

# Altivar™ 660 Drive Systems

The Schneider Electric Altivar™ 660 Drive Systems provides a robust, packaged, adjustable-speed solution for commercial, industrial, and municipal applications. All ratings are UL 508A listed, with selectable control and power configurations. These drives combine the reliability and ease-of-use of the Altivar drives family with proven, validated, and tested drive system designs.

- 1 - 900hp at 460V Normal Duty
- 1 - 700hp at 460V Heavy Duty
- 1 - 60hp at 230V Normal Duty
- 1 - 50hp at 230V Heavy Duty



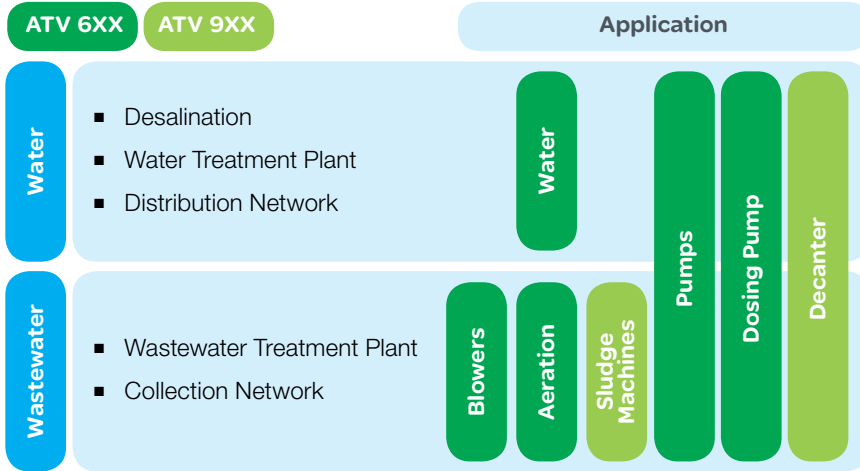
- Pre-engineered, ready to use solutions in highly efficient designs
- Modular and compact to maximize space utilization
- Flexibility for application requirements
- UL Type 1, 12 and 3R rated enclosures
- Built in pump curves
- Embedded ethernet and web server
- Dynamic QR codes
- Real time clock



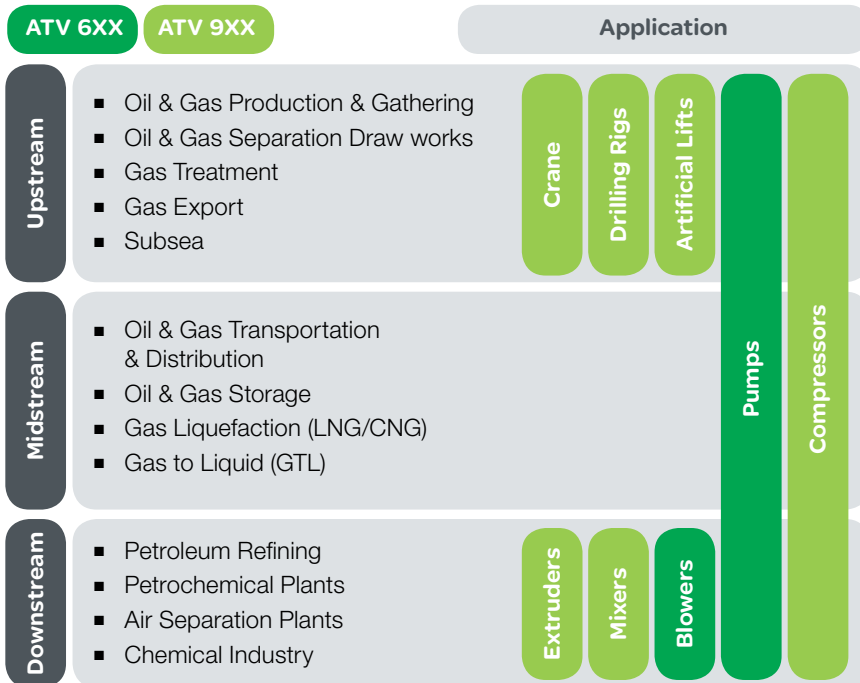
## ATV660 Drive Systems

- Applications .....4
- 1-125hp.....6
- 150-900hp.....8
- Configured to Order ..... 10
- Make the Switch ..... 11
- Specifications ..... 12

