



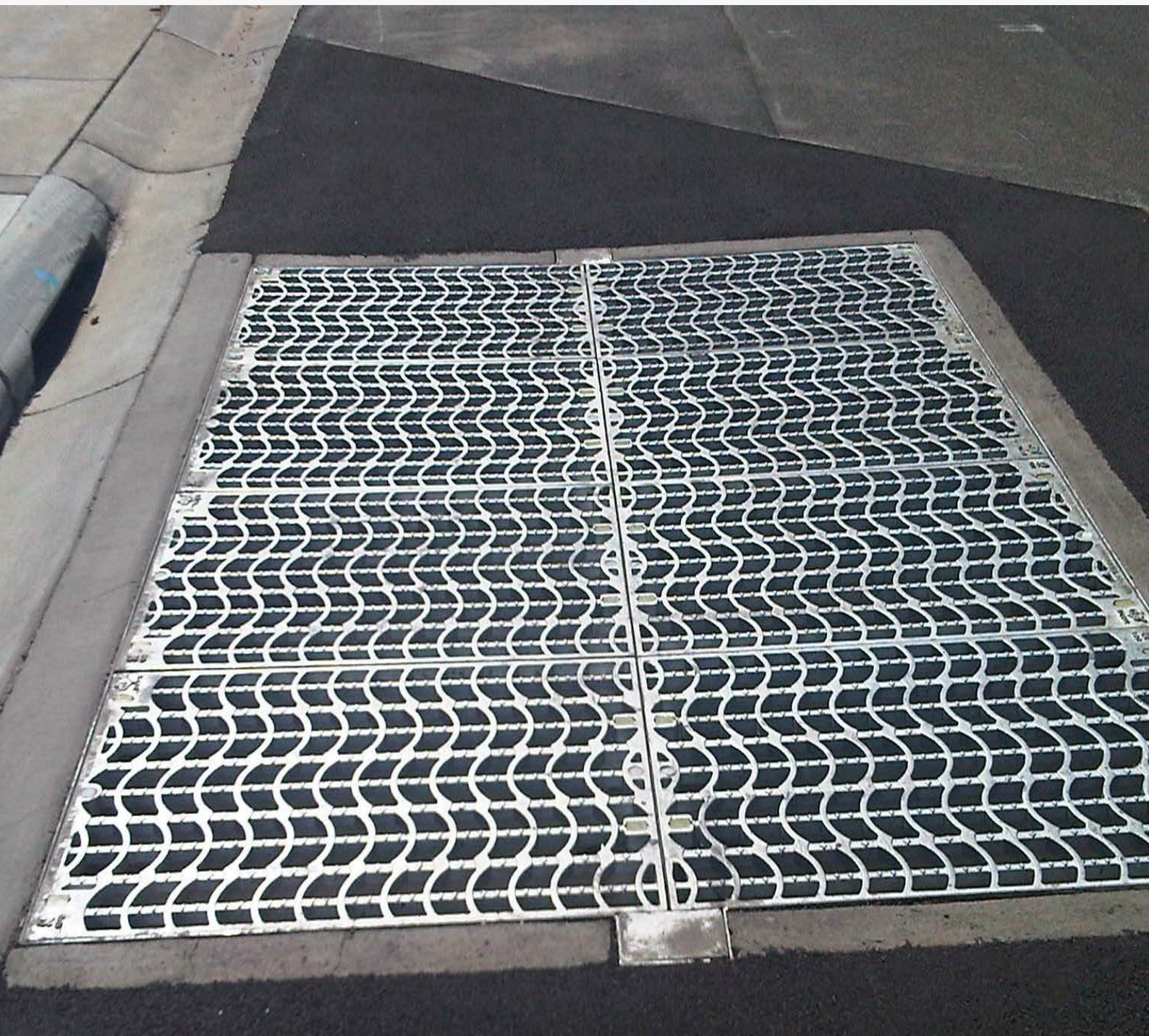
iplex®

**GATIC PRODUCT CATALOGUE  
AND TECHNICAL GUIDE**

**GATIC®** 

**ACCESS COVERS, GRATES & ACCESSORIES**

April 2025



#### IMPORTANT DISCLAIMER

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iplex®

**GATIC®** 

## INTRODUCTION

With over 80 years' experience, Iplex has an excellent understanding of the challenges the water industry faces. Our experienced team actively work and collaborate with customers and the industry to provide safe, secure and innovative water solutions today and into the future.

We have broad and proven capabilities and are driven by what is important to us, our communities and our customers, providing strong and effective pipeline products and solutions

to water authorities, rural and urban agriculture, residential, urban subdivision, civil and mining infrastructure markets across Australia. Iplex is proud to work with customers and offer the GATIC® product range. Further information on Iplex is available at [www.iplex.com.au](http://www.iplex.com.au).

GATIC's complete range of metal access covers, road grates and frames are designed and tested in accordance with the Australian Standard AS3996:2019.

The GATIC product range comprises:

- Circular access covers and frames.
- Square and rectangular access covers and frames.
- 2 part, 3 part, trench runs and multi-part covers and frames.
- Ductile Iron and Stainless Steel grates and frames.
- Brass and Stainless Steel edged covers and frames.
- Concrete encased covers and frames.
- Lifting keys, cover removal devices and accessories.

Find out more at [www.gatic.com.au](http://www.gatic.com.au).

Table 1 below provides an overview of loading classes, typical use and loading capacity. The appropriate class for a cover or grate depends upon the place of installation. For more information, please contact the GATIC team at 1800 335 303.

### IMPORTANT NOTE

The illustrations shown throughout this document are intended to serve as a guide only. Detailed drawings and specifications can be obtained by contacting the nearest GATIC office. GATIC reserve rights to change product specifications shown without prior notice.

## LOAD CLASSIFICATIONS

**TABLE 1: GATIC - AS 3996:2019 - AUSTRALIAN STANDARD LOAD CLASSIFICATIONS**

BASE	TYPICAL USE	NOMINAL WHEEL LOAD (KG)	SERVICEABILITY DESIGN LOAD (KN)	ULTIMATE LIMIT STATE DESIGN LOAD (KN)
A	FOOTWAYS AND AREAS ACCESSIBLE ONLY TO PEDESTRIANS AND PEDAL CYCLISTS	330	6.7	10
B	FOOTWAYS THAT MAY BE MOUNTED BY A VEHICLE ACCESSING DRIVEWAYS OR RESIDENTIAL CARPARKS WITH LOW SPEED	2670	53	80
C	MINOR ROADS - MALLS AND PEDESTRIAN AREAS OPEN TO SLOW MOVING COMMERCIAL VEHICLES	5000	100	150
D	MAJOR ROADS INCLUDING FREEWAY AND MOTORWAY SHOULDERS	8000	160	240
E	FREEWAY AND MOTORWAY CARRIAGEWAYS FOR HEAVY VEHICLES	13700	267	400
F	DOCKS AND AIRCRAFT PAVEMENTS SUBJECT TO HIGH WHEEL LOADS AND HEAVY TRAFFIC	20000	400	600
G	DOCKS AND AIRCRAFT PAVEMENTS SUBJECT TO VERY HIGH WHEEL LOADS AND HEAVY TRAFFIC	30000	600	900

## TESTING AND QUALITY ASSURANCE

### COMMITMENT TO QUALITY

GATIC is distributed under a strict International Quality Management System in accordance with ISO 9001. Testing and quality control throughout the production process are audited and continuously improved to ensure that GATIC products comply with Australian Standards.

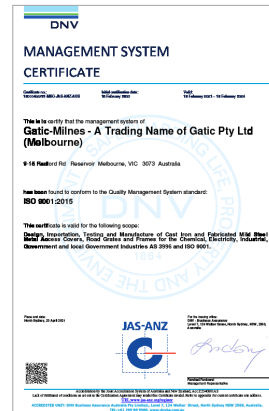
### TESTING LABORATORY

GATIC's mechanical testing laboratory is recognised and accredited by the National Association of Testing Authorities, Australia (NATA Laboratory Accreditation No. 14262). Load tests are carried out on our 1200kN capacity test rig as part of GATIC's quality assurance program in accordance with Australian Standard AS3996:2019.

Test reports are available on request from the GATIC team by calling 1800 335 303.

GATIC undergo the following tests:

- Bicycle Tyre Penetration Resistance Test.
- Hydraulic Flow Rate Test.
- Gas-Tightness Test.
- Water-Tightness Test.



A: NATA accredited testing



## DUCTILE IRON CIRCULAR COVERS

### APPLICATIONS

Circular cover units are intended primarily for use on circular pits where the use of a circular cover simplifies forming the pit top.

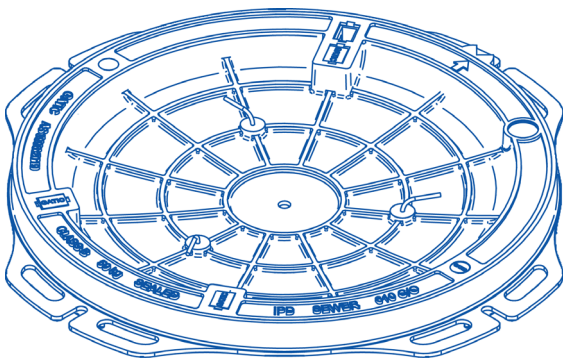
A range of units are available with prefilled covers and frames encased on concrete surrounds; these units are used on pits made from precast concrete pipes, or where on-site filling or pit rebate forming presents difficulties. The concrete surrounds of encased frames can also be modified for use over square or rectangular openings.

When placed on edge, a circular cover cannot pass through its frame opening and accidentally drop inside the pit. This eliminates the danger of dropping the cover down the hole when servicing. This makes circular covers invaluable for use on single openings over valves, machinery or deep pits where a dropped cover could cause damage.

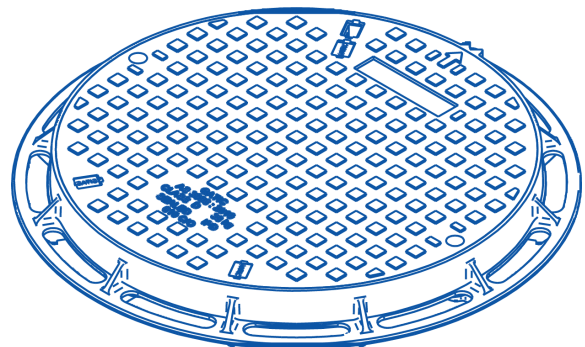
The design of GATIC circular covers utilises metal more effectively than can be achieved with the design of a square cover.

### STANDARD CIRCULAR COVER UNIT FEATURES

#### GM300C - CIRCULAR CONCRETE

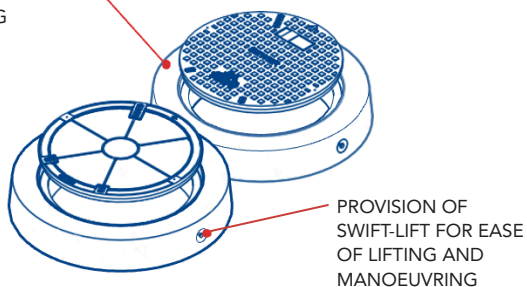


#### GM300S - CIRCULAR SOLID TOP UNIT



### ENCASEMENT UNIT

ENCASEMENT IS AVAILABLE FOR BOTH CLASS B & D LOAD RATING



The range of one-part circular units are available in Class B, D, E and G ratings in accordance with AS3996:2019 and with the following distinctive features:

- Covers (Infilled): ribbed, dished casting design.
- Covers (Solid Top): non-skid pattern top surface.

#### Advantages of Circular Design:

- Covers cannot accidentally drop through frame openings.
- Compared with square units, circular units require less metal for the same strength and are, therefore, lighter.

## PRODUCT CODE SPECIFICATION APPLICATIONS

**GM300S6D2**

2 = Sewer | 3 = Stormwater | 4 = SANSEW

**Class Rating D****Clear Opening Diameter** Ø610mm**Product Type** 300S - Cast Iron Circular Solid Top Cover & Frame  
300C - Cast Iron Circular Infilled Cover & Frame

## MODIFICATION OPTIONS

**SOLID TOP, CONCRETE INFILLED  
AND ENCASED UNITS**

The range of units are available to suit a variety of pit opening shapes and sizes, as tabulated in this section of the catalogue. Contact the GATIC team for details.

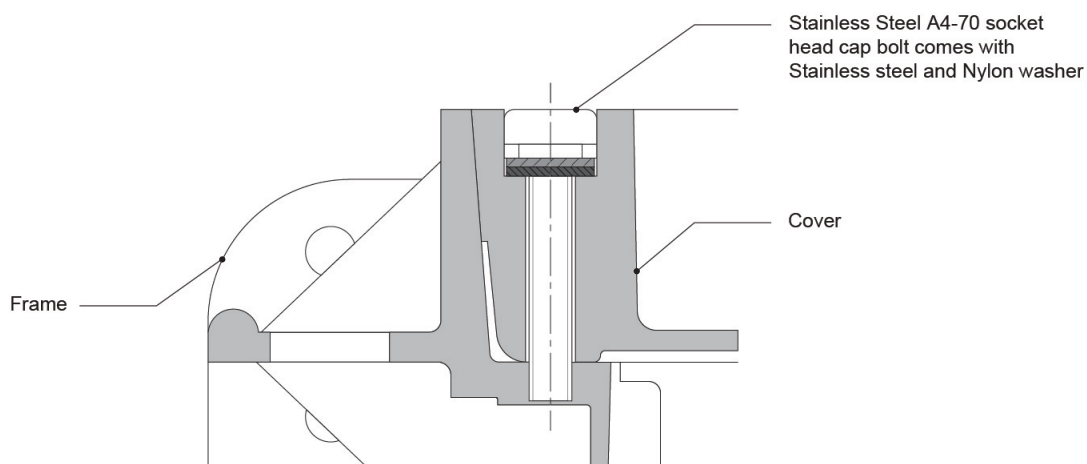
**Other Modifications:**

A unit can be modified to incorporate:

- Bolt-down bolts and locks for security.
- Special paintwork and finishes.
- Concrete encasement.

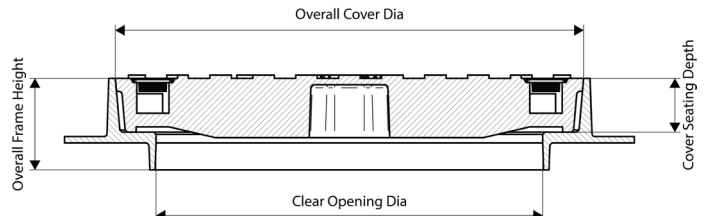
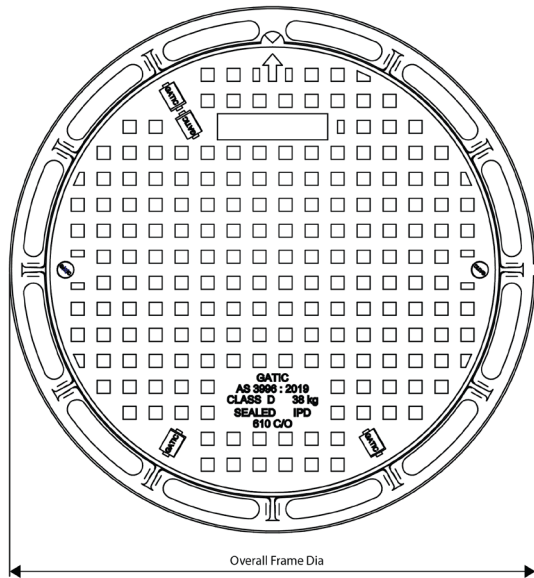
**SECURITY BOLT-DOWN**

- Designed to withstand in-service loading applicable to the location of the installation.
- Noncorrosive fasteners.
- Bolt provision can be stainless steel, Barri bolt or tamper proof fasteners.
- Supplied removable plastic cap to prevent the ingress of foreign materials.
- Minimum of 10mm thread engagement provides positive thread locking.



Typical bolt down arrangement

## GM300S: COVER CIRCULAR SOLID TOP



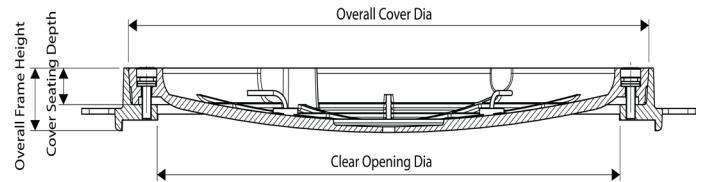
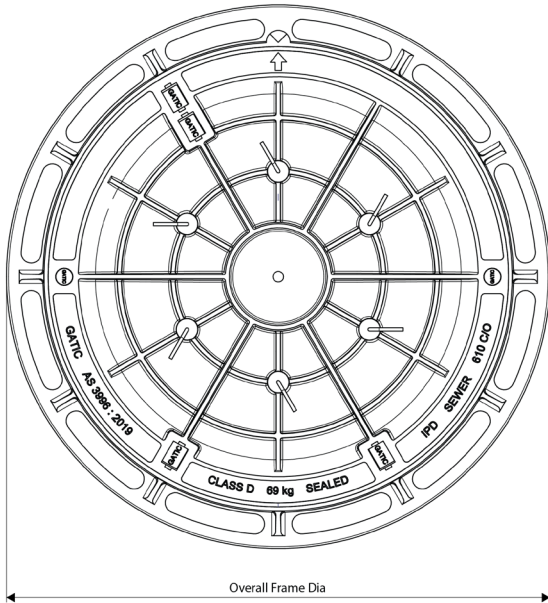
## GM300S: CIRCULAR SOLID TOP

PRODUCT CODE	CLEAR OPENING DIA	OVERALL FRAME DIA	OVERALL COVER DIA	COVER SEATING DEPTH	OVERALL FRAME HEIGHT	MASS FRAME KG	MASS COVER KG	MARKINGS ON TOP*	COMMENT
GM300SB - CLASS B									
GM300S6B	610	810	686	38	68	15	28	BLANK	COMES WITH 2 X M12 SS SHC BOLTS
GM300S6B2	610	810	686	38	68	15	28	SEWER	
GM300S6B3	610	810	686	38	68	15	28	STORM WATER	
GM300S6B4	610	810	686	38	68	15	28	SAN-SEW	
GM300S6D - CLASS D									
GM300S6D	610	810	686	50	98	24	38	BLANK	COMES WITH 2 X M12 SS SHC BOLTS
GM300S6D2	610	810	686	50	98	24	38	SEWER	
GM300S6D3	610	810	686	50	98	24	38	STORM WATER	
GM300S6D4	610	810	686	50	98	24	38	SAN-SEW	
GM300S6D5	610	810	686	50	98	24	38	ELECTRICAL	
GM300S6D7	610	810	686	50	98	24	38	COMMUNICATIONS	
GM300S9D - CLASS D									
GM300S9D2I36	914	1144	990	57	100	32	89	SEWER	SEE NOTES * #
GM300S6G - CLASS G									
GM300S6G	610	790	712	72	109	36	62	BLANK	COMES WITH 4 X M12 SS SHC BOLTS
GM300S6G2	610	790	712	72	109	36	62	SEWER	
GM300S6G3	610	790	712	72	109	36	62	STORM WATER	
GM300S6G5	610	790	712	72	109	36	62	ELECTRICAL	

Note:

- \* Other markings may be available upon request
- # Supplied with Ø360C/O Solid Top Maintenance Shaft Insert and 6xM12 SS SHC Bolts

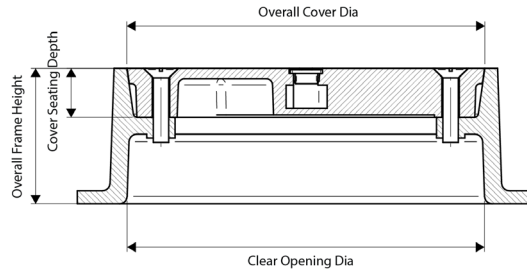
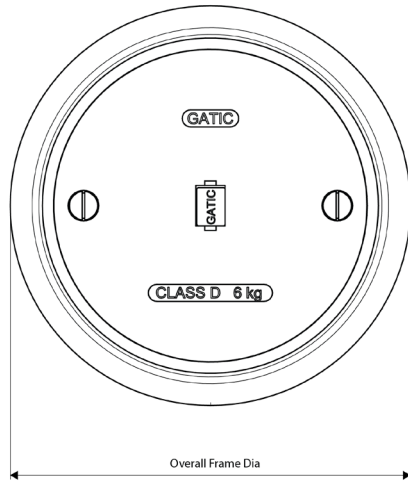
## GM300C: COVER CIRCULAR CONCRETE INFILLED



