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INSTALLATION MANUAL ATEX RAYCHEM RPG GRP ENCLOSURE

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1.0 PRODUCT DESCRIPTION

The Ex empty enclosure may be used for fitting electrical and mechanical components. The enclosure consists of high-quality Glass Reinforced Polyester with graphite added . Lid and base are screwed together with stainless steel captive screws.

A groove and tongue system with inserted sealing cord between the lid and base assures the high protection class IP 66 as per IEC 60529 : 1989+A1 : 2000 . The enclosure is mounted through the screw channels lying outside the sealing space. The enclosures conform to the relevant standards IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31


2.0 TECHNICAL DATA

MATERIAL : GRP

Color : Black (Similar to RAL 9011)

LID SCREW : STAINLESS STEEL , CAPTIVE SCREW



TIGHTNING TORQUE : M4  1-2 NM , M6 2-3 NM.

SERVICE TEMPERATURE : - 50 °C to + 100 °C

MECHANICAL STRENGTH : ACCORDANCE WITH 60079-0 , IMPACT ENERGY 7 NM

PROTECTION CLASS : EN 60529, IP 66

COMPLIANCE STANDARD : IEC/EN 60079-0 , IEC/EN 60079-7 and IEC/EN 60079-31.

PROCESS CONTROL SYSTEM : ISO 9001:2008 , IEC 80079-34 : 2011

INTERNAL/EXTERNAL EARTHING : 4 MM² TO 50 MM²

TIGHTNING TORQUE FOR EXTERNAL: FOR M4 EARTH SCREW- 3-4 NM, FOR M6 EARTH SCREW 4-6 NM

3.0 EXPLOSION PROTECTION



0539 II 2 G Ex e IIC Gb
 II 2 D Ex tb IIIC Db IP66
 DEMKO 15 ATEX 1475 U
 IECEX UL 15.0045 U

4 SAFETY INSTRUCTIONS

The supplied Ex empty enclosures are U-certified components which serve as a basis for completely certified devices. All universally valid rules and the other binding directives relating to workplace safety, accident prevention and environmental protection must be adhered to. Raychem RPG boxes are not certified to Zone 0 and Zone 20. No Installation should be carried out under live conditions.

Once Installed do not dismantle except for occasional inspection. Raychem RPG enclosures shall only be used where temperature at the point of entry is between (- 50 °C to +100 °C)

Enclosures shall be mounted horizontally over the wall or on the horizontal surfaces, All cable entry devices and blanking elements must be certified for protection types 'e' and 'tb' and must have a minimum IP 66 rating. All unused device openings must be fitted with a certified close-up plug of protection types 'e' and 'tb' and must have a minimum IP 66 rating The suitability of all entries should be considered in the end use application.

4 INSTALLATIONS

The Ex empty enclosures are suitable for accommodating components certified for the Ex areas, such as terminals, switches, cable glands, measuring instruments, control equipment and display units etc. When processing the enclosures, attention must be paid to ensuring that there is suitable minimum spacing between individual boreholes and from the sealing edge of the enclosure so that the enclosure with the fittings will be able to withstand an impact test.

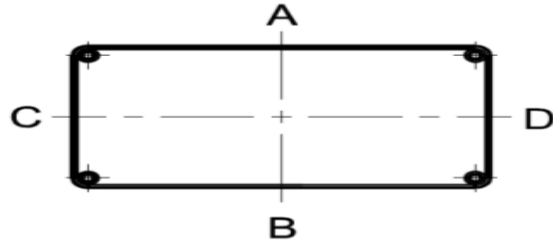
The minimum spacing depends on the geometrical dimensions of the built-in components; a longer lever will require an increase in the minimum spacing and accordingly must be determined specifically.

In the case of enclosures that have to be set up outside, it may be necessary to take measures to ensure that operation is in accordance with the intended use. This would include, for example, roofs as protection against rain or outer housings with an adequate protection class. These Enclosures should not be used in any application other than those mention here or in our data sheets, unless Raychem RPG states in writing that the product is suitable for such application. Raychem RPG can take no responsibility for any damage, injury or other consequential loss caused where the Aluminium Enclosures are not installed or used according to the instructions.

