QS report.
Firepod

An independent report on the cost benefits of Firepods.

projectfire
innovators in fire protection

Firepod®
Plug-and-play fire protection

Introducing Firepods - An independent report on the cost benefits.

Introduction
Firepod, designed and manufactured by Project Fire, is the first fully-modular sprinkler zone valve assembly in the industry. The product has been specifically created for architects, designers, contractors, building developers and owners to offer a solution for the procurement, installation, operation and whole life cost of sprinkler systems in the built environment.

Project Fire commissioned an *in-depth and independent cost study* by the Building Services Engineering Cost experts, MEPQS. The report details both the cost, staffing and convenience benefits for Firepod, a pre-fabricated, plug-and-play, compact fire sprinkler solution with integrated smart testing and monitoring facilities. The report is based on a new high-rise construction in Canary Wharf, London. This a summary of the independent report offering a comprehensive study of modular components assembled in factory conditions as well as a comparative analysis with traditional sprinkler zone valve assemblies. Further analysis of the wider construction benefits is also presented as key points of argument for Firepod's tangible added-value in the design and procurement phase of sprinkler installations.

Prefabrication
Off-site prefabrication is an established, and proven option for cellular builds for bathrooms, bedrooms or larger scale buildings, e.g. hotels, apartment blocks and the modular implementation of larger single builds, such as Terminal 5 at Heathrow airport. Factory assembly provides consistency, accuracy and the ability to factory test units, which increase assurance and dependability once installed on site.

However, our study has found that Firepod's standardisation and factory-detailed assembly means the Firepod is able to offer a range of benefits from design, procurement to assembly and final commissioning. Furthermore, the composite package is offered at a discount to the traditional site installation of materials, which is calculated using defined cost modelling methods, and so the collective intangible benefits provide a compelling case for its specification.

Analysis of costs (on-site vs Firepod)
The original standard installation was created from its original design to ensure the quality and integrity normally expected within the context of a competitive tender process, extracted and illustrated in figure (i). This assures the expected integrity for normalised feedback from more than one site installation, given that the project sample used in this cost model originates from a Firepod installation, which was carried out by a sprinkler contractor for the first time.

The actual site feedback of Firepod installation costs were also aggregated against the delivery, installation and commissioning costs, estimated by contractors and based on the design details included with a Firepod.

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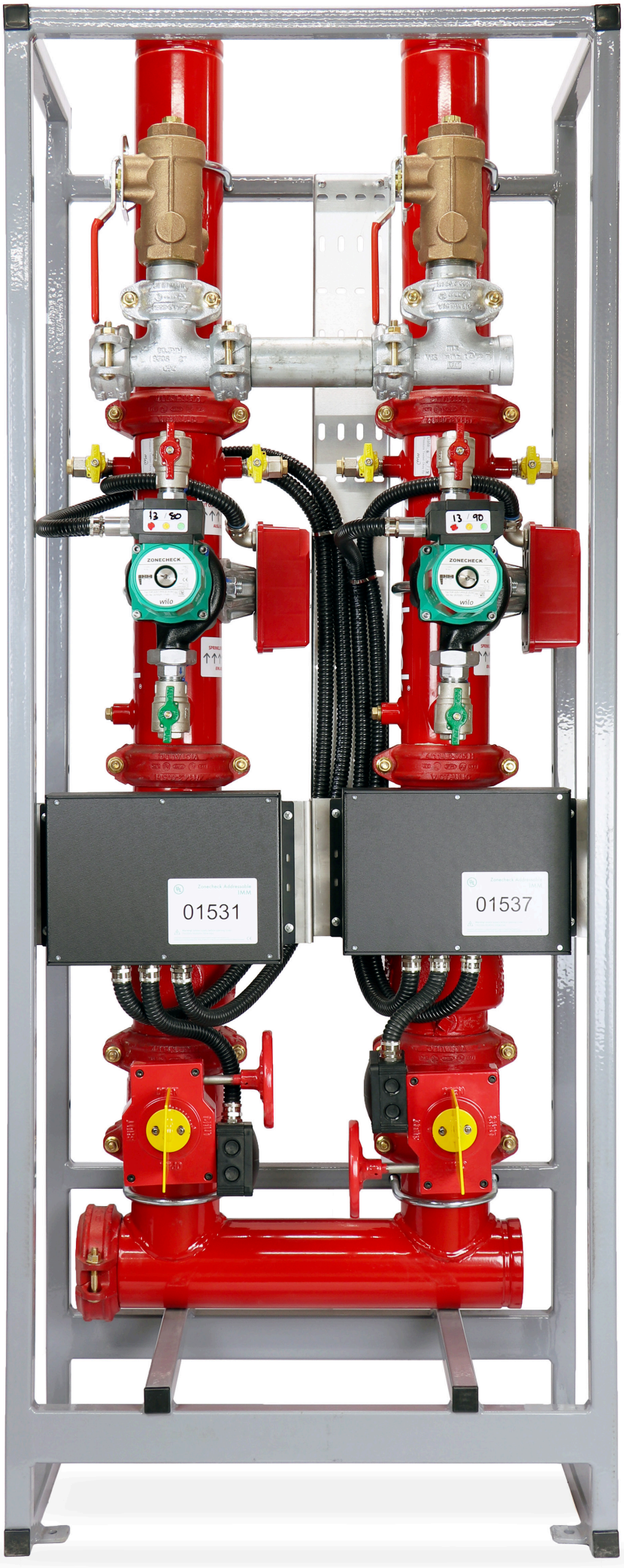