## GM300C: CIRCULAR CONCRETE INFILL

PRODUCT CODE	CLEAR OPENING DIA	OVERALL FRAME DIA	OVERALL COVER DIA	COVER SEATING DEPTH	OVERALL FRAME HEIGHT	MASS FRAME KG	MASS COVER KG	MASS COVER (INCL. CONCRETE) KG	MARKINGS ON TOP*	COMMENT
CLASS B										
GM300C6B2N	610	810	686	38	65	15	31	59	SEWER	COMES WITH 2 X M12 SS SHC BOLTS
CLASS D										
GM300C6D2N	610	810	686	50	98	25	38	69	SEWER	COMES WITH 2 X M12 SS SHC BOLTS
CLASS E										
GM300C6E2	610	825	698	57	102	33	42	95	SEWER	COMES WITH 2 X M12 SS SHC BOLTS

## MISCELLANEOUS: CIRCULAR INSPECTION COVERS, FLUSHING POINT, VENTED, MAINTENANCE

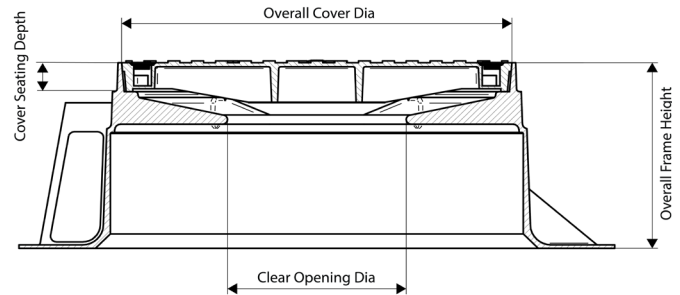
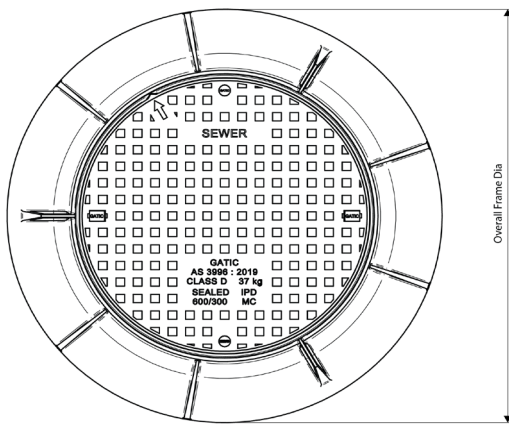


PRODUCT CODE	CLASS RATING	COVER TYPE	CLEAR OPEN-ING DIA	OVER-ALL FRAME DIA	OVER-ALL COVER DIA	COVER SEAT-ING DEPTH	OVER-ALL FRAME HEIGHT	MASS FRAME KG	MASS COVER KG	COMMENT
GM300FP1	D	SOLID TOP	152	275	189	22	102	5	2	COMES WITH 2 X M6 SS CSH BOLTS
GM300FPV1	D	VENTED	152	275	189	22	102	5	2.5	COMES WITH 2 X M6 SS CSH BOLTS
GM300FPC2	D	CONCRETE INFILL	229	355	277	38	105	13	6	COMES WITH 2 X M12 SS SHC BOLTS
GM300FP2	D	SOLID TOP	229	355	277	38	105	13	6	COMES WITH 2 X M12 SS SHC BOLTS
GM300FPV2	D	VENTED	229	355	277	38	105	13	6	COMES WITH 2 X M12 SS CSH BOLTS
GMISIO300S25D2	D	SOLID TOP	250	495	297	50	300	23	9	COMES WITH 2 X M12 SS SHC BOLTS
GM721	D	SOLID TOP	229	325	276	26	75	5	6	COMES WITH 2 X M12 SS SHC BOLTS
GM721G	G	SOLID TOP	229	325	276	26	75	5	10	COMES WITH 2 X M12 SS SHC BOLTS

## MAINTENANCE SHAFTS

PRODUCT CODE	CLEAR OPENING DIA	OVERALL FRAME DIA	OVERALL COVER DIA	COVER SEATING DEPTH	OVERALL FRAME HEIGHT	FRAME MASS (KG)	COVER MASS (KG)	CLASS	MARKING ON TOP
GM300S36B2	360	574	436	50	85	12	15	B	SEWER
GM300S36D2CF	360	574	436	50	85	12	17	D	SEWER
GM300S36D6CF	360	574	436	50	85	12	17	D	WATER
PRODUCT CODE TOP HAT DESIGN	CLEAR OPENING DIA	OVERALL FRAME SIZE	OVERALL COVER DIA	COVER SEATING DEPTH	OVERALL FRAME HEIGHT	FRAME MASS (KG)	COVER MASS (KG)	CLASS	MARKING ON TOP
GM300S36D2	360	900X700	436	50	331	58	17	D	SEWER
GM300S36D6	360	900X700	436	50	331	58	17	D	WATER

## CIRCULAR TOP HAT SOLID TOP COVER AND CONCRETE INFILL COVERS.



## TOP HATS - MAINTENANCE: SHAFT/CHAMBER/HOLE

PRODUCT TYPE	PRODUCT CODE	COVER TYPE	CLEAR OPENING DIA	OVERALL FRAME DIA	OVERALL COVER DIA	COVER SEATING DEPTH	OVERALL FRAME HEIGHT	MASS FRAME KG	MASS COVER KG	MASS COVER (INCL CON. COVER) KG	MARKINGS ON TOP*
CLASS B											
MAINTENANCE SHAFT	GMMS300C3B2S4	CONCRETE INFILL	300	860	436	50	300	53	14	24	SEWER
	GMMS300S3B2S4	SOLID TOP	300	860	436	50	300	53	14	N/A	
MAINTENANCE CHAMBER	GMMC300C3B2S6	CONCRETE INFILL	300	1000	655	50	320	73	25	51	
	GMMC300S3B2S6	SOLID TOP	300	1000	655	50	320	73	29	N/A	
CLASS D											
MAINTENANCE SHAFT	GMMS300C3D2S4	CONCRETE INFILL	300	860	436	50	300	53	16	31	SEWER
	GMMS300S3D2S4	SOLID TOP	300	860	436	50	300	53	17	N/A	
MAINTENANCE CHAMBER	GMMC300C3D2S6	CONCRETE INFILL	300	1000	655	50	320	73	32	68	
	GMMC300S3D2S6	SOLID TOP	300	1000	655	50	320	73	37	N/A	
MAINTENANCE HOLE	GMMH300C6D2S10	CONCRETE INFILL	600	1000	655	50	320	73	32	68	
	GMMH300S6D2S10	SOLID TOP	600	1000	655	50	320	73	37	N/A	

Note: • All products come assembled with 2 X M12 SS SHC Bolts

## TOP HATS - CONCRETE VEGETATION RING

PRODUCT CODE	TO SUIT	OD	HEIGHT	MASS KG
GME300VEGRINGMS	425 SHAFT FRAME	690	75	37
GME300VEGRINGMC	600 SHAFT FRAME	895	75	49

## CONCRETE ENCASED PRODUCTS

PRODUCT CODE	CLEAR OPENING DIA	COVER TYPE	CONCRETE RING OD1	CONCRETE RING OD2	OVERALL CONCRETE RING HEIGHT	COVER SEATING DEPTH	MASS OF CONCRETE RING WITH FRAME (KG)	MASS OF COVER WITH INFILL (KG)	MARKING ON TOP	CLASS RATING
GMMM1*	229	SOLID TOP	368	445	127	26	32	5	SEWER	CLASS D
GMCE300S36B2	360	SOLID TOP	648	665	100	50	53	15	SEWER	CLASS B
GMCE300S36D2CF	360	SOLID TOP	648	665	100	50	53	17	SEWER	CLASS D

Note:

- All products come assembled with 2 X M12 SS SHC Bolts
- [\*] Comes with 2 x M12 HexHead Bolts

GMMM3 - CLASS D										
PRODUCT CODE	COVER TYPE	CLEAR OPENING DIA	OVERALL CONCRETE SURROUND SIZE	OVERALL CONCRETE SURROUND HEIGHT	OVERALL COVER DIA	COVER SEATING DEPTH	OVERALL FRAME HEIGHT	CONCRETE SURROUND + FRAME MASS (KG)	COVER MASS (KG)	COMMENT
GMMM3	SOLID TOP	229	450X450	230	272	26	75	94.0	5.0	SEE NOTES

Image: EziPit® Top Hat



## DUCTILE IRON RECTANGULAR COVERS

### APPLICATIONS

One-part square or rectangular cover and frame units are suitable for use over shaft, pit or access openings such as:

- Sewers.
- Stormwater drains.
- Pressure pipelines.
- Cables.
- Septic tanks.
- Vanes and metering.

Two-part and three-part rectangular cover and frame units are designed for openings where the length is substantially larger than the width. Typical applications include:

- Cable jointing pits.
- Interceptor trap pits.
- Any shallow pit where a large working area is required.

### STANDARD REGULAR COVER UNIT FEATURES

#### GM301C - RECTANGULAR CONCRETE INFILLED UNIT

##### Strength and Durability

- Made from ductile iron 500-10 to AS1831 Australian Standard for superior strength to weight ratio.

##### Stability Under Load

- All GATIC cover and frame seating surfaces are machined for an accurate and precise fit.
- Undercut seating surface design on one side of the unit prevents movement of cover under load.
- Frame bar design ensures stable and permanent keying of the frame in surrounding concrete.

##### High Seating Capability

- All bolted frame joints are sealed to minimise passage of water through the joints.
- With application of the GATIC sealing compound, the machined seatings give a watertight and gas-tight fit between the cover and frame.

#### GM301S - RECTANGULAR SOLID TOP UNIT

##### Economical Design and Choice of Loading Capacities

- Ribbed cover design gives maximum strength for minimum weight of material.
- GATIC's range of covers give a choice of load capacities to enable accurate selection to suit particular loading requirements. This avoids higher cost of excessive design load.

##### Easy and Safe Operation

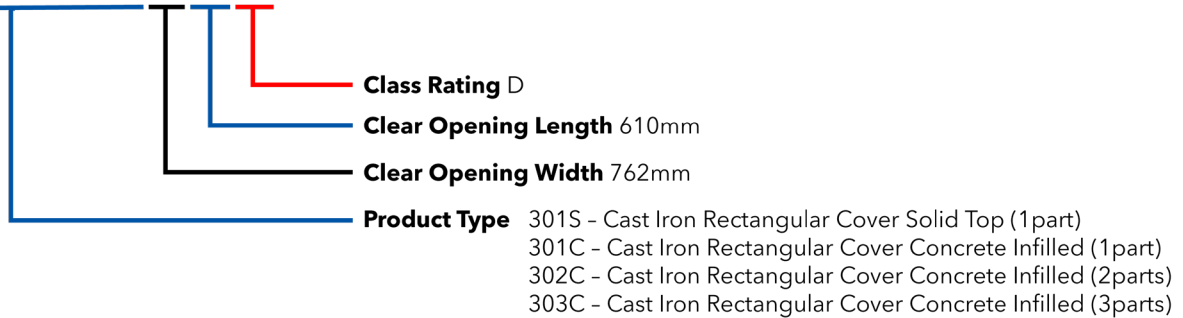
- Lifting keyholes are designed to suit GATIC's range of lifting keys and devices.
- Keyholes are designed to ensure that keys cannot rotate and disengage unintentionally.
- Plastic plugs are fitted to exclude ingress and dirt.
- Conformance with AS3996:2019.

##### Cover to Frame Matching and Orientation

- Covers and frames are manufactured in accurate matching assemblies. The cover of one unit will not necessarily fit the frame of another assembled unit.

## PRODUCT CODE SPECIFICATION

**GM301S76D**



## MODIFICATION OPTIONS

### INCREASED VERSATILITY FOR STANDARD UNITS

- The range of modifications available has been designed to give standard GATIC units the ability to meet special needs of appearance, security, identification, operation and other functional requirements. GATIC is committed to meet your standard and non-standard modification/option requirements. Contact our GATIC sales team for further information.

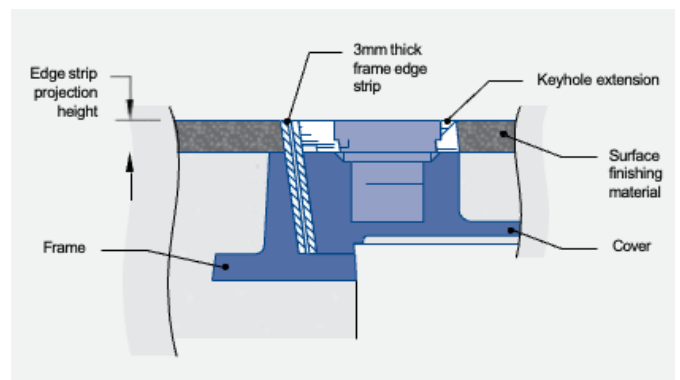
#### Available Modifications:

Units can be modified to incorporate:

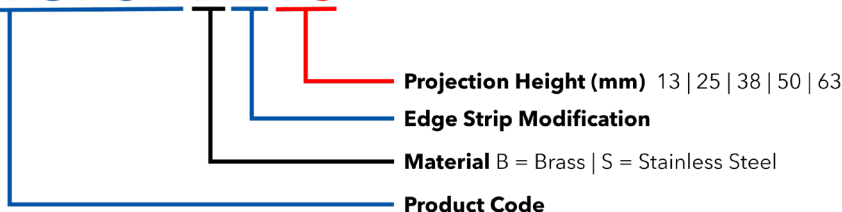
- Edge Strip Trim - brass or stainless steel.
- Locks for security.

### EDGE STRIP TRIMS

- This modification is for use with Class B units only.
- Edge strips are designed for enhancing the appearance of GATIC units installed in floors or other areas having a high quality finish, e.g., ceramic or lino tiles, terrazzo, parquet.
- Edge strips are available in brass and stainless steel in a range of projecting heights to match different types and depths of surface finish.
- Keyhole extensions made from material matching the edge strips are fitted to covers to provide access to keyholes below the finished surface.

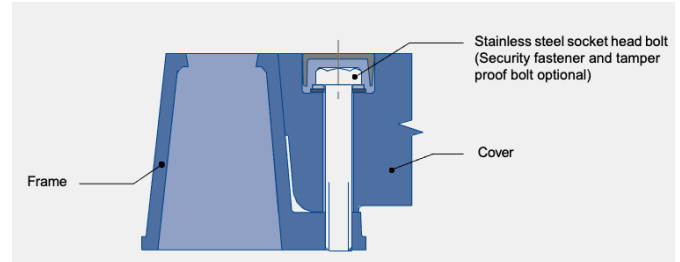


**GM301C76DBE13**

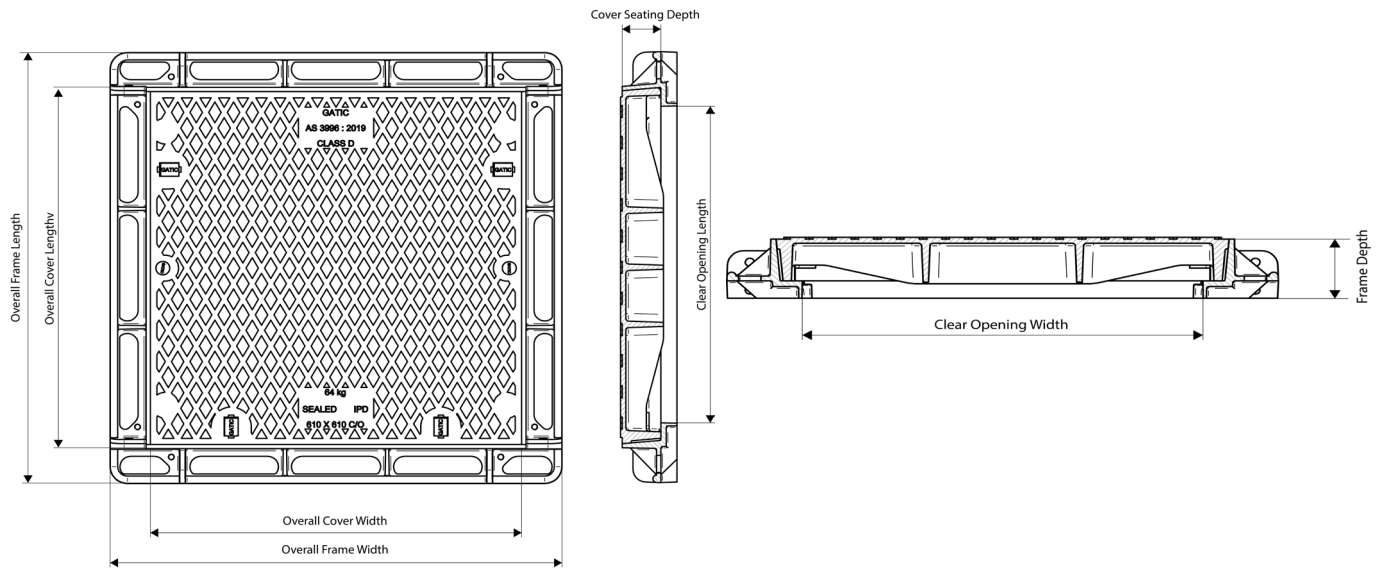


## SECURITY BOLT-DOWN

- Designed to withstand in-service loading as specified.
- Non-corrosive fasteners.
- Bolt provision can be stainless steel, security fasteners or tamper proof fasteners.
- Standard configuration M12 stainless steel bolts.



## GM301S: COVER RECTANGULAR/SQUARE (1 PART) SOLID TOP



## GM301S: SQUARE AND RECTANGLE SOLID TOP – CLASS B

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS	
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG
GM301S44B	457	457	609	559	48	505	500	38	14	25
GM301S66B	610	610	762	712	48	658	653	38	18	43
GM301S96B	914	610	1066	712	48	962	653	38	22	64
GM301S99B	914	914	1066	1016	48	962	957	38	26	87

- Note:
- Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts.
  - Other sizes may be available on request.

## GM301S: SQUARE AND RECTANGLE SOLID TOP – CLASS D

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS	
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG
GM301S44D	457	457	687	677	102	537	527	72	31	41
GM301S46D	457	610	687	830	102	537	680	72	37	50
GM301S64D	610	457	840	677	102	690	527	72	36	54
GM301S66D	610	610	840	830	102	690	680	72	41	64
GM301S67D	610	762	840	982	102	690	832	72	45	74
GM301S74D	762	457	992	677	102	842	527	72	40	68
GM301S76D	762	610	992	830	102	842	680	72	44	80
GM301S77D	762	762	992	982	102	842	832	72	49	92
GM301S94D	914	457	1144	677	102	994	527	72	44	81
GM301S96D	914	610	1144	830	102	994	680	72	48	95
GM301S99D	914	914	1144	1134	102	994	984	72	56	124

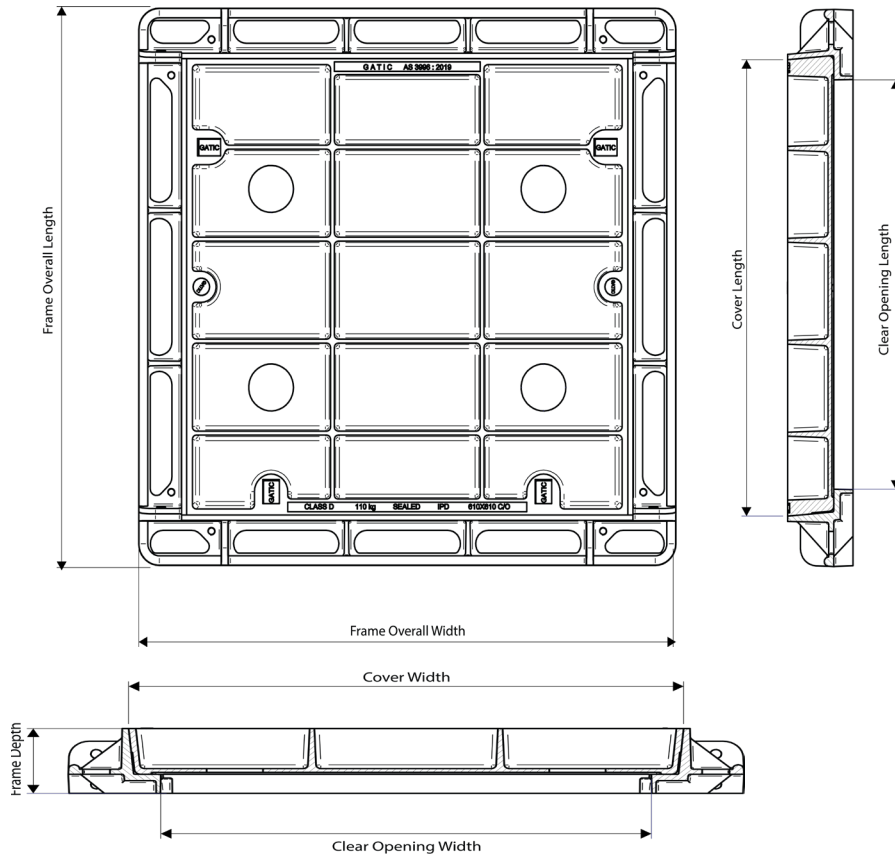
Note: • Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts.

