
LPCB Red Book



1 Part: 3

Automatic sprinkler, water
spray and deluge systems

bre

Introduction

BRE Global Ltd, based in the UK near London, is an independent third party organisation offering certification of fire, security and sustainability products and services to an international market. LPCB is the certification brand used for fire and security products and services. The LPCB mark is accepted worldwide. We have representative offices in China, India and Dubai. We are owned by the BRE Trust, a not-for-profit organisation.

LPCB listings can be accessed, free of charge, at www.redbooklive.com or via apps from Apple, Google and Windows.

BRE Global Ltd is also a Notified Certification Body and Notified Test Laboratory for:-

- Construction Products Regulation
- Pressure Equipment Directive
- Marine Equipment Directive
- Transport Pressure Equipment Directive

BRE Global additionally carries out:

- Fire Investigation
- Fire Risk Assessment
- Fire Safety Engineering
- Research
- Training

LPCB Listings

Listings are given in sections which list related groups of products and services such as suppression, security and so on. Each section also summarises the technical basis for the certification of each product or service. The Red Book listings should always be used in conjunction with rules, regulations and design specifications required by the relevant Authority having jurisdiction.

Listings comprise:

Volume 1: (This Volume)

- **Fire detection and alarm products, systems, and cables**
- **Manual fire extinguishing equipment**
- **Automatic sprinkler, water spray and deluge systems**
- **Fixed fire fighting products and systems**
- **Watermist systems**
- **Related installers**

Volume 2:

- Passive fire protection products
- Security protection products
- Fire doors and shutters
- Smoke and fire ventilation systems
- Security Assessments - SABRE
- Related installers
- Management Systems
- Construction products

Listings are given in the name of the manufacturer or service provider, in alphabetical order. They can be downloaded free of charge from our website at www.redbooklive.com and also via an App that is available free from Apple iStore (for iPhone and iPad), from Google Play, (for Android phones and tablets) and Windows Store (for Windows 8 phones).

Updates

Certification of products and services are updated regularly. To ensure that you are using the most up to date information please refer to www.redbooklive.com or download from the App from the website home page.



What is Third Party Certification?

A frequent concern of stakeholders is in knowing whether a product will perform in accordance with the stated specifications. These concerns can involve such product attributes as safety, health or environmental impacts, durability, compatibility, suitability for intended purposes or for stated conditions, and other similar considerations. These issues can all be addressed through product certification.

Third party certification is a conformity assessment process, carried out by a body that is independent of both supplier and customer organisations. It provides confirmation that products and services have met and will continue to meet the requirements of specified standards and other normative documents.

LPCB third party product certification schemes are quality assurance schemes and comprise initial type testing and technical evaluation, assessment and surveillance of the manufacturer's quality system and factory production procedures, regular audit testing, labelling and listing.

Similarly, LPCB schemes for suppliers of services (installers) are also quality assurance schemes comprising a technical assessment of an installer's capability, assessment and surveillance of the installer's quality system and production procedures, regular inspection of completed installations and listing.

Benefits of Third Party Certification

For specifiers, regulators, insurers, manufacturers and installers, the benefits of an LPCB approval are:

For specifiers and regulators:

- Risk reduction - specifying LPCB approved products and services demonstrates due-diligence and best endeavour and mitigates against possible accusations of negligence.
- Avoidance of costly mistakes - you can trust LPCB approved products and services to conform each and every time.
- Time - using Red Book Live to search for and assess products and services can save you time.

For manufacturers and installers:

- Increased global sales - LPCB approval is recognised and specified widely throughout the world. In some territories LPCB approval is a mandatory requirement.
- Added value of the product or service - LPCB approved products and services are recognised as providing added value given their ability to conform each and every time.
- Reduced liability - LPCB approved products and services demonstrate due-diligence which can reduce liability for both you and your customers.

What does LPCB Certification offer?

LPCB certification is carried out against Loss Prevention Standards (LPS's). These LPS's include reference to BS, EN or ISO standards as appropriate. LPCB certification are level 5 schemes as detailed in ISO/ IEC 17067 with the added requirement to have a quality system certificated to ISO 9001.

VOLUME 1 LIST OF APPROVED PRODUCTS AND SERVICES

The technical requirements of LPCB schemes are given in the Loss Prevention Standards (LPSs). These documents are drafted by LPCB technical experts in conjunction with appropriate external experts. They are then peer reviewed by representatives from trade bodies, regulators, insurers, specifiers, manufacturers and other suppliers. Finally these documents are approved for use by the BRE Global Governing Body; the Body that oversees all of the certification activities of BRE Global.

Product schemes comprise:

- Initial type testing and evaluation of product.
- Approval and surveillance of the manufacturer's (or supplier's) quality management system to ISO 9001
- Assessment and surveillance of the manufacturer's (or supplier) factory production control system (FPC).
- Periodic audit testing of the product from either the factory or marketplace.
- Labelling or marking as appropriate.
- Listing on Red Book Live

Installer schemes comprise:

- Technical assessment of the installation contractor's capability.
- Approval and surveillance of the contractor's quality management system to ISO 9001 or assessment against the requirements of the relevant Loss Prevention Standard where ISO 9001 is not appropriate.
- Regular surveillance inspections of on-going installations.
- The issue of Certificates of Conformity by the installer to demonstrate compliance for each installation.
- Listing in the Red Book.

The LPCB Mark - the Mark you can trust

After certification of a product or service the manufacturer or service provider may place the LPCB certification mark, as shown below, on the product, packaging and literature etc.



Where LPCB holds accreditation through the United Kingdom Accreditation Service (UKAS), the certified company may include the UKAS symbol (the Crown and Tick) alongside the LPCB mark for certain applications e.g. promotional literature or material and stationery, as shown below.



(Full details of LPCB accreditation can be found on the UKAS website at www.ukas.com)

Where for reasons of space or cost the use of the above full mark is not practical, then the following simplified mark may be applied directly to the product (for some schemes only). The LPCB scheme rules define how and where the marks can be used.

LPCB

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Part

3

*AUTOMATIC SPRINKLER,
WATER SPRAY AND
DELUGE SYSTEMS*

PART 3: AUTOMATIC SPRINKLER, WATER SPRAY AND DELUGE SYSTEMS

INTRODUCTION

The standards used by LPCB for approving and listing sprinkler system components have been developed to ensure that they are suitable for use in systems installed to the LPC Sprinkler Rules incorporating EN 12845.

Many of these components may also be suitable for use in systems designed in accordance with other international and national codes such as NFPA.

To ensure that the systems work, it is recommended that they are designed, installed, commissioned and maintained by contractors who are approved by LPCB to LPS 1048 (for commercial systems) or LPS 1301 (for residential or domestic systems).

Listings in this section include:

Products

- Wet and dry alarm valves for sprinkler systems
- Wet alarm valve stations
- Accelerators and exhausters for dry pipe valves
- Deluge valves and actuators
- Direct reading flow meters
- Multiple jet controls
- Pipe couplings and fittings
- Flexible drops
- Pre-action control systems
- Sprinkler system recycling systems
- Pressure switches
- Sprinkler heads
- Sprinkler bulbs
- Suction tanks for automatic pumps
- Vortex inhibitors
- Water flow alarm switches
- Flow switch testing devices
- Water spray systems
- Fire pumps
- Multi-state fire pumps
- Diesel engines for sprinkler pump sets
- Pipework supports
- Check valves
- Stop valves
- Plastic pipes and fittings
- Metron actuators
- Water motor alarms

Products are approved in accordance with a range of standards, the details of which are given at the front of each section relevant to the product.

Installation and maintenance contractors

Contractors are approved in accordance with:

- *LPS 1048: Requirements for the approval of sprinkler system contractors in the UK and Ireland.*
- *LPS 1148: Requirements for contractors engaged in the design, installation, commissioning and servicing of automatic sprinkler systems (overseas)*
- *LPS 1301: Requirements for the approval of sprinkler installers in the UK and Ireland for residential and domestic sprinkler systems.*

Sprinkler systems are only effective if designed, installed and maintained correctly. The LPS 1048-1 scheme: *Requirements for the approval of Sprinkler Contractors in the UK and Ireland*, ensures that installers are capable of designing, installing and servicing sprinkler systems to acceptable installation standards.

Scheme Structure

There are 4 approval levels for Sprinkler Contractors in the LPS 1048-1 scheme. Figure 1 below shows the Categories of Work that are allowed to be carried out at each approval level in the LPS 1048-1 scheme.

Figure 1 Categories of Work		Approval Level			
		1	2	3	4
A	Pre-calculated ordinary hazard systems, installations, extensions and alterations (excluding water supplies)	√	√	√	√
B	Pre-calculated high hazard systems, installations, extensions and alterations (excluding water supplies)	√	√	√	√
C	Town's main water supplies	√	√	√	√
D	Pumped water supplies	√	√	√	√
E	Base build contracts (pre-calculated design principles)		√	√	√
F	Systems, installations, extensions and alterations involving FHC design principles			√	√

Important Note to Specifiers

Specifiers should only use Sprinkler Contractors that are LPS 1048-1 approved to the appropriate level depending on the type of sprinkler work required, refer to the individual company listings for the approval level of Sprinkler Contractors.

Listing of Sprinkler Contractors

LPS 1048-1 Approved Sprinkler Contractors are listed alphabetically, regardless of their approval level.

Continual Assessment

The LPS 1048-1 scheme has over 80 sprinkler contractors that are continually assessed for their continued capability to undertake sprinkler contracts and for their compliance with the requirements of the LPS 1048-1 scheme.

Certificates of Conformity

In order to ensure that a sprinkler system is effective, specifiers should always request an LPS 1048 Certificate of Conformity. An LPS 1048 Certificate of Conformity may only be issued for a sprinkler system, installation, extension or alteration that is in full compliance with the one of the acceptable installation standards.

Any agreed minor deviations to the installation standard will be recorded on the LPS 1048 Certificate of Conformity. An LPS Certificate of Conformity cannot be issued if there is a major deviation to the installation standard. It should be noted that a Sprinkler Contractor's Completion Certificate is **NOT** an LPS 1048 Certificate of Conformity.

An LPS 1048 Certificate of Conformity only remains valid if the sprinkler system, installation, extension or alteration, covered by the certificate, is serviced and maintained in accordance with the original installation standard.

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Supervision

Where an approved Sprinkler Contractor does not meet all the criteria set out in the LPS 1048-1 scheme document to self-certificate any of the Categories of Work allowed under its approval level, it is required to have the Category (ies) of Work that it is not approved to self-certificate supervised by an LPCB approved Supervising Body or the LPCB Supervisory Service.

Supervision involves a review of the design, an inspection of the installed sprinkler protection, and if water supplies are included in the scope of work, witnessing of the water supply proving tests, for compliance with the installation standard. For supervised contracts, the LPS 1048 Certificates of Conformity is issued by an LPCB approved Supervising Body or the LPCB Supervisory Service.

Details of the Categories of Work that each approved Sprinkler Contractor can self-certificate, can be found in the individual company listings.

Financial assessment

The assessment and listing of Sprinkler Contractors in the LPS 1048-1 scheme covers only technical and quality aspects. All other contractual requirements are the responsibility of the parties to the contract.

Service and maintenance

Installers that undertake service and maintenance work are assessed for their capability to carry out such work in accordance with EN 12845 clause 20 and Technical Bulletin 203 of the LPC Rules for Automatic Sprinkler Installations.

A & F Sprinklers Limited

Unit 4, Transpennine Trading Estate, Gorrels Way, Rochdale, Lancashire OL11 2PX, United Kingdom

Tel: +44 (0)845 505 1550 • Fax: +44 (0)845 505 1660

E-mail: info@afsprinklers.co.uk • Website: www.afsprinklers.co.uk

Certificate No. ASC-001 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

A.M. Fire Systems Limited

Red Brook Mill, Bury Road, Rochdale OL11 4EE, United Kingdom

Tel: +44 (0)1706 639439 • Fax: +44 (0)1706 347733

E-mail: andyedmunds@amfiresystems.co.uk

Certificate No. ASC-076 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C
The following Categories of Work to be supervised - D E

AD Sprinkler Protection Limited

2/8 Heaton Mill, Grey Street, Denton, Manchester M34 3RG, United Kingdom

Tel: +44 (0)161 336 0001 • Fax: +44 (0)161 336 6608

E-mail: enquiries@adsprinklers.co.uk • Website: www.adsprinklers.co.uk

Certificate No. ASC-102 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A

The following Categories of Work to be supervised - B C D E

Alpha Sprinkler Protection Limited

G25, Innovation Centre, Evolution Park, Haslingden Road, Blackburn BB1 2FD, United Kingdom

Tel: +44 (0)1254 584669

E-mail: info@alphasprinklers.co.uk • Website: www.alphasprinklers.co.uk

Certificate No. ASC-137 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 2

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

Alpine Fire Engineers Limited

Sovereign House, Barehill Street, Littleborough, Lancashire OL15 9BL, United Kingdom

Tel: +44 (0)1706 838200 • Fax: +44 (0)1706 838020

E-mail: d.smith@alpinefire.co.uk • Website: www.alpinefire.co.uk

Certificate No. ASC-054 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work

No supervision required

AML Fire Protection Limited

59 Carlton Avenue, Gillingham, Kent ME7 2JX, United Kingdom

Tel: +44 (0)1634 581412 • Fax: +44 (0)8709 748192

E-mail: enquiries@amlfireprotection.com • Website: www.amlfireprotection.co.uk

Certificate No. ASC-140 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 1

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

APW Fire Protection Limited

Unit A, Marlfield Factory, Front Road, Drumbo, Lisburn BT27 5JY, United Kingdom
Tel: +44 (0)28 90827046 • Fax: +44 (0)28 90827049
E-mail: will@apwfp.com

Certificate No. ASC-107 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Aquamatic Fire UK Limited

52-56 Lower Oxford Street, Castleford, West Yorkshire WF10 4AF, United Kingdom
Tel: +44 (0)1977 517759 • Fax: +44 (0)872 352 3743
E-mail: info@aquamaticfire.co.uk • Website: www.aquamaticfire.co.uk

Certificate No. ASC-131 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Argus Fire Protection Company Limited

Hendglade House, 46 New Road, Stourbridge, West Midlands DY8 1PA, United Kingdom
Tel: +44 (0)1384 376256 • Fax: +44 (0)1384 393955
E-mail: info@argusfire.co.uk • Website: www.argusfire.co.uk

Certificate No. ASC-005 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Armstrong Priestley Limited

Seventy Seven, Holbeck Lane, Leeds LS11 9UL, United Kingdom
Tel: +44 (0)113 3944040 • Fax: +44 (0)113 3944041
E-mail: info@armstrongpriestley.co.uk • Website: www.armstrongpriestley.co.uk

Certificate No. ASC-016 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Automatic Fire Control Limited

Unit 4 - Shrivenham, 100 Business Park, Enterprise Centre, Major Road, Shrivenham, Wiltshire SN6 8TZ,
United Kingdom

Tel: +44 (0)1793 821588 • Fax: +44 (0)1793 821587

E-mail: info@automaticfire.co.uk

Certificate No. ASC-027 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D
The following Categories of Work to be supervised - E

Automatic Sprinkler Company (Ireland) Limited trading as Automatic Fire & Integrated Solutions

Unit 3 Parkwest Road, Parkwest Industrial Park, Dublin 12, Ireland

Tel: +353 1 453 3108 • Fax: +353 1 453 3121

E-mail: info@automaticfire.ie • Website: www.automaticfire.ie

Certificate No. ASC-101 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

B4 Fire Protection Limited

Suite 45, 500 Avebury Boulevard, Milton Keynes, Buckinghamshire MK9 2BE, United Kingdom

Tel: +44 (0)1908 802613

E-mail: keytafire@btinternet.com • Website: www.keyta.com

Certificate No. ASC-128 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Besseges Limited

Riverside, Dukinfield, Cheshire SK16 4HE, United Kingdom
Tel: +44 (0)161 308 3252 • Fax: +44 (0)161 339 5003
E-mail: sales@besseges.co.uk • Website: www.besseges.co.uk

Certificate No. ASC-041 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certify all Categories of Work
No supervision required

Blue Shield Fire Protection Limited

Blue Shield House, Queen Street, Tring, Hertfordshire HP23 6BQ, United Kingdom
Tel: +44 (0)1442 828000 • Fax: +44 (0)1442 828001
E-mail: sales@blueshieldfire.co.uk • Website: www.blueshieldfire.co.uk

Certificate No. ASC-083 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 3

Approved to self-certify the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Bush (Fire Engineering) Limited

124 Barnfield Wood Road, Beckenham BR3 6SX, United Kingdom
Tel: +44 (0)203 021 1999
E-mail: sales@bushengineering.com • Website: www.bushengineering.com

Certificate No. ASC-065 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certify any Category of Work
All Categories of Work to be supervised

Churches Fire Security Limited

Fire House, Mayflower Close, Chandlers Ford, Eastleigh, Hampshire SO53 4AR, United Kingdom
Tel: 0870 608 4350 • Fax: 0870 608 4351
E-mail: sales@churchesfire.com • Website: www.churchesfire.com

Certificate No. ASC-068 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Circum Limited

Circum House, 223a Hatfield Road, St Albans, Hertfordshire AL1 4TB, United Kingdom
Tel: +44 (0)1727 821228 • Fax: +44 (0)1727 822428
E-mail: sfulcher@circum.ltd.uk • Website: www.circum.ltd.uk

Certificate No. ASC-099 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Commercial Sprinklers Limited

Copthall Farm, Breakspear Road South, Ickenham, Middlesex UB10 8HB, United Kingdom
Tel: +44 (0)208 864 3914
E-mail: info@commercialsprinklers.co.uk • Website: www.commercialsprinklers.co.uk

Certificate No. ASC-138 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Compco Fire Systems Limited

Cleeve House, Malvern Road, Lower Wick, Worcester WR2 4YX, United Kingdom
Tel: +44 (0)1905 741600 • Fax: +44 (0)1905 741620
E-mail: enquiries@compcofire.co.uk

Hamilton:

Cadzow Industrial Estate, Cadzow House, Hamilton ML3 7QU, United Kingdom
Tel: +44 (0)1698 368790 • Fax: +44 (0)1698 426211
E-mail: web.enquiries@compcofire.co.uk • Website: www.compcofire.co.uk

Hemel Hempstead: (Note: Servicing not applicable for this office)

High Banks House, Lawn Lane, Hemel Hempstead, Hertfordshire HP3 9HR, United Kingdom
Tel: +44 (0)1442 242821
E-mail: enquiries@compcofire.co.uk • Website: www.compcofire.co.uk

Certificate No. ASC-049 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

CT Fire Protection Limited

30 Church Street, Burton Latimer, Northamptonshire NN15 5LU, United Kingdom

Tel: +44 (0)1536 515872 • Fax: +44 (0)1536 515872

E-mail: info@ct-fireprotection.co.uk

Certificate No. ASC-135 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

CW Fire Solutions Limited

Unit 6, Fitzroy Business Park, Sandy Lane, Sidcup, Kent DA14 5NL, United Kingdom

Tel: +44 (0)208 309 5203 • Fax: +44 (0)208 302 5707

E-mail: admin@cwfire.co.uk • Website: www.cwfire.co.uk

Certificate No. ASC-136 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A

The following Categories of Work to be supervised - B C D E

DIS Sprinklers Limited

First Floor, Cranham House, Falcon Close, Quedgeley, Gloucester, Gloucestershire GL2 4LY, United Kingdom

Tel: +44 (0)1452 304927

E-mail: sprinklers@dis-ltd.co.uk • Website: www.dis-ltd.co.uk

Certificate No. ASC-030 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A

The following Categories of Work to be supervised - B C D E

EA-RS Fire Engineering Limited

4 Swanbridge Industrial Park, Black Croft Road, Witham, Essex CM8 3YN, United Kingdom

Tel: +44 (0)1376 503680

E-mail: onesolution@ea-rsgroup.com • Website: www.ea-rsgroup.com

Certificate No. ASC-125 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Emtec Fire Systems Limited

1 Ellismuir Way, Tannochside Park, Uddingston, Glasgow G71 5PW, United Kingdom
Tel: +44(0)141 646 1949 • Fax: +44 (0)141 646 0418
E-mail: ac@emtecfire.co.uk • Website: www.emtecfire.co.uk

Certificate No. ASC-129 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Essex Fire Sprinklers Limited

13 Kendal Court, Hurricane Way, Wickford, Essex SS1 8YB, United Kingdom
Tel: +44 (0)1268 760436
E-mail: info@essexfiresprinklers.com • Website: www.essexfiresprinklers.com

Certificate No. ASC-142

Design, installation and commissioning of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Eton Fire Limited

Suite 602, Tower Bridge Business Centre, 46-48 East Smithfield, London E1W 1AW, United Kingdom
Tel: +44 (0)207 517 6300 • Fax: +44 (0)207 538 5231
E-mail: fire@etonfire.com • Website: www.etonfire.com

Cannock:

Anysley House, Waterside Business Centre, Wolverhampton Road, Cannock WS11 1SN, United Kingdom
Tel: +44 (0)1543 431340 • Fax: +44 (0)1543 571680
E-mail: fire@etonfire.com • Website: www.etonfire.com

Certificate No. ASC-081 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D
The following Categories of Work to be supervised - E

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

F.V.S. Limited

Broom Street, Off Huddersfield Road, Newhey, Rochdale OL16 3RY, United Kingdom

Tel: +44 (0)1706 848599 • Fax: +44 (0)1706 843474

E-mail: fvs@fvslimited.co.uk • Website: www.fvslimited.co.uk

Certificate No. ASC-031 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

FES Limited, FES Sprinklers

Forth House, Pirnhall Business Park, Stirling FK7 8HW, United Kingdom

Tel: +44 (0)1786 819600 • Fax: +44 (0)1786 811456

E-mail: hq@fes.ltd.uk

Certificate No. ASC-096 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D

The following Categories of Work to be supervised - E

Fire Alarm Solutions Limited

Unit 2, Manor Way Business Centre, Fairview Industrial Park, Marsh Way, Rainham, Essex RM13 8UG, United Kingdom

Tel: +44(0) 1708 521181 • Fax: +44(0) 1708 521182

E-mail: enquiries@fas-ltd.com • Website: www.fas-ltd.com

Certificate No. ASC-110 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

Fire Logistics Limited

Unit 11B, Airport Industrial Estate, Newcastle upon Tyne NE3 2EF, United Kingdom

Tel: +44 (0)191 214 6400 • Fax: +44 (0)191 214 6303

E-mail: enquiries@firelogistics.co.uk • Website: www.firelogistics.co.uk

Certificate No. ASC-105 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Fire Security (Sprinkler Installations) Limited

Homefield Road, Haverhill, Suffolk CB9 8QP, United Kingdom
Tel: +44 (0)1440 705815 • Fax: +44 (0)1440 704352
E-mail: info@firesecurity.co.uk • Website: www.firesecurity.co.uk

Certificate No. ASC-018 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Fireproof Fire Engineering Limited

The Old Brewery, 40 Coldhurst Street, Oldham, Lancashire OL1 2BQ, United Kingdom
Tel: +44 (0)161 620 0902 • Fax: +44 (0)161 620 0772
E-mail: contactus@fireproofsprinklersystems.com • Website: www.fireproofsprinklersystems.com

Certificate No. ASC-019 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Firetec UK Limited

Unit 3, 284 Warley Hill, Brentwood, Essex CM13 3AB, United Kingdom
Tel: +44 (0)844 800 6974
E-mail: enquiries@firetecuk.co.uk • Website: www.firetecuk.uk

Certificate No. ASC-120 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

First Fire Protection Limited

Unit 3, Network 4, Lincoln Road, Cressex Business Park, High Wycombe, Buckinghamshire HP12 3RF, United Kingdom
Tel: +44 (0)1494 522031/2
E-mail: enquiries@firstfireprotection.co.uk • Website: www.firstfireprotection.co.uk

Certificate No. ASC-037 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Approval Level 2

Approved to self-certificate the following Categories of Work: A B
The following Categories of Work to be supervised - C D

Gordonson Fire Protection Limited

Unit 2 Tawney Farm, Tawney Common, Theydon Mount, Epping, Essex CM16 7PU, United Kingdom
Tel: +44 (0)207 237 6707 • Fax: +44 (0)207 252 0152
E-mail: Danielle@Gordonson.co.uk

Certificate No. ASC-062 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C
The following Categories of Work to be supervised - D E

Hall & Kay Fire Services Limited trading as Hall & Kay Fire Engineering (Ascot)

Unit E - Science Park, Silwood Business Park, Ascot, Berkshire SL5 7PW, United Kingdom
Tel: +44 (0)1344 203800 • Fax: +44 (0)1344 203801
E-mail: ascot@hkfire.co.uk • Website: www.hkfire.co.uk

West Midlands:

Sterling Park, Clapgate Lane, Woodgate Valley, West Midlands B32 3BU, United Kingdom
Tel: +44 (0)121 421 3311 • Fax: +44 (0)121 422 7312
E-mail: birmingham@hkfire.co.uk • Website: www.hkfire.co.uk

Manchester: (Note: Servicing not applicable for this office)

Oak Court, Clifton Business Park, Wynne Avenue, Clifton, Manchester M27 8FF, United Kingdom
Tel: +44 (0)161 872 7316 • Fax: +44 (0)161 872 7003
E-mail: Manchester@hkfire.co.uk • Website: www.hkfire.co.uk

Certificate No. ASC-071 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Integr8 Building Services Limited

203-205 High Street, Orpington, Kent BR6 0PF, United Kingdom
Tel: +44 (0)1689 824886
E-mail: info@i8.london • Website: www.i8.london

Certificate No. ASC-116 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Irish Sprinkler & Fire Protection Limited

Damastown Green, Damastown Industrial Estate, Mulhuddart, Dublin 15, Ireland
Tel: +353 1 8614036 • Fax: +353 1 8614037
E-mail: irishsprinkler@joneseng.com • Website: www.joneseng.com

Certificate No. ASC-069 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

J & J Design Limited trading as J & J Fire Engineering

Ewood Bridge Mill, Ewood Bridge, Lancashire BB4 6LB, United Kingdom
Tel: +44 (0)1706 223414 • Fax: +44 (0)1706 225639
E-mail: info@jjsprinklers.co.uk • Website: www.jjsprinklers.co.uk

Certificate No. ASC-052 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

J G Truty Sprinkler Installations Limited

232 Desborough Avenue, High Wycombe, Buckinghamshire HP11 2TN, United Kingdom
Tel: +44 (0)1494 443339 • Fax:
E-mail: info@jgtrutysi.co.uk • Website: www.jgtrutysi.co.uk

Certificate No. ASC-122 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Kean Building & Fire Protection Services Limited

39/43 Temple Bar, Willenhall, West Midlands WV13 1SH, United Kingdom
Tel: +44 (0)1902 603550 • Fax: +44 (0)1902 608017
E-mail: kean.fp@btconnect.com

Certificate No. ASC-061 to LPS 1048

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C
The following Categories of Work to be supervised - D E

Kentallen Fire Protection Limited

Lancaster Road, Lowmoss Industrial Estate, Bishopbriggs, Glasgow G64 2LL, United Kingdom
Tel: +44 (0)141 762 2540 • Fax: +44 (0)141 762 0823
E-mail: kentallen@btconnect.com

Certificate No. ASC-032 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

KPFP Limited

11 Waterhouse Lane, Kingswood, Surrey KT20 6EB, United Kingdom
Tel: +44 (0)20 8544 4844 • Fax:
E-mail: fire@kfpf.co.uk • Website: kfpf.co.uk

Certificate No. ASC-089 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Linkester Fire Protection Limited

4/6 Cross Street, Macclesfield, Cheshire SK11 7PG, United Kingdom
Tel: +44 (0)1625 511272 • Fax: +44 (0)1625 511272
E-mail: sales.linkester@btconnect.com

Certificate No. ASC-011 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

M & P Fire Protection Limited

Unit 12, Viewpoint, Boxley Road, Maidstone, Kent ME14 2DZ, United Kingdom

Tel: +44 (0)800 043 1974 • Fax: +44 (0)1622 669631

E-mail: info@mpfireprotection.com • Website: www.mpfireprotection.com

Certificate No. ASC-133 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

M & P Fire Solutions Ltd

Unit 9 Robinhood Business Park, Robinhood Road, Dublin 22, Ireland

Tel: +353 1 4508248 • Fax: +353 1 4509028

E-mail: admin@mpfiresolutions.com • Website: www.mpfiresolutions.com

Certificate No. ASC-095 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A

The following Categories of Work to be supervised - B C D E

M. J. Quinn Integrated Services Limited

Finwell House, 26 Finsbury Square, London EC2A 1DS, United Kingdom

Tel: +44 (0)207 993 0731 • Fax: +44 (0)203 757 0580

E-mail: enquiries@mjqinn.co.uk • Website: www.mjqinn.co.uk

Certificate No. ASC-104 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A

The following Categories of Work to be supervised - B C D E

Mercury Engineering

Mercury House, Sandyford Industrial Estate, Foxrock, Dublin 18 D18 XH79, Ireland

Tel: +353 1 216 3000 • Fax: +353 1 216 3006

E-mail: fireprotection@mercuryeng.com • Website: www.mercuryeng.com

Certificate No. ASC-058 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Approved to self-certificate all Categories of Work
No supervision required

National Sprinkler Company Limited

Unit 4B, Fingal Bay Business Park, Balbriggan, Co Dublin, Ireland

Tel: +353 1 690 4001/4040 • Fax: +353 1 841 7400

E-mail: info@nationalsprinkler.ie • Website: www.nationalsprinkler.ie

Certificate No. ASC-092 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D

The following Categories of Work to be supervised - E

Nu-Form Fire UK Limited

390 Manchester Road, Gollinrod, Bury, Lancashire BL9 5NB, United Kingdom

Tel: +44 (0)1706 825111 • Fax: +44 (0)1706 827111

E-mail: info@sprinklersystems.co.uk • Website: www.sprinklersystems.co.uk

Certificate No. ASC-040 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work

No supervision required

Phoenix Fire Services Limited (trading as Interserve Sprinkler Division)

Unit 7, Henley Business Park, Henley Road, Coventry, West Midlands CV2 1ST, United Kingdom

Tel: +44 (0)845 600 8420 • Fax: +44 (0)845 600 6841

E-mail: ifsfire.sprinklers@irv-if.com • Website: www.phoenixfireservices.co.uk

Certificate No. ASC-123 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

Protec Camerfield Limited

5 Churchill Way, Nelson, Lancashire BB9 6RT, United Kingdom

Tel: +44 (0)1282 717474 • Fax: +44 (0)1282 717475

E-mail: camerfield@protec.co.uk • Website: www.protec.co.uk

Certificate No. ASC-056 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Provincial Sprinkler Co. Limited

Unit 4, Cork Airport Industrial Estate, Kinsale Road, Cork, Ireland
Tel: +353 (0)21 4965058 • Fax: +353 (0)21 4317425
E-mail: info@pscl.ie • Website: www.provincial-sprinkler.ie

Certificate No. ASC-087 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Red Rose Fire Protection Limited

Unit 2, Atlas Foundry Estate, Brieryfield Road, Preston PR1 8SR, United Kingdom
Tel: +44 (0)1772 822133 • Fax: +44 (0)1772 822144
E-mail: redrosefp@aol.com

Certificate No. ASC-044 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Redcroft Fire Limited

1A Hurst Road, Sidcup, Kent DA15 9AE, United Kingdom
Tel: +44 (0)208 308 0232 • Fax: +44 (0)208 300 1106
E-mail: info@redcroftfire.co.uk • Website: www.redcroftfire.co.uk

Certificate No. ASC-127 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Richmond Fire Engineers Limited

30 Firby Road, Gallowfields Trading Estate, Richmond, North Yorkshire DL10 4ST, United Kingdom

Tel: +44 (0)1748 825612 • Fax: +44 (0)1748 825935

E-mail: servicing@richmondfire.co.uk • Website: www.richmondfire.co.uk

Certificate No. ASC-059 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work

No supervision required

Ross Fire Protection Limited

29 Deerdykes View, Westfield, Cumbernauld G68 9HN, United Kingdom

Tel: +44 (0)1236 738502 • Fax: +44 (0)1236 727977

E-mail: info@rossfire.co.uk • Website: www.rossfire.co.uk

Certificate No. ASC-021 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

RSM Refko Installations Limited

Unit 8, Capstan Centre, Thurrock Park Way, Tilbury, Essex RM18 7HH, United Kingdom

Tel: +44 (0)1375 855500 • Fax: +44 (0)1375 855533

E-mail: rsmrefko@btconnect.com

Certificate No. ASC-043 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

Select Fire Services Limited

Unit 3 Omni Business Park, Stadium Way, Harlow, Essex CM19 5FT, United Kingdom

Tel: +44 (0)1279 641979 • Fax: +44 (0)1279 641978

E-mail: info@selectfire.co.uk • Website: www.selectfire.co.uk

Certificate No. ASC-070 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D
The following Categories of Work to be supervised - E

Solent Fire Protection Services Limited

12 Heritage Business Park, Heritage Way, Gosport, Hampshire PO12 4BG, United Kingdom
Tel: +44 (0)2392 510230 • Fax: +44 (0)2392 511510
E-mail: info@solentfire.co.uk • Website: www.solentfire.co.uk

Certificate No. ASC-057 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C
The following Categories of Work to be supervised - D E

Spectrum Fire Protection (UK) Limited

Middlemore Lane, Aldridge, Walsall, West Midlands WS9 8SP, United Kingdom
Tel: +44 (0)1922 744 466 • Fax: +44 (0)1922 744 477
E-mail: TechSupport@spectrumfire.co.uk • Website: www.spectrumfire.co.uk

Certificate No. ASC-108 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Target Fire Systems Limited

Unit 12, The Portland Business Centre, Manor House Lane, Datchet, Berkshire SL3 9EG, United Kingdom
Tel: +44 (0)1753 549496 • Fax: +44 (0)1753 549122
E-mail: shaun.ellsmore@targetfiresystems.co.uk • Website: www.targetsiteservices.co.uk

Certificate No. ASC-124 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Taylor Fire Sprinklers Limited

Unit D, Avondale Way, Wakefield, West Yorkshire WF2 7QU, United Kingdom
Tel: +44 (0)1924 375971 • Fax: +44 (0)1924 609902
E-mail: info@taylorfiresprinklers.co.uk • Website: www.taylorfiresprinklers.co.uk

Certificate No. ASC-115 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Thameside Fire Protection Co. Limited

Unit 4, Sovereign Business Park, Cranes Farm Road, Basildon, Essex SS14 3JD, United Kingdom
Tel: +44 (0)1268 597999 • Fax: +44 (0)1268 597998
E-mail: darko.petrovic@thamesidefire.co.uk • Website: www.thamesidefire.co.uk

Certificate No. ASC-053 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Thermotech Fire Protection Limited

Thermotech House, Building 1, Hercules Office Park, Birdhill Lane, Cheadle Hulme, Stockport, Cheshire SK3 0UX, United Kingdom
Tel: +44 (0)161 476 5551 • Fax: +44 (0)161 476 2998
E-mail: info@thermotechsolutions.co.uk • Website: www.thermotechsolutions.co.uk

Certificate No. ASC-074 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 3

Approved to self-certificate the following Categories of Work: A B
The following Categories of Work to be supervised - C D E

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK) Limited)

Tyco Park, Grimshaw Lane, Newton Heath, Manchester M40 2WL, United Kingdom

Tel: +44 (0)161 205 2321 • Fax: +44 (0)161 455 4459

Website: www.tycofis.com

Belfast

Tyco House, 13A Airport Road West, Belfast, Northern Ireland BT3 9ED, United Kingdom

Tel: +44 (0)2890 883560 • Fax: +44 (0)2890 814418

Website: www.tycofis.com

Bristol

180 Aztec West, Almondsbury, Bristol BS32 4TU, United Kingdom

Tel: +44 (0)1454 240071 • Fax: +44 (0)1454 626443

Website: www.tycofis.com

Gateshead

ADT House, 5th Avenue Business Park, Team Valley Trading Estate, Gateshead, Tyne & Wear NE11 0HF, United Kingdom

Tel: +44 (0)191 451 5100 • Fax: +44 (0)191 487 2177

Website: www.tycofis.com

Halesowen

Mucklow Office Park, Mucklow Hill, Halesowen, West Midlands B62 8DA, United Kingdom

Tel: +44 (0)121 255 6000 • Fax: +44 (0)121 255 6100

Website: www.tycofis.com

Sunbury on Thames

Security House, The Summit, Hanworth Road, Sunbury on Thames, Middlesex TW16 5DB

Tel: +44 (0)1753 574111 • Fax: +44 (0)1753 824226

Website: www.tycofis.com

Swansea

Tyco House, Phoenix Way, Swansea Enterprise Park, Swansea SA7 9EQ, United Kingdom

Tel: +44 (0)1792 465006 • Fax: +44 (0)1792 648535

Website: www.tycofis.com

Uddingston

ADT House, 4 Kilmartin Place, Tannochside Park, Uddingston G71 5PH

Tel: +44 (0)1355 225132 • Fax: +44 (0)1698 812061

Website: www.tycofis.com

Certificate No. ASC-007 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 4

PART 3: SECTION 1.1

LPS 1048 APPROVED SPRINKLER CONTRACTORS - UK AND IRELAND

Approved to self-certificate all Categories of Work
No supervision required

UK Fire Safety Limited

13-15 Lostock Road, Urmston, Manchester M41 0ES, United Kingdom
Tel: +44 (0)161 746 8037 • Fax: +44 (0)161 746 8136
E-mail: mroyle@uk-firesafety.co.uk • Website: www.uk-firesafety.co.uk

Certificate No. ASC-098 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Ultra Surefire Limited

Unit 4, Barnes Wallis Court, Wellington Road, High Wycombe, Buckinghamshire HP12 3PS, United Kingdom
Tel: +44 (0)1494 444123 • Fax: +44 (0)1494 444345
E-mail: info@ultrasurefire.co.uk • Website: www.ultrasurefire.co.uk

Certificate No. ASC-130 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Vipond Fire Protection Limited

10-12 Glenfield Road, Kelvin Industrial Estate, East Kilbride, Lanarkshire G75 0RA, United Kingdom
Tel: +44 (0)1355 2375 25/80/88 • Fax: +44 (0)1355 263399
E-mail: admin.uk@vipondltd.co.uk • Website: www.vipondfire.co.uk

Burntwood:

Unit 7C, Zone 2 Burntwood Business Park, Burntwood, Staffordshire WS7 3JQ, United Kingdom
Tel: +44 (0)1543 471417

Certificate No. ASC-024 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial fire sprinklers systems.

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Watermatic Fire Sprinklers Limited

20 Altrincham Road, Wilmslow SK9 5ND, United Kingdom

Tel: +44 (0)333 77 22 321

E-mail: info@watermaticfire.co.uk • Website: www.watermaticfire.co.uk

Certificate No. ASC-141 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

Woodward & Co. (Environmental) Ltd t/a Woodward & Co. Fire Protection

The Courtyard, Severn Drive, Tewkesbury, Gloucestershire GL20 8GD, United Kingdom

Tel: +44 (0)1684 850005

E-mail: office@woodward.uk.com • Website: www.woodward.uk.com

Certificate No. ASC-139 to LPS 1048

Design, installation and commissioning of industrial & commercial fire sprinklers systems.

Approval Level 1

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

Writech Industrial Services Limited

Also including Writech Manufacturing Limited, Mullingar Business Park, Mullingar, Co. Westmeath, Ireland

Tel: +353 44 9349857 • Fax: +353 44 9349858

E-mail: info@writechltd.com

Certificate No. ASC-067 to LPS 1048

Design, installation, commissioning and servicing of industrial & commercial and residential & domestic fire sprinklers systems.

Approval Level 3

Not approved to self-certificate any Category of Work

All Categories of Work to be supervised

PART 3: SECTION 1.2

LPS 1048 SUPERVISING BODIES

LPCB Supervising Service

Bucknalls Lane, Watford, Hertfordshire WD25 9XX, United Kingdom

Tel: +44 (0)1923 664100 • Fax: +44 (0)1923 664994

E-mail: enquiries@lpcb.com • Website: www.redbooklive.com

Certificate No. n/a

LPS 1148 is a new scheme for installers of automatic fire sprinkler systems based overseas. This scheme is open to all Contractors operating anywhere in the World except the UK & Ireland and The Netherlands where LPCB operates different schemes for installers of automatic sprinkler systems.

Scheme Structure

There are 4 approval levels for Sprinkler Contractors in the LPS 1148 scheme. Figure 1 below shows the Categories of Work that are allowed to be carried out at each approval level in the LPS 1148 scheme.

Figure 1

Category of Work		Approval level			
		1	2	3	4
A	Pre-calculated ordinary hazard systems, installations, extensions and alterations (excluding water supplies)	✓	✓	✓	✓
B	Pre-calculated high hazard systems, installations, extensions and alterations (excluding water supplies)	✓	✓	✓	✓
C	Town's main water supplies	✓	✓	✓	✓
D	Pumped water supplies	✓	✓	✓	✓
E	Base build contracts (pre-calculated design principles)		✓	✓	✓
F	Systems, installations, extension and alterations involving FHC design principles			✓	✓

Installation standard

Sprinkler contractors will be assessed for their capability to design, install, test & commission and service (where undertaken) automatic fire sprinkler systems using their national sprinkler standard.

Important note to Specifiers

Specifiers should only use Sprinkler Contractors that are LPS 1148 approved to the appropriate level depending on the type of sprinkler work required, refer to the individual company listings for the approval level of Sprinkler Contractors.

Listing of Sprinkler Contractors

LPS 1148 Approved Sprinkler Contractors are listed alphabetically, regardless of their approval level.

Continual assessment

LPS 1148 approved sprinkler contractors are continually assessed for their continued capability to undertake sprinkler contracts and for their compliance with the requirements of the LPS 1148 scheme.

Certificates of Conformity

In order to ensure that a sprinkler system is effective, specifiers should always request an LPS 1148 Certificate of Conformity. An LPS 1148 Certificate of Conformity may only be issued for a sprinkler system, installation, extension or alteration that is in full compliance with the one of the acceptable installation standards.

Any agreed minor deviations to the installation standard will be recorded on the LPS 1148 Certificate of Conformity. A certificate of conformity cannot be issued if there is a major deviation to the installation standard. It should be noted that a Sprinkler Contractor's Completion Certificate is **NOT** an LPS 1148 Certificate of Conformity.

PART 3: SECTION 1.3

LPS 1148 APPROVED SPRINKLER CONTRACTORS - OVERSEAS

An LPS 1148 Certificate of Conformity remains valid only if:

1. The sprinkler system user carries out and maintains adequate records of the programme of daily and weekly inspections and checks required by the applicable installation standard, which will also be detailed in the operating and maintenance manual provided by the LPS 1148 Approved Sprinkler contractor, and
2. The sprinkler system is serviced, maintained and inspected strictly in accordance with the applicable installation standard by an LPS 1148 Approved Sprinkler Contractor, and
3. All subsequent repairs, alterations or additions to the sprinkler system are carried out by an LPS 1148 listed Sprinkler Contractors whose level of approval in the LPS 1148 scheme is appropriate to the scope of work carried out.

Supervision

Where an approved Sprinkler Contractor does not meet all the criteria set out in the LPS 1148 scheme document to self-certify any of the Categories of Work allowed under its approval level, it is required to have the Category(ies) of Work that it is not approved to self-certify supervised by the LPCB Supervisory Service.

Supervision involves a review of the design, an inspection of the installed sprinkler protection, and if water supplies are included in the scope of work, witnessing of the water supply proving tests, for compliance with the nominated installation standard. LPS 1148 Certificates of Conformity are then issued by the LPCB Supervisory Service.

Details of the Categories of Work that each approved Sprinkler Contractor can self-certify, can be found in the individual company listings.

Service and maintenance

Installers that undertake service and maintenance work are assessed for their capability to carry out such work in accordance with the nominated installation standard.

Financial assessment

The assessment and listing of Sprinkler Contractors in the LPS 1148 scheme covers only technical and quality aspects. All other contractual requirements are the responsibility of the parties to the contract.

Alberta Fire & Security Equipment Limited

San Gwakkim Road, Mriehel, BKR 3000, Malta

Tel: +356 21 443538 • Fax: +356 21 484077

E-mail: info@alberta.com.mt • Website: www.alberta.com.mt

Certificate No. ASCO-001 to LPS 1148

Approval Level 4

Approved to self-certify all Categories of Work
No supervision required

Automatic sprinklers can be installed in residential and domestic premises to safeguard life, property and the environment yet two thirds of fire fatalities occur in unsprinklered residential and multi-occupancy properties such as care homes and blocks of flats.

Equipment designs and system configurations are constantly evolving. In order to ensure adequate protection, sprinkler system installers need and appropriate technical competency in both design and installation.

LPCB has developed LPS 1301 *Requirements for the approval of Sprinkler Installers in the UK and Ireland for Residential and Domestic Sprinkler Systems*. This scheme was produced with the assistance of installers, fire brigades, local government, insurers and end users.

The key requirements of the scheme are that:-

- The company must be totally responsible for all aspects of the project, including the work of any sub-contractors
- The company has designated permanent employees including a 'Design Supervisor' and an 'Installation Supervisor' who are suitably trained and experienced in their roles
- The company maintains adequate records of all aspects of its activities.

Firms approved under this scheme are audited every 6 months looking at their compliance to LPS 1301 including visits to site.

Ecotect Engineering Limited

Technology House, 3A Bentwood Road, Haslingden, Rossendale, Lancashire BB4 5HH, United Kingdom
Tel: +44 (0)333 456 0011 • Fax: +44 (0)333 456 0021
E-mail: ask@ecotectfire.com • Website: www.ecotectfire.com

Certificate No. ARI-002 to LPS 1301

FSE Fire Safety Systems Limited

Unit 8, Wilford Industrial Estate, Wilford, Nottingham NG11 7EP, United Kingdom
Tel: +44 (0)1159 812624 • Fax: +44 (0)1159 815883
E-mail: sales@fsefiresystems.co.uk • Website: www.fsefiresystems.co.uk

Certificate No. ARI-003 to LPS 1301

Ultramist Limited trading as Ultrasafe Fire Suppression

Unit 1 Bowlings Corner, Marley Lane, Battle, East Sussex TN33 0RE, United Kingdom
Tel: +44 (0)800 599 9251 • Fax: +44 (0)1424 871439
E-mail: enquiries@ultrasafe.org.uk • Website: www.ultrasafe.org.uk

Certificate No. ARI-001 to LPS 1301

PART 3: SECTION 3.1

WET AND DRY ALARM VALVES FOR SPRINKLER SYSTEMS

This section lists products approved in accordance with:

- EN12259-2 *Fixed firefighting systems. Components for sprinkler and water spray systems. Wet alarm valve assemblies*
- EN12259-3 *Fixed firefighting systems. Components for sprinkler and water spray systems. Dry alarm valve assemblies*
- LPCB Schedule of requirements

It is strongly recommended that all alarm valves, dry-pipe valves and back-pressure valves be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

The nominal orifice size of valves listed is given in millimetres.

The products shall be installed and maintained in accordance with the manufacturer's instructions.

Globe Fire Sprinkler Corporation

4077 Airpark Drive, Standish, Michigan 48658, USA

Tel: +1 989 846 4583 • Fax: +1 989 846 9231

E-mail: brian.hoening@globesprinkler.com • Website: www.globesprinkler.com

Certificate No: 147b to EN 12259-2:1999 + Amendment A1:2001 & Amendment A2: 2005

Globe Alarm Valve

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Globe Alarm Valve	H1	80 ⁽²⁾⁽³⁾⁽⁶⁾ , 100 ⁽¹⁾⁽³⁾⁽⁶⁾ , 150 ⁽¹⁾⁽³⁾⁽⁶⁾ , 200 ⁽²⁾⁽³⁾⁽⁷⁾	147b/01
	H3	80 ⁽²⁾⁽⁴⁾⁽⁶⁾ , 100 ⁽²⁾⁽⁴⁾⁽⁶⁾ , 150 ⁽²⁾⁽⁴⁾⁽⁶⁾ , 200 ⁽²⁾⁽⁴⁾⁽⁷⁾	147b/02
	H2	80 ⁽¹⁾⁽⁵⁾⁽⁶⁾ , 100 ⁽¹⁾⁽⁵⁾⁽⁶⁾ , 150 ⁽¹⁾⁽⁵⁾⁽⁶⁾ , 200 ⁽¹⁾⁽⁵⁾⁽⁷⁾	147b/03

Notes:

- 1) Maximum working pressure 20.7 bar.
- 2) Maximum working pressure 12 bar.
- 3) With flanged inlet and flanged outlet connections.
- 4) With flanged inlet and grooved outlet connections.
- 5) With grooved inlet and grooved outlet connections.
- 6) Vertical and horizontal orientations
- 7) Vertical orientation only

MEFA Italia SpA

Via G.B. Morgagni 16b, Pogliano Milanese MI 23868, Italy

Tel: +39 0293 540 195 • Fax: +39 0293 542 690

E-mail: danielepeluso@mefaitalia.com • Website: www.mefaitalia.com

Certificate No: 638Aa to EN 12259-2: 1999 & EN 12259-3:2000

Wet and Dry Alarm Valves

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Wet Alarm Valve	B	80, 100, 150, 200 ^(1, 2, 3, 4)	638Aa/01
	D	100, 150, 200 ^(1, 2, 3, 5)	638Aa/02
	E	100, 150, 200 ^(1, 2, 3, 6)	638Aa/03
Dry Alarm Valve	A	80 ^(1, 2, 4, 7)	638Aa/04
	B	100, 150 ^(1, 2, 5, 7)	638Aa/05
	E	100 ^(1, 2, 6, 7)	638Aa/06

Notes:

- 1) Approved for use in vertical mounting position only.
- 2) Maximum working pressure 12 bar.
- 3) Approved for use with and without Model E Retard Chamber.
- 4) With flanged inlet and flanged outlet.
- 5) With flanged inlet and grooved outlet.
- 6) With grooved inlet and grooved outlet.
- 7) Approved for use with and without Model 1 Accelerator.

Minimax GmbH & Co. KG

Industriestrasse 10/12, D-23840 Bad Oldesloe, Germany

Tel: +49 4531 803 8064 • Fax: +49 4531 803 500

Website: www.minimax.de

Certificate No: 1118c to EN 12259-3:2000 + Amendment A1:2001 & Amendment A2: 2005

Dry Alarm Valve

Product Name	Model (alternative designations)	Sizes (mm)	LPCB Ref. No.
Dry Alarm Valve	AVD-1*	80,100, 150, 165	1118c/01
	AVD-1C	80,100, 150, 165	1118c/02

Notes:

*with longer inlet throat and upstream drain port

Maximum working pressure 17.2 bar.

Can be supplied with flanged inlet and flanged outlet or flanged inlet and grooved outlet or grooved inlet and grooved outlet connections.
Vertical orientation only

Rapidrop Global Limited

Rutland Business Park, Newark Road, Peterborough PE1 5WA, United Kingdom

Tel: +44 (0)1733 847 510 • Fax: +44 (0)1733 553 958

E-mail: rapidrop@rapidrop.com • Website: www.rapidrop.com

Certificate No: 566b to EN 12259-2:1999 + Amendment A1:2001 & Amendment A2: 2005

Wet Alarm Valves

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Wet Alarm Valve	B	80, 100, 150, 200 ^(1, 2, 3, 4)	566b/01
	D	100, 150, 200 ^(1, 2, 3, 5)	566b/02
	E	100, 150, ^(1, 2, 3, 6)	566b/03

Notes:

- 1) Approved for use in vertical mounting position only.
- 2) Maximum working pressure 12 bar.
- 3) Approved for use with and without Model E Retard Chamber.
- 4) With flanged inlet and flanged outlet.
- 5) With flanged inlet and grooved outlet.
- 6) With grooved inlet and grooved outlet.

