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DEFENSO[®] LPCB
Certified Security Range
Fabricated Steel Access Covers



Guide to Site Risk Assessment

Protecting our water infrastructure from the threat of contamination or malicious contamination is of paramount importance to nations and government agencies.

A recent press release from the European Commission stated that “coordinated attacks in Mumbai in 2008, the attacks by Al-Qaeda against a gas production plant in Algeria and the bomb attacks during the Boston Marathon have highlighted the need for increased protection both against attacks on crucial infrastructure and other public areas in domestic and cross border contexts”

The DEFENSO range is designed to prevent unauthorised persons gaining access to key assets, on Critical National Infrastructure sites.

Over the coming years the priority will be to protect drinking water reservoirs against chemical terrorism, eliminate potential threats in busy urban areas, eradicate unauthorised access to the waste water and utility networks, and protect against the risk of theft and explosions.



Site definition

The designer must ensure that adequate consideration is given to site specific variable risks such as site location and history of previous incidents. Levels of security should be measurable against a recognised security standard.

Low to Medium risk - Level 3 Security Access covers

Typical rural location with major risk or urban situation with minor risk of vandalism. Increased level of security to deter vandals. Products are designed in accordance with LPCB Security Rating 3.

High Risk – Level 4 Security Access Covers

Typical urban sites and locations with a history of serious vandalism. Areas where there is a significant threat of terrorist attack. High level of security. Products designed in accordance with LPCB Security Rating 4.



Product selection and site risk assessment is the responsibility of the scheme designer. Our experienced technical team is available for site visits, to make recommendations on choosing the correct access products and then applying the appropriate risk assessment security level. Please contact our Sales Engineers on 01582 720744.

Customer Satisfaction

From the site survey stage through to the design, installation and maintenance of your product, EJ are committed to working with you offering custom built security solutions that meets the highest standards in the world.

Grontmij, one of Europe's largest multidisciplinary consultancy firms, works closely with clients across water, transportation, energy and building sectors. They were faced with the issue of large opening chambers on an outfall diversion pipe for the **Dunfermline Outfall Sewer Diversion Project**.

The complexity of the site requirement involved the use of box culverts as the access shaft for the chambers. The cover dimensions had to match the internal and external dimensions of the box culvert and still allow the required access and fixing points.

The EJ Engineering Manager provided on site assistance from the consultancy and site survey stage, working closely with Grontmij to design the correct cover that was fit for purpose and then liaising with our internal product design team. There were on-going meetings with the Contractors' on-site agent to gain a better understanding of the project and advise on the installation process

"The EJ team could not have been more helpful, the local Engineering Manager worked closely with ourselves to find the correct solution that was fit for purpose and I would not hesitate to use EJ in the future" Graham Harvey- Senior Engineer Grontmij Ltd.

MWH have engaged with EJ on numerous projects in the past. Their focus is water infrastructure – providing services to a full range of water-related projects ranging from water supply to treatment, storage and management for sites around the world.

EJ have supplied **Carl Tidy, Agent with Leslie MWH JV**, with a range of bespoke Access Covers and frames for oversized chamber openings on previous projects.

For the **Loch Ryan Strategic Solution** site, the issues to overcome were specific access requirements, and the protection of critical assets to prevent unauthorised entry.

Working closely with the EJ technical team in developing this solution, Carl Tidy stated he would **"have no hesitation in availing of the service EJ provide in the future. Their technical team was very helpful"**