“We have saved around 70-80% of installation time by using the Firepods on this project. They get delivered to site and are in position, ready to be connected within a couple of hours. As a project manager, using Firepods certainly takes away a lot of the stress and hassle usually associated with high-rise projects.

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Nicky Levine, Senior Project Manager, Eton Fire.

Introducing Firepods - An independent report on the cost benefits.

> “Using Firepods resulted in a capital cost saving of over 19% on the total cost of the shell & core fit out.

Product selection, particularly when using multiple sources, provided another area of risk to the assimilation of costs on a fair and equal basis. To mitigate this, the original design engineers were provided with details of components in order to validate the comparison. The cost model contrasts a working example installing 3no. zones to each floor of either (figure i) a standard component site installation or; the prefabricated modular Firepod installation.

Space savings and increased rental yields
The parameters in table (i) show the additional yield from space that the Firepod saves. The amount of space the Firepod saves is equal to the gross additional rent of £166,827.51.

Total potential savings
The requirements for builder work and/or recommendations for specific projects by Building Control and regulatory bodies, who provide fire protection advice, cannot be factored in as predictable elements for cost. The data above does not empirically define the wider benefits of specifying Firepods.

Cost feedback from previous and similar installations was obtained from a range of sources including contractors, consultants, component suppliers as well as historical project cost data. This was obtained without an identical parallel block, which was constructed using the standard zone valve installation.

The report has found that the cost savings a specified Firepod provides means that the entire installation fee will be paid back in full within its life-cycle, without taking into account any Zonecheck testing and cost benefits.

During the design phase, a pre-modelled Firepod can be dropped into a Level 2 BIM model as a preconfigured item and will help reduce time spent on CAD preparing detailed construction designs. In addition, Firepod will lower the risk of design failure, due to the fact that sprinklers are commonly a design and build package. Reduction in site wastage, as well as the reduction in man hours and management hours required on site, contribute to reductions in carbon footprint and BREEAM points when contrasted with multiple site deliveries for individual components.

This report finds that Firepod is a well-suited solution to control project schedules and budgets while increasing quality and reducing environmental impact. The Firepod’s off-site construction is especially effective when employed to shorten building cycles, on repetitious or unique projects, and with teams that are prepared to embrace the challenges and opportunities associated with its delivery.

> “The commercial advantage of specifying Firepods pays for the entire installation within its life-cycle even without taking all the Zonecheck testing benefits into account.

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Lionel Hives, Senior Quantity Surveyour, MEPQS ltd

Key findings.

The tighter space planning allowances in riser cupboards calculated in table (i) is supported by the figure (i) below and is contrasted with the equivalent Firepod.

