

CERTIFICAT

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認証証書

CERTIFICATE

ZERTIFIKAT

Member of



Industrie Service

CERTIFICATE

**EC Type - Examination (Module B)
Acc. To Directive 97/23/EC
Pressure Equipment Directive**

Certificate-No.: USA-10-12-003-001

for

**Continental Disc Corporation
3160 West Heartland Drive
Liberty, MO 64068, USA**

We hereby certify, that the type described below meets the provisions of
Directive 97/23/EC

Description of the type:
Reverse Acting Scored Bursting Disc Safety Devices
drawing: PEDRASCORED Rev F
Design Examination Report#: **P- USA-10-10-003-001**

The validity of this certificate expires in 10 years from date of issuance
It may be extended upon request.
A module combination as described in Annex II of Directive 97/23/EC is required for conformity assessment and
CE marking

Austin

December 29, 2010

**TÜV SÜD
Industrie Service GmbH**
Notified body No. 0036

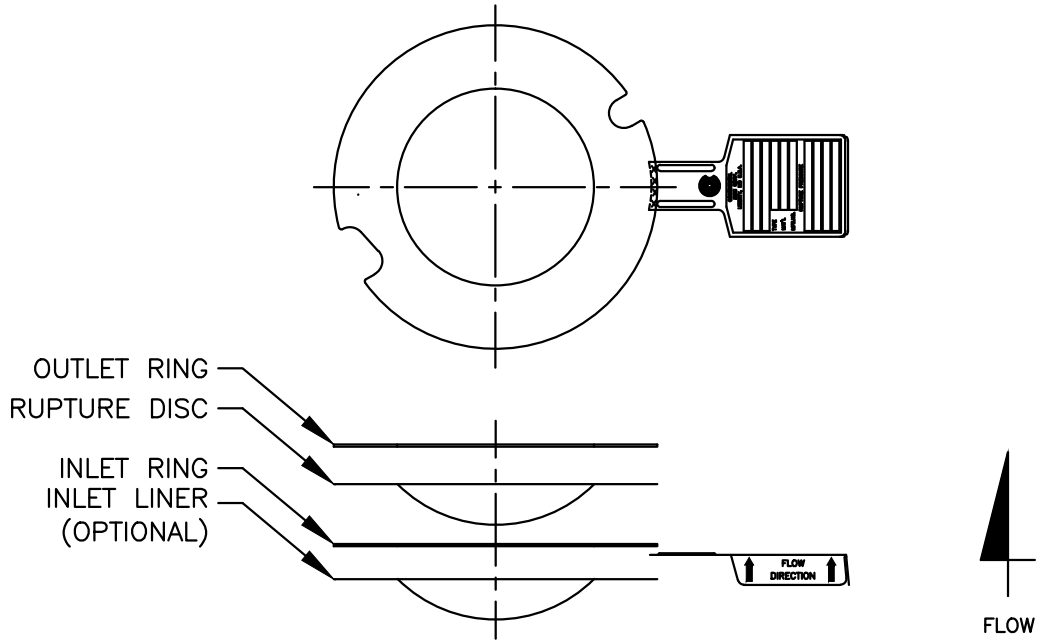
Test Laboratory for Pressure Equipment

N. Mueller
Norbert Mueller

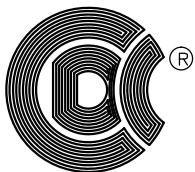
TÜV SÜD
Industrie Service GmbH
Westendstrasse 199
D-80686 München

Contact:
TUV SUD America
Industry Service
5 Cherry Hill Drive
Danvers, MA 01923

Member of
CONFÉDERATION EUROPÉEN
CEOC
D'ORGANISMES DE CONTROLE



NAME	SIZE	PRESSURE	HOLDER
VRD	1"-8"	8-1,000 PSIG	VRD
ULTRX	1"-12"	15-1,000 PSIG	ULTRX
			QUICK CHANGE
MINTRX	1"-8"	20-139 PSIG	MINTRX
			QUICK CHANGE
STAR X	1"-6"	13-140 PSIG	STAR X
			QUICK CHANGE
LOTRX	1"-8"	1.5-39.9 PSIG	LOTRX
			QUICK CHANGE
RCS	1"-32"	20-1,000 PSIG	RCS
RAS	1"-32"	20-1,000 PSIG	RA INSERT
SANITRX	1-1/2"-4"	14-500 PSIG	NONE REQUIRED
SRA	5/16" - 1-1/4"	10-15,000 PSIG	TITE-SEAL
			RVI
			WELDED
			SCREW TYPE
HPX	1"-8"	10-1,000 PSIG	HPX, HPX-RH, HPX-PT, HPX-PT-RH