Rolland Sprinklers

235 Route de la Biolle, ZA le Sauvage, Mognard 73410, France

Tel: +33 479 547 250 • Fax: +33 479 547 248

E-mail: info@rolland-sprinklers.com

Certificate No: 295b

PART 3: SECTION 3.1

WET AND DRY ALARM VALVES FOR SPRINKLER SYSTEMS

Wet and Dry Alarm Valves

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Wet Alarm Valve	B	80, 100, 150, 200 ^{2,3,4)}	295b/01
	D	80, 100, 150, 200 ^{2,3,5)}	295b/02
	E	80, 100, 150, 200 ^{2,3,6)}	295b/03
Dry Alarm Valve	A	80 ^(1,2,4,7)	295b/04
	B	100, 150 ^(1,2,5,7)	295b/05
	E	100 ^(1,2,6,7)	295b/06

Notes:

- 1) Approved for use in vertical mounting position only.
- 2) Maximum working pressure 12 bar.
- 3) Approved for use with and without Model E Retard Chamber.
- 4) With flanged inlet and flanged outlet.
- 5) With flanged inlet and grooved outlet.
- 6) With grooved inlet and grooved outlet.
- 7) Approved for use with and without Model 1 Accelerator.

The Reliable Automatic Sprinkler Co., Inc.

1470 Smith Grove Road, Liberty, South Carolina 29657, USA

Tel: +1 864 843 1734 • Fax: +1 864 843 1418

E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries

Tel: +44 (0)1372 728899 • Fax: +44 (01372) 724461

Certificate No: 034b

Certificate No: 034n

Product Name	Model	Sizes DN (mm)	LPCB Ref. No.
Reliable Alarm Valve (1) (5) (7)	E	65, 100, 150, 200	034b/01
Reliable Alarm Valve (3) (6) (7)	D	100, 150	034b/02
Reliable Dry Pipe Valve (4) (6) (7)	A	65	034b/03
Reliable High Pressure Alarm Valve (2) (5) (8)	E3	100, 165, 200	034b/04
Reliable Dry Alarm Valve (9,10,11,12,13)	DDX	100	034n/01
	DDX	150	034n/02
	DDX	165	034n/03
Reliable Dry Alarm Valve (9,10,11,12,14)	DDX	50	034n/04
	DDX	65 (73.0)	034n/05
	DDX	65 (76.1)	034n/06
	DDX	80	034n/07

Notes:

- 1) With flanged inlet and flanged outlet.
- 2) With grooved inlet and grooved outlet.
- 3) With flanged inlet and flanged or grooved outlet.
- 4) With threaded inlet and outlet.
- 5) Vertical or horizontal.
- 6) Vertical.
- 7) Maximum working pressure of 12 bar.
- 8) Maximum working pressure of 21 bar.
- 9) Maximum rated working pressure 20.7 bar.
- 10) With groove inlet and outlet.
- 11) Vertical orientation as indicated only.
- 12) Approved with or without "model B1" quick opening device (LPCB ref 034c/01).
- 13) Refer to manufacturers instructions "Bulletins 356-B & 357-B"
- 14) Refer to manufacturers instruction "Bulletin 338"

Certificate No: 034s to EN12259 Part 3

PART 3: SECTION 3.1

WET AND DRY ALARM VALVES FOR SPRINKLER SYSTEMS

Model EX Dry Pipe Alarm Valves

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Reliable Dry Pipe Alarm Valve - 17.2 bar (Groove/Groove)	EX	DN50 (60.3 mm)	034s/01
	EX	DN65 (73.0 mm)	034s/02
	EX	DN65 (76.1 mm)	034s/03
	EX	DN80 (88.9 mm)	034s/04
Reliable Dry Pipe Alarm Valve – 20.7 bar (Groove/Groove or Flange/Groove or Flange/Flange)	EX	DN100 (114.3 mm)	034s/05
	EX	DN150 (165.1 mm)	034s/06
	EX	DN150 (168.3 mm)	034s/07
Reliable Dry Pipe Alarm Valve – 17.2 bar (Groove/Groove or Flange/Groove or Flange/Flange)	EX	DN 200 (219.1 mm)	034s/08

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA

Tel: +1 269 945 9501 • Fax: +1 269 945 9599

E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries:

Tel: +44 (0)1427 875999 • Fax: +44 (0)1427 875998

Certificate No: 096b to EN12259-2:1999 + Amendment A2 and EN12259-3:2000 + Amendment A2

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Viking Wet Alarm Valve(3) (4)	J-1	80,100,150, 165 (OD) 200	096b/05
Viking Dry Pipe Valve(1)(2)(5)	F-1	80, 100, 150	096b/06

Notes:

- 1) Approved with flanged inlet and flanged or grooved outlet.
- 2) Maximum working pressure 12 bar.
- 3) Maximum working pressure 20.7 bar.
- 4) Vertical or horizontal.
- 5) Vertical only.

Certificate No: 096x to EN 12259-3:2000

Viking Dry Alarm Valve

Product Name	Description	LPCB Ref. No.
DRV-1	Dry Alarm valve	096x/01

Tyco Fire & Building Products (Enschede)

Kopersteden 1, Enschede 7547TJ, The Netherlands

Tel: Sales Enquiries: +31 53 4284444 • Fax: +31 53 4283377

E-mail: info@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 169b

Product Name	Model	Sizes (mm)	LPCB Ref. No.
AV-1 Alarm Valve (Flange/Flange) (1, 2)	AV-1	100, 150, 200	169b/01
AV-1 Alarm Valve (Flange/Groove) (1, 2)	AV-1	100, 150, 200	169b/02
AV-1 Alarm Valve (Groove/Groove) (1, 2)	AV-1	100, 150, 200	169b/03

PART 3: SECTION 3.1

WET AND DRY ALARM VALVES FOR SPRINKLER SYSTEMS

Notes:

- 1) Maximum working pressure 16 bar.
- 2) Approved for use with and without Model RC-1 Retard Chamber.

Certificate No: 812b to EN 12259-3

Product Name	Model	Size (mm)	LPCB Ref. No.
Dry Pipe Valve (Flange/Flange)	DPV-1	100 & 150	812b/01
Dry Pipe Valve (Flange/Grove)	DPV-1	100 & 150	812b/02

Notes:

- 1) Only approved when trimmed in accordance with Tyco data sheet TFP1090
- 2) Maximum working pressure: 16 bar
- 3) Approved in vertical orientation only
- 4) Approved for use with and without model RC-1 Retard Chamber
- 5) Approved for use with and without model ACC-1 Accelerator

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom

Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729

E-mail: simon.giles@tyco-bspd.com • Website: www.tfpemea.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491

E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 007c

Product Name	Model	Sizes (mm)	LPCB Ref. No.
B.W. Alarm Valve vertical (gunmetal)	FE 3557	100	007c/07
B.W. Alarm Valve vertical (aluminium bronze)	FE 3262	150	007c/12

Notes:

Maximum working pressure: 25 bar.

Venus Fire Protection Ltd

4105, Portland Blvd, Sherbrooke (Quebec) J1L 1X9, Canada

Tel: +1 819 820 8000 • Fax: +1 819 820 8002

E-mail: venus@venus.ca • Website: www.venus-fire.com

Certificate No: 638a and 638c to EN 12259-2 & EN 12259-3

Wet and Dry Alarm Valves

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Wet Alarm Valve	B	80, 100, 150, 200 ^(1, 2, 3, 4)	638a/01
	D	100, 150, 200 ^(1, 2, 3, 5)	638a/02
	E	100, 150 ^(1, 2, 3, 6)	638a/03
Dry Alarm Valve	A	80 ^(1, 2, 4, 7)	638c/04
	B	100, 150 ^(1, 2, 5, 7)	638c/05
	E	100 ^(1, 2, 6, 7)	638c/06

Notes:

- 1) Approved for use in vertical mounting position only.
- 2) Maximum working pressure 12 bar.

PART 3: SECTION 3.1

WET AND DRY ALARM VALVES FOR SPRINKLER SYSTEMS

- 3) Approved for use with and without Model E Retard Chamber.
- 4) With flanged inlet and flanged outlet.
- 5) With flanged inlet and grooved outlet.
- 6) With grooved inlet and grooved outlet.
- 7) Approved for use with and without Model 1 Accelerator.

Victaulic Company

4901 Kesslersville Road, Easton, Pennsylvania 18040, USA

Tel: +1 610 559 3300 • Fax: +1 610 250 8817

E-mail: victaulic@victaulic.com • Website: www.victaulic.com

Certificate No: 104c to EN 12259-3

Model 768 and 768N Dry Alarm Valve

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Series 768 Dry Alarm Valve	Series 768	40, 50, 65, 80, 100, 150 & 200	104c/01
Series 768N Dry Alarm Valve	Series 768N	40, 50, 65, 80, 100, 150 & 200	104c/02

Notes:

- 1) Maximum working pressure: 20 bar.
- 2) Approved for use with and without Victaulic Series 746 LPA accelerator.
- 3) Approved with grooved inlet and outlet only.
- 4) Approved in vertical orientation only.
- 5) Installations containing Series 768 and Series 768N valve shall be maintained under servicing contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.

Certificate No: 104e to EN 12259-2

Series 751

Product Name	Model	Sizes	LPCB Ref. No.
Series 751 Wet Alarm Valve	Series 751	80, 100, 150 & 200	104e/01

Notes:

- 1) Maximum working pressure: 16 bar
- 2) Approved for use with and without Series 752 retard chamber.
- 3) Approved with grooved inlet and outlet only.
- 4) Approved in vertical orientation only.
- 5) 150mm nominal diameter valve approved in 165.1mm and 168.3mm outside diameters.
- 6) Installations containing Series 751 valve shall be maintained under servicing contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.

Certificate No: 104g

Series 764

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Series 764 Alternate Valve	Series 764	40, 50, 65, 80, 100, 150 & 200	104g/01

Notes:

- 1) Maximum working pressure: 16 bar
- 2) Approved for use with and without Victaulic Series 746 LPA accelerator.
- 3) Approved for use with and without Series 752 retard chamber.
- 4) 150mm nominal diameter valve approved in 165.1mm and 168.3mm outside diameters.
- 5) Approved with grooved inlet and outlet only.
- 6) Approved in vertical orientation only
- 7) Installations containing Series 764 valve shall be installed, commissioned and serviced under contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.

PART 3: SECTION 3.2

WET ALARM VALVE STATIONS

This section lists products approved in accordance with:

- LPCB Schedule of requirements

GW Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark

Tel: +45 64 72 2055 • Fax: +45 64 72 2255

E-mail: sales.dep@gwsprinkler.com

Certificate No: 084d

Product Name	Size (mm)	Valve body model	Valve body material	Alarm motor and gong	Maximum working pressure (bar)	Attitude	LPCB Ref. No.
GW Crusader	80, 100, 150, 200	C1	Cast iron	D,E	12.5	Vertical	084d/01

The GW Crusader wet alarm valves are supplied with GW datasheet 020, which includes installation, commissioning and operating instructions

This section lists products approved in accordance with:

- LPS 1041 *Requirements and Testing Methods for Dry Pipe Valve Sets*
- EN12259-3 *Fixed Firefighting Systems - Components for sprinkler and water spray systems - Part 3: Dry Alarm Valve Assemblies*
- LPCB Schedule of requirements

All alarm valves, dry-pipe valves and back-pressure valves should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

MEFA Italia SpA

Via G.B. Morgagni 16b, Pogliano Milanese MI 23868, Italy

Tel: +39 0293 540 195 • Fax: +39 0293 542 690

E-mail: danielepeluso@mefaitalia.com • Website: www.mefaitalia.com

Certificate No: 638Ac to EN 12259-3:2000

Accelerator

Product Name	Model	LPCB Ref. No.
Accelerator	1	638Ac/01

Notes:

- 1) Approved for use with MEFA Models A, B and E Dry Alarm Valves
- 2) Maximum working pressure: 12 bar

Rolland Sprinklers

235 Route de la Biolle, ZA le Sauvage, Mognard 73410, France

Tel: +33 479 547 250 • Fax: +33 479 547 248

E-mail: info@rolland-sprinklers.com

Certificate No: 295c

Accelerator

Product Name	Model	LPCB Ref. No.
Accelerator	1	295c/01

Notes:

- 1) Approved for use with Rolland Models A, B and E Dry Alarm Valves
- 2) Maximum working pressure: 12 bar

The Reliable Automatic Sprinkler Co., Inc,

1470 Smith Grove Road, Liberty, South Carolina 29657, USA

Tel: +1 864 843 1734 • Fax: +1 864 843 1418

E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:

Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Certificate No: 034c

PART 3: SECTION 4

ACCELERATORS AND EXHAUSTERS FOR DRY PIPE VALVES

Approved Products

Reliable Accelerator Model
B1

LPCB Ref.
No.
034c/01

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA
Tel: +1 269 945 9501 • Fax: +1 269 945 9599
E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries:

Tel: +44 (0)1427 875999 • Fax: +44 (0)1427 875998

Certificate No: 096c to EN12259-2:1999 + Amendment A2 and EN12259-3:2000 + Amendment A2

Approved Products

Viking Accelerator Model D-2

LPCB Ref.
No.
096c/03

Tyco Fire & Building Products (Enschede)

Kopersteden 1, Enschede 7547TJ, The Netherlands
Tel: Sales Enquiries: +31 53 4284444 • Fax: +31 53 4283377
E-mail: info@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 864a to EN 12259-3

Product Name	Model	LPCB Ref. No.
Accelerator	ACC-1	864a/01

Notes:

- 1) Approved for use with Tyco Model DPV-1 Dry Pipe Valve
- 2) Maximum working pressure: 16 bar

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: simon.giles@tyco-bspd.com • Website: www.tfpemea.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 007d

Approved Products

Model No. 936 Accelerator

LPCB Ref.
No.
007d/01

Venus Fire Protection Ltd

4105, Portland Blvd, Sherbrooke (Quebec) J1L 1X9, Canada

Tel: +1 819 820 8000 • Fax: +1 819 820 8002

E-mail: venus@venus.ca • Website: www.venus-fire.com

Certificate No: 638d

Product Name	Model	LPCB Ref. No.
Accelerator	1	638d/01

Notes:

- 1) Approved for use with Venus Models A, B and E Dry Alarm Valves
- 2) Maximum working pressure: 12 bar

PART 3: SECTION 5

DELUGE VALVES AND ACTUATORS

This section lists products approved in accordance with:

- LPCB Schedule of requirements
- Pr EN 12259-9 *Fixed firefighting systems - Components for sprinkler and water spray systems - Part 9: Deluge valve assemblies*

Deluge valves and actuators are currently approved to a schedule of requirements developed by LPCB unless otherwise stated, for use in automatic sprinkler installations.

All deluge valves should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

The nominal orifice size of valves listed is given in millimetres.

GW Sprinkler A/S

Certificate No: 084a

Product Name	Description	Sizes (mm)	Maximum Working Pressure	LPCB Ref. No.
GW Deluge Valve Mk.III	Aluminium bronze	100mm, 150mm & 200mm	20 bar	084a/01

The Reliable Automatic Sprinkler Co., Inc,

1470 Smith Grove Road, Liberty, South Carolina 29657, USA

Tel: +1 864 843 1734 • Fax: +1 864 843 1418

E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:

Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Certificate No: 034a

Certificate No: 034p

Product Name	Model	Size DN (mm)	LPCB Ref. No.
Reliable Deluge Valve	BX	100	034a/01
	BX	150	
Reliable Dry Pilot Line Actuator			034a/03
Reliable Deluge Alarm Valve (1, 2, 3, 4, 5)	DDX	100	034p/01
	DDX	150	034p/02
	DDX	165	034p/03
Relaible Deluge Alarm Valve (2, 3, 4, 6, 7)	DDX	200	034p/04
Relaible Deluge Alarm Valve (1, 2, 3, 4, 8)	DDX	50	034p/05
	DDX	65 (73.0)	034p/06
	DDX	65 (76.1)	034p/07
	DDX	80	034p/08

Notes:

- 1) Maximum rated working pressure 20.7 bar.
- 2) With groove inlet and outlet.
- 3) Vertical orientation as indicated only.
- 4) Approved with or without "model B1" quick opening device (LPCB ref 034c/01).
- 5) Refer to manufacturer's instructions "Bulletins 510-C & 511-B"
- 6) Refer to manufacturer's instructions "Bulletin 515 Rev.A"
- 7) Maximum rated working pressure 17.2 bar
- 8) Refer to manufacturer's instruction "Bulletin 519"

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA
 Tel: +1 269 945 9501 • Fax: +1 269 945 9599
 E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries:

Tel: +44 (0)1427 875999 • Fax: +44 (0)1427 875998

Certificate No: 096a

rapi

Product Name	Description	Sizes	LPCB Ref. No.
Model E-1	Screwed Inlet and Outlet	50mm	096a/01
	Flanged Inlet and Outlet	80mm, 100mm, 150mm	096a/02
	Flanged Inlet and Grooved Outlet	80mm, 100mm, 150mm	096a/03
Model F-1 & F-2	Flanged Inlet and Outlet	80mm, 100mm, 150mm, 200mm	096a/04
	Flanged Inlet and Grooved Outlet	80mm, 100mm, 150mm	096a/05
Model J-1 & J-2	Flanged Inlet and Outlet	80mm, 100mm, 150mm, 200mm	096a/06
	Flanged Inlet and Grooved Outlet	80mm, 100mm, 150mm	096a/07
Model F-1 & F-2	Screwed Inlet and Outlet	40mm, 50mm, 65mm	096a/08
	Grooved Inlet and Outlet	40mm, 50mm, 65mm, 80mm, 100mm, 150mm, 200mm	096a/09
Model J-1 & J-2	Screwed Inlet and Outlet	40mm, 50mm, 65mm	096a/10
	Grooved Inlet and Outlet	40mm, 50mm, 65mm, 80mm, 100mm, 150mm, 200mm	096a/11

Tyco Fire & Building Products (Enschede)

Kopersteden 1, Enschede 7547TJ, The Netherlands
 Tel: Sales Enquiries: +31 53 4284444 • Fax: +31 53 4283377
 E-mail: info@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 812a/01 to prEN 12259-9:2007 (March 2007)

Certificate No: 169c

Product Name	Model	Sizes (mm)	LPCB Ref. No.
DV-5 Deluge Valve	DV-5	40, 50, 80, 100, 150 & 200	812a/01
TFP Dry Pilot Actuator	Model DP-1		169c/01

Notes:

- 1) Maximum working pressure: 16 bar.
- 2) Approved with threaded, groove/groove, groove/flange and flange/flange inlet and outlets.
- 3) Approved in vertical orientation only.
- 4) Installations containing DV-5 valves shall be maintained under servicing contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.

PART 3: SECTION 5

DELUGE VALVES AND ACTUATORS

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom

Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729

E-mail: simon.giles@tyco-bspd.com • Website: www.fppemea.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491

E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 007b

Deluge Valves

Approved Products

			LPCB Ref. No.
B.W. Deluge Valve(1) vertical	(gunmetal)	Model No. FE 2408 80mm	007b/01
B.W. Deluge Valve(1) vertical	(gunmetal)	Model No. FE 2333 100mm	007b/02
B.W. Deluge Valve(1) vertical	(stainless steel)	Model No. FE 2641 100mm	007b/03
B.W. Deluge Valve(1) horizontal	(gunmetal)	Model No. FE 2366 100mm	007b/04
B.W. Deluge Valve(1) horizontal	(stainless steel)	Model No. FE 2647 100mm	007b/05
B.W. Deluge Valve(1) vertical	(gunmetal)	Model No. FE 2326 150mm	007b/06
B.W. Deluge Valve(1) vertical	(stainless steel)	Model No. FE 2644 150mm	007b/07
B.W. Deluge Valve(1) horizontal	(gunmetal)	Model No. FE 2353 150mm	007b/08
B.W. Deluge Valve(1) horizontal	(stainless steel)	Model No. FE 2650 150mm	007b/09
B.W. Deluge Valve(1) vertical	(bronze)	Model No. FE 2370 200mm	007b/10
B.W. Deluge Valve(1) horizontal	(bronze)	Model No. FE 2687 200mm	007b/11

(1)Maximum working pressure 16 bar

Victaulic Company

4901 Kesslersville Road, Easton, Pennsylvania 18040, USA

Tel: +1 610 559 3300 • Fax: +1 610 250 8817

E-mail: victaulic@victaulic.com • Website: www.victaulic.com

Certificate No: 104d to prEN 12259-9 (September 2004)

Model 769 and 769N Deluge Valve

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Series 769 Deluge Valve	Series 769	40, 50, 65, 80, 100, 150 & 200	104d/01
Series 769N Deluge Valve	Series 769	40, 50, 65, 80, 100, 150 & 200	104d/02

Notes:

- 1) Maximum working pressure: 20 bar.
- 2) Approved with grooved inlet and outlet only.
- 3) Approved in vertical orientation only.
- 4) Installations containing Series 769 and Series 769N valve shall be maintained under servicing contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.

This section lists products approved in accordance with:

- LPS 1045 *Requirements & Testing Methods for direct reading Flow Meters.*

The following devices are suitable for use under the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Influx Measurements Limited

1A Bennett House, The Dean, Alresford, Hampshire SO24 9BQ, United Kingdom
Tel: +44 (0)1962 736736 • Fax: +44 (0)1962 736737
E-mail: sales@influxmeasurements.com

Certificate No: 464a

'Firesure' Flowmeters

Product Name	Nominal Pipe Size to BS 1387 (DN)	Nominal Pipe Size to BS 3600 (DN)	Flow Range (dm ³ /min)	Connection Type	LPCB Ref. No.	
Fireflange	50	200	150-700	Flange	464a/01	
	80		300-1600	Flange	464a/02	
	100		500-3500	Flange	464a/03	
	150		900-7900	Flange	464a/04	
			2000-15000	Flange	464a/05	
Firegroove	50		200	150-700	Groove	464a/06
	80			300-1600	Groove	464a/07
	100			500-3500	Groove	464a/08
	150 (165.1mm)			900-7900	Groove	464a/09
	150 (168.3mm)			900-7900	Groove	464a/22
		2000-15000		Groove	464a/10	

These meters have been approved for installation with the gauge glass in the vertical position. There must be at least five diameters of straight pipe upstream and downstream of the orifice plate. The isolating valves on the pressure tapings must be kept closed when the meter is not being used. A spare gauge glass must be provided and located in the cabinet containing the stock of replacement sprinklers.

Certificate No: 464a

'Firesure X' Flowmeters

Product Name	Nominal Pipe Size to BS 1387 (DN)	Nominal Pipe Size to BS 3600 (DN)	Flow Range (dm ³ /min)	Connection Type	LPCB Ref. No.	
Fireflange X	50	200	200-850	Flange	464a/11	
	80		200-1800	Flange	464a/12	
	100		400-4000	Flange	464a/13	
	150		1100-9500	Flange	464a/14	
			2500-17000	Flange	464a/15	
Firegroove X	50		200	200-850	Groove	464a/16
	80			200-1800	Groove	464a/17
	100			400-4000	Groove	464a/18
	150 (165.1mm)			1100-9500	Groove	464a/19
	150 (168.3mm)			1100-9500	Groove	464a/24
		2500-17000		Groove	464a/20	

- 1) These meters have been approved for installation with the gauge glass in the vertical position. There must be at least five diameters of straight pipe upstream and downstream of the orifice plate. The isolating valves on the pressure tapings must be kept closed when the meter is not being used. A spare gauge glass must be provided and located in the cabinet containing the stock of replacement sprinklers.
- 2) 'Firesure' meters must be installed and maintained in accordance with manufacturers instructions ref 'IOM FS' Issue 8.
- 3) 'Firesure X' meters must be installed and maintained in accordance with manufacturers instructions ref 'IOM FSX' Issue C.

PART 3: SECTION 6

DIRECT READING FLOW METERS

Mecon GmbH

Rontgenstrasse 105, Kerpen 50169, Germany
Tel: 0049 2237 6000611 • Fax: 0049 2237 6000620
Website: www.mecon.de

Certificate No: 1385a to LPS 1045

Direct Reading Flow Meter

Product Name	Nominal Pipe Size to BS		Flow Range (l/min)	Connection Type	LPCB Ref. No.	
	1387 (mm)	3600 (mm)				
Turbo-Lux 3	50	50	75 375	Groove	1385a/01	
	65	65	150 750	Groove	1385a/02	
	80	80	220 1100	Groove	1385a/03	
	80	80	300 1500	Groove	1385a/04	
	100	100	380 1900	Groove	1385a/05	
	100	100	460 2300	Groove	1385a/06	
	100	100	600 3000	Groove	1385a/07	
	100	100	680 3400	Groove	1385a/08	
	150	150	760 3800	Groove	1385a/09	
	150	150	1130 5650	Groove	1385a/10	
	150	150	1500 7500	Groove	1385a/11	
	150	150	1900 9500	Groove	1385a/12	
			200	2200 11000	Groove	1385a/13
			200	3000 15000	Groove	1385a/14
			200	3800 19000	Groove	1385a/15
			200	4500 22500	Groove	1385a/16

Notes:

- 1) These meters are provided with demountable measurement tubes (bypass meters) that are connected directly to the flow meter body. After measurements have been taken it is recommended that the measuring tube is either drained by inverting it or removed from the flow meter body. If removed the measurement tube must be drained and stored in the supplied packaging. The open orifice on the flow meter body must be sealed pressure tight with the cap supplied.
- 2) These meters have been approved for installation with the measurement tube in the vertical position.
- 3) Turbo-Lux 3 meters must be installed and maintained in accordance with manufacturers instruction's 'MECON GmbH 11/2016 OI_FO Turbo-Lux 3'

Roxspur Measurement & Control

2 Downgate Drive, Sheffield, South Yorkshire S4 8BT, United Kingdom
Tel: +44 (0)114 244 2521 • Fax: +44 (0)114 243 4838

Certificate No: 088a

Product Name	Pipe Size (mm)	Flow Range (dm ³ /min)	LPCB Ref. No.
Shunt Gapmeter	80	300 - 1500	088a/01
	100	500 - 2500	088a/02
	125	700 - 3500	088a/03
	150	1000 - 5000	088a/04

These meters have been approved for installation with the gauge glass in the vertical position. There must be at least five diameters of straight pipe upstream and downstream of the orifice plate. The isolating valves on the pressure tapings must be kept closed when the meter is not being used. A spare gauge glass must be provided and located in the cabinet containing the stock of replacement sprinklers. Type Nominal pipe size to Flow range Connection LPCB Ref. No.

Certificate No: 088a

PART 3: SECTION 6

DIRECT READING FLOW METERS

Product Name	Nominal Pipe Size to BS1387 (mm)	Nominal Pipe Size to BS3600 (mm)	Flow Range (dm ³ /min)	Connection Type	LPCB Ref. No.
Type SGUV Mk 2	50	200	150 - 750	Flange	088a/05
	80		300 - 2300	Flange	088a/06
	100		500 - 3500	Flange	088a/07
	150		900 - 8200	Flange	088a/08
			2500 - 12500	Flange	088a/09
	50		150 - 750	Groove	088a/10
	80		300 - 2300	Groove	088a/11
	100		500 - 3500	Groove	088a/12
	150		900 - 8200	Groove	088a/13
			2500 - 12500	Groove	088a/14

To be installed in accordance with Roxspur Operation and Maintenance Manual OMM1002, Issue 1 (29/09/2005)

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom

Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729

E-mail: simon.giles@tyco-bspd.com • Website: www.tfpemea.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491

E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 007e

Product Name	Hazard Class	Pipe Size (mm)	Flow Range (dm ³ /min)	Orifice Size (mm)	LPCB Ref. No.
Direct Reading Flow Meter	OHI	80	375 - 540	26.10	007e/01
	OHII	80	725 - 1000	39.25	007e/02
	OHIII	80	1100 - 1350	43.70	007e/03
	OHIIS	80	1800 - 2100	55.20	007e/04

These measuring devices are designed to be fitted directly on the upstream side, to straight pipes or into elbow fittings or globe valves or their hydraulic equivalent. The downstream flow loss may be zero in all but the case of the OHI measuring device which requires a minimum loss of 0.02 bar at a flow of 375 dm³/min. The maximum downstream flow loss shall not exceed 0.3 bar for any of the measuring devices with the following respective flow rates:

OHI 540dm³/min, OHII 1000dm³/min, OHIII 1350dm³/min, OHIIS 2100dm³/min

PART 3: SECTION 7

MULTIPLE JET CONTROLS

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Multiple Jet Controls for use under the *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturer's instructions.

GW Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark

Tel: +45 64 72 2055 • Fax: +45 64 72 2255

E-mail: sales.dep@gwsprinkler.com

Certificate No: 084f

Certificated Products

		LPCB Ref. No.
GW Multiple Control Model B	Outlet) 40mm Glass bulb type	084f/01
GW Multiple Control Model B	Outlet) 50mm Glass bulb type.	084f/02
GW Multiple Control Model B3	Outlet) 20mm Glass bulb type. Tested to the FOC Requirements and Testing Methods for Multiple Controls, April 1984 and approved with plain and chromium finish.	084f/03

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA

Tel: +1 269 945 9501 • Fax: +1 269 945 9599

E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

Certificate No: 096v to LPS1218:Issue 1, Draft B

Product Name	Nominal size	Outlet	Temperature rating (°C)	LPCB Ref. No.
Multiple Jet Control	DN 20	Single	68(1), 79(1), 93(1), 141, 182, 260 (5mm bulb)	096v/01
	DN 20	Double	68(1), 79(1), 93(1), 141, 182, 260 (5mm bulb)	096v/02
	DN 20	Single	57, 68(1), 79(1), 93(1), 141, 182, (3mm bulb)	
	DN 20	Double	57, 68(1), 79(1), 93(1), 141, 182, (3mm) bulb)	096v/03
	DN 25	Single	68(1), 79(1), 93(1), 141, 182, 260 (5mm bulb)	
	DN 25	Double	68(1), 79(1), 93(1), 141, 182, 260 (5mm bulb)	096v/04
	DN 25	Single	57, 68(1), 79(1), 93(1), 141, 182, (3mm) bulb)	
	DN 25	Double	57, 68(1), 79(1), 93(1), 141, 182, (3mm bulb)	

(1) Also approved with 'Metron' actuator.

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom

Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729

E-mail: simon.giles@tyco-bspd.com • Website: www.tfppea.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491

E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 007f

Certificated Products

		LPCB Ref. No.
Tyco Multiple Jet Control	(Double Outlet) 20mm Glass bulb type. <i>A corrosion-resistant coating for the body and yoke has been approved under the LPC Rules for automatic sprinkler installations.</i>	007f/01
Tyco Multiple Jet Control	(Single Outlet) 20mm Glass bulb type. <i>A corrosion-resistant coating for the body and yoke has been approved under the LPC Rules for automatic sprinkler installations.</i>	007f/02
Tyco Multiple Jet Control	(Double Outlet) ¹ 25mm, 40mm and 50mm Glass bulb type (68°C only)	007f/03

Note:

1) May also be used as a single outlet (with one outlet blanked off).

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

This section lists products approved in accordance with:

- LPS 1219 *Specification for Pipe Couplings*

All pipe couplings and fittings should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

Anvil International (New Hampshire)

2 Holland Way, Exeter, New Hampshire 03833, USA

Tel: +1 603 418 2800 • Fax: +1 603 418 2833

E-mail: rbateman@anvilintl.com • Website: www.anvilintl.com

Certificate No: 988Aa to LPS 1219 Issue 3

Pipe Couplings

Product Name	Nominal Size	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Fig 8000 - Flexible Coupling	25	33.7	R&C	EPDM	25	988Aa/01
	32	42.4	R&C	EPDM	25	
	40	48.3	R&C	EPDM	25	
	50	60.3	R&C	EPDM	25	
	65	73.0	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	108.0	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	133.0	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25	
	150	159.0	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
	150	168.3	R&C	EPDM	25	
Fig 8400 - Rigid Coupling	200	219.1	R&C	EPDM	25	988Aa/02
	25	33.7	R&C	EPDM	25	
	32	42.4	R&C	EPDM	25	
	40	48.3	R&C	EPDM	25	
	50	60.3	R&C	EPDM	25	
	65	73.0	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	108.0	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	133.0	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25	
	150	159.0	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
150	168.3	R&C	EPDM	25		
Fig 8010 - Reducing Flexible Coupling	200	219.1	R&C	EPDM	25	988Aa/03
	50 x 32	60.3 x 42.4	R&C	EPDM	16	
	50 x 40	60.3 x 48.3	R&C	EPDM	16	
	65 x 50	73.0 x 60.3	R&C	EPDM	16	
	65 x 40	76.1 x 48.3	R&C	EPDM	16	
	65 x 50	76.1 x 60.3	R&C	EPDM	16	
	80 x 50	88.9 x 60.3	R&C	EPDM	16	
	80 x 65	88.9 x 73.0	R&C	EPDM	16	
	80 x 65	88.9 x 76.1	R&C	EPDM	16	
	100 x 50	114.3 x 60.3	R&C	EPDM	16	
	100 x 65	114.3 x 73.0	R&C	EPDM	16	
	100 x 65	114.3 x 76.1	R&C	EPDM	16	
	100 x 80	114.3 x 88.9	R&C	EPDM	16	
	150 x 100	165.1 x 114.3	R&C	EPDM	16	
	150 x 100	168.3 x 114.3	R&C	EPDM	16	
200 x 150	219.1 x 165.1	R&C	EPDM	16		
200 x 150	219.1 x 168.3	R&C	EPDM	16		

PART 3: SECTION 8.1**PIPE COUPLINGS AND FITTINGS**

Product Name	Nominal Size	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.		
Fig 8400S - Light Duty Rigid Coupling	65	76.1	R&C	EPDM	16	988Aa/04		
	80	88.9	R&C	EPDM	16			
	100	108.0	R&C	EPDM	16			
	100	114.3	R&C	EPDM	16			
	125	139.7	R&C	EPDM	16			
	125	141.3	R&C	EPDM	16			
	150	159.0	R&C	EPDM	16			
	150	165.1	R&C	EPDM	16			
	150	168.3	R&C	EPDM	16			
Fig 8045 - Mechanical Tee, Threaded Outlet	200	219.1	R&C	EPDM	16	988Aa/05		
	100 x 65	114.3 x 76.1	T	EPDM	16			
	100 x 80	114.3 x 88.9	T	EPDM	16			
	125 x 65	139.7 x 76.1	T	EPDM	16			
	125 x 80	139.7 x 88.9	T	EPDM	16			
	125 x 100	139.7 x 114.3	T	EPDM	16			
	150 x 65	165.1 x 76.1	T	EPDM	16			
	150 x 80	165.1 x 88.9	T	EPDM	16			
	150 x 100	165.1 x 114.3	T	EPDM	16			
	150 x 65	168.3 x 76.1	T	EPDM	16			
	150 x 80	168.3 x 88.9	T	EPDM	16			
	150 x 100	168.3 x 114.3	T	EPDM	16			
	200 x 65	219.1 x 76.1	T	EPDM	16			
	200 x 80	219.1 x 88.9	T	EPDM	16			
	200 x 100	219.1 x 114.3	T	EPDM	16			
	Fig 8046 - Mechanical Tee, Grooved Outlet	100 x 65	114.3 x 76.1	G	EPDM		16	988Aa/06
		100 x 80	114.3 x 88.9	G	EPDM		16	
125 x 65		139.7 x 76.1	G	EPDM	16			
125 x 80		139.7 x 88.9	G	EPDM	16			
125 x 100		139.7 x 114.3	G	EPDM	16			
150 x 65		165.1 x 76.1	G	EPDM	16			
150 x 80		165.1 x 88.9	G	EPDM	16			
150 x 100		165.1 x 114.3	G	EPDM	16			
150 x 65		168.3 x 76.1	G	EPDM	16			
150 x 80		168.3 x 88.9	G	EPDM	16			
150 x 100		168.3 x 114.3	G	EPDM	16			
200 x 65		219.1 x 76.1	G	EPDM	16			
200 x 80		219.1 x 88.9	G	EPDM	16			
200 x 100		219.1 x 114.3	G	EPDM	16			
Fig 8012 - Grooved Flange		40	48.3	R&C	EPDM	16	988Aa/08	
		50	60.3	R&C	EPDM	16		
		65	76.1	R&C	EPDM	16		
		80	88.9	R&C	EPDM	16		
		100	114.3	R&C	EPDM	16		
		125	139.7	R&C	EPDM	16		
	150	165.1	R&C	EPDM	16			
	150	168.3	R&C	EPDM	16			
	200	219.1	R&C	EPDM	16			

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Pipe Fittings

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
Fig 8050 - 90° Elbow	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Aa/09
Fig 8450 - 90° Short Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988Aa/10
Fig 8060 - Tee	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Aa/11
Fig 8460 - Short Tee	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988Aa/12
Fig 8051 - 45° Elbow	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Aa/13
Fig 8074 - Cap	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Aa/14
Fig 8068 - Cross	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Aa/15

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PIPE COUPLINGS AND FITTINGS

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
Fig 8052 - 22.5° Elbow	76.1, 88.9, 114.3, 139.7, 165.1, 219.1	25	988Aa/16
Fig 8053 - 11.25° Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 219.1	25	988Aa/17
Fig 8084 - Grooved Flange Adaptor	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988Aa/18
Fig 8072 - Grooved Concentric Reducer	42.4 x 33.7, 48.3 x 33.7, 48.3 x 42.4, 60.3 x 33.7, 60.3 x 42.4, 60.3 x 48.3, 76.1 x 42.4, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 165.1 x 114.3, 165.1 x 139.7, 168.3 x 114.3, 168.3 x 139.7, 219.1 x 88.9, 219.1 x 114.3, 219.1 x 139.7, 219.1 x 168.3	25	988Aa/19
Fig 8087 - Threaded Concentric Reducer	60.3 x 26.9, 60.3 x 33.7, 60.3 x 42.4, 60.3 x 48.3, 76.1 x 42.4, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 219.1 x 88.9	25	988Aa/20
Fig 8061 - Reducing Tee	60.3 x 33.7, 60.3 x 48.3, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 33.7, 88.9 x 48.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 33.7, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 165.1 x 114.3, 165.1 x 139.7, 168.3 x 60.3, 168.3 x 76.1, 168.3 x 88.9, 168.3 x 114.3, 168.3 x 139.7, 219.1 x 60.3, 219.1 x 88.9, 219.1 x 114.3, 219.1 x 168.3	25	988Aa/21

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Certificate No: 519a to LPS 1219

Pipe Couplings (GRUVLOK/SPF)

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Pipe Coupling Style 7000	25	33.7	R&C	EPDM	20	119a/01
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
Pipe Coupling Fig 7000	200	219.1	R&C	EPDM	20	119a/02
	65	76.1	R&C	EPDM	20	
	65	108 ⁽¹⁾	R&C	EPDM	20	
	65	133 ⁽¹⁾	R&C	EPDM	20	
	65	159 ⁽¹⁾	R&C	EPDM	20	
Pipe Coupling Style 7400 Rigidlite	150	165.1	R&C	EPDM	20	119a/03
	25	33.7	R&C	EPDM	20	
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
125	139.7	R&C	EPDM	20		
	150	165.1	R&C	EPDM	20	

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PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.		
Pipe Coupling Style 7401 Rigidlok Mechanical Tee Fig 7045	150	168.3	R&C	EPDM	20	119a/04 119a/05		
	200	219.1	R&C	EPDM	20			
	200	219.1	R&C	EPDM	20			
	50 x 15	60.3 x 21.3	T	EPDM	20			
	50 x 20	60.3 x 26.7	T	EPDM	20			
	50 x 25	60.3 x 33.7	T	EPDM	20			
	50 x 32	60.3 x 42.4	T	EPDM	20			
	50 x 40	60.3 x 48.3	T	EPDM	20			
	65 x 15	76.1 x 21.3	T	EPDM	20			
	65 x 20	76.1 x 26.7	T	EPDM	20			
	65 x 25	76.1 x 33.7	T	EPDM	20			
	65 x 32	76.1 x 42.4	T	EPDM	20			
	65 x 40	76.1 x 48.3	T	EPDM	20			
	80 x 15	88.9 x 21.3	T	EPDM	20			
	80 x 20	88.9 x 26.7	T	EPDM	20			
	80 x 25	88.9 x 33.7	T	EPDM	20			
	80 x 32	88.9 x 42.4	T	EPDM	20			
	80 x 40	88.9 x 48.3	T	EPDM	20			
	80 x 50	88.9 x 60.3	T	EPDM	20			
	100 x 15	114.3 x 21.3	T	EPDM	20			
	100 x 20	114.3 x 26.7	T	EPDM	20			
	100 x 25	114.3 x 33.7	T	EPDM	20			
	100 x 32	114.3 x 42.4	T	EPDM	20			
	100 x 40	114.3 x 48.3	T	EPDM	20			
	100 x 50	114.3 x 60.3	T	EPDM	20			
	125 x 32	139.7 x 42.4	T	EPDM	20			
	125 x 40	139.7 x 48.3	T	EPDM	20			
125 x 50	139.7 x 60.3	T	EPDM	20				
150 x 32	165.1 x 42.4	T	EPDM	20				
150 x 40	165.1 x 48.3	T	EPDM	20				
150 x 50	165.1 x 60.3	T	EPDM	20				
150 x 32	168.3 x 42.4	T	EPDM	20				
150 x 40	168.3 x 48.3	T	EPDM	20				
150 x 50	168.3 x 60.3	T	EPDM	20				
Mechanical Tee Fig 7046	65 x 32	76.1 x 42.4	G	EPDM	20	119a/06		
	65 x 40	76.1 x 48.3	G	EPDM	20			
	80 x 32	88.9 x 42.4	G	EPDM	20			
	80 x 40	88.9 x 48.3	G	EPDM	20			
	80 x 50	88.9 x 60.3	G	EPDM	20			
	100 x 32	114.3 x 42.4	G	EPDM	20			
	100 x 40	114.3 x 48.3	G	EPDM	20			
	100 x 50	114.3 x 60.3	G	EPDM	20			
	100 x 65	114.3 x 76.1	G	EPDM	20			
	100 x 80	114.3 x 88.9	G	EPDM	20			
	125 x 32	139.7 x 48.3	G	EPDM	20			
	125 x 50	139.7 x 60.3	G	EPDM	20			
	125 x 80	139.7 x 88.9	G	EPDM	20			
	150 x 40	165.1 x 48.3	G	EPDM	20			
	150 x 50	165.1 x 60.3	G	EPDM	20			
	150 x 65	165.1 x 76.1	G	EPDM	20			
	150 x 80	165.1 x 88.9	G	EPDM	20			
	150 x 100	165.1 x 114.3	G	EPDM	20			
	150 x 40	168.3 x 48.3	G	EPDM	20			
	150 x 50	168.3 x 60.3	G	EPDM	20			
	150 x 65	168.3 x 76.1	G	EPDM	20			
	150 x 80	168.3 x 88.9	G	EPDM	20			
	150 x 100	168.3 x 114.3	G	EPDM	20			
	200 x 80	219.1 x 88.9	G	EPDM	20			
	200 x 100	219.1 x 114.3	G	EPDM	20			
	Flexible Pipe Coupling Fig 7001E/SPF C1	250	273.0	R&C	EPDM		20	519a/01
		300	323.9	R&C	EPDM		20	
Lightweight Flexible Pipe Coupling Fig 7000E/SPF C3	32	42.4	R&C	EPDM	20	519a/16		
	40	48.3	R&C	EPDM	20			
	50	60.3	R&C	EPDM	20			
	65	76.1	R&C	EPDM	20			
	80	88.9	R&C	EPDM	20			

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PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Rigid Pipe Coupling Fig 7400E/SPF C4	100	114.3	R&C	EPDM	20	519a/02
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Fig 7043/SPF MT90 Threaded Outlet (U-bolt)	250	273.0	R&C	EPDM	20	519a/22
	300	323.9	R&C	EPDM	20	
	32 x 15	42.4	T	EPDM	20	
	32 x 20	42.4	T	EPDM	20	
	32 x 25	42.4	T	EPDM	20	
	40 x 15	48.3	T	EPDM	20	
	40 x 20	48.3	T	EPDM	20	
	40 x 25	48.3	T	EPDM	20	
	50 x 15	60.3	T	EPDM	20	
	50 x 20	60.3	T	EPDM	20	
	50 x 25	60.3	T	EPDM	20	
	60 x 15	76.1	T	EPDM	20	
	60 x 20	76.1	T	EPDM	20	
60 x 25	76.1	T	EPDM	20		

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Pipe Couplings (GRUVLOK/SPF)

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Reducing Coupling Fig 7010/SPF RC2	50 x 40	60.3 x 48.3	R&C	EPDM	20	519a/24
	65 x 50	76.1 x 60.3	R&C	EPDM	20	
	80 x 50	88.9 x 60.3	R&C	EPDM	20	
	80 x 65	88.9 x 76.1	R&C	EPDM	20	
	100 x 50	114.3 x 60.3	R&C	EPDM	20	
	100 x 65	114.3 x 76.1	R&C	EPDM	20	
	100 x 80	114.3 x 88.9	R&C	EPDM	20	
	150 x 100	165.1 x 114.3	R&C	EPDM	20	
	150 x 100	168.3 x 114.3	R&C	EPDM	20	
	200 x 150	219.1 x 165.1	R&C	EPDM	20	
	200 x 150	219.1 x 168.3	R&C	EPDM	20	

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PIPE COUPLINGS AND FITTINGS

Pipe Couplings (GRUVLOK/SPF)

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Mechanical Tee Fig 7045E/SPF MT8	50 x 25	60.3 x 33.7	Threaded (T)	EPDM	20	519a/10
	50 x 32	60.3 x 42.2	T	EPDM	20	
	50 x 40	60.3 x 48.3	T	EPDM	20	
	65 x 25	76.1 x 33.7	T	EPDM	20	
	65 x 32	76.1 x 42.2	T	EPDM	20	
	65 x 40	76.1 x 48.3	T	EPDM	20	
	80 x 25	88.9 x 33.7	T	EPDM	20	
	80 x 32	88.9 x 42.2	T	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	100 x 25	114.3 x 33.7	T	EPDM	20	
	100 x 32	114.3 x 42.2	T	EPDM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	
	100 x 50	114.3 x 60.3	T	EPDM	20	
	100 x 65	114.3 x 76.1	T	EPDM	20	
	150 x 32	165.1 x 42.2	T	EPDM	20	
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 50	165.1 x 60.3	T	EPDM	20	
	150 x 65	165.1 x 76.1	T	EPDM	20	
	150 x 80	165.1 x 88.9	T	EPDM	20	
	150 x 32	168.3 x 42.2	T	EPDM	20	
	150 x 40	168.3 x 48.3	T	EPDM	20	
	150 x 50	168.3 x 60.3	T	EPDM	20	
150 x 65	168.3 x 76.1	T	EPDM	20		
150 x 80	168.3 x 88.9	T	EPDM	20		
200 x 50	219.1 x 60.3	T	EPDM	20		

Notes:

- Two Figure 7045 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm and 60.3mm, and are designated Figure 7047.
- Two Figure 7046 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm, through 114.3mm, and are designated Figure 7048.
- Figure 7045 and Figure 7046 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm and 0.3mm, and are designated Figure 7049.

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Pipe Couplings (GRUVLOK/SPF)

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Mechanical Tee Fig 7046E/SPF MT2	65 x 32	76.1 x 42.2	Grooved (G)	EPDM	20	519a/09
	65 x 40	76.1 x 48.3	G	EPDM	20	
	80 x 32	88.9 x 42.2	G	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 32	114.3 x 42.2	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 80	114.3 x 88.9	G	EPDM	20	
	150 x 32	165.1 x 42.2	G	EPDM	20	
	150 x 40	165.1 x 48.2	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	165.1 x 76.1	G	EPDM	20	
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	165.1 x 114.3	G	EPDM	20	
	150 x 32	168.3 x 42.2	G	EPDM	20	
	150 x 40	168.3 x 48.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	150 x 65	168.3 x 76.1	G	EPDM	20	
	150 x 80	168.3 x 88.9	G	EPDM	20	
	150 x 100	168.3 x 114.3	G	EPDM	20	
	200 x 50	219.1 x 60.3	G	EPDM	20	

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PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
	200 x 65	219.1 x 76.1	G	EPDM	20	
	200 x 80	219.1 x 88.9	G	EPDM	20	

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Pipe Fittings (GRUVLOK/SPF)

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
22.5° Elbow - Fig 7052/SPF E3	42.4	20	519a/25
	48.3	20	
	60.3	20	
	76.1	20	
	88.9	20	
	114.3	20	
	139.7	20	
	165.1	20	
	168.3	20	
	219.1	20	
	273.0	20	
	323.9	20	
	Concentric Reducer - Fig 7072/SPF R1	48.3 x 42.4	
60.3 x 42.4		20	
76.1 x 42.4		20	
76.1 x 48.3		20	
76.1 x 60.3		20	
88.9 x 60.3		20	
88.9 x 76.1		20	
114.3 x 48.3		20	
114.3 x 60.3		20	
114.3 x 76.1		20	
114.3 x 88.9		20	
139.7 x 114.3		20	
165.1 x 88.9		20	
165.1 x 114.3		20	
165.1 x 139.7		20	
168.3 x 114.3		20	
168.3 x 139.7		20	
168.3 x 165.1		20	
219.1 x 114.3		20	
219.1 x 165.1		20	
219.1 x 168.3	20		
273.0 x 219.1	20		
Drain Cap - Fig 7074D/SPF K1D	60.3	20	519a/27
	48.3	20	
	76.1	20	
	88.9	20	
	114.3	20	
	139.7	20	
	168.3	20	
	219.1	20	
	273.0	20	
Hydrant Tee - Fig 7061H/SPF HT	114.3 x 114.3 x 76.1	20	519a/28

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PART 3: SECTION 8.1**PIPE COUPLINGS AND FITTINGS****Pipe Couplings (GRUVLOK)**

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
90° Elbow - Fig 7050	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108 ⁽¹⁾ , 114.3, 133 ⁽¹⁾ , 159 ⁽¹⁾ , 165.1, 168.3, 219.1	20	119a/07
45° Elbow - Fig 7051	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108 ⁽¹⁾ , 114.3, 133 ⁽¹⁾ , 159 ⁽¹⁾ , 165.1, 168.3, 219.1	20	119a/08
Tee - Fig 7060	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108 ⁽¹⁾ , 114.3, 133 ⁽¹⁾ , 159 ⁽¹⁾ , 165.1, 168.3, 219.1	20	119a/09
Blank Cap - Fig 7074	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108 ⁽¹⁾ , 114.3, 133 ⁽¹⁾ , 159 ⁽¹⁾ , 165.1, 168.3, 219.1	20	119a/10
90° Elbow - Fig 7050E//SPF E1	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0, 323.9	20	519a/12
45° Elbow - Fig 7051E//SPF E2	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0, 323.9	20	519a/13
Tee - Fig 7060E//SPF T1	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0, 323.9	20	519a/14
Cap - Fig 7074E//SPF K1	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0, 323.9	20	519a/08
Short pattern 90° Elbow - Fig 7450E//SPF SE1	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	519a/20
Short pattern Tee - Fig 7460E//SPF ST1	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3,	20	519a/21

Note:

All couplings and fittings to be installed in accordance with the manufacturer's pipe preparation and installation instructions.

