

ENE  
ENH  
FENH  
OCD

WALL-MOUNTING  
& FLOOR-STANDING  
ENCLOSURES



# TABLE OF CONTENTS

**INDUSTRIAL RESEARCH INSTITUTE**  
 Report Number: 5222 016A3511404/2019  
 Page 1 of 3

**Type Test Report**

Customer name	ELECTRA CO. FOR INDUSTRY & TRADING S.A.R.L
Customer address	Haret Heik, Beirut, Lebanon
Date of item's reception	16.07.2019
Date of period of tests	17-22.07.2019
Date of report issue	24.07.2019
Product description	Enclosure
Manufacturer, brand name or trademark	ELECTRA
Reference, model	ENH 100-60-25
Product category	Degrees of protection provided by enclosures (IP code)
Test method	IEC 60529-2001
Conformity	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
General comments:	Conform > The product has a degree of protection (IP 55).
Tested by (Name and Signature)	Almad Wahbe Assistant unit head
Verified by (Name, Title, and Signature)	Eng. Bilal Hussein Electrical laboratory head
Approved by (Name, Title, and Signature)	Dr. Imad Hago Chehade Head of the Industrial Research Institute

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 Beirut, Shaabak-Lebanon. P.O.Box: 11-2388 Beirut  
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 e-mail: info@iri.org.lb - website:www.iri.org.lb

ENH IP 55 Certification

**INDUSTRIAL RESEARCH INSTITUTE**  
 Report Number: 5222 016A3511404/2019  
 Page 1 of 3

**Type Test Report**

Customer name	ELECTRA CO. FOR INDUSTRY & TRADING S.A.R.L
Customer address	Haret Heik, Beirut, Lebanon
Date of item's reception	16.07.2019
Date of period of tests	17-22.07.2019
Date of report issue	24.07.2019
Product description	Enclosure
Manufacturer, brand name or trademark	ELECTRA
Reference, model	F-ENH 160-80-35
Product category	Degrees of protection provided by enclosures (IP code)
Test method	IEC 60529-2001
Conformity	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
General comments:	Conform > The product has a degree of protection (IP 55).
Tested by (Name and Signature)	Almad Wahbe Assistant unit head
Verified by (Name, Title, and Signature)	Eng. Bilal Hussein Electrical laboratory head
Approved by (Name, Title, and Signature)	Dr. Imad Hago Chehade Head of the Industrial Research Institute

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FENH IP 55 Certification

**INDUSTRIAL RESEARCH INSTITUTE**  
 Report  
 Date: 01/08/2019  
 No: 5227/148A2/512761/2019

Client: MESSRS. ELECTRA CO. s.a.r.l  
 FOR INDUSTRY & TRADING  
 AMROUSEL - CHOUEBAT - LEBANON  
 Reference: Your letter dated on 15/07/2019

Received as: \*Painted Metallic Sheet\*\*  
 Received on: 16/07/2019

**Results**

Testing duration: From 16/07/2019 to 16/08/2019. Unless otherwise specified, sampling was done by the client.

**ACCELERATED CORROSION  
 (IRI CODE NO. 094-3)**

The painted Metallic Sheet was subjected to accelerated corrosion procedure consisting of 10 cycles. Each cycle consists of two demi cycles as follows:

- 15 minutes in water
- 15 minutes at +6 °C
- 45 minutes at room temperature
- 45 minutes at 60 °C and humid atmosphere
- 45 minutes in an atmosphere 1% SO<sub>2</sub>
- 45 minutes at 60 °C and dry atmosphere.

Over nights and during the weekend the test panel was left soaked in sea water.

By the end of the 10 cycles the Painted Metallic Sheet subject this report did not show any signs of corrosion which corresponds to R60 as per "L'echelle européenne de degré d'enroulement pour peinture anticorrosive".

\*Sample your reference:  
 -> 10x10 cm treated and painted 1.25 mm thick mild steel finished sample in final condition.  
 -Paint type: powder coating  
 -Color: Grey RAL 7035 Outdoor  
 Result relies only to the sample tested.