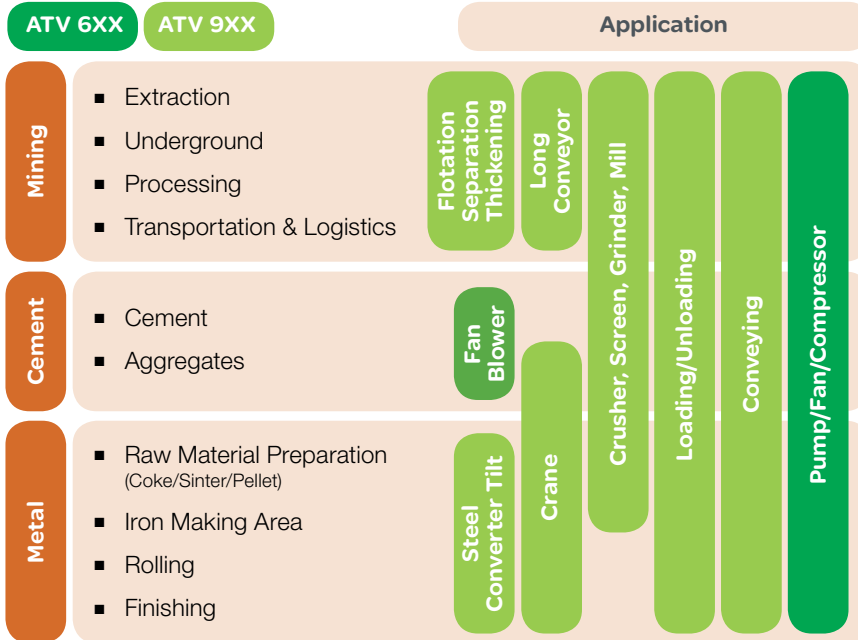
## Applications in WWW



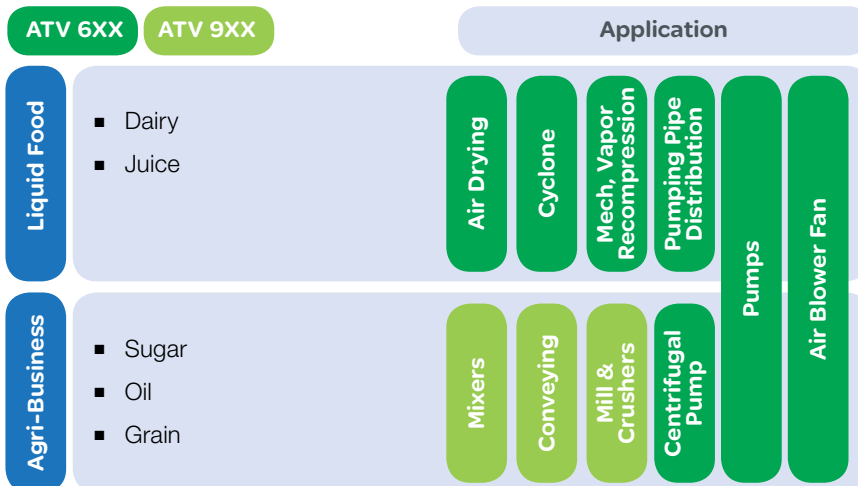
## Applications in O&G



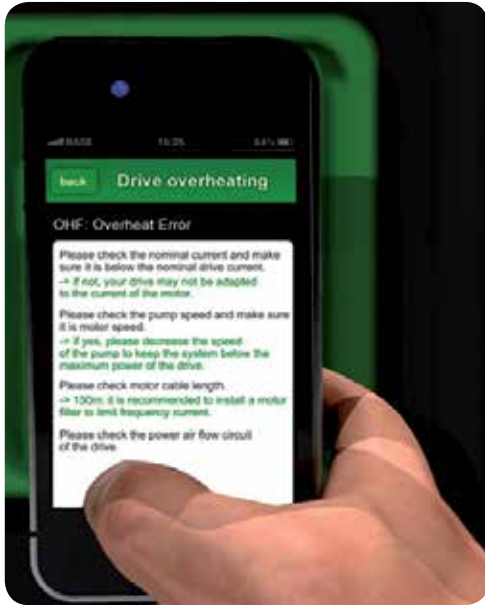
## Applications in MMM



## Applications in F&B



## ATV660 Drive Systems (1-125hp ND)



- 1–125hp Normal Duty at 460V, 1-100hp Heavy Duty at 460V, 1–60hp Normal Duty at 230V, 1-50hp at 230V Heavy Duty
- All four frames are 16 in wide
- All wall mount frames are 19.5 in deep
- Two additional frame enclosures available for ETO options
- UL Type 1, 12 & 3R rated enclosures
- 100,000 SCCR short circuit rating
- Energy management (integrated power measurement)
- Remote graphic keypad
- Standard 3% equivalent impedance
- Circuit breaker disconnect
- White component mounting plate
- Service entrance - 3R

75-125hp ND  
@460V



40-60hp ND  
@460V



20-30hp ND  
@460V



1-15hp ND  
@460V



# ATV660 Drive Systems

---

## ATV660 Drive Systems (1-125hp ND)

### Available options:

- Bypass-utilizing Zelio Smart Relay (up to 250hp)
- Harmonic filter
- Service switch (bypass)
- DV/DT motor filter
- 50 Deg C (3R)
- Communication cards
- Control and indicator options
- 5% equivalent impedance option
- Many more to meet customer requirements



# ATV660 Drive Systems

## ATV660 Drive Systems (150-900hp ND)

- 150–900hp Normal Duty @ 460V, 125-700hp Heavy Duty at 460V
- UL Type 1 & Type 12 rated enclosures
- UL 508A
- 100,000 AIC short circuit rating
- Contains frequency inverter & rectifier modules, circuit breaker, line reactor, motor choke
- Remote graphic keypad
- Removable conduit entry plate