Continental Disc Corporation

3160 West Heartland Drive
Liberty, Missouri 64068

LOG NUMBER: PEDRAScored

12-14-10

DATE

UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN [INCHES / MILLIMETERS]

WE CERTIFY TO THE BEST OF
OUR KNOWLEDGE THIS DRAWING
MEETS THE SPECIFICATIONS
SET FORTH

PREP. BY B. HICKS 6-11-01

CHKD. BY K. ADKINS 6-12-01

APPR. BY R. DOELLING 6-12-01

TITLE

REVERSE ACTING SCORED BURSTING
DISC SAFETY DEVICES

P.O. # _____

S.O. # _____

SHEET

1 OF 1



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EC Type-Examination Module B <input checked="" type="checkbox"/>		EC Design-Examination Module B ₁ <input type="checkbox"/> , Module H ₁ <input type="checkbox"/>		Examination of Design Module G <input type="checkbox"/>	
Manufacturer:		Manufacturing plant:		For:	
Continental Disc Corporation 3160 W. Heartland Drive Liberty, MO 64068, USA		3160 W. Heartland Drive Liberty, MO 64068, USA			
Drawing	PEDRASCORED	Rev:	F	Category:	IV
Intended use:	Reverse Acting Scored Bursting Disc Safety Devices				
Name / model	VRD	ULTRX	MINTRX		
Allowable range of operating pressure PS [bar]	1– 69	1– 69	1– 69		
Min/Max. allowable Temperature TS [°C]					
Nominal Diameter [DN]	25 to 200	25 to 300	25-200		
Fluid/Fluid Group	Gas, liquid / 1	Gas, liquid / 1	Gas, liquid / 1		
Name / model	STAR X	LOTRX	RCS		
Allowable range of operating pressure PS [bar]	0.9 – 10	0.1 – 3	1– 69		
Min/Max. allowable Temperature TS [°C]					
Nominal Diameter [DN]	25 to 150	25 to 200	25-800		
Fluid/Fluid Group	Gas, liquid / 1	Gas, liquid / 1	Gas		
Name / model	RAS	SANITRX	SRA		
Allowable range of operating pressure PS [bar]	1– 69	1 – 35	1.1 – 69		
Min/Max. allowable Temperature TS [°C]					
Nominal Diameter [DN]	25 to 800	38 to 100	12		
Fluid/Fluid Group	Gas	Gas, liquid / 1	Gas, liquid / 1		
Name / model	HPX				
Allowable range of operating pressure PS [bar]	0.69 – 69				
Min/Max. allowable Temperature TS [°C]					
Nominal Diameter [DN]	25 to 200				
Fluid/Fluid Group	Gas, liquid / 1				



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SPECIFICATIONS – DIRECTIVE 97/23/EC:

1. Regulations/Codes:	AD 2000	TRD	ASME / ANSI B 31.B
Applied in full	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applied in part	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parts applied:	AD 2000 Merkblatt A1		
2. Standards/other Specifications:	EN ISO 4126-2:2003		
Requirements: Directive 97/23/EC, Annex I, 2.11			
APPLICATION:			
Written declaration, that the application has not been lodged with any other notified body	<input checked="" type="checkbox"/>	Complete technical documentation (Paragraph 3 of the relevant module)	<input checked="" type="checkbox"/> Drawing #, and Rev PEDRASCORED REV. F

Comments:

The stipulations of the test plan (# P-USA-10-05-003-001.) shall be fulfilled

The burst discs are manufactured without permanent joining processes.

The permanent joining procedures and the personnel involved with the manufacturing of the holders shall be approved by a notified body for the PED



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Drawing No.: PEDRASCORED		Rev.: F			
	EXAMINATIONS AND RESULTING EVALUATIONS (CHECKLIST)	Acceptable	Not applicable	Remarks	
1.	Design Code / calculation method	X		EN ISO 4126-2:2003	
2.	Design for adequate strength <ul style="list-style-type: none"> • Internal/external pressure • Min/Max operational temperatures • Corrosion, erosion, wear, fatigue 	X X X		Compatibility with process operational conditions is the responsibility of the user	
3.	Suitability of materials for main pressure bearing parts <ul style="list-style-type: none"> • Particular material appraisal(s) PMA 		X	Compatibility with process fluids is to be determined in the responsibility of the user	
4.	Testing In compliance with the standard requirements	X		MP-7006 Rev. M MP-7003 Rev. H	
5.	Marking and labeling	X		Conformance with EN ISO 4126-2 MP-7007 Rev. M	
6.	Installation manuals	X		GEP- 6058, 6013,6042, 6045, 6057, 6048, 6052, 6044, 6017, 6069	

Manufacturing:

Manufacturing shall be performed in such a way, that the discs have uniform chemical and physical properties and shall be free from defects. If corrosion protection is applied, the corrosion protection shall not impair the performance of the bursting disc safety device.
The manufacturing facility and the manufacturing procedures shall be subject to surveillance by TÜV SÜD Industrie service GmbH.