MZ/MC:fm  
 Dr. Joseph Mouta  
 President Head  
 Applied Research & Testing Process

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Mild Steel Accelerated Corrosion Test



<b>IRI INDUSTRIAL RESEARCH INSTITUTE</b>		<b>Report</b>	
Date: 01.08.2019 No: 522714892-512761/2019	Name: <b>MESSRS. ELECTRA CO. s.a.r.l. FOR INDUSTRY &amp; TRADING AMBOUSHEH - CHOUEFAT - LEBANON</b>		Reference: Your letter dated on 15/07/2019
IRI (Bldg - Lebanese University Campus Hadath (Beirut) - Lebanon P.O. Box: 1-2084 Beirut Tel: +961 3 487010 - Mobile: +961 2 282400 e-mail: info@iri.org.lb - http://www.iri.org.lb		Received as: <b>"Painted Metallic Sheet"</b>	Received on: 16/07/2019
<b>RESULTS</b>			
Testing duration: From 16/07/2019 to 23/09/2019. Unless otherwise specified, sampling was done by the client.			
<b>ACCELERATED CORROSION</b>			
<b>(IRI CODE NO. P4-3)</b>			
The painted Metallic Sheet was subjected to accelerated corrosion procedure consisting of 10 cycles. Each cycle consists of two demi cycles as follows:			
-15 minutes in water			
-15 minutes at +6 °C			
-45 minutes at room temperature			
-45 minutes at 60 °C and humid atmosphere			
-45 minutes in an atmosphere 1 % SO <sub>2</sub>			
-45 minutes at 60 °C and dry atmosphere			
Over nights and during the weekend the test panel was left soaked in sea water.			
By the end of the 10 cycles the Painted Metallic Sheet subject this report did not show any signs of corrosion which corresponds to R60 as per "L'écuelle européenne de degré d'encroûtement pour peinture antirouille".			
*Sample user reference:			
-Area 10 cm treated and painted 1.5 mm thick galvanized steel finished sample in final condition.			
-Paint type: powder coating			
-Color: Grey RAL 7035, Outdoor			
Result refers only to the sample proper.			
MZ/MC/m	Dr. Joseph Matta Director Head Laboratoire	Nada Aboury Applied Research & Testing Director	
<b>CONDITIONS &amp; TERMS</b> - It is prohibited to use this report for advertising purposes.			
The Institute retains all rights and reserves the responsibility for the accuracy of the data and the results of the tests. The client is responsible for the accuracy of the data and the results of the tests. The Institute is not responsible for the accuracy of the data and the results of the tests.		The Institute is not responsible for the accuracy of the data and the results of the tests. The Institute is not responsible for the accuracy of the data and the results of the tests. The Institute is not responsible for the accuracy of the data and the results of the tests.	

Galvanized Steel Accelerated Corrosion Test

ENE & ENH  
WALL MOUNTING ENCLOSURES **01**

FENH  
FLOOR STANDING ENCLOSURES **03**

OCD  
OPERATING CONTROL DESK **06**



# ENE & ENH | WALL - MOUNTING ENCLOSURES

ENE and ENH are two types of mono-block wall-mounting enclosures made from a one piece welded steel sheet body. The main differences between the two types are the body thicknesses and the International Protection (IP) grade.



## ENE FEATURES:

- Welded studs on the back panel for easy installation of galvanized mounting plate
- 120° door opening angle
- Removable bottom cable gland plate, insulated with or without knockouts
- Earth studs on the door and body
- Single or double waterproof lock

## ENH FEATURES:

- Welded studs on the back panel for easy installation of galvanized mounting plate
- 120° door opening angle
- Removable bottom cable gland plate, insulated with or without knockouts
- Earth studs on the door and body
- Single or double waterproof lock
- Reversible plain door
- Perforated reinforcement profile for door strengthening
- Double door for enclosures of width 1000 and 1200 mm



**Wall Fixing Brackets (Optional Part)**  
Used to fix the enclosure on a vertical surface from the outside, leaving a 9 mm gap between the two.  
Quantity: 4 pieces

To provide our customers with the best Sealant, Sonderhoff polyurethane-gasket foam machine delivers a suitable high elasticity sealant that **guarantees a tight fit between the panels and the body with approximately 50 years of lifespan, if maintained between -40°C and 80°C.**



The enclosures have pre-punched holes on the back and front that are either used for canopy installation, direct wall fixing or wall fixing bracket placement.

## ENE & ENH SPECIFICATIONS

### ENE IP

54

### ENH IP

55

### ENCLOSURE MATERIAL

Mild steel sheet

### MOUNTING PLATE MATERIAL

Galvanized steel sheet

### TREATMENT

It undergoes degreasing, phosphating, dual-rinsing, passivating and kiln drying

### FINISHING

Coated with wrinkled light gray epoxy-polyester powder RAL 7035

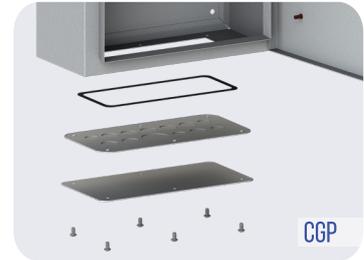
### SEALING

PU-Gasket foam sealant [For more information, read above]