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Pipe Couplings

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 705 Flexible Pipe Coupling	32	42.2	Rolled	EPDM	20	921a/01
	40	48.3	Rolled	EPDM	20	
	50	60.3	Rolled	EPDM	20	
	65	76.1	Rolled	EPDM	20	
	80	88.9	Rolled	EPDM	20	
	100	114.3	Rolled	EPDM	20	
	150	165.1	Rolled	EPDM	20	
	150	168.3	Rolled	EPDM	20	
Grinnell Fig 577 Rigid Pipe Coupling	200	219.1	Rolled	EPDM	20	921a/02
	25	33.7	Rolled	EPDM	20	
	32	42.2	Rolled	EPDM	20	
	40	48.3	Rolled	EPDM	20	
	50	60.3	Rolled	EPDM	20	
	65	76.1	Rolled	EPDM	20	
	80	88.9	Rolled	EPDM	20	
	100	114.3	Rolled	EPDM	20	
	150	165.1	Rolled	EPDM	20	
	150	168.3	Rolled	EPDM	20	
Grinnell Fig 772 Rigid Pipe Coupling	200	219.1	Rolled	EPDM	20	921a/03
	250	273.0	Rolled	EPDM	20	
	300	323.9	Rolled	EPDM	20	
	32	42.2	Rolled	EPDM	20	
	40	48.3	Rolled	EPDM	20	
	50	60.3	Rolled	EPDM	20	
	65	76.1	Rolled	EPDM	20	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 730 Mechanical Tee	80	88.9	Rolled	EPDM	20	921a/04
	100	114.3	Rolled	EPDM	20	
	150	165.1	Rolled	EPDM	20	
	150	168.3	Rolled	EPDM	20	
	200	219.1	Rolled	EPDM	20	
	250	273	Rolled	EPDM	20	
	300	323.9	Rolled	EPDM	20	
	50 x 15	60.3 x 21.3	Threaded	EPDM	20	
	50 x 20	60.3 x 26.9	Threaded	EPDM	20	
	50 x 25	60.3 x 33.4	Threaded	EPDM	20	
	50 x 32	60.3 x 42.2	Threaded	EPDM	20	
	50 x 40	60.3 x 48.3	Threaded	EPDM	20	
	65 x 15	76.1 x 21.3	Threaded	EPDM	20	
	65 x 20	76.1 x 26.9	Threaded	EPDM	20	
	65 x 25	76.1 x 33.4	Threaded	EPDM	20	
	65 x 32	76.1 x 42.2	Threaded	EPDM	20	
	65 x 40	76.1 x 48.3	Threaded	EPDM	20	
	65 x 50	76.1 x 60.3	Threaded	EPDM	20	
	80 x 15	88.9 x 21.3	Threaded	EPDM	20	
	80 x 20	88.9 x 26.9	Threaded	EPDM	20	
	80 x 25	88.9 x 33.4	Threaded	EPDM	20	
	80 x 32	88.9 x 42.2	Threaded	EPDM	20	
	80 x 40	88.9 x 48.3	Threaded	EPDM	20	
	80 x 50	88.9 x 60.3	Threaded	EPDM	20	
	100 x 15	114.3 x 21.3	Threaded	EPDM	20	
	100 x 20	114.3 x 26.9	Threaded	EPDM	20	
	100 x 25	114.3 x 33.4	Threaded	EPDM	20	
	100 x 32	114.3 x 42.2	Threaded	EPDM	20	
	100 x 40	114.3 x 48.3	Threaded	EPDM	20	
	100 x 50	114.3 x 60.3	Threaded	EPDM	20	
	100 x 65	114.3 x 76.1	Threaded	EPDM	20	
	100 x 80	114.3 x 88.9	Threaded	EPDM	20	
	150 x 32	165.1 x 42.2	Threaded	EPDM	20	
	150 x 40	165.1 x 48.3	Threaded	EPDM	20	
	150 x 50	165.1 x 60.3	Threaded	EPDM	20	
	150 x 65	165.1 x 76.1	Threaded	EPDM	20	
	150 x 80	165.1 x 88.9	Threaded	EPDM	20	
	150 x 100	165.1 x 114.3	Threaded	EPDM	20	
	150 x 32	168.3 x 42.2	Threaded	EPDM	20	
	150 x 40	168.3 x 48.3	Threaded	EPDM	20	
	150 x 50	168.3 x 60.3	Threaded	EPDM	20	
150 x 65	168.3 x 76.1	Threaded	EPDM	20		
150 x 80	168.3 x 88.9	Threaded	EPDM	20		
150 x 100	168.3 x 114.3	Threaded	EPDM	20		
200 x 50	219.1 x 60.3	Threaded	EPDM	20		
200 x 65	219.1 x 76.1	Threaded	EPDM	20		
200 x 80	219.1 x 88.9	Threaded	EPDM	20		
200 x 100	219.1 x 114.3	Threaded	EPDM	20		
50 x 32	60.3 x 42.2	Grooved	EPDM	20		
50 x 40	60.3 x 48.3	Grooved	EPDM	20		
65 x 32	76.1 x 42.2	Grooved	EPDM	20		
65 x 40	76.1 x 48.3	Grooved	EPDM	20		
65 x 50	76.1 x 60.3	Grooved	EPDM	20		
80 x 32	88.9 x 42.2	Grooved	EPDM	20		
80 x 40	88.9 x 48.3	Grooved	EPDM	20		
80 x 50	88.9 x 60.3	Grooved	EPDM	20		
100 x 32	114.3 x 42.4	Grooved	EPDM	20		
100 x 40	114.3 x 48.3	Grooved	EPDM	20		
100 x 50	114.3 x 60.3	Grooved	EPDM	20		
100 x 65	114.3 x 76.1	Grooved	EPDM	20		
100 x 80	114.3 x 88.9	Grooved	EPDM	20		
150 x 32	165.1 x 42.2	Grooved	EPDM	20		
150 x 40	165.1 x 48.3	Grooved	EPDM	20		
150 x 50	165.1 x 60.3	Grooved	EPDM	20		
150 x 65	165.1 x 76.1	Grooved	EPDM	20		
150 x 80	165.1 x 88.9	Grooved	EPDM	20		
150 x 100	165.1 x 114.3	Grooved	EPDM	20		
150 x 32	168.3 x 42.2	Grooved	EPDM	20		
150 x 40	168.3 x 48.3	Grooved	EPDM	20		
150 x 50	168.3 x 60.3	Grooved	EPDM	20		
150 x 65	168.3 x 76.1	Grooved	EPDM	20		

PART 3: SECTION 8.1**PIPE COUPLINGS AND FITTINGS**

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 716 Reducing Coupling	150 x 80	168.3 x 88.9	Grooved	EPDM	20	921a/05
	150 x 100	168.3 x 114.3	Grooved	EPDM	20	
	200 x 50	219.1 x 60.3	Grooved	EPDM	20	
	200 x 65	219.1 x 76.1	Grooved	EPDM	20	
	200 x 80	219.1 x 88.9	Grooved	EPDM	20	
	200 x 100	219.1 x 114.3	Grooved	EPDM	20	
	65 x 40	76.1 x 60.3	Rolled	EPDM	20	
	80 x 65	88.9 x 76.1	Rolled	EPDM	20	
	100 x 65	114.3 x 76.1	Rolled	EPDM	20	
	150 x 100	165.1 x 114.3	Rolled	EPDM	20	
Grinnell Fig 71 Flange Adaptor	200	219.1	Rolled	EPDM	20	921a/06
Grinnell Fig 522 Sprinkler Tee	300	323.9	Rolled	EPDM	16	921a/11
	25 x 15	33.4 x 21.3	Threaded	EPDM	20	
Grinnell Fig 774 Rigid Pipe Coupling	25 x 20	33.4 x 26.9	Threaded	EPDM	20	921a/24
	25 x 25	33.4 x 33.4	Threaded	EPDM	20	
	32 x 10	42.2 x 17.2	Threaded	EPDM	20	
	32 x 15	42.2 x 21.3	Threaded	EPDM	20	
	32 x 20	42.2 x 26.9	Threaded	EPDM	20	
	32 x 25	42.2 x 33.4	Threaded	EPDM	20	
	40 x 15	48.3 x 21.3	Threaded	EPDM	20	
	40 x 20	48.3 x 26.9	Threaded	EPDM	20	
	40 x 25	48.3 x 33.4	Threaded	EPDM	20	
	50 x 15	60.3 x 21.3	Threaded	EPDM	20	
	50 x 20	60.3 x 26.9	Threaded	EPDM	20	
	50 x 25	60.3 x 33.4	Threaded	EPDM	20	
	65 x 15	76.1 x 21.3	Threaded	EPDM	20	
	65 x 25	76.1 x 33.4	Threaded	EPDM	20	
	25	33.7	Rolled	EPDM	20	
	32	42.2	Rolled	EPDM	20	
	40	48.3	Rolled	EPDM	20	
	50	60.3	Rolled	EPDM	20	
	65	76.1	Rolled	EPDM	20	
	80	88.9	Rolled	EPDM	20	
100	114.3	Rolled	EPDM	20		
150	165.1	Rolled	EPDM	20		
150	168.3	Rolled	EPDM	20		
200	219.1	Rolled	EPDM	20		
250	273.0	Rolled	EPDM	20		
300	323.9	Rolled	EPDM	20		

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Pipe Fittings

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 201 45° Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	921a/07
Grinnell Fig 501 45° Elbow	42.2, 48.3, 273.0, 323.9	20	
Grinnell Fig 501 'G-FIRE' 45° Elbow	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	921a/21
Grinnell Fig 210 90° Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	921a/08
Grinnell Fig 510 90° Elbow	273.0, 323.9	20	
Grinnell Fig 510 'G-FIRE' 90° Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	921a/22
Grinnell Fig 219 Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	921a/09
Grinnell Fig 519 Tee	273.0, 323.9	20	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 519 'G-FIRE' Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	921a/23
Grinnell Fig 260 End Cap	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	921a/10
Grinnell Fig 250/550 Concentric Reducer	42.4 x 33.7, 48.3 x 33.4, 60.3 x 42.2, 60.3 x 48.3, 76.1 x 42.2, 76.1 x 60.3, 88.9 x 76.1, 114.3 x 76.1, 114.3 x 88.9, 165.1 x 114.3, 168.3 x 114.3, 219.1 x 139.7, 219.1 x 165.1, 273.0 x 165.1	20	921a/12
Grinnell Fig 510S 'G-FIRE' 90° Short Elbow	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	921a/13
Grinnell Fig 519S 'G-FIRE' Short Tee	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	921a/14
Grinnell Fig 221/521 Reducing Tee	60.3x60.3x48.5, 76.1x76.1x48.3, 76.1x76.1x60.3, 88.9x88.9x33.7, 88.9x88.9x60.3, 88.9x88.9x76.1, 114.3x114.3x60.3, 114.3x114.3x76.1, 114.3x114.3x88.9, 139.7x139.7x88.9, 139.7x139.7x114.3, 165.1x165.1x88.9, 165.1x165.1x114.3, 168.3x168.3x60.3, 168.3x168.3x76.1, 168.3x168.3x88.9, 168.3x168.3x114.3, 168.3x168.3x139.7, 219.1x219.1x139.7, 219.1x219.1x165.1, 273.0x273.0x114.3, 273.0x273.0x168.3, 273.0x273.0x219.1	20	921a/15
Grinnell 222 Hydrant Tee	114.3 x 114.3 x 76.1	20	921a/16
Grinnell Fig 212/512 22.5° Elbow	76.1, 139.7	20	921a/17
Grinnell Fig 211/511 11.25° Elbow	76.1, 139.7, 165.1	20	921a/18
Grinnell Fig 210LR 90° Long Radius Elbow	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	921a/19
Grinnell Fig 227/527 Cross	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 168.3, 219.1	20	921a/20

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Pipe Couplings

Product Name	Nominal Size	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Flexible Coupling Fig 1N	50	60.3	R&C	EPDM	25	988Ca/01
	65	73.0	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
	150	168.3	R&C	EPDM	25	
	200	219.1	R&C	EPDM	25	
	Rigid Coupling Fig 1G	50	60.3	R&C	EPDM	
65		73.0	R&C	EPDM	25	
65		76.1	R&C	EPDM	25	
Light Duty Rigid Coupling Fig 1GS	80	88.9	R&C	EPDM	16	988Ca/04
	100	114.3	R&C	EPDM	16	
	125	139.7	R&C	EPDM	16	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
	150	165.1	R&C	EPDM	16	
	150	168.3	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	

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Pipe Fittings

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
Short Style 90° Elbow Fig 90S	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	16	988Ca/10
Short Style Tee Fig 130S	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	16	988Ca/12

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Pipe Couplings

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Flexible Coupling Fig 1N	25	33.7	R&C	EPDM	25	988a/01
	32	42.4	R&C	EPDM	25	
	40	48.3	R&C	EPDM	25	
	50	60.3	R&C	EPDM	25	
	65	73	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	108	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	133	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25	
	150	159	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
	150	168.3	R&C	EPDM	25	
Rigid Coupling Fig 1G	200	219.1	R&C	EPDM	25	988a/02
	25	33.7	R&C	EPDM	25	
	32	42.4	R&C	EPDM	25	
	40	48.3	R&C	EPDM	25	
	50	60.3	R&C	EPDM	25	
	65	73	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	108	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	133	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25	
	150	159	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
150	168.3	R&C	EPDM	25		
200	219.1	R&C	EPDM	25		
Reducing Flexible Coupling Fig 1N	50 x 32	60.3x42.4	R&C	EPDM	16	988a/03
	50 x 40	60.3x48.3	R&C	EPDM	15	
	65 x 50	73x0x60.3	R&C	EPDM	16	
	65 x 40	76.1x48.3	R&C	EPDM	16	
	65 x 50	76.1x60.3	R&C	EPDM	16	
	80 x 50	88.9x60.3	R&C	EPDM	16	
	80 x 60	88.9 x 73	R&C	EPDM	16	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Light Duty Rigid Coupling Fig 1GS	80 x 65	88.9 x 76.1	R&C	EPDM	16	988a/04
	100 x 50	114.3 x 60.3	R&C	EPDM	16	
	100 x 60	114.3 x 73.0	R&C	EPDM	16	
	100 x 65	114.3 x 76.1	R&C	EPDM	16	
	100 x 80	114.3 x 88.9	R&C	EPDM	16	
	150 x 100	165.1 x 114.3	R&C	EPDM	16	
	150 x 100	168.3 x 114.3	R&C	EPDM	16	
	200 x 150	219.1 x 165.1	R&C	EPDM	16	
	200 x 150	219.1 x 168.3	R&C	EPDM	16	
	65	76.1	R&C	EPDM	16	
	80	88.9	R&C	EPDM	16	
	100	108	R&C	EPDM	16	
	100	114.3	R&C	EPDM	16	
	125	139.7	R&C	EPDM	16	
	Threaded Mechanical Tee Fig 3J	125	141.3	R&C	EPDM	
150		159	R&C	EPDM	16	
150		165.1	R&C	EPDM	16	
150		168.3	R&C	EPDM	16	
200		219.1	R&C	EPDM	16	
100 x 65		114.3 x 76.1	T	EPDM	16	
100 x 80		114.3 x 88.9	T	EPDM	16	
125 x 65		139.7 x 76.1	T	EPDM	16	
125 x 80		139.7 x 88.9	T	EPDM	16	
125 x 100		139.7 x 114.3	T	EPDM	16	
150 x 65		165.1 x 76.1	T	EPDM	16	
150 x 80		165.1 x 88.9	T	EPDM	16	
150 x 100		165.1 x 114.3	T	EPDM	16	
150 x 65		168.3 x 76.1	T	EPDM	16	
Grooved Mechanical Tee Fig 3G		150 x 80	168.3 x 88.9	T	EPDM	16
	150 x 100	168.3 x 114.3	T	EPDM	16	
	200 x 65	219.1 x 76.1	T	EPDM	16	
	200 x 80	219.1 x 88.9	T	EPDM	16	
	200 x 100	219.1 x 114.3	T	EPDM	16	
	100 x 65	114.3 x 76.1	G	EPDM	16	
	100 x 80	114.3 x 88.9	G	EPDM	16	
	125 x 65	139.7 x 76.1	G	EPDM	16	
	125 x 80	139.7 x 88.9	G	EPDM	16	
	125 x 100	139.7 x 114.3	G	EPDM	16	
	150 x 65	165.1 x 76.1	G	EPDM	16	
	150 x 80	165.1 x 88.9	G	EPDM	16	
	150 x 100	165.1 x 114.3	G	EPDM	16	
	150 x 65	168.3 x 76.1	G	EPDM	16	
	Grooved Flange Fig 321	150 x 80	168.3 x 88.9	G	EPDM	16
150 x 100		168.3 x 114.3	G	EPDM	16	
200 x 65		219.1 x 76.1	G	EPDM	16	
200 x 80		219.1 x 88.9	G	EPDM	16	
200 x 100		219.1 x 114.3	G	EPDM	16	
40		48.3	R&C	EPDM	16	
50		60.3	R&C	EPDM	16	
65		76.1	R&C	EPDM	16	
80		88.9	R&C	EPDM	16	
100		114.3	R&C	EPDM	16	
125		139.7	R&C	EPDM	16	
150		165.1	R&C	EPDM	16	
150		168.3	R&C	EPDM	16	
200		219.1	R&C	EPDM	16	

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Pipe Fittings

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
90° Elbow Fig 90	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988a/09
Short Style 90° Elbow Fig 90S	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988a/10

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
Tee Fig 130	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988a/11
Short Style Tee Fig 130S	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988a/12
45° Elbow Fig 120	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988a/13
Cap Fig 300	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0, 323.9	25	988a/14
Cross Fig 180	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988a/15
22.5° Elbow Fig 110	76.1, 88.9, 114.3, 139.7, 165.1, 219.1	25	988a/16
11.25° Elbow Fig 105	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 219.1	25	988a/17
Adaptor Flange Fig 321G	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988a/18
Concentric Reducer Grooved Fig 240	42.4 x 33.7, 48.3 x 33.7, 48.3 x 42.4, 60.3 x 33.7, 60.3 x 42.4, 60.3 x 48.3, 76.1 x 42.4, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 165.1 x 114.3, 165.1 x 139.7, 168.3 x 114.3, 168.3 x 139.7, 219.1 x 88.9, 219.1 x 114.3, 219.1 x 139.7, 219.1 x 168.3	25	988a/19
Concentric Reducer Threaded Fig 240N	60.3 x 26.9, 60.3 x 33.7, 60.3 x 42.4, 60.3 x 48.3, 76.1 x 42.4, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 219.1 x 88.9	25	988a/20
Reducing Tee Fig 130R	60.3 x 33.7, 60.3 x 48.3, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 33.7, 88.9 x 48.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 33.7, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 165.1 x 114.3, 165.1 x 139.7, 168.3 x 60.3, 168.3 x 76.1, 168.3 x 88.9, 168.3 x 114.3, 168.3 x 139.7, 219.1 x 60.3, 219.1 x 88.9, 219.1 x 114.3, 219.1 x 168.3	25	988a/21

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Certificate No: 1118b

Pipe Couplings

Product Name	Nominal size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Type 900	25	33.7	R&C	EPDM	20	1118b/01
	32	42.4	R&C	EPDM	21	
	40	48.3	R&C	EPDM	21	
	50	60.3	R&C	EPDM	21	
	65	73.0	R&C	EPDM	21	
	65	76.1	R&C	EPDM	21	
	80	88.9	R&C	EPDM	21	
	100	114.3	R&C	EPDM	21	
	125	139.7	R&C	EPDM	21	
	150	165.1	R&C	EPDM	21	
	150	168.3	R&C	EPDM	21	
	200	219.1	R&C	EPDM	21	
	250	273.0	R&C	EPDM	20	
	300	323.9	R&C	EPDM	20	
Type 901	32	42.4	R&C	EPDM	20	1118b/07
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	

Certificate No: 1118b

Pipe Fittings

Product Name	Model No.	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
90° elbow	910	33.7, 42.4, 48.3, 273.0	20	1118b/02
Short Radius 90° elbow	910S	60.3, 73.0, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	1118b/08
Long Radius 90° elbow	910LR	114.3	20	1118b/09
45° elbow	920	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0	20	1118b/03
tee	930	33.7, 42.4, 48.3, 273.0	20	1118b/04
Short Radius tee	930S	60.3, 73.0, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	1118b/10
Pitcher-tee	935	114.3 x 114.3 x 88.9 G2.1/2 thread	20	1118b/11
cap	940	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0	20	1118b/05
	941	60.3, 73.0, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1, 273.0	20	1118b/06

Notes:

All above products to be installed in accordance with Minimax Installation Instructions MX-INS900_EN, REV E or equivalent German version MX-INS900_DE, REV F.

Shurjoint fittings, (LPCB Ref. No. 448a), may be used with Minimax couplings up to DN250. Minimax fittings may be used with Shurjoint couplings, but for sizes DN200 and above only Shurjoint rigid couplings may be used.

In all cases the bolt tightening torque specified by the manufacturer for the coupling type fitted in any assembly must be used.

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Certificate No: 123a and 123b

Pipe Couplings (QUIKCOUP)

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Style 75	150	168.3	R&C	EPDM	20	10 123a/01
	32	42.2	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	125	141.3	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
Style 07	200	219.1	R&C	EPDM	20	123a/02
	50	60.3	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Style 007 Quikhinge	100	114.3	R&C	EPDM	20	123a/03
	125	141.3	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
	32	42.4	R&C	EPDM	12	
	40	48.3	R&C	EPDM	12	
	50	60.3	R&C	EPDM	12	
	65	76.1	R&C	EPDM	12	
	80	88.9	R&C	EPDM	12	
	100	114.3	R&C	EPDM	12	
Style 08 Quik-T	125	139.7	R&C	EPDM	12	123a/04
	150	165.1	R&C	EPDM	12	
	150	168.3	R&C	EPDM	12	
	50	60.3	T(½ in BSP)	EPDM	20	
	50	60.3	T(¾ in BSP)	EPDM	20	
	50	60.3	T(1 in BSP)	EPDM	20	
	50	60.3	T(1¼ in BSP)	EPDM	20	
	50	60.3	T(1½ in BSP)	EPDM	20	
	65	76.1	T(½ in BSP)	EPDM	20	
	65	76.1	T(¾ in BSP)	EPDM	20	
	65	76.1	T(1 in BSP)	EPDM	20	
	65	76.1	T(1¼ in BSP)	EPDM	20	
	65	76.1	T(1½ in BSP)	EPDM	20	
	80	88.9	T(½ in BSP)	EPDM	20	
	80	88.9	T(¾ in BSP)	EPDM	20	
	80	88.9	T(1 in BSP)	EPDM	20	
	80	88.9	T(1¼ in BSP)	EPDM	20	
	80	88.9	T(1½ in BSP)	EPDM	20	
	80	88.9	T(2 in BSP)	EPDM	20	
	100	114.3	T(½ in BSP)	EPDM	20	
	100	114.3	T(¾ in BSP)	EPDM	20	
	100	114.3	T(1 in BSP)	EPDM	20	
	100	114.3	T(1¼ in BSP)	EPDM	20	
	100	114.3	T(1½ in BSP)	EPDM	20	
	100	114.3	T(2 in BSP)	EPDM	20	
	150	165.1	T(1¼ in BSP)	EPDM	20	
	150	165.1	T(1½ in BSP)	EPDM	20	
	150	165.1	T(2 in BSP)	EPDM	20	
	150	168.3	T(1¼ in BSP)	EPDM	20	
	150	168.3	T(1½ in BSP)	EPDM	20	
150	168.3	T(2 in BSP)	EPDM	20		
150	168.3	T(4 in BSP)	EPDM	20		
125 x 32	139.7 x 42.4	T	EPDM	20	123a/05	
150 x 65	165.1 x 76.1	T	EPDM	20		
50 x 40	60.3 x 48.3	G	EPDM	20	123a/06	
65 x 40	76.1 x 48.3	G	EPDM	20		
80 x 32	88.9 x 42.4	G	EPDM	20		
80 x 40	88.9 x 48.3	G	EPDM	20		
80 x 50	88.9 x 60.3	G	EPDM	20		
100 x 32	114.3 x 42.4	G	EPDM	20		
100 x 40	114.3 x 48.3	G	EPDM	20		
100 x 50	114.3 x 60.3	G	EPDM	20		
100 x 65	114.3 x 76.1	G	EPDM	20		
125 x 65	139.7 x 76.1	G	EPDM	20		
150 x 40	165.1 x 48.3	G	EPDM	20		
150 x 50	165.1 x 60.3	G	EPDM	20		
150 x 40	168.3 x 48.3	G	EPDM	20		
150 x 50	168.3 x 60.3	G	EPDM	20		

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.		
Style 007R Quikhinge	150 x 65	168.3 x 76.1	G	EPDM	20	123a/07		
	150 x 100	168.3 x 114.3	G	EPDM	20			
	32	42.2	R&C	EPDM	12			
	40	48.3	R&C	EPDM	12			
	50	60.3	R&C	EPDM	12			
	65	76.1	R&C	EPDM	12			
	80	88.9	R&C	EPDM	12			
	100	114.3	R&C	EPDM	12			
	125	139.7	R&C	EPDM	12			
	150	165.1	R&C	EPDM	12			
Style 99 Quiklet	150	168.3	R&C	EPDM	12	123a/14		
	32 x 15	42.2	T	EPDM	12			
	32 x 20	42.2	T	EPDM	12			
	32 x 25	42.2	T	EPDM	12			
	40 x 15	48.3	T	EPDM	12			
	40 x 20	48.3	T	EPDM	12			
	40 x 25	48.3	T	EPDM	12			
	50 x 15	60.3	T	EPDM	12			
	50 x 20	60.3	T	EPDM	12			
	50 x 25	60.3	T	EPDM	12			
Style 75RT Rigid Coupling	40	48.3	R&C	EPDM	16	123a/15		
	50	60.3	R&C	EPDM	16			
	65	76.1	R&C	EPDM	16			
	80	88.9	R&C	EPDM	16			
	100	114.3	R&C	EPDM	16			
	125	139.7	R&C	EPDM	16			
	150	165.1	R&C	EPDM	16			
	150	168.3	R&C	EPDM	16			
	200	219.1	R&C	EPDM	16			
	40	48.3	R&C	EPDM	16			
Style 007RT Quikhinge Rigid Coupling	50	60.3	R&C	EPDM	16	123a/16		
	65	76.1	R&C	EPDM	16			
	80	88.9	R&C	EPDM	16			
	100	114.3	R&C	EPDM	16			
	125	39.7	R&C	EPDM	16			
	150	165.1	R&C	EPDM	16			
	150	168.3	R&C	EPDM	16			
	Style 08M Quik-T Mechanical Tee	50 x 15	60.3 x 21.3	T	EPDM		20	123b/25
		50 x 20	60.3 x 26.9	T	EDPM		20	
		50 x 25	60.3 x 33.7	T	EPDM		20	
50 x 32		60.3 x 42.2	T	EPDM	20			
50 x 40		60.3 x 48.3	T	EPDM	20			
65 x 15		76.1 x 21.3	T	EPDM	20			
65 x 20		76.1 x 26.9	T	EPDM	20			
65 x 25		76.1 x 33.7	T	EPDM	20			
65 x 32		76.1 x 42.2	T	EPDM	20			
65 x 40		76.1 x 48.3	T	EPDM	20			
80 x 15		88.9 x 21.3	T	EPDM	20			
80 x 20		88.9 x 26.7	T	EPDM	20			
80 x 25		88.9 x 33.7	T	EPDM	20			
80 x 32		88.9 x 42.4	T	EPDM	20			
80 X 40		88.9 X 48.3	T	EPDM	20			
80 x 50		88.9 x 60.3	T	EPDM	20			
100 x 15		114.3 x 21.3	T	EPDM	20			
100 x 20		114.3 x 26.7	T	EPDM	20			
100 X 25		114.3 X 33.7	T	EPDM	20			
100 x 32		114.3 x 42.4	T	EPDM	20			
100 x 40		114.3 x 48.3	T	EPDM	20			
100 x 50		114.3 x 60.3	T	EPDM	20			
100 x 65		114.3 x 76.1	T	EPDM	20			
100 x 80		114.3 x 88.9	T	EPDM	20			
125 x 15		139.7 x 21.3	T	EPDM	20			
125 x 20		139.7 x 26.9	T	EPDM	20			
125 x 25		139.7 x 33.7	T	EPDM	20			
125 x 32		139.7 x 42.2	T	EPDM	20			
125 x 40		139.7 x 48.3	T	EPDM	20			
125 x 50		139.7 x 60.3	T	EPDM	20			
125 x 65	139.7 x 76.1	T	EPDM	20				

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
	125 x 80	139.7 x 88.9	T	EPDM	20	
	125 x 100	139.7 x 114.3	T	EPDM	20	
	150 x 15	165.1 x 21.3	T	EPDM	20	
	150 x 20	165.1 x 26.9	T	EPDM	20	
	150 x 25	165.1 x 33.7	T	EPDM	20	
	150 x 32	165.1 x 42.2	T	EPDM	20	
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 50	165.1 x 60.3	T	EPDM	20	
	150 x 65	165.1 x 76.1	T	EPDM	20	
	150 x 80	165.1 x 88.9	T	EPDM	20	
	150 x 100	165.1 x 114.3	T	EPDM	20	
	150 x 32	168.3 x 42.2	T	EPDM	20	
	150 x 40	168.3 x 48.3	T	EPDM	20	
	150 x 50	168.3 x 60.3	T	EPDM	20	
	150 x 65	168.3 x 76.1	T	EPDM	20	
	150 x 80	168.3 x 88.9	T	EPDM	20	
	150 x 100	168.3 x 114.3	T	EPDM	20	
	200 x 25	219.1 x 33.7	T	EPDM	20	
	200 x 32	219.1 x 42.2	T	EPDM	20	
	200 x 40	219.1 x 48.3	T	EPDM	20	
	200 x 50	219.1 x 60.3	T	EPDM	20	
	200 x 65	219.1 x 76.1	T	EPDM	20	
	200 x 80	219.1 x 88.9	T	EPDM	20	
	200 x 100	219.1 x 114.3	T	EPDM	20	
	50 x 32	60.3 x 42.2	G	EPDM	20	123b/26
	50 x 40	60.3 x 48.3	G	EPDM	20	
	65 x 25	76.1 x 33.7	G	EPDM	20	
	65 x 32	76.1 x 42.2	G	EPDM	20	
	65 x 40	76.1 x 48.3	G	EPDM	20	
	80 x 25	88.9 x 33.7	G	EPDM	20	
	80 x 32	88.9 x 42.4	G	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 25	114.3 x 33.7	G	EPDM	20	
	100 x 32	114.3 x 42.4	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 80	114.3 x 88.9	G	EPDM	20	
	125 x 50	139.7 x 60.3	G	EPDM	20	
	125 x 65	139.7 x 76.1	G	EPDM	20	
	125 x 80	139.7 x 88.9	G	EPDM	20	
	125 x 100	139.7 x 114.3	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	165.1 x 76.1	G	EPDM	20	
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	165.1 x 114.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	150 x 65	168.3 x 76.1	G	EPDM	20	
	150 x 80	168.3 x 88.9	G	EPDM	20	
	150 x 100	168.3 x 114.3	G	EPDM	20	
	200 x 65	219.1 x 76.1	G	EPDM	20	
	200 x 80	219.1 x 88.9	G	EPDM	20	
	200 x 100	219.1 x 114.3	G	EPDM	20	

Certificate No: 123a and 123b

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Fittings

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Style 06 90° Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 141.3, 165.1, 168.3, 219.1	20	123a/08
Style 04 45° Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123a/09
Style 05 Grooved Tee	48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123a/10
Style 06 90° Elbow	139.7	12	123a/11
Style 02/020 Blank Ends	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123a/12
Style 02 Blank End	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3	20	123a/13
Style 64M 45° Elbow	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/17
Style 65M Tee - Short Radius	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/18
Style 66M 90° Elbow - Short Radius	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/19
Style 02M End Cap	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/20
Style 04M 45° Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/21
Style 05M Tee	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/22
Style 06M 90° Elbow	48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123b/23

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Certificate No: 060c to LPS1219

Live Tap Mechanical Tees

Product Name	Nominal Size (m)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Model LT-KD-002 (Kwik-Drain) (Note 2)	50 x 25.4	T	EPDM	12	060c/01
Model LT-KD-002 (Kwik Drain) (Note 2)	65 x 25.4	T	EPDM	12	
	80 x 25.4	T	EPDM	12	
	100 x 25.4	T	EPDM	12	
	150 x 25.4	T	EPDM	12	
Model LT-KD-50-002 (Kwik-Drain 50mm outlet) (Note 2)	80 x 50.8	T	EPDM	12	060c/02
	100 x 50.8	T	EPDM	12	
	150 x 50.8	T	EPDM	12	
Model LT-KD-SA-001 (Kwik-Drain S.A.) (Note 2)	50 x 25.4	T	EPDM	12	060c/03
	65 x 25.4	T	EPDM	12	
	80 x 25.4	T	EPDM	12	
	100 x 25.4	T	EPDM	12	
	150 x 25.4	T	EPDM	12	
Model LT-NDT(50)-002 (No-Drain-T) (Note 3 & 4)	50 x 32	T	EPDM	12	060c/02
	65 x 40	T	EPDM	12	
Model LT-NDT (50)-002 (No Drain-T) (Note 3 & 4)	80 x 50.8	T	EPDM	12	060c/06
	100 x 50.8	T	EPDM	12	
	150 x 50.8	T	EPDM	12	
Model LT-KC(15-32)-002 (Kwik-Clamp) (Note 2)	32 x 15	T	EPDM	12	060c/03
Model LT-KC(15-40)-002 (Kwik-Clamp) (Note 2)	40 x 15	T	EPDM	12	
Model LT-KC(15-50)-002 (Kwik-Clamp) (Note 2)	50 x 15	T	EPDM	12	060c/06
Model LT-KV-SA-001 (Kwik-Vent S.A.) (Note 2)	32 x 15	T	EPDM	12	
	40 x 15	T	EPDM	12	
	50 x 15	T	EPDM	12	060d/01
Model LT-C-100-80 (No-Drain-T) (Notes 1, 3 & 4)	100 x 80	G	EPDM	12	

Notes:

- 1) LPCB approval is limited to pipe fittings (mechanical tees) to LPS1219. LPCB approval excludes all ancillary equipment for use with LiveTap products.

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

- 2) Sprinkler heads must not be connected to these outlets.
- 3) These outlets are suitable for sprinkler head connections.
- 4) This fitting must only be installed in the orientation specified by the manufacturer in document WIUPD035 and not in a way that could cause fitting rotation around the branch pipe in the event of a hanger failure on the outlet pipe.

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Certificate No: 448a to LPS 1219

Pipe Couplings (SHURJOINT)

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.	
Fig. 7705	50	60.3	R&C	EPDM	20	448a/01	
	65	76.1	R&C	EPDM	20		
	80	88.9	R&C	EPDM	20		
	100	114.3	R&C	EPDM	20		
	125	139.7	R&C	EPDM	20		
	150	165.1	R&C	EPDM	20		
	200	219.1	R&C	EPDM	20		
Fig. K-9 Dogtooth	32	42.4	R&C	EPDM	15	448a/02	
	40	48.3	R&C	EPDM	15		
	50	60.3	R&C	EPDM	12		
	65	76.1	R&C	EPDM	12		
	80	88.9	R&C	EPDM	12		
	100	114.3	R&C	EPDM	12		
	125	139.7	R&C	EPDM	15		
	150	165.1	R&C	EPDM	12		
	200	219.1	R&C	EPDM	15		
	200	219.1	R&C	EPDM	20		448a/16 448a/03
	Rigid Coupling Model K-9H	50 x 40	60.3 x 48.3	R&C	EPDM		
Reducing Coupling Fig. 7706	65 x 50	76.1 x 60.3	R&C	EPDM	20		
	80 x 50	88.9 x 60.3	R&C	EPDM	20		
	80 x 65	88.9 x 76.1	R&C	EPDM	20		
	100 x 50	114.3 x 60.3	R&C	EPDM	20		
	100 x 65	114.3 x 76.1	R&C	EPDM	20		
	100 x 80	114.3 x 88.9	R&C	EPDM	20		
	150 x 100	165.1 x 114.3	R&C	EPDM	20		
	200 x 150	219.1 x 165.1	R&C	EPDM	16		
	Mechanical Tees Model 7721	65 x 32	76.1 x 42.4	T	EPDM	20	448a/04
		65 x 40	76.1 x 48.3	T	EPDM	20	
80 x 32		88.9 x 42.4	T	EPDM	20		
80 x 40		88.9 x 48.3	T	EPDM	20		
80 x 50		88.9 x 60.3	T	EPDM	20		
100 x 32		114.3 x 42.4	T	EPDM	20		
100 x 40		114.3 x 48.3	T	EPDM	20		
100 x 50		114.3 x 60.3	T	EPDM	20		
100 x 65		114.3 x 76.1	T	EPDM	20		
100 x 80		114.3 x 88.9	T	EPDM	20		
150 x 32		165.1 x 42.4	T	EPDM	20		
150 x 40		165.1 x 48.3	T	EPDM	20		
150 x 50		165.1 x 60.3	T	EPDM	20		
150 x 65		165.1 x 76.1	T	EPDM	20		
150 x 80		165.1 x 88.9	T	EPDM	20		
150 x 100	165.1 x 114.3	T	EPDM	20			

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.		
Fig. 7722	80 x 40	88.9 x 48.3	G	EPDM	20	448a/05		
	80 x 50	88.9 x 60.3	G	EPDM	20			
	100 x 40	114.3 x 48.3	G	EPDM	20			
	100 x 50	114.3 x 60.3	G	EPDM	20			
	100 x 65	114.3 x 76.1	G	EPDM	20			
	100 x 80	114.3 x 88.9	G	EPDM	20			
	150 x 40	165.1 x 48.3	G	EPDM	20			
	150 x 50	165.1 x 60.3	G	EPDM	20			
	150 x 65	165.1 x 76.1	G	EPDM	20			
	150 x 80	165.1 x 88.9	G	EPDM	20			
	150 x 100	165.1 x 114.3	G	EPDM	20			
Fig. 723	32 x 15	42.2 x 21.3	T	EPDM	12	448a/06		
	32 x 20	42.2 x 26.7	T	EPDM	12			
	32 x 25	42.2 x 33.7	T	EPDM	12			
	40 x 15	48.3 x 21.3	T	EPDM	12			
	40 x 20	48.3 x 26.7	T	EPDM	12			
	40 x 25	48.3 x 33.7	T	EPDM	12			
	50 x 15	60.3 x 21.3	T	EPDM	12			
	50 x 20	60.3 x 26.7	T	EPDM	12			
	50 x 25	60.3 x 33.7	T	EPDM	12			
	65 x 15	76.1 x 21.3	T	EPDM	12			
	65 x 20	76.1 x 26.7	T	EPDM	12			
	65 x 25	76.1 x 33.7	T	EPDM	12			
	Transition Flange Model 7041	50	60.3	R&C	EPDM		16	448a/15
		65	76.1	R&C	EPDM		16	
80		88.9	R&C	EPDM	16			
100		114.3	R&C	EPDM	16			
150		165.1	R&C	EPDM	16			
200		219.1	R&C	EPDM	16			
Angle Pad Rigid Coupling Model Z05	32	42.4	R&C	EPDM	12	448a/16		
	40	48.3	R&C	EPDM	12			
	50	60.3	R&C	EPDM	12			
	65	76.1	R&C	EPDM	12			
	80	88.9	R&C	EPDM	12			
	100	114.3	R&C	EPDM	12			
	125	139.7	R&C	EPDM	12			
	150	165.1	R&C	EPDM	12			
	200	219.1	R&C	EPDM	12			
	300	323.9	R&C	EPDM	20			
Angle Pad Rigid Coupling Model Z07	32	42.4	R&C	EPDM	20	448a/17		
	40	48.3	R&C	EPDM	20			
	50	60.3	R&C	EPDM	20			
	65	76.1	R&C	EPDM	20			
	80	88.9	R&C	EPDM	20			
	100	114.3	R&C	EPDM	20			
	125	139.7	R&C	EPDM	20			
	150	165.1	R&C	EPDM	20			
	200	219.1	R&C	EPDM	20			
	250	273.0	R&C	EPDM	20			
	300	323.9	R&C	EPDM	20			

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Pipe Fittings (SHURJOINT)

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
90° Elbows Fig. 7110	60.3,76.1,88.9,114.3,139.7,165.1,219.1	20	448a/07
45° Elbows Fig. 7111	60.3,76.1,88.9,114.3,139.7,165.1,219.1	20	448a/08
Tees - Fig. 7120	60.3,76.1,88.9,114.3,139.7,165.1,219.1	20	448a/09
Caps. - Fig. 7160	60.3,76.1,88.9,114.3,139.7,165.1,219.1	20	448a/10
Concentric reducer - Fig. 7150	76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 165.1 x 88.9, 165.1 x 114.3, 219.1 x 165.1	20	448a/11

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Reducing tee - Fig. 7121	114.3 x 114.3 x 76.1, 114.3 x 114.3 x 88.9, 165.1 x 165.1 x 88.9, 219.1 x 219.1 x 114.3, 219.1 x 219.1 x 165.1	20	448a/12
Pitcher Tee - Fig. 7133	114.3 x 114.3 x 76.1, BSP thread	20	448a/14
Short Radius 90° Elbow - Fig 901	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 219.1	20	448a/18
Short Radius Tee - Fig 903	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 219.1	20	448a/19

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Certificate No: 988Ba to LPS 1219 issue 3

Pipe Couplings (AQUILA)

Product Name	Nominal Size	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
1N - Flexible Coupling	25	33.7	R&C	EPDM	25	988Ba/01
	32	42.4	R&C	EPDM	25	
	40	48.3	R&C	EPDM	25	
	50	60.3	R&C	EPDM	25	
	65	73.0	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	108.0	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	133.0	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25	
	150	159.0	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
	150	168.3	R&C	EPDM	25	
1G - Rigid Coupling	200	219.1	R&C	EPDM	25	988Ba/02
	25	33.7	R&C	EPDM	25	
	32	42.4	R&C	EPDM	25	
	40	48.3	R&C	EPDM	25	
	50	60.3	R&C	EPDM	25	
	65	73.0	R&C	EPDM	25	
	65	76.1	R&C	EPDM	25	
	80	88.9	R&C	EPDM	25	
	100	108.0	R&C	EPDM	25	
	100	114.3	R&C	EPDM	25	
	125	133.0	R&C	EPDM	25	
	125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25	
	150	159.0	R&C	EPDM	25	
	150	165.1	R&C	EPDM	25	
150	168.3	R&C	EPDM	25		
1GS - Light Duty Rigid Coupling	200	219.1	R&C	EPDM	25	988Ba/04
	65	76.1	R&C	EPDM	16	
	80	88.9	R&C	EPDM	16	
	100	108.0	R&C	EPDM	16	
	100	114.3	R&C	EPDM	16	
	125	139.7	R&C	EPDM	16	
	125	141.3	R&C	EPDM	16	
	150	159.0	R&C	EPDM	16	
	150	165.1	R&C	EPDM	16	
	150	168.3	R&C	EPDM	16	
	150	165.1	R&C	EPDM	16	
	150	168.3	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.		
3J - Mechanical Tee, Threaded Outlet	100 x 65	114.3 x 76.1	T	EPDM	16	988Ba/05		
	100 x 80	114.3 x 88.9	T	EPDM	16			
	125 x 65	139.7 x 76.1	T	EPDM	16			
	125 x 80	139.7 x 88.9	T	EPDM	16			
	125 x 100	139.7 x 114.3	T	EPDM	16			
	150 x 65	165.1 x 76.1	T	EPDM	16			
	150 x 80	165.1 x 88.9	T	EPDM	16			
	150 x 100	165.1 x 114.3	T	EPDM	16			
	150 x 65	168.3 x 76.1	T	EPDM	16			
	150 x 80	168.3 x 88.9	T	EPDM	16			
	150 x 100	168.3 x 114.3	T	EPDM	16			
	200 x 65	219.1 x 76.1	T	EPDM	16			
	200 x 80	219.1 x 88.9	T	EPDM	16			
	200 x 100	219.1 x 114.3	T	EPDM	16			
	3G - Mechanical Tee, Grooved Outlet	100 x 65	114.3 x 76.1	G	EPDM		16	988Ba/06
		100 x 80	114.3 x 88.9	G	EPDM		16	
		125 x 65	139.7 x 76.1	G	EPDM		16	
125 x 80		139.7 x 88.9	G	EPDM	16			
125 x 100		139.7 x 114.3	G	EPDM	16			
150 x 65		165.1 x 76.1	G	EPDM	16			
150 x 80		165.1 x 88.9	G	EPDM	16			
150 x 100		165.1 x 114.3	G	EPDM	16			
150 x 65		168.3 x 76.1	G	EPDM	16			
150 x 80		168.3 x 88.9	G	EPDM	16			
150 x 100		168.3 x 114.3	G	EPDM	16			
200 x 65		219.1 x 76.1	G	EPDM	16			
200 x 80		219.1 x 88.9	G	EPDM	16			
200 x 100		219.1 x 114.3	G	EPDM	16			
321 - Grooved Flange		40	48.3	R&C	EPDM	16	988Ba/08	
		50	60.3	R&C	EPDM	16		
		65	76.1	R&C	EPDM	16		
	80	88.9	R&C	EPDM	16			
	100	114.3	R&C	EPDM	16			
	125	139.7	R&C	EPDM	16			
	150	165.1	R&C	EPDM	16			
	150	168.3	R&C	EPDM	16			
	200	219.1	R&C	EPDM	16			

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Pipe Fittings (AQUILA)

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
90 - 90° Elbow	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Ba/09
90S - 90° Short Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988Ba/10
130 - Tee	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Ba/11
130S - Short Tee	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988Ba/12
120 - 45° Elbow	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Ba/13
300 - Cap	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Ba/14
180 - Cross	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	25	988Ba/15
110 - 22.5° Elbow	76.1, 88.9, 114.3, 139.7, 165.1, 219.1	25	988Ba/16
105 - 11.25° Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 219.1	25	988Ba/17
321G - Grooved Flange Adaptor	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	16	988Ba/18
240 - Grooved Concentric Reducer	42.4 x 33.7, 48.3 x 33.7, 48.3 x 42.4, 60.3 x 33.7, 60.3 x 42.4, 60.3 x 48.3, 76.1 x 42.4, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 165.1 x 114.3, 165.1 x 139.7, 168.3 x 114.3, 168.3 x 139.7, 219.1 x 88.9, 219.1 x 114.3, 219.1 x 139.7, 219.1 x 168.3	25	988Ba/19
240N - Female Threaded Concentric Reducer	60.3 x 26.9, 60.3 x 33.7, 60.3 x 42.4, 60.3 x 48.3, 76.1 x 42.4, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 219.1 x 88.9	25	988Ba/20

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Pipe Outside Diameter (mm)	Max Working Pressure (bar)	LPCB Ref. No.
130R - Reducing Tee	60.3 x 33.7, 60.3 x 48.3, 76.1 x 48.3, 76.1 x 60.3, 88.9 x 33.7, 88.9 x 48.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 33.7, 114.3 x 48.3, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 139.7 x 114.3, 165.1 x 88.9, 165.1 x 114.3, 165.1 x 139.7, 168.3 x 60.3, 168.3 x 76.1, 168.3 x 88.9, 168.3 x 114.3, 168.3 x 139.7, 219.1 x 60.3, 219.1 x 88.9, 219.1 x 114.3, 219.1 x 168.3	25	988Ba/21

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Certificate No: 669a to LPS 1219

Grinnell Fittings

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 201 45 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/07
Grinnell Fig 501 45 degree Elbow	42.2, 48.3, 273.0, 323.9	20	
Grinnell Fig 501 'G-FIRE' 45 degree Elbow	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	669a/21
Grinnell Fig 210 90 Degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/08
Grinnell Fig 510 90 Degree Elbow	273.0, 323.9	20	
Grinnell Fig 510 'G-FIRE' 90 Degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	669a/22
Grinnell Fig 219 Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/09
Grinnell Fig 519 Tee	273.0, 323.9	20	
Grinnell Fig 519 'G-FIRE' Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	669a/23
Grinnell Fig 260 End Cap	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/10
Grinnell Fig 510S 'G-FIRE' 90 Degree Short Elbow	60.3, 76.1, 88.9, 114.3, 168.3, 219.1	20	669a/13
Grinnell Fig 519S 'G-FIRE' Short Tee	60.3, 76.1, 88.9, 114.3, 168.3, 219.1	20	669a/14
Grinnell Fig 212/512 22.5 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 168.3, 219.1	20	669a/17
Grinnell Fig 211/511 11.25 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 168.3, 219.1	20	669a/18
Grinnell Fig 250/550 Concentric Reducer	48.3x42.2, 273.0x168.3, 273.0x219.1, 323.9x168.3, 323.9x219.1, 323.9x273.0	20	669a/12
Grinnell Fig 221/521 Reducing Tee	76.1x76.1x60.3, 88.9x88.9x48.3, 88.9x88.9x76.1, 114.3x114.3x76.1, 139.7x139.7x76.1, 139.7x139.7x88.9, 139.7x139.7x114.3, 168.3x168.3x76.1, 219.1x219.1x114.3, 219.1x219.1x168.3	20	669a/15

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Certificate No: 169h to LPS1219

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Pipe Fittings

Product Name	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Grinnell Fig 222	114.3 x 114.3 x 76.1 BSP thread	20	169h/01

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Certificate No: 104-1a

Certificate No: 078a

Certificate No: 491a

Pipe Couplings

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Firelock Outlet-Tee Style 922	32 x 15	42.4 x 21.3	T	EPDM	16	491a/27
	32 x 18	42.4 x 26.9	T	EPDM	16	
	40 x 15	48.3 x 21.3	T	EPDM	16	
	40 x 18	48.3 x 26.9	T	EPDM	16	
	40 x 25	48.3 x 33.7	T	EPDM	16	
	50 x 15	60.3 x 21.3	T	EPDM	16	
	50 x 18	60.3 x 26.9	T	EPDM	16	
	50 x 21	60.3 x 33.7	T	EPDM	16	
	65 x 15	76.1 x 21.3	T	EPDM	16	
	65 x 18	76.1 x 26.9	T	EPDM	16	
Firelock Sprinkler Outlet Tee Style 912	65 x 21	76.1 x 33.7	T	EPDM	16	104-1a/34
	25 x 15	33.7 x 21.3	T	EDPM	16	
Mechanical Tees Style 920	32 x 15	42.4 x 21.3	T	EDPM	16	104-1a/11
	40 x 15	48.3 x 21.3	T	EDPM	16	
Mechanical Tees Style 920N	80 x 32	88.9 x 42.4	T	EPDM	20	104-1a/26
	50 x 32	60.3 x 42.4	T	EPDM	20	
	50 x 32	60.3 x 42.4	G	EPDM	20	
	50 x 40	60.3 x 48.3	T	EPDM	20	
	50 x 40	60.3 x 48.3	G	EPDM	20	
	50 x 15	60.3 x 21.3	T	EPDM	20	
	50 x 20	60.3 x 26.9	T	EPDM	20	
	x 25	73 x 33.7	T	EPDM	20	
	x 32	73 x 42.4	T	EPDM	20	
	x 32	73 x 42.4	G	EPDM	20	
	x 40	73 x 48.4	T	EPDM	20	
	x 40	73 x 48.3	G	EPDM	20	
	x 15	73 x 21.3	T	EPDM	20	
	x 15	73 x 26.7	T	EPDM	20	
	80 x 15	88.9 x 21.3	T	EPDM	20	
	80 x 20	88.9 x 26.9	T	EPDM	20	
	80 x 25	88.9 x 33.7	T	EPDM	20	
	80 x 32	88.9 x 42.4	T	EPDM	20	
	80 x 32	88.9 x 42.4	G	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	100 x 20	114.3 x 26.9	T	EPDM	20	
	100 x 25	114.3 x 33.7	T	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 15	114.3 x 21.3	T	EPDM	20	
	100 x 32	114.3 x 42.4	T	EPDM	20	
100 x 32	114.3 x 42.4	G	EPDM	20		
100 x 40	114.3 x 48.3	T	EPDM	20		
100 x 40	114.3 x 48.3	G	EPDM	20		
100 x 50	114.3 x 60.3	T	EPDM	20		
150 x 50	114.3 x 60.3	G	EPDM	20		
150 x 32	165.1 x 42.4	T	EPDM	20		
150 x 32	168.3 x 42.4	T	EPDM	20		