## GM301S: SQUARE SOLID TOP – CLASS G

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS	
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG
GM301S66G	610	610	840	828	152	698	686	87	50	93
GM301S77G	762	762	992	980	152	850	838	87	62	134
GM301S99G	914	914	1144	1132	152	1002	990	87	70	188

Note: • Cover and frame come assembled with bolt-downs, 4 x M12 SS SHC bolts.

## GM301C: COVER RECTANGULAR/SQUARE (1 PART) CONCRETE INFILLED



## GM301C: SQUARE AND RECTANGLE CONCRETE INFILL – CLASS B

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS		
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CONCRETE)
GM301C33B	305	305	457	407	48	353	348	38	10	10	17
GM301C44B	457	457	609	559	48	505	500	38	14	26	38
GM301C46B	457	610	609	712	48	505	653	38	15	33	52
GM301C64B	610	457	762	559	48	658	500	38	16	33	52
GM301C66B	610	610	762	712	48	658	653	38	17	41	66
GM301C67B	610	762	762	864	48	658	805	38	19	50	81
GM301C74B	762	457	914	559	48	810	500	38	18	34	59
GM301C76B	762	610	914	712	48	810	653	38	19	56	85
GM301C77B	762	762	914	864	48	810	805	38	21	63	103
GM301C94B	914	457	1066	559	48	962	500	38	20	50	86
GM301C96B	914	610	1066	712	48	962	653	38	21	64	111
GM301C97B	914	762	1066	864	48	962	805	38	23	91	144
GM301C99B	914	914	1066	1016	48	962	957	38	25	96	166

Note: • Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts.

## GM301C: SQUARE AND RECTANGLE CONCRETE INFILL – CLASS D

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS		MASS COVER (INCL CON-CRETE)
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	
GM301C33D	305	305	535	525	102	385	375	25	25	21	37
GM301C44D	457	457	687	677	102	537	527	32	32	33	68
GM301C44D	457	610	687	830	102	537	680	37	37	40	86
GM301C64D	610	457	840	677	102	690	527	36	36	45	88
GM301C66D	610	610	840	830	102	690	680	40	40	54	110
GM301C67D	610	762	840	982	102	690	832	45	45	64	135
GM301C74D	762	457	992	677	102	842	527	40	40	50	106
GM301C76D	762	610	992	830	102	842	680	44	44	62	135
GM301C77D	762	762	992	982	102	842	832	49	49	72	163
GM301C94D	914	457	1144	677	102	994	527	44	44	77	154
GM301C96D	914	610	1144	830	102	994	680	48	48	97	204
GM301C97D	914	762	1144	982	102	994	832	52	52	116	242
GM301C99D	914	914	1144	1134	102	994	984	56	56	138	267
GM301C1245D	1218	457	1448	677	102	1298	527	51	51	138	258
GM301C1261D	1218	610	1448	830	102	1298	680	55	55	162	330

Note: • Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts.

## GM301C: RECTANGLE CONCRETE INFILL – CLASS E

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS		MASS COVER (INCL CON-CRETE)
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	
GM301C14E	1067	457	1297	675	152	1155	533	87	60	124	275
GM301C16E	1067	610	1297	828	152	1155	686	87	65	143	300

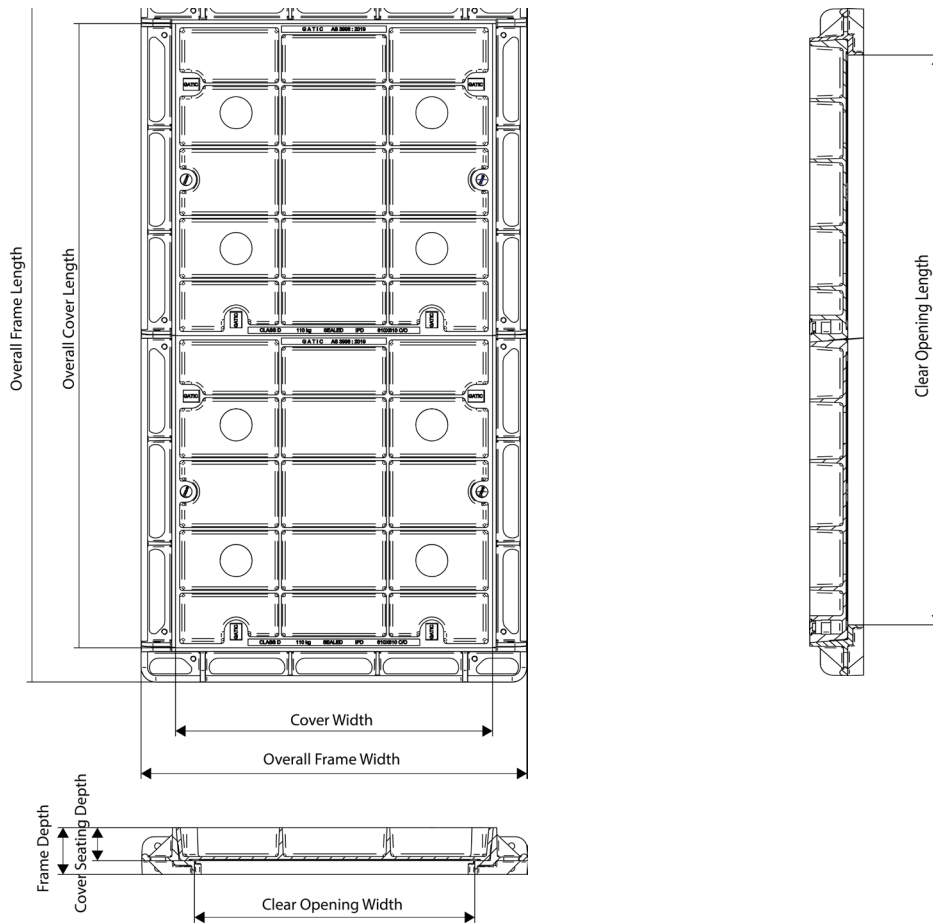
Note: • Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts.

## GM301C: CONCRETE INFILL – CLASS G

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS		MASS COVER (INCL CON-CRETE)
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	
GM301C44G	457	457	687	675	152	545	533	87	41	69	111
GM301C46G	457	610	687	828	152	545	686	87	46	79	139
GM301C64G	610	457	840	675	152	698	533	87	45	81	139
GM301C66G	610	610	840	828	152	698	686	87	50	96	177
GM301C67G	610	762	840	980	152	698	838	87	55	112	229
GM301C74G	762	762	992	980	152	698	838	87	51	96	180
GM301C76G	762	762	992	980	152	850	838	87	56	112	281
GM301C77G	762	762	992	980	152	850	838	87	61	139	278
GM301C94G	914	457	1144	675	152	850	838	87	55	114	213
GM301C96G	914	610	1144	828	152	1002	533	87	60	136	280
GM301C97G	914	762	1144	980	152	1002	686	87	65	165	329
GM301C99G	914	914	1144	1132	152	1002	838	87	69	205	405
GM301C1261G	1218	610	1448	828	152	1306	990	87	75	183	386

Note: • Cover and frame come assembled with bolt-downs, 4 x M12 SS SHC bolts.

## GM302C: COVER RECTANGULAR (2 PART) CONCRETE INFILLED



## GM302C: 2 PART CONCRETE INFILL - CLASS B

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CONCRETE)	
GM302C4512B	457	1263	609	1365	48	505	1306	38	24	66	104	2 X GM301C46B
GM302C4595B	457	957	609	1059	48	505	1000	38	52	52	76	2 X GM301C44B
GM302C6112B	610	1263	762	1365	48	658	1306	38	82	82	132	2 X GM301C66B
GM302C6195B	610	957	762	1059	48	658	1000	38	66	66	104	2 X GM301C64B
GM302C7612B	762	1263	914	1365	48	810	1306	38	102	102	170	2 X GM301C76B
GM302C9112B	914	1263	1066	1365	48	962	1306	38	128	128	222	2 X GM301C96B
GM302C9118B	914	1871	1066	1973	48	962	1914	38	192	192	332	2 X GM301C99B

Note:

- Other 2 Part Covers may be available upon request. Solid top as per GM301S Table.
- Cover and frame come assembled with boltdowns, 2 x M12 SS SHC bolts per cover.

## GM302C: 2 PART CONCRETE INFILL - CLASS D

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CON-CRETE)	
GM302C4512D	457	1290	687	1510	102	537	1360	72	56	80	172	2 X GM301C46D
GM302C4598D	457	984	687	1204	102	537	1054	72	48	66	136	2 X GM301C44D
GM302C6112D	610	1290	840	1510	102	690	1360	72	60	108	220	2 X GM301C66D
GM302C6198D	610	984	840	1204	102	690	1054	72	52	90	176	2 X GM301C64D
GM302C7612D	762	1290	992	1510	102	842	1360	72	64	124	270	2 X GM301C76D
GM302C9112D	914	1290	1144	1510	102	994	1360	72	67	194	408	2 X GM301C96D
GM302C9118D	914	1898	1144	2118	102	994	1968	72	84	276	534	2 X GM301C99D
GM302C9198D	914	984	1144	1204	102	994	1054	72	59	154	308	2 X GM301C94D
GM302C1212D	1218	1290	1448	1510	102	1298	1360	72	66	324	660	2 X GM301C1245D
GM302C1298D	1218	984	1448	1204	102	1298	1054	72	75	276	516	2 X GM301C1245D

Note:

- Other 2 Part Covers may be available upon request. Solid Top as per GM301S Table.
- Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts per cover.

## GM302C: 2 PART CONCRETE INFILL - CLASS E

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CON-CRETE)	
GM302C1099E	1067	990	1298	1208	152	1155	1066	87	80	248	550	2 X GM301C14E
GM302C1012E	1067	1296	1298	1514	152	1155	1372	87	90	286	600	2 X GM301C16E

Note:

- Cover and frame come assembled with bolt-downs, 4 x M12 SS SHC bolts per cover.

## GM302C: 2 PART CONCRETE INFILL - CLASS G

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CON-CRETE)	
GM302C4512G	457	1296	687	1514	152	545	1372	87	70	158	278	2 X GM301C46G
GM302C6112G	610	1296	840	1514	152	698	1372	87	74	192	354	2 X GM301C66G
GM302C6199G	610	990	840	1208	152	698	1066	87	64	162	278	2 X GM301C64G
GM302C7612G	762	1296	992	1514	152	850	1372	87	80	224	562	2 X GM301C76G
GM302C9112G	914	1296	1144	1514	152	1002	1372	87	84	271	560	2 X GM301C96G
GM302C9199G	914	990	1144	1208	152	1002	1066	87	74	228	426	2 X GM301C94G

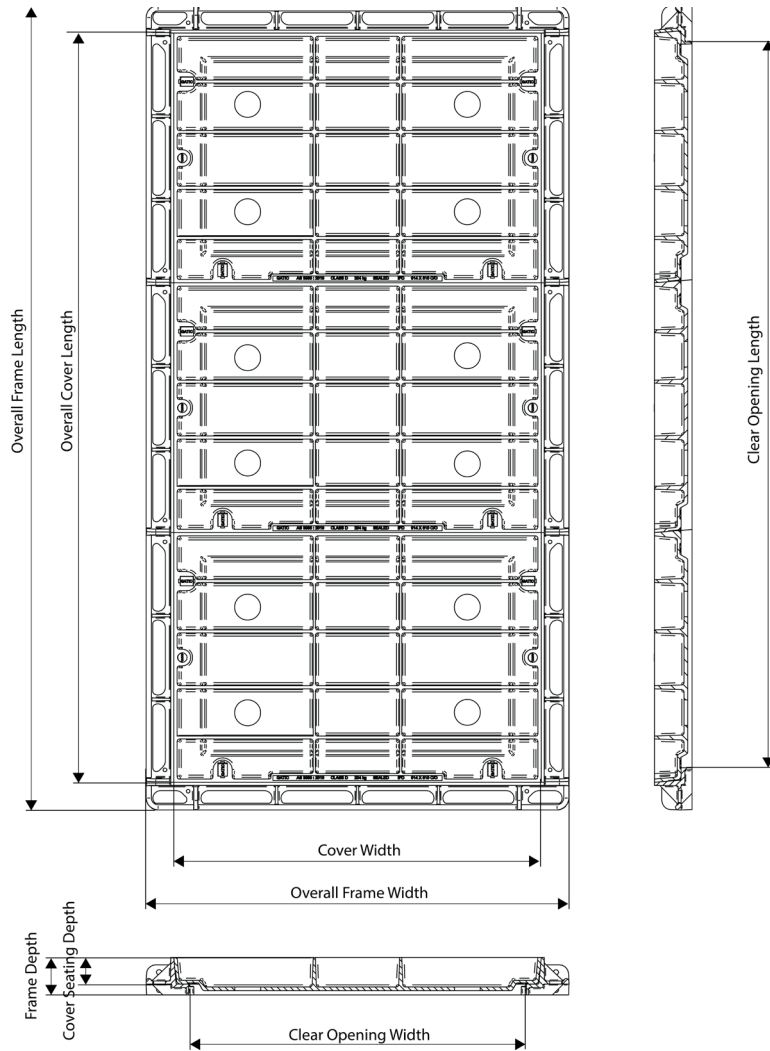
Note:

- Other 2 Part Covers may be available upon request.
- Cover and frame come assembled with bolt-downs, 4 x M12 SS SHC bolts per cover.

Image: Multi-part installation - Royal Brisbane Hospital, Herston



## GM303C: COVER RECTANGULAR (3 PART) CONCRETE IN-FILLED



## GM303C: 3 PART CONCRETE INFILL - CLASS G

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CON-CRETE)	
GM303C4515G	457	1523	687	1741	152	545	1599	87	80	206	333	3 X GM301C44G
												2 X GM301C66G
GM303C6118G	610	1829	840	2047	152	698	1905	87	94	273	493	1 X GM301C64G
GM303C7619G	762	1982	992	2200	152	850	2058	87	104	336	843	3 X GM301C76G
												2 X GM301C96G
GM303C9118G	914	1829	1144	2047	152	1002	1905	87	103	385	773	1 X GM301C94G

- Note:
- Other 3 Part assemblies may be available upon request.
  - Cover and frame come assembled with bolt-downs, 4 x M12 SS SHC bolts per cover.
  - Solid Top assemblies may be available upon request.
  - Refer to Class G single part table on page 20 for individual cover details.

## GM303C: 3 PART CONCRETE INFILL - CLASS D

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CON-CRETE)	
GM303C3010D	305	1055	535	1275	102	385	1125	72	48	62	111	3 X GM301C33D
GM303C4515D	457	1511	687	1731	102	537	1581	72	64	100	204	3 X GM301C44D
												2 X GM301C46D
GM303C4518D	457	1817	687	2037	102	537	1887	72	72	114	240	1 X GM301C44D
												2 X GM301C66D
GM303C6118D	610	1817	840	2037	102	690	1887	72	76	153	308	1 X GM301C64D
GM303C6124D	610	2426	840	2646	102	690	2496	72	93	191	405	3 X GM301C67D
												2 X GM301C76D
GM303C7618D	762	1817	992	2037	102	842	1887	72	80	174	376	1 X GM301C74D
GM303C7624D	762	2426	992	2646	102	842	2496	72	97	217	489	3 X GM301C77D
												2 X GM301C96D
GM303C9118D	914	1817	1144	2037	102	994	1887	72	83	270	562	1 X GM301C94D
GM303C9124D	914	2426	1144	2646	102	994	2496	72	100	347	726	3 X GM301C97D
GM303C9128D	914	2882	1144	3102	102	994	2952	72	112	413	801	3 X GM301C99D
GM303C1215D	1218	1511	1448	1731	102	1298	1581	72	82	413	774	3 X M301C1245D
												2 X GM301C1261D
GM303C1218D	1218	1817	1448	2037	102	1298	1887	72	88	462	918	1 X GM301C1245D

- Note:
- Other 3 Part assemblies may be available upon request.
  - Cover and frame come assembled with boltdowns, 2 x M12 SS SHC bolts per cover.
  - Solid Top assemblies may be available upon request.
  - Refer to Class D single part table on page 19 for individual cover details.

### GM303C: 3 PART CONCRETE INFILL - CLASS B

PRODUCT CODE	CLEAR OPENING		FRAME			COVER			MASS			MADE FROM
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	COVER WIDTH	COVER LENGTH	COVER SEATING DEPTH	FRAME MASS KG	COVER MASS KG	MASS COVER (INCL CON-CRETE)	
GM303C3010B	305	1001	457	1103	48	353	1044	38	20	30	51	3 X GM301C33B
GM303C4514B	457	1457	609	1559	48	505	1500	38	27	77	114	3 X GM301C44B
GM303C4519B	457	1916	609	2018	48	505	1959	38	34	98	156	3 X GM301C46B
GM303C6114B	610	1457	762	1559	48	658	1500	38	29	100	156	3 X GM301C64B
GM303C6119B	610	1916	762	2018	48	658	1959	38	34	122	198	3 X GM301C66B
GM303C6123B	610	2372	762	2474	48	658	2415	38	43	151	243	3 X GM301C67B
GM303C7619B	762	1916	914	2018	48	810	1959	38	37	167	255	3 X GM301C76B
GM303C7623B	762	2372	914	2474	48	810	2415	38	43	189	309	3 X GM301C77B
GM303C9119B	914	1916	1066	2018	48	962	1959	38	38	192	333	3 X GM301C96B
GM303C9123B	914	2372	1066	2474	48	962	2415	38	44	273	432	3 X GM301C97B
GM303C9128B	914	2828	1066	2930	48	962	2871	38	50	288	498	3 X GM301C99B

- Note:
- Other 3 Part assemblies may be available upon request.
  - Cover and frame come assembled with bolt-downs, 2 x M12 SS SHC bolts per cover.
  - Solid Top assemblies may be available upon request.
  - Refer to Class B single part table on page 18 for individual cover details.

## DUCTILE IRON TRENCH RUNS

### APPLICATIONS

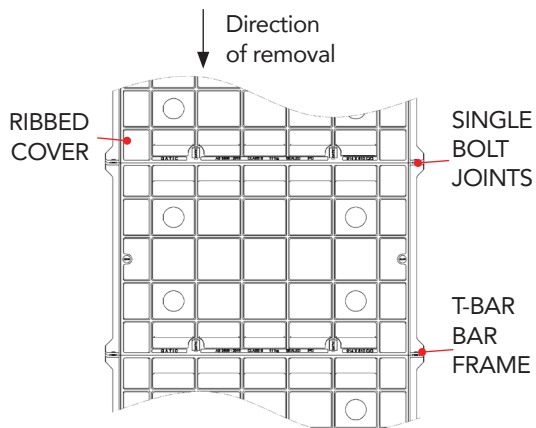
GATIC's range of trench covers and frames has been designed to suit openings ranging from:

- Single, straight trench runs of constant width and unrestricted length.
- Complex systems of trench runs having junctions, cross-overs, bends and other changes in direction and trench width.

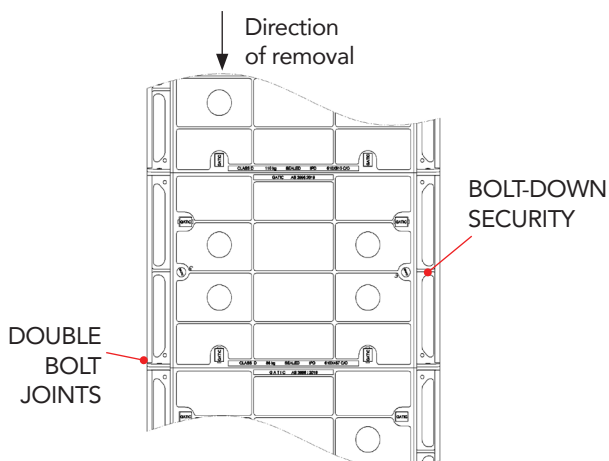
Typical applications include:

- Power or telephone cable ducts.
- Oil, steam, or gas conduit trenches.
- Service trenches for chemical and other fluid pipelines.

