

DM U Wall Mounted Enclosure - Carbon Steel Mounting Instruction



NEMA 12



www.tekpan.com



CONTENTS:

1. DESCRIPTIONS 2

2. SAFETY INSTRUCTIONS 3

3. TORQUE TABLE for SCREWS/BOLTS 4

4. ASSEMBLY

 4.1 Beginning.....5

 4.2 Closing The Wall Mounting Holes.....5

 4.3 Removing The Door.....6

 4.4 Door Position Changing.....7

 4.5 Changing The Lock Insert..... 9

 4.6 Mounting Plate Assembly..... 10

 4.7 Securing mounting plate..... 10

 4.8 Fixing To Wall..... 11

 4.9 Earthing and potential equalisation..... 12

 4.10 Wall bracket mounting 13

5. TRANSPORT 14

6. LOADING WEIGHTS 15

7. POWER DISSIPATION CAPACITY 17

8. MAINTENANCE 19

9. STORAGE 19

1. DESCRIPTIONS

Wall-Mount / Freestanding with Plinth , indoor type ,variant with Single Door , Double Door and Mounting Plate empty enclosures, for low voltage switching device combinations with a maximum voltage rating of 1000V AC or 1500V DC

Standards Compliance: UL 50E and IEC 62208

Protection Ratings :

Protection Ratings: Single Door : UL/cUL Type 1 , 3R, 12,4 - UL File Number E352599 / IP66 (IEC 60 529)
 Double Door : UL/cUL Type 1 , 12 - UL File Number E352599 / IP54 (IEC 60 529)

Corrosion Resistance: C3-M according to EN ISO 12944-2

Impact Protection: IK10 according to IEC EN 60529

Door Types :

- * Single Door up to 400mm height : 130° left hand hinged door (reverse is possible) , one 1/4 turn latch with screwdriver insert
- * Single Door up to 1000mm height : 130° left hand hinged door (reverse is possible) , two 1/4 turn latch with screwdriver insert
- * Single Door from 1200mm height and above : 130° left hand hinged door (reverse is possible) , 3-point latching tool-to-open swing handle with screwdriver insert
- * Double Doors up to 1000mm height : 130° left-right hand hinged double doors , four 1/4 turn latches with screwdriver insert
- * Double Doors from 1200mm height and above : 130° right hand hinged double doors , 3-point latching tool-to-open swing handle with screwdriver insert, 2-point latching tool with inner handle to open left door

Materials:

Doors up to 400Wx600H :1,20mm , up to 500Wx700H :1,50mm, from 600W800H and largers :2,00mm DC-01 Sheet Steel

Enclosures up to 600Wx600H:1,20mm , from 600Wx800H and largers :1,50mm DC-01 Sheet Steel

Mounting Plates: 2,00mm : DX51 Galvanized Steel

Surface Finish:

Enclosure, door(s): Nano coating primed, RAL 7035 Light Gray with textured powder coated

Supply Includes :

Enclosure with wall mounting holes, Door , Mounting Plate

Options:

Wall brackets, grounding cables, and other accessories



Product Code	Product Code	Product Code	Product Code	Product Code	Product Code
DM U252.321	DM U254.515	DM U256.126	DM U256.123	DM U241.130	DM U241.123
DM U253.315	DM U254.521	DM U256.130	DM U258.123		DM U241.230
DM U253.415	DM U255.521	DM U258.126	DM U248.124		DM U241.140
DM U253.421	DM U255.530	DM U258.130	DM U259.221		DM U241.143
DM U254.421	DM U254.621	DM U248.140	DM U259.226		DM U241.144
	DM U254.626	DM U257.921	DM U259.230		
	DM U255.621	DM U257.926	DM U259.240		
	DM U255.626	DM U257.930	DM U259.530		
	DM U255.626	DM U257.940			
	DM U256.621	DM U259.921			
	DM U256.630	DM U259.926			
	DM U255.721	DM U259.930			
	DM U256.821	DM U259.940			
	DM U256.826				
	DM U256.830				
	DM U258.821				
	DM U258.830				
	DM U256.726				
	DM U257.721				
	DM U257.726				
	DM U257.730				
	DM U257.740				

2. SAFETY INSTRUCTIONS

2.1 General Safety

- Assembly must be carried out by qualified and trained personnel only.
- These instructions must be fully read and understood before installation.
- The product shall be used only for its intended purpose.
- The working area must be clean, dry, and adequately illuminated.
- Improper use may result in serious injury or equipment damage.



2.2 Personal Protective Equipment (PPE)

The following equipment must be used during assembly :

- Cut-resistant protective gloves
- Safety shoes
- Safety goggles
- Workwear and safety helmet when required



2.3 Handling and Lifting

- Heavy components must not be lifted by a single person.
- Suitable lifting equipment (e.g. forklift, crane) must be used.
- Components may have sharp edges – handle with care.
- Products must be transported in a balanced and secured manner to prevent tipping.



2.4 Assembly Safety

- All components must be assembled on a stable and level surface.
- Fasteners and bolts must be tightened according to the specified torque values.
- Do not assemble with missing or damaged components.
- Be cautious of finger entrapment during assembly.
- Provide adequate support to prevent the enclosure from tipping over.



2.5 Electrical Safety

- The enclosure must be de-energized during installation.
- Electrical connections must be carried out by qualified electrical personnel only.
- Protective earthing (grounding) must be completed after assembly.
- Compliance with IEC 61439 and relevant standards must be ensured.



2.6 Environmental Conditions

- Assembly must not be performed in excessively humid or dusty environments.
- The product must be installed to maintain the specified IP protection rating.
- For outdoor applications - if the permitted of the enclosure-, suitable accessories (e.g. rain canopy) must be used.



2.7 Inspection Before Commissioning

- All connections must be checked.
- Doors and panels must operate properly and close correctly.
- Sealing elements must be correctly installed.
- Mechanical stability and installation accuracy must be verified.



2.8 Maintenance and Modification

- Unauthorized modifications to the product are not permitted.
- Maintenance must be performed by qualified personnel only.
- Damaged parts must be replaced with original spare parts.

3. TORQUE TABLE for SCREWS/BOLTS

Recommended tightening torque for mechanical and electrical links 8.8-class screws (with nut + washers)	
Diameter of Screw	Tightening Torque (N.m)
M3	1.5
M4	3.5
M5	7
M6	13
M8	28
M10	50
M12	75

Tightening torque for electrical links on the devices and for their fixing:

Marking varnish:

After tightening each electrical connection to the appropriate torque, apply some varnish:

- ✓ Between the nut and the screw or
- ✓ Between the screw head and the copper bar or
- ✓ Between the device for tightening on a threaded part

Varnish should not block the screw:

- ✓ It allows operator inspection, to verify if the bolts/ nut are tightened or not.
 - ✓ It facilitates the identification of any loose nuts during the switchboard's lifetime.
- Varnish features: ✓ Coloured acrylic varnish, indelible and able to resist a 150° C temperature.
- ✓ PDS recommends a red varnish as a standard to identify the panelbuilder's work.
 - ✓ Other colours can be used by the contractor or any operators entitled to work on the switchboard

after its commissioning.