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 50	165.1 x 60.3	T	EPDM	20	491a/34
	150 x 32	168.3 x 42.4	G	EPDM	20	104-1a/26
	150 x 40	168.3 x 48.3	T	EPDM	20	
	150 x 40	168.3 x 48.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	T	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	x 32	108 x 42.2	T	EPDM	20	
	x 40	108 x 48.3	T	EPDM	20	
	x 50	159 x 60.3	T	EPDM	20	
	65 x 32	76.1 x 42.4	T	EPDM	20	
	65 x 32	76.1 x 42.4	G	EPDM	20	
	65 x 40	76.1 x 48.3	T	EPDM	20	
	65 x 40	76.1 x 48.3	G	EPDM	20	
	50 x 25	60.3 x 33.4	T	EPDM	20	
Style 005H	50	60.3	R&C	EPDM	16 ⁽³⁾	104-1a/01
	50	73.0 ⁽¹⁾	R&C	EPDM	16 ⁽³⁾	
	65	76.1	R&C	EPDM	16 ⁽³⁾	
	80	88.9	R&C	EPDM	16 ⁽³⁾	
	80	108.0 ⁽¹⁾	R&C	EPDM	16 ⁽³⁾	
	100	114.3	R&C	EPDM	16 ⁽³⁾	
	100	133.4 ⁽¹⁾	R&C	EPDM	16 ⁽³⁾	
	125	139.7	R&C	EPDM	16 ⁽³⁾	
	125	141.3 ⁽¹⁾	R&C	EPDM	16 ⁽³⁾	
	125	158.8 ⁽¹⁾	R&C	EPDM	16 ⁽³⁾	
	150	165.1	R&C	EPDM	16 ⁽³⁾	
	150	168.3	R&C	EPDM	16 ⁽³⁾	
	200	219.1	R&C	EPDM	16	
Style 009	65	73.0	R&C	EPDM	20	104-1a/31
Style 009V	32	42.4	R&C	EPDM	20	104-1a/32
	100	114.3	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
Style 07	25	33.7	R&C	EPDM	40 ⁽³⁾	104-1a/02
	32	42.4	R&C	EPDM	40 ⁽³⁾	
	40	48.3	R&C	EPDM	40 ⁽³⁾	
	50	60.3	R&C	EPDM	40 ⁽³⁾	
	50	73.0 ⁽¹⁾	R&C	EPDM	40 ⁽³⁾	
	65	76.1	R&C	EPDM	40 ⁽³⁾	
	80	88.9	R&C	EPDM	40 ⁽³⁾	
	80	108.0 ⁽¹⁾	R&C	EPDM	40 ⁽³⁾	
	100	114.3	R&C	EPDM	40 ⁽³⁾	
	100	133.4 ⁽¹⁾	R&C	EPDM	20 ⁽³⁾	
	125	139.7	R&C	EPDM	20 ⁽³⁾	
	125	141.3 ⁽¹⁾	R&C	EPDM	20 ⁽³⁾	
	125	158.8 ⁽¹⁾	R&C	EPDM	40 ⁽³⁾	
	150	165.1	R&C	EPDM	40 ⁽³⁾	
	150	168.3	R&C	EPDM	40 ⁽³⁾	
	200	219.1	R&C	EPDM	35 ⁽³⁾	
Style 741 (Range adaptors)	150	165.1	R&C	EPDM	20	104-1a/10
Style 741 (Flange adaptors)	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
Style 741 (Range adaptors)	125	139.7	R&C	EPDM	20	
Style 741 (Vic-Flange Adaptors)	100	114.3	R&C	EPDM	20	
Style 75	40	48.3	R&C	EPDM	20	104-1a/03
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 750 Reducing	50 x 40	60.3 x 48.3	R&C	EPDM	20	104-1a/05
	80 x 50	88.9 x 60.3	R&C	EPDM	20	
	100 x 50	114.3 x 60.3	R&C	EPDM	20	
	100 x 80	114.3 x 88.9	R&C	EPDM	20	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
	150 x 100	165.1 x 114.3	R&C	EPDM	20	
	200 x 150	219.1 x 165.1	R&C	EPDM	20	
Style 77	65 x 50	76.1 x 60.3	R&C	EPDM	20	078a/08
	80 x 65	88.9 x 76.1	R&C	EPDM	20	
	100 x 65	114.3 x 76.1	R&C	EPDM	16	078a/09
	150 x 80	165.1 x 88.9	R&C	EPDM	15	078a/10
	20	26.9	R&C	EPDM	20	104-1a/04
	25	33.7	R&C	EPDM	20 ⁽³⁾	
	32	42.4	R&C	EPDM	20 ⁽³⁾	
	40	48.3	R&C	EPDM	20 ⁽³⁾	
	50	60.3	R&C	EPDM	20 ⁽³⁾	
	50	73.0 ⁽¹⁾	R&C	EPDM	20 ⁽³⁾	
	65	76.2	R&C	EPDM	20 ⁽³⁾	
	80	88.9	R&C	EPDM	20 ⁽³⁾	
	100	114.3	R&C	EPDM	20 ⁽³⁾	
	125	139.7	R&C	EPDM	20 ⁽³⁾	
	125	141.3 ⁽¹⁾	R&C	EPDM	20 ⁽³⁾	
	150	165.1	R&C	EPDM	20 ⁽³⁾	
	150	168.3	R&C	EPDM	20 ⁽³⁾	
200	219.1	R&C	EPDM	20 ⁽³⁾		
Style 920	80 x 40	88.9 x 48.3	T	EPDM	20	104-1a/11
	80 x 40	88.9 x 48.3	G	EPDM	20	
	100 x 32	114.3 x 42.4	T	EPDM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 65	114.3	T(2.5 in BSP)	EPDM	20	078a/13
	100 x 65	114.3 x 76.1	G	EPDM	20	078a/14
	100 x 80	114.3 x 88.9	T	EPDM	20	104-1a/11
	125 x 65	141.3 x 76.1	G	EPDM	20	491a/33
	150 x 40	165.1 x 48.3	G	EPDM	20	104-1a/11
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 50	165.1	T(2.5 in BSP)	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	165.1 x 73.0	G	EPDM	20	078a/14
	150 x 65	168.3 x 76.1	G	EPDM	20	104-1a/14
	150 x 65	165.1 x 76.1	G	EPDM	20	104-1a/11
	150 x 80	165.1 x 88.9	T	EPDM	20	
	150 x 80	168.3 x 88.9	G	EPDM	20	078a/14
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	165.1 x 114.3	T	EPDM	20	104-1a/11
	150 x 100	168.3 x 114.3	G	EPDM	20	078a/14
	200 x 50	219.1 x 60.3	G	EPDM	20	491a/33
150 x 100	165.1 x 114.3	G	EPDM	20	078a/14	
200 x 65	219.1 x 76.1	T	EPDM	20	104-1a/11	
200 x 65	219.1 x 76.1	G	EPDM	20	491a/33	
200 x 80	219.1 x 88.9	T	EPDM	20	104-1a/11	
200 x 80	219.1 x 88.9	G	EPDM	20	104-1a/08	
200 x 100	219.1 x 114.3	G	EPDM	20		
200 x 100	219.1 x 114.3	T	EPDM	20	104-1a/11	
Style 927	32 x 15	42.4 x 21.3	T	EPDM	12	104-1a/09
	32 x 20	42.4 x 26.7	T	EPDM	12	
	32 x 25	42.4 x 26.9	T	EPDM	12	
	40 x 15	48.3 x 21.3	T	EPDM	12	
	40 x 20	48.3 x 26.9	T	EPDM	12	
	40 x 25	48.3 x 33.7	T	EPDM	12	
	50 x 15	60.3 x 21.3	T	EPDM	12	
	50 x 20	60.3 x 26.9	T	EPDM	12	
	50 x 25	60.3 x 33.7	T	EPDM	12	
	Victaulic Mechanical Tees	100 x 50	114.3 x 60.3	G	EPDM	20
	100 x 80	114.3 x 88.9	G	EPDM	20	

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.	
Style 009N	150 x 50	165.1 x 60.3	G	EPDM	15	104-1a/07	
	150 x 80	165.1 x 88.9	G	EPDM	15		
	150 x 100	165.1 x 114.3	G	EPDM	15		
	Style 009H	200 x 80	219.1 x 88.9	G	EPDM	20	104-1a/08
		200 x 100	219.1 x 114.3	G	EPDM	20	
	Style 009N	32	42.2	R&C	EPDM	25 ⁽³⁾	104-1a/36
		40	48.3	R&C	EPDM	25 ⁽³⁾	
		50	60.3	R&C	EPDM	25 ⁽³⁾	
		65	73.0	R&C	EPDM	25 ⁽³⁾	
		65	76.1	R&C	EPDM	25 ⁽³⁾	
80		88.9	R&C	EPDM	25 ⁽³⁾		
100		114.3	R&C	EPDM	25 ⁽³⁾		
125 ⁽²⁾		139.7	R&C	EPDM	25 ⁽³⁾		
125 ⁽²⁾		141.3	R&C	EPDM	25 ⁽³⁾		
150 ⁽²⁾		165.1	R&C	EPDM	25 ⁽³⁾		
150 ⁽²⁾		168.3	R&C	EPDM	25 ⁽³⁾		
200 ⁽²⁾		219.1	R&C	EPDM	25 ⁽³⁾		
Style 107N		125	139.7	R&C	EPDM	25	
	125	141.3	R&C	EPDM	25		
	150	165.1	R&C	EPDM	25		
	150	168.3	R&C	EPDM	25		
	200	219.1	R&C	EPDM	25		
Style 107N	250	273.0	R&C	EPDM	16	104-1a/37	
	300	323.9	R&C	EPDM	16		

Notes:

All these products to be installed in accordance with the relevant Victaulic Instructions.

- 1) These sizes are not suitable for installations that requires BS 1387 pipework due to the sizes not being included in that standard.
- 2) A bolt tightening torque of 125 ft lbf (170Nm) is required for these sizes.
- 3) These products are approved to the above stated maximum working pressures with zinc-electroplated bolts and nuts and also approved to 25 bar working pressure with hot dipped galvanized bolts and nuts.

Certificate No: 104-1a

Certificate No: 078a

Fittings

Product Name	Model No.	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
90° Elbow	10	20, 25, 32, 40, 50, 65, 80, 100, 150, 200	20	104-1a/12
90° Long Radius Elbow	100	125	20	078a/15
		50, 80, 100, 150, 200	20	104-1a/13
45° Elbow	11	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/14
45° Long Radius Elbow	110	65, 125	20	078a/16
		50, 80, 100, 150, 200	20	104-1a/15
22.5° Elbow	12	25, 32, 40, 50, 65, 80, 100, 150, 200	20	104-1a/16
11.25° Elbow	13	25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/17
Tee	20	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/18
Cross	35	125	20	078a/17
		20, 25, 32, 40, 50, 80, 100, 200	20	104-1a/19
Cap	60	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/20
45° Lateral	30	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/21
90° True Y	33	25, 32, 40, 50, 80, 100, 200	20	104-1a/22
Concentric Reducer	50	40 x 25, 50 x 20, 50 x 25, 50 x 32, 50 x 40, 80 x 25, 80 x 50, 100 x 125, 100 x 40, 100 x 50, 100 x 80, 200 x 80, 200 x 100	20	104-1a/23

PART 3: SECTION 8.1

PIPE COUPLINGS AND FITTINGS

Product Name	Model No.	Pipe Outside Diameter (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Eccentric Reducer	51	40 x 25, 50 x 20, 50 x 25, 50 x 32, 50 x 40, 80 x 25, 80 x 50, 100 x 125, 100 x 40, 100 x 50, 100 x 80, 200 x 80, 200 x 100 x 25, 80 x 80 x 40, 80 x 80 x 50, 100 x 100 x 25, 100 x 100 x 50, 100 x 100 x 80, 150 x 150 x 50, 150 x 150 x 100, 200 x 200 x 50, 200 x 200 x 80, 200 x 200 x 100, 200 x 200 x 150	20	
45° Reducing Lateral	30R	80 x 80 x 50, 100 x 100 x 50, 100 x 100 x 80, 200 x 200 x 100	20	104-1a/24
Reducing Tee Grooved	25	50 x 50 x 20, 50 x 50 x 25, 50 x 50 x 40, 80 x 80 x 25, 80 x 80 x 40, 80 x 80 x 50, 100 x 100 x 25, 100 x 100 x 50, 100 x 100 x 80, 150 x 150 x 50, 150 x 150 x 100, 200 x 200 x 50, 200 x 200 x 80, 200 x 200 x 100, 200 x 200 x 150	20	104-1a/25
Reducing Tee Threaded	29R	50 x 50 x 20, 50 x 50 x 25, 50 x 50 x 40, 80 x 80 x 25, 80 x 80 x 40, 80 x 80 x 50, 100 x 100 x 25, 100 x 100 x 50, 100 x 100 x 80, 150 x 150 x 50, 150 x 150 x 100, 200 x 200 x 50, 200 x 200 x 80, 200 x 200 x 100, 200 x 200 x 150	20	
Blank End Grooved (Radial Branch)		65, 125	20	078a/18
Pitcher Tee		100 x 100 x 2.5 in BSP	20	078a/19
Firelock	001	60.3, 73, 76.1, 88.9, 114.3, 139.7, 141.3, 165.1, 168.3, 219.1	16	104-1a/28
	002	60.3, 73, 76.1, 88.9, 114.3, 139.7, 141.3, 165.1, 168.3, 219.1	16	104-1a/29
	003	60.3, 73, 76.1, 88.9, 114.3, 139.7, 141.3, 165.1, 168.3, 219.1	16	104-1a/30

All couplings and fittings to be installed in accordance with the Victaulic Field Assembly and Installation Instruction handbook.

Certificate No: 104-1a to LPS 1219: Issue 3.1

Installation Ready Fittings

Product Name	Model No.	Pipe Outside Diameter (mm)	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
90° Elbow	101	42.4 ⁽¹⁾ , 48.3 ⁽¹⁾ , 60.3 ⁽²⁾ , 73.0 ⁽²⁾ , 76.1 ⁽²⁾	EPDM	25	104-1a/38
Tee	102	42.4 ⁽¹⁾ , 48.3 ⁽¹⁾ , 60.3 ⁽²⁾ , 73.0 ⁽²⁾ , 76.1 ⁽²⁾	EPDM	25	
45° Elbow	103	42.4 ⁽¹⁾ , 48.3 ⁽¹⁾ , 60.3 ⁽²⁾ , 73.0 ⁽²⁾ , 76.1 ⁽²⁾	EPDM	25	

Above items to be installed in accordance with Victaulic Instructions I-102_1 REV_B

- (1) A bolt torque of 60 ft lbf (81 Nm) is required for this size
- (2) A bolt torque of 70 ft lbf (95 Nm) is required for this size

Certificate No: 104-1b to LPS 1219: Issue 3.1

IGS Fittings

Product Name	Model No.	Pipe Outside Diameter (mm)	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
90° Elbow	101	33.3 ⁽¹⁾	EPDM	25	104-1b/01
Tee	102	33.3 ⁽¹⁾	EPDM	25	104-1b/02
Male Threaded x Grooved Adaptor	140	33.3	-	25	104-1b/03
Female Threaded x Grooved Adaptor	141	33.3	-	25	104-1b/04
Welded Outlet	142	33.3	-	25	104-1b/05
Close Nipple	143	33.3	-	25	104-1b/06
Female Threaded x Grooved Elbow	145	33.3	-	25	104-1b/07
Cap	146	33.3	-	25	104-1b/08
Sprinkler Reducer outlet	148	33.3	-	25	104-1b/09
Installation-Ready rigid coupling	108	33.3	EPDM	25	104-1b/10
Grooved Flexible Drop Outlet-T	922	33.3 ⁽¹⁾	EPDM	25	104-1b/11

Notes:

Above items to be installed in accordance with Victaulic Instructions 10.54 10161 Rev B for use with grooved flexible sprinkler connectors in wet applications.

(1) A bolt torque of 60 ft lbf (81 Nm) is required for this item

PART 3: SECTION 8.2

FLEXIBLE DROPS

This section lists products approved in accordance with:

- LPS 1261 *Requirements for testing flexible hoses for sprinkler systems.*

Flexible pipes may be used in different ways within a sprinkler system. For example some products are suitable for use behind ceiling grids whilst others are suitable for connecting supplies to storage racks. The user should contact the manufacturer to ensure they specify the correct type.

A wide range of flexible drop pipe lengths are available in these listings. The end users should ensure the selection of appropriate product with due regard to the installation codes and rules applicable to the territories in which these products are being installed.

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Certificate No: 1298a to LPS 1261: Issue 02 (Draft)

Daejin Sanup Co. Genie-Systems DJ25UB – 25 mm Unbraided Flexible Sprinkler Hose

Product Name	Length (mm)	Nominal Size / Connection Supply	Nominal Size / Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
DJ25UB-700	700	1 NPT/PT external thread	1/2" NPT/PT internal thread	16	1298a/01
DJ25UB-1000	1000	1 NPT/PT external thread	3/4" NPT/PT internal thread 1/2" NPT/PT internal thread	16	
DJ25UB-1200	1200	1 NPT/PT external thread	3/4" NPT/PT internal thread 1/2" NPT/PT internal thread	16	
DJ25UB-1500	1500	1 NPT/PT external thread	3/4" NPT/PT internal thread 1/2" NPT/PT internal thread	16	
DJ25UB-1800	1800	1 NPT/PT external thread	3/4" NPT/PT internal thread 1/2" NPT/PT internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings).

- 1) Daejin Sanup Co. Genie-Systems DJ25UB sprinkler hose connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 700*	Yes	Yes	Yes
Up to 1000**	Yes	Yes	Yes
Up to 1500**	No	Yes	Yes
Up to 1800***	No	Yes	Yes

All pipework supplying Daejin Sanup Co. sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains

*up to 1 x 90° bends

**up to 2 x 90° bends

***up to 3 x 90° bends

- 2) In suspended ceilings Daejin Sanup Co. DJ25UB sprinkler connection must be installed in accordance with the Daejin Sanup Co. Installation Manuals IM-L-01(R.2) and IM-L-02(R.2) dated 02.06.2015.
- 3) In suspended ceilings the outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Certificate No: 566Aa to LPS 1261

Dong-A Flexible sprinkler connections approved to LPS 1261

Product Name	Length (mm)	Supply Nominal Size/Connection	Outlet Nominal Size/Connection	Maximum Working Pressure (bar)	LPCB Ref. No.
DA-SP-1_S (1,2,3,4)	700	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	566a/01
DA-SP-1 (1,2,3,4)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SP-2_S (1,2,3,4)	1,000	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SP-2 (1,2,3,4)	1,220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SP-3 (1,2,3,4)	1,540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SP-4 (1,2,3,4)	1,880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SP-5 (1,2,3,4)	2,540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SP-6 (1,2,3,4)	3,220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread or R1(1"BSPT) or 1"NPT External thread	16	
DA-SPN-1_S (1,2,3)	700	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	566a/02
DA-SPN-1 (1,2,3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-2_S (1,2,3)	1,000	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-2 (1,2,3)	1,220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT or Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	

PART 3: SECTION 8.2

FLEXIBLE DROPS

Product Name	Length (mm)	Supply Nominal Size/Connection	Outlet Nominal Size/Connection	Maximum Working Pressure (bar)	LPCB Ref. No.
DA-SPN-3 (1,2,3)	1,540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPN-4 (1,2,3)	1,880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPN-5 (1,2,3)	2,540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPN-6 (1,2,3)	3,220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-1_S (1,2,3)	700	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	566a/03
DA-SPW-1 (1,2,3)	780	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-2_S (1,2,3)	1,000	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-2 (1,2,3)	1,220	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-3 (1,2,3)	1,540	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-4 (1,2,3)	1,880	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-5 (1,2,3)	2,540	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	
DA-SPW-6 (1,2,3)	3,220	R1(1"BSPT) or 1"NPTor R1.1/4(1.1/4"BSPT)External thread	Rc1/2(1/2"BSPT) or 1/2"NPTor Rc3/4(3/4"BSPT)or 3/4"NPT Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

(1) Dong-A sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 1220*	Yes	Yes	Yes
Up to 1880**	No	Yes	Yes
Up to 3220	No	No	Yes

All pipe work supplying Dong-A flexible sprinkler connections assemblies in pre-calculated systems shall be sized as Distribution mains

* For use with a 90 degree sprinkler reducer, this length is to 1000 mm

** For use with a 90 degree sprinkler reducer, this length is reduced to 1540 mm

The above applications apply to Dong-A flexible sprinkler connections with up to 3 x 90' bends and either straight or 90' reducers.

(2) In suspended ceilings Dong-A flexible sprinkler connections must be installed in accordance with Installation Instructions DASP000501.

(3) In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

(4) For special applications the outlet is 1" Nipple for connection to normal standard pipe fittings, installer must supply & install brackets to ensure that the sprinkler is secure.

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Certificate No: 764a

Flexhead Flexible Sprinkler Pipe

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
2024	600	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	764a/01
2036	900	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2048	1200	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2060	1500	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2072	1800	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2024H	600	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	764a/02
2036H	900	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	
2048H	1200	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	
2060H	1500	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	
2072H	1800	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1 Flexhead flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's	Pumped	
600	Yes	Yes	Yes
900	Yes	Yes	Yes
1200	Yes	Yes	Yes
1500	Yes	Yes	Yes
1800	Yes	Yes	Yes

All pipework supplying Flexhead flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

PART 3: SECTION 8.2

FLEXIBLE DROPS

The above applications apply to Flexhead Standard and Flexhead H with up to three bends of up to 90° each.

- In a suspended ceiling Flexhead flexible sprinkler connections must be installed in accordance with the Flexhead Installation Guide, designated FlexLPCB07.
- In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Certificate No: 566a to LPS 1261: Issue 1.2

Rapidrop SP, SPN & SPW Flexible Sprinkler Connectors

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
SP-1_S	700	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	566a/01
SP-1	780	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SP-2_S	1,000	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SP-2	1,220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SP-3	1,540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SP-4	1,880	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SP-5	2,540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SP-6	3,220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-1_S	700	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	566a/02
SPN-1	780	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-2_S	1,000	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-2	1,220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-3	1,540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-4	1,880	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-5	2,540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPN-6	3,220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	

PART 3: SECTION 8.2

FLEXIBLE DROPS

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
SPW-1_S	700	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	566a/03
SPW-1	780	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPW-2_S	1,000	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPW-2	1,220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPW-3	1,540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPW-4	1,880	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPW-5	2,540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
SPW-6	3,220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	

Notes for Rapidrop SP, SPN & SPW Flexible Sprinkler Connectors:

These flexible sprinkler connectors may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings).

- Rapidrop SP, SPN & SPW sprinkler connectors are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 780*	Yes	Yes	Yes
Up to 1000**	Yes	Yes	Yes
Up to 1540**	No	Yes	Yes
Up to 3220**	No	No	Yes

Pipework supplying Rapidrop flexible sprinkler connector assemblies in pre-calculated systems shall be sized as distribution mains. The above applications apply to Rapidrop flexible sprinkler connectors with:

* up to 2 x 90° bends, with a straight or 90° elbow reducer

** up to 3 x 90° bends, with a straight or 90° elbow reducer

- In suspended ceilings Rapidrop SP, SPN & SPW flexible sprinkler connectors must be installed in accordance with the Rapidrop installation instructions, Datasheet 3.03, issue D.
- In suspended ceilings the outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure the sprinkler is secure.

Certificate No: 566i to LPS 1261: Issue 03 draft

Rapidrop RD-SMB (Braided) & RD-SM (Unbraided) Flexible Sprinkler Connectors

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
RD-SMB-01	780	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	566i/01

PART 3: SECTION 8.2

FLEXIBLE DROPS

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
RD-SMB-02	1000	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SMB-03	1220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SMB-04	1540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SMB-05	1830	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SM-01	780	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	566i/02
RD-SM-02	1000	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SM-03	1220	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SM-04	1540	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SM-05	1830	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	
RD-SM-06	2500	R1 (1"BSPT), 1"NPT, R1¼ (1¼"BSPT), 1¼"NPT External thread	Rc½"BSPT, ½"NPT, Rc¾"BSPT, ¾"NPT Internal thread	16	

Notes for RD-SMB (Braided) & RD-SM (Unbraided) Flexible Sprinkler Connectors:

These flexible sprinkler connectors may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings).

1. Rapidrop RD-SMB (braided) flexible sprinkler connectors are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
780*	Yes	Yes	Yes
Up to 1830***	Yes	Yes	Yes

Rapidrop RD-SM (unbraided) sprinkler connectors are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
780**	Yes	Yes	Yes
Up to 1540***	No	Yes	Yes
Up to 2500***	No	No	Yes

Pipework supplying Rapidrop flexible sprinkler connector assemblies in pre-calculated systems shall be sized as distribution mains. The above applications apply to Rapidrop flexible sprinkler connectors with:

- * up to 1 x 90° bends, with a straight or 90° elbow reducer
- ** up to 2 x 90° bends, with a straight or 90° elbow reducer
- *** up to 3 x 90° bends, with a straight or 90° elbow reducer

2. In suspended ceilings Rapidrop RD-SMB flexible sprinkler connectors must be installed in accordance with the Rapidrop installation instructions, Datasheet 3.11, issue F and Rapidrop RD-SM flexible sprinkler connectors must be installed in accordance with the Rapidrop installation instructions, Datasheet 3.10, issue A.

3. In suspended ceilings the outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure the sprinkler is secure.

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Certificate No: 140d to LPS 1261

RASCOFLEX 28mm Braided & Unbraided Flexible Sprinkler Hose

Product Name	Length (mm)	Nominal Size / Connection Supply	Nominal Size / Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
RF070U	700	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	140d/01
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF100U	1000	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF120U	1200	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF150U	1500	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF180U	1800	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF070B	700	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	140d/02
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF100B	1000	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF120B	1200	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF150B	1500	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
RF180B	1800	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings).

- 1) RASCOFLEX RFXXXU (unbraided) sprinkler hose connections are approved for use in the following applications:

PART 3: SECTION 8.2

FLEXIBLE DROPS

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 1000*	Yes	Yes	Yes
Up to 1200**	Yes	Yes	Yes
Up to 1500**	No	Yes	Yes
Up to 1800***	No	Yes	Yes

RASCOFLEX RFXXXB (braided) sprinkler hose connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 1000*	Yes	Yes	Yes
Up to 1200**	Yes	Yes	Yes
Up to 1500**	Yes	Yes	Yes
Up to 1800***	Yes	Yes	Yes

All pipework supplying RASCOFLEX sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains

*up to 1 x 90° bends, with or without a 90° elbow reducer

**up to 2 x 90° bends, with or without a 90° elbow reducer

***up to 3 x 90° bends, with or without a 90° elbow reducer

- In suspended ceilings RASCOFLEX sprinkler connection must be installed in accordance with the RASCOFLEX installation instructions RF Inst. 1.0 dated 21.10.14.
- In suspended ceilings the outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Certificate No: 096i/01

Viking Flex Drop - 28mm Braided

Product Name	Length mm	Inlets	Outlet	MWP Bar	LPCB Ref. No.
VKFD28 B-07	700	1" NPT	1/2" NPT or BSPT	17.2	096i/01
VKFD28 B-10	1000	1" BSPT	3/4" NPT or BSPT		
VKFD28S B-12	1200	1 1/4" NPT	Female Straight		
VKFD28 B-15	1500	1 1/4" BSPT	90 degree Angle		
VKFD28 B-18	1800	Male			

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

- Viking Flex Drop sprinkler connections are approved for use in the following applications:

Hose diam (mm)	Length (mm)	Pre-calculated:		Fully hydraulically calculated:
		Town's	Pumped	
28	700	Yes	Yes	Yes
	1000	Yes	Yes	Yes
	1200	Yes	Yes	Yes
	1500	Yes	Yes	Yes
	1800	Yes	Yes	Yes

All pipework supplying Viking Flex Drop sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above restrictions apply to Viking Flex Drops with any configuration of inlet and outlet fittings and apply with up to three 90° bends (excluding a 90 angled outlet nipple).

- 2) In suspended ceiling Viking Flex Drop flexible sprinkler drops must be installed in accordance with Viking Installation manuals VKFD28-LPCB-CLIP or Installation manual 112107
- 3) In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

Certificate No: 096i/02

Viking Flex Drop - 28mm UnBraided

Product Name	Length mm	Inlets	Outlet	MWP Bar	LPCB Ref. No.
VKFD28 U-07	700	1" NPT	1/2" NPT or BSPT	13.8	096i/02
VKFD28 U-10	1000	1" BSPT	3/4" NPT or BSPT		
VKFD28 U-12	1200	1 1/4" NPT	Female, Straight		
VKFD28S U-15	1500	1 3/4" BSPT	90 degree Angle & 90 degree Angle & 90 degree Angle & 90 degree Angle & 90 degree Angle & 90 degree Angle & 90 degree Angle		
VKFD28 U-18	1800	Male			

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

- 1) Viking Flex Drop sprinkler connections are approved for use in the following applications:

Hose diam (mm)	Length (mm)	Pre-calculated:		Fully hydraulically calculated:
		Town's	Pumped	
28	700	Yes	Yes	Yes
	1000	Yes	Yes	Yes
	1200	Yes	Yes	Yes
	1500	Yes	Yes	Yes
	1800	Yes	Yes	Yes

All pipework supplying Viking Flex Drop sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above restrictions apply to Viking Flex Drops with any configuration of inlet and outlet fittings and apply with up to three 90° bends (excluding a 90 angled outlet nipple).

- 2) In suspended ceiling Viking Flex Drop flexible sprinkler drops must be installed in accordance with Viking Installation manuals VKFD28-LPCB-CLIP or Installation manual 112107
- 3) In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

PART 3: SECTION 8.2

FLEXIBLE DROPS

Tyco Building Services Products B.V. (Enschede)

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Certificate No: 169a to LPS 1261

Flexible Sprinkler Hose

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
YN25-700	700	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	169a/01
YN25-1000	1000	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-1200	1200	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-1500	1500	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-1800	1800	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-2000	2000	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-2500	2500	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-2700	2700	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-3100	3100	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BSPT) or NPT) Internal thread	16	
YN25-3700	3700	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2 or Rc3/4 (1/2" or 3/4" BS PT) or NPT) Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Tyco Fastflex flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		
	Town's main	Pumped	Fully Hydraulically calculated
700	Up to 2 x 90° bends	Up to 2 x 90° bends	Up to 2 x 90° bends
Up to 1200	No	Up to 2 x 90° bends	Up to 2 x 90° bends
Up to 1500	No	No	Up to 2 x 90° bends
Up to 3700	No	No	Up to 3 x 90° bends

All pipework supplying Fastflex flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above restrictions apply to Fastflex which includes a sprinkler reducer. Straight lengths can be used with a 90° outlet.

2. In suspended ceilings Fastflex flexible sprinkler connections must be installed in accordance with Fastflex Installation Guide Rev 1.

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Certificate No: 104I to LPS 1261

Victaulic VicFlex™ AH2 braided flexible sprinkler drops

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
AH2-31	790	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	104I/01
AH2-36	915	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-48	1220	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-60	1525	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-72	1830	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-31	790	1¼" x 1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-36	915	1¼" x 1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-48	1220	1¼" x 1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-60	1525	1¼" x 1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-72	1830	1¼" x 1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Victaulic flexible sprinkler connections are approved for use in the following applications:

Assembly length, mm	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
790 *	Yes	Yes	Yes
915 **	Yes	Yes	Yes
1220 **	Yes	Yes	Yes
1525 **	Yes	Yes	Yes
1830 **	Yes	Yes	Yes

All pipework supplying Victaulic flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above applications apply to Victaulic flexible drops with;
 *up to 2 x 90° bends, with or without, a 90° sprinkler reducer,
 ** up to 3 x 90° bends, with or without, a 90° sprinkler reducer.

2. In a suspended ceiling Victaulic flexible sprinkler connections must be installed using AB1 bracket assemblies in Accordance with either of the Victaulic Installation instructions, I-VicFlex.AB1/AB2/AB10 REV M; I-VicFlex.AB3 REV D; I-VicFlex.AB4/AB9 REV F; I-VicFlex.AB5 REV C; I-VicFlex.AB7 REV H; I-VicFlex.AB8 REV B.

PART 3: SECTION 8.2

FLEXIBLE DROPS

Certificate No: 104I to LPS 1261

Victaulic VicFlex™ AH2-CC grooved end braided flexible sprinkler drops.

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
AH2-31	790	1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	104I/04
AH2-36	910	1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-48	1220	1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-60	1525	1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH2-72	1830	1" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	

Notes:

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261.

These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Victaulic flexible sprinkler connections are approved for use in the following applications:

Assembly length, mm	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
790 *	Yes	Yes	Yes
915 **	Yes	Yes	Yes
1220 **	Yes	Yes	Yes
1525 **	Yes	Yes	Yes
1830 **	No	Yes	Yes

All pipework supplying Victaulic flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above applications apply to Victaulic flexible drops with;

*up to 2 x 90° bends, with or without, a 90° sprinkler reducer,

** up to 3 x 90° bends, with or without, a 90° sprinkler reducer.

2. In a suspended ceiling Victaulic flexible sprinkler connections must be installed using AB1 bracket assemblies in Accordance with the Victaulic Installation instructions, I-VicFlex.AB1/AB2/AB10 REV O.
3. In suspended ceilings, the outlet ferrule must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

Certificate No: 104I to LPS 1261

Victaulic VicFlex™ AH1 braided flexible sprinkler drops

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
AH1-31	790	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	104I/02
AH1-36	910	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-48	1220	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-60	1525	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	

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FLEXIBLE DROPS

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
AH1-72	1830	1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-31	790	1¼" x 1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-36	910	1¼" x 1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-48	1220	1¼" x 1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-60	1525	1¼" x 1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-72	1830	1¼" x 1"BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Victaulic flexible sprinkler connections are approved for use in the following applications:

Assembly length, mm	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
790 *	No	Yes	Yes
910 **	No	Yes	Yes
1220 **	No	Yes	Yes
1525 **	No	Yes	Yes
1830 **	No	Yes	Yes

All pipework supplying Victaulic flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above applications apply to Victaulic flexible drops with;
*up to 2 x 90° bends, with or without, a 90° sprinkler reducer,
** up to 3 x 90° bends, with or without, a 90° sprinkler reducer.

2. In a suspended ceiling Victaulic flexible sprinkler connections must be installed using AB1 bracket assemblies in Accordance with either of the Victaulic Installation Instructions, I-VicFlex.AB1/AB2/AB10 REV M; I-VicFlex.AB3 REV D; I-VicFlex.AB4/AB9 REV F; I-VicFlex.AB5 REV C; I-VicFlex.AB7 REV H; I-VicFlex.AB8 REV B.

Certificate No: 1041 to LPS 1261

Victaulic VicFlex™ AH1-CC grooved end braided flexible sprinkler drops.

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
AH1-31	790	0.8" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	1041/03
AH1-36	910	0.8" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-48	1220	0.8" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-60	1525	0.8" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	
AH1-72	1830	0.8" BSPT (or NPT) External thread	½" or ¾" BSPT (or NPT) Internal thread	16	

Notes:

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

PART 3: SECTION 8.2

FLEXIBLE DROPS

1. Victaulic flexible sprinkler connections are approved for use in the following applications:

Assembly length, mm	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
790 *	No	Yes	Yes
910 **	No	No	Yes
1220 **	No	No	Yes
1525 **	No	No	Yes
1830 **	No	No	Yes

All pipework supplying Victaulic flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above applications apply to Victaulic flexible drops with;

*up to 2 x 90° bends, with or without, a 90° sprinkler reducer,

** up to 3 x 90° bends, with or without, a 90° sprinkler reducer.

2. In a suspended ceiling Victaulic flexible sprinkler connections must be installed using AB1 bracket assemblies in Accordance with the Victaulic Installation instructions, I-VicFlex.AB1/AB2/AB10 REV O.
3. In suspended ceilings, the outlet ferrule must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Certificate No: 1254a to LPS 1261

Youngjin YJ28 – 28mm Braided & Unbraided Flexible Sprinkler Hose

Product Name	Length (mm)	Nominal Size / Connection Supply	Nominal Size / Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
YJ28-S-700	700	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	1254a/01
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-S-1000	1000	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-S-1200	1200	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-S-1500	1500	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-S-1800	1800	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-SB-700	700	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	1254a/02
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		

PART 3: SECTION 8.2

FLEXIBLE DROPS

Product Name	Length (mm)	Nominal Size / Connection Supply	Nominal Size / Connection Outlet	Maximum Working Pressure (bar)	LPCB Ref. No.
YJ28-SB-1000	1000	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-SB-1200	1200	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-SB-1500	1500	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		
YJ28-SB-1800	1800	1" BSPT/NPT external thread	½" BSPT/NPT internal thread	14	
		1¼" BSPT/NPT external thread	¾" BSPT/NPT internal thread		

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings).

- 1) Youngjin YJ28-S (unbraided) sprinkler hose connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 1000*	Yes	Yes	Yes
Up to 1200**	Yes	Yes	Yes
Up to 1500**	No	Yes	Yes
Up to 1800***	No	Yes	Yes

Youngjin YJ28-SB (braided) sprinkler hose connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 1000*	Yes	Yes	Yes
Up to 1200**	Yes	Yes	Yes
Up to 1500**	Yes	Yes	Yes
Up to 1800***	Yes	Yes	Yes

All pipework supplying Youngjin sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains

*up to 1 x 90° bends, with or without a 90° elbow reducer

**up to 2 x 90° bends, with or without a 90° elbow reducer

***up to 3 x 90° bends, with or without a 90° elbow reducer

- 2) In suspended ceilings Youngjin YJ28 sprinkler connection must be installed in accordance with the Youngjin installation instructions MNL_SP00 dated 10/20/2014.
- 3) In suspended ceilings the outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

PART 3: SECTION 8.3

LIGHTWEIGHT PIPEWORK SYSTEMS

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Lightweight Pipework Systems listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Geberit Mapress GmbH

40764 Langenfeld, Germany

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Certificate No: 1031a to TS1599 v5

Geberit Mapress Press-Fit Lightweight Galvanized Steel Sprinkler Pipework System

Product Name	Size / mm	LPCB Ref. No.
Pipe	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/01
Coupling	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/02
Slip Coupling	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/03
Bend 90°	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/04
Bend 90° with plain end	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/05
Bend 45°	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/06
Bend 45° with plain end	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/07
Reducer with plain end	28x22, 35x22, 35x28, 42x28, 42x35, 54x35, 54x42, 76.1x54, 88.9x54, 88.9x76.1, 108x76.1, 108x88.9	1031a/08
T-piece equal	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031a/09
T-piece reduced	28x22x28, 35x22x35, 35x28x35, 42x22x42, 42x28x42, 42x35x42, 54x22x54, 54x28x54, 54x35x54, 54x42x54, 76.1x22x76.1, 76.1x28x76.1, 76.1x35x76.1, 76.1x42x76.1, 76.1x54x76.1, 88.9x22x88.9, 88.9x28x88.9, 88.9x35x88.9, 88.9x42x88.9, 88.9x54x88.9, 88.9x76.1x88.9, 108x22x108, 108x28x108, 108x35x108, 108x42x108, 108x54x108, 108x76.1x108, 108x88.9x108	1031a/10
T-piece with female thread	22x1/2"x22, 22x3/4"x22, 28x1/2"x28, 28x3/4"x28, 28x1"x28, 35x1/2"x35, 35x3/4"x35, 42x1/2"x42, 42x3/4"x42, 54x1/2"x54, 54x3/4"x54, 54x2"x54, 76.1x3/4"x76.1, 76.1x2"x76.1, 88.9x3/4"x88.9, 88.9x2"x88.9, 108x3/4"x108, 108x2"x108	1031a/11
Adaptor with male thread	22x1/2", 22x3/4", 22x1", 28x3/4", 28x1", 28x1 1/4", 35x1 1/4", 35x1 1/2", 42x 1 1/4", 42x1 1/2", 54x1 1/2", 54x2", 76.1x2 1/2", 88.9x3"	1031a/12
Adaptor with female thread	22x3/4", 28x1/2", 28x1"	1031a/13
Adaptor with plain and welding end	15, 18, 22, 28, 35, 42, 54	1031a/14
Adaptor for groove systems	54	1031a/15
Adaptor with brass union nut	22x1", 22x 1 1/4", 22x 1 1/2", 28x1", 28x1 1/4", 28x1 1/2", 35x1 1/2", 35x2", 42x1 3/4", 42x2", 42x 2 1/4", 42x 2 3/8", 42x 2 1/2", 54x 2 1/2", 54x 2 3/4"	1031a/16
Adaptor union with male thread	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1031a/17
Adaptor union with female thread, nut made of stainless steel	22x3/4", 22x1", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1031a/18
Elbow adaptor 90° with male thread	22x3/4"	1031a/19
Elbow adaptor 90° with female thread	28x1/2"	1031a/20
Bend adaptor 90° with female thread	22x3/4", 28x1/2"	1031a/21
Straight union with press fittings on both ends	22, 28, 35, 42, 54	1031a/22
Flange PN 10 / 16 with pressing socket	76.1, 88.9, 108	1031a/23
Cap	22, 28, 35, 42, 54	1031a/24

PART 3: SECTION 8.3

LIGHTWEIGHT PIPEWORK SYSTEMS

Notes

1. The above Geberit Press-fit pipework and fittings are to be installed using the Geberit Mapress ECO301 and HCPS pressing tools only, in accordance with the Geberit Installation Instructions . These tools shall be serviced and maintained in accordance with manufacturers' stated guidelines.
2. Geberit Press-fit pipework and fittings may only be installed by LPCB approved or registered contractors who have undergone adequate training by the manufacturer.
3. Geberit Press-fit pipework and fittings shall be installed in accordance with the Geberit Installation Instructions, Issue 1. August 2011.
4. Geberit Press-fit pipework and fittings shall be installed and maintained in conformance with the LPC Rules for Automatic Sprinkler Installations.
5. The use of Geberit Press-fit pipework and fittings shall be recorded on LPS1048 certificates of conformity.
6. Where a Geberit Reducer is installed, a pipe hanger shall be used adjacent to the reducer on the larger pipe.
7. Where Geberit system pipework is connected to sprinklers in suspended ceilings using flexible drops, only LPCB Approved flexible drops shall be used.
8. Geberit Press-fit pipework and fittings are not compatible with lightweight piping systems from other manufacturers.

Certificate No: 1031b to TS1599 v5

Geberit Mapress Press-Fit Lightweight Stainless Steel Sprinkler Pipework System

Product Name	Size / mm	LPCB Ref. No.
Pipe	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/01
Coupling	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/02
Slip Coupling	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/03
Bend 90°	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/04
Bend 90° with plain end	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/05
Bend 45°	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/06
Bend 45° with plain end	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/07
Reducer with plain end	28x22, 35x22, 35x28, 42x28, 42x35, 54x35, 54x42, 76.1x54, 88.9x54, 88.9x76.1, 108x76.1, 108x88.9	1031b/08
T-piece equal	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/09
T-piece reduced	28x22x28, 35x22x35, 35x28x35, 42x22x42, 42x28x42, 42x35x42, 54x22x54, 54x28x54, 54x35x54, 54x42x54, 76.1x22x76.1, 76.1x28x76.1, 76.1x35x76.1, 76.1x42x76.1, 76.1x54x76.1, 88.9x22x88.9, 88.9x28x88.9, 88.9x35x88.9, 88.9x42x88.9, 88.9x54x88.9, 88.9x76.1x88.9, 108x22x108, 108x28x108, 108x35x108, 108x42x108, 108x54x108, 108x76.1x108, 108x88.9x108	1031b/10
T-piece with female thread	22x1/2"x22, 22x3/4"x22, 28x1/2"x28, 28x3/4"x28, 28x1"x28, 35x1/2"x35, 35x3/4"x35, 42x1/2"x42, 42x3/4"x42, 54x1/2"x54, 54x3/4"x54, 54x2"x54, 76.1x3/4"x76.1, 76.1x2"x76.1, 88.9x3/4"x88.9, 88.9x2"x88.9, 108x3/4"x108, 108x2"x108	1031b/11
Adaptor with male thread	22x1/2", 22x3/4", 22x1", 28x3/4", 28x1", 28x1 1/4", 35x1", 35x1 1/4", 35x1 1/2", 42x 1 1/4", 42x1 1/2", 54x1 1/2", 54x2", 76.1x2 1/2", 88.9x3"	1031b/12
Adaptor with female thread	22x1/2", 22x3/4", 22x1", 28x1/2", 28x3/4", 28x1", 28x1 1/4", 35x1", 35x1 1/4", 35x1 1/2", 42x 1 1/4", 42x1 1/2", 54x1 1/2", 54x2"	1031b/13
Adaptor with brass union nut	22x1", 22x 1 1/4", 22x 1 1/2", 28x1", 28x1 1/4", 28x1 1/2", 35x1 1/2", 42x1 3/4", 54x2 3/8", 76.1x3", 88.9x3 1/2"	1031b/14
Adaptor with stainless steel union nut	22x1", 28x1 1/2"	1031b/15
Adaptor union with male thread, nut made of stainless steel	22x1/2", 22x3/4", 22x1", 28x1/2", 28x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1031b/16
Adaptor union with male thread, nut made of brass	22x1/2", 22x3/4", 22x1", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1031b/17
Adaptor union with female thread, nut made of brass	22x3/4", 22x1", 28x1", 35x1 1/4", 42x 1 1/2", 54x2"	1031b/18
Adaptor union with female thread, nut made of stainless steel	22x3/4", 22x1", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1031b/19
Elbow adaptor 90° with male thread	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1031b/20
Elbow adaptor 90° with female thread	22x3/4", 28x1", 35x1 1/4"	1031b/21
Straight union with press fittings on both ends	22, 28, 35, 42, 54	1031b/22
Flange PN 10 / 16 with pressing socket	22, 28, 35, 42, 54, 76.1, 88.9, 108	1031b/23
Cap	22, 28, 35, 42, 54	1031b/24

Notes

1. The above Geberit Press-fit pipework and fittings are to be installed using the Geberit Mapress ECO301 and HCPS pressing tools only, in accordance with the Geberit Installation Instructions . These tools shall be serviced and maintained in accordance with manufacturers' stated guidelines.

PART 3: SECTION 8.3

LIGHTWEIGHT PIPEWORK SYSTEMS

2. Geberit Press-fit pipework and fittings may only be installed by LPCB approved or registered contractors who have undergone adequate training by the manufacturer.
3. Geberit Press-fit pipework and fittings shall be installed in accordance with the Geberit Installation Instructions, Issue 1. August 2011.
4. Geberit Press-fit pipework and fittings shall be installed and maintained in conformance with the LPC Rules for Automatic Sprinkler Installations.
5. The use of Geberit Press-fit pipework and fittings shall be recorded on LPS1048 certificates of conformity.
6. Where a Geberit Reducer is installed, a pipe hanger shall be used adjacent to the reducer on the larger pipe.
7. Where Geberit system pipework is connected to sprinklers in suspended ceilings using flexible drops, only LPCB Approved flexible drops shall be used.
8. Geberit Press-fit pipework and fittings are not compatible with lightweight piping systems from other manufacturers.

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Certificate No: 169f to TS1599 Issue draft 5

Grinnell G-Press Lightweight Galvanized Steel Sprinkler Pipework System

Product Name	Size/mm	LPCB Ref. No.
Pipe CS	22, 28, 35, 42, 54	169f/01
G05 Straight Coupling (2 x Press)	22, 28, 35, 42, 54	169f/02
G10 Slip Coupling (2 x Press)	22, 28, 35, 42, 54	169f/03
G15 90° Elbow (2 x Press)	22, 28, 35, 42, 54	169f/04
G16 90° Elbow (Press x plain end)	22, 28, 35, 42, 54	169f/05
G20 45° Elbow (2 x Press)	22, 28, 35, 42, 54	169f/06
G21 45° Elbow (Press x plain end)	22, 28, 35, 42, 54	169f/07
G25 90° Bend (2 x plain end)	22, 28, 35, 42, 54	169f/08
G30 Cross over (2 x plain end)	22, 28	169f/09
G35 Tee equal (3 x Press)	22, 28, 35, 42, 54	169f/10
G36 Tee reduced (3 x Press)	22x28x22, 28x22x28, 35x22x35, 35x28x35, 42x22x42, 42x28x42, 42x35x42, 54x22x54, 54x28x54, 54x35x54, 54x42x54	169f/11
G37 Tee threaded (Press x fem. thread x Press)	22x1/2"x22, 22x3/4"x22, 28x1/2"x28, 28x3/4"x28, 28x1"x28, 35x1/2"x35, 35x3/4"x35, 35x1x35, 42x1/2"x42, 42x3/4"x42, 42x1"x42, 54x1/2"x54, 54x3/4"x54, 54x1"x54	169f/12
G40 Reducer (Large Plain end x Press)	28x22, 35x22, 35x28, 42x28, 42x35, 54x35, 54x42,	169f/13
G41 Reducer (2 x Press)	28x22	169f/14
G51 Straight connector (Plain end x female thread)	22x1/2", 22x3/4"	169f/15
G46 Straight connector (Press x female thread)	22x3/4", 28x1/2", 28x3/4", 28x1", 35x1 1/4"	169f/16
G45 Straight connector (Press x male thread)	22x1/2", 22x3/4", 22x1", 28x3/4", 28x1", 28x1 1/4", 35x1", 35x1 1/4", 35x1 1/2", 42x1 1/4", 42x1 1/2", 54x1 1/2", 54x2"	169f/17
G47 Straight union (Press x male thread)	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	169f/18
G19 90° Angle adaptor (Press x male thread)	22x3/4"	169f/19
G17 90° Elbow (Press x male thread)	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2",	169f/20
G18 90° Elbow (Press x female thread)	22x1 1/2", 22x3/4", 28x1/2", 28x3/4", 28x1", 35x1 1/2", 35x3/4", 35x1"	169f/21
G48 Straight connector (Press x grooved)	28x33.7, 35x42.4, 42x48.3, 54x60.3	169f/22
G50 Stop end (1 x press)	22, 28, 35, 42, 54	169f/23

Notes

1. The above Grinnell G-Press pipework and fittings are to be installed using the Novopress pressing tool in accordance with the Grinnell G-Press User Manual. The tools shall be serviced and maintained in accordance with the manufacturer's stated guidelines.

PART 3: SECTION 8.3
LIGHTWEIGHT PIPEWORK SYSTEMS

2. Grinnell G-Press pipework and fittings may only be installed by LPCB Approved Sprinkler Contractors who have undergone adequate training by the manufacturer.
3. Grinnell G-Press pipework and fittings shall be installed in accordance with the Grinnell G-Press user Manual: Issue TYCENPRESS-10/11.
4. Grinnell G-Press pipework and fittings shall be installed and maintained in conformance with the LPC Rules for Automatic Sprinkler Installations.
5. The use of Grinnell G-Press Sprinkler System pipework and fittings shall be recorded on LPS1048 certificates of conformity.
6. Where a Grinnell Reducer is installed, a pipe hanger shall be used adjacent to the reducer on the larger pipe.
7. Where Grinnell system pipework is connected to sprinklers in suspended ceilings, only LPCB Approved flexible drops shall be used.
8. Grinnell G-Press pipework and fittings are not compatible with lightweight piping systems from other manufacturers.