Reduction of riser space required to accommodate equipment of 0.34m2.

Accurate setting out of inlet mains water feed.

Consolidation of fire alarm interfaces and LV feeds across multiple pods.

The cost analysis of this design impact shows that with Firepod:

Increased rental yield as a result of the narrower sprinkler riser is £166,827 across the lifecycle.

Capital cost savings are £67,460 (A saving of 19.2% on the total cost of the shell & core fit out).

Prelim savings are £63,000 (a total saving of 36% when compared to on-site build).

Figure (i)

Ø50mm combined test & drain valve

Ø100mm Zonecheck arrangement c/w flow-switch

Ø100mm non-return valve

Ø100mm monitored valve

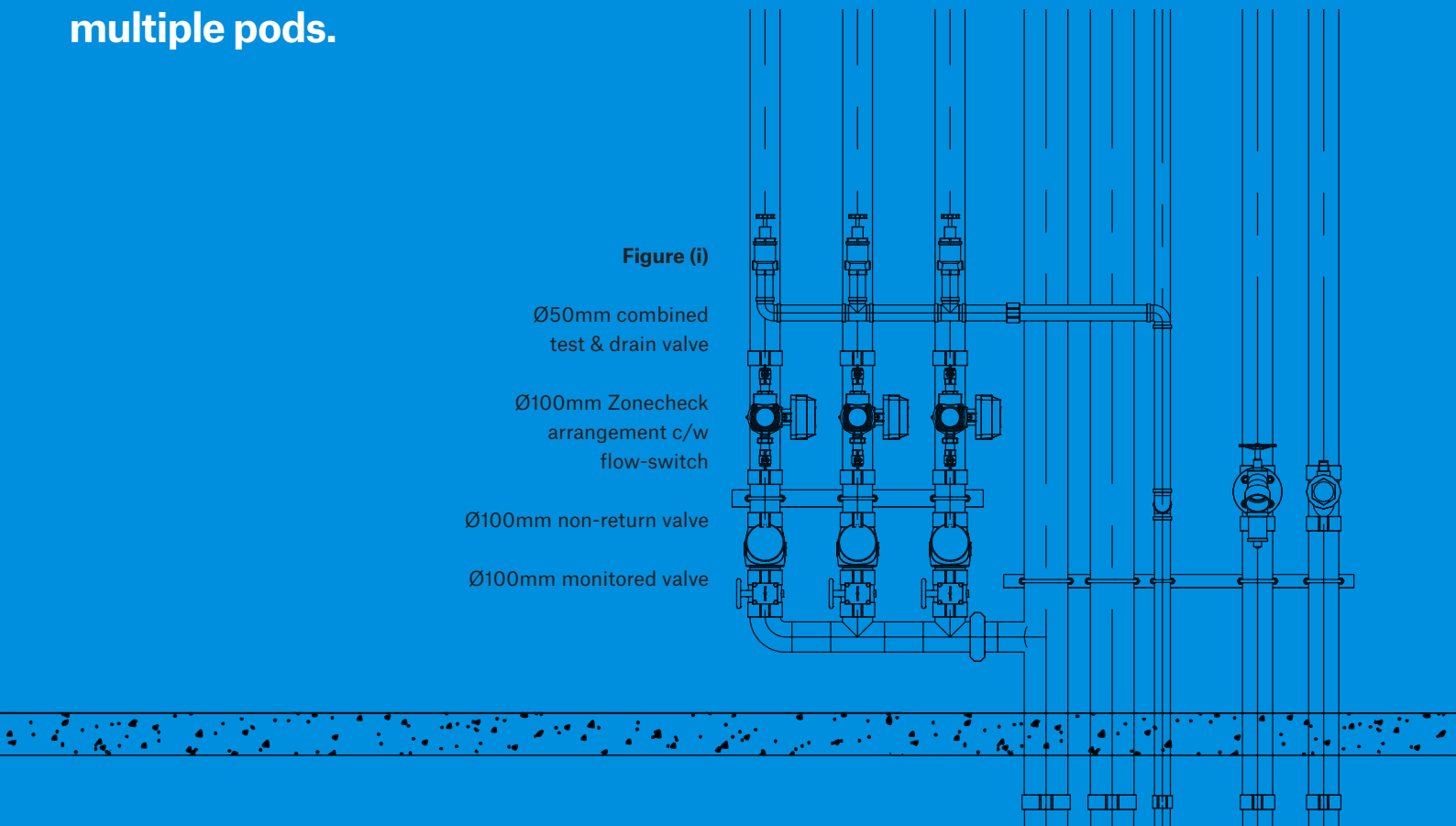


Table (i)