4.ASSEMBLY

4.1 Beginning

INNER PACKAGE CONTENT

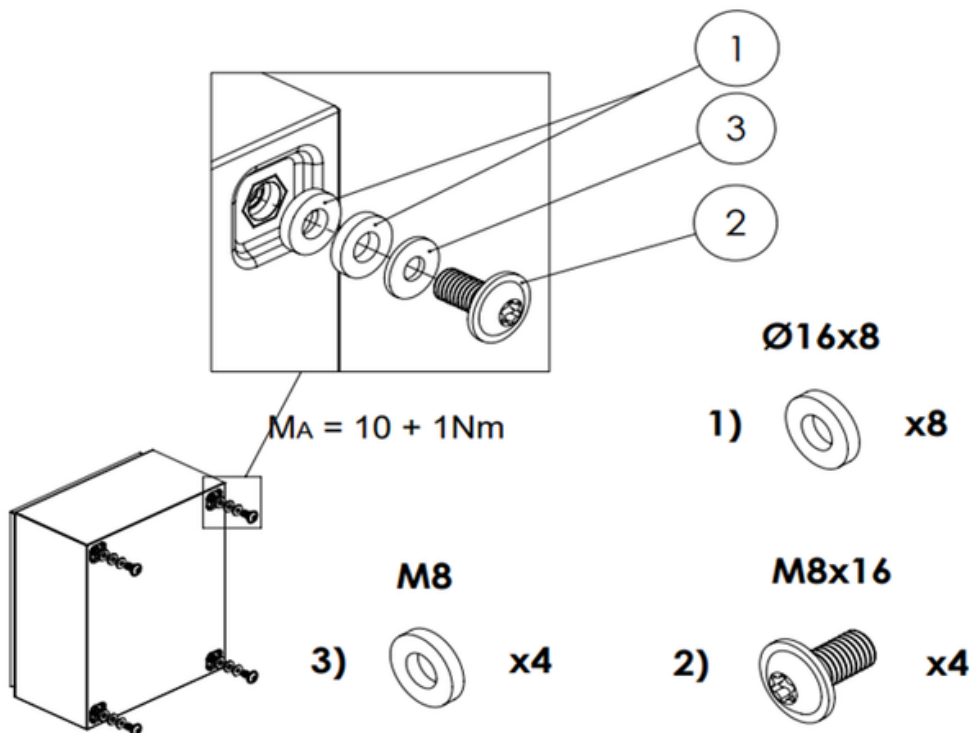
		PCS.			PCS.
	M8x16	4		M8	1
	Ø16x8mm	8		M8	5
	M6	2		Sticker	3
	M6	2		M8x15	1



! Positioning the enclosure on its back while the door is open imposes excessive mechanical stress on the structure, which may result in permanent and visible deformation. Such handling is strictly prohibited.

4.ASSEMBLY

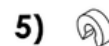
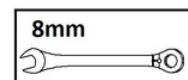
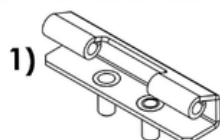
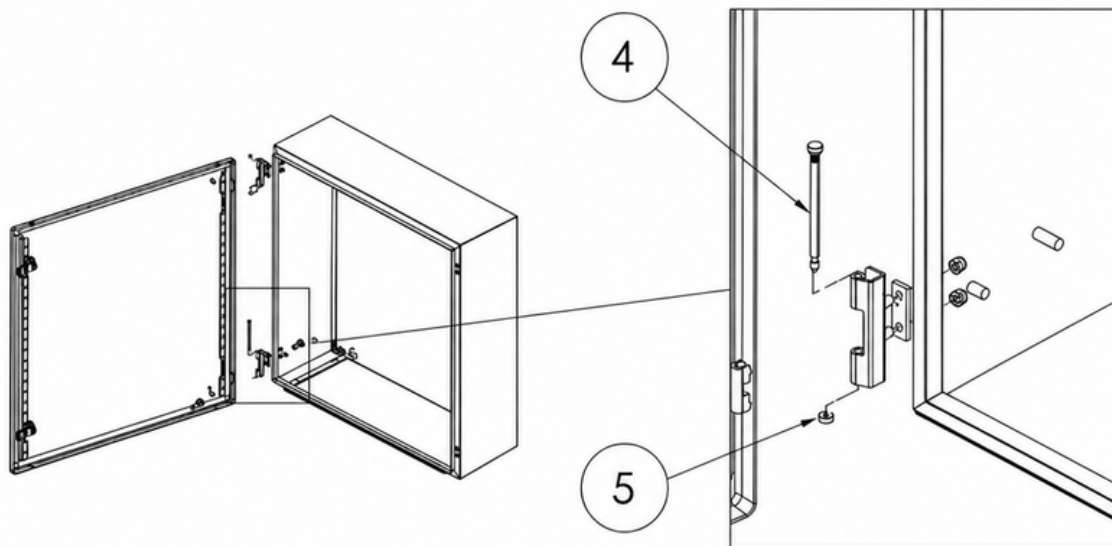
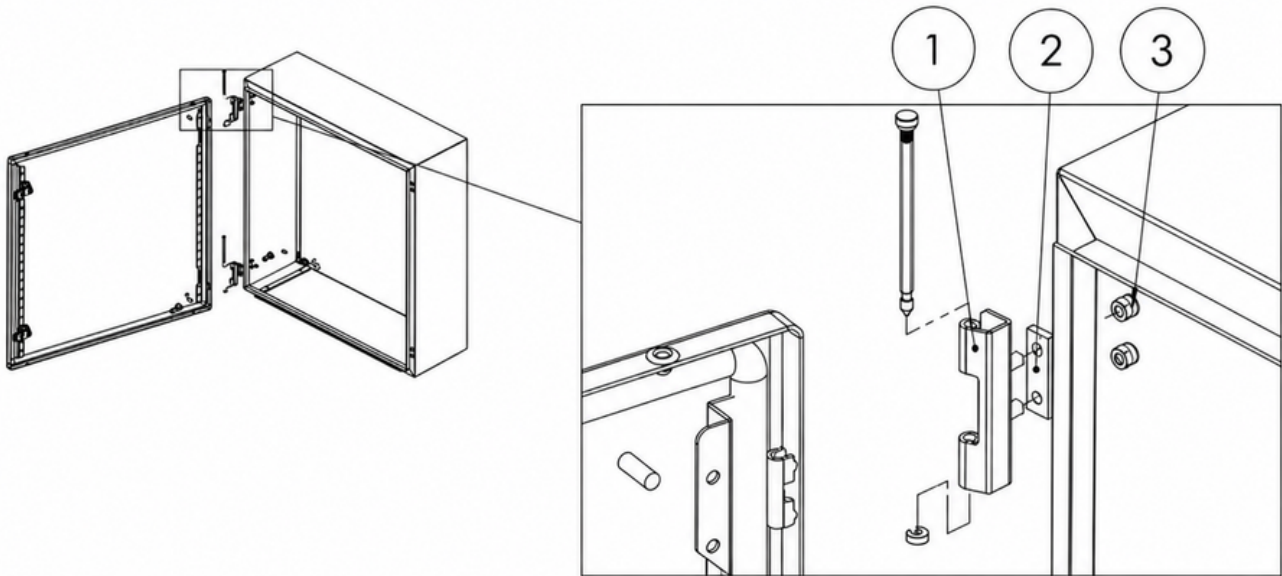
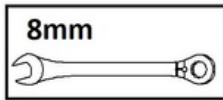
4.2 Closing The Wall Mounting Holes