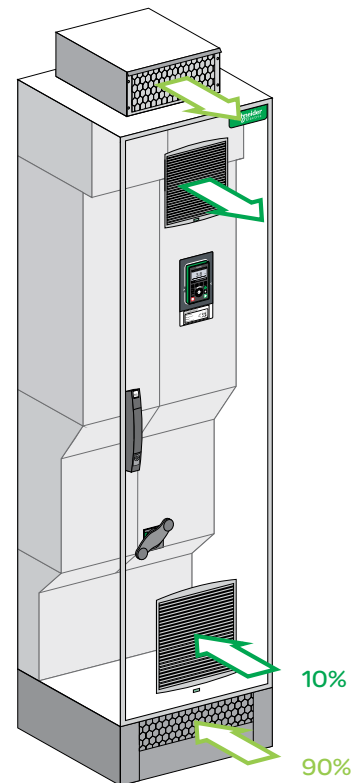
150-250hp ND  
@460V



300-500hp ND  
@460V

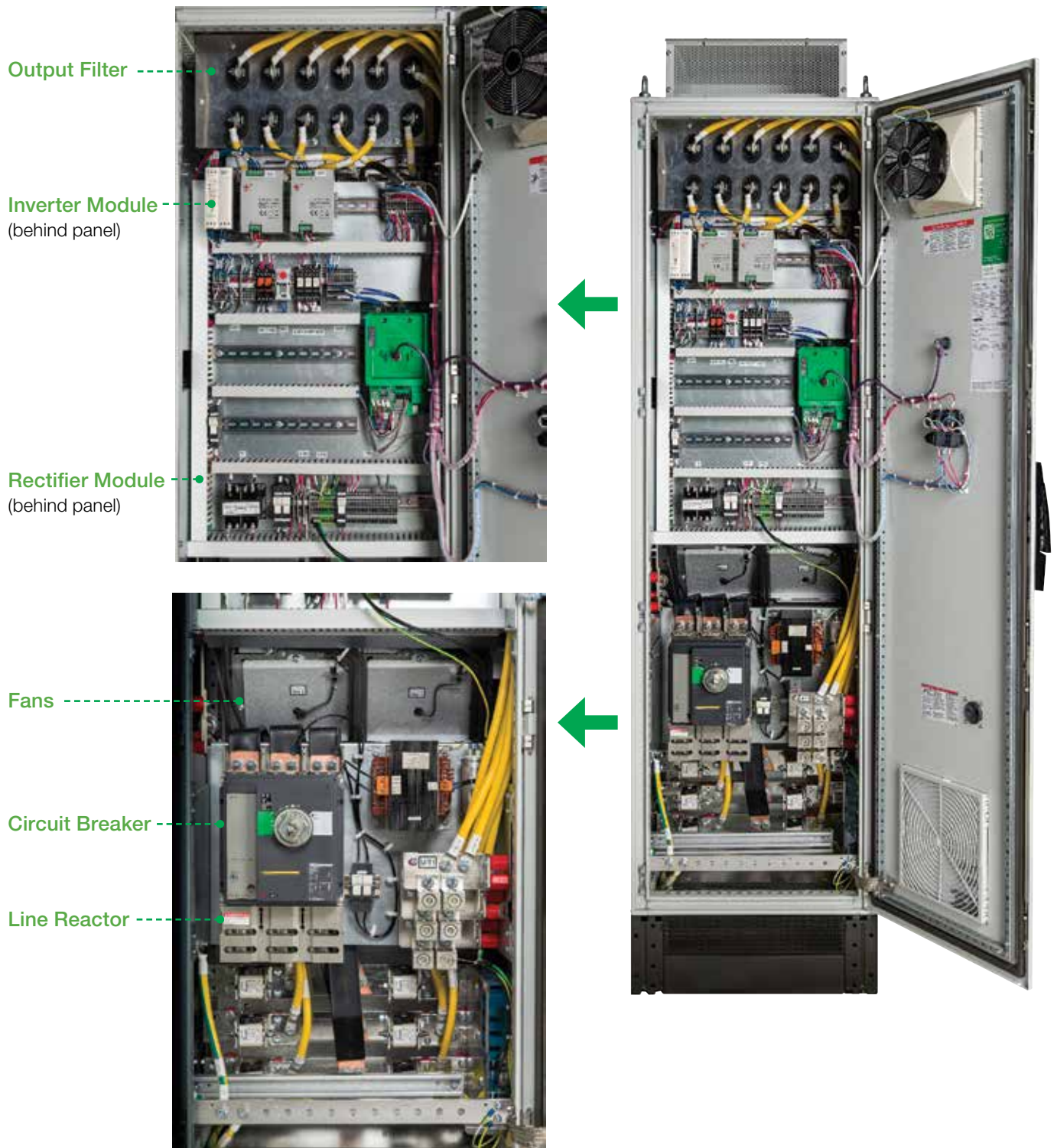


Cooling concept



# ATV660 Drive Systems

## ATV660 Drive Systems (150-900hp ND)



Configuration To Order

Catalog number example: ATV660D22T4N2ANWAANAGK

<p><b>ATV660</b></p> <p><b>Product line (Utility)</b>  <b>660</b> ATV660 Drive System  <b>680</b> Low Harmonic</p> <p><b>Product line (Industry)</b>  <b>960</b> ATV960 Drive System  <b>980</b> Regen</p>	<p><b>D22</b></p> <p><b>Normal Duty Values</b></p> <table border="1"> <thead> <tr> <th>Code</th> <th>HP at 460V</th> </tr> </thead> <tbody> <tr><td>U07</td><td>1</td></tr> <tr><td>U15</td><td>2</td></tr> <tr><td>U22</td><td>3</td></tr> <tr><td>U40</td><td>5</td></tr> <tr><td>U55</td><td>7.5</td></tr> <tr><td>U75</td><td>10</td></tr> <tr><td>D11</td><td>15</td></tr> <tr><td>D15</td><td>20</td></tr> <tr><td>D18</td><td>25</td></tr> <tr><td>D22</td><td>30</td></tr> <tr><td>D30</td><td>40</td></tr> <tr><td>D37</td><td>50</td></tr> <tr><td>D45</td><td>60</td></tr> <tr><td>D55</td><td>75</td></tr> <tr><td>D75</td><td>100</td></tr> <tr><td>D90</td><td>125</td></tr> <tr><td>C11</td><td>150</td></tr> <tr><td>C13</td><td>200</td></tr> <tr><td>C16</td><td>250</td></tr> <tr><td>C20</td><td>300</td></tr> <tr><td>C25</td><td>400</td></tr> <tr><td>C31</td><td>500</td></tr> <tr><td>C40</td><td>600</td></tr> <tr><td>C50</td><td>700</td></tr> <tr><td>C63</td><td>900</td></tr> </tbody> </table>	Code	HP at 460V	U07	1	U15	2	U22	3	U40	5	U55	7.5	U75	10	D11	15	D15	20	D18	25	D22	30	D30	40	D37	50	D45	60	D55	75	D75	100	D90	125	C11	150	C13	200	C16	250	C20	300	C25	400	C31	500	C40	600	C50	700	C63	900	<p><b>T4</b></p> <p><b>Voltage</b>  <b>U3</b> 230V  <b>T4</b> 460V</p> <p><b>Normal Duty Values</b></p> <table border="1"> <thead> <tr> <th>Code</th> <th>HP at 460V</th> </tr> </thead> <tbody> <tr><td>–</td><td>–</td></tr> <tr><td>U15</td><td>1</td></tr> <tr><td>U22</td><td>2</td></tr> <tr><td>U30</td><td>3</td></tr> <tr><td>U55</td><td>5</td></tr> <tr><td>U75</td><td>7.5</td></tr> <tr><td>D11</td><td>10</td></tr> <tr><td>D15</td><td>15</td></tr> <tr><td>D18</td><td>20</td></tr> <tr><td>D22</td><td>25</td></tr> <tr><td>D30</td><td>30</td></tr> <tr><td>D37</td><td>40</td></tr> <tr><td>D45</td><td>50</td></tr> <tr><td>D55</td><td>60</td></tr> <tr><td>D75</td><td>75</td></tr> <tr><td>D90</td><td>100</td></tr> <tr><td>C11</td><td>125</td></tr> <tr><td>C13</td><td>150</td></tr> <tr><td>C16</td><td>200</td></tr> <tr><td>C20</td><td>250</td></tr> <tr><td>C25</td><td>300</td></tr> <tr><td>C31</td><td>400</td></tr> <tr><td>C40</td><td>500</td></tr> <tr><td>C50</td><td>600</td></tr> <tr><td>C63</td><td>700</td></tr> </tbody> </table>	Code	HP at 460V	–	–	U15	1	U22	2	U30	3	U55	5	U75	7.5	D11	10	D15	15	D18	20	D22	25	D30	30	D37	40	D45	50	D55	60	D75	75	D90	100	C11	125	C13	150	C16	200	C20	250	C25	300	C31	400	C40	500	C50	600	C63	700	<p><b>N</b></p> <p><b>2</b> UL (default)  <b>6</b> cUL</p> <p><b>Enclosure</b>  <b>G</b> Type 1 (default)  <b>A</b> Type 12  <b>H</b> Type 3R (&lt;150hp)</p>	<p><b>2</b></p> <p><b>Power Circuit</b>  <b>W</b> W/O bypass (default)  <b>Y</b> Bypass (&lt;300hp)</p> <p><b>Harmonic Mitigation</b>  <b>N</b> None (default)  <b>A</b> 5% line impedance  <b>M</b> Harmonic filter</p>	<p><b>A</b></p> <p><b>Control Options</b>  <b>N</b> Prewired for HOA  <b>A</b> HOA, Speed Pot (default)  <b>B</b> HOA, Speed Pot, Start-Stop</p>	<p><b>W</b></p> <p><b>Light Options</b>  <b>N</b> None  <b>A</b> Red pwr on, Yell trip gr AFC run, Yell auto  <b>B</b> Red pwr on, Yell trip gr AFC run</p>	<p><b>A</b></p> <p><b>Misc Options</b>  <b>N</b> None  <b>A</b> Ethernet port on front door (PC/iPad)  <b>B</b> Line contactor  <b>C</b> Drive I/O extension  <b>D</b> Drive extended relay module (3 NO)  <b>E</b> 0-10V auto speed reference  <b>F</b> 1 NO auxiliary auto mode contact  <b>G</b> Type 1 SPD 40 k  <b>H</b> Type 2 SPD 80 k  <b>J</b> Not assigned  <b>K</b> Additional 150VA control power transformer  <b>L</b> Push-to-test pilot lights  <b>M</b> Not assigned  <b>P</b> Permanent wire markers (sleeve type)  <b>Q</b> Trip reset button  <b>R</b> Not assigned  <b>S</b> 50 deg C (3R only, 125hp &amp; below)  <b>T</b> Service Switch  <b>U</b> Top entry cubical (150hp &amp; above)  <b>V</b> Assembled in US (60hp &amp; below)  <b>W</b> Not assigned  <b>X</b> DV/DT filter</p>	<p><b>A</b></p> <p><b>Comms Options</b>  <b>N</b> None  <b>A</b> Profibus DP  <b>B</b> CANopen daisy chain  <b>C</b> Devicenet  <b>D</b> CANopen sub-D9  <b>E</b> CANopen open style  <b>F</b> Profinet  <b>G</b> Ethernet/IP-VW3A3720</p>	<p><b>N</b></p> <p><b>6</b></p> <p><b>A</b></p> <p><b>G</b></p> <p><b>K</b></p>
Code	HP at 460V																																																																																																																
U07	1																																																																																																																
U15	2																																																																																																																
U22	3																																																																																																																
U40	5																																																																																																																
U55	7.5																																																																																																																
U75	10																																																																																																																
D11	15																																																																																																																
D15	20																																																																																																																
D18	25																																																																																																																
D22	30																																																																																																																
D30	40																																																																																																																
D37	50																																																																																																																
D45	60																																																																																																																
D55	75																																																																																																																
D75	100																																																																																																																
D90	125																																																																																																																
C11	150																																																																																																																
C13	200																																																																																																																
C16	250																																																																																																																
C20	300																																																																																																																
C25	400																																																																																																																
C31	500																																																																																																																
C40	600																																																																																																																
C50	700																																																																																																																
C63	900																																																																																																																
Code	HP at 460V																																																																																																																
–	–																																																																																																																
U15	1																																																																																																																
U22	2																																																																																																																
U30	3																																																																																																																
U55	5																																																																																																																
U75	7.5																																																																																																																
D11	10																																																																																																																
D15	15																																																																																																																
D18	20																																																																																																																
D22	25																																																																																																																
D30	30																																																																																																																
D37	40																																																																																																																
D45	50																																																																																																																
D55	60																																																																																																																
D75	75																																																																																																																
D90	100																																																																																																																
C11	125																																																																																																																
C13	150																																																																																																																
C16	200																																																																																																																
C20	250																																																																																																																
C25	300																																																																																																																
C31	400																																																																																																																
C40	500																																																																																																																
C50	600																																																																																																																
C63	700																																																																																																																