Certificate No: 169g to TS1599 Issue draft 5

Grinnell G-Press Lightweight Stainless Steel Sprinkler Pipework System

Product Name	Size/mm	LPCB Ref. No.
Pipe SS (1.4401)	22, 28, 35, 42, 54	169g/01
G05 Straight Coupling (2 x Press)	22, 28, 35, 42, 54	169g/02
G10 Slip Coupling (2 x Press)	22, 28, 35, 42, 54	169g/03
G15 90° Elbow (2 x Press)	22, 28, 35, 42, 54	169g/04
G16 90° Elbow (Press x plain end)	22, 28, 35, 42, 54	169g/05
G20 45° Elbow (2 x Press)	22, 28, 35, 42, 54	169g/06
G21 45° Elbow (Press x plain end)	22, 28, 35, 42, 54	169g/07
G25 90° Bend (2 x plain end)	22, 28, 35, 42, 54	169g/08
G26 60° Bend (2 x plain end)	28, 35, 42, 54	169g/09
G27 30° Bend (2 x plain end)	28, 35, 42, 54	169g/10
G28 15° Bend (2 x plain end)	28, 35, 42, 54	169g/11
G30 Cross over (2 x plain end)	22, 28	169g/12
G35 Tee equal (3 x Press)	22, 28, 35, 42, 54	169g/13
G36 Tee reduced (3 x Press)	28x22x28, 35x22x35, 35x28x35, 42x22x42, 42x28x42, 42x35x42, 54x22x54, 54x28x54, 54x35x54, 54x42x54	169g/14
G37 Tee threaded (Press x fem. thread x Press)	22x1/2"x22, 22x3/4"x22, 28x1/2"x28, 28x3/4"x28, 28x1"x28, 35x1/2"x35, 35x3/4"x35, 35x1x35, 42x1/2"x42, 42x3/4"x42, 42x1"x42, 54x1/2"x54, 54x3/4"x54, 54x1"x54, 54x2"x54	169g/15
G40 Reducer (Large Plain end x Press)	28x22, 35x22, 35x28, 42x28, 42x35, 54x35, 54x42,	169g/16
G46 Straight connector (Press x female thread)	22x1/2", 22x3/4", 22x1", 28x3/4", 28x1", 28x1 1/4", 35x1", 35x1 1/4", 35x1 1/2", 42x1 1/4", 42x1 1/2", 54x1 1/2", 54x2"	169g/17
G45 Straight connector (Press x male thread)	22x1/2", 22x3/4", 22x1", 28x3/4", 28x1", 28x1 1/4", 35x1", 35x1 1/4", 35x1 1/2", 42x1 1/4", 42x1 1/2", 54x1 1/2", 54x2"	169g/18
G47 Straight union (Press x male thread)	22x1/2", 22x3/4", 22x1", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	169g/19
G51 Straight union (Press x female thread)	22x3/4", 22x1", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	169g/20
G19 90° Angle adaptor (Press x male thread)	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	169g/21
G14 90° Angle adaptor (Press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4", 28x1", 35x1/2", 35x3/4", 35x1", 35x1 1/4"	169g/22
G17 90° Elbow (Press x male thread)	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2",	169g/23
G18 90° Elbow (Press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4", 28x1", 35x1/2", 35x3/4", 35x1", 42x1 1/2", 54x2",	169g/24
G48 Straight connector (Press x grooved)	28x33.7, 35x42.4, 42x48.3, 54x60.3	169g/25
G50 Stop end (1 x press)	22, 28, 35, 42, 54	169g/26

Notes

PART 3: SECTION 8.3

LIGHTWEIGHT PIPEWORK SYSTEMS

1. The above Grinnell G-Press pipework and fittings are to be installed using the Novopress ECO301 pressing tool in accordance with the Grinnell G-Press User Manual. The tools shall be serviced and maintained in accordance with the manufacturer's stated guidelines.
2. Grinnell G-Press pipework and fittings may only be installed by LPCB Approved Sprinkler Contractors who have undergone adequate training by the manufacturer.
3. Grinnell G-Press pipework and fittings shall be installed in accordance with the Grinnell G-Press user Manual: Issue TYCENPRESS-10/11.
4. Grinnell G-Press pipework and fittings shall be installed and maintained in conformance with the LPC Rules for Automatic Sprinkler Installations.
5. The use of Grinnell G-Press Sprinkler System pipework and fittings shall be recorded on LPS1048 certificates of conformity.
6. Where a Grinnell Reducer is installed, a pipe hanger shall be used adjacent to the reducer on the larger pipe.
7. Where Grinnell system pipework is connected to sprinklers in suspended ceilings, only LPCB Approved flexible drops shall be used.
8. Grinnell G-Press pipework and fittings are not compatible with lightweight piping systems from other manufacturers.

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Certificate No: 1033a to TS1599: Issue draft 5

VSH XPress Lightweight Galvanized Steel Pipework System

Product Name	Description	Size/mm	LPCB Ref. No.
C 1461	Galvanised tube	22, 28, 35, 42, 54	1033a/01
C 1401	Straight Coupling (2 x Press)	22, 28, 35, 42, 54	1033a/02
C 1403	Slip Coupling (2 x Press)	22, 28, 35, 42, 54	1033a/03
C 1408	90° Elbow (2 x Press)	22, 28, 35, 42, 54	1033a/04
C 1411	90° Elbow (Press x plain end)	22, 28, 35, 42, 54	1033a/05
C 1413	45° Elbow (2 x Press)	22, 28, 35, 42, 54	1033a/06
C 1412	45° Elbow (Press x plain end)	22, 28, 35, 42, 54	1033a/07
C 1425	90° Bend (2 x plain end)	22, 28, 35, 42, 54	1033a/08
C 1417	Cross over (2 x plain end)	22, 28	1033a/09
C 1414	Tee equal (3 x Press)	22, 28, 35, 42, 54	1033a/10
C 1415	Tee reduced (3 x Press)	22x28x22, 28x22x28, 35x22x35, 35x28x35, 42x22x42, 42x28x42, 42x35x42, 54x22x54, 54x28x54, 54x35x54, 54x42x54	1033a/11
C 1418	Tee threaded (press x fem. thread x press)	22x1/2"x22, 22x3/4"x22, 28x1/2"x28, 28x3/4"x28, 28x1"x28, 35x1/2"x35, 35x3/4"x35, 35x1x35, 42x1/2"x42, 42x3/4"x42, 42x1"x42, 54x1/2"x54, 54x3/4"x54, 54x1"x54	1033a/12
C 1407	Reducer (Plain end x Press)	28x22, 35x22, 35x28, 42x28, 42x35, 54x35, 54x42	1033a/13
C 1439	Reducer (2 x Press)	28x22	1033a/14
C 1433	Straight connector (plain end x female thread)	22x1/2", 22x3/4"	1033a/15
C 1402	Straight connector (press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4", 28x1", 35x1/2", 35x3/4", 35x1", 35x1/4", 42x1/2", 54x2"	1033a/16
C 1405	Straight connector (press x male thread)	22x1/2", 22x3/4", 22x1", 28 x 3/4", 28x1", 35x1", 35x1/4", 42x1/2", 54x2"	1033a/17
C 1435	Straight union (Press x male thread)	22x3/4", 28x1", 35x1/4", 42x1/2", 54x2"	1033a/18
C 1428	90° Angle adaptor (Press x male thread)	22x3/4"	1033a/19
C 1430	90° Elbow (Press x male thread)	22x3/4", 28x1", 35x1/4", 42x1/2", 54x2",	1033a/20
C 1438	90° Elbow (Press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4", 28x1", 35x1/2", 35x3/4", 35x1"	1033a/21
C 1442	Transition connector (press x grooved)	28x33.7, 35x42.4, 42x48.3, 54x60.3	1033a/22
C 1429	Stop end (1 x press)	22, 28, 35, 42, 54	1033a/23
C 1443	Slip coupling (press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4"	1033a/24
C 1409	Angle adaptor (press x female thread)	22x1/2", 28x1/2", 35x1/2"	1033a/25

PART 3: SECTION 8.3
LIGHTWEIGHT PIPEWORK SYSTEMS

Product Name	Description	Size/mm	LPCB Ref. No.
C 1444	Straight union (press x female thread)	22x ³ / ₄ ", 28x1", 35x1 ¹ / ₄ ", 42x1 ¹ / ₂ ", 54x2"	1033a/26
C 1446	Coupling with nut (press x female thread)	22, 28, 35, 42, 54	1033a/27

Notes:

- The above VSH XPress pipework and fittings are to be installed using the Novopress ECO301, ACO201, ACO202, ECO201, ECO202, EFP2, EFP202 and Klauke UAP2 pressing tools in accordance with the VSH User Manual. These tools shall be serviced and maintained in accordance with the manufacturer's stated guidelines.
- VSH XPress pipework and fittings may only be installed by LPCB approved or registered contractors who have undergone adequate training by the manufacturer.
- VSH XPress pipework and fittings shall be installed in accordance with the VSH User Manual: XPress Sprinkler EN-12-1.0.
- VSH XPress pipework and fittings shall be installed and maintained in conformance with the LPC Rules for Automatic Sprinkler Installations.
- The use of VSH XPress Sprinkler System pipework and fittings shall be recorded on LPS1048 certificates of conformity.
- Where a VSH Reducer is installed, a pipe hanger shall be used adjacent to the reducer on the larger pipe.
- Where VSH system pipework is connected to sprinklers in suspended ceilings, only LPCB Approved flexible drops shall be used.
- VSH XPress pipework and fittings are not compatible with lightweight piping systems from other manufacturers.

Certificate No: 1033b to TS1599: Issue draft 5

VSH XPress Lightweight Stainless Steel Pipework System

Product Name	Description	Size/mm	LPCB Ref. No.
R 2750	Stainless steel tube 1.4401	22, 28, 35, 42, 54	1033b/01
R 2752	Stainless steel tube 1.4521	22, 28, 35, 42, 54	
R 2753	Stainless steel tube 1.4520	22, 28, 35, 42, 54	
R 2701	Straight Coupling (2 x Press)	22, 28, 35, 42, 54	1033b/02
R 2703	Slip Coupling (2 x Press)	22, 28, 35, 42, 54	1033b/03
R 2708	90° Elbow (2 x Press)	22, 28, 35, 42, 54	1033b/04
R 2711	90° Elbow (Press x plain end)	22, 28, 35, 42, 54	1033b/05
R 2713	45° Elbow (2 x Press)	22, 28, 35, 42, 54	1033b/06
R 2712	45° Elbow (Press x plain end)	22, 28, 35, 42, 54	1033b/07
R 2725	90° Bend (2 x plain end)	22, 28, 35, 42, 54	1033b/08
R 2724	60° Bend (2 x plain end)	28, 35, 42, 54	1033b/09
R 2723	30° Bend (2 x plain end)	28, 35, 42, 54	1033b/10
R 2722	15° Bend (2 x plain end)	28, 35, 42, 54	1033b/11
R 2717	Cross over (2 x plain end)	22, 28	1033b/12
R 2714	Tee equal (3 x Press)	22, 28, 35, 42, 54	1033b/13
R 2715	Tee reduced (3 x Press)	28x22x28, 35x22x35, 35x28x35, 42x22x42, 42x28x42, 42x35x42, 54x22x54, 54x28x54, 54x35x54, 54x42x54	1033b/14
R 2718	Tee threaded (Press x fem. thread x Press)	22x1/2"x22, 22x3/4"x22, 28x1/2"x28, 28x3/4"x28, 28x1"x28, 35x1/2"x35, 35x3/4"x35, 35x1x35, 42x1/2"x42, 42x3/4"x42, 42x1"x42, 54x1/2"x54, 54x3/4"x54, 54x1"x54, 54x2"x54	1033b/15
R 2707	Reducer (Plain end x Press)	28x22, 35x22, 35x28, 42x28, 42x35, 54x35, 54x42	1033b/16
R 2702	Straight connector (Press x female thread)	22x ¹ / ₂ ", 22x ³ / ₄ ", 22x1", 28x ¹ / ₂ ", 28x ³ / ₄ ", 28x1", 28x1 ¹ / ₄ ", 35x1", 35x1 ¹ / ₄ ", 35x1 ¹ / ₂ ", 42x1 ¹ / ₄ ", 42x1 ¹ / ₂ ", 54x1 ¹ / ₂ ", 54x2"	1033b/17
R 2705	Straight connector (Press x male thread)	22x ¹ / ₂ ", 22x ³ / ₄ ", 22x1", 28x ³ / ₄ ", 28x1", 28x1 ¹ / ₄ ", 35x1", 35x1 ¹ / ₄ ", 35x1 ¹ / ₂ ", 42x1 ¹ / ₄ ", 42x1 ¹ / ₂ ", 54x1 ¹ / ₂ ", 54x2"	1033b/18
R 2735	Straight union (Press x male thread)	22x ¹ / ₂ ", 22x ³ / ₄ ", 22x1", 28x1", 35x1 ¹ / ₄ ", 42x1 ¹ / ₂ ", 54x2"	1033b/19
R 2738	Straight union (Press x female thread)	22x ³ / ₄ ", 22x1", 28x1", 35x1 ¹ / ₄ ", 42x1 ¹ / ₂ ", 54x2"	1033b/20

PART 3: SECTION 8.3

LIGHTWEIGHT PIPEWORK SYSTEMS

Product Name	Description	Size/mm	LPCB Ref. No.
R 2728	90° Angle adaptor (Press x male thread)	22x3/4", 28x1", 35x1 1/4", 42x1 1/2", 54x2"	1033b/21
R 2709	90° Angle adaptor (Press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4", 28x1", 35x1/2", 35x3/4", 35x1", 35x1 1/4"	1033b/22
R 2704	Coupling with nut (press x female thread)	22, 28, 35, 42, 54	1033b/23
R 2726	Flanged connector (press x flange)	22, 28, 35, 42, 54	1033b/24
R 2748	Transition connector (press x grooved)	28x33.7, 35x42.4, 42x48.3, 54x60.3	1033b/25
R 2729	Stop end (1 x press)	22, 28, 35, 42, 54	1033b/26
R 2741	Slip coupling (press x female thread)	22x1/2", 22x3/4", 28x1/2", 28x3/4"	1033b/27
R 2736	Coupling (press x flat seal)	22x1 1/4", 22x1 1/2", 28x1 1/2", 35x2", 42x2 1/4", 54x2 3/4"	1033b/28

Notes:

1. The above VSH XPress pipework and fittings are to be installed using the Novopress ECO301, ACO201, ACO202, ECO201, ECO202, EFP2, EFP202 and Klauke UAP2 pressing tools in accordance with the VSH User Manual. These tools shall be serviced and maintained in accordance with the manufacturer's stated guidelines.
2. VSH XPress pipework and fittings may only be installed by LPCB Approved Sprinkler Contractors who have undergone adequate training by the manufacturer.
3. VSH XPress pipework and fittings shall be installed in accordance with the VSH User Manual: XPress Sprinkler EN-12-1.0.
4. VSH XPress pipework and fittings shall be installed and maintained in conformance with the LPC Rules for Automatic Sprinkler Installations.
5. The use of VSH XPress Sprinkler System pipework and fittings shall be recorded on LPS1048 certificates of conformity.
6. Where a VSH Reducer is installed, a pipe hanger shall be used adjacent to the reducer on the larger pipe.
7. Where VSH system pipework is connected to sprinklers in suspended ceilings, only LPCB Approved flexible drops shall be used.
8. VSH XPress pipework and fittings are not compatible with lightweight piping systems from other manufacturers.

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Pre-action control systems for use under the *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB (please contact LPCB for further details). The products shall be installed and maintained in accordance with the manufacturer's instructions.

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Certificate No: 034d

Certificate No: 034M

RELIABLE SINGLE INTERLOCK PRE-ACTION SYSTEM (Pre-action Control Valve Description)

Product Name	Size(s) (mm)	Mounting Attitude	Body Material	Type	Maximum Working Pressure	Flanged or Grooved	LPCB Ref. No.
BX/E	100	Vertical	Cast Iron	Pre-action	12 bar	Flanged	034d/01
	150	Vertical	Cast Iron	Pre-action	12 bar	Flanged	
DDX 4"	100	Verticle	Ductile Iron	Pre-action	17.2	Grooved	034M/01
DDX 6"	150	Verticle	Ductile Iron	Pre-action	17.2	Grooved	034m/01
DDX 165mm	165	Verticle	Ductile Iron	Pre-action	17.2	Grooved	

Approval Conditions:

- 1) The above pre-action system employs duplicate solenoid valves, which are manufactured by firms, as detailed below. One of each shall be used.
- 2) Solenoid valves shall be installed in parallel.
- 3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.
- 4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
- 5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
- 6) Connecting cables shall comply with BS 6387: 1994, classification C, W, Z evidenced by LPCB certification.
- 7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
- 8) Clean dry air shall be used.
- 9) The equipment must be installed, operated and maintained as prescribed in The Reliable Automatic Sprinkler Co Inc installation, operating and maintenance manuals "Bulletin 717 revision C" and "Bulletin 739 revision A".
- 11) The pre-action systems shall comply with the details specified in LPC Rules for Automatic sprinkler systems Technical Bulletin 21 or 208 Supplementary Requirements for sprinkler installations which can operate in the dry mode and in the LPC Rules for Automatic Sprinkler Installations.
- 12) The Reliable Automatic Sprinkler Company Inc are the firm responsible for the complete pre-action station, including electrics. It should be noted that only the equipment specifically referenced above is LPCB approved.

Certificate No: 034d

RELIABLE SINGLE INTERLOCK PRE-ACTION SYSTEM (Solenoid Valve Description)

Product Name	Manufacturer	Voltage (V)	Power (W)	LPCB Ref. No.
LV2LBX25	Skinner	24 DC	11	034d/01
R8210A107	ASCO	24 DC	10.6	

Approval Conditions:

- 1) The above pre-action system employs duplicate solenoid valves, which are manufactured by firms, as detailed above. One of each shall be used.
- 2) Solenoid valves shall be installed in parallel.
- 3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.

PART 3: SECTION 9.1

PRE-ACTION CONTROL SYSTEMS

- 4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
- 5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
- 6) Connecting cables shall comply with BS 6387: 1994, classification C, W, Z evidenced by LPCB certification.
- 7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
- 8) Clean dry air shall be used.
- 9) The equipment must be installed, operated and maintained as prescribed in The Reliable Automatic Sprinkler Co Inc installation, operating and maintenance manual.
- 10) The pre-action system shall be configured in accordance with Reliable specifications.
- 11) The pre-action systems shall comply with the details specified in LPC Technical Bulletin 21 Supplementary Requirements for sprinkler installations which can operate in the dry mode and in the LPC Rules for Automatic Sprinkler Installations.
- 12) The Reliable Automatic Sprinkler Company Inc are the firm responsible for the complete pre-action station, including electrics. It should be noted that only the equipment specifically referenced above under (a) and (b) is LPCB approved.

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Certificate No: 096f

Viking Pre-Action Systems (Pre-Action Control Valves descriptions)

Product Name	Size(s) (mm)	Mounting Attitude	Body Material	Type	Maximum Working Pressure (bar)	Connections	LPCB Ref. No.
Type 1 Single-Interlocked Pre-action system	50	Angle style	Ductile Iron	E-1	16	Screwed/Screwed	096f/01
	80, 100, 150	Angle Style	Ductile Iron	E-1	16	Flange/Flange Flange/Groove	096f/02
Type 1 Surefire (TM) Single-Interlocked Pre- action system	50	Angle Style	Ductile Iron	E-1	16	Screwed/Screwed	096f/03
	80, 100, 150	Angle Style	Ductile Iron	E-1	16	Flange/Flange Flange/Groove	096f/04
Type 2 Non-Interlocked Pre-action system	50	Angle Style	Ductile Iron	E-1	16	Screwed/Screwed	096f/05
	80, 100, 150	Angle Style	Ductile Iron	E-1	16	Flange/Flange Flange/Groove	096f/06
Non-Interlocked, Single or Double Interlocked Pre- action system (4)	40, 50, 65	Vertical	Ductile Iron	F-1	16	Screwed / Screwed / Grooved / Grooved	096f/07
				F-2			
				J-1			
80, 100, 150	Vertical	Ductile Iron	F-1	16	Flanged / Grooved	096f/08	
			F-2				
			J-1				
80, 100, 150, 200	Vertical	Ductile Iron	F-1	16	Flanged / Flanged Grooved / Grooved	096f/09	
			F-2				
			J-2				

Notes:

- 1) The above systems are approved for use with hydraulic, pneumatic and pneu-lectric release systems.
- 2) The above systems are available with TrimPac™
- 3) The above systems are available as TotalPac™.
- 4) These systems are approved for use with hydraulic, non-interlocked pneumatic, non-interlocked electric, single interlocked pneumatic, single interlocked electric, double interlocked pneumatic/pneumatic, double interlocked electric/pneumatic, double interlocked electric/pneu-lectric, single interlocked SUREFIRE™ and double interlocked SUREFIRE™ release systems.

Approval Conditions:

- 1) The above pre-action system employs duplicate solenoid valves, LPCB approved, as detailed below. One of each manufacturer must be utilised.
- 2) Solenoid valves shall be installed in parallel.
- 3) Solenoid valves shall be protected by a strainer.
- 4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.

- 5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
- 6) Connecting cables shall comply with BS 6387, classification C, W, Z evidenced by LPCB certification.
- 7) The system shall be electrically monitored to demonstrate that it is in a 'ready to operate' state at all times.
- 8) Clean dry air shall be used.
- 9) The equipment must be installed, operated and maintained as prescribed in the Viking Corporation installation, operating and maintenance manuals.
- 10) The pre-action system shall be configured in accordance with Viking Corporation's datasheets.
- 11) The pre-action systems shall comply with the details specified in LPC Rules for Automatic Sprinkler Systems Technical Bulletin TB208: Supplementary Requirements for Sprinkler Installations which can operate in the dry mode.
- 12) The Viking Corporation is the firm responsible for the complete pre-action station.

Viking Pre-action Systems (Solenoid Valves Description)

Product Name	Manufacturer	Voltage (V)	Power (W)
11591	Skinner	24 DC	10
11595	Skinner	24 DC	10
11601	ASCO	24 DC	9

Victaulic Company

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Certificate No: 104k

Victaulic Series 769 & 769N Pre-Action System (Pre-action Control Valve Description)

Product Name	Nominal Size	Mounting Attitude	Body Material	Type	Max Working Pressure (bar)	Connections	LPCB Ref. No.
Series 769 Single Interlock (Electric)	40, 50, 65, 76.1, 80, 100, 150, 165.1, 200	Vertical	Cast Iron	Pre-action	20	Grooved	104k/01
Series 769 Single Interlock (Pneumatic/Electric)	40, 50, 65, 76.1, 80, 100, 150, 165.1, 200	Vertical	Cast Iron	Pre-action	20	Grooved	104k/02
Series 769 Double Interlock	40, 50, 65, 76.1, 80, 100, 150, 165.1, 200	Vertical	Cast Iron	Pre-action	20	Grooved	104k/03
Series 769N Single Interlock (Electric)	40, 50, 65, 80, 100, 150 & 200	Vertical	Cast Iron	Pre-action	20	Grooved	104k/06
Series 769N Single Interlock (Pneumatic/Electric)	40, 50, 65, 80, 100, 150 & 200	Vertical	Cast Iron	Pre-action	20	Grooved	104k/07
Series 769N Double Interlock	40, 50, 65, 80, 100, 150 & 200	Vertical	Cast Iron	Pre-action	20	Grooved	104k/08

Notes:

- 1) The above systems are approved also when configured with 'Autoconvert' option.

Approval Conditions:

- 1) The above pre-action system employs duplicate solenoid valves, which are manufactured by firms, as detailed below. One of each shall be used.
- 2) Solenoid valves shall be installed in parallel.
- 3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.
- 4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
- 5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
- 6) Connecting cables shall comply with BS 6387: 1994, classification C, W, Z evidenced by LPCB certification.
- 7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
- 8) Clean dry air shall be used.
- 9) The equipment must be installed, operated and maintained as prescribed in Victaulic installation, maintenance and testing manuals "I-769P revision D" and "I-769P-EPA revision D".

PART 3: SECTION 9.1

PRE-ACTION CONTROL SYSTEMS

10) The pre-action systems shall comply with the details specified in LPC Rules for Automatic sprinkler systems Technical Bulletin 21 or 208 Supplementary Requirements for sprinkler installations which can operate in the dry mode and in the LPC Rules for Automatic Sprinkler Installations.

11) Victaulic Company are the firm responsible for the complete pre-action station, including electrics. It should be noted that only the equipment specifically referenced above is LPCB approved.

Victaulic Pre-Action System (Solenoid Valve Description)

Product Name	Manufacturer	Voltage (V)	Power (W)	LPCB Ref. No.
753E	Spartan Scientific	24 DC	10.0	104k/04
8210P007	ASCO	24 DC	2.0	104k/05

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Sprinkler system recycling systems for use under the *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB (please contact LPCB for further details). The products shall be installed and maintained in accordance with the manufacturer's instructions.

The Viking Corporation

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Certificate No: 096d

Approved Products

		LPCB Ref. No.
Viking Firecycle III Cycling (single interlocked) System	Flow control valves (Model H-1) 50mm 80mm 100mm 150mm Control panel (Model B-1) Heat detectors (Type FC 1002 - 140° F) M1 cable used for connecting the heat detectors in a series circuit	096d/02
Viking Firecycle III Cycling (double interlocked) System	Flow control valves (Model H-1) 50mm 80mm 100mm 150mm Control panel (Model E-1) Heat detectors (Type FC 1002 - 140° F)	096d/03

Approval Conditions:

- 1) The above Firecycle systems employs duplicate solenoid valves. For details of the solenoid valves contact Viking. The solenoid valves shall be LPCB approved.
- 2) Solenoid valves shall be installed in parallel.
- 3) Solenoid valves may function in hydraulic or pneumatic conditions, and be protected by a strainer.
- 4) Heat detectors compatible with the control and indicating equipment shall be used.
- 5) Suitable electrical detection control and indicating equipment which is compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
- 6) Connecting cables shall comply with BS 5839-1: 2002 and be LPCB approved.
- 7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
- 8) Clean dry air shall be used where applicable.
- 9) The equipment must be installed, operated and maintained as prescribed in Viking Corporation's installation, operating and maintenance manual.
- 10) The Firecycle III systems shall be configured in accordance with Viking Corporation's specifications.
- 11) The Firecycle III systems shall comply with the details specified in LPC Technical Bulletin 208 Supplementary Requirements for sprinkler installations which can operate in dry mode.
- 12) Viking Corporation are the firm responsible for the complete Firecycle III station, including electrics.

PART 3: SECTION 10

PRESSURE SWITCHES

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Pressure switches for use under *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturer's instructions.

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Certificate No: 085a to LPS 1226 Draft B

Product Name	Maximum Rated Working Pressure (bar)	Maximum Rated Current and Voltage AC	Maximum Rated Current and Voltage DC	LPCB Ref. No.
Type 1381	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	085a/01
Type 1381P	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	
Type 1381V	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	
Type 1381PV	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	
Type 1391	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	085a/03
Type 1391P	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	
Type 1391V	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	
Type 1391PV	17.2	5 Amps @ 250 Volts	1 Amp @ 30 Volts	

Potter Electric Signal Company LLC

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Certificate No: 125a to LPS 1226

Pressure Switches

Product Name	Maximum Rated Working Pressure (bar)	Maximum Rated Current and Voltage AC	Maximum Rated Current and Voltage DC	LPCB Ref. No.
Model PS 10A	17.2	15 Amps @ 125/250 Volts	2.5 Amps @ 30 Volts	125a/01
Model PS 40A	17.2	15 Amps @ 125/250 Volts	2.5 Amps @ 30 Volts	125a/02
Model PS 100A	17.2	15 Amps @ 125/250 Volts	2.5 Amps @ 30 Volts	125a/03
Model PS 120A	17.2	15 Amps @ 125/250 Volts	2.5 Amps @ 30 Volts	125a/04
Model PS10-1	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/05
Model PS10-2	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/06
Model PS40-1	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/07
Model PS40-2	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/08
Model PS100-2	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/09
Model PS120-1	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/10

PART 3: SECTION 10

PRESSURE SWITCHES

Product Name	Maximum Rated Working Pressure (bar)	Maximum Rated Current and Voltage AC	Maximum Rated Current and Voltage DC	LPCB Ref. No.
Model PS120-2	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/11
Model PS15-2	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/12
Model PS25-2	17.2	10.1 Amps @ 125/250 Volts	2 Amps @ 30 Volts	125a/13

System Sensor

3825 Ohio Avenue, Saint Charles, Illinois 60174, USA

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Website: www.systemsensor.com

Manufacturing location

Honeywell International [ACS ECC (Mexhon)], Mexhon S.A. de C.V., Boulevard Insurgentes No. 8503-2 Tijuana, Baja California, Baja 92154, Mexico

Certificate No: 1357h to LPS 1226 Draft 1

Pressure Switches

Product Name	Maximum Rated Working Pressure (bar)	Maximum Rated Current and Voltage AC	Maximum Rated Current and Voltage DC	LPCB Ref. No.
Model EPS40-1	17.2	10 Amps @ 125/250 Volts	2.5 Amps @ 6, 12 & 24 Volts	1357h/01
Model EPS40-2	17.2	10 Amps @ 125/250 Volts	2.5 Amps @ 6, 12 & 24 Volts	1357h/02
Model EPS10-2V	17.2	10 Amps @ 125/250 Volts	2.5 Amps @ 6, 12 & 24 Volts	1357h/03
Model EPS45-2V	17.2	8 Amps @ 125/250 Volts	2.5 Amps @ 6, 12 & 24 Volts	1357h/04
Model EPS10-1	17.2	10 Amps @ 125/250 Volts	2.5 Amps @ 6, 12 & 24 Volts	1357h/05
Model EPS10-2	17.2	10 Amps @ 125/250 Volts	2.5 Amps @ 6, 12 & 24 Volts	1357h/06

PART 3: SECTION 11.1

SPRINKLER HEADS

This section lists products approved in accordance with:

- EN 12259-1 *Fixed firefighting systems. Components for sprinkler and water spray systems. Sprinklers*
- LPS 1039 *Requirements and testing methods for automatic sprinklers*
- LPCB Schedule of requirements

LPCB is a Notified Body for all of the products in this section (with the exception of ESFR and specialist sprinklers).

LPCB recommends the removal and testing of sprinkler heads from a system after 25 years and every 5 years thereafter. The areas from which the sprinkler heads are removed should take account of the different makes and models used and variation of atmospheric conditions. LPCB further recommends that sprinkler heads are replaced where problems are found.

KEY to abbreviations

Each entry includes the nominal orifice size in millimetres and the temperature ratings in degrees centigrade.

- † indicates glass bulb sprinkler head; all others are fusible element sprinkler heads.
- indicates that a corrosion-resistant coating for the body and yoke of the sprinkler has been approved under the *LPC Rules for Automatic Sprinkler Installations*.

The type of sprinkler is indicated by the following abbreviations:

Type	LPS	EN 12259-1
Conventional (upright and pendent)	CUP, CU/P	CUP
Conventional (Upright)	CU	CU
Conventional (Pendent)	CP	CP
Spray (Upright)	SU	SU
Spray (Pendent)	SP	SP
Spray, recessed (Pendent)	-	RP
Flat spray (Upright)	-	FU
Flat spray (Pendant)	-	FP
Sidewall (Upright and pendent)	WUP, WU/P	WUP
Sidewall (Upright)	WU	WU
Sidewall (Pendent)	WP	WP
Sidewall (Horizontal)	WH	WH
Sidewall, recessed (Horizontal)	-	RWH, WHR
Sidewall, concealed (Horizontal)	-	WHSCC
Sidewall, dry (Horizontal)	-	DWH
Sidewall, dry, recessed (Horizontal)	-	RDWH
Sidewall, flush (Horizontal)	WHF	WLH
Sidewall, extended coverage (Horizontal)	WHEC	-
Conventional, dry (Upright and Pendent)	CDU/P	CDUP
Conventional, dry (Upright)	CDU	CDU
Conventional, dry (Pendent)	CDP	CDP
Spray, dry (Upright)	SDU	SDU, DSU
Spray, dry (Pendent)	SDP	SDP, DSP
Conventional, flush (Pendent)	CF	CLP
Spray, flush (Pendent)	SF	SLP
Spray, dry, flush (Pendent)	SFD	SDLP
Spray, dry, recessed (Pendent)	-	DRSP
Spray, concealed, dry (Pendent)	-	CCDSP
Spray, recessed (Pendent)	SR	SRP
Spray, concealed (Pendent)	SK	SCCP, CCP, CCSP
Early suppression fast response	ESFR	-
Early protection enhanced coverage	EPEC	-

Notes:

1. A dash (-) indicates that the type is not recognised in the standard concerned.
2. Concealed (CC) sprinklers are not allocated a response time category (in the listings) as there is no requirement in EN12259-1 for testing or classification. Thus, Concealed sprinklers are listed as incorporating either 5mm or 3mm bulb. No response classification should be implied or inferred from the stated bulb size.

AG Fire Sprinkler S.L.

C/ Invention 11, P.I. Los Olivos, 28906 Getafe, Madrid, Spain

Tel: +34 91 249 7060 • Fax: +34 91 295 3004

E-mail: info@komtes.com • Website: www.Komtes.com

Certificate No: 034g to LPS 1039

Certificate No: 034Ag to BS EN 12259-1: 1999 including amendment +A3:2006

Certificate No: 034k

Certificate No: 034r

Sprinkler Heads

Product Name	SIN No	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† AG (1)(2)(3)	AG8156	20	SR	57, 68, 79, 93 (5mm bulb)	034g/02
† AG (1)	AG8156	20	SP	57, 68, 79, 93, 141 (5mm bulb)	
	AG8164	20	SU	57, 68, 79, 93, 141 (5mm bulb)	
	AG8169	20	CU/P	57, 68, 79, 93, 141 (5mm bulb)	
† AG-QR (1)	AG8106	20	SP	57, 68, 79, 93, 141 (quick response)	034g/03
† AG-QR (1)(2)(4)	AG8106	20	SR	57, 68, 79, 93	
† AG-QR (1)	AG8118	20	SU	57, 68, 79, 93, 141 (quick response)	
	AG8125	20	CU/P	57, 68, 79, 93, 141 (quick response)	
† AG-66 (1)	AG6651	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	034g/13
† AG-66 (1)(2)	AG6651	15	SR	57, 68, 79, 93, 141, 182 (5mm bulb)	
† AG-66 (1)	AG1325	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	AG1375	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
	AG1385	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† AG-QR66 (1)	AG6601	15	SP	57, 68, 79, 93, 141 (quick response)	034g/14
† AG-QR66 (1)(2)	AG6601	15	SR	57, 68, 79, 93, 141	
† AG-QR66 (1)	AG1425	15	SU	57, 68, 79, 93, 141 (quick response)	
	AG1475	15	CU/P	57, 68, 79, 93, 141 (quick response)	
	AG1485	15	WU/P	57, 68, 79, 93, 141 (quick response)	
† AGC-56 (8)(9)	AG3415	15	CCFP	74 with 57 ceiling plate, 100 with 74 ceiling plate	034Ag/15
AG-22 ESFR (5)	AG1011	N/A	SP	74, 100	034k/02
AG-14 ESFR (6)	AG1812	N/A	SP	74, 100	034r/01
AG-17 ESFR (7)	AG1914	N/A	SP	74, 100	034r/02

Notes:

- (1) Approved with plated brass, bronze, chrome, black-plated and coloured finish.
- (2) To be installed in accordance with specific installation instructions.
- (3) Only Model AG1 recessed escutcheon to be used with this sprinkler.
- (4) Only Model AG2 recessed escutcheon to be used with this sprinkler.
- (5) This ESFR sprinkler has a k-factor of 322 l.min⁻¹.bar^{-1/2} (US k-factor of 22.4 gal.min⁻¹.psi^{-1/2}).
- (6) This ESFR sprinkler has a k-factor of 200 l.min⁻¹.bar^{-1/2} (US k-factor of 14 gal.min⁻¹.psi^{-1/2}).
- (7) This ESFR sprinkler has a k-factor of 242 l.min⁻¹.bar^{-1/2} (US k-factor of 16.8 gal.min⁻¹.psi^{-1/2}).
- (8) Not to be installed in ceilings with a positive pressure in the void above.
- (9) Can be used with a solid or perforated ceiling plate (drawing 85001410).

PART 3: SECTION 11.1

SPRINKLER HEADS

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Certificate No: 1402a to EN12259-1

Duyar Vana Sprinkler Heads

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (° C)	LPCB Ref. No.
† DY-3327 (1)	15	SP	68 (5mm bulb)	1402a/01
† DY-3323 (1)	15	SU	68 (5mm bulb)	1402a/02
† DY-3329 (1)	15	WH	68 (5mm bulb)	1402a/03
† DY-3427 (1)	15	SP	68 (quick response)	1402a/04
† DY-3423 (1)	15	SU	68 (quick response)	1402a/05
† DY-3429 (1)	15	WH	68 (quick response)	1402a/06

Notes:

1. Approved with brass, white and chrome finishes.

Globe Fire Sprinkler Corporation

4077 Airpark Drive, Standish, Michigan 48658, USA

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E-mail: brian.hoening@globesprinkler.com • Website: www.globesprinkler.com

Certificate No: 147c

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† Globe Model GL5668	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	147c/04
† Globe Model GL5661	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Globe Model GL5651	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Globe Model GL5654	15	SR	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Globe Model GL5671	15	CCP	57° with 57° cover plate, 68° with 57° or 68° cover plate, 79° with 68° cover plate, 93° with 68° cover plate (5mm bulb)	
	15	WH	57°, 68°, 79°, 93°, 141° (5mm bulb)	
	15	RWH	57°, 68°, 79°, 93°, 141° (5mm bulb)	
† Globe Model GL8164	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Globe Model GL8156	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SR	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Globe Model GL5624	15	CU/P	57, 68, 79, 93, 141 (quick response)	147c/05
† Globe Model GL5615	15	SU	57, 68, 79, 93, 141 (quick response)	

PART 3: SECTION 11.1**SPRINKLER HEADS**

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† Globe Model GL5601	15	SP	57, 68, 79, 93, 141 (quick response)	
† Globe Model GL5604	15	SR	57, 68, 79, 93, 141 (3mm bulb)	
† Globe Model GL5627	15	CCP	57° with 57° cover plate, 68° with 57° or 68° cover plate, 79° with 68° cover plate, 93° with 68° cover plate (5mm bulb)	
	15	WH	57°, 68°, 79°, 93°, 141° (quick response)	
	15	RWH	57°, 68°, 79°, 93°, 141° (quick response)	
† Globe Model GL8118	20	SU	57, 68, 79, 93, 141 (quick response)	
† Globe Model GL8106	20	SP	57, 68, 79, 93, 141 (quick response)	
	20	SR	57, 68, 79, 93, 141 (3mm bulb)	
† Globe Model GL5607	15	CCP	68, (with 57 large cover plate) (3mm bulb)	147c/06
† Globe Model GL5658	15	CCP	79, 93, (with 68 small cover plate) (3mm bulb) 68, (with 57 large cover plate) (5mm bulb) 79, 93, (with 68 small cover plate) (5mm bulb)	

Notes:

- 1) Approved in plain brass, chromium and coloured finishes
- 2) Concealed and recessed heads not to be installed in ceilings with a positive pressure in the void above.
- 3) All sprinklers approved with Job & Norbulb bulbs, except GL5607 and GL5658 (Job only)

GW Sprinkler A/S

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E-mail: sales.dep@gwsprinkler.com

Certificate No: 084k**Certificate No: 084I**

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† GW-DD-F2 (1),(5),(6)	15	WHEC	57, 68, 79	084k/01
† GW-S (1)	10	SR	57, 68, 79, 93 (5mm bulb)	084I/01
	10	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	10	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† GW-S (1),(2),(7)	10	SR	57, 68, 79, 93 (5mm bulb)	
† GW-S (1),(7)	10	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	10	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† GW-S (1)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† GW-S (1),(2)	15	SR	57, 68, 79, 93 (5mm bulb)	
† GW-S (1)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† GW-S (1),(3)	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† GW-S (1)	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† GW-S QR (1),(2)	10	SR	57, 68, 79, 93, 141	084I/02
† GW-S QR (1),(4)	10	SP	57, 68, 79, 93, 141, (quick response)	
	10	SU	57, 68, 79, 93, 141, (quick response)	
† GW-S QR (1),(2),(7)	10	SR	57, 68, 79, 93, 141	
† GW-S QR (1),(4),(7)	10	SP	57, 68, 79, 93, 141, (quick response)	
	10	SU	57, 68, 79, 93, 141, (quick response)	
† GW-S QR (1),(2)	15	SR	57, 68, 79, 93, 141	
† GW-S QR (1),(4)	15	SP	57, 68, 79, 93, 141, (quick response)	
	15	SU	57, 68, 79, 93, 141, (quick response)	
	15	CU/P	57, 68, 79, 93, 141, (quick response)	
	15	WU/P	57, 68, 79, 93, 141, (quick response)	

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SPRINKLER HEADS

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† GW-S QR (1),(3),(4)	20	SP	57, 68, 79, 93, 141, (quick response)	
	20	CU/P	57, 68, 79, 93, 141, (quick response)	
	20	SU	57, 68, 79, 93, 141, (quick response)	
† GW-S QR (1),(4)	20	SP	57, 68, 79, 93, 141, (quick response)	
	20	SU	57, 68, 79, 93, 141, (quick response)	
	20	CU/P	57, 68, 79, 93, 141, (quick response)	

Notes:

- 1) Also approved with chromium and painted finishes.
- 2) Approved with brass, chrome or coloured recessing cup.
- 3) This 20mm orifice sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.
- 4) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
- 5) This extended coverage horizontal sidewall sprinkler should be handled with care to ensure that the deflector is not deformed. After installation the deflector angle should be checked with the manufacturers gauge to verify its angle of 92.5°.
- 6) The product manufacturer should be consulted to determine the product fire protection capability and installation practice. Available test evidence and the CEA document "Requirements and Test Methods for Hotel Room Horizontal Sidewall Sprinklers" should also be consulted to ensure correct usage in light hazard applications.
- 7) This sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.

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Certificate No: 094a

Certificate No: 094b

Certificate No: 094c

Sprinkler Heads

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
†TY3251 (1),(8)	15	SP	57, 68, 79, 93, 141, 182, 260 (5mm bulb)	094a/05
†TY3151 (1),(8)	15	SU	57, 68, 79, 93, 141, 182, 260 (5mm bulb)	
†TY3651 (1),(8)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
†TY3451 (1),(8)	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
†TY3351 (1)	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
†TY4251 (1),(8)	20	SP	57, 68, 79, 93, 141, 182, 260 (5mm bulb)	
†TY4151 (1),(8)	20	SU	57, 68, 79, 93, 141, 182, 260 (5mm bulb)	
†TY4651 (1),(8)	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
†TY3631 (1),(6),(8)	15	CU/P	57, 68, 79, 93, 141 (quick response)	094a/06
†TY3131 (1),(6),(8)	15	SU	57, 68, 79, 93, 141 (quick response)	
†TY3231 (1),(6),(8)	15	SP	57, 68, 79, 93, 141 (quick response)	
†TY3431 (1),(6),(8)	15	WU/P	57, 68, 79, 93, 141 (quick response)	
†TY3331 (1)	15	WH	57, 68, 79, 93, 141	
†TY4631 (1),(6),(8)	20	CU/P	57, 68, 79, 93, 141 (quick response)	
†TY4131 (1),(6),(8)	20	SU	57, 68, 79, 93, 141 (quick response)	
†TY4231 (1),(6),(8)	20	SP	57, 68, 79, 93, 141 (quick response)	
ESFR-1(2)	N/A	SP	74, 100	094b/01
TY3221 (Nickel Link) (6),(7)	15	SP	74 (quick response)	094a/03
TY3121 (Nickel Link) (6),(7)	15	SU	74 (quick response)	
TY3111 (1)	15	SU	74, 100, 138	
TY3211 (1)	15	SP	74, 100, 138	
TY3211 (3),(4),(9)	15	SR	74, 100	
TY4111 (1)	15	SU	74, 100, 138	

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SPRINKLER HEADS

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
TY4811 (1)	20 (1/2" PT)	SU	74, 100, 138	
TY4911 (1)	20 (1/2" PT)	SP	74, 100, 138	
TY3551(10)	15	CCP	68 sprinkler with 59 ceiling plate (5mm bulb)	094a/09
	15	CCP	93 sprinkler with 74 ceiling plate (5mm bulb)	
TY3531(10)	15	CCP	68 sprinkler with 59 ceiling plate (3mm bulb)	094a/10
	15	CCP	93 sprinkler with 74 ceiling plate (5mm bulb)	
TY3155 (1)(8)	15	DSU	57, 68, 79, 93, 141	094a/11
TY3255 (1)(8)	15	DSP	57, 68, 79, 93, 141	
TY3355 (1)(8)	15	DWH	57, 68, 79, 93, 141	
†G1036	15	SU	260	094a/01
†G1040	15	SP	260	
ESFR-17 (11)	N/A	SP	74, 100	094b/02
ESFR-25 (12)	N/A	SP	74, 100	094b/03
† TY3250 (13)	15mm	SP	68, 93, 141, (5mm bulb)	094a/12
† ELO 231 (TY5131) (1),(14)	20mm	SU	68, 93, 141, (quick response)	094c/01
† ELO 231 (TY5231) (1),(14)	20mm	SP	68, 93, 141, (quick response)	094c/02

Notes:

- 1) Also approved with chromium finish.
- 2) This ESFR sprinkler has a k-factor of 200 l.min⁻¹.bar^{-1/2} (US k-factor of 14 gal.min⁻¹.psi^{-1/2}).
- 3) Not to be installed in ceilings with a positive pressure in the void above.
- 4) Approved with brass, chrome, or coloured recessing cup.
- 6) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
- 7) Every five years, all sprinklers should be visually examined, and representative samples removed and tested to the requirements of the authority and/or insurer.
- 8) Also approved with polyester finish.
- 9) To be installed with specific installation instructions.
- 10) Certificated with Chrome, Brass and painted coverplates.
- 11) The ESFR-17 sprinkler has a k-factor of 241.9 l.min⁻¹.bar^{-1/2} (US k-factor of 16.8 gal.min⁻¹.psi^{-1/2}).
- 12) The ESFR-25 sprinkler has a k-factor of 362.9 l.min⁻¹.bar^{-1/2} (US k-factor of 25.2 gal.min⁻¹.psi^{-1/2}).
- 13) Approved in grade 316 Stainless steel
- 14) This Extra Large Orifice (ELO) sprinkler has a k-factor of 160 l.min⁻¹.bar^{-1/2} (US k-factor of 11.2 gal.min⁻¹.psi^{-1/2}).

Minimax GmbH & Co. KG

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Certificate No: 1118a to EN12259-1

Sprinkler Heads

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Minimax MX5-SP-24	15	SP	57, 68, 79, 93, 141, (5mm bulb)	1118a/01

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Certificate No: 566d to EN12259-1:1999 + Amendment A3:2006

Certificate No: 566e to EN12259-1:1999 + Amendment A3:2006

Certificate No: 566f to EN12259-1:1999 + Amendment A3:2006

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SPRINKLER HEADS

Sprinkler Heads

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Rapidrop RD020 (1)	15	CU/P	57, 68, 79, 93, 141 (5mm bulb)	566d/01
† Rapidrop RD022 (1)	15	SP	57, 68, 79, 93, 141 (5mm bulb)	
† Rapidrop RD024 (1)	15	SU	57, 68, 79, 93, 141 (5mm bulb)	
† Rapidrop RD060 (1)	15	WH	57, 68, 79, 93, 141 (5mm bulb)	
† Rapidrop RD021 (1)	15	CU/P	57, 68, 79, 93, 141(6), (quick response)	566d/02
† Rapidrop RD023 (1)	15	SP	57, 68, 79, 93, 141(6), (quick response)	
† Rapidrop RD025 (1)	15	SU	57, 68, 79, 93, 141(6), (quick response)	
† Rapidrop RD061 (1)	15	WH	57, 68, 79, 93, 141 (quick response)	
† Rapidrop RD030(1)	15	CU/P	57, 68, 79, 93, 141, (4mm bulb)	566d/03
† Rapidrop RD031(1)	15	SP	57, 68, 79, 93, 141, (4mm bulb)	
† Rapidrop RD032(1)	15	SU	57, 68, 79, 93, 141, (4mm bulb)	
† Rapidrop RD042 (1)	20	SP	57, 68, 79, 93, 141 (5mm bulb)	566d/04
† Rapidrop RD044 (1)	20	SU	57, 68, 79, 93, 141 (5mm bulb)	
† Rapidrop RD043 (1)	20	SP	57, 68, 79, 93, 141 (quick response)	
† Rapidrop RD045 (1)	20	SU	57, 68, 79, 93, 141 (quick response)	
† Rapidrop RD052 (1)(7)	20	SP	57, 68, 79, 93, 141 (5mm bulb)	566d/05
† Rapidrop RD054 (1)(7)	20	SU	57, 68, 79, 93, 141 (5mm bulb)	
† Rapidrop RD053 (1)(7)	20	SP	57, 68, 79, 93, 141 (quick response)	
† Rapidrop RD055 (1)(7)	20	SU	57, 68, 79, 93, 141 (quick response)	
Rapidrop RD101 (1)(2)(9)	15	SLP	72, 96 (quick response)	566e/01
Rapidrop RD102 (8)(9)	15	SLP	72, (quick response)	566e/02
Rapidrop RD107 (3)(4)(5)(9)	15	SCCP	72 with 60 cover plate	566f/01

Notes:

- 1) Approved with plain, chrome and coloured finish.
- 2) This sprinkler must be handled with care, and the protective cap which protects the thermal element should only be removed after installation is completed. To be installed in accordance with Data Sheet 4.12.
- 3) This sprinkler must be handled with care, and the protective cap which protects the thermal element should only be removed after ceiling installation is completed. To be installed in accordance with the Rapidrop Installation Instructions specific to the sprinkler.
- 4) Approved with chrome and coloured cover plates.
- 5) Not to be installed in ceilings with a positive pressure in the void above.
- 6) Approved with Job bulbs only for this temperature rating.
- 7) These sprinklers have a 15mm thread and deflectors marked 'K115'
- 8) These sprinklers are approved with a painted white (other RAL colours available on request) or a chrome finished escutcheon, and must be installed in accordance with Rapidrop Data Sheet 4.27.
- 9) These sprinklers are approved for use with the Lumi Plugin LP120 fitted co-axially with the sprinkler. Their installation must comply with Rapidrop product Data Sheet 14.01, issue A, Sept. 2017.

Rolland Sprinklers

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Certificate No: 295a to EN12259-1:1999 + Amendment A3:2006

Sprinkler Heads

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† Rolland Model N (1),(2)	15	SP	57, 68, 79, 93, 141 (quick response)	295a/01
	15	SU	57, 68, 79, 93, 141 (quick response)	
	15	CU/P	57, 68, 79, 93, 141 (quick response)	
	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	295a/02
	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	

Notes:

- 1) Also approved with chromium and painted finishes.
- 2) Also approved for use without temperature sensing element for open head applications.

Senju Sprinkler Co Ltd

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Website: www.senjusp.com

Certificate No: 924a to EN12259-1, A3

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (° C)	LPCB Ref. No.
ZN-QR EU	15	SLP	72,96 (quick response)	924a/01

Note 1. Approved with plain, chrome, white and coloured finishes

Note 2. This sprinler must be handled with care, and the protective cap which protects the thermal element should only be removed after installation is completed. To be installed in accordance with Document No U022920.