! When wall mounting brackets are not used, the wall mounting holes must be fastened to ensure NEMA / IP protection

4.ASSEMBLY

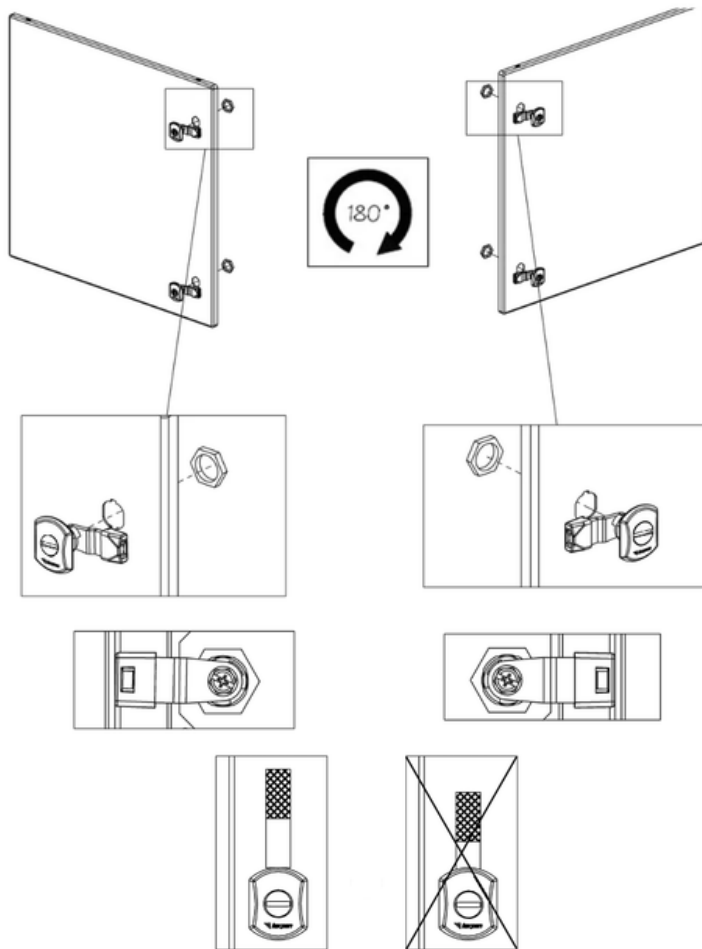
4.3 Removing The Door



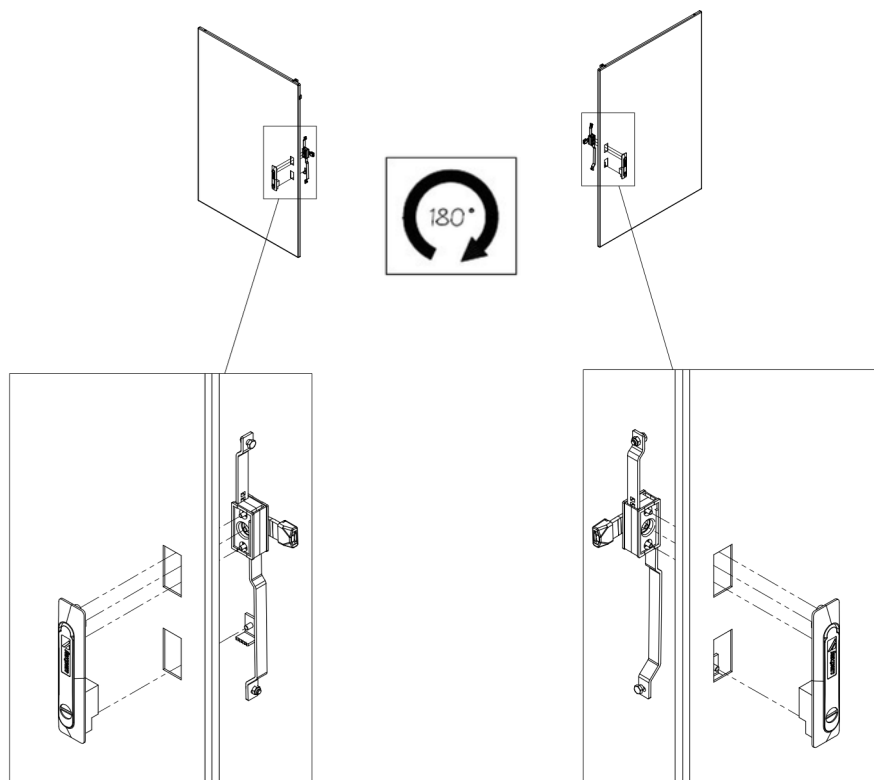
4.ASSEMBLY

4.4 Door Position Changing

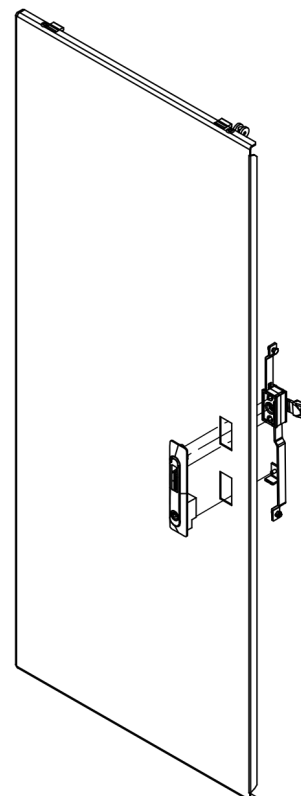
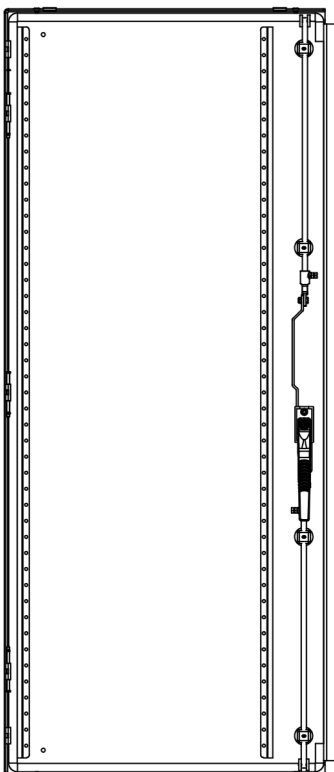
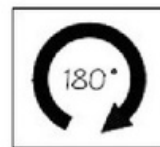
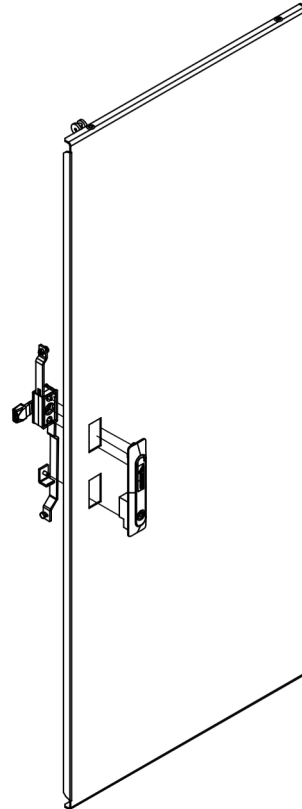
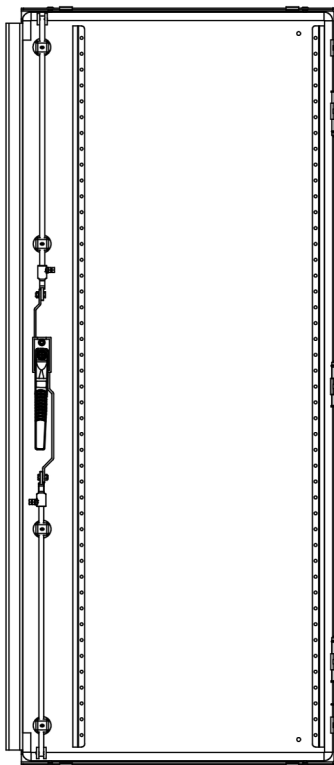
1.1 Single Door with 1/4 turn latches

