CSA INTERNATIONAL

To:	ABSA	From:	Renzo Pupulin
Company:	Parker Hannifin, IPDE	Phone:	416 - 747 - 2345
Pages:	9	Location:	Toronto
Our File:	ANR-2254	Date:	June 1, 2012

Your File: 2011-02791

Subject: Request Design Registration

Ms. Formaniuk,

CSA has received the documentation submitted by ABSA on behalf of Parker Hannifin, IPDE. These fittings have been registered by CSA for the Province of Québec in accordance with an agreement between CSA and the Province of Québec.

The CRN is 0B11767.26 .
The cost for this service is $ 850.00 plus HST.
A copy of the Statutory Declaration with an original stamp affixed will be forwarded to you along with our invoice by regular mail.

Yours truly

Renzo Pupulin C.E.T.
Product Group Manager
Gas Appliances and Accessories
renzo.pupulin@csa-international.org

Alberta INTERNATIONAL
MUNICIPAL AFFAIRS
REGISTERED
C.R.N.: OB11767.26 *
Signed: [signature]
Date: MAY 31, 2012
178 Rexdale Blvd., Toronto, ON M9W 1R3

ABSA
the pressure equipment safety authority

STATUTORY DECLARATION
Registration of Fittings

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting.

Parker

I, Kevin Ballard,

Core Engineering Manager
(company title, e.g. vice president, plant manager, chief engineer) (must be in a position of authority)

of Parker Hannifin, IPDE
(name of manufacturer)

located at Riverside Road, Barnstaple, Devon, EX31 1NP
(plant address)

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act
(check one)

☐ comply with the requirements of _____ which specifies the dimensions,
(title of recognized North American Standard)
materials of construction, pressure/temperature ratings and identification marking of the fittings, or

☒ are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with ASME B31.3 as supported by the attached data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified by the following authority, DNV Mangement Systems as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are Flanged Connectors

In support of this application, the following information, calculations and/or test data are attached:

Flanged to Compression Connector Flange Hub Wall Thickness Calculations

Flanged Products Catlogue 4190-FP-ACC page 4

DECLARED before me at Barnstaple in the County of Devon

this 9th day of December (Month), 2011 (Year)

(print) Kevin Ballard

(sign) [signature] (A ~~Commissioner for Oaths~~) Notary Public

[signature] (Signature of Applicant)

For Office Use Only

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Clause 4.2, and is accepted for registration in Category 'B'

Registration Number: OB11767.26

A. BANWATT
(~~For the Administrator/Chief Inspector of Alberta~~)

Date Registered: MAY 31, 2012

Expiry Date: OCTOBER 13, 2020

The information you provide is necessary only for the administration of the programs as required by the Alberta Safety Codes Act and Regulations in the Boiler Discipline.

* PLEASE SEE THE ATTACHMENT FOR THE SCOPE.

the pressure equipment safety authority

9410 - 20 Ave N.W.
Edmonton, Alberta, Canada T6N 0A4
Tel: (780) 437-9100 / Fax: (780) 437-7787

October 13, 2011

Susan Turner
PARKER HANNIFIN CANADA IPD
4635 DURHAM RD S
GRIMSBY, ON

Dear Susan Turner,

The design submission, tracking number 2011-02791, originally received on May 04, 2011 was surveyed and accepted for registration as follows:

CRN : 0B11767.2 **Accepted on:** October 13, 2011
Reg Type : New Design **Expiry Date:** October 13, 2020
Drawing No. : SCOPE OF REGISTRATION 3 PAGES As Noted
Fitting Desc: FLANGED CONNECTORS,1/4" THRU 1" ##150 THRU 2500

Design registered in the name of : PARKER HANNIFIN IPDE

The registration is conditional on your compliance with the following notes:

This registration is valid if the A-loks CRN 0A6793.52 that is part of the registration will be renewed after December 3,2011.
This registration is valid until the indicated expiry date only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date. Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.
Enclosed are stamped prints for your reference.