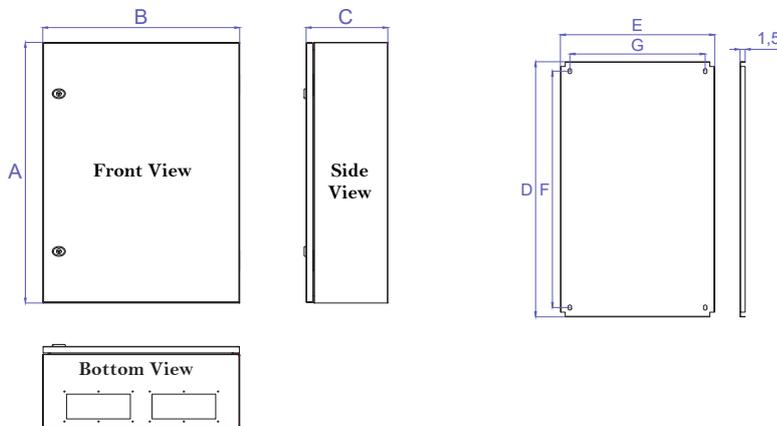
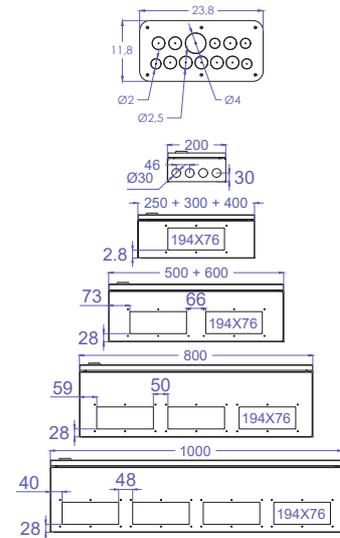
# ENE & ENH REFERENCES



## Gland Plate Dimensions (mm)



\* This item is available with or without knockouts



	References	Enclosure Height (mm)	Enclosure Width (mm)	Enclosure Depth (mm)	Doors	Locks	Cable Gland Plates	Body Thickness (mm)	Door Thickness (mm)	Mounting Plate Thickness (mm)	Mounting Plate Height (mm)	Mounting Plate Width (mm)	Distance Between Holes of Mounting Plate (mm)	
		A	B	C							D	E	F	G
ENE	ENE 302012	300	200	120	1	1	—	0.8	0.8	1.25	250	150	195	—
	ENE 403015	400	300	150	1	1	1	0.8	0.8	1.25	350	250	295	195
	ENE 504015	500	400	150	1	1	1	0.8	0.8	1.25	450	350	395	295
	ENE 604015	600	400	150	1	1	1	0.8	0.8	1.25	550	350	495	295
	ENE 605020	600	500	200	1	1	1	0.8	0.8	1.25	550	450	495	395
	ENE 705020	700	500	200	1	1	1	0.8	0.8	1.25	650	450	595	395
	ENE 706025	700	600	250	1	1	1	0.8	0.8	1.25	650	550	595	495
	ENE 806025	800	600	250	1	2	2	0.8	0.8	1.25	750	550	695	495
	ENE 1008025	1000	800	250	1	2	3	1.0	1.0	1.25	950	750	895	695
	ENE 1208025	1200	800	250	1	2	3	1.0	1.0	1.25	1150	750	1095	695
ENH	ENH 3025/15	300	250	150	1	1	1	1.0	1.0	1.5	250	200	215	—
	ENH 4030/20	400	300	200	1	1	1	1.0	1.0	1.5	350	250	295	195
	ENH 5040/20	500	400	200	1	1	1	1.0	1.25	1.5	450	350	395	295
	ENH 6040/20	600	400	200	1	1	1	1.0	1.25	1.5	550	350	495	295
	ENH 6050/25	600	500	250	1	1	2	1.0	1.25	1.5	550	450	495	395
	ENH 7050/25	700	500	250	1	1	2	1.0	1.25	1.5	650	450	595	395
	ENH 8060/25	800	600	250	1	2	2	1.25	1.25	2.0	750	550	695	495
	ENH 10060/25	1000	600	250	1	2	3	1.25	1.5	2.0	950	550	895	495
	ENH 10080/30	1000	800	300	1	2	3	1.5	1.5	2.0	950	750	895	695
	ENH 12060/30	1200	600	300	1	2	2	1.25	1.5	2.0	1150	550	1100	495
	ENH 12080/30	1200	800	300	1	2	3	1.5	2.0	2.0	1150	750	1100	695
	ENH 120100/30	1200	1000	300	2	3pt	4	1.5	1.5	2.0	1150	950	1100	895

# FENH | FLOOR - STANDING ENCLOSURES

The FENH is a mono-block enclosure made from a one piece welded steel sheet body.