5.0 Cable Entry

The minimum distance of the drillings is to be kept in accordance with the table, drilling space for cable glands and stopping plugs. All cable entry devices and blanking elements must be certified for protection types 'e' and 'tb' and must have a minimum IP 66 rating. All unused device openings must be fitted with a certified close-up plug of protection types 'e' and 'tb' and must have a minimum IP 66/IP67/ IP68 rating. The suitability of all entries should be considered in the end use application.

For entries with parallel threads, cable glands, stop plugs must be should be used along with additional seal or gasket.



EX-GJB-807555-U (Size 80x 75x 55)

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	2	8	1	8	Pg.7	12.5	2	8.5	1	8.5	23	26
M16	16	2	9	1	9	Pg.9	15.2	2	9	1	9	24	26.5
M20	20	1	8	1	8	Pg.11	18.6	2	8.5	1	8.5	23	26
M25	25					Pg.13.5	20.4	1	8.5	1	8.5	27	28
M32	32					Pg.16	22.5						
M40	40					Pg.21	28.3						
M50	50					Pg.29	37						
M63	63					Pg.36	47						
-						Pg.42	54						
-						Pg.48	59.3						

Ex-GJB-1107555-U (Size 110x 75 x 55)

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	3	8	1	8	Pg.7	12.5	3	8.5	1	8.5	23	26
M16	16	2	9	1	9	Pg.9	15.2	2	9	1	9	24	26.5
M20	20	2	8	1	8	Pg.11	18.6	2	8.5	1	8.5	23	26
M25	25					Pg.13.5	20.4	1	8.5	1	8.5	27	28
M32	32					Pg.16	22.5						
M40	40					Pg.21	28.3						
M50	50					Pg.29	37						
M63	63					Pg.36	47						
-						Pg.42	54						
-						Pg.48	59.3						

Ex-GJB-12212090-U (SIZE 122 x 120 x 90mm)

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	8	8	4	8	Pg.7	12.5	6	8.5	3	8.5	24	31
M16	16	4	9	3	9	Pg.9	15.2	5	9	2	9	25	31.5
M20	20	3	8	2	8	Pg.11	18.6	3	8.5	2	8.5	24	31
M25	25	2	12	1	12	Pg.13.5	20.4	2	8.5	2	8.5	28	33
M32	32	1	16	1	16	Pg.16	22.5	2	10	1	10	32	35
M40	40					Pg.21	28.3	1	13	1	13	36	37
M50	50					Pg.29	37	1	17			37	37.5
M63	63					Pg.36	47						
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-1607555-U (Size 160x 75x 55)

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	5	8	1	8	Pg.7	12.5	5	8.5	1	8.5	23	26
M16	16	4	9	1	9	Pg.9	15.2	4	9	1	9	24	26.5
M20	20	3	8	1	8	Pg.11	18.6	3	8.5	1	8.5	23	26
M25	25					Pg.13.5	20.4	2	8.5	1	8.5	27	28
M32	32					Pg.16	22.5						
M40	40					Pg.21	28.3						
M50	50					Pg.29	37						
M63	63					Pg.36	47						
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-1607575-U (SIZE 160x 75 x 75mm)

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	8	8	1	8	Pg.7	12.5	8	8.5	1	8.5	23	26
M16	16	6	9	1	9	Pg.9	15.2	6	9	1	9	24	26.5
M20	20	5	8	1	8	Pg.11	18.6	4	8.5	1	8.5	23	26
M25	25	2	12	1	12	Pg.13.5	20.4	3	8.5	1	8.5	27	28
M32	32	1	16			Pg.16	22.5	2	10	1	10	31	30
M40	40					Pg.21	28.3	1	13			35	32
M50	50					Pg.29	37						
M63	63					Pg.36	47						
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-16016090-U (SIZE 160 x 160 x 90mm)													
Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	11	8	6	8	Pg.7	12.5	11	8.5	6	8.5	28	39
M16	16	8	9	4	9	Pg.9	15.2	10	9	4	9	29	39.5
M20	20	6	8	4	8	Pg.11	18.6	6	8.5	4	8.5	28	39
M25	25	4	12	3	12	Pg.13.5	20.4	6	8.5	3	8.5	32	41
M32	32	2	16	1	16	Pg.16	22.5	4	10	3	10	36	43
M40	40	1	20	1	20	Pg.21	28.3	3	13	2	13	40	45
M50	50					Pg.29	37	1	17	1	17	41	45.5
M63	63					Pg.36	47	1	20			41	45.5
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-1907555-U (SIZE 190x 75 x 55mm)