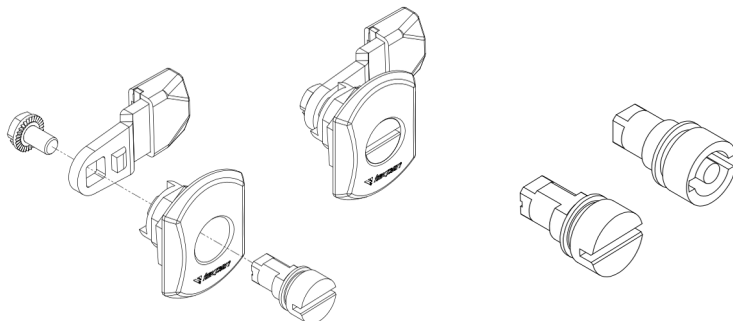
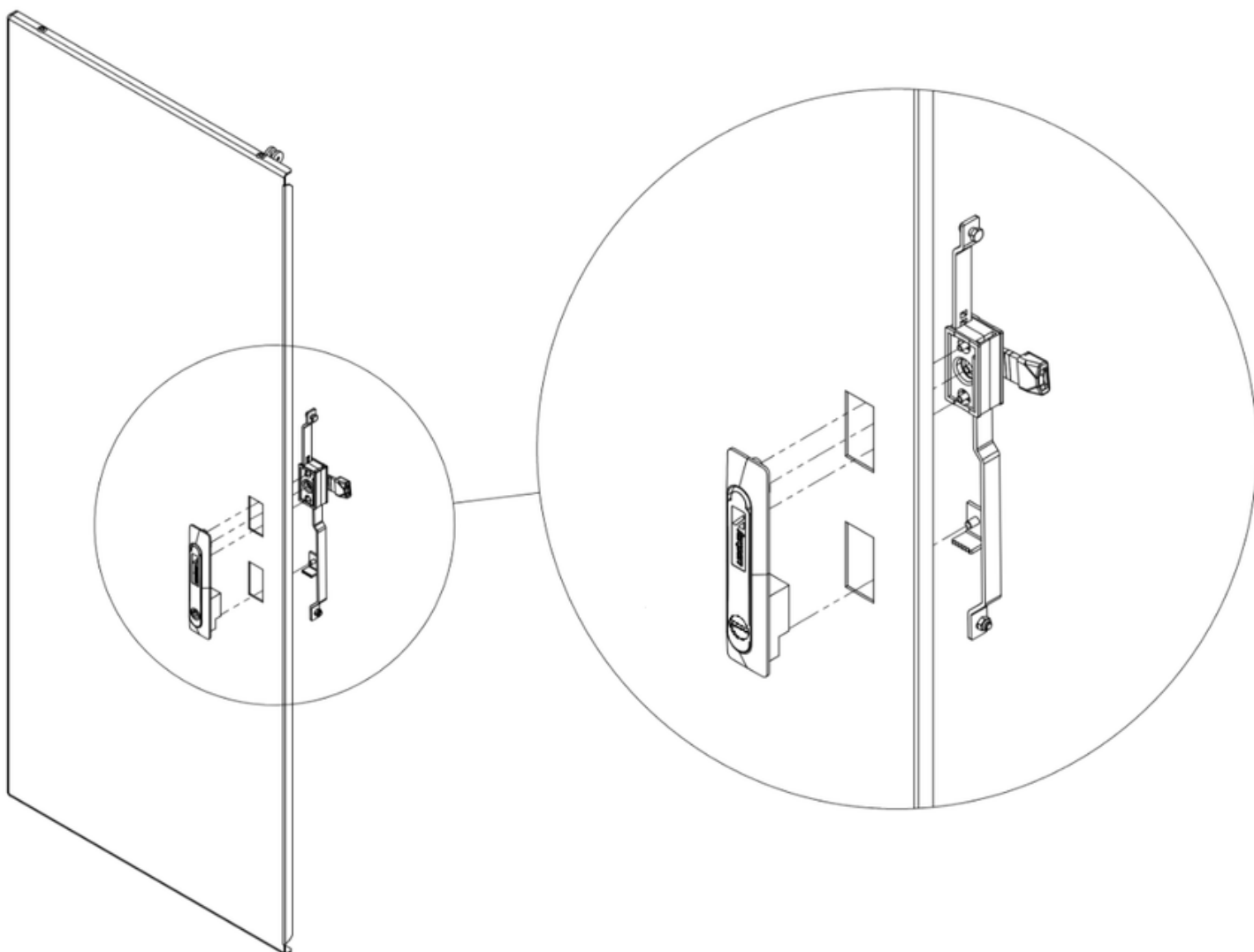