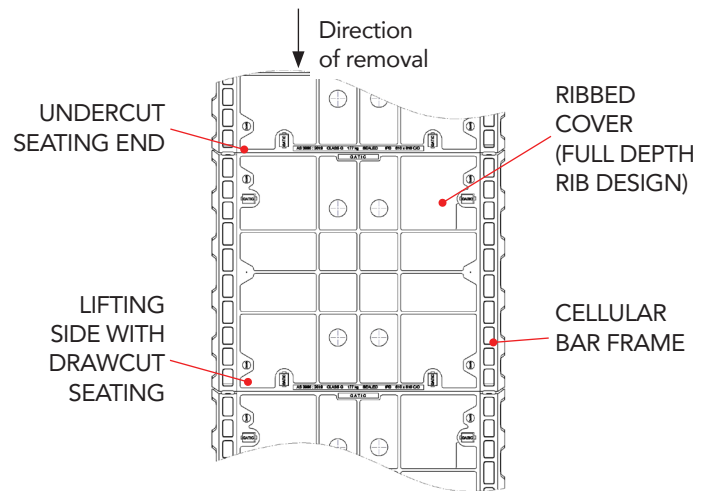
### STANDARD RECTANGULAR COVER UNIT FEATURES



Class B Trench Runs



Class D Trench Runs



Class G Trench Runs

### Main Design Features

- Modular design - trench runs are built from a range of standard covers and bolted frame sections to suit any required length.
- Unrestricted trench access - covers can be removed individually for partial or complete access to the trench.

### Strength and Durability

- Made from Ductile Iron material 500-10 to AS1831 Australian Standard for superior strength to weight ratio.
- The matching undercut and drawcut sides of adjacent covers give adequate stability and strength without the need for cross supports.

### Stability Under Load

- All GATIC cover and frame seating surfaces are machined for an accurate and precise fit.
- Undercut seating surface design on one side of the unit prevents movement of cover under load.

### High Sealing Capability

- With application of the GATIC sealing compound, the machined seatings give a watertight and gas-tight fit between cover and frame.

### Economical Design and Choice of Loading Capacities

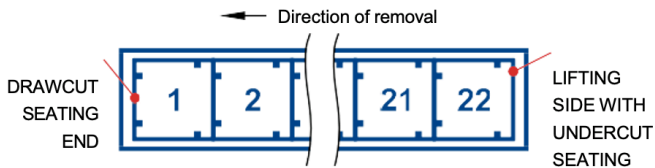
- Ribbed cover design gives maximum strength for minimum weight of material.

### Easy and Safe Operation

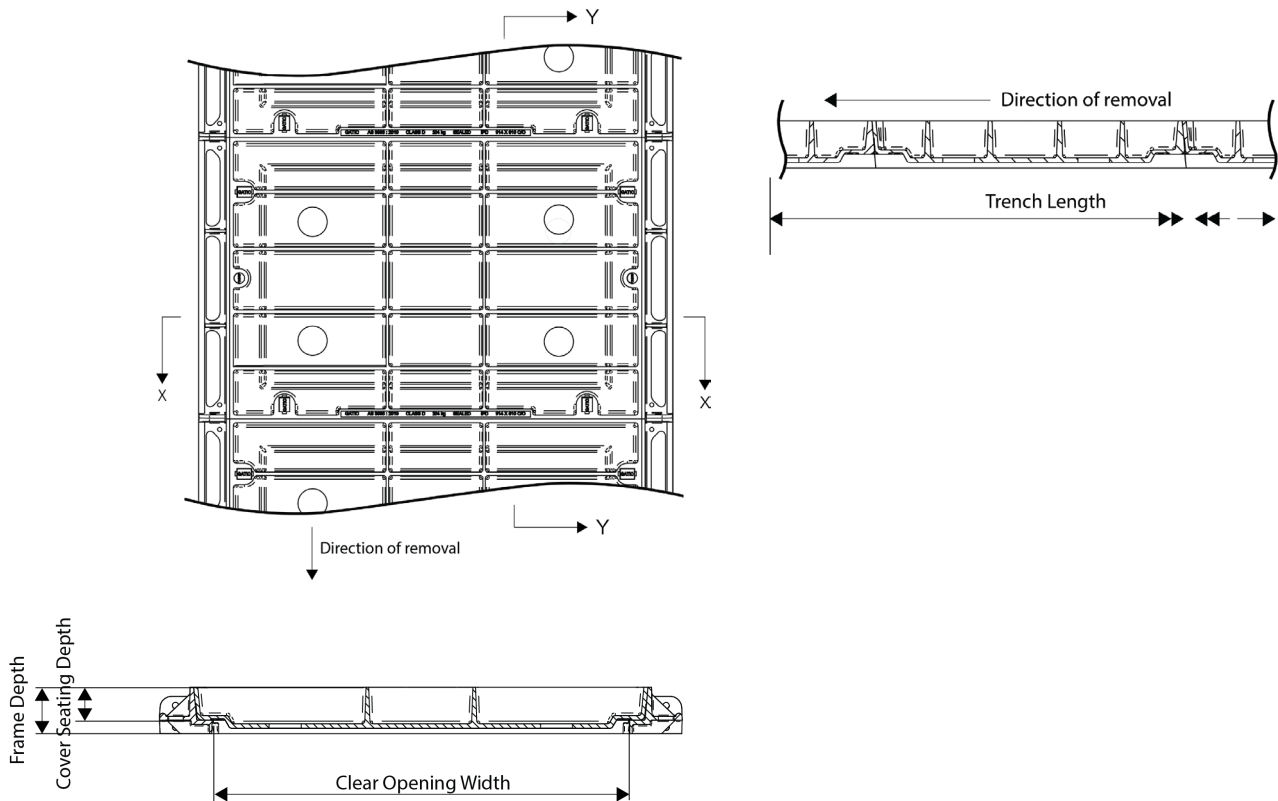
- Lifting keyholes are designed to suit GATIC's range of removal devices.
- Keyholes are designed to ensure that keys cannot rotate and disengage unintentionally.
- Plastic plugs are fitted to exclude ingress and dirt.

### Cover to Frame Matching and Orientation

- Covers are numbered and matched individually to designated locations in the frame and must be installed and replaced in these positions. (See diagram below and on page 29).



## GM309C: COVER RECTANGULAR (TRENCH RUN) CONCRETE INFILLED



## GM309C: RECTANGULAR (TRENCH RUN) CONCRETE INFILLED - CLASS B

PRODUCT CODE	CO (W)	CO (L)					FRAME		COVER	
		305	457	610	762	914	OVERALL FRAME WIDTH	FRAME DEPTH	COVER WIDTH	COVER SEATING DEPTH
		COVER LENGTH								
GM309C30**B	305	348	-	-	-	-	457	48	353	38
GM309C45**B	457	-	500	653	-	-	609	48	505	38
GM309C61**B	610	-	500	653	805	-	762	48	658	38
GM309C76**B	762	-	500	653	805	-	914	48	810	38
GM309C91**B	914	-	500	653	805	957	1066	48	962	38

- Note:
- Trench CO (L) = (No. of Covers x Cover Length) - 43mm.
  - Product code cover finish type = GM309C - Concrete Infill, GM309S - Solid Top.
  - Above table is for reference only, Trench lengths are made to custom requirements.
  - Covers & Frames come assembled with bolt-downs, 2xM12 SS SHC bolts per cover.
  - \*\* in Product code indicates Trench Length.
  - Refer to Class B single part cover table on page 18 for individual cover details.

## GM309C: RECTANGULAR (TRENCH RUN) CONCRETE INFILLED - CLASS D

PRODUCT CODE	CO (W)	CO (L)					FRAME		COVER	
		305	457	610	762	914	OVERALL FRAME WIDTH	FRAME DEPTH	COVER WIDTH	COVER SEATING DEPTH
GM309C30**D	305	385	-	-	-	-	535	102	385	72
GM309C45**D	457	-	527	680	-	-	687	102	537	72
GM309C61**D	610	-	527	680	832	-	840	102	690	72
GM309C76**D	762	-	527	680	832	-	992	102	842	72
GM309C91**D	914	-	527	680	832	984	1144	102	994	72
GM309C12**D	1218	-	527	680	-	-	1448	102	1298	72

- Note:
- Trench CO (L) = (No. of Covers x Cover Length) - 70mm.
  - Product code cover finish type = GM309C - Concrete Infill, GM309S - Solid Top.
  - Above table is for reference only, Trench lengths are made to custom requirements.
  - Covers & Frames come assembled with bolt-downs, 2xM12 SS SHC bolts per cover.
  - \*\* in Product code indicates Trench Length.
  - Refer to Class D single part cover table on page 18 for individual cover details.

## GM309C: RECTANGULAR (TRENCH RUN) CONCRETE INFILLED - CLASS E

PRODUCT CODE	CO (W)	CO (L)		FRAME		COVER	
		457	610	OVERALL FRAME WIDTH	FRAME DEPTH	COVER WIDTH	COVER SEATING DEPTH
GM309C10**E	1067	533	686	1297	152	1155	87

- Note:
- Trench CO (L) = (No. of Covers x Cover Length) - 76mm.
  - Product code cover finish type = GM309C - Concrete Infill, GM309S - Solid Top.
  - Above table is for reference only, Trench lengths are made to custom requirements.
  - Covers & Frames come assembled with bolt-downs, 2xM12 SS SHC bolts per cover.
  - \*\* in Product code indicates Trench Length.
  - Refer to Class E single part cover table on page 19 for individual cover details.

## GM309C: RECTANGULAR (TRENCH RUN) CONCRETE INFILLED - CLASS G

PRODUCT CODE	CO (W)	CO (L)				FRAME		COVER	
		457	610	762	914	OVERALL FRAME WIDTH	FRAME DEPTH	COVER WIDTH	COVER SEATING DEPTH
			COVER LENGTH						
GM309C45**G	457	533	686	-	-	687	152	545	87
GM309C61**G	610	533	686	838	-	840	152	698	87
GM309C76**G	762	533	686	838	-	992	152	850	87
GM309C91**G	914	533	686	838	990	1144	152	1002	87

- Note:
- Trench CO (L) = (No. of Covers x Cover Length) - 76mm.
  - Product code cover finish type = GM309C - Concrete Infill, GM309S - Solid Top.
  - Above table is for reference only, Trench lengths are made to custom requirements.
  - Covers & Frames come assembled with bolt-downs, 4xM12 SS SHC bolts per cover.
  - \*\* in Product code indicates Trench Length.
  - Refer to Class G single part cover table on page 20 for individual cover details.

## DUCTILE IRON RECTANGULAR MULTI PARTS

### APPLICATIONS

The GATIC multi-part system has been designed for rectangular openings too large to be covered by two-part or three-part covers, or by a single row of trench covers.

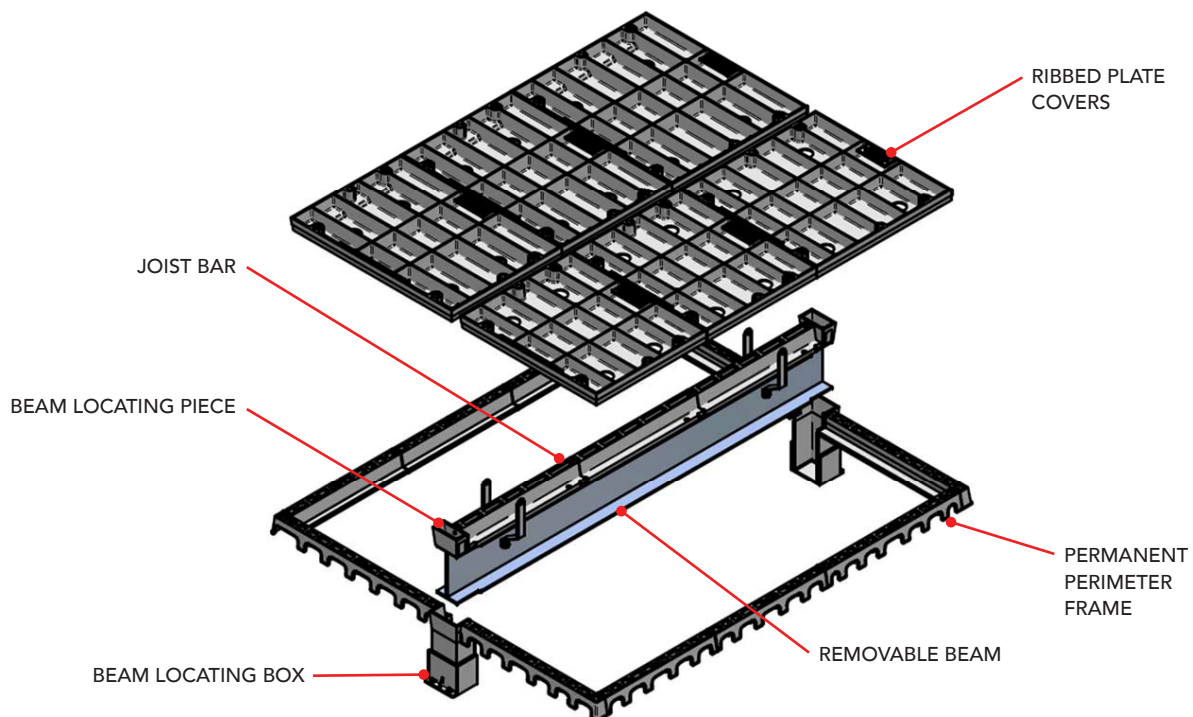
Typical applications for multi-part covers and frames are for pit and floor openings over:

- Transformers.
- Stand-by generator sets.
- Lift wells.
- Valve installations and other items of plant and machinery.
- Wide trench runs requiring more than one row of covers in the run.

### Advantages/Features

- Covers within a unit can be removed individually to allow localised access to the pit or floor opening, the remaining covers providing a stable, safe working platform over the opening.
- Complete access to the pit or floor opening can be obtained by removal of all covers and beam supports.

### STANDARD MULTI-PART COVER & FRAME SYSTEM FEATURES

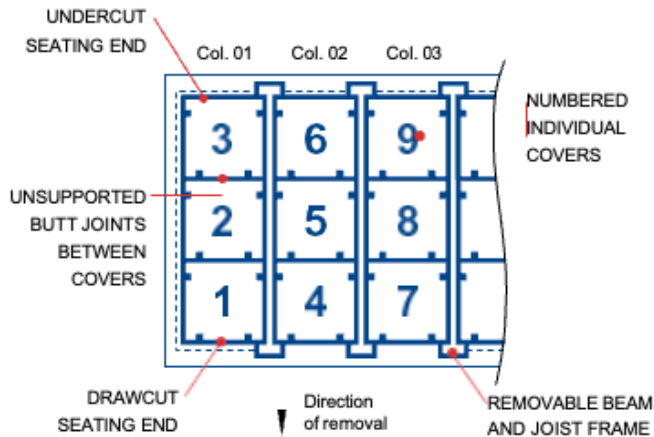


### GM304C - MULTI-PART COVER & FRAME SYSTEM

GATIC's multi-part system uses two or more rows of covers side by side, seated and supported as follows:

- Adjacent rows are seated over the opening by a common joist frame supported and fixed to a removable steel beam.
- The mating undercut/drawcut butt joints of covers within each row provide adequate strength and stability without the need for cross supports over the opening.
- Covers are seated and supported at the perimeter of the opening by permanently grouted framework.
- There is no limit to the number of rows that can be used. The range of standard units uses up to six rows.
- As the weight and depth of a beam increases with the beam length, the number of covers used per row is limited by the maximum, practical beam length available. Up to four covers per row are used in the range of standard units.
- Covers are numbered and matched individually to designated locations in the frame and must be installed and replaced in these positions.

- Covers are removed individually in the one direction (away from the undercut seating end of the frame). Refer to diagram below.
- Covers can be removed for partial or complete access to the opening as required.



**Multipart Cover & Frame Numbering System**

## APPLICATIONS

### Standard Units

- Standard multi-part units are made to order from a range of cover, frame and steel beam modules. A large range of sizes are available in Class B, D, E & G in accordance with Australian Standard AS3996.2019.

### Concrete Infill

- Concrete is required for the on-site filling of all covers and frames.

### Rebates

- Pit and floor slab openings are formed with a continuous rebate for the perimeter frame and additional rebates for beam locating boxes.

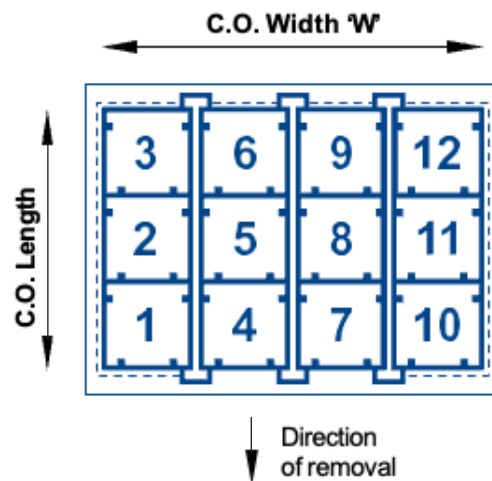
### Beam Sizes

- Beam depth varies with duty rating and beam length.
- Deep beams can be supplied with cut-down ends for floor slabs where headroom is a problem.
- Beams are galvanised for protection in corrosive environment (Stainless steel fabricated beams are available).

### Non-Standard Units

- Units can be designed and made to suit most particular requirements. Contact the GATIC sales team for assistance.

## CLEAR OPENING SIZE

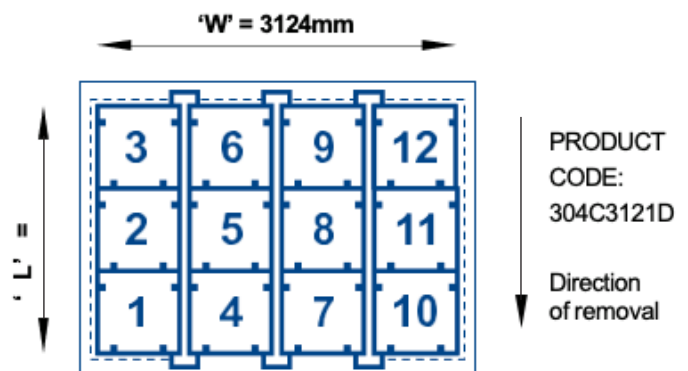


Clear opening size is specified by the clear opening width (W) and clear opening length (L). Clear opening width (W) is taken at right angles to the removable beams and clear opening length (L) is taken parallel to the beams.

### Preferred Beam Orientation

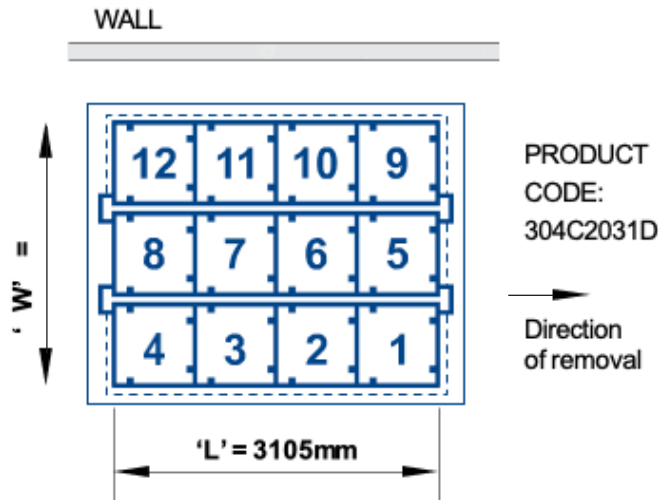
The orientation of beams across an opening is parallel to the clear opening length (L) in all tables listed in multi-part section. Where one clear opening dimension exceeds 2743mm then the lesser dimension should be chosen as the length (L) dimension, i.e., the beams are parallel to the shorter opening and, therefore, lighter and easier to remove and replace.

As an example, for a Class D rated, 12-parts cover of 3000 x 2000mm Clear Opening size - refer to diagram below.



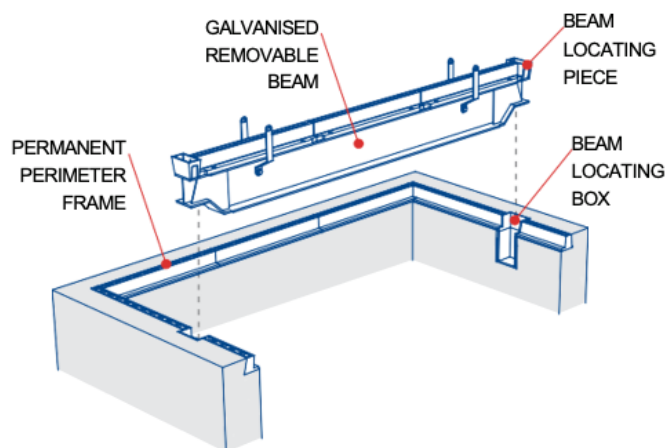
However, if a wall or other obstruction closely adjoins the opening, the beams (dimension L) should be oriented parallel to the wall for easy access to the beam ends during removal and replacement.

As an example, for the same 12-parts cover of 3000 x 2000mm Clear Opening size, the beams are longer - refer to diagram below.



### Location of Removable Beams

The ends of the removable beams are located accurately and supported by beam locating boxes which form an integral part of the permanent perimeter frame. When all covers and beams are removed, the full cross section of the opening can be accessed.