## Make the Switch Today

### M-Flex

- Commercial
- Industrial
- WWW



### ATV Plus

- Commercial
- Industrial
- WWW



### E-Flex

- Industrial
- Some WWW



Smaller footprint  
Advanced keypad  
Option rich

Embedded pump curves  
Embedded web server  
Dynamic QR codes



ATV660 Drive Systems

## ATV660 Drive Systems (1-900hp ND)

Electrical Specifications		Environmental Specifications	
Input mains voltage	230 Vac ± 10%, 460 Vac ± 10%	Storage temperature	-13 to +149 °F (-25 to +65 °C)
Short circuit current rating (AC symmetrical)	100 kA	Operating temperature	+14 to +104 °F (-10 to +40 °C) Type 1/12; +14 to +122 °F (-10 to +50 °C) Type 3R
Control voltage	24 Vdc, 115 Vac + 10%/-15% (control power transformer included)	Humidity	95% with no condensation or dripping water, conforming to IEC 60068-2-78
Displacement power factor	98% through speed range	Altitude	3,300 ft (1000 m), without derating, derating of the current by 1% for each additional 330 ft (100 m) up to 9,842 ft. (3000 m) maximum
Input frequency	50/60Hz ± 5%	Enclosure	UL Type 1 : General indoor; UL Type 12: Indoor dust-tight (ventilated); UL Type 3R: Outdoor (ventilated)
Output voltage	Three-phase output, maximum voltage equal to input voltage	Pollution degree	Pollution degree 2 or 3 per NEMA ICS-1 Annex A and IEC 60664-1
Galvanic isolation	Galvanic isolation between power and control (inputs outputs, & power supplies)	Operational test vibration	Conforming to IEC 60721-3-3-3M3 amplitude 1.5 mm peak to peak from 3-13 Hz 1 g from 13-200Hz
Torque/Over torque	Normal Duty: 110% of nominal motor torque for 60s Heavy Duty: 150% of nominal motor torque for 60s	Transit shock test	15 g, 11 ms
Current (transient)	Normal Duty: 110% of drive rated current for 60s Heavy Duty: 150% of drive rated current for 60s	Codes and standards	UL Listed per UL 508A IEEE519 compliant (passive harmonic filter required); Conforms to applicable NEMA ICS, NFPA, and IEC standards; Manufactured under ISO 9001 standards
Switching frequency	Selectable from .5-8 kHz Factory setting: 2.5 kHz The drive reduces the switching frequency automatically in the event of excessive heat sink temperature	Cyber Security	Achilles™ Level 2 certification
Efficiency	95% (or greater) at full load typical		

**Process drives without bypass are available up to 700hp HD / 900hp ND at 460V or 50hp HD / 60hp ND at 230V. The following standard features for process drives without bypass, when no options are ordered:**

- Disconnect handle with lockout/tagout provisions
- Door mounted keypad holder and display
- One form C tripped relay
- Two form A sequence relays
- Six programmable digital inputs
- Standard color RAL735
- Class 10 overload protection
- Controller programming
  - Acceleration (ACC): 10s
  - Deceleration (DEC): 10s
  - Low Speed (LSP): 3Hz