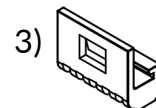
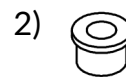
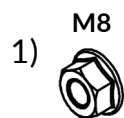
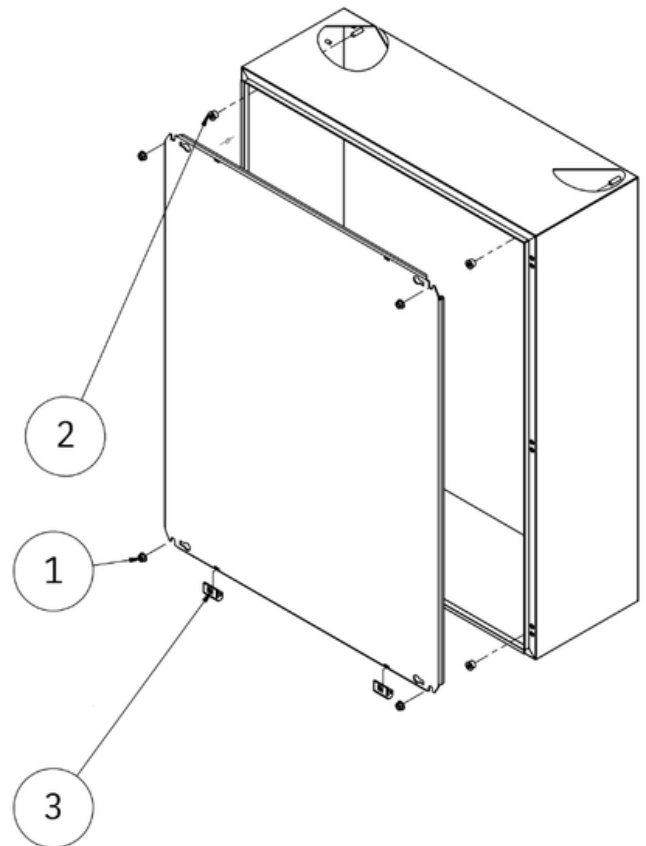
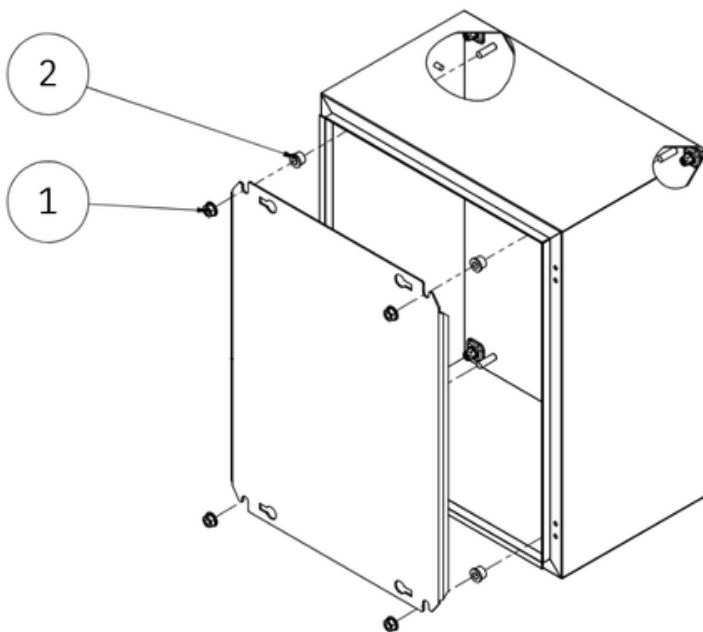
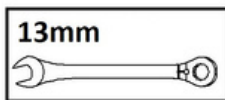
1.2 Single Door with 3-point latching swing handle



1.3 Double Door with 3-point latching swing handle



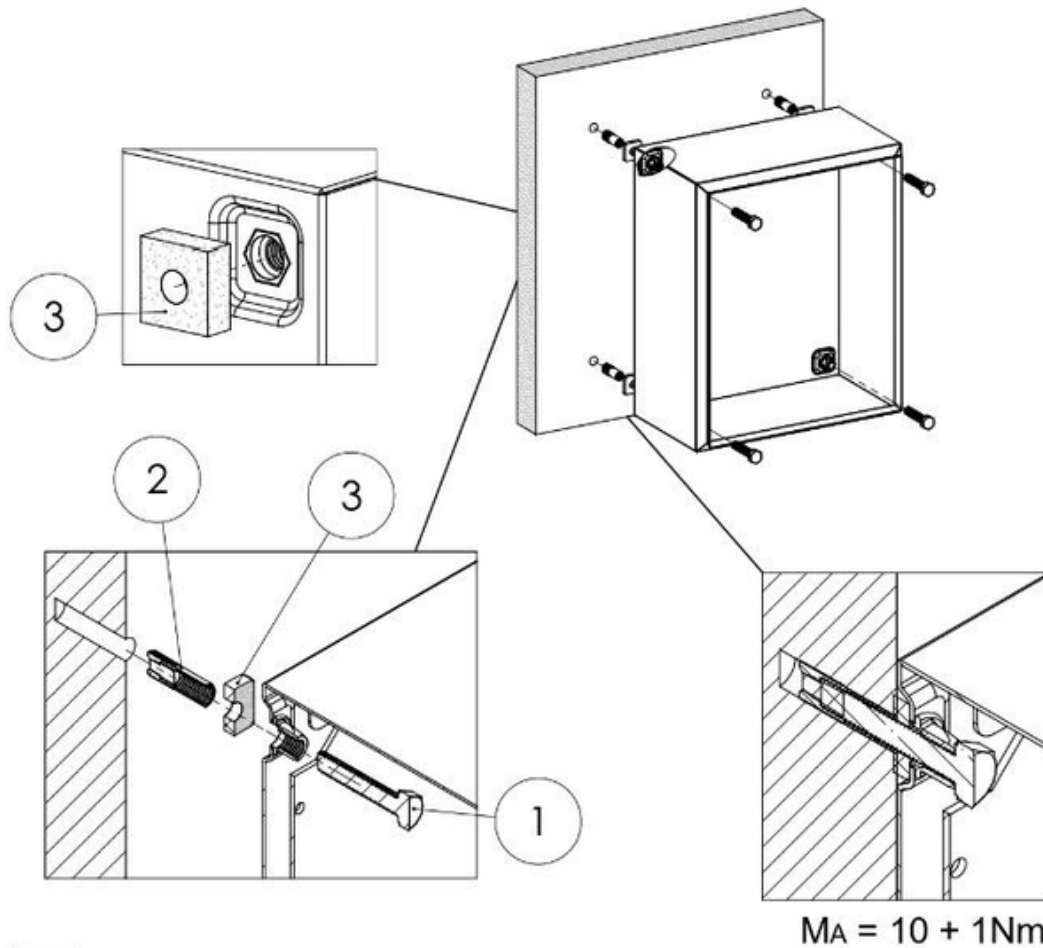
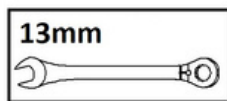
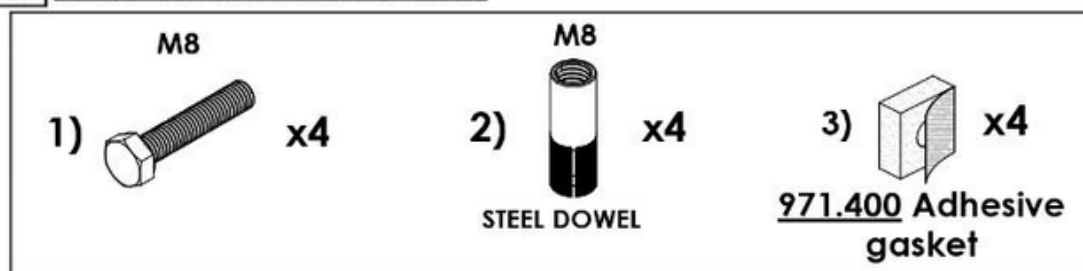
4.ASSEMBLY**4.5 Changing The Lock Insert****1.1** For 1/4 turn latches**1.2** For swing handles

4.ASSEMBLY**4.6 Mounting Plate Assembly****4.ASSEMBLY****4.7 Securing mounting plate**

! Mounting plate fastening bolts may loosen during transport and could cause the mounting plate to tip over. Secure all connections.