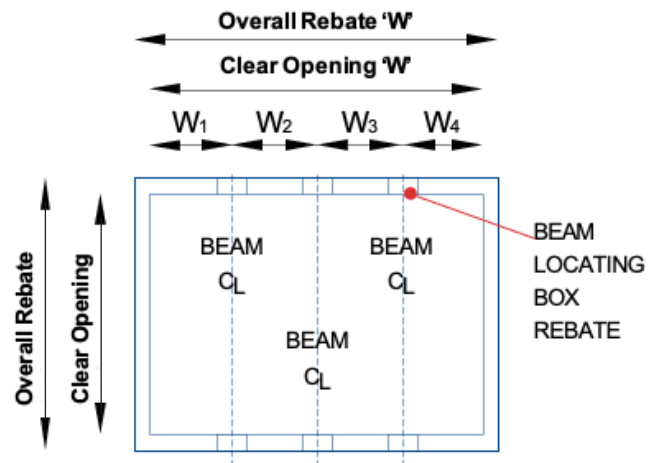


### REBATE SPECIFICATION

Complete rebate specification requires the dimensions of:

- Clear opening width (W) and length (L).
- Continuous frame perimeter rebate width and depth.
- Centre line distances (W1, W2, W3 ...) of beam locating box rebates.

Beam locating box rebate width and depth varies with beam length.



### PRODUCT CODE SPECIFICATION

#### GM304C1011D-12P



## MODIFICATION OPTIONS

### INCREASED VERSATILITY FOR STANDARD UNITS

The range of modifications available has been designed to give standard GATIC units the ability to meet special needs of appearance, security, identification, operation and other functional requirements. GATIC is committed to meet your standard and non-standard modification/option requirements. Contact our GATIC sales team for further information.

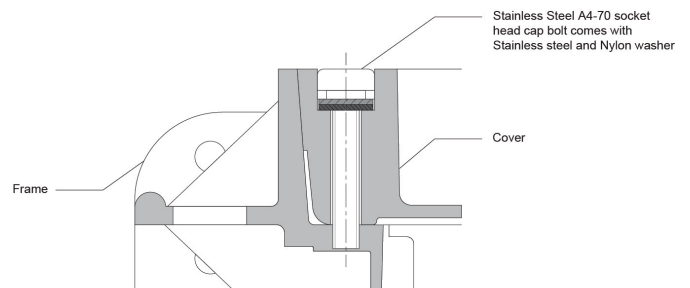
#### Available Modifications:

Multi-part units can be modified to incorporate:

- Holding-down bolts and locks for security.
- Special paintwork and finishes.
- Stainless steel fabricated beams.
- Fixed or removable beams where there is no support for the perimeter frame on one or two opposite sides of an opening.

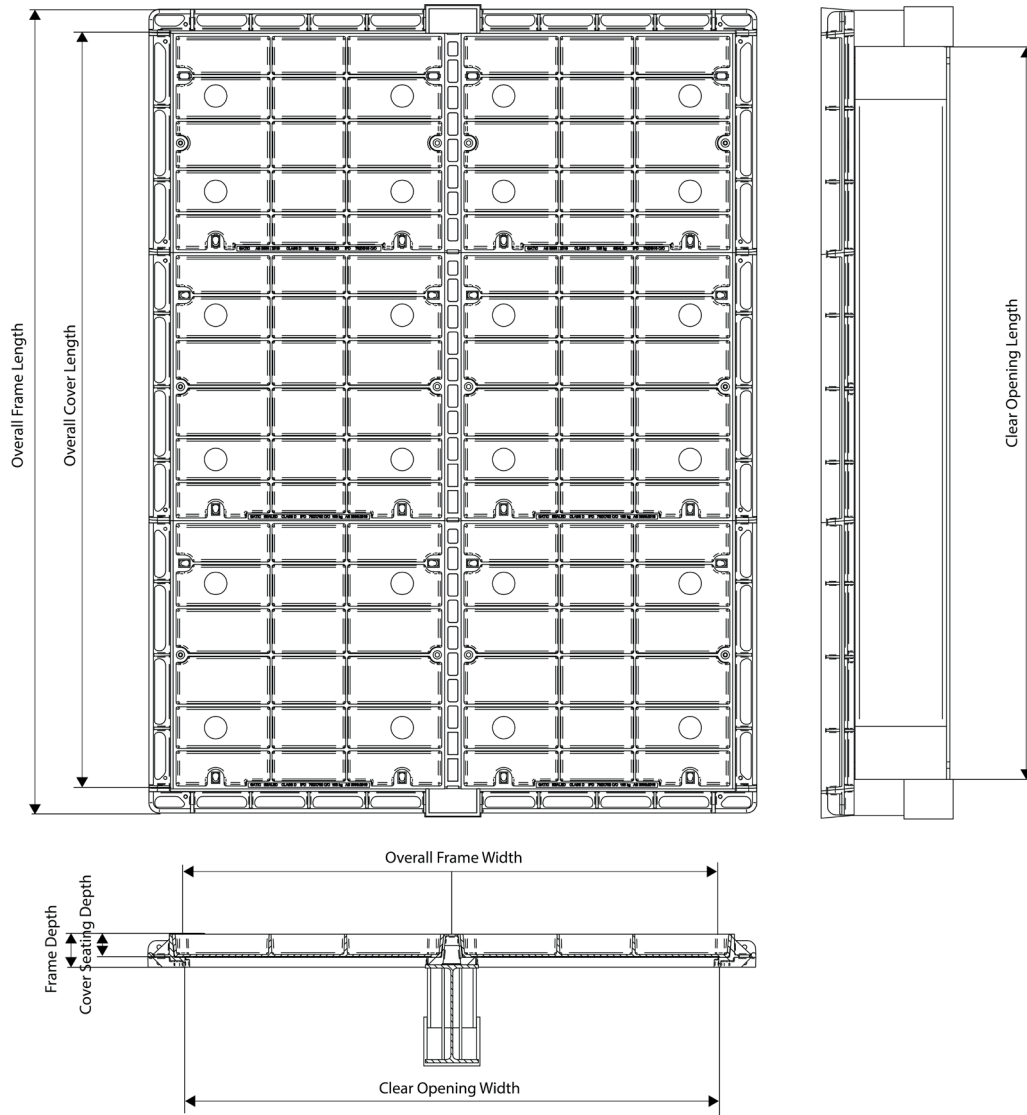
### SECURITY BOLT DOWN

- Designed to withstand in-service loading as specified.
- Non corrosive fasteners.
- Bolt provision can be stainless steel, security fasteners or tamper proof fasteners.
- Specifying bolt-down option:
  - Standard configuration.
  - M12 stainless steel bolts.



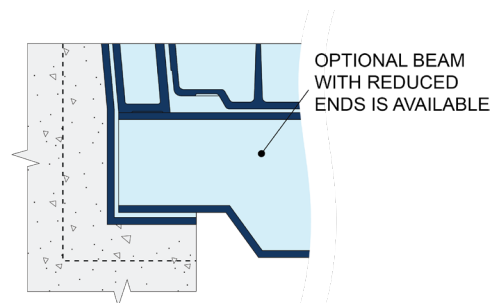
Typical bolt down arrangement

## GM304C: RECTANGULAR CONCRETE INFILLED COVER & FRAME (MULTI-PARTS) CLASS B



### NOTE:

- Clear opening Width 'W' is taken at right angles to the removable beams.
- Clear Opening Length 'L' is taken as parallel with removable beams.
- GATIC frame can be installed as a two part process by first casting a rebate according to recommended rebate sizes and then casting the frame into the rebate. Alternatively, the most cost effective method is to cast the frame in when pouring the pit walls.

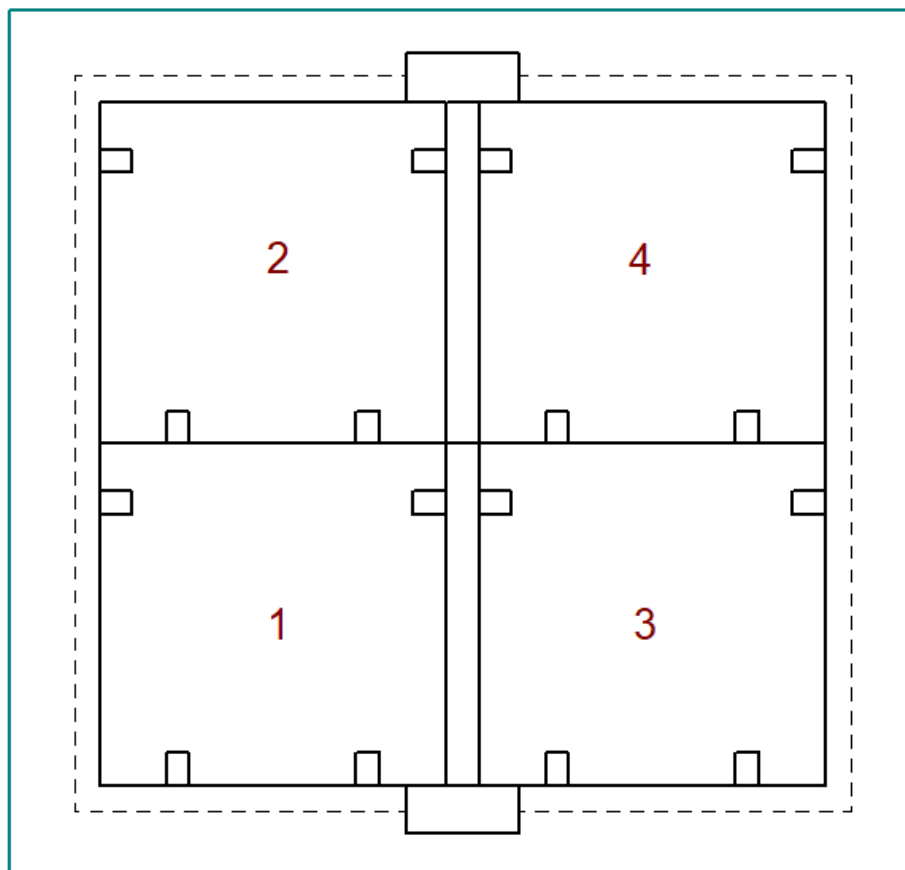


## GM304: MULTI-PARTS - SOLID TOP/CONCRETE INFILL

1 BEAM SUPPORT	CLASS B					
	COVER SIZE	CO (W)	CO (L)			
			4 PART	6 PART	8 PART	10 PART
	610X610	1297	1263	1916	2569	3222
	762X762	1601	1567	2372	3177	3982
	914X914	1905	1871	2828	3785	4742
	CLASS D					
	COVER SIZE	CO (W)	CO (L)			
			4 PART	6 PART	8 PART	10 PART
	610X610	1351	1290	1970	2650	3330
	762X762	1655	1594	2426	3258	4090
	914X914	1959	1898	2882	3866	4850
	CLASS G					
	COVER SIZE	CO (W)	CO (L)			
			4 PART	6 PART	8 PART	10 PART
	610X610	1359	1296	1982	2668	3354
	762X762	1663	1600	2438	3276	4114
	914X914	1967	1904	2894	3884	4874

Notes: • See related detailed notes at bottom of page 39.

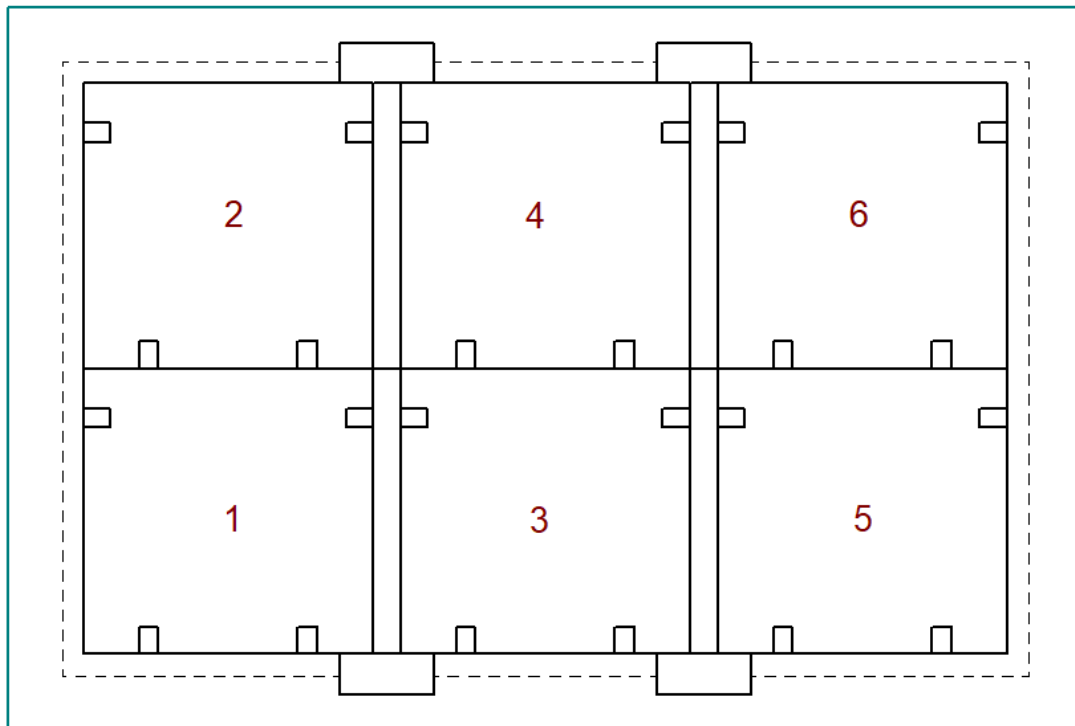
## TYPICAL LAYOUT OF 4 PART ARRANGEMENT



2 BEAM SUPPORT	CLASS B				
	COVER SIZE	CO (W)	CO (L)		
			6 PART	9 PART	12 PART
	610X610	1984	1263	1916	2569
	762X762	2440	1567	2372	3177
	914X914	2896	1871	2828	3785
	CLASS D				
	COVER SIZE	CO (W)	CO (L)		
			6 PART	9 PART	12 PART
	610X610	2092	1290	1970	2650
	762X762	2548	1594	2426	3258
	914X914	3004	1898	2882	3866
	CLASS G				
	COVER SIZE	CO (W)	CO (L)		
			6 PART	9 PART	12 PART
	610X610	2108	1296	1982	2668
	762X762	2564	1600	2438	3276
	914X914	3020	1904	2894	3884

Notes: • See related detailed notes at bottom of page 39.

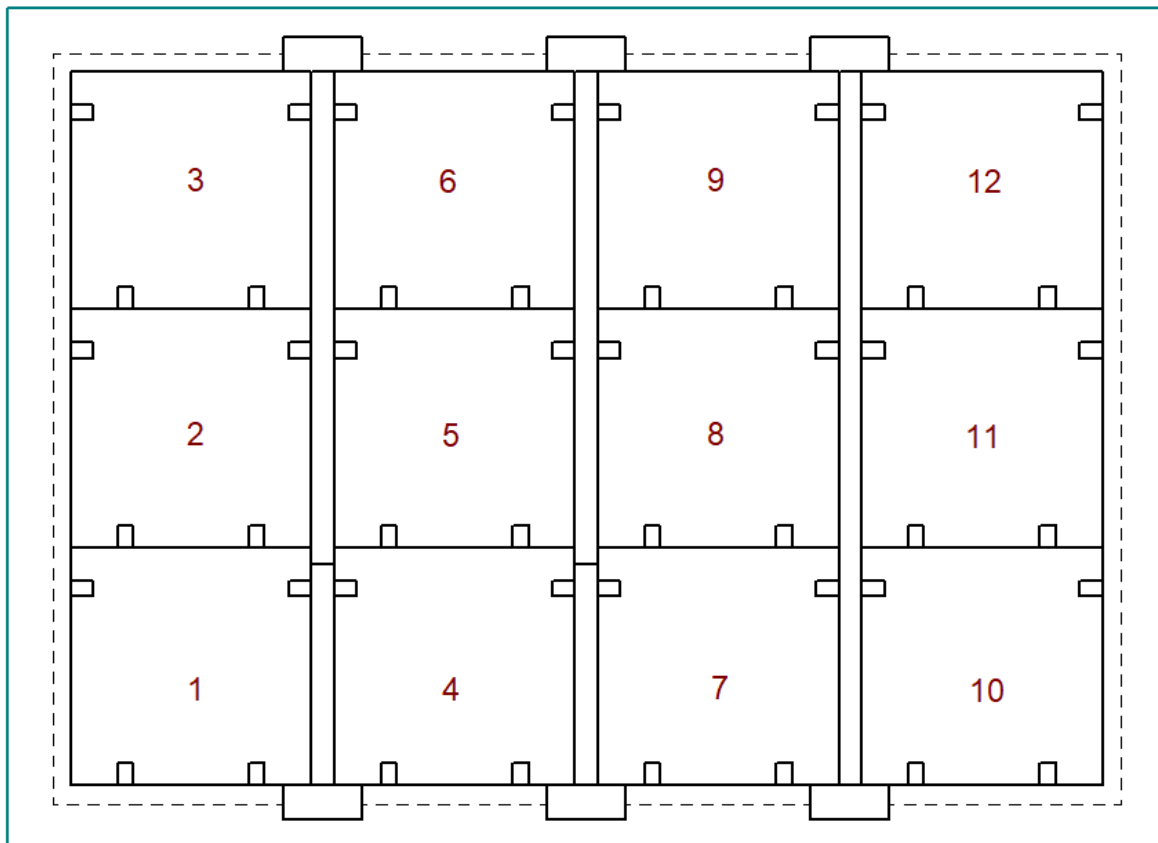
## TYPICAL LAYOUT OF 6 PART ARRANGEMENT



3 BEAM SUPPORT	CLASS B				
	COVER SIZE	CO (W)	CO (L)		
			12 PART	16 PART	20 PART
	610X610	2671	1916	2569	3222
	762X762	3279	2372	3177	3982
	914X914	3887	2828	3785	4742
	CLASS D				
	COVER SIZE	CO (W)	CO (L)		
			12 PART	16 PART	20 PART
	610X610	2833	1970	2650	3330
	762X762	3441	2426	3258	4090
	914X914	4049	2882	3866	4850
	CLASS G				
	COVER SIZE	CO (W)	CO (L)		
			12 PART	16 PART	20 PART
	610X610	2857	1982	2668	3354
	762X762	3465	2438	3276	4114
	914X914	4073	2894	3884	4874

Notes: • See related detailed notes at bottom of page 39.

## TYPICAL LAYOUT OF 12 PART ARRANGEMENT



- Notes:
- Clear opening width "W" is taken at right angles to the removable beams.
  - Clear opening length "L" is taken as parallel with removable beams.
  - GATIC frame can be installed as a two-part process by first casting a rebate according to recommended rebate sizes and then casting the frame into the rebate. Alternative method is to cast the frame in when pouring the pit walls.
  - Consult with a structural engineer for advice on steel and formwork.
  - Multi-part layout drawings can be obtained by contacting GATIC sales at [sales@gatic.com.au](mailto:sales@gatic.com.au)
  - GATIC reserves the right to change product specifications shown without prior notice.
  - Any illustrations shown are intended to serve as a guide only.

## DUCTILE IRON GRATINGS

### APPLICATIONS

Trench gratings are designed for use in areas where:

- Single grated pits are unsuitable.
- The water flow exceeds the capacity of a single pit.
- The allowable water depth over a surface must be limited.
- Surface water must be intercepted without introducing a change of grade or depression in the surface.
- It is necessary to maintain a horizontal grade in one direction.

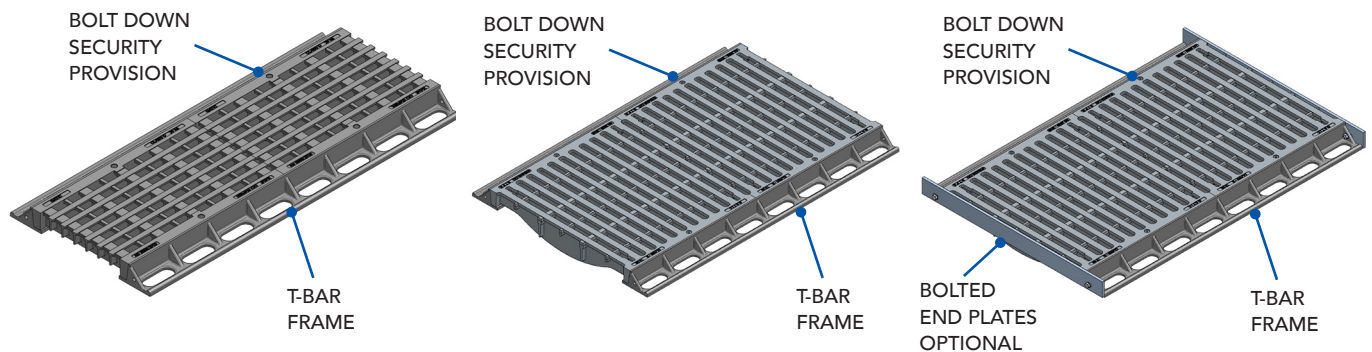
Trench grating runs can be designed and made to suit trenches ranging from:

- Single straight runs of constant width and unrestricted length.
- Complex systems of runs having junctions, cross-overs, bends and other changes in direction and trench width.