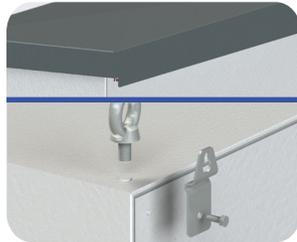
## FENH FEATURES:

- Galvanized mounting plate fixed on the back panel
- 120° door opening angle
- Sliding bottom cable gland plate,
- Earth studs on the door and body,
- Reversible plain door
- Three point locking system with double rod fixation
- Perforated reinforcement profiles for door strengthening



The FENH has pre-punched holes on the top, back and front to occupy certain accessories.

- The **top holes** (Ø14 mm) are for eye bolt placement for easier lifting
- The **front and back holes** (Ø6.5 mm) are for canopy installation.
- The **back holes** can also be used for direct wall fixing or for wall fixing bracket placement. The wall fixing brackets leave a 9 mm space between the enclosure and any vertical surface behind it.



For more information about the sealant used, go to page 2

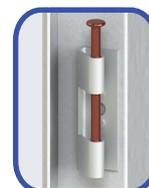
## BUILT-IN ACCESSORIES



Double-Bit Standard Handle and Key



Three-Point Locking System



Hinge



Mounting Plate Support



Studs welded on the inner side of the door for drawing pocket placement (The drawing Pocket is an optional accessory)



6 studs (3 on each side) welded on the inside for internal cover support placement (The internal covers + support are optional accessories)

### Cross-Brace (Optional Part)



Used to add mounting plate rigidity and vibration damping (Used on 1000 mm and 1200 mm width mounting plates)

# FENH SPECIFICATIONS

## IP

55

## ENCLOSURE MATERIAL

Mild steel sheet

## MOUNTING PLATE MATERIAL

Galvanized steel sheet

## TREATMENT

It undergoes degreasing, phosphating, dual-rinsing, passivating and kiln drying

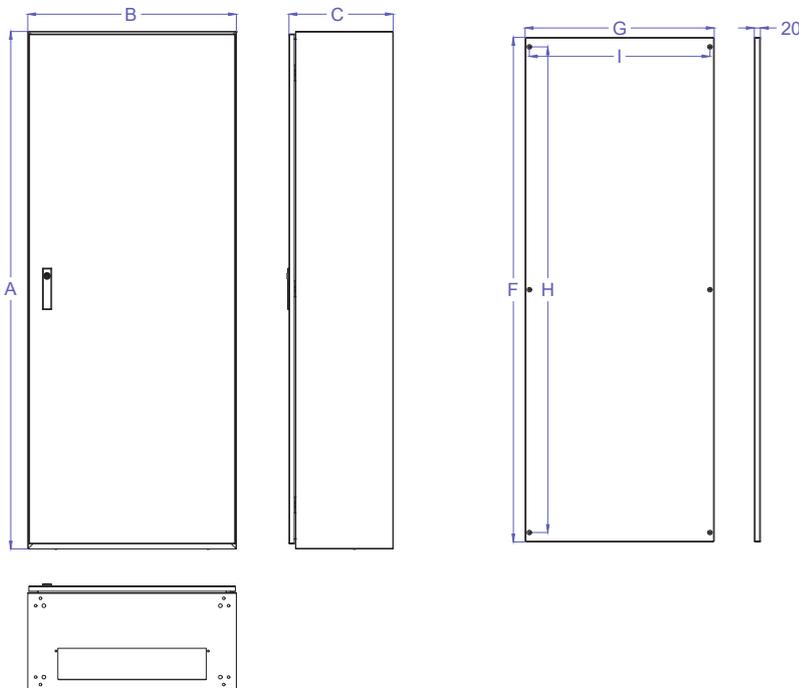
## FINISHING

Coated with wrinkled light gray epoxy-polyester powder RAL 7035

## SEALING

PU-Gasket foam sealant [For more information, see page 2]