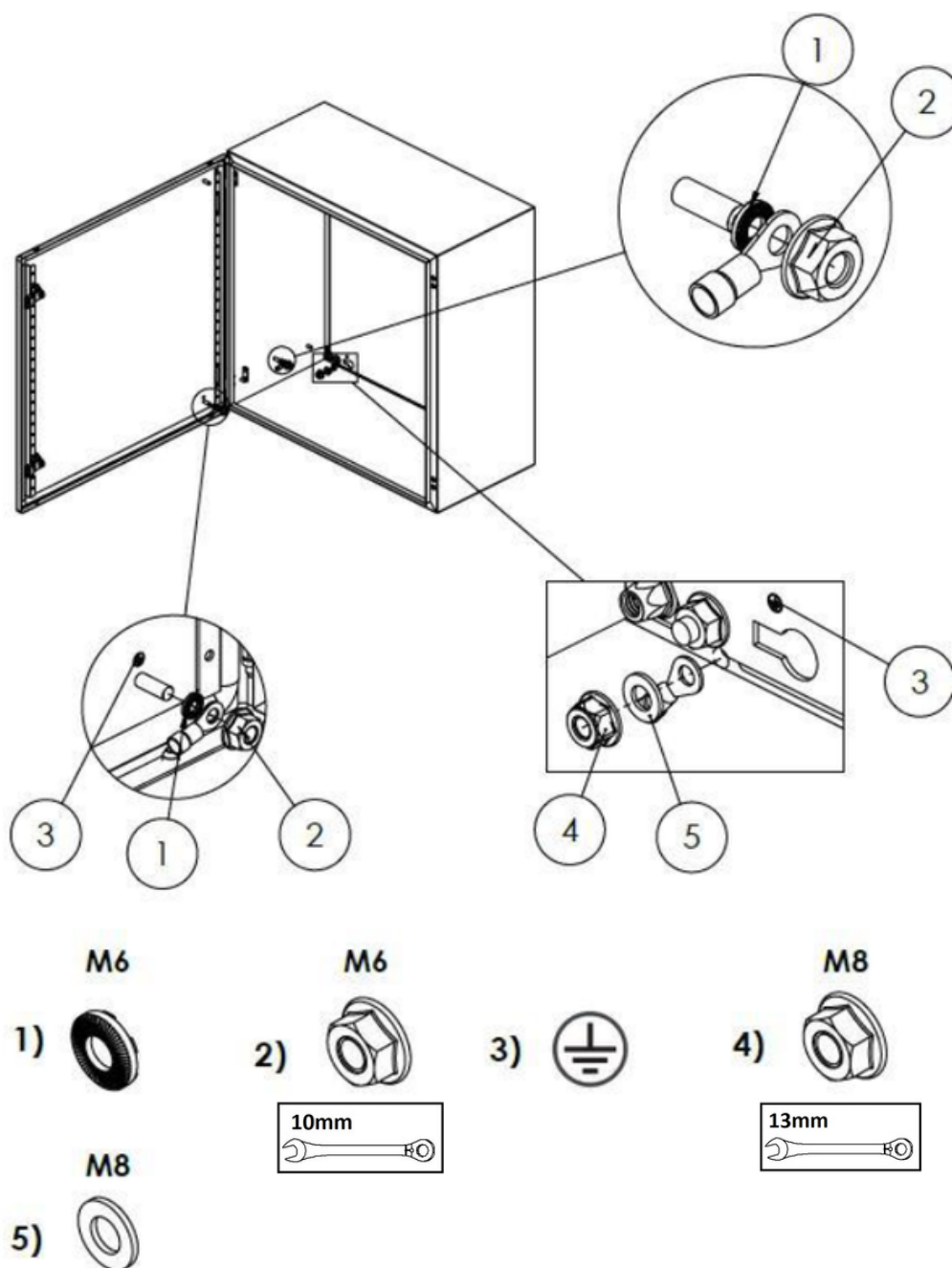
4.ASSEMBLY

4.8 Fixing to Wall


i **RECOMMENDED PARTS**


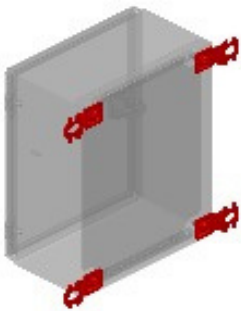
4.ASSEMBLY

4.9 Earthing and potential equalisation



4.ASSEMBLY

4.10 Wall bracket mounting

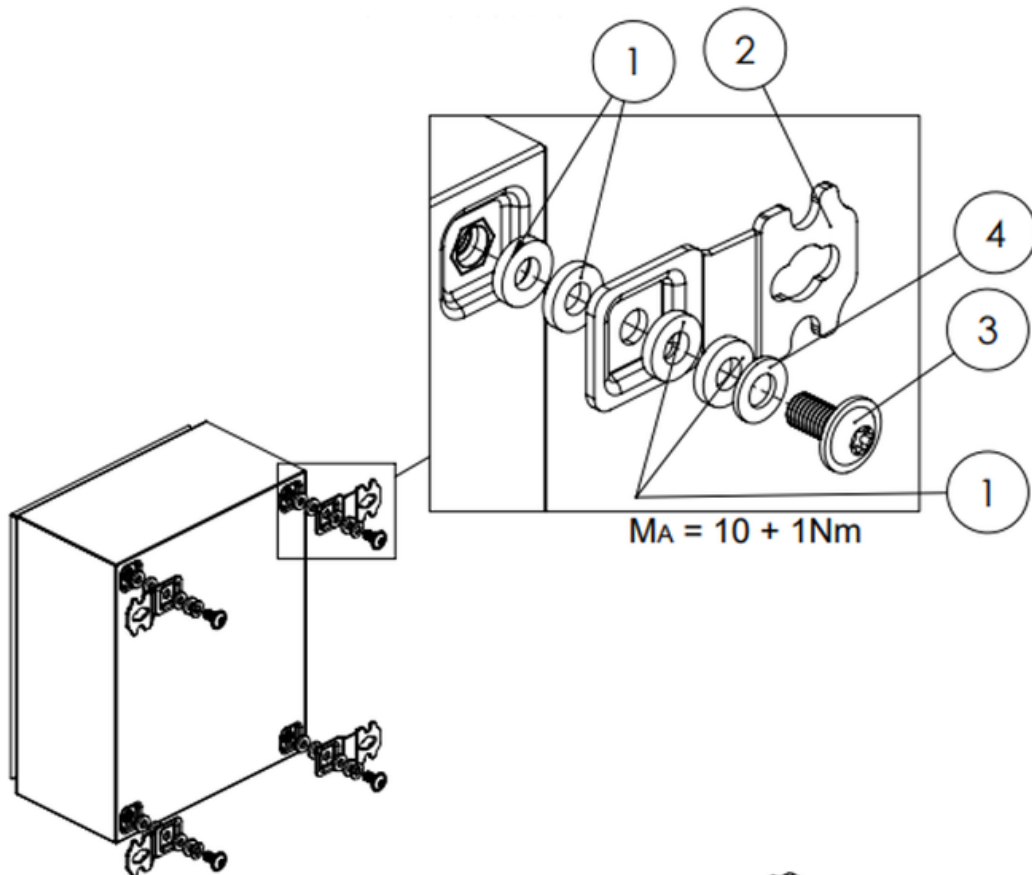


Wall Bracket Product Codes :