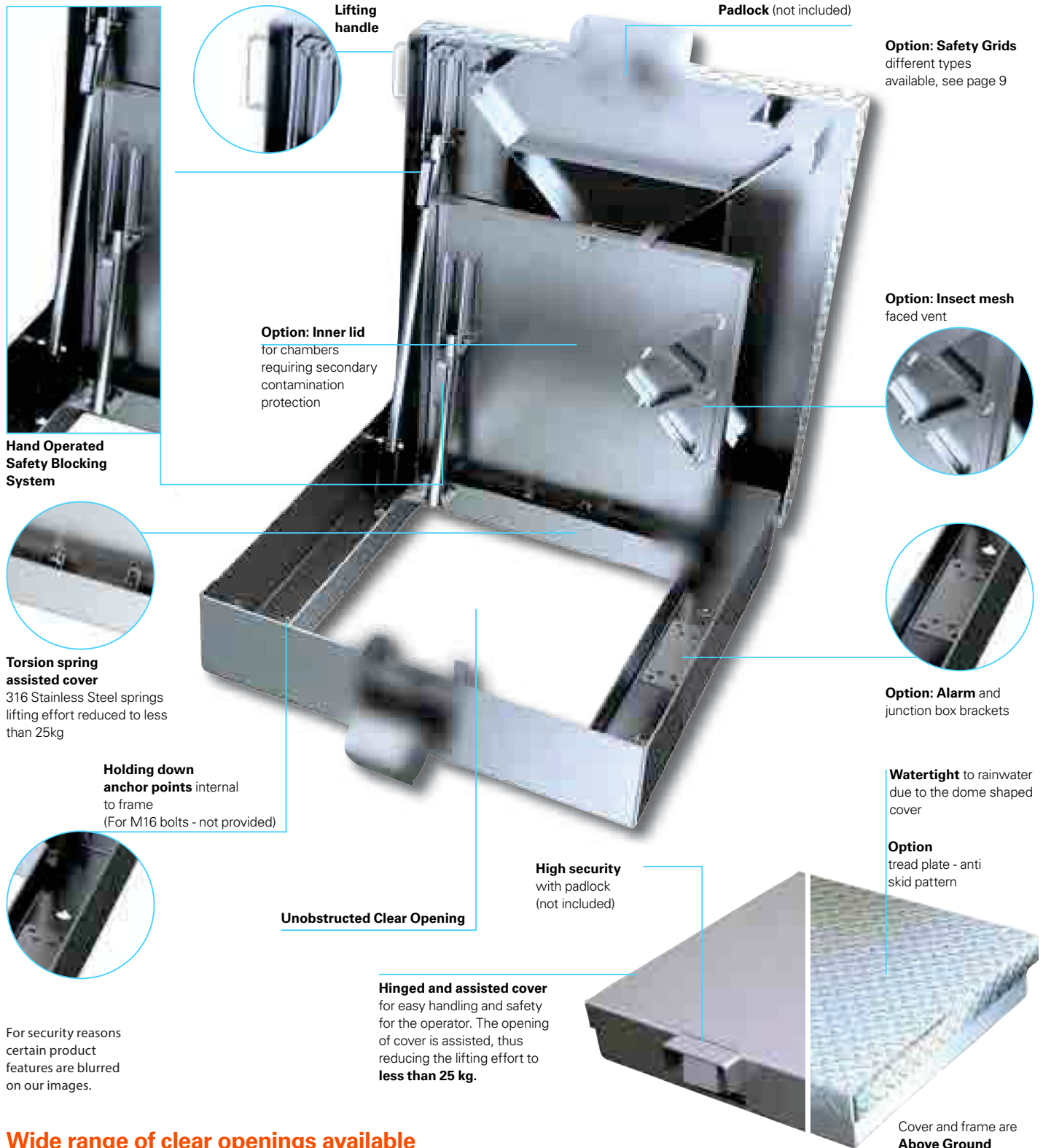
Upstand Security Rating 4 Range of Access Covers

DEFENSO AG1S SR4

Place of installation: Non trafficked areas where frequent access is required.
For medium to high risk sites.



LPS 1175: Issue 7
Cert No. 1187a/01



Wide range of clear openings available

DEFENSO AG1S SR4

How to specify your product.

To order an above ground unit, single skin, Level 4 security rating, 1500 x 500 mm clear opening, hinged, padlockable with a seal and safety grid use:

AG1S SR4 150 050 A V J GS

For additional detailed specification on safety grids please refer to page 9.