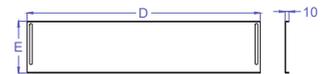
# FENH REFERENCES



## Gland Plate



\* The gland plate has a sliding mechanism and leaves a gap of maximum 85 mm



References	FENH Height (mm)	FENH Width (mm)	FENH Depth (mm)	Doors	Locks	Cable Gland Plates	Steel Thickness (mm)			Gland Plate Dimensions (mm)		Mounting Plate Dimensions (mm)		Distance Between Holes of Mounting Plate (mm)	
							Body	Door	Mounting Plate	D	E	F	G	H	I
FENH 1408030	1400	800	300	1	3pt Lock	1	1.5	2.0	2.5	604	115	1332	715	1267	660
FENH 14010030	1400	1000	300	2	3pt Lock	1	1.5	2.0	2.5	804	115	1332	915	1267	860
FENH 14012035	1400	1200	350	2	3pt Lock	1	1.5	2.0	2.5	479	135	1332	1115	1267	1060
FENH 1608035	1600	800	350	1	3pt Lock	1	1.5	2.0	2.5	604	135	1532	715	1467	660
FENH 16010035	1600	1000	350	2	3pt Lock	1	1.5	2.0	2.5	804	135	1532	915	1467	860
FENH 16012035	1600	1200	350	2	3pt Lock	1	1.5	2.0	2.5	479	135	1532	1115	1467	1060
FENH 1808040	1800	800	400	1	3pt Lock	1	1.5	2.0	2.5	604	135	1732	715	1667	660
FENH 18010040	1800	1000	400	2	3pt Lock	1	1.5	2.0	2.5	804	135	1732	915	1667	860
FENH 18012040	1800	1200	400	2	3pt Lock	1	1.5	2.0	2.5	479	135	1732	1115	1667	1060
FENH 2008040	2000	800	400	1	3pt Lock	1	1.5	2.0	2.5	604	135	1932	715	1867	660
FENH 20010040	2000	1000	400	2	3pt Lock	1	1.5	2.0	2.5	804	135	1932	915	1867	860
FENH 20012040	2000	1200	400	2	3pt Lock	1	1.5	2.0	2.5	479	135	1932	1115	1867	1060

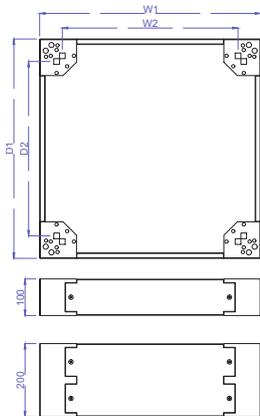
## PLINTH SET

There are two kinds of plinth corners, the standard corners and the ones with casters. Both kinds can either be paired with front, rear and side covers to form a complete plinth, or they can be paired with lids to form base legs for the enclosure.

The caster corners have a stainless steel screw each, that can be tightened in order to fix the enclosure in place. Four polyamide wheels can withstand 2000 kg of weight.

<b>W1</b>	Overall width
<b>W2</b>	Distance between connecting holes

<b>D1</b>	Overall depth
<b>D2</b>	Distance between connecting holes

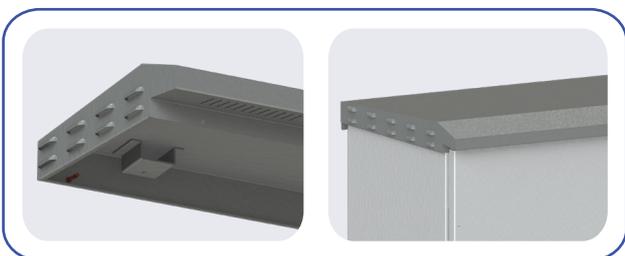
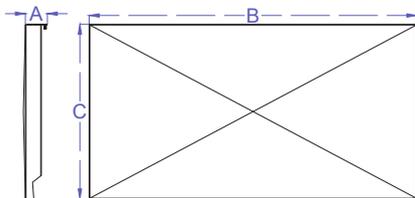
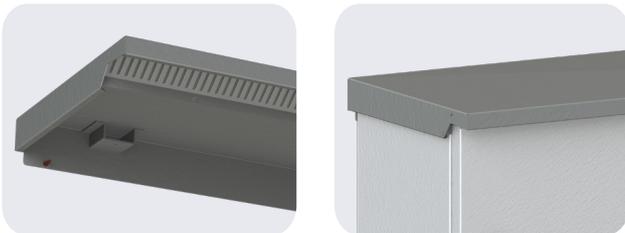


FENH Dimensions (mm)		Complete Plinth (Standard Corners) Reference H100 mm or H200 mm	Complete Plinth (Caster Corners) Reference H100 mm or H200 mm	Width (mm)		Depth (mm)		Base Legs Reference	Weight (kg)
W	D			W1	W2	D1	D2		
800	300	PLC66/12.8-SC-10 (or 20)	PLC66/12.8-CC-10 (or 20)	800	676	268	176	Standard Corners (H100 mm) CL-SC-10	4.64
800	350	PLC66/17.8-SC-10 (or 20)	PLC66/17.8-CC-10 (or 20)	800	676	318	226	Standard Corners (H200 mm) CL-SC-20	7.60
800	400	PLC66/22.8-SC-10 (or 20)	PLC66/22.8-CC-10 (or 20)	800	676	368	276		
1000	300	PLC86/12.8-SC-10 (or 20)	PLC86/12.8-CC-10 (or 20)	1000	876	268	176	Caster Corners (H100 mm) CL-CC-10	5.32
1000	350	PLC86/17.8-SC-10 (or 20)	PLC86/17.8-CC-10 (or 20)	1000	876	318	226		
1000	400	PLC86/22.8-SC-10 (or 20)	PLC86/22.8-CC-10 (or 20)	1000	876	368	276	Caster Corners (H200 mm) CL-CC-20	8.20
1200	300	PLC106/12.8-SC-10 (or 20)	PLC106/12.8-CC-10 (or 20)	1200	1076	268	176		
1200	350	PLC106/17.8-SC-10 (or 20)	PLC106/17.8-CC-10 (or 20)	1200	1076	318	226		
1200	400	PLC106/22.8-SC-10 (or 20)	PLC106/22.8-CC-10 (or 20)	1200	1076	368	276		

The plinth can be of two heights, 100 mm or 200 mm. If a taller plinth height is desired, a union of different plinths can be arranged.



