@t-online.de

Safety Systems, Singapore

7500A Beach Road, #09-323, The Plaza, Singapore 199591

Tel: +65 63922280 Fax: +65 63922477
e.mail: mychye@safetysystemsuk.com

Safety Systems, Beijing

Level 12, Unit 09A. China World Tower, 1, Jianguo Menwai Dajie, Beijing, 100004 China

Tel: +86 10 650 56176 Fax: +86 10 650 56179
e.mail: mxing@safetysystemsuk.com

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Fax back on

+44 (0) 1902 623555