Abbreviations for Specifying Fabricated Steel Product

AG	Above Ground	AB	Alarm Bracket
1S	Single Skin, Smooth Surface Finish	AI	Alarm Installed
1DS	Double Skin, Smooth Surface Finish	MS	Motion Sensor Installed
1ST	Single Skin, Chequer Surface Finish	VS	Vibration Sensor
1DST	Double Skin, Chequer Surface Finish	PT	Painted
A	Hinged	AS	Anti-skid coating (LKF type)
H	Torsion Springs	EC	Epoxy Coating
V1	Padlockable via 1 Padlock	100µm	100 Micron Galvanisation
V2	Padlockable via 2 Padlocks	140µm	140 Micron Galvanisation
V3	Padlockable via 3 Padlocks etc	SR3	LPCB Certified Security Rating 3
J	Odour Sealed	SR4	LPCB Certified Security Rating 4
GS30JB 1B	300kg resistant, Jail Bar Type Grid, hinged on the opposite side to cover hinge.	ME	Moat Draining Externally
IM	Insect Mesh	MI	Moat Draining Internally
		SN	Sensors different types available

Clear opening: Select from table of dimensions below, 1st dimension indicates the cover hinge side

Dimensions in mm		DEFENSO AG SR4 Clear Opening Sizes																
		For internal openings less than 350 mm x 350 mm, the option inner leaf is always fitted																
A	B																	
	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
Hinged Side	300																	
	400																	
	500																	
	600																	
	700																	
	800																	
	900																	
	1000																	
	1100																	
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2700																		
2800																		
2900																		
3000																		
3100																		
3200																		
3300																		

1 cover

2 covers in-line hinged

2 covers end hinged

3 covers in-line hinged

Needs 1 padlock

Needs 2 padlocks

Needs 2 padlocks

Needs 2 padlocks
(2 masters lids & 1 slave)

1 cover	Needs 1 padlock
2 covers in-line hinged	Needs 2 padlocks
2 covers end hinged	Needs 2 padlocks
3 covers in-line hinged	Needs 2 padlocks (2 masters lids & 1 slave)

Other key features for our fabricated products include:

- increased thickness of zinc coating through galvanisation for enhanced durability. By increasing the thickness we can double the service life of the unit. Site specific factors which may affect the average corrosion rate (µm per annum) can be taken in account at the design stage.
- powder coating for durability and increased resistance to corrosion. We can offer powder coating to the C5 Industrial and C5 Marine categories. Powder coated surfaces are more resistant to chipping, scratching, fading, and wearing than other finishes.
- multiple leaf units
- unobstructed clear openings

Flush Fit Security Rating 4 Range of Access Covers

DEFENSO FF1S SR4

Place of installation: For medium to high risk sites.

FF1S 15 kN: Footways, pedestrian and cycle areas.

FF2S 125 kN: Footways, pedestrian areas, car parks.

FF3S 250 kN: Slow moving, occasionally trafficked areas, parking areas.

FF4S 400 kN: Carriageway of roads (incl pedestrian streets), hard shoulders and parking areas.



LPS 1175: Issue 7

Cert No. 1187a/03



**Wide range of clear
openings available**

DEFENSO FF SR4

How to specify your product.

To order an flush fit unit, single skin, 1000 x 1000 mm clear opening ,250kN loading, Level 4 security rating, hinged, padlockable with a seal and safety grid use:

FF3S SR4 100100 A V J GS

For additional detailed specification on safety grids please refer to page 9.

Abbreviations for Specifying Fabricated Steel Product

FF1	15 kN Solid Top	IM	Insect Mesh
FF2	125 kN Solid Top	AB	Alarm Bracket
FF3	250 kN Solid Top	AI	Alarm Installed
FF4	400 kN Solid Top	MS	Motion Sensor Installed
S	Single Skin, Chequer Surface Finish	VS	Vibration Sensor
A	Hinged	PT	Painted
H	Torsion Springs	AS	Anti-skid coating (LKF type)
V1	Padlockable via 1 Padlock	EC	Epoxy Coating
V2	Padlockable via 2 Padlocks	100µm	100 Micron Galvanisation
V3	Padlockable via 3 Padlocks etc	140µm	140 Micron Galvanisation
J	Odour Sealed	SR3	LPCB Certified Security Rating 3
GS 30	Safety Grid 300 kg resistant, please see page 9 for additional options.	SR4	LPCB Certified Security Rating 4
		ME	Moat Draining Externally
		MI	Moat Draining Internally

Clear opening: Select from table of dimensions below, 1st dimension indicates the cover hinge side