971.300(4 pcs)

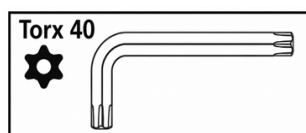
F Max = 900N

**! Must be ordered
additionally**



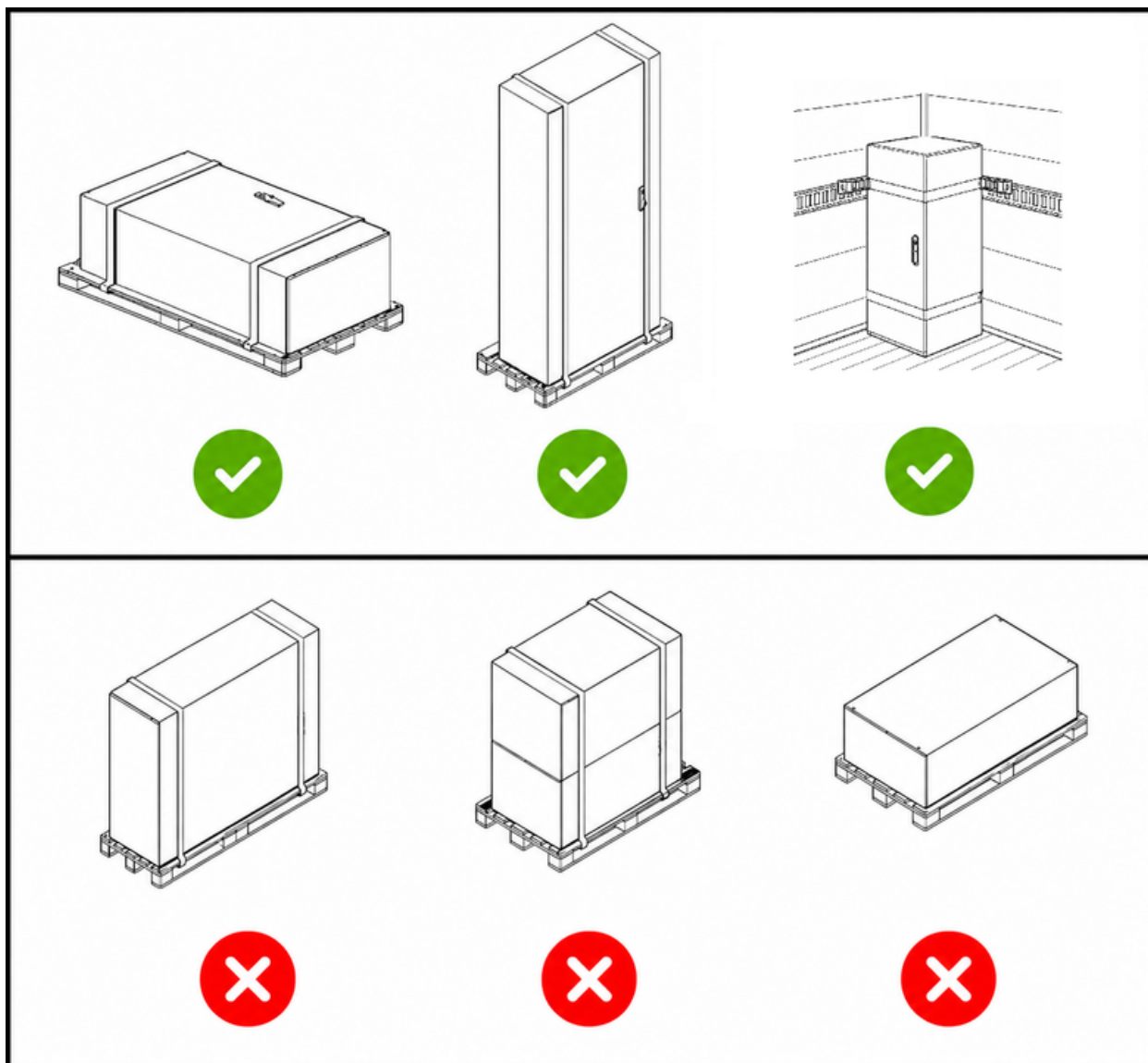
1)  x16 2)  x4
16x8 Gasket

3)  x4 4)  x4
M8X16 M8 Washer



5. TRANSPORT

It is crucial to carry out the transport as shown in the images above to prevent damage to the panel.



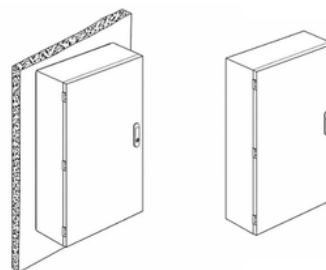
6. LOADING WEIGHTS

PRODUCT CODE	ENCLOSURE SIZE (mm)			TOTAL (N)	MOUNTING PLATE (N)	DOOR (N)
	Height	Width	Depth			
DM U252.321	300	250	210	660	470	140
DM U253.315	300	300	150	850	570	230
DM U253.415	400	300	150	850	570	230
DM U253.421	400	300	210	850	570	230
DM U254.421	400	400	210	850	570	230
DM U254.515	500	400	150	850	570	230
DM U254.521	500	400	210	1230	950	230
DM U254.621	600	400	210	1230	950	230
DM U254.626	600	400	260	1230	950	230
DM U255.521	500	500	210	1230	950	230
DM U255.530	500	500	300	1230	950	230
DM U255.621	600	500	210	1230	950	230
DM U255.626	600	500	260	1230	950	230
DM U255.721	700	500	210	1480	1200	230
DM U256.621	600	600	210	1480	1200	230
DM U256.630	600	600	300	1480	1200	230
DM U256.821	800	600	210	1750	1470	230
DM U256.826	800	600	260	1750	1470	230
DM U256.830	800	600	300	1750	1470	230
DM U256.126	1000	600	260	2180	1900	230
DM U256.130	1000	600	300	2180	1900	230
DM U256.123	1200	600	300	2950	2470	380
DM U258.821	800	800	210	1750	1470	230
DM U258.830	800	800	300	1750	1470	230
DM U258.126	1000	800	260	2380	1900	380
DM U258.130	1000	800	300	2380	1900	380
DM U258.123	1200	800	300	2950	2470	380
DM U248.140	1000	800	400	2380	1900	380
DM U248.124	1200	800	400	2950	2470	380
DM U241.130	1000	1000	300	2950	2470	380
DM U241.123	1200	1000	300	2950	2470	380
DM U241.143	1400	1000	300	2950	2470	380
DM U241.144	1400	1000	400	2950	2470	380
DM U241.230	1200	1200	300	2950	2470	380
DM U241.140	1200	1200	400	2950	2470	380

