

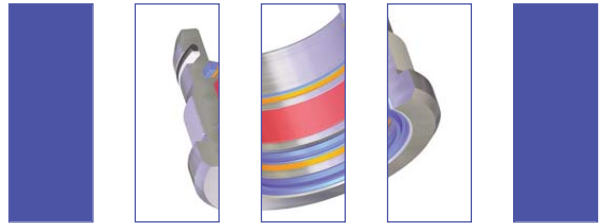
Registration

BHR Group

EXPERTS IN FLUID ENGINEERING

20th International Conference on

FLUID SEALING



Nottingham, UK

7th–9th October 2009

Co-sponsored by:

ESA European Sealing Association e.V.

BVAA

BFPA The British Fluid Power Association

sealing TECHNOLOGY

Introduction

This is the Premier Event!

Unlike new events that have sprung up in recent times, Fluid Sealing is the premier event in its field. Always seeking new and innovative developments for presentations, it never fails to provide valuable and interesting information and new insights into old problems. After an excellent 2007 Conference in conjunction with EDF, LMS and CNRS hosted by the Université de Poitiers, the 2009 Conference will return to the UK for only the second time since 1989. As always the technical papers are truly international and in 2009 they come from across Europe, the USA and Japan.

An Ever-changing Mature Technology

Although mature, industry continues to demand ever increasing capability and challenges seal manufacturers to push the boundaries and to develop new products. For example, the need to replace chromium in applications has led to more sophisticated coatings for elastomer and dynamic seals. Materials capable of operating in explosive atmospheres are in greater demand and, as always, users are under continuing pressure to seek out the best tools for measuring life cycle costings. Whatever industry you are in, there will always be a need for a better solution. The focus of this conference continues to be the dissemination of the latest knowledge from World experts.

Who Should Attend

The Conference will benefit anyone involved in:

- Petrochemical, Oil and Gas
- Power generation
- Defence & Aerospace
- Automotive / Transport
- Paper & Pulp
- Pharmaceutical & Food
- Metal, Mining & Mineral Extraction Industries
- R & D
- Health and Safety

Opening Address

We have great pleasure in announcing that the Opening Address to the conference will be given by Professor Elmar Baur. Professor Baur was formerly President and Chief Executive Officer of Burgmann Industries and is a former Chairman of the European Sealing Association. Since retiring from Burgmann Industries, a part of the international Freudenberg Group, he has started his own management consulting business.

Discussion Forum

With increasing demands upon the sealing industry, it is proposed to hold a discussion forum at the end of the first day. Delegates are invited to respond to the request to :

“Identify two requirements customers want from the sealing industry in the current economic climate” The Committee hopes this topic will spark a lively discussion.

Language

The language of both the Conference and the published Proceedings will be English.

Venue, Timing and Registration

The conference will take place at the Days Hotel in Nottingham; one of the UK's most vibrant cities. The hotel is situated just 15 miles from the city's East Midlands Airport and in the heart of its shopping, entertaining and dining areas.

Days Hotel Nottingham
17-31 Wollaton Street
Nottingham
NG1 5FW, UK

T: +44 (0) 115 912 8000
F: +44 (0) 115 912 8080
Email: reception@dayshotelnottingham.co.uk
www.dayshotelnottingham.co.uk

The Conference will begin with lunch on Wednesday 7th October and end with lunch on Friday 9th October 2009. Registration will take place in the Coral Room, adjacent to the meeting room, in the hotel from 10.30 to 12.30 on Wednesday. Refreshments and lunch will be served daily, in accordance with the Conference programme.

Travel – Nottingham

By Air: The city centre is only 30 minutes from the East Midlands airport. There is a regular coach service to the city from the airport and taxis are also available. (www.eastmidlandsairport.com/emaweb.nsf/Content/ToAndFromAirport)

From Luton Airport Parkway railway station there is an East Midlands train service to Nottingham and Gatwick Airport has a Thameslink rail service that connects directly to St Pancras Station. (See rail link below for details).

