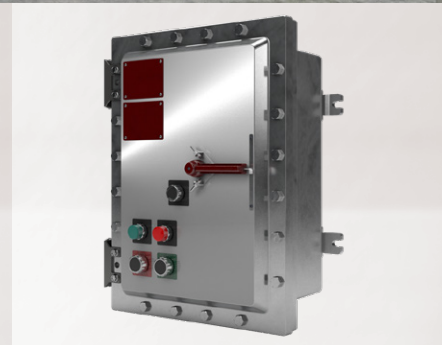


Motor control
EIC combination starters

CROUSE-HINDS
SERIES

EIC combination starters for Class I, Division 1 & 2 areas



EIC combo starters for hazardous rated areas

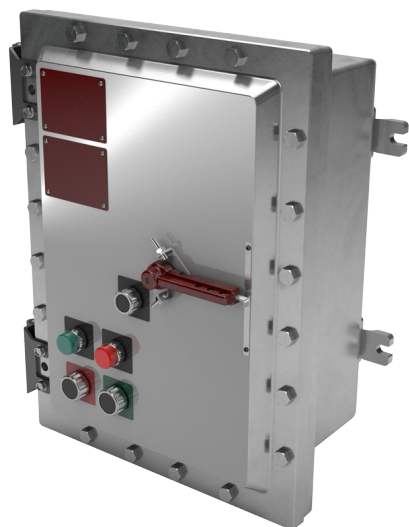
Maximum value.

Faster lead times and flexible applications for any OEM solution.

In the oil and gas industry, you need every advantage you can get to operate efficiently and safely in harsh and hazardous areas.

You need products and solutions that solve real world problems.

Eaton's Crouse-Hinds Series EIC combination starters are a value series, easy to use and always available solution for panel shops, skid builders and other OEM applications.



Certifications

NEC and CEC:

- Class I, Division 1 & 2, Groups B, C, D
- Class II, Division 1 & 2, Groups E, F, G
- Class III
- UL Standard 1203
- cUL to CSA C22.2 No. 30, No. 25
- NEMA 3, 3R, 4, 4X, 7BCD, 9EFG
- $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

IECEX:

- Ex db IIB+H2 Gb
- Ex tb III C Db IP66
- $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
- IECEx ETL 13.0022U

ATEX:

- II 2 G D Ex db IIB+H2 Gb
- Ex tb IIIC Db IP66
- $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
- ITS13ATEX17813U certified