Dimensions in mm		B											
		300											
Hinged Side	A	300	400	500	600	750	900	1000	1200	1400	1600	1800	2000
	400												
	500												
	600												
	750												
	900												
	1000												
	1200												
	1400												
	1600												
	1800												
	2000												
	2200												
	2400												
	2600												
	2800												
	3000												
	3200												
	3400												
	3600												

1 cover	Needs 1 padlock
2 covers in-line hinged	Needs 2 padlocks
2 covers end hinged	Needs 2 padlocks
3 covers in-line hinged	Needs 2 padlocks (2 masters lids & 1 slave)

Other key features for our fabricated products include:

- increased thickness of zinc coating through galvanisation for enhanced durability. By increasing the thickness we can double the service life of the unit. Site specific factors which may affect the average corrosion rate (µm per annum) can be taken in account at the design stage.

- multiple leaf units

- powder coating for durability and increased resistance to corrosion. We can offer powder coating to the C5 Industrial and C5 Marine categories. Powder coated surfaces are more resistant to chipping, scratching, fading, and wearing than other finishes.

- unobstructed clear openings

Flush Fit Level 3 Range

DEFENSO FF SR3

Place of installation: For low to medium risk sites.

FF1S 15 kN: Footways, pedestrian and cycle areas.

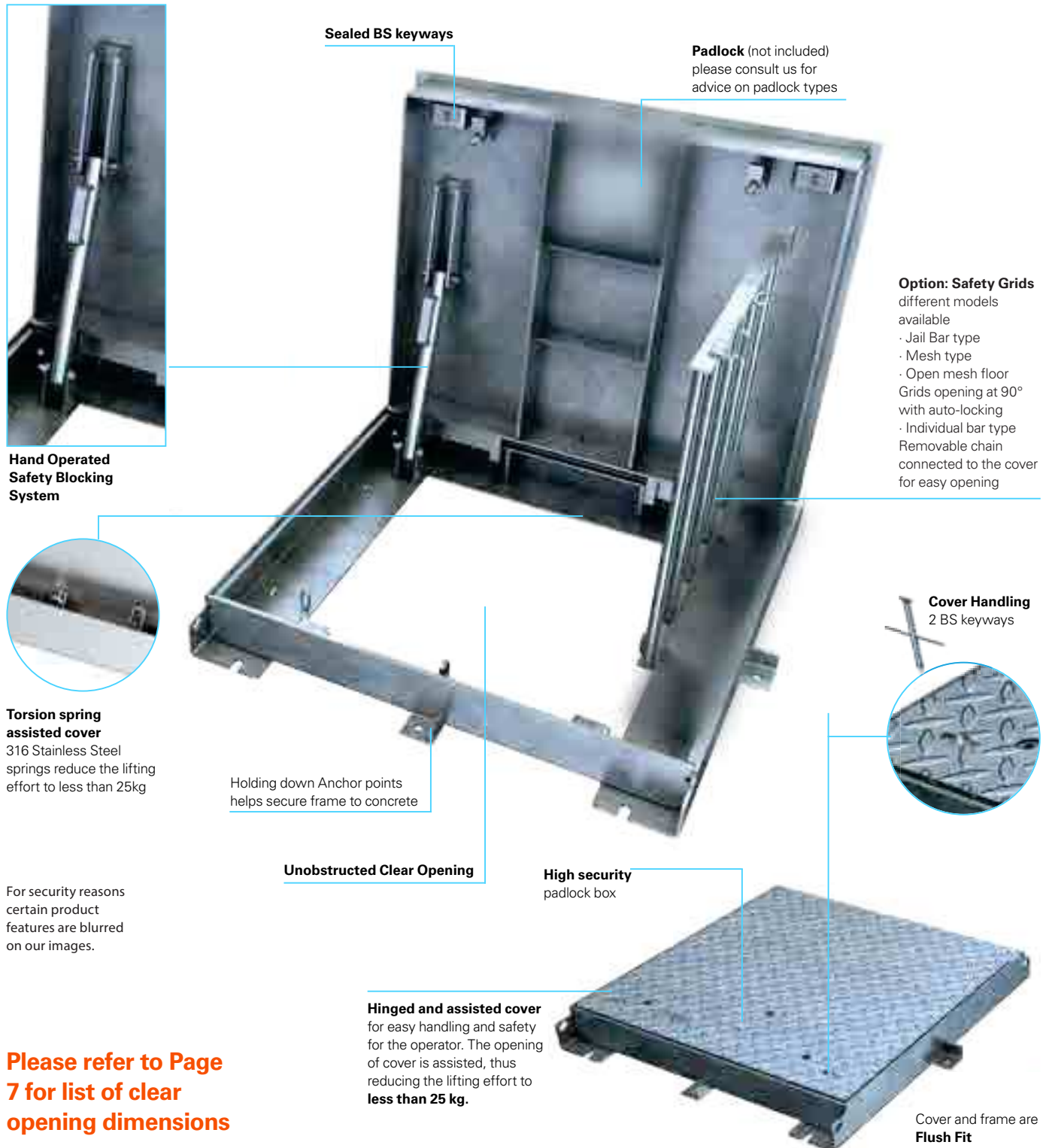
FF2S 125 kN: Footways, pedestrian areas, car parks.