# ATV660 Drive Systems Specifications

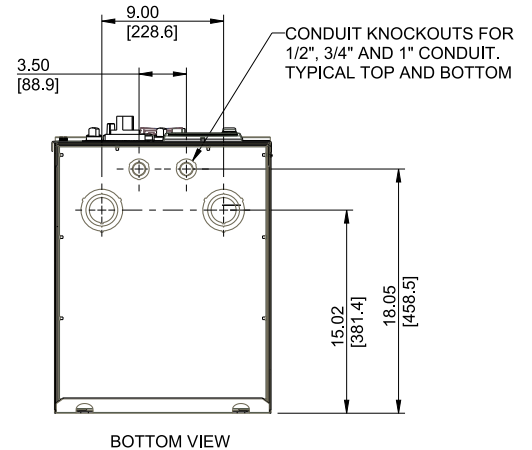
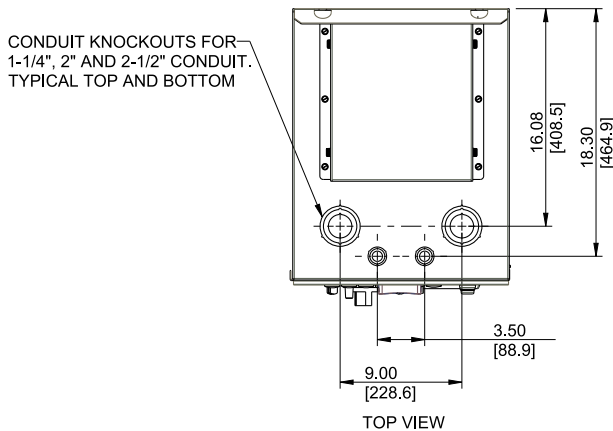
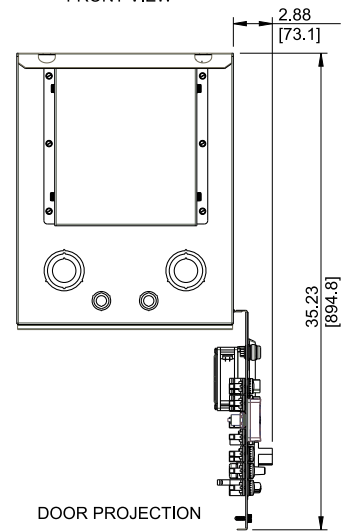
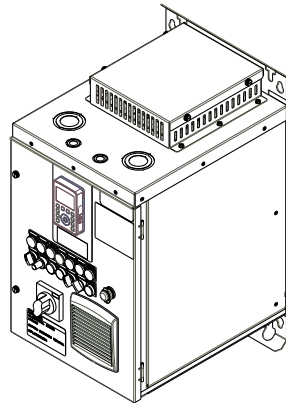
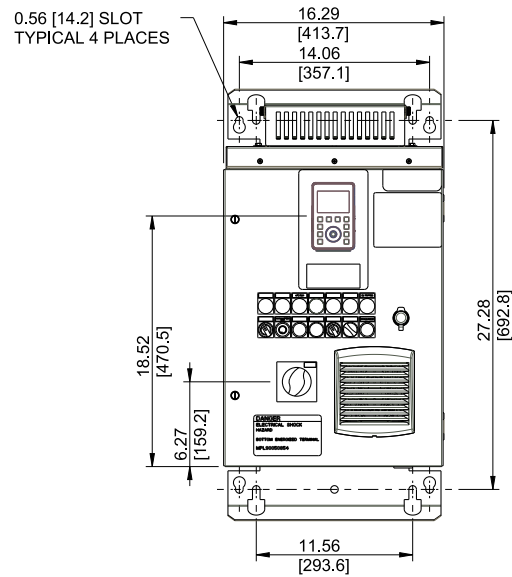
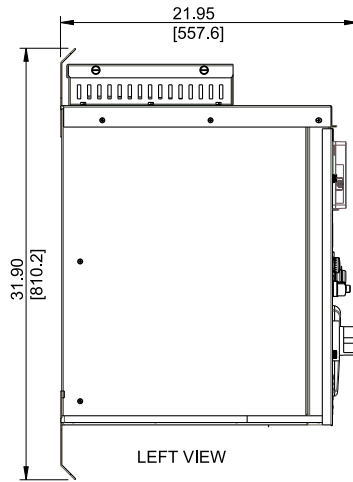
1HP[.75KW] - 15HP[11KW]  
AT 460V NORMAL DUTY\*

1HP[.37KW] - 10HP[7.5KW]  
AT 460V HEAVY DUTY\*

1HP[.75KW] -  
7.5HP[5.5KW] AT 230V  
NORMAL DUTY\*

\*STANDARD DRIVE  
PACKAGE

ELEVATION 600MM  
TYPE 1, 12



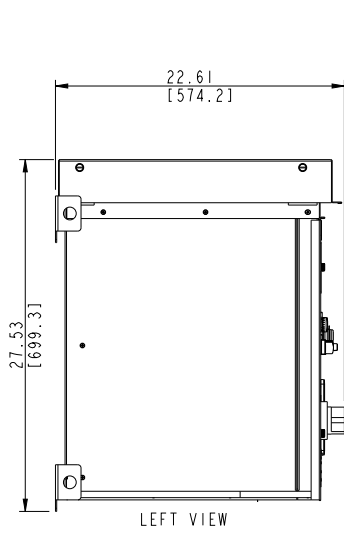
1HP[.75KW] - 15HP[11KW]  
AT 460V NORMAL DUTY\*

1HP[.37KW] - 10HP[7.5KW]  
AT 460V HEAVY DUTY\*

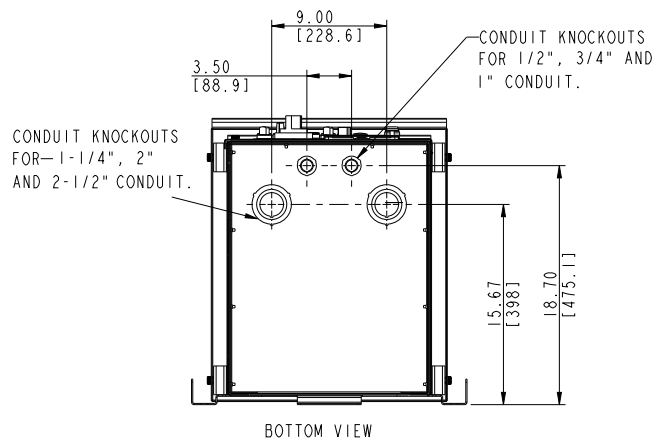
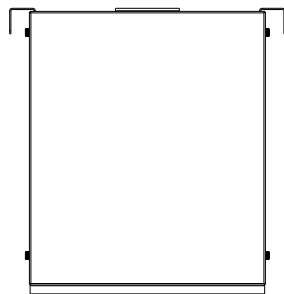
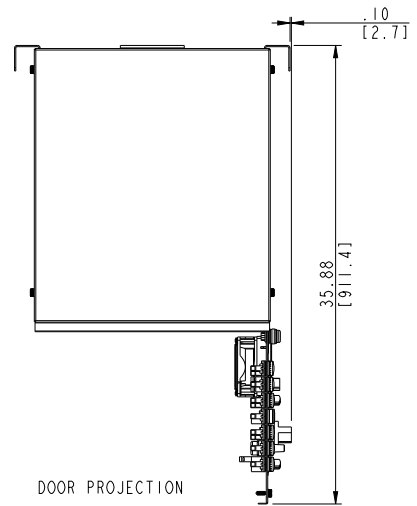
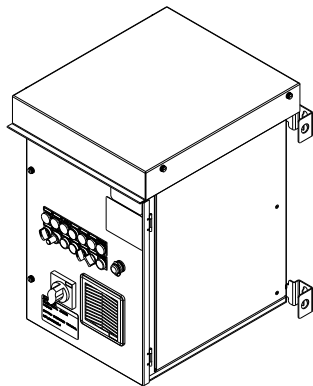
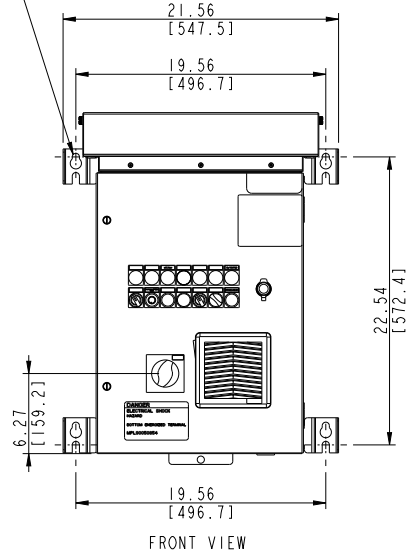
1HP[.75KW] -  
7.5HP[5.5KW] AT 230V  
NORMAL DUTY\*