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Certificate No: 034g to LPS 1039

Certificate No: 034i to I to LPS 1039

Certificate No: 034r to LPS 1039

Sprinkler Heads

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
Reliable F3 (19)	15	DSP	57, 68, 93, 141	034i/01
† Reliable F1 (2),(3),(4)	10	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	034g/02
† Reliable F1 (5),(10)	10	SR	57, 68, 79, 93 (5mm bulb)	
† Reliable F1 (2),(3),(13)	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Reliable F1 (15),(17)	20	SR	57, 68, 79, 93 (5mm bulb)	
† Reliable F1FR (11),(13)	10	SP	57, 68, 79, 93, 141 (quick response)	034g/03
† Reliable F1FR (13),(14),(15)	10	SR	57, 68, 79, 93	
† Reliable F1FR (11),(13)	20	SP	57, 68, 79, 93, 141 (quick response)	
	20	CU/P	57, 68, 79, 93, 141 (quick response)	
	20	SU	57, 68, 79, 93, 141 (quick response)	
† Reliable F1FR (15),(16)	20	SR	57, 68, 79, 93	
* Reliable G (2)	15	CU/P	57, 74, 100, 141	034g/04
	15	SU	57, 74, 100, 141	
	15	SP	57, 74, 100, 141	
	15	WU/P	57, 74, 100, 141	
* Reliable G (6),(7),(8)	15	SR	57, 74, 100	
Reliable G3 (2)	15	SDP	and adjustable) 57, 74	034g/06
Reliable G/F (12),(9),(10)	10	SR	57, 74, 100	034g/07
	15	SR	57, 74, 100	
Reliable G4FR (8), (18)	15	SK	ceiling plate) 74 with 57 ceiling plate	034g/11
Reliable F3 (19)	15	DRSP	57, 68, 93, 141	034i/01
	15	CCDSP	57 with 57 ceiling plate	
	15	CCDSP	68 with 57 ceiling plate	
	15	CCDSP	93 with 74 ceiling plate	
	15	DWH	57, 68, 93, 141	

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SPRINKLER HEADS

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
	15	RDWH	57, 68, 93, 141	
Reliable XL Commercial (19), (23)	15	SF	74 (quick response)	034g/12
Reliable XL Commercial (20, 24)	15	WHF	74 (quick response)	
Reliable F1FR-EPEC (22)	20	SP	57, 68, 79	034I/01
Reliable ESFR-HL22 (21)	N/A	SP	74, 100	034k/02
Reliable JL-14 (1)	N/A	SP	74, 100	034r/01
Reliable JL-17 (24)	N/A	SP	74, 100	034r/02
† Reliable F1 56 (19)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	034g/13
	15	SR	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Reliable F1FR 56 (11), (19)	15	SP	57, 68, 79, 93, 141 (quick response)	034g/14
	15	SR	57, 68, 79, 93, 141 (3mm bulb)	
	15	SU	57, 68, 79, 93, 141(quick response)	
	15	CU/P	57, 68, 79, 93, 141(quick response)	
	15	WU/P	57, 68, 79, 93, 141(quick response)	
Reliable G5-56 (8)(25)	15	CCP	74 with 57 ceiling plate 100 with 74 ceiling plate	034g/15

Notes:

- 1) This ESFR sprinkler has a k-factor of $200 \text{ l.min}^{-1}.\text{bar}^{-1/2}$ (US k-factor of $14 \text{ gal.min}^{-1}.\text{psi}^{-1/2}$)
- 2) Approved with a chromium finish.
- 3) Also approved with plated brass, black plate and dull and bright chrome finishes.
- 4) The 57°, 68°, 79° and 93° sprinklers are also approved with a white paint finish.
- 5) Incorporating Reliable F1 SP Sprinkler in Model G/F1 recessed escutcheon. To be installed in accordance with installation bulletin 119.
- 6) To be installed in accordance with installation bulletin 111G. Approved with brass, chrome or coloured recessing cup.
- 7) The Reliable G has slotted holes in the recessing cup. (The Reliable G/F1, which is similar in appearance, has no slotted holes in the recessing cup).
- 8) Not to be installed in ceilings with a positive pressure in the void above.
- 9) Incorporating Reliable G SP Sprinkler in Model G/F1 recessed escutcheon. To be installed in accordance with installation bulletin 120.
- 10) Approved with brass, chrome or white G/F1 recessed escutcheon.
- 11) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
- 12) Every five years, all sprinklers should be visually examined and representative samples removed and tested to the requirements of the authority and/or insurer.
- 13) Approved with plated brass, bronze, chrome, black-plated and coloured finish.
- 14) Incorporating reliable F1FR SP sprinkler in Model F1 recessed escutcheon.
- 15) To be installed in accordance with specific installation instructions.
- 16) Incorporating Reliable F1FR SP sprinkler in Model F2 recessed escutcheon.
- 17) Incorporating Reliable F1 SP (5mm bulb)" sprinkler in Model F1 recessed escutcheon.
- 18) This sprinkler is approved with BeNi and Cu links.
- 19) Also approved with chrome and white paint finish.
- 20) Approved with brass, chrome, black plated and white painted finish.
- 21) This ESFR sprinkler has a k-factor of $322 \text{ l.min}^{-1}.\text{bar}^{-1/2}$ (US k-factor of $22.4 \text{ gal.min}^{-1}.\text{psi}^{-1/2}$).
- 22) This EPEC sprinkler has a k-factor of $115 \text{ l.min}^{-1}.\text{bar}^{-1/2}$ (US k-factor of $8 \text{ gal.min}^{-1}.\text{psi}^{-1/2}$).
- 23) This sprinkler must be handled with care, and the shipping cap which protects the thermal element should only be removed after installation. To be installed in accordance with Installation Bulletin 145.
- 24) This ESFR sprinkler has a k-factor of $242 \text{ l.min}^{-1}.\text{bar}^{-1/2}$ (US k-factor of $16.8 \text{ gal.min}^{-1}.\text{psi}^{-1/2}$)
- 25) Can be used with a solid or perforated ceiling plate (drawing 85001410).

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Certificate No: 096e

Certificate No: 096g

PART 3: SECTION 11.1

SPRINKLER HEADS

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
K25 ESFR (13)	N/A	ESFR	74, 96 (Link)	096g/01
† Viking M Microfast (1), (2), (6)	15	SU	57, 68, 79, 93, 141, (quick response)	096e/03
	15	SP	57, 68, 79, 93, 141, (quick response)	
† Viking M Microfast (1), (2),(6)	15	CU/P	57, 68, 79, 93, 141, (quick response)	
† Viking M Microfast (1), (2), (6), (18)	20	SU	57, 68, 79, 93, 141, (quick response)	
	20	SP	57, 68, 79, 93, 141, (quick response)	
† Viking M Microfast (1), (2), (6), (15)	20	CU/P	57, 68, 79, 93, 141, (quick response)	
† Viking F-1 Microfast (3)	15	SR	57, 68, 79, 93, 141, (recessed and adjustable)	096e/04
† Viking M (6),(7)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	096e/06
	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
† Viking M (8)	15	SDP	57, 68, 79, 93, (adjustable recessed) (5mm bulb)	
† Viking M (9)	15	SDP	57, 68, 79, 93, 141 (adjustable standard) (5mm bulb)	
† Viking M (10)	15	SDP	57, 68, 79, 93, 141 (plain barrel) (5mm bulb)	
† Viking M/E-1 (3), (14)	15	SR	57, 68, 79, 93 (5mm bulb)	
	20	SR	57, 68, 79, 93 (5mm bulb)	
Viking Horizon Model H(1) (11),(12)	15	SF	74 (quick response)	096e/08
Viking Model N-2 VK130 (15), (16)	15	SU	68, 79, 93, 141, 182 (5mm bulb)	096e/09
Viking Model N-2 VK132 (15), (16)	15	SP	68, 79, 93, 141, 182 (5mm bulb)	
Viking Horizon Mirage VK408	15	WHSCC	74	096e/11
Viking Mirage Concealed VK462 (18), (19)	15	CCP	68 Sprinkler with 59 ceiling plate (3 mm bulb)	096e/12
	15	CCP	79 Sprinkler with 74 ceiling plate (3 mm bulb)	
	15	CCP	93 Sprinkler with 74 ceiling plate (3 mm bulb)	
† Viking K160 VK377 (20) (24)	20	SP	57, 68, 79, 93, 141, (quick response)	096e/14
† Viking K160 VK5311 (20)	20	SU	57, 68, 79, 93, 141, (quick response)	
Viking VK478 (21) (22) (23)	15	SLP	74,96 (quick response)	096e/15

Notes:

- 1) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
- 2) Approved with plain and chrome finishes.
- 3) Approved with brass, chrome or coloured recessing cup.
- 4) Approved with chrome, bright brass and painted finish coverplates.
- 5) Not to be installed in ceilings with a positive pressure in the void above.
- 6) Approved with chrome, polished brass and coloured finishes.
- 7) The "57°, 68°, 79° and 93° heads are approved with wax finishes.
- 8) Approved with chrome and white finishes.
- 9) Approved with chrome finish.
- 10) Approved with chrome and brass finishes.
- 11) Every five years, all sprinklers should be visually examined and representative samples removed and tested to the requirements of the authority and/or insurer.
- 12) Approved with polished chrome and white polyester finishes.
- 13) This ESFR sprinkler has a k-factor of 362.9 l.min⁻¹.bar⁻² (US k-factor of 25.2 gal.min⁻¹.psi⁻²).
- 14) Approved with recessed and adjustable escutcheon.
- 15) The VK130 & 132 sprinklers are stainless steel.
- 16) Certificated to EN12259:1999 including amendment A1:2001
- 17) Certificated to the relevant clauses of EN12259:1999 and LPS1039
- 18) Certificated to EN12259-1:1999 A3:2006
- 19) Approved with Polished Chrome and Painted White finished coverplates
- 20) Approved with plain, black and white painted and chromium plated finishes.
- 21) Not to be installed in ceilings with a positive pressure in the void above
- 22) The installation instructions, 'Sprinkler 73d, April 2012', Fig 2, must be followed. Particular attention should be paid to ensuring that the slots in the skirt are not obstructed in any way and note (21) is observed
- 23) This sprinkler must be handled with care and the protective cap which protects the thermal element should be removed only after installation to the range pipe has been completed.
- 24) This sprinkler utilizes alternative pip cap assemblies. Viking part numbers 16342, 18096.

PART 3: SECTION 11.1

SPRINKLER HEADS

Tyco Fire Products Manufacturing Limited (Stockport)

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Certificate No: 007k

Certificate No: 007l

Certificate No: 007p

Certificate No: 007q

Certificate No: 007r

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† TY2208 (1)	10	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	007k/03
† TY2108 (1)	10	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY3251 (1)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	007k/04
† TY3151 (1)	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY3651 (1)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY3251 (1),(3)	15	RP	57, 68, 79, 93 (5mm bulb)	
† TY3451 (1)	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY3351 (7)	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY4251 (1)	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY4151 (1)	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY4651 (1)	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY4251 (1),(3)	20	RP	57, 68, 79, 93 (5mm bulb)	
TY4851 (1), (5)	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY4951 (1), (5)	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY2209 (1), (2)	10	SP	57, 68, 79, 93, 141 (quick response)	
† TY2109 (1), (3)	10	SU	57, 68, 79, 93, 141 (quick response)	
† TY3631 (1), (2)	15	CU/P	57, 68, 79, 93, 141 (quick response)	
† TY3131 (1), (3)	15	SU	57, 68, 79, 93, 141 (quick response)	
† TY3231 (1), (2)	15	SP	57, 68, 79, 93, 141 (quick response)	
† TY3231 (1), (3)	15	RP	57, 68, 79, 93 (3mm bulb)	
† TY3431 (1), (2)	15	WU/P	57, 68, 79, 93, 141 (quick response)	
† TY3331 (4)	15	WH	57, 68, 79, 93, 141	
† TY3331 (1), (3)	15	WHR	57, 68, 79, 93	
† TY4631 (1), (2)	20	CU/P	57, 68, 79, 93, 141 (quick response)	
† TY4131 (1), (2)	20	SU	57, 68, 79, 93, 141 (quick response)	
† TY4231 (1), (2)	20	SP	57, 68, 79, 93, 141 (quick response)	
† TY4831 (1), (3), (13)	20	SU	57, 68, 79, 93, 141 (quick response)	
† TY4931 (1), (3), (13)	20	SP	57, 68, 79, 93, 141 (quick response)	
ESFR-1(16)	N/A	SP	74, 100	007l/01
ESFR-17 (14)	N/A	SP	74, 100	007l/02
ESFR-25 (9)	N/A	SP	74, 100	007l/03
TY8181 (10)	15	SU	57, 68, 79, 93, 141 (quick response)	007q/01
TY8183 (11)	15	SP	57, 68, 79, 93, 141 (quick response)	
TY8182 (12)	15	SU	57, 68, 79, 93, 141 (quick response)	
TY8281 (10)	15	SP	57, 68, 79, 93, 141 (quick response)	
TY8283 (11)	15	SP	57, 68, 79, 93, 141 (quick response)	
TY8282 (12)	15	SP	57, 68, 79, 93, 141 (quick response)	
TY8681 (10)	15	CU/P	57, 68, 79, 93, 141 (quick response)	
TY8683 (11)	15	CU/P	57, 68, 79, 93, 141 (quick response)	
TY8682 (12)	15	CU/P	57, 68, 79, 93, 141 (quick response)	
TY8481 (10)	15	WU/P	57, 68, 79, 93, 141 (quick response)	
TY8483 (11)	15	WU/P	57, 68, 79, 93, 141 (quick response)	
TY8482 (12)	15	WU/P	57, 68, 79, 93, 141 (quick response)	
TY8381 (10)	15	WH	57, 68, 79, 93, 141 (quick response)	
TY8383 (11)	15	WH	57, 68, 79, 93, 141 (quick response)	
TY8382 (12)	15	WH	57, 68, 79, 93, 141 (quick response)	
TY9281 (10)	20	SP	57, 68, 79, 93, 141 (quick response)	

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SPRINKLER HEADS

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
TY9181 (10)	20	SU	57, 68, 79, 93, 141 (quick response)	
TY9681 (10)	20	CU/P	57, 68, 79, 93, 141 (quick response)	
TY8191 (10)	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	007q/02
TY8193 (11)	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8291 (10)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8293 (11)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8292 (12)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8691 (10)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8693 (11)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8692 (12)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8491 (10)	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8493 (11)	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8492	15	WU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8391 (10)	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8393 (11)	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY8392 (12)	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY9291 (10)	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY9191 (8)	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY9691 (10)	20	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
TY1156	10	FU	57, 68, 79, 93, 141 (5mm bulb)	007r/01
TY1256	10	FP	57, 68, 79, 93, 141 (5mm bulb)	
TY3156	15	FU	57, 68, 79, 93, 141 (5mm bulb)	
TY3256	15	FP	57, 68, 79, 93, 141 (5mm bulb)	
TY4156	20	FU	57, 68, 79, 93, 141 (5mm bulb)	
TY4256	20	FP	57, 68, 79, 93, 141 (5mm bulb)	
TY1136 (3)	10	FU	57, 68, 79, 93, 141 (quick response)	007r/02
TY1236 (3)	10	FP	57, 68, 79, 93, 141 (quick response)	
TY3136 (3)	15	FU	57, 68, 79, 93, 141 (quick response)	
TY3236 (3)	15	FP	57, 68, 79, 93, 141 (quick response)	
TY4136 (3)	20	FU	57, 68, 79, 93, 141 (quick response)	
TY4236 (3)	20	FP	57, 68, 79, 93, 141 (quick response)	
TY2208 (1)	10	RP	57, 68, 79, 93 (5mm bulb)	007k/03
TY2209 (1)	10	RP	57, 68, 79, 93 (3mm bulb)	007k/04
† TY315 (1) (8) (15)	15mm	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	007k/05
† TY325 (1) (8) (15)	15mm	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY313 (1) (8) (15)	15mm	SU	57, 68, 79, 93, 141, (quick response)	
† TY323 (1) (8) (15)	15mm	SP	57, 68, 79, 93, 141, (quick response)	
† TY3650 (1) (15)	15mm	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† TY3630 (1) (15)	15mm	CU/P	57, 68, 79, 93, 141, (quick response)	

Notes:

- 1) Also approved with coloured and chromium finishes.
- 2) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
- 3) Approved with Model F700 recessed escutcheon.
- 4) Also approved in chromium finish.
- 5) Sprinkler has 1/2" NPT thread.
- 6) Approved with Job G5 and Geissler type 'E' bulbs.
- 7) Also approved in chromium finish.
- 8) The EPEC sprinkler has a k-factor of 112.8 l.min-1.bar -1/2. Also approved with coloured and chrome finishes.
- 9) The ESFR-25 sprinkler has a k-factor of 362.9 l.min-1.bar -1/2 (US k-factor of 25.2 gal.min-1.psi-1/2).
- 10) Approved in 316 Stainless Steel material.
- 11) Approved in Titanium material.
- 12) Approved in 254 SMO Stainless Steel material.
- 13) Sprinkler has 1/2" NPT thread.
- 14) The ESFR-17 sprinkler has a k-factor of 241.9 l.min-1.bar -1/2 (US k-factor of 16.8 gal.min-1.psi -1/2).
- 15) Approved with 16mm long bulbs.
- 16) The ESFR-1 sprinkler has a k-factor of 200 l.min-1.bar -1/2 (US k-factor of 14 gal.min-1.psi-1/2).

PART 3: SECTION 11.1

SPRINKLER HEADS

Tyco Suppression & Building Products (Enschede)

Kopersteden 1, P O Box 198, 7500 AD, Enschede, The Netherlands

Tel: +31 (0)53 4284444 • Fax: +31 (0)53 4283377

E-mail: info-NL@tyco-bspd.com • Website: www.tyco-fsbp.com

Certificate No: 169d/01 to EN 12259-1, A3

Product Name	Nominal Orifice Size (mm)	Type	Temp rating (° C)	LPCB Ref. No.
TY-QRF-EU	15	SLP	72,96 (quick response)	169d/01

Note 1. Approved with plain, chrome, white and coloured finishes

Note 2. This sprinkler must be handled with care, and the protective cap which protects the thermal element should only be removed after installation is completed. To be installed in accordance with Document No TFP 191.

Victaulic Company

4901 Kesslersville Road, Easton, Pennsylvania 18040, USA

Tel: +1 610 559 3300 • Fax: +1 610 250 8817

E-mail: victaulic@victaulic.com • Website: www.victaulic.com

Certificate No: 104b

Sprinkler Heads

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
† V2727 (1)	15	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	104b/01
† V2703 (1)	15	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† V2725 (1)	15	CU/P	57, 68, 79, 93, 141, 182 (5mm bulb)	
† V2709 (1)	15	WH	57, 68, 79, 93, 141, 182 (5mm bulb)	
† V2728 (1)	15	SP	57, 68, 79, 93, 141 (quick response)	104b/02
† V2704 (1)	15	SU	57, 68, 79, 93, 141 (quick response)	
† V2726 (1)	15	CU/P	57, 68, 79, 93, 141 (quick response)	
† V2710 (1)	15	WH	57, 68, 79, 93, 141 (quick response)	
† V3423 (1)	20	SP	57, 68, 79, 93, 141, 182 (5mm bulb)	104b/03
† V3401 (1)	20	SU	57, 68, 79, 93, 141, 182 (5mm bulb)	
† V3424 (1)	20	SP	57, 68, 79, 93, 141 (quick response)	104b/04
† V3402 (1)	20	SU	57, 68, 79, 93, 141 (quick response)	
† V3801	15	CCSP	68, with 59 ceiling plate (5mm bulb)	104b/05
			79, 93 with 74 ceiling plate (5mm bulb)	
† V3802	15	CCSP	68 with 59 ceiling plate (3mm bulb)	104b/06
			79, 93 with 74 ceiling plate (3mm bulb)	

Note:

1) Also approved with chromium, polyester and nickel/teflon finishes.

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Sprinkler Heads included in this section include a means of electronic operation in addition to the normal glass bulb mode.

Approval Conditions

- 1) LPCB approved detectors compatible with the control and indicating equipment shall be used;
- 2) Suitable electrical detection control and indicating equipment compatible with the equipment below shall be used. The control and indicating equipment shall be LPCB Approved/Certificated;
- 3) Connecting cables shall comply with BS 6387:1994 *Specification for performance requirements for cables required to maintain circuit integrity under fire conditions*, classification C,W,Z or equivalent;
- 4) The equipment must be installed, operated and maintained as prescribed in the manufacturer's Installation, Operating and Maintenance Manual;
- 5) To guard against inadvertent operation it is recommended that electrically operated sprinklers be used in conjunction with coincidence detection;
- 6) Where 'Metron' actuators are employed the maximum allowable operating temperature shall not be exceeded;
- 7) Where 'Metron' actuators are used, these shall also be LPCB approved; and
- 8) The 'Guidance' in the Part 3 Section 22 'Metron' Actuators, shall also be taken into account.

GW Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark
Tel: +45 64 72 2055 • Fax: +45 64 72 2255
E-mail: sales.dep@gwsprinkler.com

Certificate No: 084h

Product Name	Nominal Orifice Size (mm)	Type	Temperature Ratings (°C)	LPCB Ref. No.
GW-S-EL(1),(2),(3)	10	SP	57, 68, 79 (5mm bulb)	084h/01
	10	SU	57, 68, 79 (5mm bulb)	
GW-S-EL(1),(2),(3),(4)	10	SP	57, 68, 79 (5mm bulb)	084h/02
	10	SU	57, 68, 79 (5mm bulb)	
GW-S-EL(1),(2),(3)	15	CU/P	57, 68, 79 (5mm bulb)	
	15	SP	57, 68, 79 (5mm bulb)	
	15	SU	57, 68, 79 (5mm bulb)	084h/02
GW-S-QR-EL(1),(2),(3)	10	SP	57, 68, 79 (quick response)	
	10	SU	57, 68, 79 (quick response)	
GW-S-QR-EL(1),(2),(3),(4)	10	SP	57, 68, 79 (quick response)	
	10	SU	57, 68, 79 (quick response)	
GW-S-QR EL(1),(2),(3)	15	SP	57, 68, 79 (quick response)	
	15	SU	57, 68, 79 (quick response)	
	15	CU/P	57, 68, 79 (quick response)	

Notes:

- 1) Also approved with chrome and painted finishes.
- 2) To be installed, operated and maintained in accordance with the GW Sprinkler A/S Installation, Operating and Maintenance Manual.
- 3) Sprinklers marked EL incorporate a 'Metron' actuator.
- 4) This sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.

PART 3: SECTION 11.3

DUAL SENSING SPRINKLER HEADS

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Dual sensing sprinkler heads have been evaluated in relation to their general performance capability but not in relation to their suitability for specific applications. The manufacturer's installation and maintenance instructions shall be followed.

Dual sensing sprinkler heads are only suitable for use on fully hydraulically calculated systems.

Project Fire Products Limited

Pasturefields Lane Industrial Estate, Pasturefields Lane, Hixon, Staffordshire ST18 0PH, United Kingdom

Tel: +44 (0)1889 270999 • Fax: +44 (0)845 2800116

E-mail: sales@projectfire.co.uk • Website: www.projectfire.co.uk

Certificate No: 060b

Product Name	Nominal Orifice Size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
'Gemini'	15 (1, 2)	SP	68 (1)	060b/01

Notes:

- 1) Sprinkler assembly only approved when fitted with Viking Model M "Microfast" 15mm SP Sprinkler head as per section 11.1 .
- 2) The K factor of the 'Gemini' dual sensing sprinkler head is $58.6 \text{ l.min}^{-1}.\text{bar}^{-1/2}$.
- 3) Dual sensing sprinkler heads are only suitable for use on fully hydraulically calculated systems.

This section lists products approved in accordance with:

- LPS 1039 *Requirements & Testing Methods for Automatic Sprinklers*
- LPS 1258 *Requirements & Testing Methods for Automatic Sprinkler Glass Bulbs with a Narrow Operating Temperature Band*
- EN 12259-1 *Fixed firefighting systems. Components for sprinkler and water spray systems.*

These bulbs may be used in sprinkler heads listed in Section 11.

Day-Impex Limited

Station Works, Earls Colne, Colchester, Essex CO6 2ER, United Kingdom

Tel: +44 (0)1787 223232 • Fax: +44 (0)1787 224171

Website: www.day-impex.co.uk

Certificate No: 291a

Product Name	Bulb Size (mm)	Temperature Rating (°C)	LPCB Ref. No.
937	5	57, 68, 79, 93, 141, 182	291a/02

Helmut Geissler Glasinstrumente GmbH

Leonhard-Karl-Str. 33, D-97877 Wertheim, Germany

Tel: +49 9342 92640 • Fax: +49 9342 926420

E-mail: mail@geisslerglass.com • Website: www.geisslerglass.com

Certificate No: 310a

Product Name	Bulb Size (mm)	Temperature Rating (°C)	LPCB Ref. No.
E	5	57, 68, 79, 93, 141, 182	310a/01

Job GmbH

Kurt-Fischer-Strasse 30, D-22926 Ahrensburg, Hamburg, Germany

Tel: +49 4102 21140 • Fax: +49 4102 211470

E-mail: job@job-bulbs.com • Website: www.job-bulbs.com

Certificate No: 351a

Product Name	Bulb Size (mm)	Temperature Rating (°C)	LPCB Ref. No.
F2.5 Quick Response(1)	2.5	68,93	351a/01
F3 Quick Response(1)	3	57,68,79,93,141	351a/02
F3-SP 'superior' Quick Response(1)	3	57,68,79,93,141	351a/04
G5	5	57,68,79,93,141,182	351a/03

Note:

1) Suitable for use in quick response sprinklers.

PART 3: SECTION 13

SUCTION TANKS FOR AUTOMATIC PUMPS

This section lists products approved in accordance with:

- LPS 1276 *Requirements for suction tanks for automatic pumps.* (Section 13.1)
- LPS 1254 *Requirements for suction tanks for automatic pumps.* (Section 13.2)

The use of LPS 1254 has been replaced by LPS 1276 for new installations in the UK and Ireland. The use of LPS 1254 in other territories should be confirmed with the relevant Insurance or Regulatory bodies. The two standards will co-exist pending ongoing review, any changes to this position will be updated on the Red Book Live website.

Approval Conditions are set out in each section and take precedence over any material contained in other documentation for the purposes of LPCB recognition.

LPS 1276 Tanks

1) In accordance with the requirements of EN 12845, the following definitions are derived:

Single supply tank:	A water storage tank which shall be designed and protected against corrosion such that the need for emptying the tank for maintenance is reduced to a period of not less than 3 years .
Superior supply tank:	A water storage tank which shall be designed and protected against corrosion such that the need for emptying the tank for maintenance is reduced to a period of not less than 10 years .

2) Each single-supply or multi-level take-off tank supplied under this approval scheme must not exceed a maximum capacity of 1300m³. Duplicate sub-divided tanks may have a total capacity not exceeding 2600m³, provided the dividing wall is structurally capable of supporting either compartment full whilst the other is empty, and the maximum capacity of each compartment does not exceed 1300m³.

3) It may be necessary for a current Regulations Advisory Scheme, WRAS (formerly Wrc), certificate to be held by the manufacturer, specific to each tank listed.

4) Galvanised “Superior” steel tanks shall have the tank shell protected by:

(a) a coating weight of at least 610g/m² each side, with such tank entries marked ‘g’,
or

(b) an equivalent corrosion protection system which has been specifically approved and listed by the LPCB, with such tank entries marked ‘e’.

5) The purchaser shall specify the required tank designation “Superior” or “Single” in accordance with the LPC Rules for Automatic Sprinkler Installations, together with the tank reference number.

6) The tank must bear a plate stating:

(i) The name and address of the manufacturer.

(ii) The date of installation.

(iii) The LPCB Reference Number, including the type suffix (“Superior” or “Single”) which has been specified by the purchaser and agreed by the manufacturer.

(iv) The maximum capacity in cubic metres. Multi-supply tanks must indicate the capacity for the automatic sprinkler system separately.

Tanks which do not bear such a plate are not approved.

7) Specifiers of LPCB approved sprinkler suction tanks are advised to ensure that where a vortex inhibitor is used in accordance with the LPC Sprinkler Rules, that the vortex inhibitor used is listed in Part 3 Section 14 of the Red Book as LPCB approved.

8) Where “Superior” tank shell exteriors are not protected by 610g/m² or equivalent, appropriate inspection, service and maintenance shall be specified. Exterior shell protection of 300g/m² galvanising is set as the minimum acceptable level of exterior protection combined with specified inspection service and maintenance.

9) Immersion heaters used to prevent the ball valve and water in the vicinity from freezing shall be dual element type.

Balmoral Tanks Limited

Llantrisant Business Park, Llantrisant, Pontyclun CF72 8LF, United Kingdom

Tel: +44 (0)1443 235170 • Fax: +44 (0)1443 226900

E-mail: tanks@balmoral.co.uk • Website: www.balmoraltanks.com

Certificate No: 445b to LPS 1276-1.2

PART 3: SECTION 13.1

LPS 1276 TANKS

LPS 1276 - Suction Tanks for Automatic Sprinkler Systems

Product Name	Description	LPCB Ref. No.
Single supply tank	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 4m. <i>Maximum capacity 880m³</i>	445b/01
Superior supply tank	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 4m. <i>Maximum capacity 880m³</i>	445b/02
Single supply tank	HB rectangular pressed steel sectional galvanized tank to BS1564:1975 Type 1 (Hot Pressed), with galvanized steel roof. Maximum height 5m. <i>Maximum capacity 1300m³</i> .	445b/03
Superior supply tank	HB rectangular pressed steel sectional galvanized tank to BS1564:1975 Type 1 (Hot Pressed) with galvanized steel roof. Maximum height 5m. <i>Maximum capacity 1300m³</i> .	445b/04
Single supply tank	Bolted cylindrical galvanized steel plate tank lined with an EPDM, butyl rubber or PVC liner and fitted with a galvanized steel decking roof externally coated with PVC. <i>Maximum capacity 1300m³</i> .	445b/05
Superior supply tank	Bolted cylindrical galvanized steel plate tank lined with an EPDM, butyl rubber or PVC liner and fitted with a galvanized steel decking roof externally coated with PVC. <i>Maximum capacity 1300m³</i> .	445b/06

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'introduction'

CST Industries (UK) Limited

Cotes Park Lane, Cotes Park Industrial Estate, Alfreton, Derbyshire DE55 4NJ, United Kingdom

Tel: +44 (0)1773 835321 • Fax: +44 (0)1773 836578

E-mail: tcruise@cstindustries.com • Website: www.cstindustries.com

Certificate No: 044c to LPS1276 1.1

Suction Tanks for Sprinkler Systems

Certificated Products		LPCB Ref. No.
Single supply tank	Bolted cylindrical, mastic sealed, galvanized steel plate tank with a galvanized steel decking cover that is externally coated with PVC. <i>Maximum capacity 1300m³</i>	044c/01
Superior supply tank	Bolted cylindrical, mastic sealed, galvanized steel plate tank with a galvanized steel decking cover that is externally coated with PVC. <i>Maximum capacity 1300m³</i>	044c/02g
Single supply tank	Bolted rectangular, mastic sealed galvanized steel panel tank with a galvanized steel decking cover. Suitable for restricted space locations. Designed to most shapes using 90 degree corners and up to 3m in height. <i>Maximum capacity 1300m³</i>	044c/03
Superior Supply Tank	Bolted rectangular, mastic sealed galvanized steel panel tank with a galvanized steel decking cover. Suitable for restricted space locations. Designed to most shapes using 90 degree corners and up to 3m in height. <i>Maximum capacity 1300m³</i>	044c/04e
Single supply tank	Bolted cylindrical, rubber liner sealed, galvanized steel plate tank with a galvanized steel decking cover that is externally coated with PVC. <i>Maximum capacity 1300m³</i>	044c/05
Superior supply tank	Bolted cylindrical, rubber or PVC* liner sealed, galvanized steel plate tank with a galvanized steel decking cover that is externally coated with PVC. <i>Maximum capacity 1300m³</i>	044c/06e

Notes:

* PVC liner is manufactured by Power Plastic and/or Stephens Industries Limited.

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Type "Superior", the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 4 of the Introduction.

Decca Plastics Limited

Victoria Mill, Lincoln Street, Preston, Lancashire PR1 6RE, United Kingdom

Tel: +44 (0)1772 825757 • Fax: +44 (0)1772 204967

E-mail: shaun@deccatanks.co.uk • Website: www.deccatanks.co.uk

Certificate No: 1105a to LPS 1276

Suction Tanks for Automatic Sprinkler Systems

Product Name	Description	LPCB Ref. No.
Single supply tank	DECCA Firestore tank, GRP hot pressed moulded sectional rectangular water storage tank. <i>Maximum height 4m. Maximum capacity 400m³</i>	1105a/01
Superior supply tank	DECCA Firestore tank, GRP hot pressed moulded sectional rectangular water storage tank. <i>Maximum height 4m. Maximum capacity 400m³</i>	1105a/02

Notes:

- All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction' to this section.
- All tanks shall be installed and maintained in accordance with the manufacturer's installation manual (D-006, Issue 03, dated 13/10/2016)

Dewey Waters Limited

Heritage Works, Winterstoke Road, Weston-Super-Mare, Somerset BS24 9AN, United Kingdom

Tel: +44 (0)1934 421477 • Fax: +44 (0)1934 421488

E-mail: sales@deweywaters.co.uk • Website: www.deweywaters.co.uk

Certificate No: 135b to LPS1276-1.1

Certificated Products	LPCB Ref. No.
Single supply tank Contact moulded sectional GRP tank Maximum height 3m <i>Maximum capacity 75m³</i>	135b/01
Superior supply tank Contact moulded sectional GRP tank Maximum height 3m <i>Maximum capacity 75m³</i>	135b/02
Single supply tank Hot pressed moulded sectional GRP tank Maximum height 4m. <i>Maximum capacity 1300m³</i>	135b/03
Superior supply tank Hot pressed moulded sectional GRP tank Maximum height 4m. <i>Maximum capacity 1300m³</i>	135b/04

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in this section Introduction. The tanks shall be installed in accordance with the manufacturer's instructions.

Franklin Hodge Industries Ltd.

Jubilee Building, Faraday Road, Westfields Trading Estate, Hereford HR4 9NS, United Kingdom

Tel: +44 (0)1432 269605 • Fax: +44 (0)1432 277454

E-mail: sales@franklinhodge.co.uk • Website: www.franklinhodge.com

Certificate No: 037c to LPS 1276

PART 3: SECTION 13.1

LPS 1276 TANKS

Superior supply tank

Product Name	Description	LPCB Ref. No.
Superior supply tank	Bolted, aluminium panel tank lined internally with butyl rubber, EPDM or PVC, with aluminium deck roof. Cylindrical <i>Maximum capacity 1300m³</i>	037c/02
	Bolted, galvanised steel panel tank lined internally with butyl rubber, EPDM or PVC. Cylindrical, with galvanised steel decking, externally coated with PVC <i>Maximum capacity 1300m³</i>	037c/06e
	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Rectangular, with aluminium deck roof. <i>Maximum capacity 1300m³</i>	037c/08e

Note:

- 1) All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Irish Industrial Tanks Limited

Unit C1, Ballymount Drive Industrial Estate, Ballymount Road, Walkinstown, Dublin 12, Ireland

Tel: +353 1 450 7893 • Fax: +353 1 450 6404

E-mail: irishind@connect.ie • Website: www.iit.ie

Certificate No: 112b to LPS 1276

Suction Tanks for Automatic Sprinkler Systems

Product Name	Description	LPCB Ref. No.
Single supply tank	Bolted, cylindrical, glass-lined, mild steel storage tank with galvanized steel decking roof externally coated with PVC. <i>Maximum height 5.7m. Maximum capacity 1283m³.</i>	112b/01
Superior supply tank	Bolted, cylindrical, glass-lined, mild steel storage tank with galvanized steel decking roof externally coated with PVC. <i>Maximum height 5.7m. Maximum capacity 1283m³.</i>	112b/02

Notes:

1. All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction' to this section.
2. All tanks shall be installed and maintained in accordance with the manufacturer's installation manual (Master copy QD 032, Issue 03, dated 20/09/2016)

1) The BS 5306 LPC *Rules for Automatic Sprinkler Installations* identifies the following types of pump suction tanks:

Note: This specification is withdrawn for all contracts delivered after 1st April 2009.

- Type A* Not dependent on inflow, fed from a potable water supply, and suitable for sprinkler service without emptying, cleaning, maintenance or repair for a period of not less than 15 years.
- Type B* Not dependent on inflow.
- Type C* Dependent on inflow.
- Type D* Dependent on inflow, fed from a potable water supply, and suitable for sprinkler service without emptying, cleaning, maintenance or repair for a period of not less than 15 years.

The type of tank approved or certificated is indicated by capital the letter A, B, C or D at the end of the LPCB Reference number in the product listing.

2) Each single-supply or multi-level take-off tank supplied under this approval scheme must not exceed a maximum capacity of 1300m³. Duplicate sub-divided tanks may have a total capacity not exceeding 2600m³, provided the dividing wall is structurally capable of supporting either compartment full whilst the other is empty, and the maximum capacity of each compartment does not exceed 1300m³

3) Continuation of approval is conditional upon a current Regulations Advisory Scheme, WRAS certificate (formerly WrC) being held by the manufacturer, specific to each tank listed.

4) 1,2 Galvanised steel tanks Type A and D shall have the tank shell protected by:

(a) a coating weight of at least 610g/m² each side, with such tank entries marked 'g',
or

(b) an equivalent corrosion protection system which has been specifically approved and listed by the LPCB, with such tank entries marked 'e'.

5) 1 Galvanised steel tanks Types B and C shall have the tank shell protected by a coating weight of at least 300g/m² each side, or an equivalent corrosion protection system, approved and listed by the LPCB.

6) The purchaser shall specify the required tank designation A, B, C or D in accordance with the LPC *Rules for Automatic Sprinkler Installations*, together with the tank reference number.

7) The tank must bear a plate stating:

(i) The name and address of the manufacturer.

(ii) The date of installation.

(iii) The LPCB Reference Number, including the type suffix (A,B,C or D) which has been specified by the purchaser and agreed by the manufacturer.

(iv) The maximum capacity in cubic metres. Multi-supply tanks must indicate the capacity for the automatic sprinkler system separately.

Tanks which do not bear such a plate are not approved.

8) Specifiers of LPCB approved sprinkler suction tanks are advised to ensure that where a vortex inhibitor is used in accordance with the LPC Sprinkler Rules, that the vortex inhibitor used is listed in Part 3 Section 14 of the Red Book as LPCB approved.

Note 1. Corrosion protection systems specified should be regarded as minimum levels and additional protection may be warranted in special circumstances to achieve a design life of at least 15 years (Types A & D) or 6 years (Types B & C).

PART 3: SECTION 13.2

LPS 1254 TANKS

Balmoral Tanks Limited

Llantrisant Business Park, Llantrisant, Pontyclun CF72 8LF, United Kingdom

Tel: +44 (0)1443 235170 • Fax: +44 (0)1443 226900

E-mail: tanks@balmoral.co.uk • Website: www.balmoraltanks.com

Certificate No: 445a to LPS 1254: Issue 1

LPS 1254 - Suction Tanks For Automatic Pumps

Certificated Products

		LPCB Ref. No.
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. Maximum capacity 192m ³ .	445a/01A
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. Maximum capacity 192m ³ .	445a/01B
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. Maximum capacity 192m ³ .	445a/01C
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. Maximum capacity 192m ³ .	445a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

CST Industries (UK) Limited

Cotes Park Lane, Cotes Park Industrial Estate, Alfreton, Derbyshire DE55 4NJ, United Kingdom

Tel: +44 (0)1773 835321 • Fax: +44 (0)1773 836578

E-mail: tcruse@cstindustries.com • Website: www.cstindustries.com

Certificate No: 044a to LPS 1254: Issue 1.3

Certificated Products

		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank internally coated with a bitumen solution in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. (1) Maximum capacity 1300m ³	044a/01Ag
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank internally coated with a bitumen solution in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. Maximum capacity 1300m ³	044a/01Dg
Suction Tank for Automatic pumps	Bolted, cylindrical, galvanized steel plate tank lined with a rubber liner and fitted with a galvanized steel decking roof externally coated with PVC. Maximum capacity 1300m ³	044a/04Ae
Suction Tank for automatic pump	Bolted, cylindrical, galvanized steel plate tank lined with a rubber liner and fitted with a galvanized steel decking roof externally coated with PVC. Maximum capacity 1300m ³	044a/04De

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

1) The LPCB reference number for this tank design was formerly T14

Dewey Waters Limited

Heritage Works, Winterstoke Road, Weston-Super-Mare, Somerset BS24 9AN, United Kingdom

Tel: +44 (0)1934 421477 • Fax: +44 (0)1934 421488

E-mail: sales@deweywaters.co.uk • Website: www.deweywaters.co.uk

Certificate No: 135a to LPS 1254

Certificated Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. <i>Maximum capacity 75m³</i>	135a/01A
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. <i>Maximum capacity 75m³</i>	135a/01B
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. <i>Maximum capacity 75m³</i>	135a/01C
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. <i>Maximum capacity 75m³</i>	135a/01D
Suction Tank for Automatic Pumps	Dewey Waters '1000' Module Series hot pressed moulded GRP sectional rectangular tank. Maximum height 3m. <i>Maximum capacity 1300m³</i>	135a/03A
Suction Tank for Automatic Pumps	Dewey Waters '1000' Module Series hot pressed moulded GRP sectional rectangular tank. Maximum height 3m. <i>Maximum capacity 1300m³</i>	135a/03B
Suction Tank for Automatic Pumps	Dewey Waters '1000' Module Series hot pressed moulded GRP sectional rectangular tank. Maximum height 3m. <i>Maximum capacity 1300m³</i>	135a/03C
Suction Tank for Automatic Pumps	Dewey Waters '1000' Module Series hot pressed moulded GRP sectional rectangular tank. Maximum height 3m. <i>Maximum capacity 1300m³</i>	135a/03D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'.
For galvanized steel tanks,

Notes:

- Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.
- Dewey Waters tanks to be installed in accordance with the latest issue of Operating Procedure OP 44.

Franklin Hodge Industries Ltd.

Jubilee Building, Faraday Road, Westfields Trading Estate, Hereford HR4 9NS, United Kingdom

Tel: +44 (0)1432 269605 • Fax: +44 (0)1432 277454

E-mail: sales@franklinhodge.co.uk • Website: www.franklinhodge.com

Certificate No: 037a to LPS 1254

Approved Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber, EPDM or PVC, with aluminium deck roof: Cylindrical <i>Maximum capacity 1300m³</i>	037a/01A
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber, EPDM or PVC. Cylindrical, with galvanised steel decking, externally coated with PVC <i>Maximum capacity 1300m³</i>	037a/03Ae
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber, EPDM or PVC. Rectangular, with aluminium deck roof. <i>Maximum capacity 1300m³</i>	037a/04Ae

PART 3: SECTION 13.2

LPS 1254 TANKS

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Irish Industrial Tanks Limited

Unit C1, Ballymount Drive Industrial Estate, Ballymount Road, Walkinstown, Dublin 12, Ireland

Tel: +353 1 450 7893 • Fax: +353 1 450 6404

E-mail: irishind@connect.ie • Website: www.iit.ie

Certificate No: 112a to LPS 1254

Approved Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. <i>Maximum capacity 1300m³</i>	112a/01A
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. <i>Maximum capacity 1300m³</i>	112a/01B
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. <i>Maximum capacity 1300m³</i>	112a/01C
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. <i>Maximum capacity 1300m³</i>	112a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

This section lists products approved in accordance with:

- LPCB Schedule of requirements

The new edition of the LPC Sprinkler Rules, incorporating EN12845 *Fixed Firefighting Systems. Automatic Sprinkler Systems. Design, Installation and Maintenance*, includes requirements whereby the minimum dimension from the suction pipe to the minimum low water level can be reduced if a suitable vortex inhibitor is installed. Where the listed vortex inhibitors meet this requirement this is shown by a note in the listing.

Balmoral Tanks Limited

Llantrisant Business Park, Llantrisant, Pontyclun CF72 8LF, United Kingdom

Tel: +44 (0)1443 235170 • Fax: +44 (0)1443 226900

E-mail: tanks@balmoral.co.uk • Website: www.balmoraltanks.com

Certificate No: 445c to LPS 2070: Draft 1

Vortex Inhibitors

Product Name	Description	LPCB Ref. No.
Balmoral Vortex Inhibitors	suitable for the following nominal bore suction pipes (mm): 80, 100, 150, 200, 250, 300, 350, 400 and 450 mm. These Vortex Inhibitors have been assessed as being in compliance with the requirements of EN 12845, Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance	445c/01

Notes:

Installed in accordance with Vortex Inhibitor Installation Procedure BT-DD-VI-IP-I-001 Rev.2 dated 10/05/12

CST Industries (UK) Limited

Cotes Park Lane, Cotes Park Industrial Estate, Alfreton, Derbyshire DE55 4NJ, United Kingdom

Tel: +44 (0)1773 835321 • Fax: +44 (0)1773 836578

E-mail: tcruse@cstindustries.com • Website: www.cstindustries.com

Certificate No: 044b

CST Vortex Inhibitors

Certificated Products

CST Vortex Inhibitors	Inhibitors suitable for the following nominal bore suction pipes (mm):- 80, 100, 150, 200, 250, 300, 350, 400 and 450 mm These Vortex Inhibitors have been assessed as being in compliance with the requirements of EN12845, Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance.	LPCB Ref. No. 044b/01
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Franklin Hodge Industries Ltd.

Jubilee Building, Faraday Road, Westfields Trading Estate, Hereford HR4 9NS, United Kingdom

Tel: +44 (0)1432 269605 • Fax: +44 (0)1432 277454

E-mail: sales@franklinhodge.co.uk • Website: www.franklinhodge.com

Certificate No: 037b

PART 3: SECTION 14

VORTEX INHIBITORS

Certificated Products

F.H.I. Anti - Vortex Plate

Suitable for the following nominal bore suction pipes (mm):
100, 150, 200, 250, 300, 350, 400 and 450

These Vortex Inhibitors have been assessed as being in compliance with the requirements of EN12845, Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance.

LPCB Ref.

No.

037b/01

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom

Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729

E-mail: simon.giles@tyco-bspd.com • Website: www.tfppea.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491

E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 007h

Certificated Products

Tyco Vortex Inhibitors

Inhibitors suitable for the following nominal bore suction pipes (mm):
65, 80, 100, 150, 200, 250, 300, 350 and 400.

LPCB Ref.

No.

007h/01

This section lists products approved in accordance with:

- EN12259-5 *Fixed firefighting systems. Components for sprinkler and water spray systems. Water flow detectors.*
- LPCB Schedule of requirements.

The following water flow alarm switches have been approved for use in wet pipe sprinkler systems in accordance with the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Influx Measurements Limited

1A Bennett House, The Dean, Alresford, Hampshire SO24 9BQ, United Kingdom
Tel: +44 (0)1962 736736 • Fax: +44 (0)1962 736737
E-mail: sales@influxmeasurements.com

Certificate No: 464b to EN12259-5

SprinklerSense SPDB Waterflow Switch

Product Name	Sizes (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
SprinklerSense SPDB Waterflow Switch	50, 65, 80, 100, 125, 150	20	464b/01

Certificate No: 464b

SprinklerSense test interface unit

Certificated Products

SprinklerSense test interface unit

LPCB Ref. No.
464b/02

Potter Electric Signal Company LLC

1609 Park 370 Place, Hazelwood, St Louis, Missouri 63042, USA
Tel: +1 314 595 6900 • Fax: +1 314 595 6999
E-mail: info@pottersignal.com • Website: www.pottersignal.com

Certificate No: 125b

Product Name	Sizes	Maximum Working Pressure (bar)	LPCB Ref. No.
Potter Type VSR-F	50mm, 65mm, 75mm, 100mm, 125mm, 150mm, 200mm (2-in, 2.5-in, 3-in, 4-in, 5-in, 6-in, 8-in, sizes)		125b/01

Certificate No: 125c to BS EN 12259-5 (with the exception of clause 4.6.11) of maximum 30 second alarm delay changed to 90 seconds)

Product Name	Size	Maximum Working Pressure (bar)	LPCB Ref. No.
VSR 2"	DN 50	16	125c/01
VSR 2.5"	DN 65	16	
VSR 3"	DN 80	16	
VSR 4"	DN 100	16	
VSR 5"	DN 125	16	
VSR 6"	DN 150	16	

PART 3: SECTION 15.1

WATER FLOW ALARM SWITCHES

Product Name	Size	Maximum Working Pressure (bar)	LPCB Ref. No.
VSR 8"	DN 200	16	

Notes:

- 1) BS EN 12259-5 Clause 4.6.1 allows a maximum 30 second delay before the alarm signal is sent. These products allow up to 90 seconds. This is necessary in some circumstances due to fluctuating water pressures.
- 2) To be used in accordance with manufacturers operating instructions. Ref "MFG #5401146 revision E".

Certificate No: 125c to BS EN 12259-5

Product Name	Size	Maximum Working Pressure (bar)	LPCB Ref. No.
VSR 2" (EU)	DN 50	16	125c/02
VSR 2.5" (EU)	DN 65	16	
VSR 3" (EU)	DN 80	16	
VSR 4" (EU)	DN 100	16	
VSR 6" (EU)	DN 150	16	
VSR 8" (EU)	DN 200	16	

Notes:

- 1) To be used in accordance with manufacturers operating instructions. Ref "MFG #5401159 revision C".

Certificate No: 125d to BS EN 12259-5 (with the exception of clause 4.6.11) of maximum 30 second alarm delay changed to 90 seconds)

Product Name	Size	Maximum Working Pressure (bar)	LPCB Ref. No.
VSR-S 1"	DN 25	20.7	125d/01
VSR-S 1 ¼"	DN 32	20.7	
VSR-S 1 ½"	DN 38	20.7	
VSR-S 2"	DN 50	20.7	

Notes:

- 1) BS EN 12259-5 Clause 4.6.1 allows a maximum 30 second delay before the alarm signal is sent. These products allow up to 90 seconds. This is necessary in some circumstances due to fluctuating water pressures.
- 2) To be used in accordance with manufacturers operating instructions. Ref "MFG #5401206 revision B".

Certificate No: 125d to BS EN 12259-5

Product Name	Size	Maximum Working Pressure (bar)	LPCB Ref. No.
VSR-S (EU) 1"	DN 25	20.7	125d/02
VSR-S (EU) 1 ¼"	DN 32	20.7	
VSR-S (EU) 1 ½"	DN 38	20.7	
VSR-S (EU) 2"	DN 50	20.7	

Notes:

- 1) To be used in accordance with manufacturers operating instructions. Ref "MFG #5401206 revision B".

System Sensor

3825 Ohio Avenue, Saint Charles, Illinois 60174, USA
Tel: +1 630 377 6580 • Fax: +1 630 377 7245
Website: www.systemsensor.com

Manufacturing location

Honeywell International [ACS ECC (Mexhon)], Mexhon S.A. de C.V., Boulevard Insurgentes No. 8503-2
Tijuana, Baja California, Baja 92154, Mexico

Certificate No: 1357g to EN12259-5

Product Name	Sizes (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Model WFD20EN	DN50	16	1357g/01
Model WFD25EN	DN65	16	
Model WFD30EN	DN80	16	
Model WFD40EN	DN100	16	
Model WFD60EN	DN150	16	
Model WFD80EN	DN200	16	
Model WFD20EPN	DN50	16	
Model WFD25EPN	DN65	16	
Model WFD30EPN	DN80	16	

Notes:

1. WFDxxEN models to be used in accordance with the manufacturer's installation and maintenance instructions ref: I56 - 4047 - 001R.
2. WFDxxEPN models to be used in accordance with the manufacturer's installation and maintenance instructions ref: I56 - 4051 - 001R.

PART 3: SECTION 15.2

FLOW SWITCH TESTING DEVICES

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Flow switch testing devices for use under *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Project Fire Products Limited

Pasturefields Lane Industrial Estate, Pasturefields Lane, Hixon, Staffordshire ST18 0PH, United Kingdom

Tel: +44 (0)1889 270999 • Fax: +44 (0)845 2800116

E-mail: sales@projectfire.co.uk • Website: www.projectfire.co.uk

Certificate No: 060a

Flow switch automatic tester system

Product Name	LPCB Ref. No.
ZONECHECK	060a/01

Guidance and approval conditions.

Zonecheck shall be installed in accordance with Project Fire Products Limited 'Instruction Booklet', but subject to guidance below taking precedence.

- 1) The Zonecheck system circulates, but does not draw-off water from the sprinkler system and consequently does not test any zone or control valves.
- 2) System approval based on use with LPCB approved and listed flow switch.
- 3) Effective operation of the Zonecheck system should be monitored.
- 4) In the event of any servicing being warranted on this system, it shall be ensured that this does not impair effective sprinkler protection.
- 5) Provision to test flow switches in the normal way (LPC Sprinkler Rules) should also be incorporated.
- 6) It shall be ensured that the associated pipework is adequately vented and charged hydraulically.
- 7) The automatic means of operation and recording does not form part of this approval.