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	6	8	1	8	Pg.7	12.5	5	8.5	1	8.5	23	26
M16	16	4	9	1	9	Pg.9	15.2	4	9	1	9	24	26.5
M20	20	3	8	1	8	Pg.11	18.6	4	8.5	1	8.5	23	26
M25	25					Pg.13.5	20.4	3	8.5	1	8.5	27	28
M32	32					Pg.16	22.5						
M40	40					Pg.21	28.3						
M50	50					Pg.29	37						
M63	63					Pg.36	47						
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-12212090-U

SIZE 122 x 120 x 90mm

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	14	8	4	8	Pg.7	12.5	14	8.5	3	8.5	24	31
M16	16	12	9	3	9	Pg.9	15.2	12	9	2	9	25	31.5
M20	20	8	8	2	8	Pg.11	18.6	8	8.5	2	8.5	24	31
M25	25	5	12	1	12	Pg.13.5	20.4	6	8.5	2	8.5	28	33
M32	32	3	16	1	16	Pg.16	22.5	5	10	1	10	32	35
M40	40	3	20	-	20	Pg.21	28.3	3	13	1	13	36	37
M50	50					Pg.29	37	2	17			37	37.5
M63	63					Pg.36	47						
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-255250120U							SIZE 255 x 250 x 120 mm						
Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	30	8	28	8	Pg.7	12.5	28	8.5	30	8.5	28	39
M16	16	24	9	22	9	Pg.9	15.2	24	9	22	9	29	39.5
M20	20	16	8	12	8	Pg.11	18.6	16	8.5	12	8.5	28	39
M25	25	10	12	9	12	Pg.13.5	20.4	14	8.5	10	8.5	32	41
M32	32	7	16	6	16	Pg.16	22.5	10	10	10	10	36	43
M40	40	3	20	3	20	Pg.21	28.3	6	13	8	13	40	45
M50	50	2	21	1	21	Pg.29	37	4	17	4	17	41	45.5
M63	63					Pg.36	47	2	20	3	20	41	45.5
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-26016090U						SIZE 260 x 160 x 90 mm							
Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening For Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	20	8	6	8	Pg.7	12.5	20	8.5	6	8.5	28	39
M16	16	16	9	4	9	Pg.9	15.2	16	9	4	9	29	39.5
M20	20	10	8	4	8	Pg.11	18.6	12	8.5	4	8.5	28	39
M25	25	8	12	3	12	Pg.13.5	20.4	10	8.5	3	8.5	32	41
M32	32	4	16	1	16	Pg.16	22.5	8	10	3	10	36	43
M40	40	3	20	1	20	Pg.21	28.3	4	13	2	13	40	45
M50	50					Pg.29	37	3	17	1	17	41	45.5
M63	63					Pg.36	47	2	20			41	45.5
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-36016090U						SIZE 360 x 160 x 90 mm							
Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	24	8	6	8	Pg.7	12.5	22	8.5	6	8.5	28	39
M16	16	20	9	4	9	Pg.9	15.2	20	9	4	9	29	39.5
M20	20	18	8	4	8	Pg.11	18.6	18	8.5	4	8.5	28	39
M25	25	12	12	3	12	Pg.13.5	20.4	16	8.5	3	8.5	32	41
M32	32	6	16	1	16	Pg.16	22.5	10	10	3	10	36	43
M40	40	4	20	1	20	Pg.21	28.3	7	13	2	13	40	45
M50	50	3	21			Pg.29	37	5	17	1	17	41	45.5
M63	63					Pg.36	47	3	20				
						Pg.42	54						
						Pg.48	59.3						

Ex-GJB-400250120U

SIZE 400 x 250 x 120 mm

Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	42	8	28	8	Pg.7	12.5	40	8.5	30	8.5	28	39
M16	16	30	9	22	9	Pg.9	15.2	30	9	22	9	29	39.5
M20	20	20	8	12	8	Pg.11	18.6	24	8.5	12	8.5	28	39
M25	25	16	12	9	12	Pg.13.5	20.4	18	8.5	10	8.5	32	41
M32	32	10	16	9	16	Pg.16	22.5	12	10	10	10	36	43
M40	40	5	20	3	20	Pg.21	28.3	10	13	8	13	40	45
M50	50	4	21	3	21	Pg.29	37	7	17	4	17	41	45.5
M63	63					Pg.36	47	4	20	3	20	41	45.5
						Pg.42	54	3	21	2	21	38	44
						Pg.48	59.3						