		On-site fabrication	Firepod
Prelim rate (£/month)		£9,000	£9,000
Prelim programme (months)		19	12
Total cost of Prelims		£171,000	£108,000
Prelim savings	**£63,000**		
	(36%)		
Capital cost		£279,659	£212,199
Capital cost savings	**£67,460**		
	(24%)		
Sub-total construction savings	**£130,460**		
Typical depth of assembly (m)		0.4m	0.4m
Typical width of assembly (m)		2.1m	1.25m
Area required for riser (m^2)		0.84m^2	0.5m^2
Total area saved per floor	0.34m^2		
Number of floors	28		
Area saved	9.52m^2		
Rental yield	£500 (m^2/yr)		
Sprinkler lifecycle	25		
Nett additional rent	£119,000		
Inflation	£47,827		
Gross additional rent for project	**£166,827**		
Commercial advantage of specifying Firepods	£297,286		
Total savings on sprinkler shell & core fit out by installing Firepods	**(19.2%*)**		

This report finds that Firepods are a well-suited solution to control project schedules and budgets whilst increasing quality and reducing environmental impact.

** The full report contains info subject to ANDA. If you would like to discuss the figures with us in more detail please contact Project Fire directly.*

I'm waiting for my contractors to come and finish my installation. But they're really busy and still waiting for parts.

My system's simply plug-and-play, I arrived pre-fabricated, tested and ready to fight fire!

Firepod®

Plug-and-play fire protection.

Plug-and-play fire protection - helping you save time, money and increase revenue.
Firepod's are a pre-fabricated and tested, plug-and-play, fire sprinkler solution that dramatically reduces sprinkler fit out times and labour costs. The innovative compact design simplifies installation and includes automatic testing and monitoring facilities.

They're the latest in high-tech, value-engineered fire protection – helping you save time and money.

Project Fire is a manufacturer of innovative fire protection solutions that are truly changing the industry.
Eradicating inefficient and wasteful practices are key aspects of our philosophy. Our products are a smarter answer to the common challenges of sprinkler system testing, management and compliance. Our sprinkler solutions are designed to improve all aspects of a sprinkler system.

By thinking forward, we'll help make buildings safe for life.

Alarm valve Firepod.

Outlet.

Neatly designed within a plas-
coated steel box section frame.

Monitored valves

Intelligent Monitoring Module/
Key-switch.

Built in Bellecheck automatic
alarm-valve tester.

Strobe sounder.

Fully trimmed alarm valve set.

Delivered to site with
protective shielding to prevent
damage while
in-situ.

Inlet.

Core riser Firepod.

Outlet.

Neatly designed within a plas-coated steel box section frame.

Test and drain valves.

Built in Zonecheck automatic flow-switch tester.

Fits all pipework and other sprinkler core riser services within a compact space.