## ENCLOSURE CANOPIES



Reference	Cabinet Height (mm)	Cabinet Width (mm)	Steel Thickness (mm)	Canopy Dimensions (mm)		
				A	B	C
CAN 20.12	200	120	1.25	40	220	150
CAN 25.15	250	150	1.25	40	270	180
CAN 30.15	300	150	1.25	40	320	180
CAN 30.20	300	200	1.25	40	320	230
CAN 40.15	400	150	1.25	40	420	180
CAN 40.20	400	200	1.25	40	420	230
CAN 40.25	400	250	1.25	40	420	280
CAN 50.20	500	200	1.25	40	520	240
CAN 50.25	500	250	1.25	40	520	290
CAN 60.20	600	200	1.25	40	620	240
CAN 60.25	600	250	1.25	40	620	290
CAN 60.30	600	300	1.25	40	620	340
CAN 80.25	800	250	1.25	40	820	290
CAN 80.30	800	300	1.25	40	820	340
CAN 80.35	800	350	1.25	40	820	390
CAN 80.40	800	400	1.25	40	820	440
CAN 100.30	1000	300	1.25	40	1020	340
CAN 100.35	1000	350	1.25	40	1020	390
CAN 100.40	1000	400	1.25	40	1020	440
CAN 120.35	1200	350	1.25	40	1220	390
CAN 120.40	1200	400	1.25	40	1220	440

\* This canopy option is available upon request

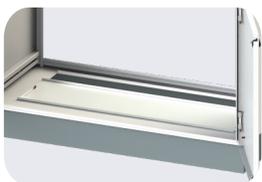
# OCD | OPERATING CONTROL DESK

The Operating Control Desk is an enclosure in which operating systems, along with their hardware and cables, are installed. The top section is especially made to hold monitoring indicators and buttons. The OCD comes in two types:

- **Two-Piece OCD** [Top + Bottom Sections]
- **Three-Piece OCD** [Top + Bottom Sections + Console]

## OCD FEATURES

- Top and bottom sections (and console) independently folded and seam welded
- Depth-adjustable mounting plates made from galvanized steel sheets
- 120° reversible doors on front and back bottom section
- Sliding stopper for top section and console doors
- A plinth fixed with screws
- Coated with wrinkled epoxy-polyester powder
  - **OCD** - Light gray RAL 7035
  - **Plinth** - Dark gray RAL 7011
- Earth studs welded on the body and doors
- Single or double waterproof lock



\* The gland plate has a sliding mechanism and leaves a gap of maximum 85 mm



## OCD SPECIFICATIONS

### IP

55

### BODY

1.5 mm thick mild steel sheet  
[2mm thick mild steel sheet for Top Door of Two-Piece OCD **only**]

### MOUNTING PLATE

2 mm thick galvanized steel sheet

### CABLE GLAND PLATE

1.5 mm thick galvanized steel sheet

### PLINTH

2 mm thick mild steel sheet

### TREATMENT

It undergoes degreasing, phosphating, dual-rinsing, passivating and kiln drying

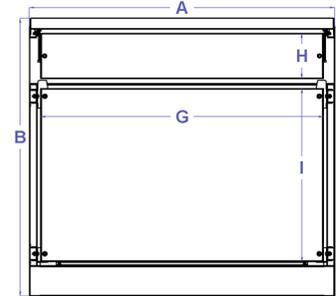
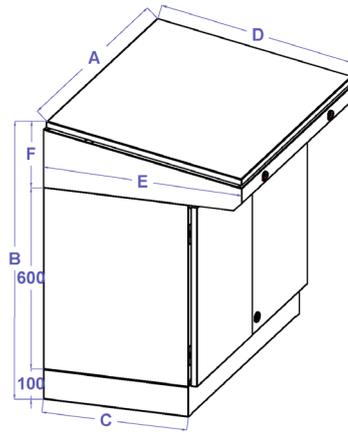
### FINISHING