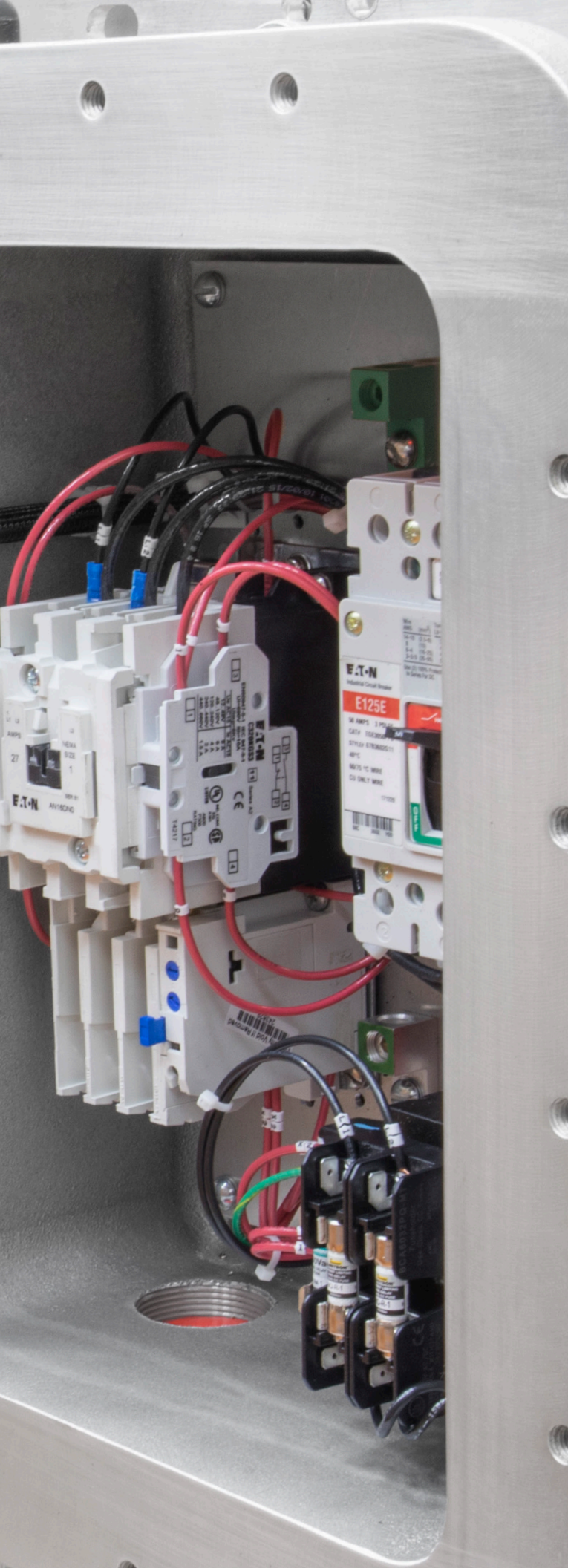
Materials

- Body, cover and handle – copper-free aluminum
- Gasket – neoprene
- Cover bolts and hinges – stainless steel

Application

Harsh and hazardous motor control environments, including refineries, chemical and petrochemical plants, corrosive process facilities, food and beverage, marine and mining.

Across-the-line starting and stopping of polyphase AC induction motors with overload protection.



Why EIC combination starters?

Engineered for OEMs

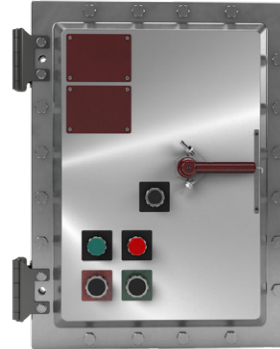
- Two nameplates for easy identification and on site customizing
- Factory drilled and tapped field-removable mounting plate
- Fast lead times
- Globally certified operators

Multiple designs and options

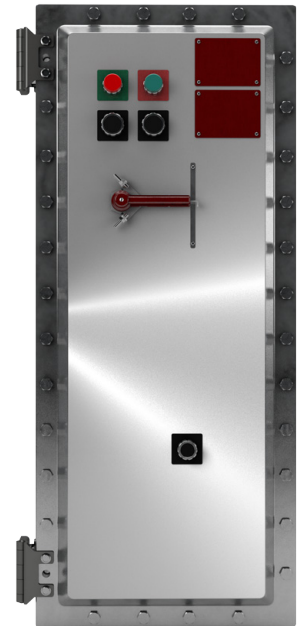
- Available unpopulated for maximum design flexibility and fast lead times
- Populated versions built to order and shipped fast
- Three enclosure sizes with four operator positions
- Five combination starter sizes
- Factory wiring from breaker to starter provided for populated units



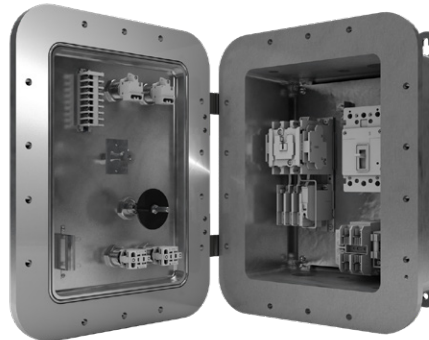
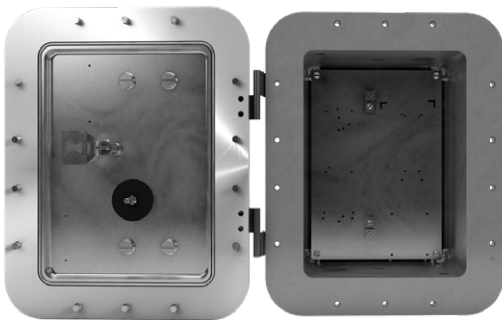
Enclosure: Size A
NEMA starter size: 0-2