\*STANDARD DRIVE  
PACKAGE

ELEVATION 600MM  
TYPE 1, 12



0.56 [14.2] SLOT  
TYPICAL 4 PLACES



# ATV660 Drive Systems Specifications

20HP[15KW] - 30HP[22KW]  
AT 460V NORMAL DUTY\*

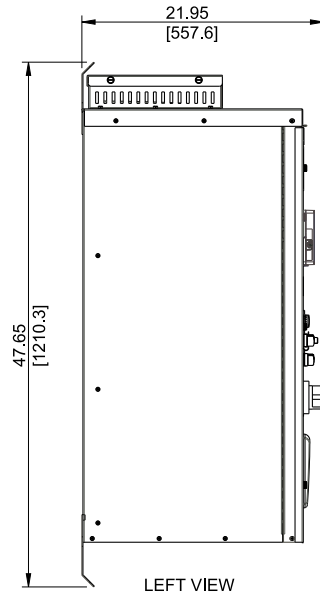
15HP[11KW] - 25HP[19KW]  
AT 460V HEAVY DUTY\*

10HP[7.5KW] -  
15HP[11KW] AT 230V  
NORMAL DUTY\*

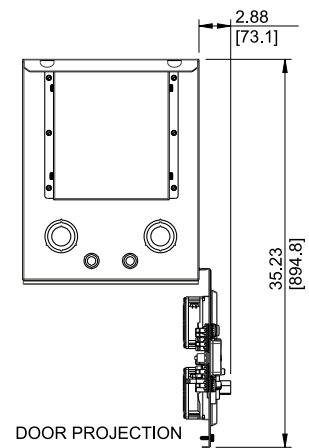
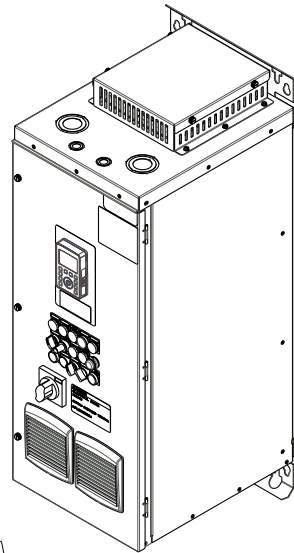
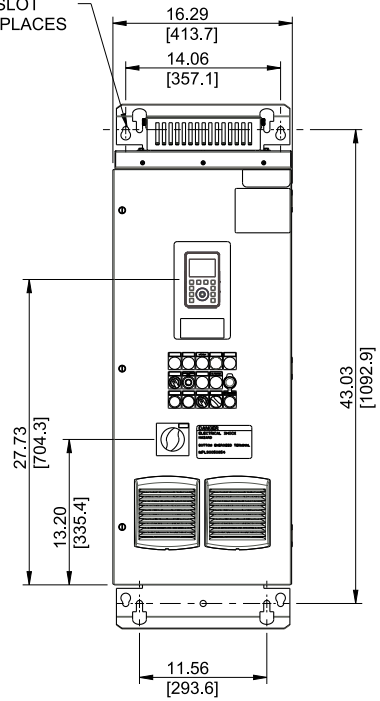
7.5HP[5.5KW] -  
10HP[7.5KW] AT 230V  
HEAVY DUTY\*

\*STANDARD  
DRIVE PACKAGE

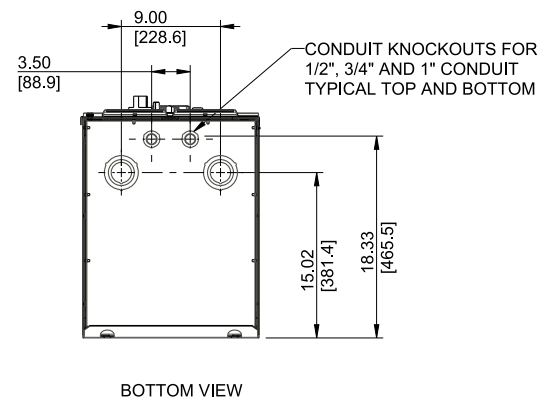
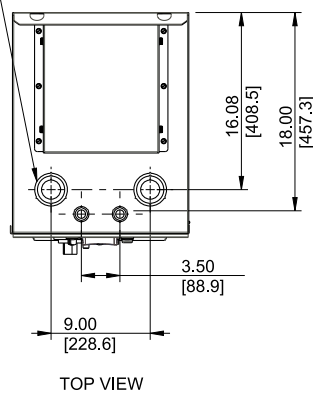
ELEVATION 1000MM  
TYPE 1, 12



0.56 [14.2] SLOT  
TYPICAL 4 PLACES



CONDUIT KNOCKOUTS FOR  
1-1/4", 2" AND 2-1/2" CONDUIT  
TYPICAL TOP AND BOTTOM



20HP[15KW] - 30HP[22KW]  
AT 460V NORMAL DUTY\*

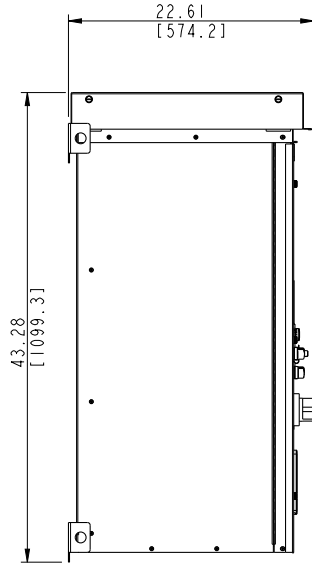
15HP[11KW] - 25HP[19KW]  
AT 460V HEAVY DUTY\*

10HP[7.5KW] -  
15HP[11KW] AT 230V  
NORMAL DUTY\*

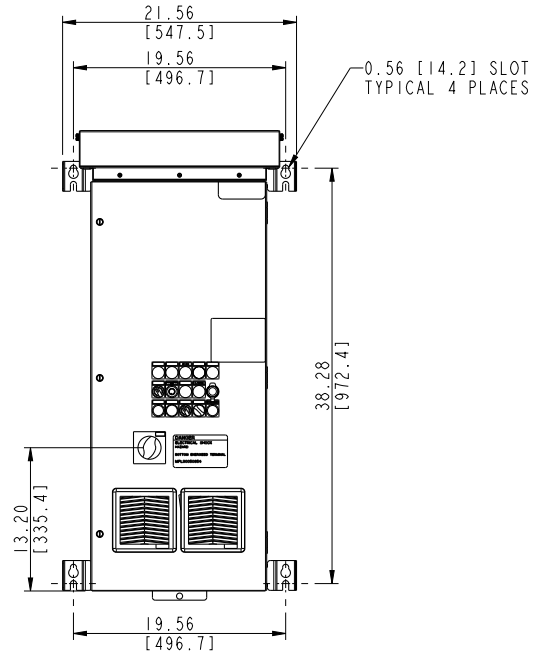
7.5HP[5.5KW] -  
10HP[7.5KW] AT 230V  
HEAVY DUTY\*