Typical applications are for:

- Factory floors where processes involve water or other fluids.
- Road crossings where complete water catchment is required.
- Wharf areas, airport aprons and taxiways.
- Areas used by forklift trucks where shallow spoon drains or dished inverts are unacceptable.
- Basements protected by fire sprinkler systems where flooding would create a problem.
- At the junctions between footpaths and paved areas such as service stations and city squares.
- Across large doorways to prevent the ingress of water.
- Swimming pool surrounds.

### STANDARD TRENCH GRATE



GM321L - Longitudinal Trench Grating

GM321T - Transverse Trench Grating

GM321S - Sump Grating

#### Main Design Features

- Modular design - runs are built from a range of standard grates and bolted frame sections to suit any required length.
- Bar patterns - the grate bars and slots of the transverse grate pattern run at right angles to the length of the trench runs. The grate bars and slots of the longitudinal grate pattern run parallel with the length of the trench run.
- Unrestricted trench access - grates can be removed individually for partial or complete access to the trench.

#### Hydraulic Efficiency

- Grate openings have been designed to prevent the ingress of large harmful debris whilst allowing smaller unobjectionable material to pass through without clogging the grate.

#### Strength and Durability

- Made from ductile Iron Grade 500-10 to AS1831 Australian Standard for superior strength to weight ratio.

#### Stability Under Load

- Frame bar design ensures stable, permanent keying of frame in surrounding concrete.

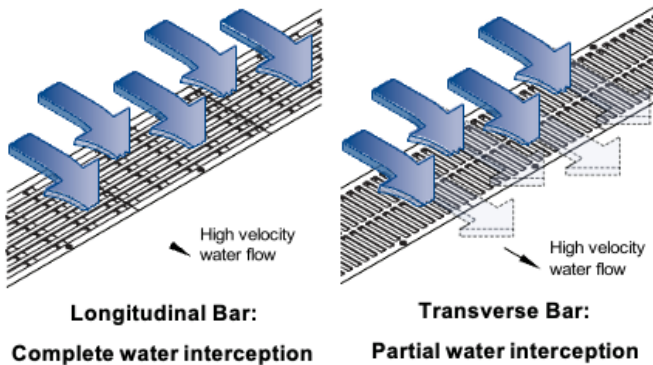
## Economical Design and Choice of Loading Capacities

- GATIC's range of grates give a choice of load capacities to enable accurate selection to suit particular loading requirements, and providing cost effective design solutions.

## CHOICE OF BAR PATTERNS

While the majority of the GATIC trench grating range has a transverse bar pattern, a limited range of grating with longitudinal bar pattern is available. The longitudinal bar pattern has an advantage over the transverse bar pattern in certain applications and is recommended where:

- A longitudinal bar pattern gives improved appearance.
- Trench grating is installed in confined areas subject to high lateral wheel loads of tightly manoeuvring forklifts trucks.
- Trench grating is installed in steeply sloping areas and complete interception of water flow is required.



## SECURITY BOLT-DOWN

- Designed to withstand in-service loading applicable to the location of the installation.
- Non-corrosive fasteners.
- Bolt provision can be stainless steel, security bolt or tamper proof fasteners.
- Specifying bolt-down option:
  - Standard configuration M12 stainless steel bolts

## PRODUCT CODE SPECIFICATION

**GM321L3061D**



## MODIFICATION OPTIONS

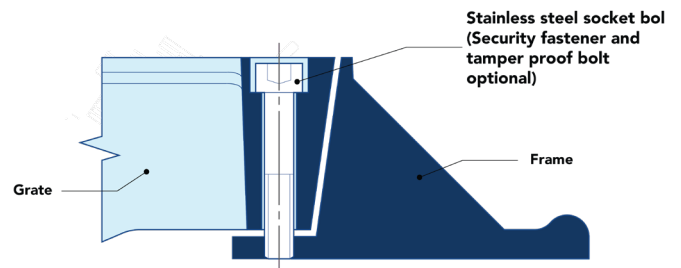
### INCREASED VERSATILITY FOR STANDARD UNITS

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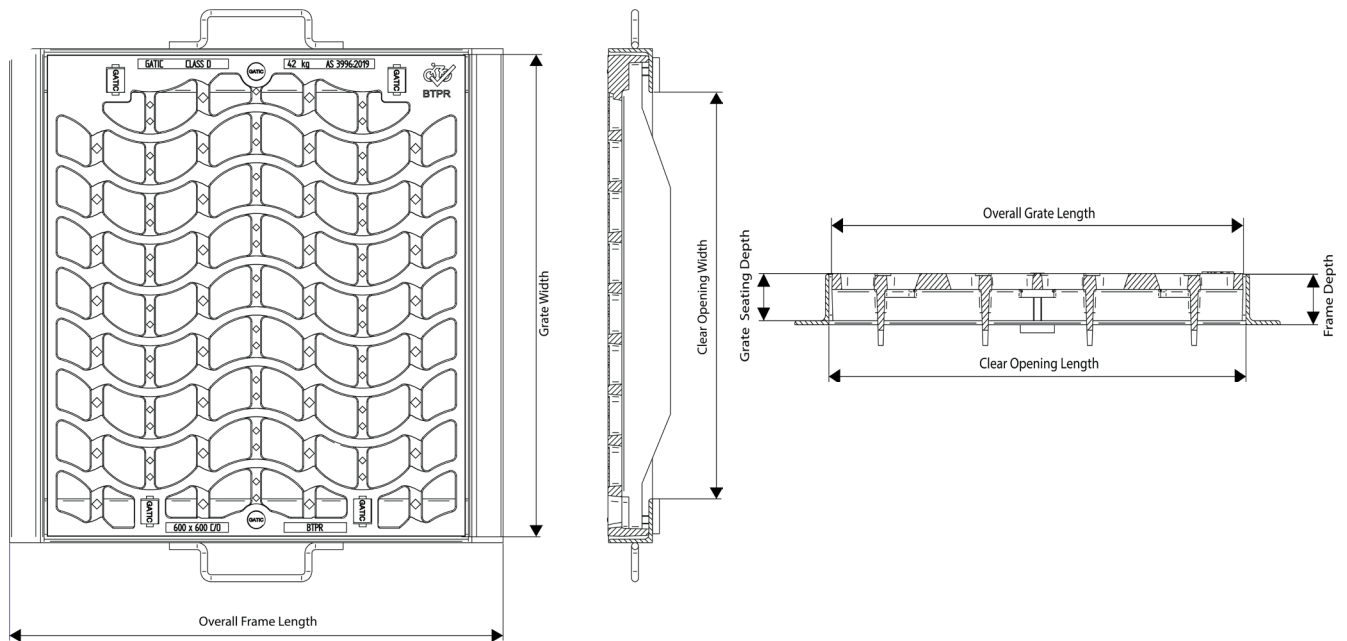
#### Available Modifications:

Units can be modified to incorporate:

- Holding-down bolts and locks for security.



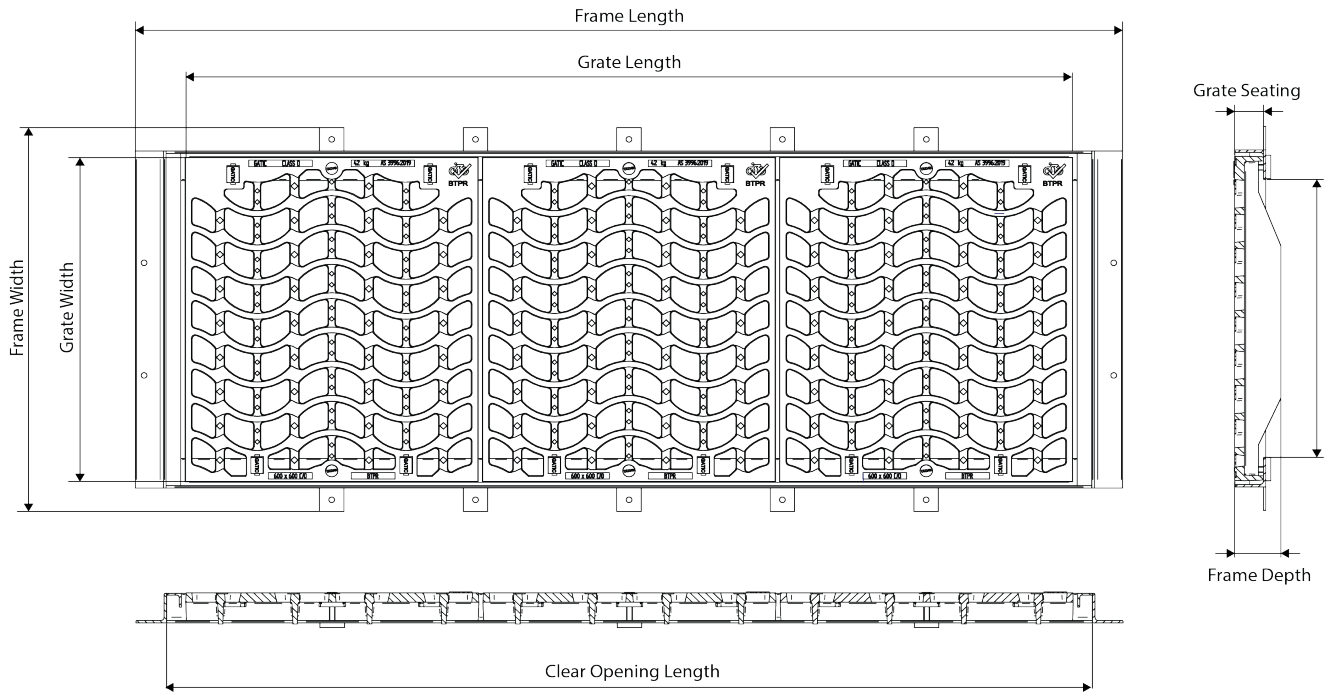
## GM325G: GALVAGRATE AND FRAME - GALVANISED DUCTILE IRON - BIKE SAFE



PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS	
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	FRAME MASS KG	COVER MASS KG
GM325G66DGAL	610	610	822	710	63	690	600	59	12	42
GM325G99DGAL	910	910	1122	1010	63	900	900	59	17	88
GM325G96DGAL	925	610	1117	690	63	600	600	59	11	57
GM325G7510DVGAL	1000	750	1300	850	75	735	735	70	19	96
GM325G69DGAL	625	910	817	990	63	900	900	59	11	60
GM325G1212DGAL	1200	1215	1392	1295	63	1200	1200	59	17	162

- Note:
- Grate and frame come assembled with 2 X M12 SS SHC Bolts per grate.
  - Trench lengths can be made to custom requirements.
  - Grate and frame come as galvanised to AS/NZS 4680 (grates with black paint may be available upon request).

## GM325G: CLASS D

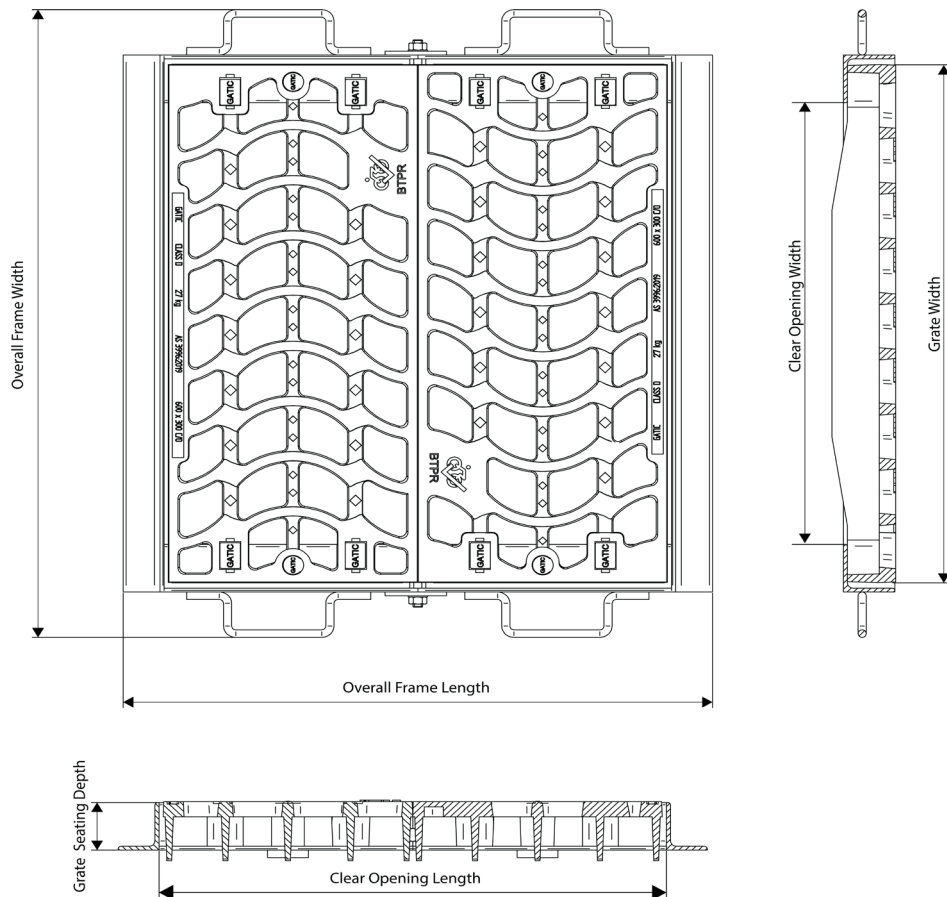


## GM325G: CLASS D

PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS	
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	FRAME MASS KG	COVER MASS KG
GM325G6619DGAL	592	1900	818	2026	63	690	600	59	30	130
GM325G9919DGAL	891	1900	1117	2026	63	990	900	59	32	260

- Note:
- Each grate comes assembled with 2 X M12 SS SHC Bolts.
  - Trench lengths can be made to custom requirements.
  - Grate and frame come as galvanised to AS/NZS 4680 (grates with black paint may be available upon request).

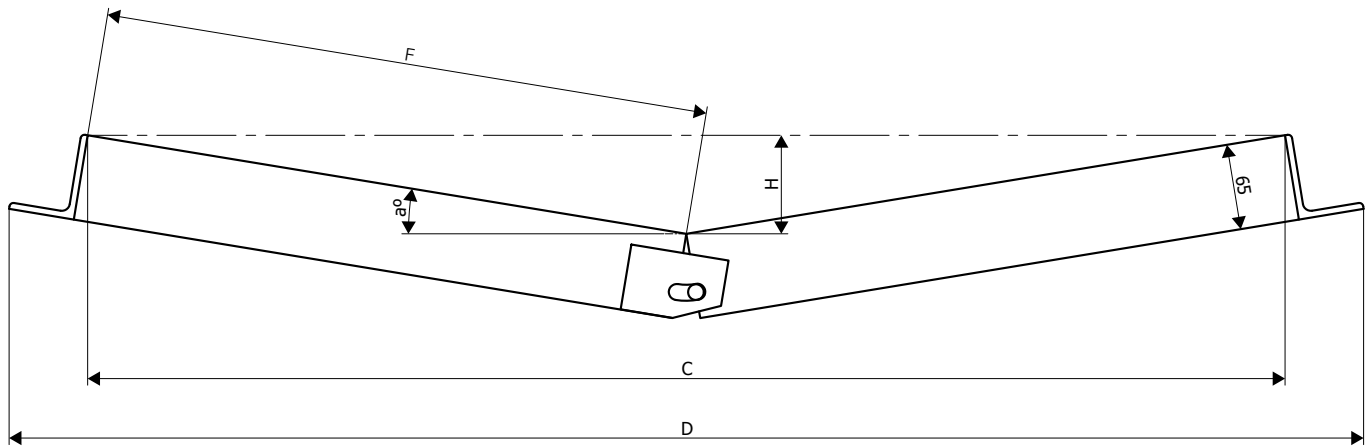
## GM325V: GALVAGRATE VARIABLE VEE GRATE AND FRAME - GALVANISED DUCTILE IRON - BIKE SAFE



PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS		
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	FRAME MASS KG	COVER MASS KG	*VARIABLE ANGLE (YES/NO)
GM325V66DGAL	610	620	830	720	63	685	610	59	13	51	YES
GM325V96DGAL	914	620	1134	720	63	989	610	59	15	75	YES
GM325V99DGAL	914	924	1134	1024	63	989	914	59	18	115	YES

- Note:
- Grate and Frame come assembled and bolted with 4 off M12 SS SHC Bolts.
  - Trench Lengths can be made to custom requirements.
  - Grates and Frames come as galvanised to AS/NZS 4680 (Grates with black paint may be available upon request).
  - \*Refer to Vee Grate Variable Angles Table on page 45 for length & variable angle details.

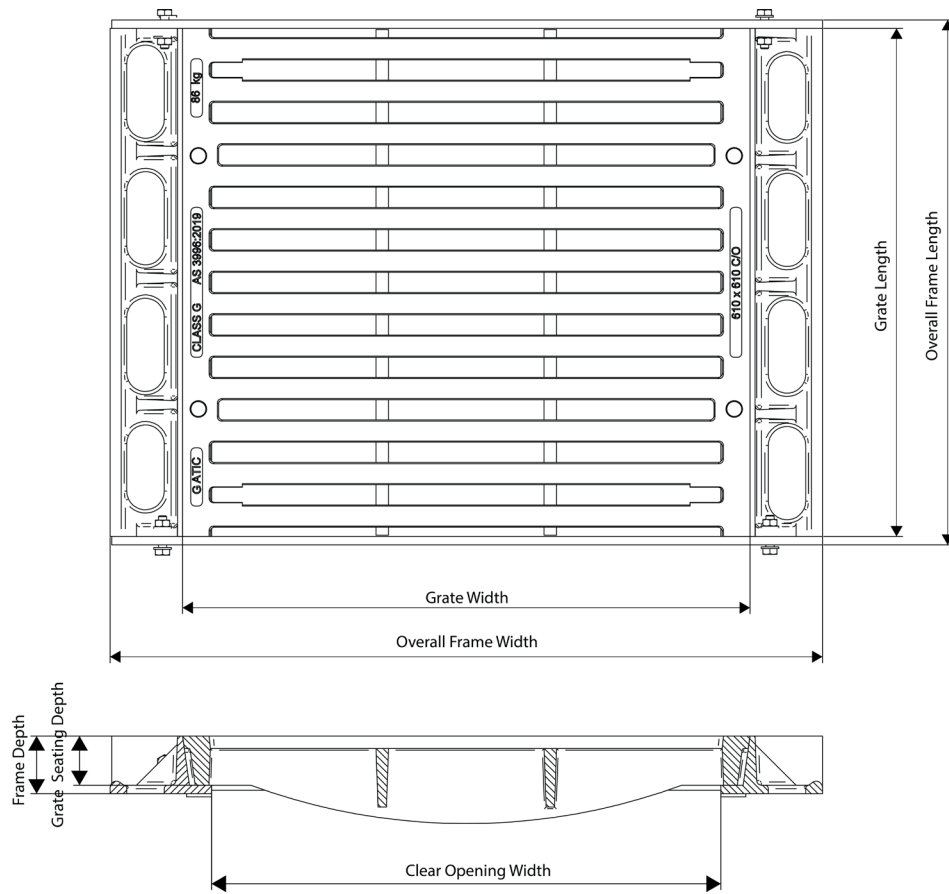
## GM325V: VEE GRATE VARIABLE ANGLES



900X900 C/O [MM]				
A°	H	C	D	F
0.0	0	924	1024	462
0.6	5	924	1025	
1.2	10	924	1027	
1.9	15	924	1028	
2.5	20	923	1029	
3.1	25	923	1030	
3.7	30	922	1030	
4.3	35	921	1031	
4.9	40	921	1031	
5.6	45	920	1032	
6.2	50	919	1032	
6.8	55	917	1032	
7.4	60	916	1032	
8.0	65	915	1032	
8.6	70	913	1032	
9.2	75	912	1032	

900X600 C/O & 600X600 C/O [MM]				
A°	H	C	D	F
0.0	0	620	720	310
0.9	5	620	722	
1.9	10	620	724	
2.8	15	619	725	
3.7	20	619	727	
4.6	25	618	728	
5.6	30	617	729	
6.5	35	616	730	
7.4	40	615	731	
8.4	45	613	731	
9.3	50	612	732	
10.2	55	610	732	
11.2	60	608	732	
12.1	65	606	731	
13.1	70	604	731	
14.0	75	602	730	

## GM321S: SUMP GRATE



## GM321S: SUMP GRATE – CLASS B - BIKE SAFE

PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS		
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321S3030B	305	305	454	315	48	353	305	38	6	9	2
GM321S4545B	457	457	605	467	48	503	457	38	8	22	2
GM321S6161B	610	610	757	620	48	655	610	38	8	36	2

- Note:
- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
  - Trench lengths can be made to custom requirements.
  - Some sump grates can be substituted for trench grates and vice-versa.
  - Sump grates come with two galvanised mild steel plates attached at the ends.