Enclosure: Size B
NEMA starter size: 3



Enclosure: Size C
NEMA starter size: 4



Field flexibility

- Factory-machined drilled and tapped entries up to three inches in diameter
- UL/cUL certified for field addition of drilled and tapped entries on sides, top, bottom or back of the enclosure
- Bolt-on/tap-in mounting feet allow for easy field replacement in case of damage or breaking
- ATEX/IECEX certified enclosure option for use in global applications



Ordering information

Part number example #1 – populated

EICA-F2W4-J-070-RLN-GLF-PB23-S781

Fully populated EIC enclosure, size A, full voltage non-reversing Eaton starter, breaker with CPT, NEMA size 2, 480 VAC, heater with 70 Amp breaker, red LED "ON" pilot light and green LED "OFF" pilot light, start & stop pushbuttons, single auxiliary contact on starter

EIC

Model	
EIC	Class I, Divisions 1 & 2

Enclosure size	
A	Used with NEMA sizes 0-2
B	Used with NEMA size 3
C	Used with NEMA size 4

*Enclosure size is determined by the NEMA starter size. Refer to the NEMA size chart for the correct size starter, breaker/HMCP.

A

-

F

Combination function	
F	Full voltage, non-reversing starter, 120V coil, breaker with CPT
G*	Full voltage, non-reversing starter, breaker (no CPT)
H	Full voltage, non-reversing starter, 120V coil, HMCP with CPT
K*	Full voltage, non-reversing starter, HMCP (no CPT)

*Starter coil equals line voltage.

2

NEMA size	
0	NEMA size 0
1	NEMA size 1
2	NEMA size 2
3	NEMA size 3
4	NEMA size 4

W

Starter manufacturer	
W	Eaton Freedom series

4

Line voltage	
1*	120 VAC
2	240 VAC
4	480 VAC
6	600 VAC

*120 VAC option not available with F or H combination functions.

Part number example #2 – unpopulated

EICA ATEX

Unpopulated EIC enclosure, size A, ATEX rated

EIC

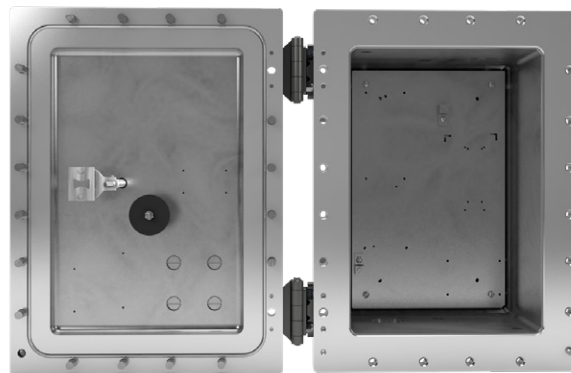
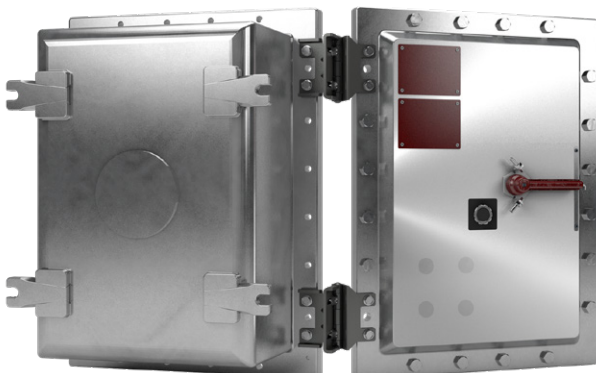
Model	
EIC	Class I, Divisions 1 & 2

A

Enclosure size	
A	Used with NEMA sizes 0-2
B	Used with NEMA size 3
C	Used with NEMA size 4

ATEX

Options	
BLANK	NEC certified
ATEX	IECEX and ATEX certified
S752	External epoxy coating



List operator designations in numerical order.
Refer to the position chart below for reference.