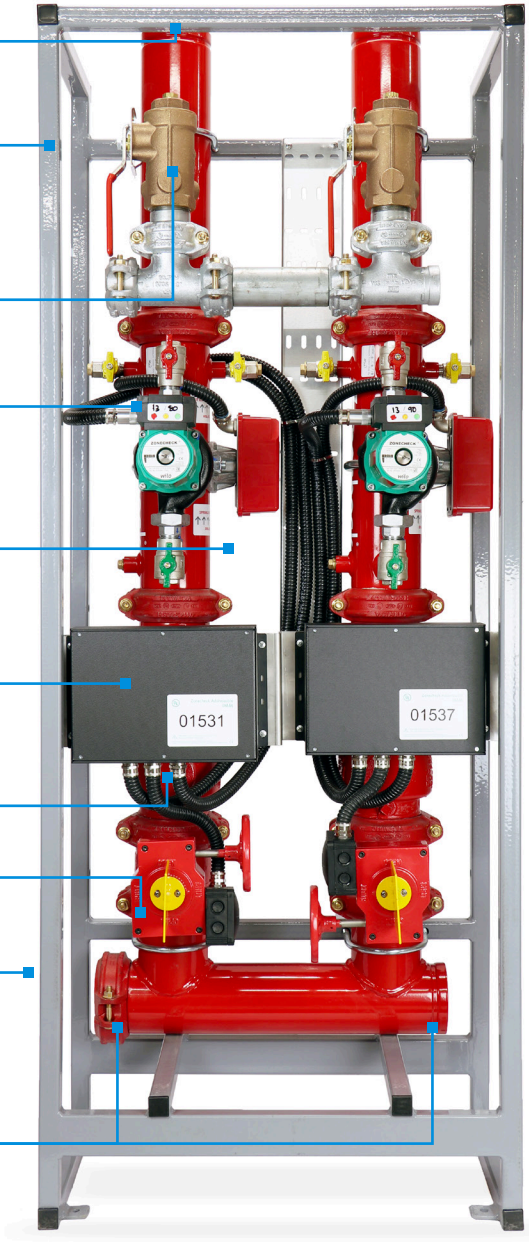
Intelligent Monitoring Module/ Key-switch.

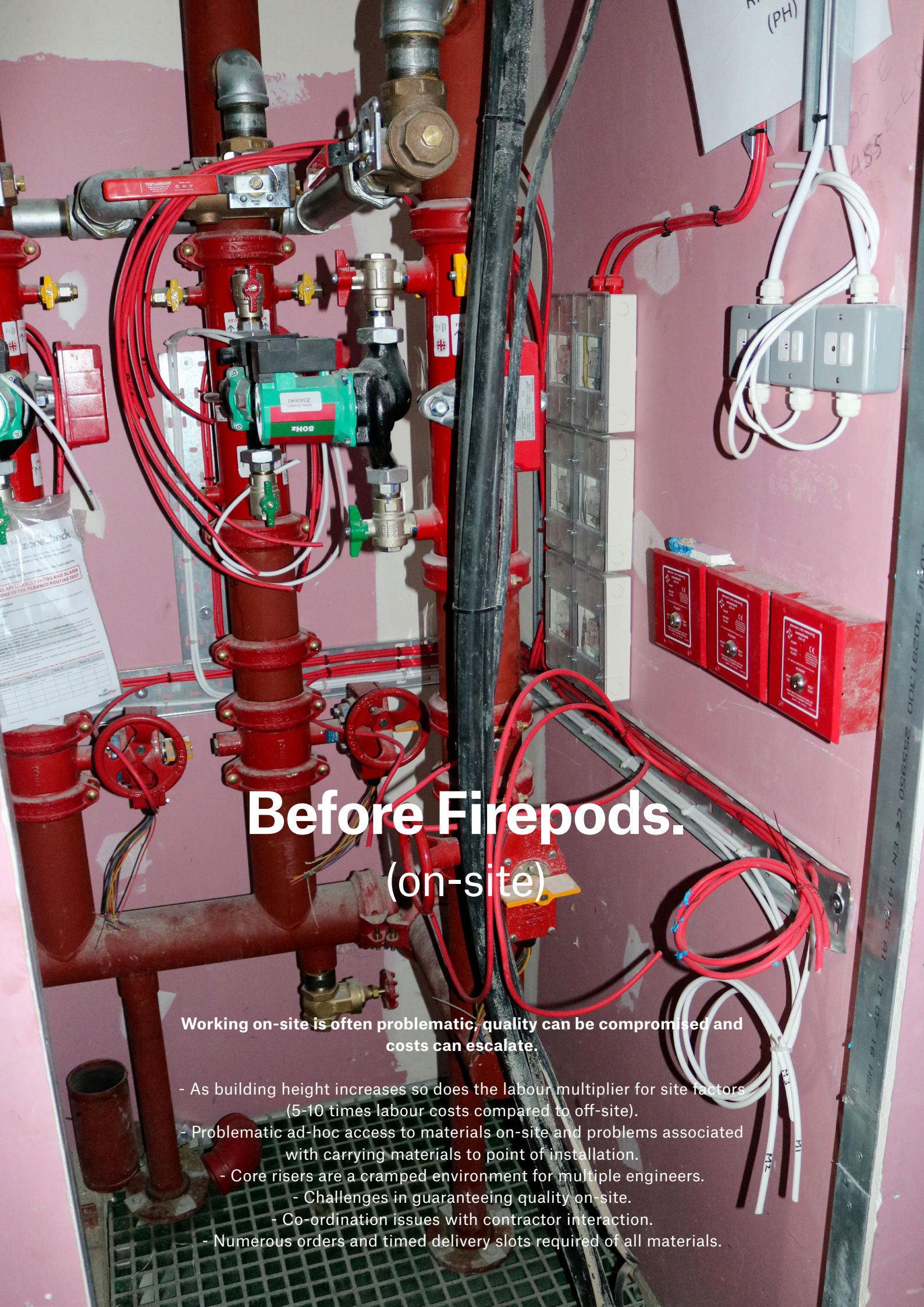
Swing check valve.