Certificate No: 060c

Product Name	Nominal Size (mm)	Pipe Ends	Gasket Type	Maximum Working Pressure (bar)	LPCB Ref. No.
Model ZC-R-25 (Zonecheck Residential)	25.4 x 25.4	T	EPDM	12	060c/07
Model ZC-R-32 (Zonecheck Residential)	32 x 25.4	T	EPDM	12	
Model ZC-R-40 (Zonecheck Residential)	40 x 25.4	T	EPDM	12	
Model LT-ZCL-65-002 (Zonecheck Live) (Note 2)	65 x 25.4	T	EPDM	12	060c/04
Model LT-ZCL-80-002 (Zonecheck Live) (Note 2)	80 x 25.4	T	EPDM	12	
Model LT-ZCL-100-002 (Zonecheck Live) (Note 2)	100 x 25.4	T	EPDM	12	
Model LT-ZCL-150-002 (Zonecheck Live) (Note 2)	150 x 25.4	T	EPDM	12	
Model LT-ZCL-SA-002 (Zonecheck Special) (Note 2)	65 x 25.4	T	EPDM	12	060c/05
	80 x 25.4	T	EPDM	12	
	100 x 25.4	T	EPDM	12	
	150 x 25.4	T	EPDM	12	

Guidance and approval conditions.

Zonecheck shall be installed in accordance with Project Fire Products Limited 'Instruction Booklet', but subject to guidance below taking precedence.

- 1) The Zonecheck system circulates, but does not draw-off water from the sprinkler system and consequently does not test any zone or control valves.
- 2) System approval based on use with LPCB approved and listed flow switch.

- 3) Effective operation of the Zonecheck system should be monitored.
- 4) In the event of any servicing being warranted on this system, it shall be ensured that this does not impair effective sprinkler protection.
- 5) Provision to test flow switches in the normal way (LPC Sprinkler Rules) should also be incorporated.
- 6) It shall be ensured that the associated pipework is adequately vented and charged hydraulically.
- 7) The automatic means of operation and recording does not form part of this approval.

Sale Engineering Products Ltd.

Unit 2 Brookfield Industrial Estate, Brookfield Road, Cheadle, Cheshire SK8 2PN, United Kingdom

Tel: +44 (0) 161 428 1180

E-mail: info@saleengineering.co.uk • Website: www.firesprinkler.co.uk

Certificate No: 1423a to Technical Approval to an LPCB Schedule of Requirements

Sprinkler System Flow Switch Test Device

Product Name	Nominal Pipe Size (mm)	Pipe Ends	Maximum Working Pressure (bar)	LPCB Ref. No.
Zone Guardian DN50	60.3 x 60.3	T	12	1423a/01
Zone Guardian DN65	76.1 x 76.1	T	12	
Zone Guardian DN80	88.9 x 88.9	T	12	
Zone Guardian DN100	114.3 x 114.3	T	12	
Zone Guardian DN150	165.1 x 165.1	T	12	
	168.3 x 168.3	T	12	

Notes:

- 1) Zone Guardian Flow Switch Test Device shall be installed in accordance with IOM2, Zone Guardian Installation & Operation Instructions, Rev C 13 April 2018.
- 2) Technical product approval is based on use with LPCB approved and listed flow switch.
- 3) Effective operation of the Zone Guardian Flow Switch Test Device should be monitored.
- 4) In the event of any servicing being warranted on this device, it shall be ensured that this does not impair effective sprinkler protection.
- 5) Provision to test flow switches in the normal way (LPC Sprinkler Rules) should also be incorporated.
- 6) It shall be ensured that the associated pipework is adequately vented and charged hydraulically.
- 7) The automatic means of operation and recording does not form part of this approval.
- 8) All above sizes are approved in left and right handed versions.

PART 3: SECTION 15.3

WET ALARM VALVE TESTING DEVICE FOR SPRINKLER SYSTEMS

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Wet alarm valve testing devices for use with automatic sprinkler systems have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Project Fire Products Limited

Pasturefields Lane Industrial Estate, Pasturefields Lane, Hixon, Staffordshire ST18 0PH, United Kingdom

Tel: +44 (0)1889 270999 • Fax: +44 (0)845 2800116

E-mail: sales@projectfire.co.uk • Website: www.projectfire.co.uk

Certificate No: 060e to an LPCB schedule of requirements

Wet Alarm Valve Testing Devices

Product Name	Wet Alarm Valve Size (mm)	Pipe Ends (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Model BC-RF-PL-005 (Bellcheck)	80 - 200	25	12	060e

PART 3: SECTION 16.1

WATER SPRAY SYSTEMS (MEDIUM AND HIGH VELOCITY)

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Medium and high velocity sprayers for use under *LPC Rules for Automatic Sprinkler Installations* on oil and flammable liquid hazards have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturer's instructions.

GW Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark

Tel: +45 64 72 2055 • Fax: +45 64 72 2255

E-mail: sales.dep@gwsprinkler.com

Certificate No: 084i

Water spray systems (high velocity)

Product Name	Description	LPCB Ref. No.
Fyrhed Waterspray System	High velocity	084i/01

Certificate No: 084i

Water spray systems (medium velocity)

Product Name	Description	LPCB Ref. No.
Thermospray Waterspray System	Medium velocity	084i/02

Standard with ½" NPT thread. Operating pressure range 1.4 to 3.5 bar. Horizontal to Vertically down.

K-FACTOR ±5%	BORE DIA. (X)mm	SPRAY ANGLE
23*	7.5	60°
32	8.7	75°
38	9.4	90°
41	9.7	100°
50	10.6	110°
63	11.5	120°
78	12.4	135°
92	13.1	150°
115	14.0	

*= fitted with filter

PART 3: SECTION 16.1

WATER SPRAY SYSTEMS (MEDIUM AND HIGH VELOCITY)

The Reliable Automatic Sprinkler Co., Inc,

1470 Smith Grove Road, Liberty, South Carolina 29657, USA

Tel: +1 864 843 1734 • Fax: +1 864 843 1418

E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:

Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Certificate No: 034e

Approved Products

Reliable Medium Velocity
Water Spray System

**LPCB Ref.
No.**
034e/01

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK) Limited)

Tyco Park, Grimshaw Lane, Newton Heath, Manchester M40 2WL, United Kingdom

Tel: +44 (0)161 205 2321 • Fax: +44 (0)161 455 4459

Website: www.tycofis.com

Certificate No: 014d

Water spray systems (medium and high velocity)

Approved Products

Mulsifyre System
Protectospray System
Wormald High Velocity
Water Spray System
Wormald Medium Velocity
Water Spray System

**LPCB Ref.
No.**
014d/01
014d/02
014d/03

014d/04

Tyco Fire Products Manufacturing Limited (Stockport)

Stockport Trading Estate, Yew Street, Stockport, Cheshire SK4 2JW, United Kingdom

Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729

E-mail: simon.giles@tyco-bspd.com • Website: www.tycofire.com

Sales Enquiries:

Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491

E-mail: info-uk@tyco-bspd.com • Website: www.tycofire.com

Certificate No: 007i

Approved Products

Mulsifyre System
Protectospray System

**LPCB Ref.
No.**
007i/01
007i/02

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Water sprayers for use under *LPC Rules for Automatic Sprinkler Installations* on oil and flammable liquid hazards have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturer's instructions.

GW Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark

Tel: +45 64 72 2055 • Fax: +45 64 72 2255

E-mail: sales.dep@gwsprinkler.com

Certificate No: 084j

Certificated Products

GW R (1),(2),(3) 15mm long-throw horizontal open sprinkler

**LPCB Ref.
No.
084j/01**

1) Also approved with chromium finish.

2) To be installed in accordance with the supplier's installation instructions.

3) Application is limited to where purchaser, authority having jurisdiction and/or insurer consent to use.

PART 3: SECTION 17.1

FIRE PUMPS

This section lists products approved in accordance with:

- LPS 1131 *Pumps for Automatic Sprinkler Installation. Pump Sets - Requirements and testing methods.*

Firms listed in this section shall control and be responsible for the design, construction, testing and performance of all fire pump sets incorporating their LPCB approved fire pumps.

All fire pump sets incorporating LPCB approved fire pumps shall conform to the *LPC Rules for Automatic Sprinkler Installations*, or Rules specified in the contract, and shall be tested in accordance with the LPC Sprinkler Rules.

Note: Only LPCB approved fire pumps shall be used to comply with the *LPC Rules for automatic sprinkler installations*.

Pumps are approved for a maximum working pressure of 12 bar except where stated.

Armstrong Integrated Ltd

Heywood Wharf, Mucklow Hill, Halesowen, West Midlands B62 8DJ, United Kingdom

Tel: +44 (0)8444 145 145 • Fax: +44 (08444 145 146

E-mail: ukfire@armstrongfluidtechnology.com • Website: www.armstrongfluidtechnology.com

Certificate No: 197a

Fire Pump

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req.= 5.38m)	Rated Head (bar) (at NPSH req.= 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
4030 FP 8x5x11½	Direct coupled end suction	200/125	292	2900	7450	7.5	10	197a/01
			241	2900	7000	3.8	6.8	
			292	2900*	7450	7.5	10	
			292	1450*	4800	1.6	2.3	
4030FP 6x4x10	Direct coupled end suction	150/100	259*	2900	7680	5.3	8.6	197a/02
			205*	2900	5280	3.6	4.8	
			259	2900*	7680	5.3	8.6	
			259	1450*	3120	1.6	2.1	
4030 FP(1) 4x3x8½	Direct coupled end suction	100/80	224	2900	3360	3.4	6.3	197a/03
4030 FP 4x3x8½			175	2900	2460	1.9	3.9	
4030FP 3x2x6	Direct coupled end suction	80/50	157	2900	1300	1.2	2.9	197a/04
			113	2900	750	0.9	1.5	
4020 FP(1) 4x3x8½	Close coupled end suction	100/80	224	2900	3360	3.4	6.3	197a/05
			175	2900	2460	1.9	3.9	
4020 FP 8x5x11½	Close coupled end suction	200/125	292	2900	7450	7.5	10	197a/06
			241	2900	7000	3.8	6.8	
			292	2900*	7450	7.5	10	
			292	1450*	4800	1.6	2.3	
4020FP 6x4x10	Close coupled end suction	150/100	259*	2900	7680	5.3	8.6	197a/07
			205*	2900	5280	3.6	4.8	
			259	2900*	7680	5.3	8.6	
			259	1450*	3120	1.6	2.1	

PART 3: SECTION 17.1

FIRE PUMPS

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req.= 5.38m)	Rated Head (bar) (at NPSH req.= 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
4020FP 3x2x6	Close coupled end suction	80/50	157	2900	1300	1.2	2.9	197a/08
40MF 8x6x13 LPC (2),(3) & (4)	Direct Coupled End Suction	200/150	113	2900	750	0.9	1.5	197a/09
			295	2900	9050	8.1	11.1	
			279	2900	8850	7.2	9.8	
			330	2600	10430	6.8	10.7	
40MF 6x5x13 PLC(2),(3) & (4)	Direct Coupled End Suction	150/125	273	2600	9850	4.2	7.5	197a/10
			295	2900	7700	8.5	12.0	
			250	2900	7700	4.8	8.6	
			330	2600	8000	8.7	12.1	
40MF 5x4x11.5 LPC(2),(3) & (4)	Direct Coupled End Suction	125/100	250	2600	7500	303	6.9	197a/11
			292	2900	5750	7.9	10.9	
			241	2900	5100	4.5	7.4	
			292	2600	5850	5.4	8.8	
			241	2600	4825	303	5.9	

*These pumps are approved with impeller diameters and, where applicable, speeds within the ranges shown, to provide flows and heads within those ranges.

Notes:

- 1) Maximum working pressure: 10 bar. The above pumps are fitted with 'closed head' relief valve Part No. UKDO 5493 - 145 Issue A.
- 2) This pump is fitted with 'closed head' relief valve Part No. UKDO5286-204.
- 3) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with TB13:1990:1 - High rise sprinkler systems.
- 4) Maximum working pressure: 12 bar.

DAB Pumps SpA

Via Einaudi, 2 - 36040 - Brendola (VI), Italy
 Tel: +39 049 9048811 • Fax: +39 049 9048847
 Website: www.dabpumps.com

Certificate No: 1073a to LPS 1131: Issue 1.1

Fire Pump

Product Name	Type	Suction Inlet Diameter / Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. = 5.0/5.38m)	Rated Head (bar) (at NPSH req. = 5.0/5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
KDN 40-250/246 Note 1	End Section Long Coupled	65/40	246	2950	1058* at 5.0m 1087* at 5.38m	6.3 6.1	7.9	1073a/01
KDN 65-315/267 Note 1	End Section Long Coupled	80/65	267	2950	2330** at 5.0m 2480** at 5.38m	7.8 7.4	9.5	1073a/02

The above pumps may be fitted with Danfoss valve Type EVSI15 'closed head' relief valve.

- *The minimum bypass flow rate is 10 l/min
- ** The minimum bypass flow rate is 30 l/min

Note 1) Maximum working pressure 16 bar

PART 3: SECTION 17.1

FIRE PUMPS

Grundfos Fire Systems

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Certificate No: 510a to LPS 1131: Issue 1.1

Fire Pump

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. 5.38m)	Rated Head (bar) (at NPSH req. 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
FK80-200	End suction long coupled	100/80	222	2950	3417	4.9	6.2	510a/01
FB80-200	End suction close coupled	100/80	185 222	2950 2950	3250 3417	2.9 4.9	4.2 6.2	510a/02
FK80-250	End suction long coupled	100/80	185 227	2950 2950	3250 3330	2.9 5.1	4.2 6.5	510a/03
FK65-160	End suction long coupled	80/65	177	2950	2466	2.5	4.1	510a/05
FB65-160	End suction close coupled	80/65	137 177	2950 2950	2050 2466	1.1 2.5	2.3 4.1	510a/06
FK65-200	End suction long coupled	80/65	137 219	2950 2950	2050 2633	1.1 4.3	2.3 6.3	510a/07
FB65-200	End suction close coupled	80/65	180 219	2950 2950	2233 2633	2.2 4.3	4.1 6.3	510a/08
			180	2950	2233	2.2	4.1	

* These pumps are approved with impeller diameters within the ranges shown to provide flows and heads within these ranges. The above pumps are approved with mechanical seals and fitted with Danfoss EVSI 15 Special 'closed head' relief valves, Part No. 032U7190

Certificate No: 510a to LPS 1131: Issue 1.1

Product Name	Type	Suction Inlet Diameter / Discharge Outlet diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow* (L/min) (at NPSH req. <= 5.0/5.38m)	Rated Head (bar) (at NPSH req. <= 5.0/5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
NKF125-315	End suction long coupled	125/315	289.5	2990	7233** at 5.0m	8.1	11.4	510a/09
NKF125-250	End suction long coupled	150/125	269*	2990	6917	9.9	10.2	510a/10
NKF125-250.1	End suction long coupled	150/125	226* 263*	2990 2990	6917 6450	5.4 8.5	6.6 9.3	510a/11
NKF100-200	End suction long coupled	125/100	238.5* 219*	2990 2990	6450 5300	6.2 5.8	7.4 6.9	510a/12
			209*	2990	5300	3.9	6.1	

* These pumps are approved with impeller diameters within the ranges shown to provide flows and heads within these ranges

** The bypass flow rate is 5% of rated flow

The above pumps are approved with mechanical seals and fitted with Danfoss EVSI 15, Part No. 032U7190 or EVSI 20, Part No. 032U7191 'closed head' relief valves.

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Certificate No: 436a

Fire Pump

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. ≤ 5.38m)	Rated Head (bar) (at NPSH req. ≤ 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
4 x 3 VIP	Vertical in-line close coupled	100/75	216*	2950	2000	4.5	6.5	436a/01
5 x 3 VIP	Vertical in-line close coupled	125/75	178* 222*	2950 2950	1850 3300	2 4.2	4.2 6.8	436a/02
5 x 4 MAC	Horizontal split case	125/100	162* 219*	2950 2950	2700 4810	1.3 4.9	3.3 6.6	436a/03
4 x 3 ME	Horizontal split case	100/75	159* 219* 159* 219* 197* 394*	2950 3000 3000 3300 3300 1750	4475 4850 4400 4500 4500 3325	1.4 5.1 1.6 6.9 4.9 5.5	3.4 6.8 3.6 8.2 6.6 7.5	436a/04
5 x 4 M	Horizontal split case	125/100	270* 314*	3300 1750	3225 4000	1.7 3.3	3.5 4.7	436a/05
6 x 5 MAA	Horizontal split case	150/125	270* 257*	1750 2950	4100 5075	1.9 4.3	3.4 9	436a/06
8 x 6 MI	Horizontal split case	200/150	184* 257* 184* 257* 206* 406*	2950 3000 3000 3300 3300 1750	4000 5050 4100 5150 5000 9400	1.5 4.3 1.5 6.7 2.5 5.6	4.7 9.3 4.9 11.2 7.2 8.1	436a/07
10 x 8 M	Horizontal split case	250/200	327* 406* 338* 457*	1750 2100 2100 1470	8775 9100 10100 13000	2.1 9.4 4.5 5.4	5.1 11.5 7.9 7.4	436a/08
5x4x10 VES	End suction long coupled	125/100	400* 457* 356 259*	1470 1750 1750 2950	12300 13200 11000 4900	2.7 8.6 3.6 7.9	5.6 10.5 6.1 9.3	436a/09
			215* 259* 215* 259* 215* 259* 215* 259*	2950 2800 2800 2600 2600 2400 2400 2200	4800 4950 4750 4750 4550 4350 4000 4550	3.5 7.1 2.9 5.7 2.3 5 2.3 3.9	5.9 8.3 5.3 7.2 4.6 6.1 3.9 5.1	

PART 3: SECTION 17.1

FIRE PUMPS

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. ≤ 5.38m)	Rated Head (bar) (at NPSH req. ≤ 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
5x3x13 VES (2)	End suction long coupled	125/75	215*	2200	3800	1.7	3.3	436a/010
			318.5*	2950	4000	10	13.3(1)	
			260*	2950	3675	4.5	8.7	
			318.5*	2800	3950	8.7	12.0(1)	
			260*	2800	3530	3.9	7.9	
			318.5*	2600	3900	7	10.3(1)	
			260*	2600	3350	3	6.8	
			318.5*	2400	3475	6.2	8.8	
			260*	2400	3075	3	5.5	
			318.5*	2200	3640	4.2	7.4	
6x5x11 VES (3)	End suction long coupled	150/125	260*	2200	2900	2.3	4.9	436a/011
			290*	2900	6600	9.6	10.7(1)	
			250*	2900	6300	5.9	7.8	
			290*	2800	6500	8.8	9.9	
			250*	2800	6500	5.3	7.3	
			310*	2600	6550	8.8	9.9	
			250*	2600	6700	3.9	6.2	
			330*	2400	6050	9.4	10.0(1)	
			250*	2400	6000	3.6	5.3	
			330*	2200	5900	7.7	8.5	
10x8x17SSC (4)	Horizontal split case	250/200	250*	2200	6150	2.5	4.4	436a/012
			406*	2100	12200	8.9	12.2(1)	
			349*	2100	12200	5.3	9.1	
			422*	1750	12200	6.7	9.3	
			349*	1750	11800	2.6	6.3	
			422*	1475	12800	3.2	6.6	
			349*	1475	9900	2	4.5	
			422*	1750)*	12200	6.7	9.3	
			349	1475*	9900	2	4.5	
			8x6YR (3)	Horizontal split case	200/150	300	2950	
263	2950	7675				4.9	9.5	
384	2100	12500				8	11.0(1)	
8x6YS (3)			340	2100	11500	5.2	8.5	436a/014

*These pumps are approved with impeller diameters and speeds within the ranges shown, to provide flows and heads within those ranges.

The above pumps are fitted with Danfoss type EVSI 'closed head' relief valves.

- 1) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with TB13: 1990: 1 - High rise sprinkler systems
- 2) Maximum working pressure: 15.6 bar.
- 3) Maximum working pressure: 13 bar.
- 4) Maximum working pressure: 16.5 bar.

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Certificate No: 111b to LPS 1131

PART 3: SECTION 17.1

FIRE PUMPS

Fire Pump

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. = 5.38m)	Rated Head (bar) (at NPSH req. = 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
TD20D Thru-stream (2),(5)	Horizontal split case	250/200	340	2950	13600	10.8	15.7 ⁽¹⁾	111b/01
			275*	2950	12000	7.6	10.3 ⁽¹⁾	
			273*	2950	11600	7.4	10	
			245*	2950	8500	6	8	
			340	2950*	13600	10.8	15.7 ⁽¹⁾	
			340	2400*	13500	6	10.3 ⁽¹⁾	
TD20E Thru-stream (2),(5)	Horizontal split case	250/200	290*	2950	13300	6.7	11.3 ⁽¹⁾	111b/02
			273*	2950	13300	5.7	10	
			240*	2950	10800	4.9	7.7	
			290	2950*	13300	6.7	11.3 ⁽¹⁾	
			290	2800*	13800	5.3	10.2	
			290	2200*	12700	2	6.3	
TD15F Thru-stream (3),(5)	Horizontal split case	200/150	325*	2950	9600	7.9	13.3 ⁽¹⁾	111b/03
			282*	2950	9600	5.4	10	
			275*	2950	9600	5.1	9.5	
			245*	2950	9600	3.9	7.5	
			325	2950*	9600	7.9	13.3 ⁽¹⁾	
			325	2550*	9600	5	10	
TD15A Thru-stream (3),(5)	Horizontal split case	200/150	325*	2950	7300	12.8	14.4 ⁽¹⁾	111b/04
			270*	2950	7300	8.5	9.9	
			240*	2950	7300	5.9	7.7	
			270	2950*	7300	8.5	9.8	
			270	2400*	8650	4.3	6.4	
			325	2950*	7300	12.8	14.4 ⁽¹⁾	
KP12X Unistream (5)	Direct coupled end suction	150/125	264*	2950	6800	8.5	10.4 ⁽¹⁾	111b/05
			200*	2950	6650	2.4	5.4	
			264	2950*	6800	8.5	10.4 ⁽¹⁾	
			264	2200*	5700	4.7	5.8	
			264*	2950	5500	7.6	9.8	
			195*	2950	4200	3.6	5.3	
KP10X Unistream (5)	Direct coupled end suction	125/100	264*	2950	5500	7.6	9.8	111b/06
			195*	2950	4200	3.6	5.3	
			264	2950*	5500	7.6	9.8	
			264	2200*	5500	3	5.7	
			272*	2950	7800	7.8	9.8	
			239*	2950	7600	5.2	7.7	
KP15Y Unistream (5)	Direct coupled end suction	200/150	272*	2950	7800	7.8	9.8	111b/07
			239*	2950	7600	5.2	7.7	
			272	2950*	7800	7.8	9.8	
			272	2200*	8200	3.2	5.6	
			310*	2600	8600	8.6	10.5	
			239*	2600	7800	3.2	5.9	
KP08Y Unistream (4),(5)	Direct coupled end suction	100/80	310	2600*	8600	8.6	10.5	111b/08
			310	2000*	7350	4.7	6.2	
			329*	2950	3600	13.2	15.2 ⁽¹⁾	
			270*	2950	3500	7	10	
			255*	2950	3450	5.6	8.8	
			329	2950*	3600	13.2	15.2 ⁽¹⁾	
KP08V Unistream (5)	Direct coupled end suction	100/80	214	2920	2700	2.4	5.6	111b/09
			329	2400*	3650	7	10	
			329	2200*	3650	5	8.3	
			165	2920	2340	1.6	3.3	
			174	2900	2590	2.3	4.3	
			125	2900	1790	0.6	2	
KP06C Unistream (5)	Direct coupled end suction	80/65	174	2900	2590	2.3	4.3	111b/10
			125	2900	1790	0.6	2	
KP05D Unistream (5)	Direct coupled end suction	65/50	214	2900	1380	3.3	6.3	111b/11
			125	2900	1790	0.6	2	

PART 3: SECTION 17.1

FIRE PUMPS

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. = 5.38m)	Rated Head (bar) (at NPSH req. = 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
KP06D Unistream (5)	Direct coupled end suction	80/65	165	2900	1090	1.6	3.7	111b/12
			214*	2950	2580	5	6.6	
			214	2950*	2250	2.3	3.8	
KP08D Unistream (5)	Direct coupled end suction	100/80	214	2950*	2580	5	6.6	111b/13
			214	2200*	2550	1.7	3.6	
			214*	2950	3400	4.8	6.5	
			165	2950	2820	2.4	3.8	
KM10E Eurostream(5)	Close coupled end suction	125/100	214	2950*	3400	4.8	6.5	111b/14
			214	2200*	3300	1.8	3.7	
			264	2950	5500	7.6	9.8	
KM08V Eurostream(5)	Close coupled end suction	100/80	195	2950	4200	3.6	5.3	111b/15
			214	2920	2700	2.4	5.6	
KM06C Eurostream (5)	Close coupled end suction	80/65	165	2920	2340	1.6	3.3	111b/16
			174	2900	2590	2.3	4.3	
KM05D Eurostream (5)	Close coupled end suction	65/50	125	2900	1790	0.6	2	111b/17
			214	2900	1380	3.3	6.3	
KM06D Eurostream (5)	Close coupled end suction	80/65	165	2900	1090	1.6	3.7	111b/18
			214	2950	2580	5	6.6	
KM08D Eurostream (5)	Close coupled end suction	100/80	165	2950	2250	2.3	3.8	111b/19
			214	2950	3400	4.8	6.5	
AV03N Unistream (5)	Close coupled end suction	100/80	165	2950	2820	2.4	3.8	111b/20
			174	2900	2540	1.3	3.8	
AV03P Eurostream (5)	Close coupled end suction	100/80	135	2900	1840	1	2.3	111b/21
			174	2900	2540	1.3	3.8	
KP10Y Unistream (5)	Direct coupled end suction	150/100	135	2900	1840	1	2.3	111b/23
			264*	2950	7680	5.2	9.7	
			210*	2950	5100	4.2	6	
KM08E Eurostream (5)	Close coupled end suction	100/80	264	2950*	7680	5.2	9.7	111b/24
			264	2200*	6480	2	5.4	
			264*	2950	2800	9.5	10	
			205*	2950	2800	4.2	5.9	
KP08E Unistream (5)	Direct coupled end suction	100/80	264*	2950	2800	9.5	10	111b/25
			205*	2950	2800	4.2	5.9	
			264*	2600	3150	6.6	7.8	
			205*	2600	2750	2.8	4.6	
			264	2950*	2800	9.5	10	
			264	2200*	3200	3.8	5.5	
			329*	2600	6500	10.6	12.1	
KP12Z Unistream (5),(6)	Direct coupled end suction	150/125	255*	2600	6000	5	6.9	111b/26
			329	2600*	6500	10.6	12.1	
			329	2000*	6350	5.4	7.1	
			272*	2950	7800	7.8	9.8	
KP15Y Unistream (5)	Direct coupled end suction	200/150	239*	2950	7600	5.2	7.7	111b/27
			272	2950*	7800	7.8	9.8	
			272	2200*	8200	3.2	5.6	
			310*	2600	8600	8.6	10.5	
			239*	2600	7800	3.2	5.9	
			310	2600*	8600	8.6	10.5	
			310	2000*	7350	4.7	6.2	
			480	1760	13170 at 5.0m	10.8	12.0	
			TF20A Thru-stream (6)	Horizontal split case	250/200	480	1760	

PART 3: SECTION 17.1

FIRE PUMPS

Product Name	Type	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (L/min) (at NPSH req. = 5.38m)	Rated Head (bar) (at NPSH req. = 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
			480	1760	13540 at 5.38m	10.7	12.0	
			370	1760	12540 at 5.0m	5.7	7.3	
			370	1760	12900 at 5.38m	5.6	7.3	

* These pumps are approved with impeller diameters and, where applicable, speeds within the ranges shown, to provide flows and heads within those ranges.

Notes:

- 1) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with BS EN 12845:2004+A2:2009 - Annex E - Special requirements for high rise systems.
- 2) Maximum working pressure: 21 bar.
- 3) Maximum working pressure: 20 bar.
- 4) Maximum working pressure: 18 bar.
- 5) The above pumps are also approved with alternate material options of bronze impeller and/or stainless steel shaft.
- 6) Maximum working pressure 14 bar.

The above pumps are fitted with "closed head" relief valve Pt. No. 25652 - 511 - 000 - 7 or Pt. No. 25652-501-000-2.a

PART 3: SECTION 17.2

MULTI-STAGE FIRE PUMPS

This section lists products approved in accordance with:

- LPS 1131 *Pumps for Automatic Sprinkler Installation. Pump Sets - Requirements and testing methods.*

Firms listed in this section shall control and be responsible for the design, construction, testing and performance of all fire pump sets incorporating their LPCB approved fire pumps.

All fire pump sets incorporating LPCB approved fire pumps shall conform to the *LPC Rules for Automatic Sprinkler Installations*, or Rules specified in the contract, and shall be tested in accordance with the LPC Sprinkler Rules.

Only LPCB approved fire pumps shall be used to comply with the *LPC Rules for Automatic Sprinkler Installations*.

Pumps listed in this section are suitable for use in pump sets for high-rise and multi-storey buildings.

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Certificate No: 111b

Product Name	Suction Inlet Diameter/ Discharge Outlet Diameter (mm)	Delivery Configuration	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow (l/min) (at NPSH req. <= 5.38m)	Rated Head (bar) (at NPSH req. <= 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
CD10K 2-5 stage Multistream multistage pump	125/100	(1) Single stage - closed stage or final outlet	219	2950	2800	4.8	7.0	111b/22
			202	2950	2800	3.3	5.5	
		(2) Single stage - intermediate outlet	219	2950	2800	3.7	7.5	
			202	2950	2800	1.4	5.9	
			219	2950	2800	24.0	35.0	
(3) Final outlet of five stage pump	202	2950	2800	16.5	27.5			

The pump performance is the summation of each stage, i.e. the performance at the final outlet of a four stage pump is 4 x (1).

The performance at the fourth stage intermediate outlet of a five stage pump is 3 x (1) + (2).

The performance at the final outlet of a five stage pump is 5 x (1), as detailed in (3).

The above pump is approved with impeller diameters within the range shown, to provide flows and heads within the ranges shown.

The above pump is fitted with 'closed head' relief valve part no. 25652-511-000-7.

Certificate No: 111b

Product Name	Suction Inlet Diameter/ Discharge Outlet diameter (mm)	Delivery Configuration	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow* (L/min) (at NPSH req <= 5.38m)	Rated Head (bar) (at NPSH req <= 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
CD12K 2-10 stage Multistream multistage pump	150/125	Single stage - closed stage or final outlet	308	1470	4290	2.3	3.7	111b/28
			247	1470	3930	0.5	2.2	

PART 3: SECTION 17.2

MULTI-STAGE FIRE PUMPS

Product Name	Suction Inlet Diameter/ Discharge Outlet diameter (mm)	Delivery Configuration	Impeller Diameter (mm)	Rated Speed (rev/min)	Rated Flow* (L/min) (at NPSH req ≤ 5.38m)	Rated Head (bar) (at NSPH req ≤ 5.38m)	Closed Valve Head (bar)	LPCB Ref. No.
		Single stage - intermediate outlet	308	1470	4290	0.8	3.7	
		Final outlet of ten stage pump	247	1470	3930		2.2	
			308	1470	4290	23.0	37.0	
			247	1470	3930	5.0	22.0	

The pump performance is the summation of each stage, i.e. the performance at the final outlet of an eight stage pump is 8 x (1).

The performance at the seventh stage intermediate outlet of an eight stage pump is 6 x (1) + (2).

The performance at the final outlet of a ten stage pump is 10 x (1), as detailed in (3).

The above pump is fitted with 'closed head' relief valve part no. 25652-511-000-7.

*The minimum bypass flow rate is 160 L/min.

PART 3: SECTION 17.3

DIESEL ENGINES FOR SPRINKLER PUMP SETS

This section lists products approved in accordance with:

- LPS 1239 *Requirements for LPCB Approval of Diesel Engines for Sprinkler Pump Sets.*

LPCB approved diesel engines shall be used in fire pump sets which conform to the *LPC Rules for Automatic Sprinkler Installations*.

For pump sets requiring a diesel engine with a power/speed rating outside the range of approved diesel engines listed, such diesel engines should conform to LPS 1239, Issue 1.

LPCB Approved engines are approved for use between the following limits:

- Not greater than the approved rated engine power at the rated speed.
- Not less than 40% of the approved rated engine power at the rated speed

The responsibility for the design, construction, testing and performance of all fire pump sets incorporating LPCB approved diesel engines lies with the pump set manufacturer.

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Grange Works, Lomond Road, Coatbridge, Scotland ML5 2NN, United Kingdom

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Certificate No: 601 to LPS 1239

Product Name	1760*	2100*	2350*	2600*	2800*	2960*	LPCB Ref. No.
JU4H - LP20 (1)	60	67	72	-	-	-	601b/01
JU4H - LP24 (1)	-	-	72	75	80	83	601b/02
JU4H - LP50 (2)	110	130	127	-	-	-	601b/03
JU4H - LP54 (2)	-	-	122	139	145	145	601b/04
JU4H - LP84 (3)	-	-	139	175	179	185	601b/05
JU6H - LP50 (2)	183	210	210	-	-	-	601b/06
JU6H - LP54 (2) **	-	-	210	216	216	216	601b/07
JU6H - LP60 (3)	200	240	240	-	-	-	601b/08
JU6H - LP84 (3) **	-	-	243	247	259	275	601b/09
LC2A - LP30 (1) (4)	-	-	-	-	6.8	9.7	601c/01
LC2A - LP60 (1) (4)	-	-	-	-	21.8	22.3	601c/02

* Approved rated engine power (bhp) at rated speed (rev/min)

** These engines are not suitable for continuous operation in the range 2650 to 2750 rpm

Notes:

- 1) Normally aspirated.
- 2) Turbocharged & Jacket Water Aftercooled.
- 3) Turbocharged & Raw Water Aftercooled.
- 4) Air-cooled engine

This section lists products approved in accordance with:

- LPCB Schedule of requirements
- LPS 1194 *Requirements and Testing Methods for Pipe Hangers*

Components of pipe support systems listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Lindapter International

Lindsay House, Brackenbeck Road, Bradford BD7 2NF, United Kingdom

Tel: +44 (0)1274 521 444 • Fax: +44 (0)1274 521 130

E-mail: enquiries@lindapter.com • Website: www.lindapter.com

Certificate No: 1171a to LPS 1194: Issue 1.2

Pipe Hangers

Product Name	Pipe Size (mm)	Material	Finish	LPCB Ref. No.
SH025 / SH025N	25	Mild Steel	Galvanised	1171a/01
SH032 / SH032N	32	Mild Steel	Galvanised	
SH040 / SH040N	40	Mild Steel	Galvanised	
SH050 / SH050N	50	Mild Steel	Galvanised	
SH065 / SH065N	65	Mild Steel	Galvanised	
SH080 / SH080N	80	Mild Steel	Galvanised	
SH100 / SH100N	100	Mild Steel	Galvanised	
SH125 / SH125N	125	Mild Steel	Galvanised	
SH150 / SH150N	150	Mild Steel	Galvanised	

Note:

Models suffixed with 'N' are supplied with a knurled hanger nut, otherwise supplied with a standard hex nut.

Tyco Fire & Building Products (Enschede)

Kopersteden 1, Enschede 7547TJ, The Netherlands

Tel: Sales Enquiries: +31 53 4284444 • Fax: +31 53 4283377

E-mail: info@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 169e

Product Name	Pipe Size (mm)	Material	Finish	LPCB Ref. No.
Filbow DN20	20	Mild Steel	Galvanised	169e/01
Filbow DN25	25	Mild Steel	Galvanised	
Filbow DN32	32	Mild Steel	Galvanised	
Filbow DN40	40	Mild Steel	Galvanised	
Filbow DN50	50	Mild Steel	Galvanised	
Filbow DN65	65	Mild Steel	Galvanised	
Filbow DN80	80	Mild Steel	Galvanised	
Filbow DN100	100	Mild Steel	Galvanised	
Filbow DN150	150	Mild Steel	Galvanised	
Filbow DN200	200	Mild Steel	Galvanised	
F020	20	Mild Steel	Galvanised	169e/02
F025	25	Mild Steel	Galvanised	
F032	32	Mild Steel	Galvanised	
F040	40	Mild Steel	Galvanised	
F050	50	Mild Steel	Galvanised	
F065	65	Mild Steel	Galvanised	
F080	80	Mild Steel	Galvanised	
F100	100	Mild Steel	Galvanised	
F125	125	Mild Steel	Galvanised	

PART 3: SECTION 18

PIPEWORK SUPPORTS

Product Name	Pipe Size (mm)	Material	Finish	LPCB Ref. No.
F150	150	Mild Steel	Galvanised	

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Check valves listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturer's instructions.

Jinan Meide Casting Co Ltd

No 3 Nanmen Road, Pingyin, Jinan, China

Tel: +86 531 87885062 • Fax: +86 531 87879387

E-mail: kevinzhang0925@gmail.com • Website: Web: <http://www.meide-casting.com>

Certificate No: 988b to LPS 1186 Issue 3.1

Check Valves

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Body Material	Maximum Working Pressure (bar)	Connections	LPCB Ref. No.
H84X check valves	50	60.3	Ductile iron	25	Grooved	988b/01
	65	73.0	Ductile iron	25	Grooved	
	65	76.1	Ductile iron	25	Grooved	
	80	88.9	Ductile iron	25	Grooved	
	100	114.3	Ductile iron	25	Grooved	
	125	139.7	Ductile iron	25	Grooved	
	125	141.3	Ductile iron	25	Grooved	
	150	165.1	Ductile iron	25	Grooved	
	150	168.3	Ductile iron	25	Grooved	
	200	219.3	Ductile iron	25	Grooved	
	250	273.0	Ductile iron	25	Grooved	
	300	323.9	Ductile iron	25	Grooved	
	H44X2 check valves	50	60.3	Ductile iron	25	
65		73	Ductile iron	25	Flanged	
80		88.9	Ductile iron	25	Flanged	
100		114.3	Ductile iron	25	Flanged	
125		139.7	Ductile iron	25	Flanged	
150		165.1	Ductile iron	25	Flanged	
200		219.1	Ductile iron	25	Flanged	
250		273.0	Ductile iron	25	Flanged	
300		323.9	Ductile iron	25	Flanged	

Victaulic Company

4901 Kesslersville Road, Easton, Pennsylvania 18040, USA

Tel: +1 610 559 3300 • Fax: +1 610 250 8817

E-mail: victaulic@victaulic.com • Website: www.victaulic.com

Certificate No: 104h to LPS1186 Issue 3.0

Series 717 Check Valves

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Body Material	Maximum Working Pressure (bar)	Connections	LPCB Ref. No.
Series 717 R check valves	50	73.0	Ductile iron	25	Grooved	104h/02
	65	76.1	Ductile iron	25	Grooved	
	80	88.9	Ductile iron	25	Grooved	

PART 3: SECTION 19

CHECK VALVES

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Body Material	Maximum Working Pressure (bar)	Connections	LPCB Ref. No.	
Series 717 H check-valves	100	114.3	Ductile iron	25	Grooved	104h/01	
	125	139.7	Ductile iron	25	Grooved		
		141.3	Ductile iron	25	Grooved		
		150	165.1	Ductile iron	25		Grooved
	Series 717 check-valves	200	168.3	Ductile iron	25		Grooved
			219.3	Ductile iron	24		Grooved
		250	273.0	Ductile iron	17		Grooved
		300	323.9	Ductile iron	17		Grooved
		65	60.3	Ductile iron	25		Grooved
			73	Ductile iron	25		Grooved
Series 717 check-valves		80	76.1	Ductile iron	25	Grooved	
	88.9		Ductile iron	25	Grooved		
	100	114.3	Ductile iron	25	Grooved		
		125	139.7	Ductile iron	25	Grooved	
	150	141.3	Ductile iron	25	Grooved		
		165.1	Ductile iron	25	Grooved		
	200	168.3	Ductile iron	25	Grooved		
		219.1	Ductile iron	24	Grooved		
	250	273.0	Ductile iron	17	Grooved		
300	323.9	Ductile iron	17	Grooved			

User Data Sheet 10.08, rev P

This section lists products approved in accordance with:

- LPCB Schedule of requirements
- LPS 1185 *Requirements for Testing Methods for Remote Monitored Gear Operated Butterfly Stop Valves*

Stop valves listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturer's instructions.

PVI (Picardie Valves Industries)

2 Rue du Marais, 80400 Ham, France

Tel: +33 (0)3 23 81 43 00 • Fax: +33 (0)3 23 81 18 69

E-mail: sapaginfo@sapag-valves.com • Website: www.sapag-valves.com

Certificate No: 571a

Model SAPAG JPL 39109 Butterfly Stop Valves

Product Name	Size (mm)	Body Material	Maximum Working Pressure (bar)	Connections	LPCB Ref. No.
Model SAPAG JPL 39109 Butterfly stop valve	100	Ductile Iron	12.1	Grooved	571a/01
	125	Ductile Iron	12.1	Grooved	
	150	Ductile Iron	12.1	Grooved	
	200	Ductile Iron	12.1	Grooved	
	250	Ductile Iron	12.1	Grooved	
	300	Ductile Iron	12.1	Grooved	

Victaulic Company

4901 Kesslersville Road, Easton, Pennsylvania 18040, USA

Tel: +1 610 559 3300 • Fax: +1 610 250 8817

E-mail: victaulic@victaulic.com • Website: www.victaulic.com

Certificate No: 104j to LPS 1185 Issue 3.1

Certificate No: 846a to LPS 1185 Issue 3.1

Series 705(1) & 707C (2) Butterfly Valves Series

Product Name	Nominal Size (mm)	Pipe Outside Diameter (mm)	Body Material	Max. Working Pressure (bar)	Connections	LPCB Ref. No.
Series 705 & 707C Butterfly valve	65	73.0	Ductile iron	21	Grooved	104j/01
	65	76.1	Ductile iron	21	Grooved	
	80	88.9	Ductile iron	21	Grooved	
Series 705 & 707C Butterfly valve		108.0	Ductile iron	21	Grooved	846a/01
	Series 705 & 707C Butterfly valve	100	114.3	Ductile iron	21	
Series 705 & 707C Butterfly valve	125	139.7	Ductile iron	21	Grooved	104j/01
		141.3	Ductile iron	21	Grooved	
	150	165.1	Ductile iron	21	Grooved	
		168.3	Ductile iron	21	Grooved	
	200	219.3	Ductile iron	21	Grooved	
	250	273.0	Ductile iron	21	Grooved	
	300	323.9	Ductile iron	21	Grooved	

⁽¹⁾ Switch circuit Normally Open

⁽²⁾ Switch circuit Normally Closed

PART 3: SECTION 20

STOP VALVES

Certificate No: 104h to LPS 1186: Issue 3.0

Series 728 Ball Valves

Product Name	Nominal Size (mm)	Body Material	Maximum Working Pressure (bar)	Connections	LPCB Ref. No.
Series 728 Ball Valves	DN25	Brass	20	Threaded	104i/01
	DN32	Brass	20	Threaded	
	DN40	Brass	20	Threaded	
	DN50	Brass	20	Threaded	
	DN32	Brass	20	Grooved	
	DN40	Brass	20	Grooved	
	DN50	Brass	20	Grooved	

User manual 2227, Rev B

Certificate No: 104j to LPS1185 Issue 3.1

Certificate No: 846a

Series 765(1) & 766(2) Butterfly Valves

Product Name	Nominal Size (mm)	Pipe Outside diameter (mm)	Body Material	Max Working Pressure (bar)	Connections	LPCB Ref. No.	
Series 765 & 766 Butterfly valve	65	73.0	Ductile iron	25	Grooved	104j/02	
	65	76.1	Ductile iron	25	Grooved	846a/02	
	80	88.9	Ductile iron	25	Grooved		
		108.0	Ductile iron	25	Grooved		
		100	114.3	Ductile iron	25	Grooved	104j/02
		125	139.7	Ductile iron	25	Grooved	
			141.3	Ductile iron	25	Grooved	
		150	165.1	Ductile iron	25	Grooved	
			168.3	Ductile iron	25	Grooved	
		200	219.3	Ductile iron	25	Grooved	
		250	273.0	Ductile iron	25	Grooved	
		300	323.9	Ductile iron	25	Grooved	

⁽¹⁾ Switch circuit Normally Open

⁽²⁾ Switch circuit Normally Closed

This section lists products approved in accordance with:

- LPS 1260 *Requirements for testing plastic pipes and fittings for sprinkler systems.*

The 'scope of use' of plastic pipe shall be agreed between the plastics suppliers, purchaser/installer, authority having jurisdiction and/or insurer in accordance with documented supplier 'Installation Instructions' but subject to the following criteria taking precedence.

- 1) Use of plastic pipe and fittings is subject to water authority agreement for the district or territory concerned.
- 2) LPCB Approved quick response sprinklers shall be used with exposed (i.e. fire exposure) plastic pipe and fittings.
- 3) Plastic pipe and fittings are suitable for use only with wet pipe systems.
- 4) Use of water additives is only permitted in accordance with the manufacturer's installation instructions.
- 5) Care should be exercised to ensure that the adhesive joints are adequately cured, in accordance with the manufacturer's installation instructions, prior to pressurisation.
- 6) Plastic pipe and fittings shall not be installed outdoors.
- 7) Where plastic pipe and fittings are exposed (i.e. fire exposure), the system shall be installed close to a flat ceiling construction.
- 8) Sprinkler systems which employ plastic pipe and fittings shall be designed where possible to ensure there are no 'no flow' sections of pipework in the event of sprinkler operation.

Aquatherm GmbH

Biggen 5, D-57439 Attendorn, Germany

Tel: +49 2722 950223 • Fax: +49 2722 950252

E-mail: info@aquatherm.de • Website: www.aquatherm.de

Certificate No: 684a to LPS 1260

Aquatherm GmbH 'Red Pipe' PPR Plastic Pipe & Fittings

Product Name	Nominal Diameter Range (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
'Red Pipe' Sprinkler Pipe	20,25,32,40,50,63,75,90,110,125	12	684a/01
Socket	20,25,32,40,50,63,75,90,110,125	12	684a/02
Reducer	20,25,32,40,50,63,75,90,110,125	12	684a/03
Elbow, 90°	20,25,32,40,50,63,75,90,110,125	12	684a/04
Elbow, 45°	20,25,32,40,50,63,75,90,110,125	12	684a/05
Tee	20,25,32,40,50,63,75,90,110,125	12	684a/06
Reducing Tee	20x25x20;25x20x20;25x20x25;32x20x20; 32x20x32;32x25x32;40x20x40;40x25x40; 40x32x40;50x20x50;50x25x50;50x32x50; 50x40x50;63x40x63;63x50x63;75x40x75; 75x50x75;75x63x75;90x40x90;90x50x90; 90x63x90;90x75x90;110x63x110;110x75x110; 110x90x110;125x75x125;125x90x125;125x110x125	12	684a/07
End Cap	20,25,32,40,50,63,75,90,110,125	12	684a/08
Socket Welded Nipple	32,40,50,63,75,90,110,125	12	684a/09
Saddle Weld-in	40/20;40/25;50/20;50/25;63/20;63/25;63/32;75/20; 75/25;75/32;90/20;90/25;90/32;90/40;110/20;110/25; 110/32;110/40;125/20;125/25;125/32;125/40	12	684a/10
Coupling screw joint	32,40,50,63,75	12	684a/11
Wall connection	20x1/2"F;25x3/4"F	12	684a/12

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

Product Name	Nominal Diameter Range (mm)	Maximum Working Pressure (bar)	LPCB Ref. No.
Transition piece Female	20x1/2" F; 25x3/4" F; 32x1" F; 40x1 1/4" F 50x1 1/2" F; 63x2" F; 75x2"	12	684a/13
Transition piece Male	20x1/2" M; 25x3/4" M; 32x1" M; 40x1 1/4" M; 50x1 1/2" M; 63x2" M; 75x2 1/2" M; 90x3" M; 110x4" M	12	684a/14
Connecting Union	20/nut R 1"; 25/nut R 1 1/4"; 32/nut R 1 1/2"; 40/nut R 2"; 50/nut R 2 1/4"; 50/nut R 2 1/2"; 63/nut R 2 3/4"; 75/nut R 3 1/2"; 90/nut R 4"	12	684a/15
Transition joint	nut R 1"x20; nut R 1 1/4"/25; nut R 1 1/2"/32; nut R 2"/40 nut R 2 1/4"x50; nut R 2 3/4"x63	12	684a/16
Counterpart	1"Mx20; 1 1/4"Mx25; 1 1/2"Mx32; 2"Mx40; 2 1/4"Mx50; 2 3/4"Mx63	12	684a/17
Transition Tee	20x1/2Fx20; 25x3/4Fx25; 32x1Fx32	12	684a/18
Saddle Weld-in with Female thread & hexagon socket	40/25x1/2F; 50/25x1/2F; 63/25x1/2F; 75/25x1/2F; 90/25x1/2F; 40/25x3/4F; 50/25x3/4F; 63/25x3/4F; 75/25x3/4F; 90/25x3/4F; 110/25x3/4F; 125/125x3/4F;	12	684a/19
Screw-down valve	20,25,32,40	12	684a/20
Inclined valve	20,25,32,40	12	684a/21
Ball cock	20,25,32,40,50,63,75,90	12	684a/22
Draining branch	20,25,32,40,50,63	12	684a/23

Notes relating to Aquatherm pipes and fittings:

- 1) The system of pipes and fittings must be installed in accordance with the Aquatherm installation instructions, which include Annex "Technical Instruction aquatherm red pipe" dated 01/12/2012 Issue 2.
- 2) The maximum normal ambient temperature of use shall not exceed 70°C.
- 3) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 5, Section 1A and 1B above) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be Certificated to ISO 9000.

Georg Fischer Harvel LLC (Bakersfield)

7001 Schirra Court, Bakersfield, California 93313, USA

Tel: +1 661 396 0653 • Fax: +1 661 396 1821

E-mail: gary.cheatwood@georgfischer.com • Website: www.harvel.com

7001 Schirra Court, Bakersfield, CA 93313, USA

Tel: +01 (0)6102 527355 • Fax: +01 (0)6102 534436

Certificate No: 455a to LPS1260

GF Harvel Blazemaster® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Pipe

Product Name	Nominal Diameter Range	Maximum Working Pressure (bar)	LPCB Ref. No.
Blazemaster® Fire Sprinkler Pipe	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	455a/01

Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

Notes relating to Spears fittings and GF Harvel pipes:

- 1) The system of pipe and fittings must be installed in accordance with Georg Fischer Harvel LLC and Spears Manufacturing Company, 'Blazemaster' Installation Instructions, which includes LPCB Conditions of Use agreed with GF Harvel and Spears.
- 2) The maximum normal ambient temperatures of use shall not exceed 50°C.
- 3) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 5, Section 1A and 1B above) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.
- 4) GF Harvel Blazemaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are WRAS listed.
- 5) GF Harvel Blazemaster CPVC sprinkler pipes are WRAS listed.

Georg Fischer Harvel LLC (Easton)

300 Kuebler Road, Easton, Pennsylvania 18040, USA

Tel: + 1 610 252 7355 • Fax: + 1 610 253 4436

E-mail: john.mattavi@georgfischer.com • Website: www.harvel.com

Certificate No: 270a to LPS1260

GF Harvel Blazemaster® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Pipe

Product Name	Nominal Diameter Range	Maximum Working Pressure (bar)	LPCB Ref. No.
Blazemaster® Fire Sprinkler Pipe	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	270a/01

Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

Notes relating to Spears fittings and GF Harvel pipes:

- 1) The system of pipe and fittings must be installed in accordance with Georg Fischer Harvel LLC and Spears Manufacturing Company, 'Blazemaster' Installation Instructions, which includes LPCB Conditions of Use agreed with GF Harvel and Spears.
- 2) The maximum normal ambient temperatures of use shall not exceed 50°C.
- 3) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 5, Section 1A and 1B above) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.
- 4) GF Harvel Blazemaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are WRAS listed.
- 5) GF Harvel Blazemaster CPVC sprinkler pipes are WRAS listed.