Heater (FLA)

	FLA	NEMA size		
		0,1	2	3,4
BLANK	0.0 - 0.0	•	•	•
A	0.8 - 1.3	•	•	
B	1.2 - 2.0	•	•	
C	1.8 - 2.9	•	•	
D	2.2 - 3.5	•	•	
E	3.2 - 5.2	•	•	
F	4.6 - 7.4	•	•	
G	6.8 - 11.0	•	•	
H	9.1 - 14.0	•	•	
J	14.0 - 22.8	•	•	
L	23.5 - 38.5	•	•	
M	39.6 - 57.4		•	
N	53.9 - 74.9		•	
P	8.0 - 11.5			•
Q	11.4 - 15.7			•
R	14.3 - 19.0			•
S	18.0 - 24.5			•
T	24.6 - 33.4			•
V	33.5 - 45.6			•
W	45.7 - 62.1			•
X	62.2 - 84.6			•
Y	84.7 - 115.0			•
Z	106.0 - 144.0			•

Heater trip rating:
Standard Trip – Class 20

Breaker*		HMCP*	
015	15A	003	3A
020	20A	007	7A
025	25A	015	15A
030	30A	030	30A
035	35A	050	50A
040	40A	070	70A
045	45A	100	100A
050	50A	250	250A
060	60A		
070	70A		
080	80A		
090	90A		
100	100A		
110	110A		
125	125A		
150**	150A		
175**	175A		
200**	200A		

*Combination functions H & K: 250A HMCP can only be used with NEMA size 4 starter

*Combination functions F & G: Breakers 15-125A rated 600Y/347 VAC (480 VAC); 150-250A rated 600 VAC.

**150A-200A can only be used with NEMA size 4 starter.

Operators*	
PB23	Start & Stop pushbutton with "START" & "STOP" legend plates (2 operator spaces)
RLN	Red LED 120V light w/ "ON" legend plate
GLF	Green LED 120V light w/ "OFF" legend plate
RLB	Red LED 120V pilot light w/ blank legend plate
GLB	Green LED 120V pilot light w/ blank legend plate
RR2	2-position selector switch with "ON - OFF" legend plate
RR3	3-position selector switch with HOA legend plate

*Refer below for operator locations. Standard operator configurations shown.
Pilot lights and pushbuttons are not available when G or K combination functions are selected at 600 VAC line voltage.

Options*

BST	Shunt trip 120V
ER	Electronic overload relay - Solid State (starter)
HT	Ambient compensated breaker (+50°C calibrated)
S214	External ground lug
S752	External epoxy coating
S756V	Breather & drain, Class 1, Groups B, C, D

Options – Space heater
Select one heater option only

R11	Space heater, 25 watts, 120V
R22	Space heater, 25 watts, 240V
R44	Space heater, 25 watts, 480V

Options – Auxiliary contact
Select one contact option only

S781	Auxiliary contact on starter 1NO & 1NC
S782	Auxiliary contact on starter 2NO & 2NC
S783	Auxiliary contact on starter 3NO & 3NC

Options – Auxiliary switch
Select one switch option only

S784	Auxiliary switch on circuit breaker, 1A&1B
S785	Auxiliary switches on circuit breaker, 2A & 2B
S786	8 point terminal block - 30A, 300V

* List selected options in alphanumeric order. Only one option of each type allowed unless otherwise noted.

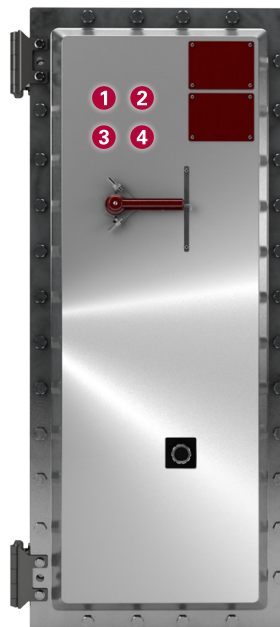
Operator locations



Size A



Size B



Size C

Electrical ratings

Electrical ratings – starter

NEMA size	CPT	Phase	Voltage	Contact type
0-2	100VA	Single, 3	120V, 240V, 480V or 600V	A600/P300
3	200VA	3		
4	300VA	3		

*No DC rating on starters. Standard configuration: 3 pole non-reversing starter, 3 pole on breaker and starter

Starter types by enclosure size

Enclosure size	Starter	EIC type	NEMA size
A	Eaton Freedom AN16	Standard	0-2
	Eaton Freedom AN19	ER option	
	Eaton Space Savings AN13*	ATEX option	
B	Eaton Freedom AN16	Standard	3
	Eaton Freedom AN19	ER option	
	Eaton Space Savings AN13*	ATEX option	
C	Eaton Freedom AN16	Standard	4
	Eaton Freedom AN19	ER option	
	Eaton Space Savings AN13*	ATEX option	

*Eaton Space Saving AN13 starter is the recommended ATEX starter and is not available as a factory installed option.