Ex-GJB-400405120U							SIZE 400 x 405 x 120 mm						
Opening Detail (Size)	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Opening Detail (Size) PG	Equivalent plain entries (mm)	No of Holes on side A/B	Min. Distance between the opening for Side A/B (mm)	No. of holes on side C/D	Min. Distance between the opening for Side C/D (mm)	Min. Distance of last opening from the enclosure end on side A/B (mm)	Min. Distance of last opening from the enclosure end on side C/D (mm)
M12	12	42	8	36	8	Pg.7	12.5	40	8.5	36	8.5	28	39
M16	16	30	9	30	9	Pg.9	15.2	30	9	28	9	29	39.5
M20	20	20	8	18	8	Pg.11	18.6	24	8.5	20	8.5	28	39
M25	25	16	12	14	12	Pg.13.5	20.4	18	8.5	16	8.5	32	41
M32	32	10	16	8	16	Pg.16	22.5	12	10	10	10	36	43
M40	40	5	20	5	20	Pg.21	28.3	10	13	8	13	40	45
M50	50	4	21	4	21	Pg.29	37	7	17	6	17	41	45.5
M63	63					Pg.36	47	4	20	4	20	41	45.5
						Pg.42	54	3	21	3	21	38	44
						Pg.48	59.3						

6.0 COMMISSIONING

Each electric apparatus for a potentially explosive area must be selected in accordance with the conditions set down for the individual type of installation. The apparatus may only be used if it is undamaged and clean. Electric plants must be examined by a qualified specialist before first commissioning and regularly at specific intervals. Enclosures shall be mounted horizontally over the wall or on the horizontal surfaces.

7.0 OPERATING, MAINTENANCE AND FAILURE RECTIFICATION

The operator of an electric plant in a potentially explosive environment must keep the operating equipment in an orderly condition, operate it correctly, monitor it and do the required maintenance and repairs (EN 60079-14).

Maintenance and failure rectification work may only be carried out by qualified electricians. If the type of protection is affected, only original parts should be used for replacement (e.g. lid sealing). Conformity with all applicable laws and guidelines must be ensured prior to re-commissioning. All applicable safety instructions must be observed prior to the implementation of any maintenance and/or failure rectification works.

8.0 ACCESSORIES, SPARE PARTS

For accessories and spare parts, see Raychem RPG catalogue.

9.0 BOLT SIZE

<u>Catalogue Article Number</u>	<u>Model Number</u>	<u>Bolt Size</u>
Ex-GRJ01	Ex-GJB-807555-U	M4
Ex-GRJ02	Ex-GJB-1107555-U	M4
Ex-GRJ03	Ex-GJB-12212090-U	M6
Ex-GRJ05	Ex-GJB-1607555-U	M4
Ex-GRJ06	Ex-GJB-1607575-U	M4
Ex-GRJ07	Ex-GJB-16016090-U	M6
Ex-GRJ09	Ex-GJB-1907555-U	M4
Ex-GRJ11	Ex-GJB-22012090-U	M6
Ex-GRJ12	Ex-GJB-255250120-U	M6
Ex-GRJ13	Ex-GJB-26016090-U	M6
Ex-GRJ14	Ex-GJB-36016090-U	M6
Ex-GRJ15	Ex-GJB-400250120-U	M6
Ex-GRJ16	Ex-GJB-400405120-U	M6

10.0 list of the standards Applicable

- IEC 60079-0 EXPLOSIVE GAS ATMOSPHERES. PT. 0, GENERAL REQUIREMENTS - Edition 6 - Revision Date 2012/11/01
- IEC 60079-31 EXPLOSIVE ATMOSPHERES – PART 31: EQUIPMENT DUST IGNITION PROTECTION BY ENCLOSURE "t" – Edition 2 ,Revision Date :27/11/2013
- IEC 60079-7 ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES. PT. 7, INCREASED SAFETY "e" - Edition 4 Issue Date 2006/07/01
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