Coated with wrinkled light gray epoxy-polyester powder RAL 7035

### SEALING

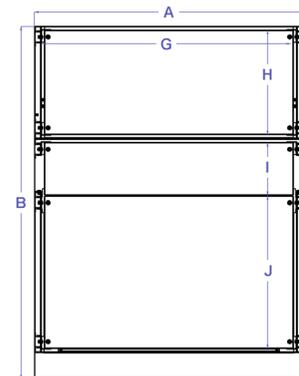
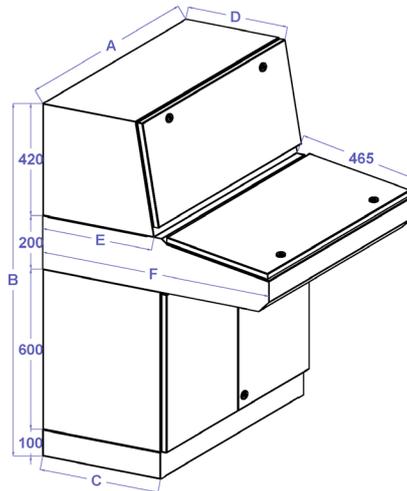
Suitable high elasticity PU-Gasket foam sealant made by Sonderhoff gasket machine; **guarantees a tight fit between the panels and the frame, with approximately 50 years of lifespan if maintained between -40°C and 80°C**

## TWO-PIECE OCD REFERENCES



References	OCD Dimensions (mm)						Mounting Plate Dimensions (mm)		
	A	B	C	D	E	F	G	H	I
OCD 2P 6040	600	900	400	560	550	200	526	132	572
OCD 2P 8040	800	900	400	560	550	200	726	132	572
OCD 2P 10050	1000	920	500	660	650	220	926	132	572
OCD 2P 12050	1200	920	500	660	650	220	1126	132	572