Sincerely,

GRYNCHUK, MILLA
Design Survey Engineer

CANADIAN STANDARDS ASSOCIATION
ATTACHMENT TO
CRN 0B11767.26
SIGNED
178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

Material - 316 Stainless Steel SA 182

Class	1/4" CWP (PSI) @ Flange Rating 100°F	1/4" CWP (PSI) @ Flange Rating Max Temp (1000°F)	1/4" CWP (PSI) @ A-LOK Rating 100°F	1/4" CWP (PSI) @ A-LOK Rating Max Temp (1000°F)	3/8" CWP (PSI) @ Flange Rating 100°F	3/8" CWP (PSI) @ Flange Rating Max Temp (1000°F)	3/8" CWP (PSI) @ A-LOK Rating 100°F	3/8" CWP (PSI) @ A-LOK Rating Max Temp (1000°F)
2500	6000	2915	10300	7931	6000	2915	6600	5082
1500	3600	1750	10300	7931	3600	1750	6600	5082
900	2160	1050	10300	7931	2160	1050	6600	5082
600	1440	700	10300	7931	1440	700	6600	5082
300	720	350	10300	7931	720	350	6600	5082
150	275	20	10300	7931	275	20	6600	5082

Class	1/2" CWP (PSI) @ Flange Rating 100°F	1/2" CWP (PSI) @ Flange Rating Max Temp (1000°F)	1/2" CWP (PSI) @ A-LOK Rating 100°F	1/2" CWP (PSI) @ A-LOK Rating Max Temp (1000°F)	3/4" CWP (PSI) @ Flange Rating 100°F	3/4" CWP (PSI) @ Flange Rating Max Temp (1000°F)	3/4" CWP (PSI) @ A-LOK Rating 100°F	3/4" CWP (PSI) @ A-LOK Rating Max Temp (1000°F)
2500	6000	2915	6700	5159	X	X	5800	4466
1500	3600	1750	6700	5159	3600	1750	5800	4466
900	2160	1050	6700	5159	2160	1050	5800	4466
600	1440	700	6700	5159	1440	700	5800	4466
300	720	350	6700	5159	720	350	5800	4466
150	275	20	6700	5159	275	20	5800	4466

Class	1" CWP (PSI) @ Flange Rating 100°F	1" CWP (PSI) @ Flange Rating Max Temp (1000°F)	1" CWP (PSI) @ A-LOK Rating 100°F	1" CWP (PSI) @ A-LOK Rating Max Temp (1000°F)
2500	X	X	X	X
1500	3600	1750	4700	3619
900	2160	1050	4700	3619
600	1440	700	4700	3619
300	720	350	4700	3619
150	275	20	4700	3619

CANADIAN STANDARDS ASSOCIATION

ATTACHMENT TO

CRN 0B11767.26

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178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

X = Products no to be submitted

Minimum Design Metal Temperature: ~~-425°F~~ -325°F LN

0B11767.2

FOR MATERIAL AND PROCESS SPECIFICATIONS REFER TO GENRIC PROCESS CONTROL SHEET

FOR PART MARKING DETAILS REFER TO PART MARKING SPECIFICATION

ISSUE NO.	1	DESCRIPTION OF REVISION	DRAWN BY:
E.C.N NO.	N/A	New Release	ZN
DATE	13/04/2011		DRAWN DATE 22/06/2011
			Approvals using electronic PDM WORKFLOW (OSP65/25)

ALL DIMENSIONS IN UNLESS OTHERWISE STATED

DRAWING TITLE :

FLANGE TO COMPRESSION CONNECTOR
FLANGE HUB WALL THICKNESS CALCULATIONS

REMOVE ALL SHARP EDGES AND BURRS

INCH	METRIC	ANGULAR	UNLESS STATED
(.00")± .015" (.000")± .005"	(.0)mm ± .3mm (.00mm) ± 0.1mm	± 1/2° ± 30'	3rd ANGLE PROJECTION

GENERAL M/C FINISH 63min CLA/ 1.6mm RA
GEOMETRICAL TOL'S TO BS.308 PART 3.
ALL THREAD TOLERANCES ARE TO BE IN ACCORDANCE WITH PARKER IPD ESST01.