By Rail: East Midlands trains run from London St Pancras Station (also the Eurostar Terminal) with a journey time to Nottingham of about 2 hours. The City trams will take you from Nottingham Rail station (2 stops) to Wollaton Street. (www.thetrainline.com/default.asp?href=ppcg_trainline&WT.srch=1&WT.mc_ev=click&gclid=CNf27MKquZsCFV8B4wodVUSpEA)

By Car: The Days Hotel has negotiated reduced parking fees at Talbot Street Car Park, a short distance away. For more information please ask the organisers when registering.

The Nottingham Tourist Board's website has detailed information on travel to, from and around the city at: www.nottinghamtouristguide.co.uk/index.htm.

Accommodation

Delegates are responsible for booking their own accommodation in Nottingham. However, an allocation of rooms have been reserved at the Days Hotel at a special discounted rate of Single – £68.00; Double/Twin – £76.00 including breakfast.

Delegates should make their reservations directly to the hotel, quoting reference 'BHRG061009', before 22nd September 2009. After this date any unconfirmed accommodation will be released for general sale, therefore we cannot guarantee availability or the discounted price after this date. All hotel bookings must be guaranteed by credit card.

Social Functions

Admission to the social functions is included in the delegate fee. Additional tickets for Delegates' Partners/Guests for the conference dinner are available to purchase from the conference organisers.

Welcome Reception – Renew friendships and meet new contacts at a welcome reception on Wednesday evening. Drinks and canapés will be served.

Conference Dinner – Delegates are all invited to the award-winning Tonic Restaurant in central Nottingham for the conference dinner on Thursday.

Continued Professional Development

The technical content of the conference will enable engineers seeking opportunities for Continued Professional Development to count their attendance towards their total of CPD activities.

Technical Advisory Committee

Mr A Bickley	James Walker & Co Ltd
Dr B Ellis	European Sealing Association
Mr R K Flitney (<i>Chairman</i>)	Sealing Technology
Dr S Groves	BP Exploration
Mr R Hill	Flowserve
Mr J Middleton	ConocoPhillips
Mr K Monaghan	BHR Group Limited
Dr N Peppiatt	Hallite Seals International Ltd

Overseas Corresponding Members

Professor E F Baur	President & CEO (Retired) Burgmann Industries, Germany
Mr C Latty	Latty International SA, France
Professor A O Lebeck	Mechanical Seal Technology Inc, USA
Dr K Nakamura	NOK Corporation, Japan
Professor R F Salant	Georgia Institute of Technology, USA
Professor B Tournerie	Université de Poitiers, France
Mr M Werner	Teadit International GmbH, Germany

BHR Group's Activities in Sealing

BHR Group has been a leading centre of expertise in sealing and materials technology since the early 50's. It is at the forefront of modelling and simulation of sealing systems including predictive software for seal life and tribological performance and its engineers regularly contribute to conferences and seminars across a wide range of industrial fields including, aerospace, nuclear, transport and oil and gas.

The company offers a range of services and associated test facilities including design consultancy, failure analysis, components testing, new product development and training courses. In addition it specialises in creating and implementing R&D projects for industry which includes helping companies to raise development funding from both national and EU sources.

Current developments include the use of Nanocoatings to enhance performance of reciprocating seals, Nanoadditives for lubricants, design, development of water based hydraulic systems and combining advanced FEA and molecular modelling of diffusion in elastomers to aid in prediction of rapid gas decompression damage and seal life prediction in harsh environments.

Acknowledgements

We would like to thank the Technical Advisory Committee, the panel of referees, the sponsors and co-sponsoring organisations for their help and support.

Supporting and Sponsoring Organisations



We are grateful to have the support of the following technical associations and sponsorship from the Elsevier Group through the Sealing Technology Newsletter.



The British Fluid Power Association



European Sealing Association



British Valve & Actuators Association

Other organisations who wish to participate in the sponsorship of the conference are asked to contact the conference organiser without delay. Sponsorship of coffee breaks, lunches, reception, dinner and the proceedings book and CD may be available to early applicants.

About BHR Group

BHR Group Limited is an independent research and technology organisation based in Cranfield near Bedford in the UK. We specialise in the fluid dynamics and mechanics, and fluid physical and chemical behaviour of industrial processes from the nano to macro scales. At the core of our business is gaining and applying knowledge of how fluids behave and using this knowledge to design or optimise processes and products for different applications.