## GM321S: SUMP GRATE – CLASS D - BIKE SAFE

CLEAR OPENING			FRAME			GRATE			MASS		
PRODUCT CODE	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321S3030D	305	305	554	325	69	380	305	59	8	16	2
GM321S4545D	457	457	681	477	68	527	457	59	12	24	2
GM321S6161D	610	610	854	630	69	680	610	59	15	50	2
GM321S6191D	610	914	854	630	69	680	914	59	23	75	4
GM321S9161D	914	610	1158	934	69	984	610	59	15	83	4
GM321S9191D	914	914	1158	934	69	984	914	59	23	120	4

- Note:
- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
  - Trench lengths can be made to custom requirements.
  - Some sump grates can be substituted for trench grates and vice-versa.
  - Sump grates come with two galvanised mild steel plates attached at the ends.

## GM321S: SUMP GRATE – CLASS E

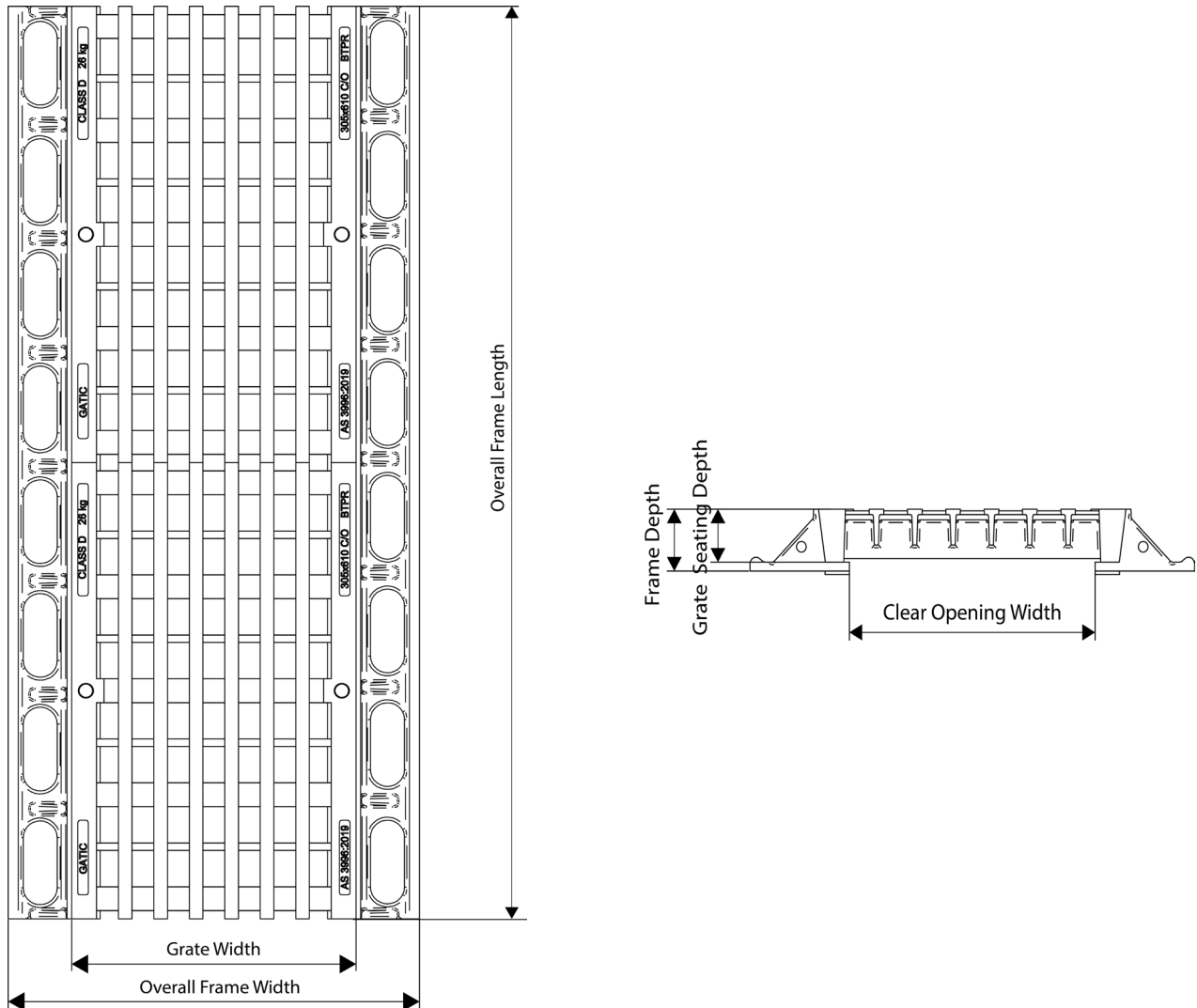
CLEAR OPENING			FRAME			GRATE			MASS		
PRODUCT CODE	CO (W)	CO (W)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321S6161E	610	610	854	630	69	680	610	59	16	73	2
GM321S6191E	610	914	854	934	69	680	914	59	23	105	4
GM321S9191E	914	914	1158	934	69	984	914	59	23	182	4

- Note:
- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
  - Trench lengths can be made to custom requirements.
  - Some sump grates can be substituted for trench grates and vice-versa.
  - Sump grates come with two galvanised mild steel plates attached at the ends.

## GM321S: SUMP GRATE – CLASS G

CLEAR OPENING			FRAME			GRATE			MASS		
PRODUCT CODE	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321S6161G	610	610	856	630	69	682	610	59	16	86	4
GM321S6191G	610	914	856	934	69	682	914	59	23	130	8
GM321S9191G	914	914	1158	934	69	984	914	59	23	236	8

- Note:
- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
  - Suffix "G" at the end of the code is same as Suffix "F900".
  - Trench lengths can be made to custom requirements.
  - Sump grates come with two galvanised mild steel plates attached at the ends.

**GM321L: TRENCH GRATE (LONGITUDINAL)****GM321L: LONGITUDINAL - CLASS B - WALK & WHEEL SAFE**

PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS	
	CO (W)	CO (L)*	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	FRAME MASS KG	TOTAL MASS KG
GM321L1512B	152	1220	302	1220	48	200	1220	38	17	25
GM321L2212B	229	1220	378	1220	48	276	1220	38	17	30
GM321L3012B	305	1220	454	1220	48	352	1220	38	17	36

- Note:
- Grate and frame come assembled with 4 X M12 SS SHC Bolts per grate.
  - Trench lengths can be made to custom requirements.
  - Walk and Wheel safe grate.

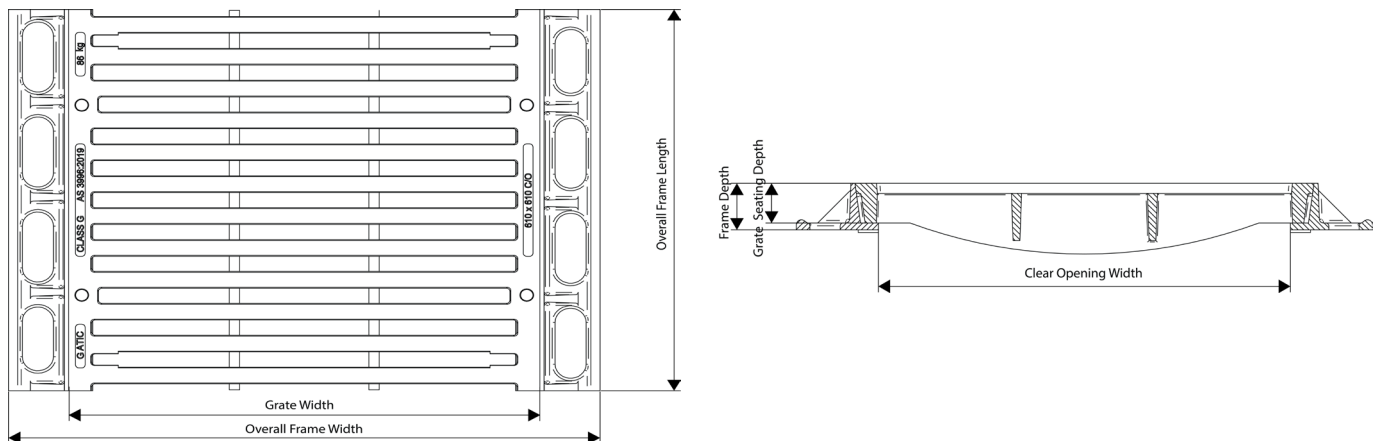
## GM321L: LONGITUDINAL - CLASS D - BIKE SAFE

PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS	
	CO (W)	CO (L)*	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	FRAME MASS KG	TOTAL MASS KG
GM321L1512D	152	1220	TBC	1220	69	227	1220	59	30	40
GM321L2212D	229	1220	473	1220	69	304	1220	59	30	45
GM321L3012D	305	1220	549	1220	69	380	1220	59	30	52

Note:

- Grate and frame come assembled with 4 X M12 SS SHC Bolts per grate.
- Trench lengths can be made to custom requirements.

## GM321T: TRENCH GRATE (TRANSVERSE)



## GM321T: TRANSVERSE GRATE – CLASS B - BIKE SAFE

PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS		
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321T1512B	152	1220	302	1220	48	200	1220	38	16	23	4
GM321T2212B	229	1220	379	1220	48	277	1220	38	16	30	4
GM321T3012B	305	1220	455	1220	48	353	1220	38	16	38	4
GM321T4512B	457	1220	607	1220	48	505	1220	38	16	54	4
GM321T6112B	610	1220	760	1220	48	658	1220	38	16	72	4

Note:

- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
- Trench lengths can be made to custom requirements.

## GM321T: TRANSVERSE GRATE – CLASS D - BIKE SAFE

PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS		
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321T1512D	152	1220	396	1220	69	228	1220	59	30	46	4
GM321T2212D	229	1220	474	1220	69	300	1220	59	30	55	4
GM321T3012D	305	1220	548	1220	69	380	1220	59	30	64	4
GM321T4512D	457	1220	681	1220	68	527	1220	59	24	65	4
GM321T6112D	610	1220	848	1220	69	680	1220	59	30	100	4
GM321T9112D	914	1220	1138	1220	68	984	1220	59	24	166	4

- Note:
- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
  - Trench lengths can be made to custom requirements.
  - Some Transverse grates can be substituted with sump grates and vice-versa.

## GM321T: TRANSVERSE GRATE – CLASS G

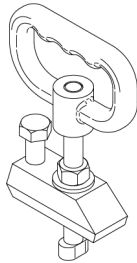
PRODUCT CODE	CLEAR OPENING		FRAME			GRATE			MASS		
	CO (W)	CO (L)	FRAME OVERALL WIDTH	FRAME OVERALL LENGTH	FRAME DEPTH	GRATE WIDTH	GRATE LENGTH	GRATE SEATING DEPTH	TOTAL MASS OF FRAME KG	TOTAL MASS OF GRATE KG	BOLT-DOWN BOLTS QTY
GM321T2212G	229	1220	458	1220	68	304	1220	59	25	55	8
GM321T3012G	305	1220	548	1220	69	380	1220	59	30	67	8
GM321T6112G	610	1220	850	1220	69	682	1220	59	30	172	8
GM321T9191G	914	914	1158	914	69	984	914	59	23	236	8

- Note:
- Grate and frame come assembled and bolted with M12 SS SHC Bolts (refer to above table for quantity).
  - Suffix "G" at the end of the code is same as Suffix "F900".
  - Trench lengths can be made to custom requirements.

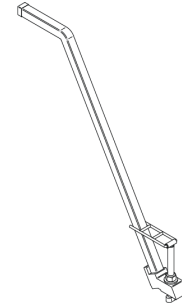
## ACCESSORIES

### REMOVAL DEVICES

All GATIC covers and the heavier grates are fitted with keyholes for lifting purposes. Several types of removal devices are available:

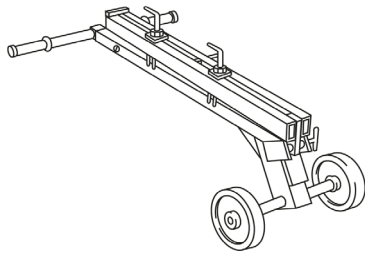


NAME	CODE
THE SEAL CRACKING KEY	GM374SH

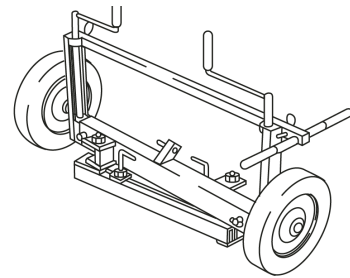


NAME	CODE
THE LONG HANDLE KEY	GM374LH

### WHEEL LIFTERS

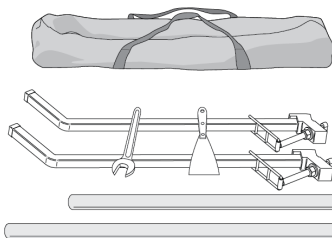


NAME	CODE
SR 150	GM374US



NAME	CODE
SR 300	GM374UL

### KEY PACK

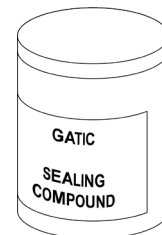


A lifting keypack is available which comprises:

- Two long-handle standard keys.
- A spanner.
- A length of 25mm diameter piping.
- A scraper.
- A canvas bag for ease of carrying above items.

NAME	CODE
KEY PACK	GM374LHP

### GATIC SEALING COMPOUND



WEIGHT	CODE
4KG TIN	GM37504

GUIDE FOR APPLICATION OF COMPOUND	
WEIGHT	COVERAGE
200G	PER METRE CLASS D
100G	PER METRE CLASS B

## INSTALLATION GUIDELINES

### GENERAL GUIDELINES

Correct installation is essential for a GATIC unit to operate satisfactorily. Incorrect methods of installation may cause:

- Movement or rocking under load.
- Excessive wear and reduced life.
- Damage and/or failure under load.
- Poor sealing between cover and frame seatings.

The following information is provided to give guidance only. As all installations are not identical, please contact your GATIC representative for additional information, if required.

### SAFETY CONSIDERATIONS

#### Falls from Height

- The risk of a person falling into a pit or shaft must be considered at the job planning stage. Portable safety railing should be installed around the opening to prevent accidental falls.
- If access into the pit or shaft is required, safe entry and egress must be considered. Permanent ladder rungs that conform to relevant construction standards, must be installed in the shaft.
- Work sites must be barricaded and signs placed to keep people not associated with the task away from the area. This is particularly important if the open pit or shaft is in an area accessible to the public.
- The GATIC cover must be replaced overnight if the job remains unfinished or if the site is left unattended.

#### Confined Spaces

A proper assessment of the hazards posed by confined spaces must be carried out by qualified and experienced personnel prior to entry into a pit or shaft. Some of the hazards to which those entering a confined space may be exposed include:

- Low oxygen levels leading to asphyxiation.
- The presence of asphyxiating or toxic vapours or gases.
- Elevated levels of flammable vapours or gases.
- Contact with live electrical wiring or operating mechanical equipment.
- Drowning due to flash flooding in storm water drains.
- Engulfment from entry into silos or storage vessels containing grain or powdered materials.

It is important to note that low oxygen levels cannot be detected by the sense of smell. Low oxygen levels can occur due to the natural breakdown of organic materials or even through the slow oxidation (rusting) of iron and steel.

#### Biological Hazards

GATIC covers may be used over sewerage systems. Personnel entering pits on such systems must ensure that advice is obtained on any likely biological hazards and take appropriate precautions to prevent infection. This should include the use of eye, skin and respiratory personal protective equipment.

## GENERAL INSTALLATION REQUIREMENTS

### 1. Instructions for Forming of Pit or Slab Openings

These installation guidelines are for installing GATIC units in rebates formed in pit or floor slab openings.

As an alternative, units can be supplied with frames bolted to covers for installation directly into pit or floor openings during the actual forming of the pit or floor opening (contact your nearest GATIC office for details).

### 2. Cover to Frame Matching

Gatic covers and frames are mated individually during the machine process and must not be interchanged as a cover from one frame will not necessarily fit another frame. Covers in multiple units are marked and designated individually to particular locations in the frame and must not be interchanged.

### 3. Cover Orientation

The direction in which a cover can be slid out of its frames is indicated by the position of the cover draw cut edge with two or four keyholes. If a wall or other obstacle abuts the opening, ensure that the cover is installed so that the direction of removal is parallel to or away from the obstacle.

### 4. Concrete Infill and Curing

With the exception of solid top covers, all covers and frames must be filled with applicable grade concrete and you must always refer to your approved structural drawings, specification, and structural engineer for guidance regarding your specific project. This is essential if the full strength potential of the covers is to be realized. Concrete infill must be poured and allowed to cure with covers installed in frames.

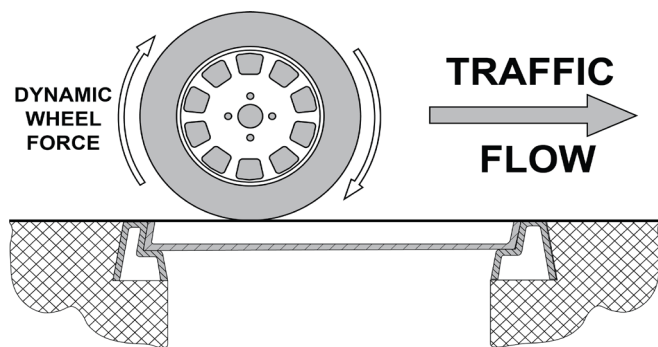
### 5. Careful Handling Essential

Frames must be handled carefully as they may suffer twisting and damage to joints if subjected to shocks or heavy blows.

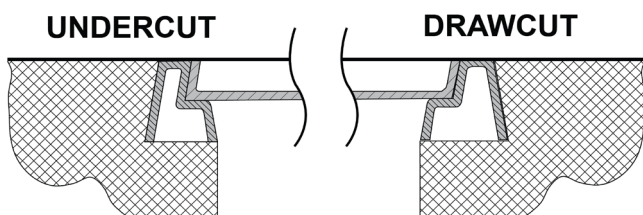
### 6. Cover to Frame Sealing

The application of GATIC Manhole Sealing Compound is required for all cover to frame seating surfaces. Lubricating greases must not be used as they melt, dry out and cause deterioration of seating surfaces.

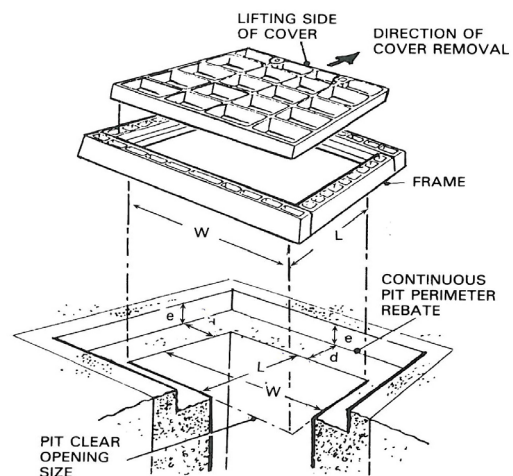
## SQUARE/RECTANGLE COVER FEATURE



To prevent covers lifting, position covers such that traffic flow direction is from undercut to drawcut



## STANDARD UNIT AND REBATE SIZES



REBATE SIZES (MINIMUM)	CLASS A & B LIGHT DUTY	CLASS C & D MEDIUM DUTY	CLASS E & G HEAVY & EXTRA HEAVY DUTY
WIDTH D (MM)	100	180	180
DEPTH E (MM)	75	125	180

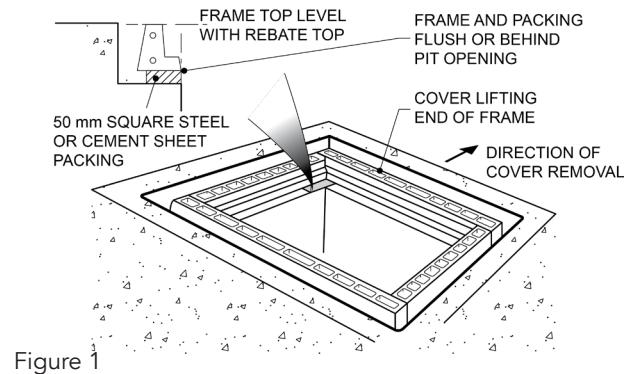
## INSTALLATION – ASSEMBLED UNITS

### Step 1 – Form a rebate in the pit opening

- Rebate sizes are shown in "Standard Unit and Rebate Sizes" on page 53.