FF3S 250 kN: Slow moving, occasionally trafficked areas, parking areas.

FF4S 400 kN: Carriageway of roads (incl pedestrian streets), hard shoulders and parking areas.



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Safety and Security accessories

At EJ we incorporate safety practices into every process, product and service we provide - from design and manufacture through distribution and end use. Our highly trained and experienced

in-house product development teams will provide the optimum solutions to solve customers’ challenges installation requirements and operational needs.

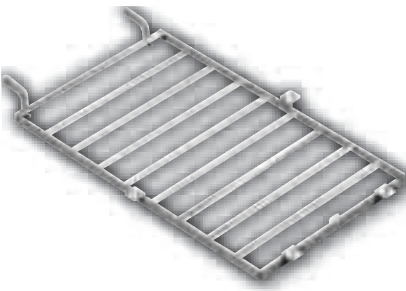


Specifications

- Resistance 150 or 300 kg
 - Auto blocking at 90°
 - One man operation (lifting effort less than 25 kg)
- Lockable on request (padlock not supplied)
 - Removable
 - Delivered with a lifting chain
 - Assembled on a product or wall chamber mounting option

Load bearing		Structure			Safety blocking at 90°		Number of parts		Clear Opening			Secondary access
150 kg	300 Kg	Welded mesh	Rungs	Walk on	No	Yes			Dimensions 0 x 0			Opening access
GP15	GS30	M05	J	W	NB	B	1	2	O	xxx mm	xxx mm	C3030 = Cut Out 300x300mm C/O CA3030 = Hinged Secondary Grid with 300x300mm C/O

Jail bar type grid



Mesh type grid to be fixed to the wall chamber



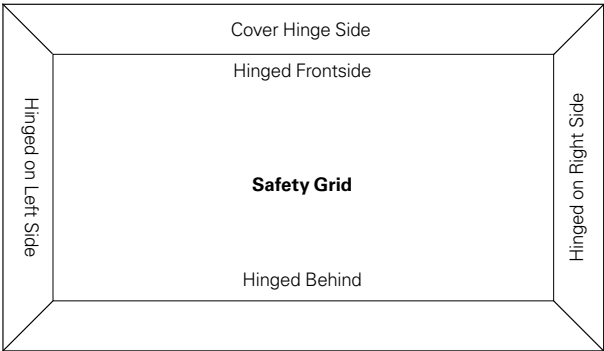
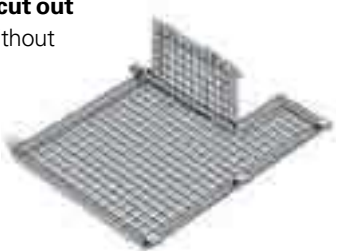
2, 4, 6 part safety grids:

suited for pump removal
2LR (Grids hinged on adjacent sides to the Cover hinge side i.e Left to Right)
2FB (Grids hinged on parallel sides to the Cover hinge side i.e Front to Back) used for extraction of 1 pump
4LR or 4FB Grid layout, is used for extraction of 2 pumps.
6LR or 6FB Grid layout, is used for extraction of 3 pumps.



Grids with secondary hatch or cut out

Allows access to an equipment without opening the grid completely.



Safety railings

Various options on safety and fall protection railings are available in compliance with Health and Safety regulations.