6. LOADING WEIGHTS

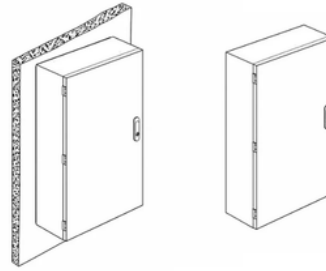
PRODUCT CODE	ENCLOSURE SIZE (mm)			TOTAL (N)	MOUNTING PLATE (N)	DOOR (N)
	Height	Width	Depth			
DM U256.726	760	600	260	1750	1470	230
DM U257.721	760	760	210	1750	1470	230
DM U257.726	760	760	260	1750	1470	230
DM U257.730	760	760	300	1750	1470	230
DM U257.740	760	760	400	1750	1470	230
DM U257.921	900	760	210	2380	1900	380
DM U257.926	900	760	260	2380	1900	380
DM U257.930	900	760	300	2380	1900	380
DM U257.940	900	760	400	2380	1900	380
DM U259.921	900	900	210	2380	1900	380
DM U259.926	900	900	260	2380	1900	380
DM U259.930	900	900	300	2380	1900	380
DM U259.940	900	900	400	2380	1900	380
DM U259.221	1200	900	210	2950	2470	380
DM U259.226	1200	900	260	2950	2470	380
DM U259.230	1200	900	300	2950	2470	380
DM U259.240	1200	900	400	2950	2470	380
DM U259.530	1500	900	300	2950	2470	380

7. POWER DISSIPATION CAPACITY



PRODUCT CODE	ENCLOSURE SIZE (mm)			$T_u = 25\text{ °C} / T_i = 45\text{ °C} / P_v = 0W$ $W (\Delta T = 20\text{ K})$	
	Height	Width	Depth		
DM U252.321	300	250	210	30	32
DM U253.315	300	300	150	28	32
DM U253.415	400	300	150	34	40
DM U253.421	400	300	210	42	47
DM U254.421	400	400	210	53	61
DM U254.515	500	400	150	47	57
DM U254.521	500	400	210	59	67
DM U254.621	600	400	210	69	80
DM U254.626	600	400	260	80	90
DM U255.521	500	500	210	67	78
DM U255.530	500	500	300	85	96
DM U255.621	600	500	210	89	103
DM U255.626	600	500	260	103	117
DM U255.721	700	500	210	102	120
DM U256.621	600	600	210	109	129
DM U256.630	600	600	300	136	156
DM U256.821	800	600	210	139	168
DM U256.826	800	600	260	161	190
DM U256.830	800	600	300	179	208
DM U256.126	1000	600	260	203	243
DM U256.130	1000	600	300	225	265
DM U256.123	1200	600	300	271	318
DM U258.821	800	800	210	203	252
DM U258.830	800	800	300	256	305
DM U258.126	1000	800	260	303	377
DM U258.130	1000	800	300	329	403
DM U258.123	1200	800	300	401	493
DM U248.140	1000	800	400	396	470
DM U248.124	1200	800	400	484	576
DM U241.130	1000	1000	300	411	493
DM U241.123	1200	1000	300	496	595
DM U241.143	1400	1000	300	582	698
DM U241.144	1400	1000	400	694	811
DM U241.230	1200	1200	300	594	716
DM U241.140	1200	1200	400	706	829

7. POWER DISSIPATION CAPACITY



PRODUCT CODE	ENCLOSURE SIZE (mm)			$T_u = 25\text{ °C} / T_i = 45\text{ °C} / P_v = 0W$ $W (\Delta T = 20\text{ K})$	
	Height	Width	Depth		
DM U256.726	760	600	260	161	190
DM U257.721	760	760	210	203	252
DM U257.726	760	760	260	240	275
DM U257.730	760	760	300	256	305
DM U257.740	760	760	400	262	318
DM U257.921	900	760	210	281	330
DM U257.926	900	760	260	297	356
DM U257.930	900	760	300	315	380
DM U257.940	900	760	400	328	402
DM U259.921	900	900	210	353	426
DM U259.926	900	900	260	372	456
DM U259.930	900	900	300	392	471
DM U259.940	900	900	400	408	486
DM U259.221	1200	900	210	432	510
DM U259.226	1200	900	260	464	542
DM U259.230	1200	900	300	480	568
DM U259.240	1200	900	400	496	594
DM U259.530	1500	900	300	580	685

8.MAINTENANCE

Regular maintenance is recommended for all enclosures to ensure long-term performance and protection level.

Maintenance Interval

Maintenance shall be carried out at regular intervals depending on operating and ambient conditions. It is recommended to perform maintenance at least once per year and to document all actions accordingly.

Hinges

Door hinges shall be checked for smooth operation and lubricated using a suitable, water-free lubricant.

Locking System

The locking mechanism shall be checked for proper operation. All moving parts shall be lubricated using a suitable, water-free lubricant.

Gaskets

Gaskets on contact surfaces shall be replaced completely if damaged. Damage outside the contact areas generally does not affect the sealing performance. To prevent gasket freezing at low temperatures, common agents such as talcum, vaseline or wax may be applied.

General Inspection

All components and surfaces shall be inspected for visible damage.

Corrosion Protection (Sheet Steel Enclosures)

Enclosures shall be inspected for any signs of corrosion.

Detected damage shall be repaired as follows:

Minor surface damage (e.g. scratches):

The affected area shall be lightly sanded and cleaned from corrosion and contaminants. Touch-up paint shall be applied using a paint stick, brush or spray (alternative: 2K-PUR acrylic paint).

Major surface damage:

The surface shall be uniformly prepared and cleaned with white spirit. The entire surface shall be repainted using touch-up paint (2K-PUR acrylic paint).

Stainless Steel Enclosures

Surface damage such as scratches can be removed by polishing.

9.STORAGE

When storing the enclosure, the following conditions shall be ensured:

- * Ambient temperature shall not exceed +80 °C.
- * Ambient temperature shall not fall below -20 °C.
- * Relative humidity shall not exceed 60% for extended periods, and condensation shall be avoided.

Humidity does not affect corrosion-resistant (rustproof) steel.

TEKPAN Products for Harsh Environments



Company Management
System Approval



Canadian and US Standards
and Approval



IEC Product Standards
and Approval



European Standards and
Compliance

TEKPAN TEK.ELK.KUM.PANO SAN ve TIC TURİZM A.S.

Halilbeyli Osb Mah, Tekpan Fabrika, Parsa Cad No:2/1 Kemalpaşa / İzmir -
TÜRKİYE

Phone: +90 232 877 18 77

E-Mail: info@tekpan.com.tr

Web: www.tekpan.com