PART SIMILAR TO

DO NOT SCALE IF IN DOUBT ASK

Parker

Parker Hannifin Ltd
Instrumentation Products Division Europe
Riverside Road
Barnstaple
Devon
EX31 1NP
+44 (0)1271 313131

P 1 of 3

Material - Alloy 400 SB 564 N°4400

Class	1/4" CWP (PSI) @ Flange Rating 100°F	1/4" CWP (PSI) @ Flange Rating Max Temp (700°F)	1/4" CWP (PSI) @ A-LOK Rating 100°F	1/4" CWP (PSI) @ A-LOK Rating Max Temp (700°F)	3/8" CWP (PSI) @ Flange Rating 100°F	3/8" CWP (PSI) @ Flange Rating Max Temp (700°F)	3/8" CWP (PSI) @ A-LOK Rating 100°F	3/8" CWP (PSI) @ A-LOK Rating Max Temp (700°F)
2500	5000	3960	9800	4214	5000	3960	6100	2623
1500	3000	2375	9800	4214	3000	2375	6100	2623
900	1800	1435	9800	4214	1800	1435	6100	2623
600	1200	950	9800	4214	1200	950	6100	2623
300	900	475	9800	4214	900	475	6100	2623
150	230	110	9800	4214	230	110	6100	2623

Class	1/2" CWP (PSI) @ Flange Rating 100°F	1/2" CWP (PSI) @ Flange Rating Max Temp (700°F)	1/2" CWP (PSI) @ A-LOK Rating 100°F	1/2" CWP (PSI) @ A-LOK Rating Max Temp (700°F)	3/4" CWP (PSI) @ Flange Rating 100°F	3/4" CWP (PSI) @ Flange Rating Max Temp (700°F)	3/4" CWP (PSI) @ A-LOK Rating 100°F	3/4" CWP (PSI) @ A-LOK Rating Max Temp (700°F)
2500	5000	3960	6200	2666	5000	3960	5400	2322
1500	3000	2375	6200	2666	3000	2375	5400	2322
900	1800	1435	6200	2666	1800	1435	5400	2322
600	1200	950	6200	2666	1200	950	5400	2322
300	900	475	6200	2666	900	475	5400	2322
150	230	110	6200	2666	230	110	5400	2322

Class	1" CWP (PSI) @ Flange Rating 100°F	1" CWP (PSI) @ Flange Rating Max Temp (700°F)	1" CWP (PSI) @ A-LOK Rating 100°F	1" CWP (PSI) @ A-LOK Rating Max Temp (700°F)
2500	5000	3960	4300	1849
1500	3000	2375	4300	1849
900	1800	1435	4300	1849
600	1200	950	4300	1849
300	900	475	4300	1849
150	230	110	4300	1849

CANADIAN STANDARDS ASSOCIATION

ATTACHMENT TO

CRN 0B11767.26

SIGNED

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

X = Products no to be submitted 0B11767.2

*** = Max working temperature rated in standard class is 900° F. Ref Page66 ASME B16.34 1996

Minimum Design Metal Temperature: - 325 °F

FOR MATERIAL AND PROCESS SPECIFICATIONS REFER TO GENRIC PROCESS CONTROL SHEET

FOR PART MARKING DETAILS REFER TO PART MARKING SPECIFICATION

ISSUE NO.	1	DESCRIPTION OF REVISION	DRAWN BY:
E.C.N NO.	N/A	New Release	ZN
DATE	13/04/2011		DRAWN DATE 22/06/2011
			Approvals using electronic PDM WORKFLOW (QSP05/25)

ALL DIMENSIONS IN UNLESS OTHERWISE STATED

DRAWING TITLE

FLANGE TO COMPRESSION CONNECTOR
FLANGE HUB WALL THICKNESS CALCULATIONS

REMOVE ALL SHARP EDGES AND BURRS

INCH	METRIC	ANGULAR
[.000"] ± .015" [.000"] ± .005"	[.0]mm ± .3mm [.00mm] ± 0.1mm	± 1/2° ± 30'

UNLESS STATED 3rd ANGLE PROJECTION

GENERAL M/C FINISH 63min CLA/ 1.6mm RA GEOMETRICAL TOL'S TO BS.308 PART 3. ALL THREAD TOLERANCES ARE TO BE IN ACCORDANCE WITH PARKER IPD ESST01.