IPEX Inc

11 Bermondsey Road, Toronto, Ontario M4B 123, Canada

Tel: +1 (416) 751 3820 • Fax: +1 (416) 751 7112

Website: www.ipexinc.com

Sales Enquiries

6810 Invader Crescent, Mississauga, Ontario L5T 2B6, Canada

Tel: +1 (905) 670 7676 • Fax: +1 (905) 670 1512

Website: www.ipexinc.com

Certificate No: 875a to LPS 1260

IPEX Blazemaster® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Fittings

Product Name	Size	Model	Maximum working pressure (bar)	LPCB Ref. No.
SHA TEE SxSxSRFPT	3/4" x 3/4" x 1/2"	048010	12	875a/01
	1" x 1" x 1/2"	048012	12	
	1/2" x 1/2" x 1"	048062	12	
SHA 90° ELBOW SxSRFPT	3/4" x 1/2"	048019	12	875a/02
	1" x 1/2"	048020	12	
SHA SxSRFPT	3/4" x 1/2"	048026	12	875a/03
	1" x 1/2"	048527	12	
SHA SpSRFPT	1" x 1/2"	048030	12	875a/04
FEMALE ADAPTOR SxSRFPT CAP SCH 80 BLZ	1"	048024	12	875a/05
	3/4"	048400	12	875a/06
	1"	048401	12	
	1 1/4"	048402	12	
	1 1/2"	048403	12	
COUPLING CSH 80 BLZ	2"	048404	12	875a/07
	3/4"	048407	12	
	1"	048408	12	
	1 1/4"	048409	12	

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

Product Name	Size	Model	Maximum working pressure (bar)	LPCB Ref. No.	
CROSS CSH 80 BLZ	1 1/2"	048410	12	875a/08	
	2"	048411	12		
	3/4"	048414	12		
	1"	048415	12		
	1 1/4"	048416	12		
45 DEG. ELBOW SCH 80 BLZ	1 1/2"	048417	12	875a/09	
	2"	048418	12		
	3/4"	048420	12		
	1"	048421	12		
	1 1/4"	048422	12		
90 DEG. ELBOW SCH 80 BLZ	1 1/2"	048423	12	875A/10	
	2"	048424	12		
	3/4"	048431	12		
	1"	048432	12		
	1 1/4"	048433	12		
FLANGE SOCKET SCH 80 BLZ	1 1/2"	048434	12	875a/10	
	2"	048435	12		
	3/4"	048443	12		875a/11
	1"	048444	12		
	1 1/4"	048445	12		
REDUCER BUSHING SCH 80 BLZ	1 1/2"	048446	12	875a/12	
	2"	048447	12		
	1" X 3/4"	048459	12		
	1 1/4" X 3/4"	048460	12		
	1 1/4" X 1"	148461	12		
	1 1/2" X 3/4"	048462	12		
	1 1/2" X 1"	048463	12		
	1 1/2" X 1 1/4"	048464	12		
	2" X 1"	048466	12		
	2" X 1 1/4"	048467	12		
TEE SCH 80 BLZ	2" X 1 1/2"	048468	12	875a/13	
	3/4"	048486	12		
	1"	048487	12		
	1 1/4"	048488	12		
	1 1/2"	048489	12		
REDUCER TEE SCH 80 BLZ	2"	048490	12	875a/14	
	3/4" X 3/4" X 1"	048493	12		
	1" X 3/4" X 3/4"	048497	12		
	1" X 3/4" X 1"	048498	12		
	1" X 1" X 3/4"	048495	12		
	1 1/4" X 1" X 3/4"	048499	12		
	1 1/4" X 1" X 1"	048506	12		
	1 1/4" X 1" X 1 1/4"	048501	12		
	1 1/4" X 1 1/4" X 3/4"	048502	12		
	1 1/4" X 1 1/4" X 1"	048504	12		
	1 1/2" X 1 1/4" X 3/4"	048507	12		
	1 1/2" X 1 1/2" X 3/4"	048509	12		
	1 1/2" X 1 1/2" X 1"	048510	12		
	1 1/2" X 1 1/2" X 1 1/4"	048511	12		
	2" X 2" X 3/4"	048513	12		
	2" X 2" X 1"	048514	12		
	2" X 2" X 1 1/2"	048515	12		
GROOVED COUPLING SCH 80 BLZ	1 1/4"	048524	12	875a/15	
	1 1/2"	048540	12		
	2"	048541	12		

Notes relating to IPEX fittings:

- 1) IPEX fittings are LPCB approved for use with IPEX LPCB approved pipe and IPEX BM-5 "One-Step Solvent Cement" adhesive.
- 2) The system of pipe and fittings must be installed in accordance with IPEX Mechanical Technical Manual Series Volume II: Fire Protection Systems, Second Edition (Ref. MNMEBMIP060210 / BM003C dated 2008), which includes LPCB Conditions of Use agreed with IPEX.
- 3) The maximum normal ambient temperature of use shall not exceed 50°C.
- 4) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 5, Section 1A and 1B above), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.
- 5) IPEX Blazemaster CPVC fittings are manufactured from Blazemaster CPVC materials that are WRAS listed.
- 6) Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

Certificate No: 875b to LPS 1260

IPEX Blazemaster® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Pipe

Product Name	Size	Model	Maximum working pressure (bar)	LPCB Ref. No.
Pipe SCH 80 BLZ	3/4"	013401	12	875b/01
	1"	013404	12	
	1 1/4"	013406	12	
	1 1/2"	013415	12	
	2"	013411	12	

Notes relating to IPEX pipes:

- 1) IPEX pipe is LPCB approved for use with IPEX LPCB approved fittings and IPEX BM-5 "One-Step Solvent Cement" adhesive.
- 2) The system of pipe and fittings must be installed in accordance with IPEX Mechanical Technical Manual Series Volume II: Fire Protection Systems, Second Edition (Ref. MNMEBMIP060210 / BM003C dated 2008), which includes LPCB Conditions of Use agreed with IPEX Inc.
- 3) The maximum normal ambient temperature of use shall not exceed 50°C.
- 4) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 5, Section 1A and 1B above), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.
- 5) IPEX Blazemaster CPVC pipe is manufactured from Blazemaster CPVC materials that are WRAS listed.
- 6) Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

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Certificate No: 878a to LPS 1260-2.2

Nibco Inc Blazemaster® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Fittings

Product Name	Size	Model	Maximum Working Pressure (bar)	LPCB Ref. No.		
Coupling	3/4"	5001	12	878a/01		
	1"	5001	12			
	1 1/4"	5001	12			
	1 1/2"	5001	12			
	2"	5001	12			
	2 1/2"	5001	12			
	3"	5001	12			
	1"x3/4"	5001R	12			
	1 1/4"x1"	5001R	12			
	1 1/2"x3/4"	5001R	12			
	1 1/2"x1"	5001R	12			
	1 1/2"x1 1/4"	5001R	12			
	2"x1"	5001R	12			
	2"x1 1/2"	5001R	12			
	Grooved Coupling	1 1/4"	5001-G		12	878a/22
		1 1/2"	5001-G		12	
2"		5001-G	12			
2 1/2"		5001-G	12			
65mm x 2 1/2"		5001-G	12			
3"		5001-G	12			
Female Adapter w/Metal Thd Insert	3/4"	5003-2-BI	12	878a/02		
	1"	5003-2-BI	12			
Female Sprinkler Head Adapter w/Metal Thd Insert	3/4"x1/2"	5003-2-S-BI	12	878a/03		
	1"x1/2"	5003-2-S-BI	12			
Female Adapter w/Metal Thd Insert	3/4"	5003-BI	12	878a/04		
	1"	5003-BI	12			
	1 1/4"	5003-BI	12			
	1 1/2"	5003-BI	12			
	2"	5003-BI	12			
Female Sprinkler Head Adapter w/Metal Thd Insert	3/4"x1/2"	5003-S-BI	12	878a/05		

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

Product Name	Size	Model	Maximum Working Pressure (bar)	LPCB Ref. No.
Brastic Sprinkler Head Adaptor (Soc x Thd)	1"x1/2"	5003-S-BI	12	878a/24
	1"x3/4"	5003-S-BI	12	
	3/4"x1/2"	5003-S-BT	12	
	1" x 1/2"	5003-S-BT	12	
Female Adapter w/ Metal BSPT Thd Insert	1"	5003-BI-BSP	12	878a/18
	1 1/4"	5003-BI-BSP	12	
	1 1/2"	5003-BI-BSP	12	
	2"	5003-BI-BSP	12	
	3/4"	5004-BI	12	
Male Adapter w/Metal Thd Insert	1"	5004-BI	12	878a/06
	1 1/4"	5004-BI	12	
	1 1/2"	5004-BI	12	
	2"	5004-BI	12	
	3/4"	5004-BI	12	
45 Elbow	3/4"	5006	12	878a/07
	1"	5006	12	
	1 1/4"	5006	12	
	1 1/2"	5006	12	
	2"	5006	12	
	2 1/2"	5006	12	
	3"	5006	12	
	3"	5006	12	
90 Elbow	3/4"	5007	12	878a/08
	1"	5007	12	
	1 1/4"	5007	12	
	1 1/2"	5007	12	
	2"	5007	12	
	2 1/2"	5007	12	
	3"	5007	12	
	3"	5007	12	
Sprinkler Head 90 w/Metal Thd Insert	3/4"x1/2"	5007-3-S-BI	12	878a/09
	1"x1/2"	5007-3-S-BI	12	
	1"x3/4"	5007-3-S-BI	12	
	1 1/4"x1/2"	5007-3-S-BI	12	
90 Elbow Tee	1"x3/4"	5007R	12	878a/10
	3/4"	5011	12	
Tee	1"	5011	12	878a/11
	1 1/4"	5011	12	
	1 1/2"	5011	12	
	2"	5011	12	
	2 1/2"	5011	12	
	3"	5011	12	
	3/4"x3/4"x1"	5011R	12	
	1"x1"x3/4"	5011R	12	
	1"x3/4"x1"	5011R	12	
	1"x3/4"x3/4"	5011R	12	
	1 1/4"x1 1/4"x1"	5011R	12	
	1 1/4"x1 1/4"x3/4"	5011R	12	
	1 1/4"x1"x1 1/4"	5011R	12	
	1 1/4"x1"x1"	5011R	12	
	1 1/4"x1"x3/4"	5011R	12	
	1 1/4"x1 1/4"x1 1/2"	5011R	12	
	1 1/2"x1 1/2"x1 1/4"	5011R	12	
	1 1/2"x1 1/2"x1"	5011R	12	
	1 1/2"x1 1/2"x3/4"	5011R	12	
	1 1/2"x1 1/4"x1"	5011R	12	
	1 1/2"x1 1/4"x3/4"	5011R	12	
	1 1/2"x1 1/2"x2"	5011R	12	
	2"x2"x1 1/2"	5011R	12	
	2"x2"x1 1/4"	5011R	12	
	2"x2"x1"	5011R	12	
	2"x2"x3/4"	5011R	12	
	3"x3"x2"	5011R	12	
2 1/2"x2 1/2"x2"	5011R	12		
2 1/2"x2 1/2"x1 1/2"	5011R	12		
2 1/2"x2 1/2"x1 1/4"	5011R	12		
2 1/2"x2 1/2"x1"	5011R	12		
3"x3"x2 1/2"	5011R	12		
3"x3"x1 1/2"	5011R	12		
Sprinkler Head Tee w/Metal Thd Insert	1"x3/4"x1/2"	5012R-S-BI	12	878a/12
	1"x1/2"x1"	5014R-S-BI	12	
	1 1/4"x1"x1/2"	5012R-S-BI	12	
	1 1/2"x1 1/4"x1/2"	5012R-S-BI	12	

PART 3: SECTION 21.1**PLASTIC PIPES AND FITTINGS**

Product Name	Size	Model	Maximum Working Pressure (bar)	LPCB Ref. No.
	2"x1½"x½"	5012R-S-BI	12	
	1"	5012-S-BI	12	878a/13
	¾"x¾"x½"	5012-S-BI	12	
	1"x1"x½"	5012-S-BI	12	
	1¼"x1¼"x½"	5012-S-BI	12	
	1½"x1½"x½"	5012-S-BI	12	
	2"x2"x½"	5012-S-BI	12	
Cap	¾"	5017	12	878a/14
	1"	5017	12	
	1¼"	5017	12	
	1½"	5017	12	
	2"	5017	12	
	2½"	5017	12	
	3"	5017	12	
Bushing	1"x¾"	5018	12	878a/15
	1¼"x1"	5018	12	
	1½"x¾"	5018	12	
	1½"x1¼"	5018	12	
	1½"x1"	5018	12	
	1½"x¾"	5018	12	
	2"x1½"	5018	12	
	2"x1¼"	5018	12	
	2"x1"	5018	12	
	2"x¾"	5018	12	
	2½" x 1"	5018	12	
	2½"x2"	5018	12	
	2½"x1½"	5018	12	
	2½"x1¼"	5018	12	
	3" x 1½"	5018	12	
	3"x2½"	5018	12	
	3"x2"	5018	12	
Flush Bushing SHA (Spg x Thd)	1"	5018-S-BI	12	878a/23
Blind Flange	¾"	5019-H	12	878a/19
	1"	5019-H	12	
	1¼"	5019-H	12	
	1½"	5019-H	12	
	2"	5019-H	12	
	2½"	5019-H	12	
	3"	5019-H	12	
CPVC Union (Soc x Soc)	¾"	5033-E	12	878a/21
	1"	5033-E	12	
CPVC Union (Soc x Thd) w/ Brass End	¾"	5033-E-3	12	
	1"	5033-E-3	12	
Cross	¾"	5035	12	878a/16
	1"	5035	12	
	1¼"	5035	12	
	1½"	5035	12	
	2"	5035	12	
	2½"	5035	12	
	3"	5035	12	
Flange	1"x1"x¾"x¾"	5035R	12	878a/17
	¾"	5051-H	12	878a/20
	1"	5051-H	12	
	1¼"	5051-H	12	
	1½"	5051-H	12	
	2"	5051-H	12	
	2½"	5051-H	12	
	3"	5051-H	12	
Rubber Seated Sprinkler Head Adapter – Socket	¾"x½"	5003-S-BG	12	878a/25
	1"x½"	5003-S-BG	12	
Rubber Seated Sprinkler Head Adapter – Spigot	¾"x½"	5003-2-S-BG	12	878a/26
	1"x½"	5003-2-S-BG	12	

Notes relating to Nibco Inc fittings:

- 1) Nibco Fittings are LPCB approved for use with Viking Plastics and Harvel LPCB approved pipes and Nibco FP-1000 "One-Step Solvent Cement" adhesive.
- 2) Where assemblies are made using Harvel pipe, the system of pipe and fittings must be installed in accordance with Nibco Inc Installation Instructions (Nibco Ref: IM-BLZME-0608 dated 01/06/08) which includes LPCB Conditions of Use agreed with Nibco

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

- 3) Where assemblies are made using Viking pipe, the system of pipe and fittings must be installed in accordance with Nibco Inc Installation Instructions (Nibco Ref: IM-BLZME-0608 dated 01/06/08) and Viking Plastics 'Blazemaster' Installation and Design Manual (Viking Ref: F_080712 (1/6/16) Rev 16.1) which includes LPCB Conditions of Use agreed with Nibco and Viking
- 4) Where assemblies are made using Nibco Instaseal rubber seated sprinkler head adapters, the system of pipe and fittings must be installed in accordance with Nibco Inc Installation Instructions (Nibco Ref: IM-BLZME-0608 dated 01/06/08) and Nibco Instaseal Rubber Seated Sprinkler Head Adapters Installation Manual (Date: August 31, 2017).
- 5) The maximum normal ambient temperature of use shall not exceed 50°C.
- 6) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 5, Section 1A and 1B above), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9001.
- 7) Nibco Blazemaster CPVC fittings are manufactured from Blazemaster CPVC materials that are WRAS listed.
- 8) Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

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Certificate No: 293b

Spears® FlameGuard® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Fittings

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (bar)	LPCB Ref. No.
Tee (Soc x Soc x Soc)	¾	4201-007	12 BAR	293b/01
	1	4201-010	12 BAR	
	1¼	4201-012	12 BAR	
	1½	4201-015	12 BAR	
	2	4201-020	12 BAR	
	2½	4201-025	12 BAR	
	3	4201-030	12 BAR	
Reducing Tee (Soc x Soc x Soc)	¾x¾x1	4201-102	12 BAR	293b/02
	1x¾x¾	4201-125	12 BAR	
	1x¾x1	4201-126	12 BAR	
	1x1x¾	4201-131	12 BAR	
	1¼x1x¾	4201-157	12 BAR	
	1¼x1x1	4201-158	12 BAR	
	1¼x1x1¼	4201-159	12 BAR	
	1¼x1¼x¾	4201-167	12 BAR	
	1¼x1¼x1	4201-168	12 BAR	
	1¼x1¼x1½	4201-169	12 BAR	
	1½x1¼x¾	4201-201	12 BAR	
	1½x1¼x1	4201-202	12 BAR	
	1½x1½x¾	4201-210	12 BAR	
	1½x1½x1	4201-211	12 BAR	
	1½x1½x1¼	4201-212	12 BAR	
	1½x1½x2	4201-213	12 BAR	
	2x2x¾	4201-248	12 BAR	
	2x2x1	4201-249	12 BAR	
	2x2x1½	4201-251	12 BAR	
	2½x2½x1	4201-289	12 BAR	
2½x2½x1¼	4201-290	12 BAR		
2½x2½x1½	4201-291	12 BAR		
3x3x2	4201-338	12 BAR		
3x3x2½	4201-339	12 BAR		
Street Tee (Sprig x Soc x Soc)	¾	4244-007	12 BAR	293b/03
	1	4244-010	12 BAR	
	1¼	4244-012	12 BAR	
	1½	4244-015	12 BAR	
	2	4244-020	12 BAR	
Sprinkler Head Tee (Soc x Soc x Metal FIPT)	¾x¾x½	4202-101	12 BAR	293b/04
	1x¾x½	4202-124	12 BAR	
	1x1x½	4202-130	12 BAR	
	1x1x1	4202-010	12 BAR	
	1¼x1x½	4202-156	12 BAR	
	1¼x1¼x½	4202-166	12 BAR	
	1½x1¼x½	4202-199	12 BAR	

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PLASTIC PIPES AND FITTINGS

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (bar)	LPCB Ref. No.	
Sprinkler Head Tee (Soc x Soc x SR FIPT)	1½x1½x½	4202-209	12 BAR	293b/05	
	2x1½x½	4202-237	12 BAR		
	2x2x½	4202-247	12 BAR		
	¾x¾x½	4202-101SR	12 BAR		
	1x¾x½	4202-124SR	12 BAR		
	1x1x½	4202-130SR	12 BAR		
	1x1x1	4202-010SR	12 BAR		
	1¼x1x½	4202-156SR	12 BAR		
	1¾x1¾x½	4202-166SR	12 BAR		
	1½x1¼x½	4202-199SR	12 BAR		
	1½x1½x½	4202-209SR	12 BAR		
	1½x1½x1	4202-211SR	12 BAR		
	2x1½x½	4202-237SR	12 BAR		
	2x2x½	4202-247SR	12 BAR		
Sprinkler Head Tee (Soc x Metal FIPT x Soc)	1x½x1	4203-122	12 BAR	293b/06	
Sprinkler Head Tee (Soc x SR FIPT x Soc)	1x½x1	4203-122SR	12 BAR		
Sprinkler Head Tee, Sidewall (SR FIPT x SR FIPT x Soc) Cross (All Socket)	½x½x1	4243-075SR	12 BAR	293b/07	
	¾	4220-007	12 BAR	293b/08	
	1	4220-010	12 BAR		
	1¼	4220-012	12 BAR		
	1½	4220-015	12 BAR		
	2	4220-020	12 BAR		
	2½	4220-025	12 BAR		
	3	4220-030	12 BAR		
	Reducing Cross (All Socket)	1x1x¾x¾	4220-131	12 BAR	293b/09
	Sprinkler Head Cross, Sidewall (Soc x SR FIPT)	1x½	4221-130SR	12 BAR	293b/10
90° Elbow (All Socket)	1x¾	4221-131SR	12 BAR	293b/11	
	¾	4206-007	12 BAR		
	1	4206-010	12 BAR		
	1¼	4206-012	12 BAR		
Reducing 90° Elbow (All Socket) 90° Street Elbow (Spig x Soc)	1½	4206-015	12 BAR	293b/12 293b/13	
	2	4206-020	12 BAR		
	2½	4206-025	12 BAR		
	3	4206-030	12 BAR		
	1x¾	4206-131	12 BAR		
	¾	4209-007	12 BAR		
	1	4209-010	12 BAR		
	1-¼	4209-012	12 BAR		
	1-½	4209-015	12 BAR		
	2	4209-020	12 BAR		
Sprinkler Head 90° Elbow (Socket x Metal FIPT)	¾x½	4207-101	12 BAR	293b/14	
	1x½	4207-130	12 BAR		
Sprinkler Head Cross, Sidewall (Soc x SR FIPT)	1x¾	4207-131	12 BAR	293b/15	
Sprinkler Head 90° Elbow (Socket x Metal FIPT)	1¾x½	4207-166	12 BAR		
45° Elbow (All Socket)	¾x½	4207-101SR	12 BAR	293b/16	
	1x½	4207-130SR	12 BAR		
	1x¾	4207-131SR	12 BAR		
	1¼x½	4207-166SR	12 BAR		
	¾	4217-007	12 BAR		
	1	4217-010	12 BAR		
	1¼	4217-012	12 BAR		
	1½	4217-015	12 BAR		
	2	4217-020	12 BAR		
	2½	4217-025	12 BAR		
Coupling (Soc x Soc)	3	4217-030	12 BAR	293b/17	
	¾	4229-007	12 BAR		
	1	4229-010	12 BAR		
	1¼	4229-012	12 BAR		
	1½	4229-015	12 BAR		
	2	4229-020	12 BAR		
	2½	4229-025	12 BAR		
	3	4229-030	12 BAR		
	1x¾	4229-131	12 BAR		
	1¼x¾	4229-167	12 BAR		
1¼x1	4229-168	12 BAR			
1½x¾	4229-210	12 BAR			

PART 3: SECTION 21.1**PLASTIC PIPES AND FITTINGS**

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (bar)	LPCB Ref. No.
	1½x1	4229-211	12 BAR	
	1½x1¼	4229-212	12 BAR	
	2x¾	4229-248	12 BAR	
	2x1	4229-249	12 BAR	
	2x1¼	4229-250	12 BAR	
	2x1½	4229-251	12 BAR	
	2½x1½	4229-291	12 BAR	
	2½x2	4229-292	12 BAR	
Reducer Bushing (Spig x Soc)	1x¾	4237-131	12 BAR	293b/18
	1¼x¾	4237-167	12 BAR	
	1¼x1	4237-168	12 BAR	
	1½x¾	4237-210	12 BAR	
	1½x1	4237-211	12 BAR	
	1½x1¼	4237-212	12 BAR	
	2x¾	4237-248	12 BAR	
	2x1	4237-249	12 BAR	
	2x1¼	4237-250	12 BAR	
	2x1½	4237-251	12 BAR	
	2½x1¼	4237-290	12 BAR	
	2½x1½	4237-291	12 BAR	
	2½x2	4237-292	12 BAR	
	3x2	4237-338	12 BAR	
	3x2½	4237-339	12 BAR	
Cap (Soc)	¾	4247-007	12 BAR	293b/19
	1	4247-010	12 BAR	
	1¼	4247-012	12 BAR	
	1½	4247-015	12 BAR	
	2	4247-020	12 BAR	
	2½	4247-025	12 BAR	
	3	4247-030	12 BAR	
Grooved Coupling Adapter (Grv x Soc)	1¼	4233-012	12 BAR	293b/20
	1½	4233-015	12 BAR	
	2	4233-020	12 BAR	
	2½	4233-025	12 BAR	
	3	4233-030	12 BAR	
Female Adapter (Soc x Metal FIPT)	¾	4235-007	12 BAR	293b/21
	1	4235-010	12 BAR	
	1¼	4235-012	12 BAR	
	1½	4235-015	12 BAR	
	2	4235-020	12 BAR	
Sprinkler Head Adapter Long Body (Soc x Metal FIPT)	1x½	L4235-130	12 Bar	293b/22
Sprinkler Head Adapter With Positioning Ring (Soc x Metal FIPT)	¾x½	R4235-101	12 BAR	
Sprinkler Head Adapter (Soc x Metal FIPT)	¾x½	4235-101	12 BAR	
	1x½	4235-130	12 BAR	
	1x¾	4235-131	12 BAR	
Female Adapter (Soc x SR FIPT)	¾	4235-007SR	12 BAR	293b/23
	1	4235-010SR	12 BAR	
	1¼	4235-012SR	12 BAR	
Sprinkler Head Adapter (Soc x SR FIPT)	¾x½	4235-101SR	12 BAR	293b/24
	1x1½	4235-130SR	12 BAR	
	1x¾	4235-131SR	12 BAR	
Spigot Sprinkler Head Adapter (Spig x Metal FIPT)	3/x½	4238-101	12 BAR	293b/25
Spigot Sprinkler Head Adapter (Spig x Metal FIPT)	1x1½	4238-130	12 BAR	
Spigot Sprinkler Head Adapter (Spig x SR FIPT)	¾x½	4238-101SR	12 BAR	293b/26
	1x½	4238-130SR	12 BAR	
Spigot Female Adapter (Spig x Metal FIPT)	¾	4278-007	12 BAR	293b/27
	1	4278-010	12 BAR	
Spigot Female Adapter (Spig x SR FIPT)	¾	4278-007SR	12 BAR	293b/28
	1	4278-010SR	12 BAR	
Adjustable Sprinkler Head Adapter (Soc x Metal FIPT)	¾x½	42001	12 BAR	293b/29
	1x½	42011	12 BAR	
Adjustable Sprinkler Head Adapter (Spig x Metal FIPT)	¾x½	42004	12 BAR	293b/30
	1x½	42014	12 BAR	
Adjustable Sprinkler Head Adapter (Soc x SR FIPT)	¾x½	42001SR	12 BAR	293b/31
	1x½	42011SR	12 BAR	
Adjustable Sprinkler Head Adapter (Spig x SR FIPT)	¾x½	42004SR	12 BAR	293b/32
	1x½	42014SR	12 BAR	
Flange (Soc)	¾	4251-007	12 BAR	293b/33
	1	4251-010	12 BAR	
	1¼	4251-012	12 BAR	

PART 3: SECTION 21.1**PLASTIC PIPES AND FITTINGS**

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (bar)	LPCB Ref. No.
Flange, Van Stone Style (Spig)	1½	4251-015	12 BAR	293b/34
	2	4251-020	12 BAR	
	2½	4251-025	12 BAR	
	3	4254-030	12 BAR	
	¾	4256-007	12 BAR	
	1	4256-010	12 BAR	
	1¼	4256-012	12 BAR	
	1½	4256-015	12 BAR	
	2	4256-020	12 BAR	
	2½	4256-025	12 BAR	
Flange, Blind	3	4256-030	12 BAR	293b/35
	¾	4253-007	12 BAR	
	1	4253-010	12 BAR	
	1¼	4253-012	12 BAR	
	1½	4253-015	12 BAR	
	2	4253-020	12 BAR	
	2½	4253-025	12 BAR	
	3	4253-030	12 BAR	
	¾	4257-007	12 BAR	
	1	4257-010	12 BAR	
Union (Soc x Soc)	1¼	4257-012	12 BAR	293b/36
	1½	4257-015	12 BAR	
	2	4257-020	12 BAR	
	¾	4259-007BR	12 BAR	
	1	4259-010BR	12 BAR	
	1¼	4259-012BR	12 BAR	
Union (Soc x Metal FIPT)	1½	4259-015BR	12 BAR	293b/37
	2	4259-020BR	12 BAR	

Notes:

- The system of pipe and fittings must be installed in accordance with Spears Manufacturing Company installation instructions FGUK-3-1014, which includes LPCB conditions of use agreed with Spears Manufacturing Company.
- The maximum normal ambient temperature of use shall not exceed 50°C.
- LPCB approval does not cover the use of CPVC fire sprinkler piping below ground.
- The products shall only be installed in the UK by LPCB Certificated or Registered installing companies (see Part 3, Section 1.1, 1.2 and 1.3), or by firms outside the UK who can provide evidence of personnel training in the installation of the product.

Certificate No: 293b

Spears® FlameGuard® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Pipe

Product Name	Nominal Size (in.)	Maximum Working Pressure (bar)	LPCB Ref. No.
Spears FlameGuard Fire Sprinkler Pipe	¾, 1, 1¼, 1½, 2, 2½, 3	12	293b/38

Notes:

- The system of pipe and fittings must be installed in accordance with Spears Manufacturing Company installation instructions FGUK-3-1014, which includes LPCB conditions of use agreed with Spears Manufacturing Company.
- The maximum normal ambient temperature of use shall not exceed 50°C.
- LPCB approval does not cover the use of CPVC fire sprinkler piping below ground.
- The products shall only be installed in the UK by LPCB Certificated or Registered installing companies (see Part 3, Section 1.1, 1.2 and 1.3), or by firms outside the UK who can provide evidence of personnel training in the installation of the product.

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PLASTIC PIPES AND FITTINGS

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Certificate No: 420a

TYCO FIRE PRODUCTS CHLORINATED POLYVINYLCHLORIDE (CPVC) BLAZEMASTER SPRINKLER FITTINGS

Product Name	Nominal Diameter Range	Maximum Working Pressure (bar)	LPCB Ref. No.
Cap	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	420a/01
Straight coupling	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	420a/02
Reducer bush	1.0"x0.75", 1.25"x0.75", 1.25"x1.0", 1.5"x0.75", 1.5"x1.0", 1.5"x1.25", 2.0"x0.75", 2.0"x1.0", 2.5"x1.0", 2.0"x1.25", 2.0"x1.5", 2.5"x1.25", 2.5"x1.5", 2.5"x2.0"	12	420a/03
90° Elbow	0.75", 1.0", 1.25", 1.5", 2.0", 2.25", 2.5", 3"	12	420a/04
45° Elbow	0.75", 1.0", 1.25", 1.5", 2.0"	12	420a/05
Tee	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3"	12	420a/06
Reducing Tee	0.75"x0.75"x1.0", 1.0"x0.75"x0.75", 1.0"x0.75"x1.0", 1.0"x1.0"x 0.75", 1.25"x1.0"x0.75", 1.25"x1.0"x1.0", 1.25"x1.0"x1.25", 1.25"x1.25"x0.75", 1.25"x1.25"x1.0", 1.25"x1.25"x1.5", 1.5"x1.25"x0.75", 1.5"x1.25"x1.0", 1.5"x1.5"x0.75", 1.5"x1.5"x1.25", 1.5"x1.5"x1.0", 2.0"x2.0"x3", 2.0"x2.0"x1.0", 2.0"x2.0"x1.25", 2.0"x2.0"x1.5", 2.5"x2.5"x1.0", 2.5"x2.5"x1.25", 2.5"x2.5"x2.0", 3.0"x3.0"x1.5", 3.0"x3.0"x2.0", 3.0"x3.0"x2.5"	12	420a/07
Cross	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3"	12	420a/08
Slip sprinkler head adapters	0.75"x0.5", 1.0"x0.5", 1.0"x0.75"	12	420a/09
Reducer	1.0"x0.75"	12	420a/11
Coupling			
Spigot sprinkler head Adaptor	0.75"x0.5", 1.0"x0.5"	12	420a/12
Sprinkler head 90° Elbow	0.75"x0.5", 1.0"x0.5"	12	420a/19
Sprinkler head tee	0.75"x0.75"x0.5", 1.0"x1.0"x0.5", 1.0"x1.0"x1.0", 1.25"x1.25"x0.5", 1.25"x1.0"x0.5", 1.5"x1.25"x0.5", 1.5"x1.5"x0.5", 2.0"x1.5"x0.5", 2.0"x2.0"x0.5"	12	420a/20
Reducing elbow 90°	1.0"x0.75"	12	420a/23
Male adapter NPT	0.75", 1.0"	12	420a/24
Male adapter ISO 7/1	1.0"	12	
Sprinkler head tee (back to back)	1.0"x0.5" NPT (3/8"), 1.0"x0.5" NPT (5/8")	12	420a/26
Cross (back to back)	1.0"x0.5" NPT (3/8"), 1.0"x0.5" NPT (5/8")	12	420a/27
Female adapter NPT	0.75", 1", 1.25", 1.5", 2.0"	12	420a/28
Female adapter ISO 7/1	1", 1.25", 1.5", 2.0"	12	
Reducing Cross	1"x1"x0.75"x0.75"	12	420a/29
Grooved Adapter	1.25", 1.50", 2", 2.50" x 76.1mm, 3"	12	420a/30

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

Product Name	Nominal Diameter Range	Maximum Working Pressure (bar)	LPCB Ref. No.
NPS Female 90° Adapter Elbow	¾" x ½", 1" x ½"	12	420a/31
NPS Female Adapter	¾" x ½", 1" x ½"	12	420a/32
NPS Female Adapter-Spigot	1" x ½"	12	420a/33

Notes relating to Tyco Fire Products pipes and fittings:

- 1) The system of pipe and fittings must be installed in accordance with the Tyco Fire Products Installation Handbook IH-1900 Revision 11.02.2017, which includes LPCB Conditions of Use agreed with Tyco.
- 2) The maximum normal ambient temperatures of use shall not exceed 50°C.
- 3) LPCB approval covers all solvent cement joints made with One Step Solvent Cement TFP-500 only.
- 4) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 3, Sections 1.1, 1.2 and 1.3) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9001.
- 5) Tyco BlazeMaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are Wrc (WRAS) listed.

Certificate No: 420a

TYCO FIRE PRODUCTS CHLORINATED POLYVINYLCHLORIDE (CPVC) BLAZEMASTER SPRINKLER PIPE

Product Name	Nominal Diameter Range	Maximum Working Pressure (bar)	LPCB Ref. No.
Pipe	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	420a/21

Notes relating to Tyco Fire Products pipes and fittings:

- 1) The system of pipe and fittings must be installed in accordance with the Tyco Fire Products Installation Handbook IH-1900 Revision 11.02.2017, which includes LPCB Conditions of Use agreed with Tyco.
- 2) The maximum normal ambient temperatures of use shall not exceed 50°C.
- 3) LPCB approval covers all solvent cement joints made with One Step Solvent Cement TFP-500 only.
- 4) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 3, Sections 1.1, 1.2 and 1.3) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9001.
- 5) Tyco BlazeMaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are Wrc (WRAS) listed.

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Certificate No: 837a to LPS 1260

Viking Plastics 'Blazemaster®' Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Pipe

Product Name	Nominal Diameter Range	Maximum Working Pressure (bar)	LPCB Ref. No.
CPVC Sprinkler Pipe	0.75, 1, 1.25, 1.5 2, 2.5", 3"	12	837a/01

Notes:

PART 3: SECTION 21.1

PLASTIC PIPES AND FITTINGS

- 1) The system of pipe and fittings must be installed in accordance with Viking Plastics 'Blazemaster' Installation and Design Manual F_080712 (1/6/16) Rev 16.1, which includes LPCB Conditions of Use agreed with Viking Plastics.
- 2) Viking Plastics pipes are approved for use with fittings of the same nominal size manufactured by all LPCB approved Blazemaster licensees and Spears Manufacturing Company Inc.
- 3) The maximum nominal ambient temperature of use shall not exceed 50°C.
- 4) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 3, Section 1.1.1.2 and 1.3), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9001.
- 5) Viking Plastics Blazemaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are WRAS listed.
- 6) Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

Certificate No: 878a to LPS 1260-2.2

Viking Plastics Blazemaster® Chlorinated Polyvinyl Chloride (CPVC) Sprinkler Fittings

Product Name	Size	Model	Maximum Working Pressure (bar)	LPCB Ref. No.		
Coupling	¾"	V5001-007	12	878a/01		
	1"	V5001-010	12			
	1¼"	V5001-012	12			
	1½"	V5001-015	12			
	2"	V5001-020	12			
	2½"	V5001-025	12			
	3"	V5001-030	12			
	1"x¾"	V5001R-131	12			
	1¼"x1"	V5001R-168	12			
	1½"x¾"	V5001R-210	12			
	1½"x1"	V5001R-211	12			
	1½"x1¼"	V5001R-212	12			
	2"x1"	V5001R-249	12			
	2"x1½"	V5001R-251	12			
	Grooved Coupling	1¼"	V5001-G-012		12	878a/22
		1½"	V5001-G-015		12	
		2"	V5001-G-020		12	
2½"		V5001-G-025	12			
65mm x 2½"		V5001-G	12			
Female Adapter w/Metal Thd Insert	¾"	V5003-2-BI-007	12	878a/02		
	1"	V5003-2-BI-010	12			
Female Sprinkler Head Adapter w/Metal Thd Insert	¾"x½"	V5003-2-S-BI-101	12	878a/03		
	1"x½"	V5003-2-S-BI-130	12			
Female Adapter w/Metal Thd Insert	¾"	V5003-BI-007	12	878a/04		
	1"	V5003-BI-010	12			
	1¼"	V5003-BI-012	12			
	1½"	V5003-BI-015	12			
	2"	V5003-BI-020	12			
Female Sprinkler Head Adapter w/Metal	¾"x½"	V5003-S-BI-101	12	878a/05		
	1"x½"	V5003-S-BI-130	12			
Female Sprinkler Head Adapter w/Metal Thd Insert	1"x¾"	V5003-S-BI-131	12	878a/24		
	¾" x ½"	V5003-S-BT	12			
Brastic Sprinkler Head Adaptor (Soc x Thd)	1" x ½"	V5003-S-BT	12	878a/18		
	1"	V5003-BI-BSP-010	12			
Female Adapter w/ Metal BSPT Thd Insert	1¼"	V5003-BI-BSP-012	12	878a/06		
	1½"	V5003-BI-BSP-015	12			
	2"	V5003-BI-BSP-020	12			
	¾"	V5004-BI-007	12			
	1"	V5004-BI-010	12			
Male Adapter w/Metal Thd Insert	1¼"	V5004-BI-012	12	878a/07		
	1½"	V5004-BI-015	12			
	2"	V5004-BI-020	12			
	¾"	V5006-007	12			
	1"	V5006-010	12			
	1¼"	V5006-012	12			
	1½"	V5006-015	12			
45 Elbow	2"	V5006-020	12	878a/08		
	2½"	V5006-025	12			
	3"	V5006-030	12			
	¾"	V5007-007	12			
	1"	V5007-010	12			
90 Elbow	1¼"	V5007-012	12	878a/08		
	1½"	V5007-015	12			

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PLASTIC PIPES AND FITTINGS

Product Name	Size	Model	Maximum Working Pressure (bar)	LPCB Ref. No.		
Sprinkler Head 90 w/Metal Thd Insert	2"	V5007-020	12	878a/09		
	2½"	V5007-025	12			
	3"	V5007-030	12			
	¾"x½"	V5007-3-S-BI-101	12			
	1"x½"	V5007-3-S-BI-130	12			
	1"x¾"	V5007-3-S-BI-131	12			
	1¼"x½"	V5007-3-S-BI-166	12			
	1"x¾"	V5007R-131	12			
	¾"	V5011-007	12			
	1"	V5011-010	12			
90 Elbow Tee	1¼"	V5011-012	12	878a/10 878a/11		
	1½"	V5011-015	12			
	2"	V5011-020	12			
	2½"	V5011-025	12			
	3"	V5011-030	12			
	¾"x¾"x1"	V5011R-102	12			
	1"x1"x¾"	V5011R-131	12			
	1"x¾"x1"	V5011R-126	12			
	1"x¾"x¾"	V5011R-125	12			
	1¼"x1¼"x1"	V5011R-168	12			
	1¼"x1¼"x¾"	V5011R-167	12			
	1¼"x1"x1¼"	V5011R-159	12			
	1¼"x1"x1"	V5011R-158	12			
	1¼"x1"x¾"	V5011R-157	12			
	1¼"x1¼"x1½"	V5011R-169	12			
	1½"x1½"x1¼"	V5011R-212	12			
	1½"x1½"x1"	V5011R-211	12			
	1½"x1½"x¾"	V5011R-210	12			
	1½"x1¼"x1"	V5011R-202	12			
	1½"x1¼"x¾"	V5011R-201	12			
	1½"x1½"x2"	V5011R-213	12			
	2"x2"x1½"	V5011R-251	12			
	2"x2"x1¼"	V5011R-250	12			
	2"x2"x1"	V5011R-249	12			
	2"x2"x¾"	V5011R-248	12			
	3"x3"x2"	V5011R-338	12			
	2½"x2½"x2"	V5011R-292	12			
	2½"x2½"x1½"	V5011R-291	12			
	2½"x2½"x1¼"	V5011R-290	12			
	2½"x2½"x1"	V5011R-289	12			
	3"x3"x2½"	V5011R-339	12			
	3"x3"x1½"	V5011R-337	12			
	Sprinkler Head Tee w/Metal Thd Insert	1"x¾"x½"	V5012R-S-BI-124		12	878a/12
		1"x½"x1"	V5012R-S-BI-122		12	
		1¼"x1"x½"	V5012R-S-BI-156		12	
		1½"x1¼"x½"	V5012R-S-BI-199		12	
		2"x1½"x½"	V5012R-S-BI-237		12	
		1"	V5012-S-BI-010		12	
		¾"x¾"x½"	V5012-S-BI-101		12	
		1"x1"x½"	V5012-S-BI-130		12	
1¼"x1¼"x½"		V5012-S-BI-166	12			
1½"x1½"x½"		V5012-S-BI-209	12			
Cap	2"x2"x½"	V5012-S-BI-247	12	878a/14		
	¾"	V5017-007	12			
	1"	V5017-010	12			
	1¼"	V5017-012	12			
	1½"	V5017-015	12			
	2"	V5017-020	12			
	2½"	V5017-025	12			
	3"	V5017-030	12			
	Bushing	1"x¾"	V5018-131		12	878a/15
		1¼"x1"	V5018-168		12	
1¼"x¾"		V5018-167	12			
1½"x1¼"		V5018-212	12			
1½"x1"		V5018-211	12			
1½"x¾"		V5018-210	12			
2"x1½"		V5018-251	12			
2"x1¼"		V5018-250	12			
2"x1"		V5018-249	12			
2"x¾"		V5018-248	12			

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PLASTIC PIPES AND FITTINGS

Product Name	Size	Model	Maximum Working Pressure (bar)	LPCB Ref. No.
	2½" x 1"	V5018-289	12	
	2½"x2"	V5018-292	12	
	2½"x1½"	V5018-291	12	
	2½"x1¼"	V5018-290	12	
	3" x 1½"	V5018-337	12	
	3"x2½"	V5018-339	12	
	3"x2"	V5018-338	12	
Flush Bushing SHA (Spg x Thd) Blind Flange	1"	V5018-S-BI	12	878a/23
	¾"	V5019-H-007	12	878a/19
	1"	V5019-H-010	12	
	1¼"	V5019-H-012	12	
	1½"	V5019-H-015	12	
	2"	V5019-H-020	12	
	2½"	V5019-H-025	12	
CPVC Union (Soc x Soc)	3"	V5019-H-030	12	
	¾"	V5033-E	12	878a/21
	1"	V5033-E	12	
CPVC Union (Soc x Thd) w/ Brass End	¾"	V5033-E-3	12	
	1"	V5033-E-3	12	
Cross	¾"	V5035-007	12	878a/16
	1"	V5035-010	12	
	1¼"	V5035-012	12	
	1½"	V5035-015	12	
	2"	V5035-020	12	
	2½"	V5035-025	12	
	3"	V5035-030	12	
	1"x1"x¾"x¾"	V5035R-131	12	878a/17
Flange	¾"	V5051-H-007	12	878a/20
	1"	V5051-H-010	12	
	1¼"	V5051-H-012	12	
	1½"	V5051-H-015	12	
	2"	V5051-H-020	12	
	2½"	V5051-H-025	12	
	3"	V5051-H-030	12	

Notes relating to Viking Plastics fittings:

- 1) Viking Plastics Fittings are LPCB approved for use with Viking Plastics and Harvel LPCB approved pipes and Nibco FP-1000 "One-Step Solvent Cement" adhesive.
- 2) Where assemblies are made using Harvel pipe, the system of pipe and fittings must be installed in accordance with Nibco Inc Installation Instructions (Nibco Ref: IM-BLZME-0608 dated 19/05/08). which includes LPCB Conditions of Use agreed with Nibco
- 3) Where assemblies are made using Viking pipe, the system of pipe and fittings must be installed in accordance with Nibco Inc Installation Instructions (Nibco Ref: IM-BLZME-0608 dated 19/05/08) and Viking Plastics 'Blazemaster' Installation and Design Manual (Viking Ref: F_080712 (1/6/16) Rev 16.1) which includes LPCB Conditions of Use agreed with Nibco and Viking.
- 4) The maximum normal ambient temperature of use shall not exceed 50°C.
- 5) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 3, Section 1.1,1.2 and 1.3), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9001.
- 6) Viking Plastics Blazemaster CPVC fittings are manufactured from Blazemaster CPVC materials that are WRAS listed.
- 7) Blazemaster® is a registered trademark of Lubrizol Advanced Materials, Inc.

PART 3: SECTION 21.2

POLYMERIC COMPOUNDS FOR PLASTIC PIPES AND FITTINGS

This section lists products approved in accordance with:

- LPS 1260 *Requirements for testing plastic pipes and fittings for sprinkler systems.*

Notes:

The compounds listed in this section have been tested and approved for the production of the plastic pipes and fittings listed in Section 21.1.

As the pipes and fittings themselves must be tested and approved to LPS 1260, only those products listed in Part 3 Section 21.1 are LPCB approved. Products manufactured from compounds in section 21.2 but not listed in Part 3 Section 21.1 are not LPCB approved.

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Certificate No: 535a

Product Name	Part No.	LPCB Ref. No.
CPVC Pipe Compound	88738 ORG 734G	535a/05
	3138 ORG 734G	535a/07
CPVC Fitting Compound	88065 ORG 734G	535a/06
	3238 ORG 734G	535a/08

Notes:

- 1) This is an approval of the compounds, not the pipe and fittings. Approval of pipes and fittings using these compounds is dependent on conformance with LPS 1260.
- 2) Firms engaged in manufacturing fire sprinkler pipe and fitting products from these compounds shall also be LPCB Certified.
- 3) BlazeMaster® CPVC sprinkler pipes and fittings manufactured from BlazeMaster® CPVC pipe and fitting materials are WRc (WRAS) listed.
- 4) BlazeMaster® is a registered trademark of Lubrizol Advanced Materials.

PART 3: SECTION 22

METRON ACTUATORS

This section lists products approved in accordance with:

- LPCB Schedule of requirements

Metron actuators listed below have been evaluated in relation to their general performance capability but not in relation to their suitability for specific applications.

LPCB strongly recommends that:

- 1) Care shall be exercised to ensure that the monitoring current specified by the manufacturer is not exceeded.
- 2) The manufacturer's installation instructions and product safety instructions shall be followed.
- 3) These devices shall be replaced every ten years.

Chemring Energetics Limited

Ardeer Site, Stevenston, Ayrshire, Scotland KA20 3LN, United Kingdom

Tel: +44 (0)1294 487007 • Fax: +44 (0)1294 487230

E-mail: campbell.howie@chemringenergetics.co.uk • Website: www.chemringenergetics.co.uk

Certificate No: 313a

Protractor 'Metron' Actuators

Product Name	Stroke (mm)	Work Outout J (minimum)	Resistance Range Ohms	Allfire Amps (50ms)	Nofire Amps (5 sec)	LPCB Ref. No.
DR2001/C13	3.4	0.69	0.9 to 1.6	0.6	0.3	313a/01
DR2003/C1	3.4	1.18	0.9 to 1.6	0.6	0.3	313a/02
DR2003/C6	3.4	1.18	0.9 to 1.6	0.6	0.3	
DR2003/C35	3.4	1.18	0.9 to 1.6	0.6	0.3	
DR2004/C1	9.5	3.43	0.9 to 1.6	0.6	0.3	313a/03
DR2005/C1	9.5	3.43	0.9 to 1.6	0.6	0.3	313a/04
DR2005/C2	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C3	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C6	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C9	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C35	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2006/C1	13.5	4.9	0.9 to 1.6	0.6	0.3	313a/05
DR2006/C2	13.5	4.9	0.9 to 1.6	0.6	0.3	
DR2014/C1	9.5	4.9	0.9 to 1.6	0.6	0.3	313a/06
DR2053	3.4	0.8	7 to 12	0.16	0.05	313a/07

Maximum monitoring current for all models is 0.01A.

This section lists products approved in accordance with:

- EN12259-4 *Fixed firefighting systems. Components for sprinkler & water spray systems. Water motor alarms.*

Globe Fire Sprinkler Corporation

4077 Airpark Drive, Standish, Michigan 48658, USA

Tel: +1 989 846 4583 • Fax: +1 989 846 9231

E-mail: brian.hoening@globesprinkler.com • Website: www.globesprinkler.com

Certificate No: 147d to EN 12259-4:2000 + A1:2001

Water Motor Alarm

Product Name	Model	LPCB Ref. No.
Water Motor Alarm	Model WM	147d/01

Note: Maximum working pressure 12 bar.

MEFA Italia SpA

Via G.B. Morgagni 16b, Pogliano Milanese MI 23868, Italy

Tel: +39 0293 540 195 • Fax: +39 0293 542 690

E-mail: danielepeluso@mefaitalia.com • Website: www.mefaitalia.com

Certificate No: 638Ab to EN 12259-4: 2000

Product Name	Model	LPCB Ref. No.
Water Motor Alarm	Model E	638Ab/01

Rapidrop Global Limited

Rutland Business Park, Newark Road, Peterborough PE1 5WA, United Kingdom

Tel: +44 (0)1733 847 510 • Fax: +44 (0)1733 553 958

E-mail: rapidrop@rapidrop.com • Website: www.rapidrop.com

Certificate No: 566c to EN 12259-4:2000 + Amendment A1:2001

Water Motor Alarms

Product Name	Model	LPCB Ref. No.
Water Motor Alarm	Model E	566c/01

Note: Maximum Working Pressure 12 bar.

Rolland Sprinklers

235 Route de la Biolle, ZA le Sauvage, Mognard 73410, France

Tel: +33 479 547 250 • Fax: +33 479 547 248

E-mail: info@rolland-sprinklers.com

Certificate No: 295d

PART 3: SECTION 23

WATER MOTOR ALARMS

Water Motor Alarm

Product Name	Model	LPCB Ref. No.
Water Motor Alarm	Model E	295d/01

The Reliable Automatic Sprinkler Co., Inc,

1470 Smith Grove Road, Liberty, South Carolina 29657, USA

Tel: +1 864 843 1734 • Fax: +1 864 843 1418

E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:

Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Certificate No: 034f

Approved Products

Water Motor Alarm Model C

**LPCB Ref.
No.**
034f/01

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA

Tel: +1 269 945 9501 • Fax: +1 269 945 9599

E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries

Tel: +44(0) 1427 875999 • Fax: +44(0) 1427 875998

Certificate No: 096u/01 to EN 12259-4:2000 +Amendment A1:2001

Water Motor Alarm (1)

Product Name	Model	LPCB Ref. No.
Water Motor Alarm (1)	F-2	096u/01

Notes:

1) The maximum specified working pressure of this device is 12 bar.

Tyco Fire & Building Products (Enschede)

Kopersteden 1, Enschede 7547TJ, The Netherlands

Tel: Sales Enquiries: +31 53 4284444 • Fax: +31 53 4283377

E-mail: info@tyco-bspd.com • Website: www.tycobuilding.com

Certificate No: 673b to EN 12259-4: 2000

Product Name	Model	LPCB Ref. No.
Water Motor Alarm	WMA1	673b/01

Notes:

1) Maximum working pressure: 16 bar.

Venus Fire Protection Ltd

4105, Portland Blvd, Sherbrooke (Quebec) J1L 1X9, Canada

Tel: +1 819 820 8000 • Fax: +1 819 820 8002

E-mail: venus@venus.ca • Website: www.venus-fire.com

Certificate No: 638b

Certificated Products

Water Motor Alarm Model E

**LPCB Ref.
No.**
638b/01

Victaulic Company

4901 Kesslersville Road, Easton, Pennsylvania 18040, USA

Tel: +1 610 559 3300 • Fax: +1 610 250 8817

E-mail: victaulic@victaulic.com • Website: www.victaulic.com

Certificate No: 104f to EN 12259-4

Certificated Products

Water Motor Alarm Series 760

**LPCB Ref.
No.**
104f/01