Materials:

The selection of materials used for the bursting discs shall take into account the suitability with regard to manufacture and the compatibility with the process fluid and the operational chemical and physical conditions.

Material of the same specification coming from the same heat number and heat treatment batch with a specified thickness shall be defined as material lot.



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The following materials can be selected for bursting discs holder

Material trade name	UNS No.	specification	Listed in table A1 of EN ISO 4126-2
See Attached Table			

*) The suitability of a material for a specific application can be ensured by a particular material appraisal (PMA) by the notified body in charge.

Testing:

A quantity of bursting discs from the same type and size manufactured from the same material lot shall be defined as "batch".

Rupture disc burst testing shall be performed in conformance to CDC Procedure MP-7006, Rev. M. If liquid service testing is required CDC Procedure MP-7003, Rev H shall be applied in addition.

Tests previously performed:

DISC MODEL	Disc material	Lot/Batch No.	Ambient breaks [bar]	Breaks at temperature [°C]
1" VRD (FS)	NICKEL	8159776	17.24, 17.38	
8" ULTRX (FS)	316 ss	8102740	19.17, 19.10	17.38, 17.52@ 281° C
2" MINTRX (FS)	316 ss	8165534	39.86, 5.45	4.90, 4.97@165° C
4" MINTRX (FS)	316L ss	8167074	3.14, 3.10	2.93, 2.93@200° C
2" STAR X (FS)	316 ss	8169330	1.55, 1.55	1.66, 1.69@ -5° C
3" STAR X (FS)	316 ss	8164578	2.14, 2.17	
4" LOTRX	MONEL	8167457	0.106, 0.110, 0.107	
4" RCS (FS)	316 ss	8167273	25.86, 25.52	20.69, 21.38@ 200° C
6" RCS (FS)	316 ss	8165536	23.79, 24.14	20.41, 20.62@ 112° C
14" RAS (TG)	INCONEL	8164473	6.34, 6.21	
4" RAS (TG)	INCONEL	8166968	28.97, 28.83	
1 1/2" SANITRX (SF)	316 ss	8170020	4.28, 4.28	4.03@ 131° C
1 1/2" SANITRX (SF)	316L ss	8170444	3.14, 3.10	
1 1/2" SANITRX HPX-90 (SF)	316 ss	8169887	3.17, 3.17	3.10, 3.10 @ 40° C
3/8" SRA RVI	NICKEL	8159862	30.00, 31.03, 29.66, 31.03, 31.03	
6" HPX-90 (FS)	316L ss	8170098	10.14, 10.21	
3/4" SRA RVI	NICKEL	8161268	25.52, 24.00, 23.79, 24.00	



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The tested burst discs comply with the drawing in essence.

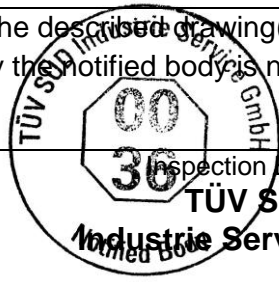
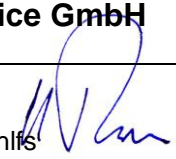
Marking:

The marking shall be performed in conformance to CDC Procedure MP-7007, Rev M and shall include the following:

- Manufacturers name or trade mark
- Model / type
- Nominal size (DN)
- Material identification
- Specified minimum and maximum burst pressure and temperature
- Performance tolerance
- Flow direction
- Standard if applicable
- Batch identification
- Reference to specified holder
- Year of manufacture



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Result:			
The above-mentioned examinations were performed in accordance with the provisions of the stated requirements/specifications. The requirements of the Directive 97/23/EC are met.			
Declaration of Conformity :	CE marked product shall be accompanied by a Declaration of Conformity in conformance to Appendix A of CDC Procedure MP-7007, Rev. M		
Notes:	The examination results relate exclusively to the described drawing(s). Partial copies of this report without a written authorization by the notified body is not permitted.		
Location:	Palo Alto	Date:	December/28/2010
		 Inspection Body of TÜV SÜD Industrie Service GmbH Notified Body	
		Dr. U. Rohlfis 	
Attachments:	<ul style="list-style-type: none"> • Drawing PEDRASCORE REV. F • Sample declaration of conformity • GEP 6058 Rev. E, GEP 6013 REV. T, GEP 6042 Rev. H, GEP 6045 Rev. K, GEP 6057 Rev. F, GEP 6048 Rev. K, GEP 6052 Rev. E, GEP 6044 Rev. P, GEP 6017 Rev. H, GEP 6069 Rev. F • MP-7006 Rev M • MP-7003 Rev H • MP-7007 Rev M • MP-7201 Rev. Z 		