We provide our expertise to clients world-wide through consultancy; research and testing services; physical and computational modelling; technology translation; specialist training and conferences; high-pressure contract cutting tools and product development and exploitation. Our services and products are applied to solve problems for a wide range of industrial processes and sectors including chemicals, pharmaceutical, oil & gas, renewable and conventional energy sources, water and wastewater, civil engineering, defence and aerospace.

Our aim is to provide innovative or optimised designs, analytical models and operating methodologies from which cost-effective and sustainable industrial processes can be developed. To do this we work closely with our clients to understand their business needs, and develop and implement practical, technical and business solutions. With sixty years of history and a uniquely experienced workforce of professional engineers, BHR Group stands as a world centre of excellence in fluid engineering.

Visit BHR Group on the World Wide Web at www.bhrgroup.com.

Reciprocating Seals

An experimental study on hydro-dynamic film formation and friction characteristic of reciprocating seals

N Suzuki, Y Sato, NOK Corporation, Japan

Modern sealing system with internal hydraulic accumulator

B Baas, G Wüstenhagen, Merkel Freudenberg Fluidtechnic GmbH, Germany

Dynamic simulation of contamination tests in hydraulic cylinder seals

J Valdés, J Bielsa, I Nadal, M Miana, M Jiménez, ITA, Spain; T Pütz, TRW Automotive, Germany

Design of a new high-performance test rig for hydraulic seals

S Mihajlovic, P Grönefeld, M Wangenheim, Institute of Dynamics & Vibration Research, Leibniz Universität, Hannover, Germany

Comparison of different leak tightness test methods for hydraulic rod seals

L Hoerl, W Haas, U Nissler, Institute of Machine Components, Germany

Dynamic simulation model for the analysis of the influence of roughness-induced leakage in seal systems of hydraulic cylinders

J Valdés, J Bielsa, I Nadal, M Miana, M Jiménez, ITA, Spain; T Pütz, TRW Automotive, Germany

Influence on tribological behaviour of polymer compounds due to modification of counterparts used in pneumatic actuators

A Hermann, T Dabisch, F Steep, Merkel Freudenberg, Fluidtechnic GmbH, Germany

Numerical analysis of a reciprocating hydraulic rod seal with a micro-scale surface pattern

B Yang, R Salant, Georgia Institute of Technology, USA

Performance of rod sealing systems using chrome replacement coatings in landing gear shock absorbers, under conditions of short stroke reciprocating motion

K Monaghan, BHR Group, UK

Rotary Shaft Lip Seals

Investigations into the tribological characteristics of radial lip seals – LIF and friction measurements

B Wennehorst, G Poll, IMKT, University of Hanover, Germany

An experimental and numerical investigation of the thermal behaviour of an elastomer radial lip seal

A Maoui, M Hajjam, D Bonneau, D Fribourg, CETIM, France

Coupled thermal-mechanical FEA analysis on the PTFE rotary shaft seal

W Li, Trelleborg Sealing Solutions, UK

Process Seals

Microcrystalline diamond coated mechanical seal for strong dry-running multiphase pump application

N Necker, D Ziegenbein, Burgmann Industries GmbH & C. KG, Germany

Static seal fatigue due to high-frequency micro-movements – Novel test rig approach and new solutions

M Lefrancois, J Juliaa, Garlock, France

Dual mechanical seals supporting piping plans. A comparison of API piping plans 53 A B & C

R Smith, S Shaw, AESEAL plc, UK

Discussion Session:

Elastomeric Materials/Unlimited Liability

Elastomer Material

Elastomer specifications, testing and performance

P Tuckner

Biofuel systems – Elastomer sealing in high pressure gasoline applications

G Micallef, Trelleborg Sealing Solutions, Malta

Kalrez® Spectrum™ new generation for hot primary amines, strong oxidizers and critical explosive decompression sealing

C Borrelli, J Matoux, S Niss, R Schnell, P Trillizio Jr., DuPont Performance Elastomers, Switzerland & USA

New low temperature fluoroelastomer for effective sealing within the chemical process industries

P Farrow, Solvay Polymers Limited, UK; F Merli, Solvay Solexis SpA, Italy

An investigation into the relationship between tensile strength, elongation at break and modulus of a seal material and its ability to withstand pressure extrusion

M Holland, Precision Polymer Engineering Limited, UK

Conference Proceedings

The conference papers will be professionally published as a soft bound volume, and will include a CD. They will be on sale from BHR Group upon the close of the conference. To purchase additional copies, please contact Mrs Marian Rolfe at the BHR Group address, or by email at confy@bhrgroup.co.uk.