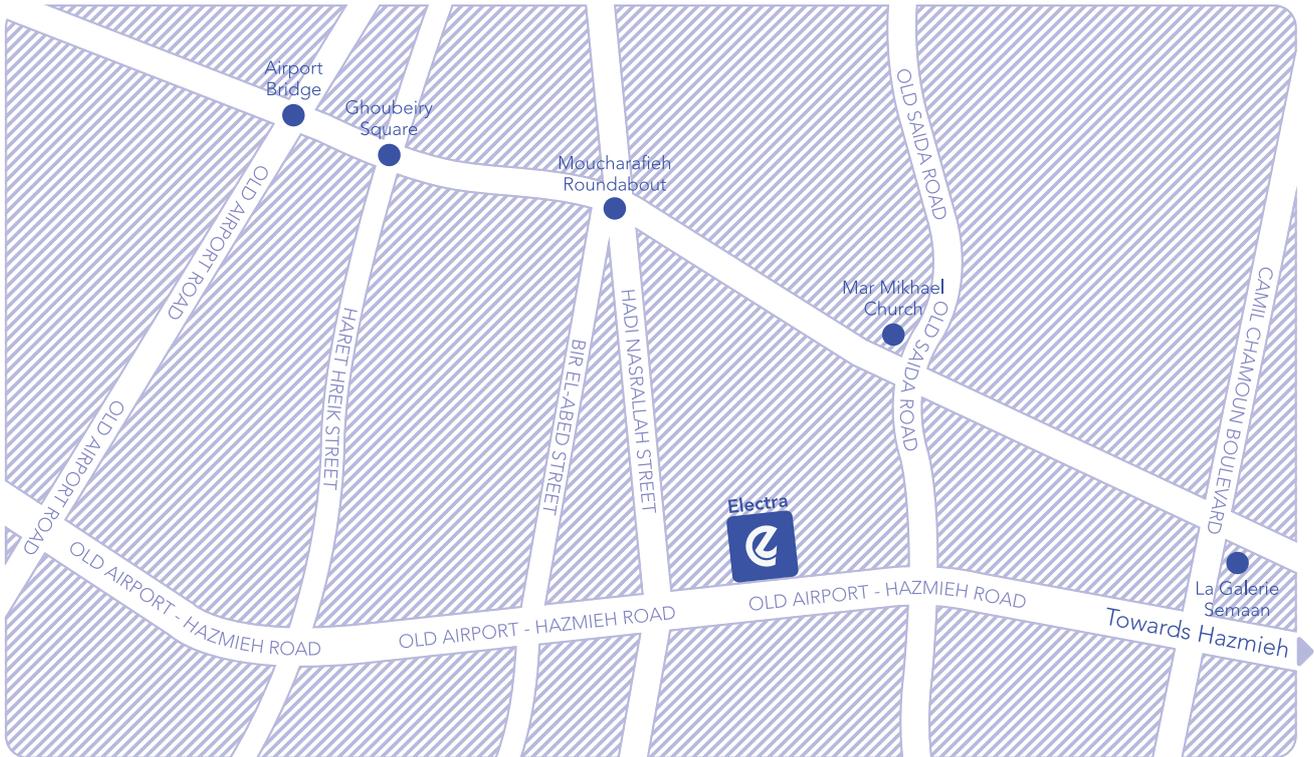
## THREE-PIECE OCD REFERENCES



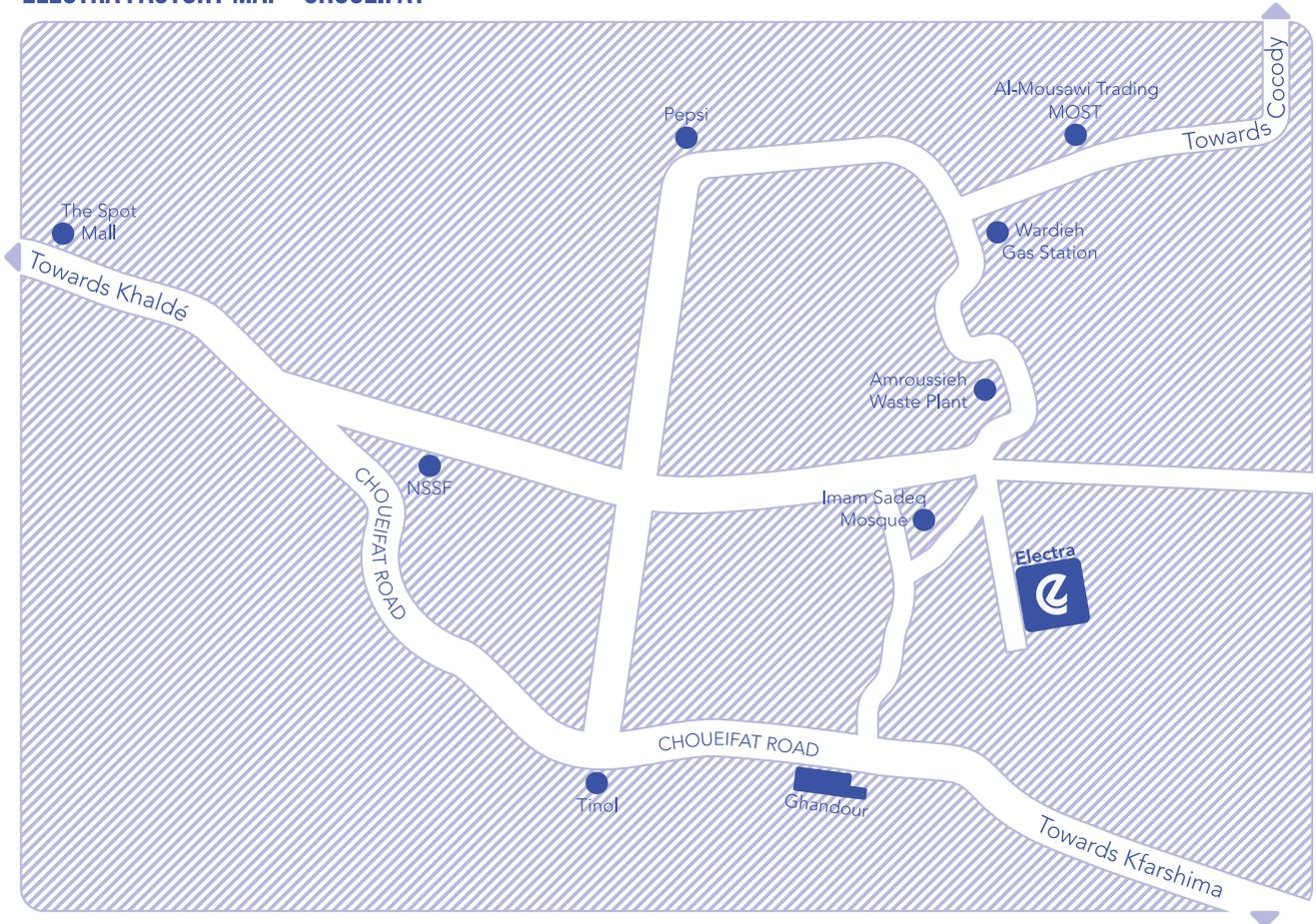
References	OCD Dimensions (mm)						Mounting Plate Dimensions (mm)			
	A	B	C	D	E	F	G	H	I	J
OCD 3P 6040	600	1320	400	280	350	812	526	572	199.5	392
OCD 3P 8040	800	1320	400	280	350	812	726	572	199.5	392
OCD 3P 10050	1000	1320	500	380	450	912	926	572	199.5	392
OCD 3P 12050	1200	1320	500	380	450	912	1126	572	199.5	392



## ELECTRA HEADQUARTERS MAP - HARET HREIK



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