PART SIMILAR TO

DO NOT SCALE IF IN DOUBT ASK

Parker
Parker Hannifin Ltd
Instrumentation Products Division Europe
Riverside Road
Barnstaple
Devon
EX31 1NP
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Material - Alloy 625 SB 564 N°6625

	1/4" CWP (PSI) @				3/8" CWP (PSI) @			
	Flange Rating		A-LOK Rating		Flange Rating		A-LOK Rating	
Class	100°F	Max Temp (1000°F)	100°F	Max Temp (1000°F)	100°F	Max Temp (1000°F)	100°F	Max Temp (1000°F)
2500	6250	3030	6800	4964	6250	3030	8700	6351
1500	3750	1820	6800	4964	3750	1820	8700	6351
900	2250	1090	6800	4964	2250	1090	8700	6351
600	1500	725	6800	4964	1500	725	8700	6351
300	750	365	6800	4964	750	365	8700	6351
150	290	20	6800	4964	290	20	8700	6351

	1/2" CWP (PSI) @				3/4" CWP (PSI) @			
	Flange Rating		A-LOK Rating		Flange Rating		A-LOK Rating	
Class	100°F	Max Temp (1000°F)	100°F	Max Temp (1000°F)	100°F	Max Temp (1000°F)	100°F	Max Temp (1000°F)
2500	6250	3030	6800	4964	6250	3030	4400	3212
1500	3750	1820	6800	4964	3750	1820	4400	3212
900	2250	1090	6800	4964	2250	1090	4400	3212
600	1500	725	6800	4964	1500	725	4400	3212
300	750	365	6800	4964	750	365	4400	3212
150	290	20	6800	4964	290	20	4400	3212

Minimum Design Metal Temperature: - 20 °F

X = Products no to be submitted

CANADIAN STANDARDS ASSOCIATION

ATTACHMENT TO CRN 0B11767.26

SIGNED

178 Rexdale Boulevard, Toronto, ON, Canada, M9W 1R3

SAFETY CODES ACT - PROVINCE OF ALBERTA

REGISTRATION OF FITTINGS

REGISTRATION NO. 0B11767.2

DWG. NO. or CAT. NO. Scope

TYPE OF FITTINGS Connectors

OCT 13 2011 Date

INITIALS

MILLA GRYNCHUK, P.Eng.
DESIGN SURVEY ENGINEER

FOR MATERIAL AND PROCESS SPECIFICATIONS REFER TO GENRIC PROCESS CONTROL SHEET

FOR PART MARKING DETAILS REFER TO PART MARKING SPECIFICATION

ISSUE NO.	DESCRIPTION OF REVISION	DRAWN BY
1	New Release	ZN
E.C.N NO. N/A		DRAWN DATE 22/06/2011
DATE 13/04/2011		Approvals using electronic PDM WORKFLOW (QSP05/25)

ALL DIMENSIONS IN UNLESS OTHERWISE STATED

DRAWING TITLE

FLANGE TO COMPRESSION CONNECTOR
FLANGE HUB WALL THICKNESS CALCULATIONS

REMOVE ALL SHARP EDGES AND BURRS

INCH	METRIC	ANGULAR
(.00") ± .015"	(.0)mm ± .3mm	± 1/2°
(.000")1 ± .005"	(.00mm) ± 0.1mm	± 30'

UNLESS STATED 3rd ANGLE PROJECTION

GENERAL M/C FINISH 63min CLA/ 1.6mm RA GEOMETRICAL TOL'S TO BS,308 PART 3. ALL THREAD TOLERANCES ARE TO BE IN ACCORDANCE WITH PARKER IPD ESST01.