Registration

The registration fee includes entrance to all technical sessions from 7th–9th October 2009, a bound book and CD of the conference proceedings, lunch and refreshments daily, and entrance to both the welcome reception and gala dinner.

Early bird rate (before 9th September 2009) Full registration rate (after 9th September 2009)

Presenting author	£594 + VAT	Presenting author	£660 + VAT
Delegate	£792 + VAT	Delegate	£880 + VAT
Rising star	£396 + VAT	Rising star	£440 + VAT
Student	£396 + VAT	Student	£440 + VAT

Early bird rate – applicable to all bookings received with payment on or before 9th September 2009.

Presenting authors – each presenting author (maximum of 2) is entitled to a 25% discount off the conference fee.

Rising Stars – in keeping with its audience, BHR Group wishes to foster recent graduates (within the last 5 years), engineers and managers and encourage their development and interaction with experienced technical managers. For full paying delegates, the organisers offer the option of a second place at a discounted rate of 50% for a colleague who meets the above criteria.

Students – a limited number of places are available for bona fide students at 50% of the full conference fee. Please contact the conference organiser directly to register as a student.

Exhibition service

A tabletop exhibition is planned alongside the conference and the cost of each space is £1100/€1320/\$1870 all + VAT and includes the following items:

- one exhibition space with one table (5 x 2.5ft) and two chairs (all additional equipment must be provided by the exhibitor)
- contact details of delegates attending the Conference

And for one person:

- attendance to all technical sessions
- a copy of the proceedings and CD
- 5 minute presentation slot during the Conference
- lunch and refreshments daily
- attendance at the networking drinks reception and conference dinner

Organisations wishing to participate as an exhibitor are advised to contact the conference organiser.

Promotional Literature Service

There is an opportunity for companies to insert promotional literature in the delegate information packs at a cost of £300 + VAT. Material for insertion must be sent directly to BHR Group on or before 28th September 2009. A sample of literature must be sent when making your booking for this service.

Proceedings Publicity

Companies may purchase a full page of advertising in the book and CD version of the proceedings. The cost of each page is £300 + VAT. The book is a soft bound volume, produced in Royal Octavo size. As well as being distributed to all attendees of the conference, the proceedings and CD are sold worldwide after the event. Copy must reach the conference organiser by 27th August 2009 to meet the publishing deadline.

Methods of Payment

Full payment must accompany the registration form. Please submit one form for each delegate and quote FS09 and the delegate's name and company on all correspondence. Photocopies of a blank form may be used.

- **Credit Card** – payment details should be entered on the registration form by completing the appropriate boxes and signing the form
- **Cheques** – make payable to BHR Group Limited
- **Sterling Bank Drafts** – delegates attending from countries with currency restrictions may wish to use sterling bank drafts
- **Bank Transfers** – payable to National Westminster Bank Plc, Cranfield University Branch, Wharley End, Cranfield, Bedford MK43 0SR, UK

Sterling payments

Account No: 36565466

Sort Code 60-06-56

IBAN: GB40 NWBK 6006 5636 5654 66

BIC: NWBK GB 2L

Euro payments

Account No: 550/00/39509257

Sort Code: 60-06-56

IBAN: GB07 NWBK 6072 1139 5092 57

BIC: NWBK GB 2L

US Dollar payments

Account No: 140/00/39509273

Sort Code: 60-06-56

IBAN: GB43 NWBK 6073 0139 5092 73

BIC: NWBK GB 2L

Cancellations

A full refund (minus a £50 administration fee) will be made for cancellations received on or before 1st September 2009. No refunds will be made for cancellations after 1st September 2009, however, substitutions can be made at anytime.