Maximum amperage – breaker/HMCP

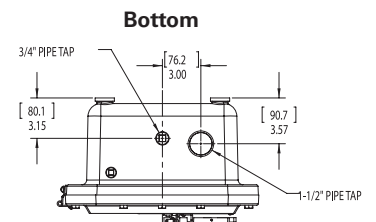
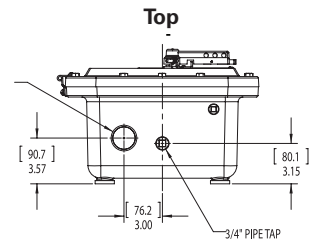
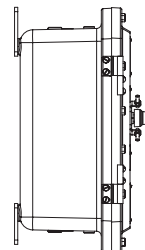
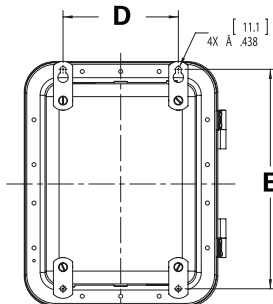
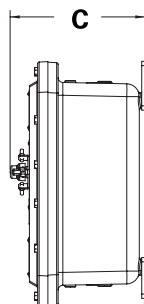
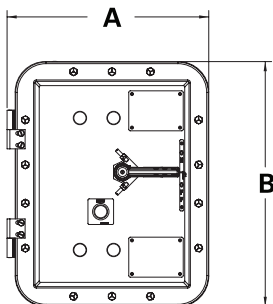
Enclosure size	Breaker/HMCP Type	Maximum amperage recommended (40°C ambient temp.)	Maximum amperage frame limit
A	Eaton EG	70	125
	Eaton HMCPPE	50	100
	Eaton F-Frame	70	225
	Eaton HMCP	50	150
B	Eaton EG	125	125
	Eaton HMCPPE	100	100
	Eaton F-Frame	125	225
	Eaton HMCP	100	150
C	Eaton JG	200	250
	Eaton HMCPJ	150	250
	Eaton F-Frame	200	225
	Eaton HMCP	150	150

*Unpopulated EIC engineered for use with any breaker/HMCP type listed above as per corresponding enclosure size.

Dimensions

Enclosure size A

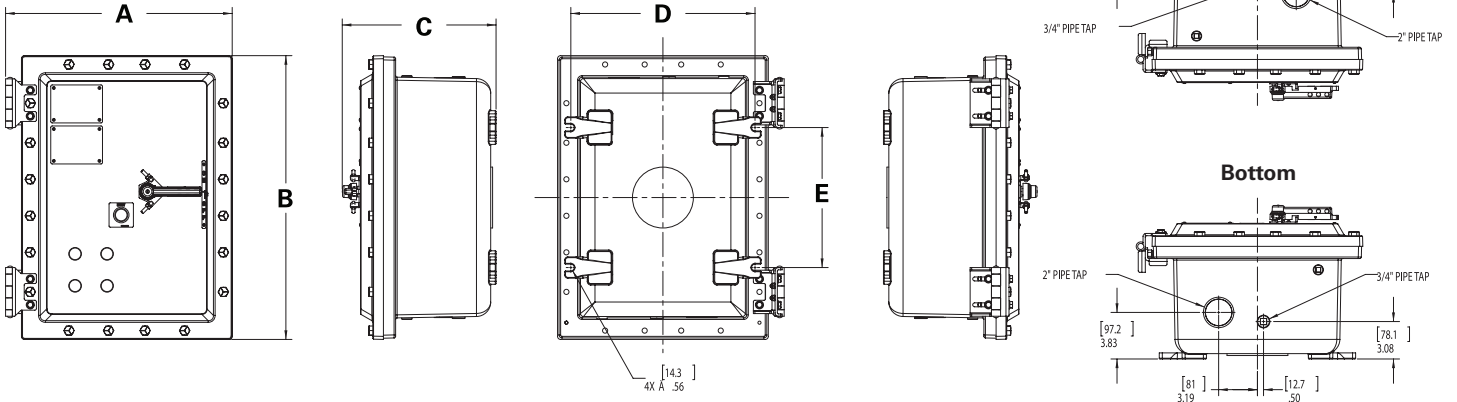
Size A	A	B	C	D	E
inches	15.74	19.10	10.52	9.00	17.13
mm	[399.8]	[485.2]	[267.2]	[228.6]	[435.0]