Monitored butterfly valve.

Delivered to site with protective shielding to prevent damage while in-situ.

Left/right inlet.



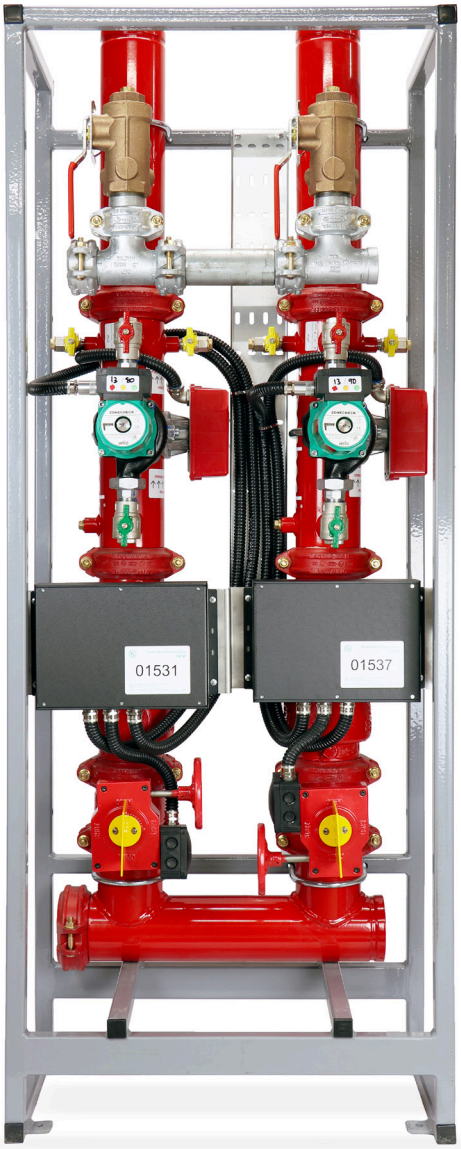


Before Firepods.

(on-site)

Working on-site is often problematic, quality can be compromised and costs can escalate.

- As building height increases so does the labour multiplier for site factors (5-10 times labour costs compared to off-site).
- Problematic ad-hoc access to materials on-site and problems associated with carrying materials to point of installation.
- Core risers are a cramped environment for multiple engineers.
- Challenges in guaranteeing quality on-site.
- Co-ordination issues with contractor interaction.
- Numerous orders and timed delivery slots required of all materials.



Firepod®

(off-site)

Firepod's are a pre-fabricated and tested, plug-and-play, fire sprinkler solution that dramatically reduces sprinkler fit out times and labour costs.

- Save over 19% on sprinkler shell & core fit out.
- Save up to 80% on installation time.
- Up to 36% less prelims.

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