\*STANDARD DRIVE  
PACKAGE

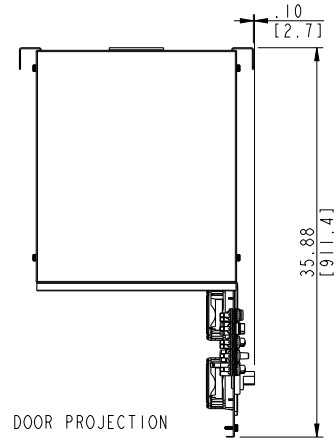
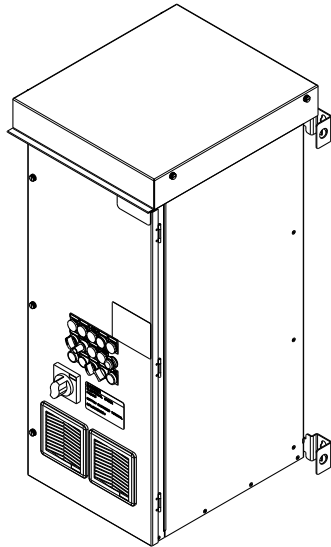
ELEVATION 1000MM  
TYPE 3R



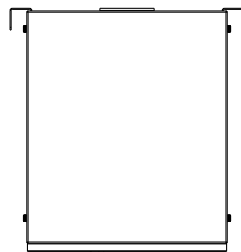
LEFT VIEW



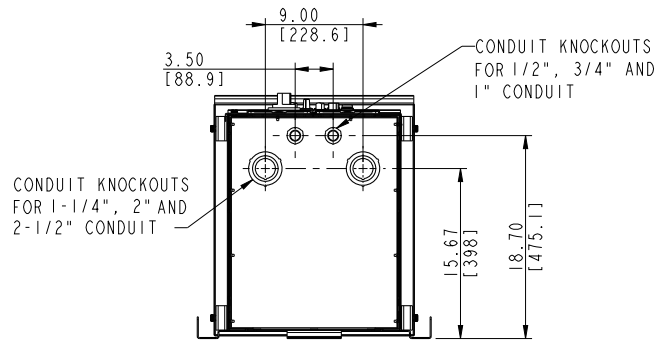
FRONT VIEW



DOOR PROJECTION



TOP VIEW



BOTTOM VIEW

# ATV660 Drive Systems Specifications

40HP[30KW] - 60HP[45KW]  
AT 460V NORMAL DUTY\*

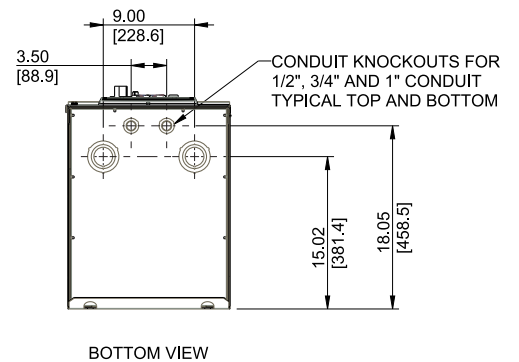
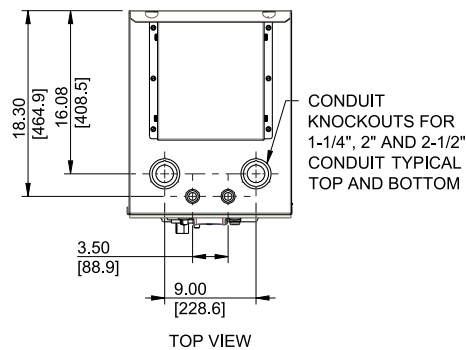
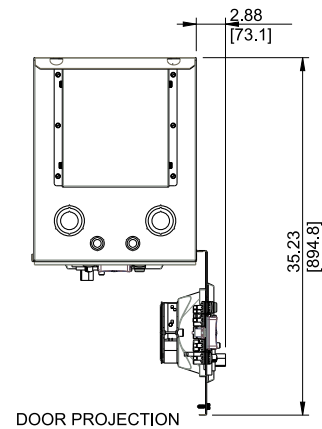
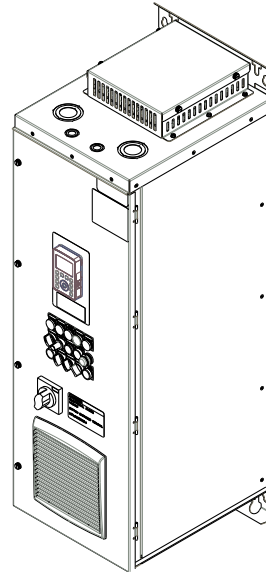
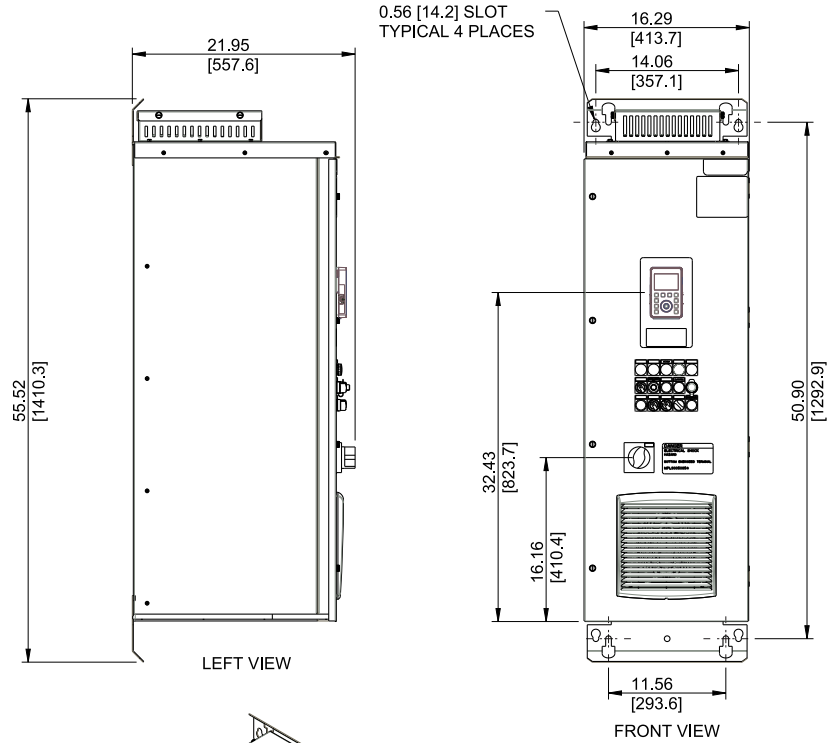
30HP[22KW] - 50HP[37KW]  
AT 460V HEAVY DUTY\*

20HP[15KW] - 30HP[22KW]  
AT 230V NORMAL DUTY\*

15HP[11KW] - 25HP[19KW]  
AT 230V HEAVY DUTY\*

\*STANDARD DRIVE  
PACKAGE

ELEVATION 1200MM  
TYPE 1, 12



40HP[30KW] - 60HP[45KW]  
AT 460V NORMAL DUTY\*

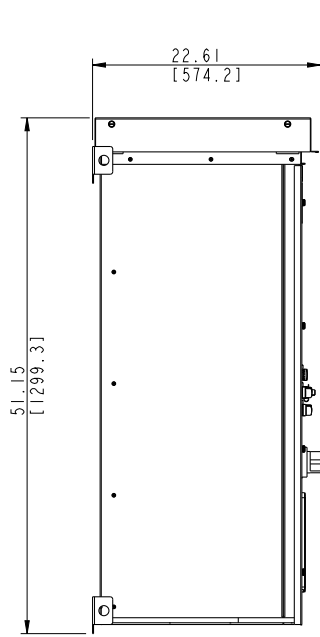
30HP[22KW] - 50HP[37KW]  
AT 460V HEAVY DUTY\*