Enquiries

Enquiries should be addressed to:

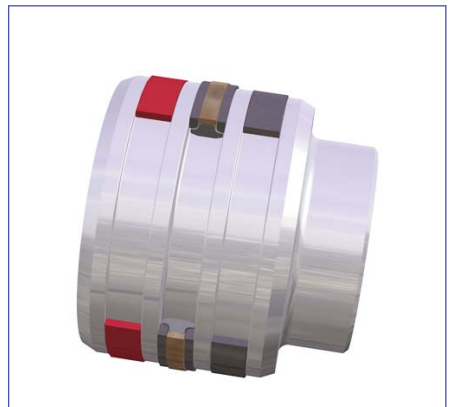
The Conference Organiser
BHR Group Limited
The Fluid Engineering Centre
Cranfield
Bedfordshire MK43 0AJ, UK

Tel: +44 (0)1234 756512

Fax: +44 (0)1234 750074

E-mail: confx1@bhrgroup.co.uk

Web: www.bhrconferences.com



DAYS HOTEL RESERVATION FORM

BHR Group's

20th International Conference on Fluid Sealing

Nottingham, UK: 7th–9th October 2009

The Conference will be held at the Days Hotel who are offering a preferential rate. **To avoid disappointment and guarantee your accommodation, please complete and return this form directly to the Days Hotel Nottingham no later than 21st September 2009.**

All reservations received after this date will be accepted on a space available basis only and may not be at the preferential rate. Be sure to include your credit card information or your reservation will not be accepted.

Days Hotel Nottingham
17-31 Wollaton Street
Nottingham
NG1 5FW UK

T: +44 (0)115 912 8000
F: +44 (0)115 912 8080
E: res@dayshotelnottingham.co.uk **Ref:** BHRG061009
W: www.dayshotelnottingham.co.uk

PERSONAL INFORMATION

Last name:	First name:
Telephone:	Email address:
Address:	

HOTEL INFORMATION

<input type="checkbox"/> Single Room £68.00 incl. VAT & breakfast	<input type="checkbox"/> Double/Twin Room £76.00 incl. VAT & breakfast	
Arrival date:	Departure date:	Number of nights:
Credit card type:	Credit card number:	
Expiry date:	Security number:	
Days Inn require a valid credit card to confirm your reservation and guarantee your room. Any required deposit or pre-payment will be charged to this card immediately. Otherwise, your card will not be charged until you check-out.		

Rate Information: In addition to the Rates and Totals shown, other charges may apply for local amenities like safe warranties and telephone access. Local surcharges or service charges are not included in the total room rate. Local taxes may be additional. Please note that a change in the length or dates of your reservation may result in a rate change. Please check with the property for further details.

CANCELLATION: Cancellation for individual rooms will be 48 hours prior to arrival. All reservations must be cancelled or amended no later than 48 hours prior to the day of arrival or full charges will apply.

Please Note: The hotel is 100% Non-Smoking



INVOICE AND REGISTRATION FORM

20th International Conference on

FLUID SEALING

Nottingham, UK: 7th–9th October 2009

Your details

Please complete in block letters ticking appropriate boxes

Prof

Dr

Mr

Mrs

Miss

Ms

Last name

First name

Position

Company

Company VAT Number

Address

Post/Zip Code

Country

Telephone

Fax

Email

Dietary requirements or special requests

Signature

Date

I am unable to attend the conference but am interested in purchasing the Proceedings

Please complete and return to:

Mrs Marian Rolfe
BHR Group Limited
The Fluid Engineering Centre
Cranfield, Bedfordshire MK43 0AJ, UK
Registered in England No. 2420351

Tel : +44 (0)1234 750422
Fax : +44 (0)1234 750074
Email: confy@bhrgroup.co.uk
www.bhrconferences.com
VAT Reg No. 536 4271 46

Please note that your name and company will be included in the List of Participants for the conference. This list will be made available to delegates, sponsors and exhibitors of the conference. If you do not wish your name and company to appear in the List of Participants please tick here . If you do not wish your name and address to be forwarded to conference sponsors and exhibitors please tick here .

We would like to keep you informed of other relevant BHR Group conferences and services. This will be carried out in accordance with The Data Protection Act 1998. Please write to the Conference Department, BHR Group, Cranfield, Bedfordshire, MK43 0AJ if you do not want to receive this information.