PART SIMILAR TO

DO NOT SCALE IF IN DOUBT ASK

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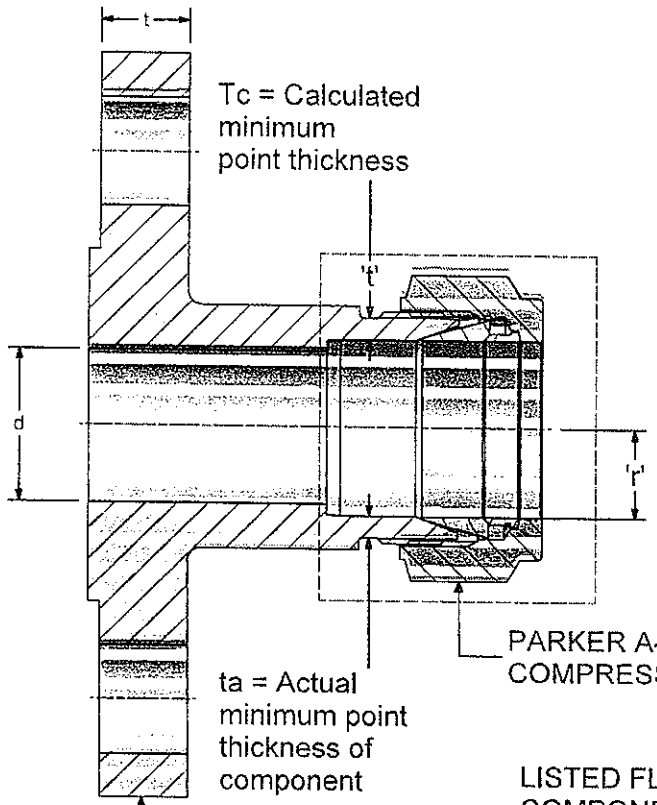

1" Flange Spec
Material: A182 F316
t = 1.125" / hub thickness = 1.32"
d = 1"
MAWP = 3600psi @ 100°F; 1750psi @ 1000°F
Hydrotest = 7059psi
MDMT = -325°F

Flange Rating:
ref B16.5 Class 1500 in BOM

1" A-LOK Spec
Material: A182 F316
ID = 1.4515" ± 0.0055"
OD = 1.730" ± 0.005"
Thread Engagement = 0.2238"
Thread size = 1 1/2" 20UN
A-LOK CRN = OA6793.5
t = 0.23" / r = 0.504"

0B11767.2

CANADIAN STANDARDS ASSOCIATION

ATTACHMENT TO

CRN 0B11767.26

SIGNED

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

FOR MATERIAL AND PROCESS SPECIFICATIONS REFER TO GENRIC PROCESS CONTROL SHEET

FOR PART MARKING DETAILS REFER TO PART MARKING SPECIFICATION

ISSUE NO.	1	DESCRIPTION OF REVISION	DRAWN BY: ZN
E.C.N NO.	N/A	New Release	DRAWN DATE 22/06/2011
DATE	13/04/2011		Approvals using electronic PDM WORKFLOW (QSP05/25)

ALL DIMENSIONS IN UNLESS OTHERWISE STATED

DRAWING TITLE :

FLANGE TO COMPRESSION CONNECTOR
FLANGE HUB WALL THICKNESS CALCULATIONS

REMOVE ALL SHARP EDGES AND BURRS

INCH	METRIC	ANGULAR
(.00") ± .015" (.000") ± .005"	(.0)mm ± .3mm (.00mm) ± 0.1mm	± 1/2° ± 30'

UNLESS STATED 3rd ANGLE PROJECTION

GENERAL M/C FINISH 63min CLA/ 1.6mm RA
GEOMETRICAL TOL'S TO BS.308 PART 3.
ALL THREAD TOLERANCES ARE TO BE IN ACCORDANCE WITH PARKER IPD ESST01.