Dimensions

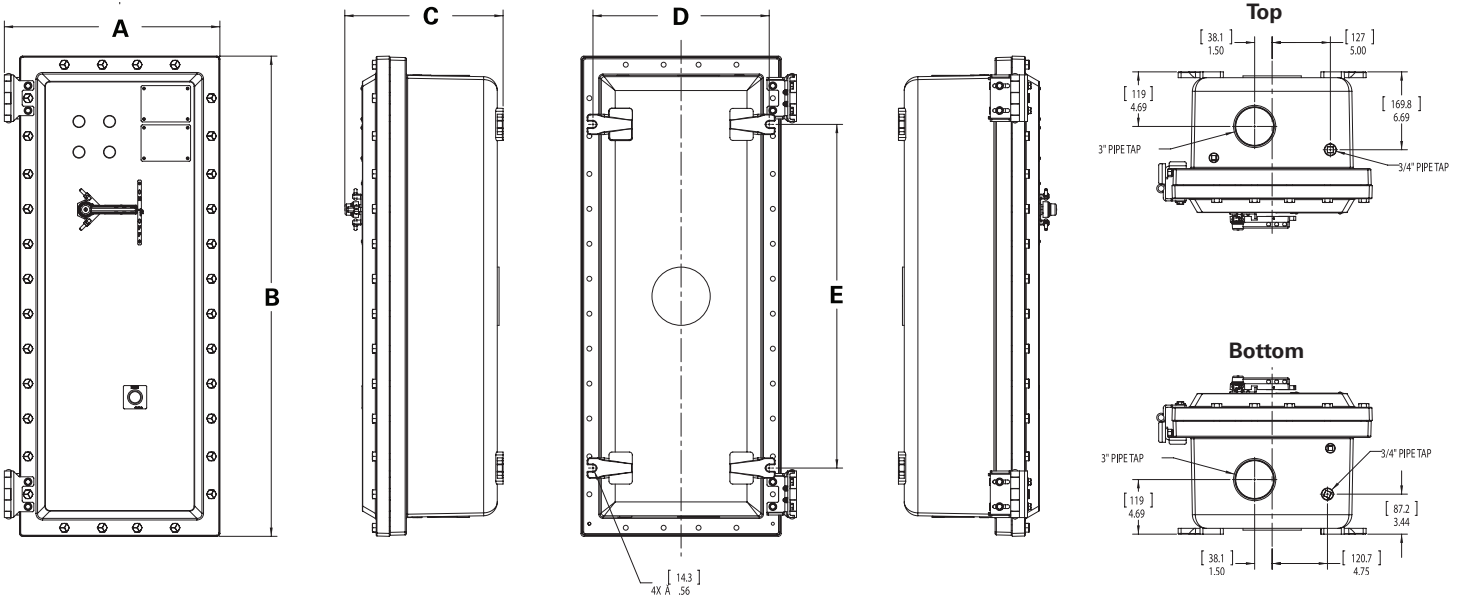
Enclosure size B

Size B	A	B	C	D	E
inches	18.62	23.31	12.63	15.13	11.50
[mm]	[472.9]	[592.1]	[320.9]	[384.3]	[292.1]



Enclosure size C

Size C	A	B	C	D	E
inches	18.50	41.22	13.59	15.13	29.50
[mm]	[469.9]	[1047]	[345.1]	[384.3]	[749.3]



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