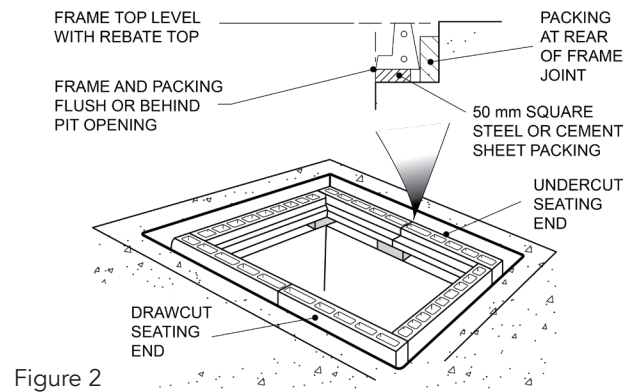
### Step 2 – Remove the cover from the frame

- For trench runs remove all covers and mark their position sequence.



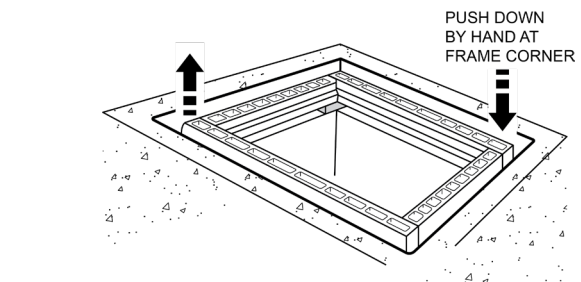
### Step 3 – Locate and level the frame in the rebate

- Ensure that the frame is correctly oriented for the required direction of cover removal. (Figure 1)
- Pack under each corner joint of the frame to raise and level the frame top with the rebate top, including joints. (Figure 2)
- Ensure that the packing and frame do not protrude into the pit opening.
- Check for any rocking motion between diagonally opposite frame corners and adjust packing to eliminate any rocking of frame. (Figure 3)



### Step 4 – Set up the internal formwork

- Ensure that the formwork does not project above the horizontal seating surface of the frame, otherwise the cover cannot be seated prior to concrete infill. (Figure 4)



### Step 5 – Clean the cover and frame seatings

- All cover and frame seating surfaces must be free of dirt or dust to ensure the correct seating of the cover in the frame.

Figure 3

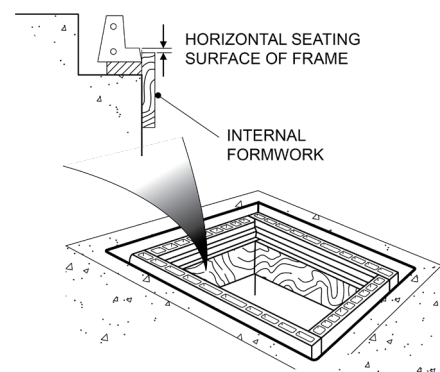


Figure 4

### Step 6 – Place the cover in the frame

- Ensure that the cover is correctly oriented in the frame according to the mark or tag.
- For trench runs replace in the same sequence as marked when removed.
- Ensure that keyhole plugs are fitted.
- Check for any diagonal rocking movement between the cover and the frame and adjust the frame packing if necessary to eliminate rocking movement. (Figure 5)
- Run a finger along the top edges of the cover and the frame and check that the edges are level over the whole perimeter of the unit. If not level, check if dirt or other matter is present in the seating surfaces or if the frame is distorted due to rough handling.

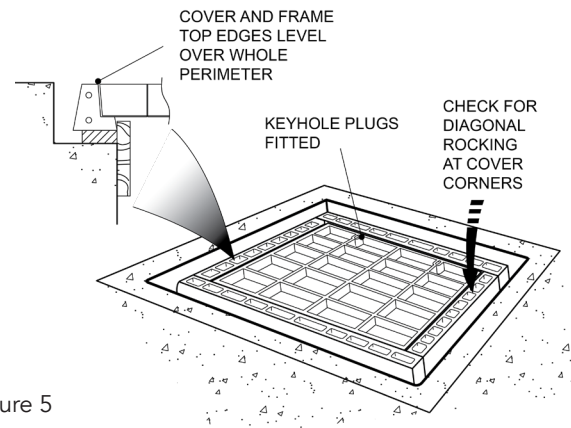


Figure 5

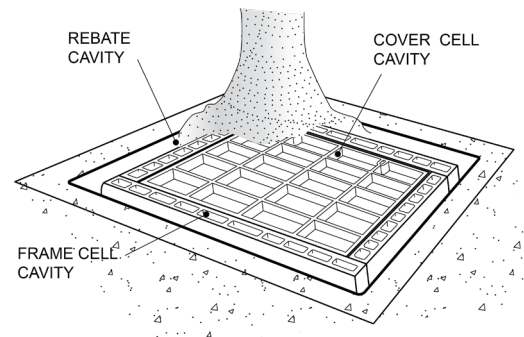


Figure 6

### Step 7 – Pour the concrete infill

- Pour the concrete and tamp down to ensure all cavities in the rebate, cover, and frame cells are completely filled. (Figure 6)

- Trowel or screed off excess concrete to expose all top frame and cover edges. Do not remove covers for 74 hours. (Figure 7)

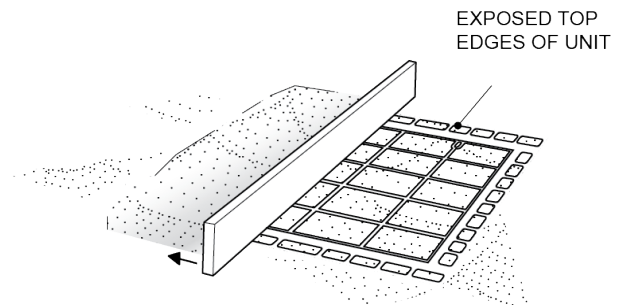


Figure 7

### Step 8 – Seal the unit for operation

- After 74 hours, remove the cover and internal formwork.
- Clean all cover and frame seating surfaces.
- Apply GATIC sealing compound liberally to all vertical and horizontal seating surfaces of frame.
- Do not slide covers along the frame into their final positions as this causes removal of the sealing compound from the mating surfaces.
- Install the cover in the frame and tamp down the cover at the keyholes using a suitable piece of timber until the top edge of the cover is level with the top edge of the frame. (Figure 8)

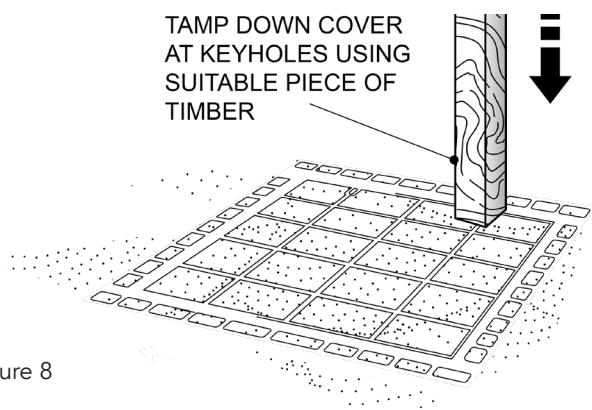
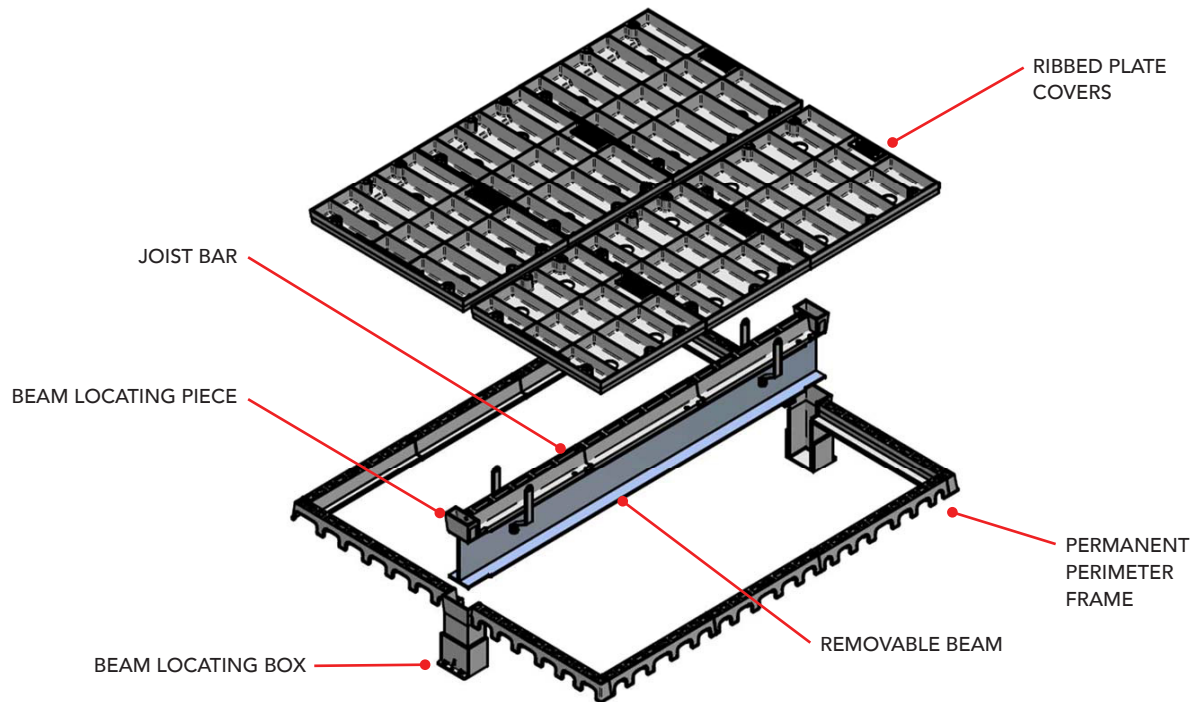


Figure 8

## INSTALLATION – MULTI-PARTS



## MULTI PART INSTALLATION GUIDELINES

### Step 1 - Check dimensions and specifications

- Check the rebate dimensions and the pit opening size against the information supplied on the product drawing.
- When unpacking the sections of the frame, take care not to crush or damage the joints.
- Place the undercut and drawcut frames in the wallbox rebates.
- If the product has been shipped in sections, join the wallbox to end frames with both bolts provided. (Figure 1)
- Ensure the top of wallbox and the frame is flush.

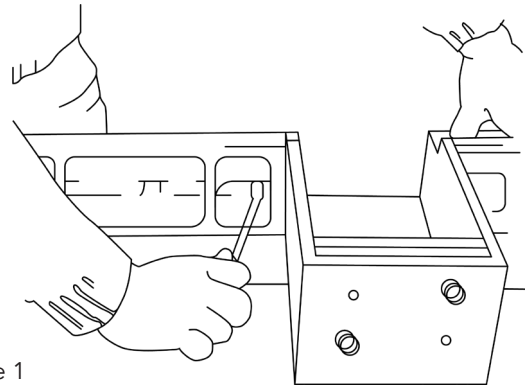


Figure 1

### Step 2 - Placing side frames

- Place side frames in rebates as guided by the painted numbers on outside of frame and product drawing.
- Remove nuts and washers from the side frames.
- Insert the side frame completely into end frame (undercut or drawcut end). Replace nuts and washers.
- Tighten firmly with hand tools and ensure the bottom of frame makes contact with mating frame.

### Step 3 - Levelling

- Pack up the four corners to the finished level required. (Figure 2)
- Do not use timber as a packing medium. Use cast iron, cement sheet or steel spacer pieces to pack up the underside of the wall boxes to set top of frames level with string lines.
- Run string line across top of the wallboxes at the drawcut and undercut ends. (Figure 3)

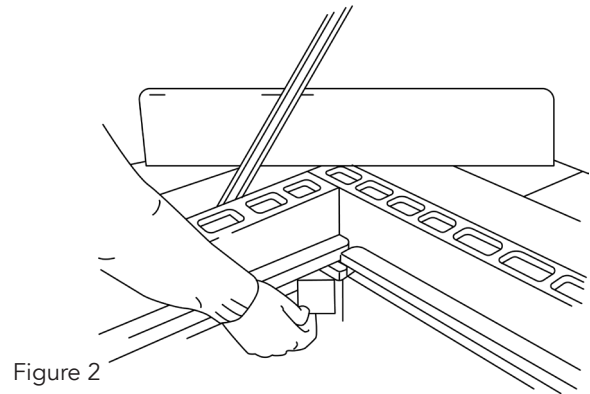


Figure 2

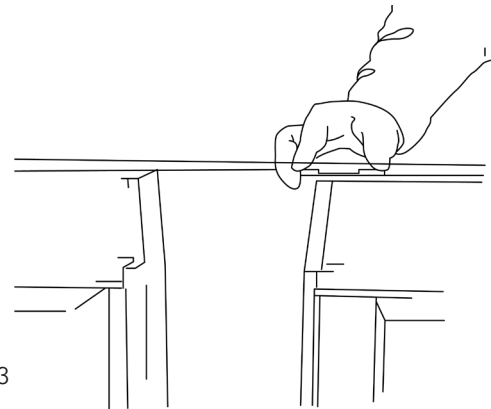


Figure 3

### Step 4 - Placing beams

- Place beams into wallboxes so that numbers marked on beams and wallboxes correspond. (Figure 4)

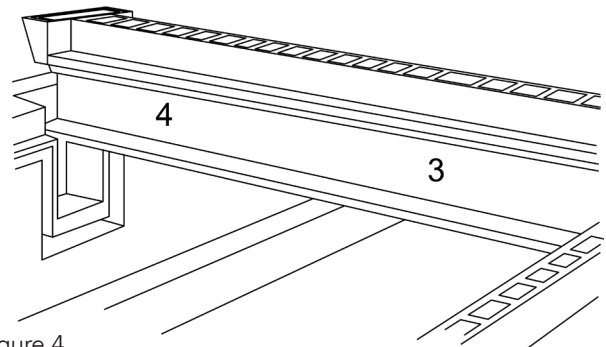


Figure 4

- Ensure that the beam end sections are flush with the top of the wallboxes and metal to metal contact is made. (Figure 5)

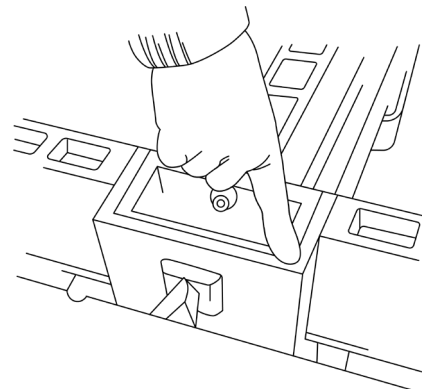


Figure 5

## INSTALLATION – COVERS AND PREPARATION FOR CONCRETE INFILL

### Step 1 - Preparing cover

- Clean underside of covers, and the vertical and horizontal seating surfaces of the covers. Select a column of covers located between two central support beams and place the cover into this column at the drawcut end. (Figure 1)
- The drawcut end is determined by the location of the two or four keyholes on the same end of the cover. (Figure 2)

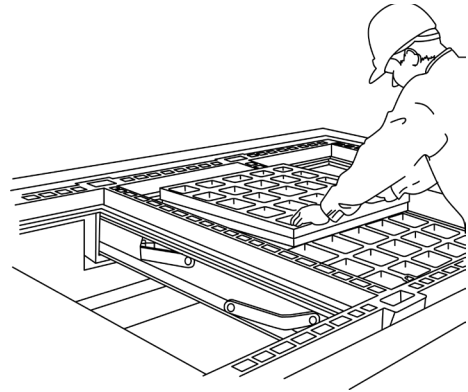


Figure 1

### Step 2 - Placing cover

- Place cover into that column as per sequenced numbers, starting with drawcut end.
- Check covers for rocking movement in frame.
- If movement is detected, place packing pieces under the wallboxes supporting the beams on which the covers rest.
- Continue to place the column of covers in position, checking each for rocking movement.
- Complete each row of covers, working from the central columns outwards.

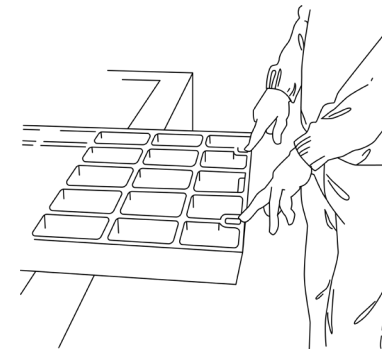


Figure 2

**Note:** As covers are placed into the frame, the frame begins to square itself progressively.

### Step 3 - Check side frames and packing

- As covers are placed into position, check the side frames and pack if necessary. (Figure 3)
- Ensure there is metal to metal contact.
- Continue above step until all covers are installed.

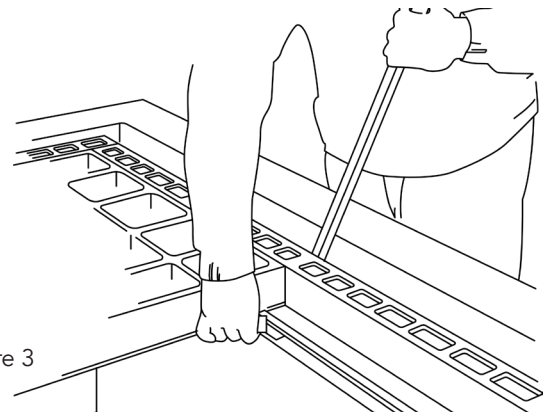


Figure 3

**Note:** It may be necessary to wedge the side frame and wallboxes into position with a wedge or spacer between the rebate wall and the frame member. DO NOT use timber for the wedge material. (Figure 4)



Figure 4

### NOTE - IMPORTANT

It is essential that the wedge packer piece remains in place during the concrete pour. This is important to maintain the correct alignment of the frame members and wallbox units. Particular attention to the wallbox/beam location box is needed during this stage. Check for and eliminate vertical gaps between wallboxes and beam ends. Pack side frames to eliminate gaps.

#### Step 4 – Preparation for concrete filling

- Access to the underside of the cover is required so that the formwork can be placed inside the pit. This is done by removing one or more of the covers from the centre row.
- Pay attention to the formwork around the wallbox locations to prevent concrete from entering wallboxes. (Figure 5)
- Ensure that there is no debris in the rebate recess prior to concrete pouring.
- Check that all plastic keyhole plugs are firmly in place in the lifting slots as this prevents concrete entering the slots during pouring.

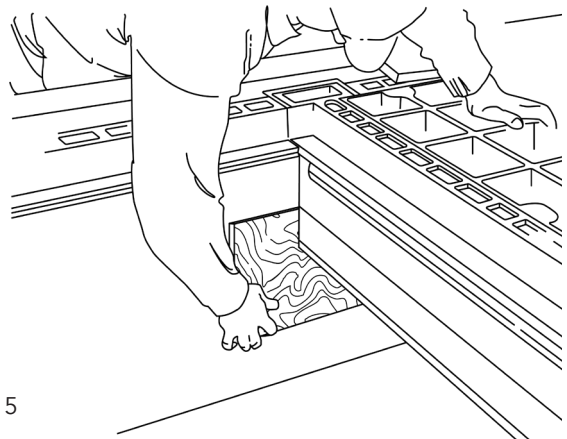


Figure 5

#### Step 5 – Concrete pour

- The minimum required grade of concrete is 32mPa with a maximum of 12mm aggregate. You must always refer to your approved structural drawings, specification, and structural engineer for guidance regarding your specific project.
- Ensure that the cellular bar frames are completely filled by vibration or by tamping the concrete in place.
- Do not use an edging tool when finishing the concrete rebate junction between the rebate and the slab, but finish flush with adjacent surface.

#### Step 6 - Sealing covers and beam location boxes for operational use

- Ensure the concrete is cured for a minimum of 74 hours.
- Remove covers and beams from the frame and remove internal formwork.
- Clean all mating surfaces.
- Apply GATIC sealant to the top 50mm of the beam location wallboxes.
- Lower the beams back into position ensuring that sealant is not removed by contact with the bottom edge of the beam.
- Place all covers into position without sealant.
- Clean the top surface of the unit further removing any debris.
- Remove the undercut cover of any row. Check the seating of the covers and frames for any debris and clean if necessary.
- GATIC sealant is to be placed on the vertical and horizontal seating surfaces of the frames only. A thickness of 3mm build up is required.
- Lower cover into frame and tamp into position until covers are flush. Clean excess sealant that is squeezed out through the remaining gaps.
- Do not slide covers along the frame into their final positions as this causes removal of the sealing compound from the mating surfaces.
- Repeat this sequence as described for remaining covers.
- Check all keyhole/lifter points to ensure all plastic plugs are in place.



FOR ALL ENQUIRIES GO TO  
[WWW.GATIC.COM.AU](http://WWW.GATIC.COM.AU)  
1800 335 303  
[sales@gatic.com.au](mailto:sales@gatic.com.au)