PART SIMILAR TO

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Parker

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Instrumentation Products Division Europe
Riverside Road
Barnstaple
Devon
EX31 1NP
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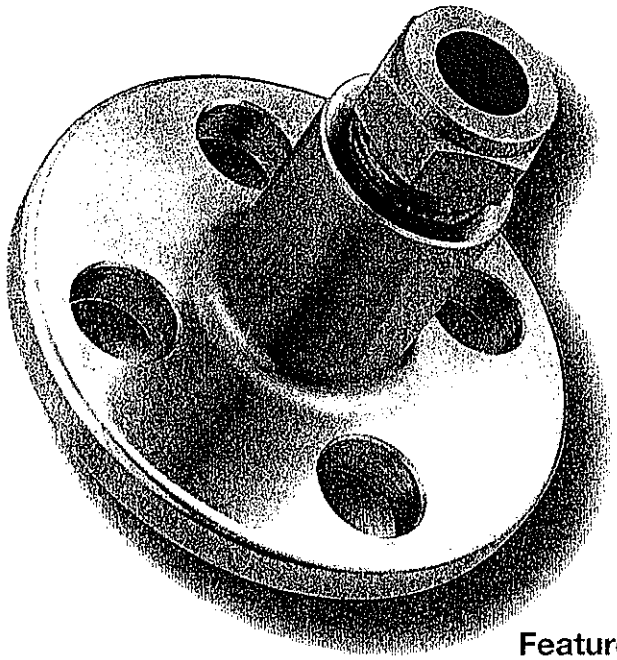
FCB CRN Report Revision 2

Flange to compression connectors (FC)

Purpose

One piece integral connectors allow the user to switch from piping flange standards to instrument compression with minimum cost and added safety. This system eliminates the need for additional connections.

Series FC



CANADIAN STANDARDS ASSOCIATION

ATTACHMENT TO

CRN 0B11767.26

SIGNED

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

Specification

- 1/2" to 2" N.B. flanges (15 to 50DN).
- 150 to 2500lb flange class.
- Flanges to ANSI B16.5. (others available on request)
- Standard or inverted A-LOK® arrangements 1/4" to 1" O.D. (3mm to 25mm O.D.).
- Standard or inverted CPI™ arrangements 1/4" to 1" O.D. (3mm to 25mm O.D.).
- Flange sealing:-
  - Raised face spiral finish.
  - Ring type joint.
- Standard stainless steel body (316).
- Other materials on application.

Features

- Full heat code traceability to EN10204-3.1
- Integrally machined body, no welding.
- Eliminates additional connections.
- P.T.F.E tape or liquid thread sealants not required.
- Variety of materials available.
- NACE MR 0175 / ISO 15156 compliance available on request.

0B11767.2

Part number construction

	Product code	Material (refer to table page 3)	Connection A-LOK maximum size 1" / 25mm	Flange size	Face style	Class
Example 1	FC	B	8A	16	F	600
Example 2	FC	K	M12A	8	T	1500

For CPI™ change A to Z.
For A-LOK® size codes use the A-LOK® catalogue.
Example 1: FCB8A16F600 - Stainless steel, 1/2" O.D. A-LOK® tube connection, 1" pipe flange, raised face, class 600.
Example 2: FCKM12A8T1500 - 6Mo, 12mm O.D. A-LOK® tube connection to 1/2" pipe flange, ring type joint, class 1500.

DET NORSKE VERITAS

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 73760-2010-AQ-GBR-UKAS

This is to certify that

Parker Hannifin Ltd
Instrumentation Products Division Europe
Riverside Road
Pottington Business Park
Barnstaple
Devon
EX31 1NP
United Kingdom

0811767.2

has been found to conform to the Management System Standard:

BS-EN-ISO 9001:2008

This Certificate is valid for the following product or service ranges:

Design, development, manufacture, test and supply of valves, manifolds, connectors and systems, in high performance materials, including ancillary equipment, for the interconnection of process instrumentation and associated apparatus.

Initial Certification date:
1 April 2010

This Certificate is valid until:
15 November 2013

The audit has been performed under the supervision of:
Robin Cheesman
Lead Auditor

UKAS MANAGEMENT SYSTEMS
013

Place and date:
London, 24th January 2011

for the Accredited Unit:
DET NORSKE VERITAS CERTIFICATION B.V.,
THE NETHERLANDS

Doug Milne
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.