20HP[15KW] - 30HP[22KW]  
AT 230V NORMAL DUTY\*

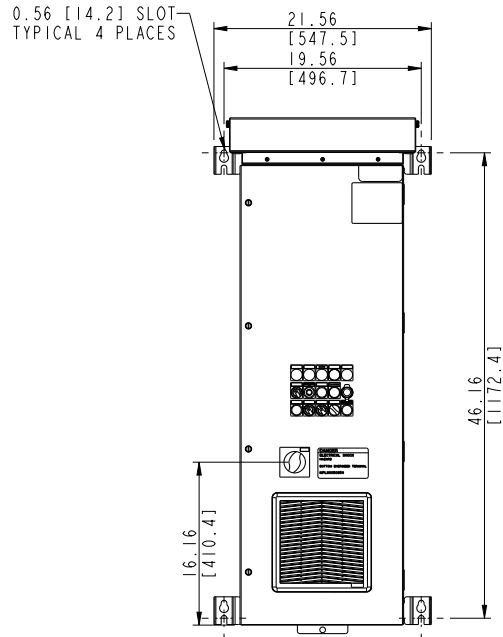
15HP[11KW] - 25HP[19KW]  
AT 230V HEAVY DUTY\*

\*STANDARD DRIVE  
PACKAGE

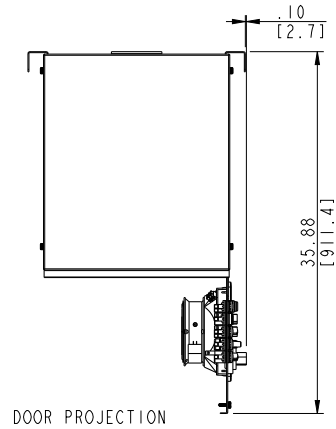
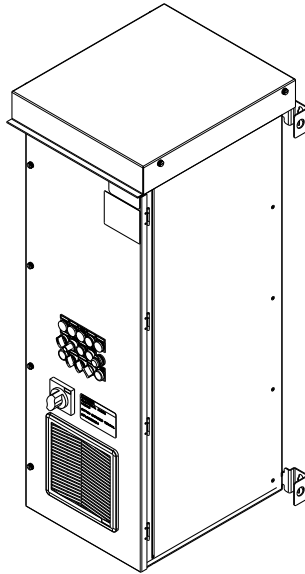
ELEVATION 1200MM  
TYPE 3R



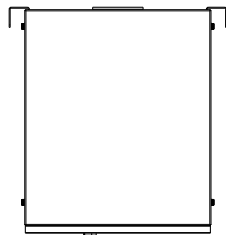
LEFT VIEW



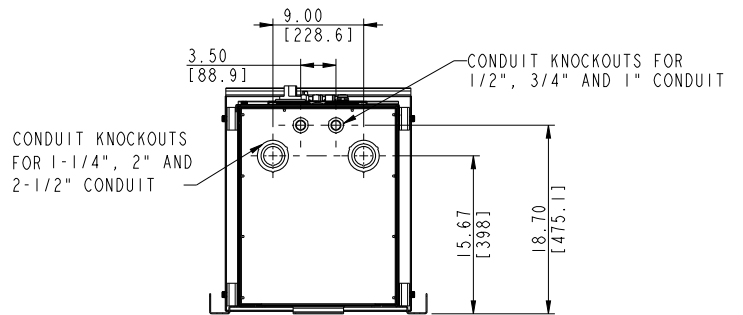
FRONT VIEW



DOOR PROJECTION



TOP VIEW



BOTTOM VIEW

# ATV660 Drive Systems

75HP[55KW] -  
125HP[90KW] AT 460V  
NORMAL DUTY\*

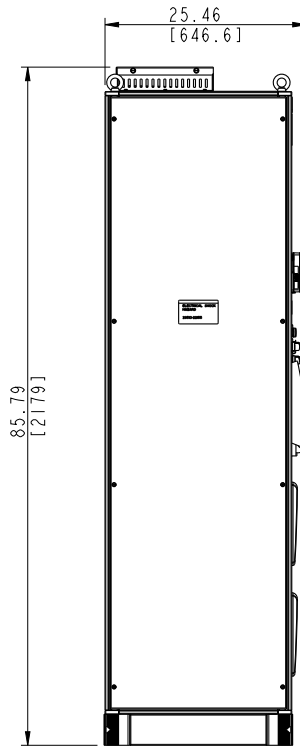
60HP[45KW] -  
100HP[75KW] AT 460V  
HEAVY DUTY\*

40HP[30KW] - 60HP[45KW]  
AT 230V NORMAL DUTY\*

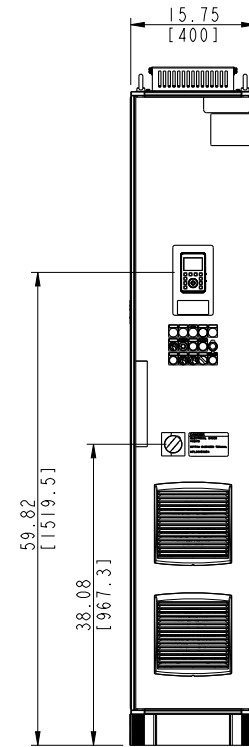
30HP[22KW] - 50HP[37KW]  
AT 230V HEAVY DUTY\*

\*STANDARD DRIVE  
PACKAGE

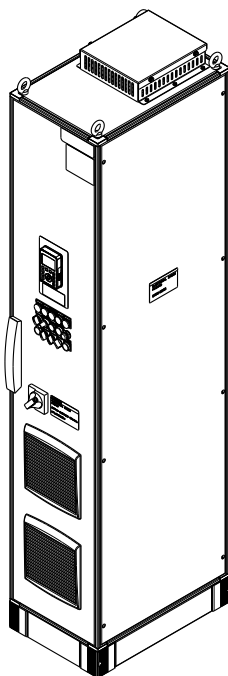
ELEVATION 2000MM  
TYPE 1



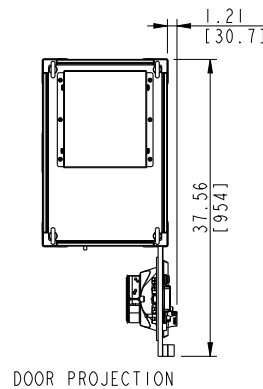
LEFT VIEW



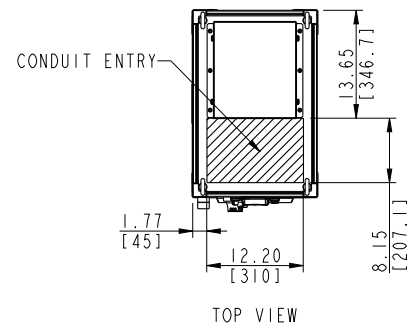
FRONT VIEW



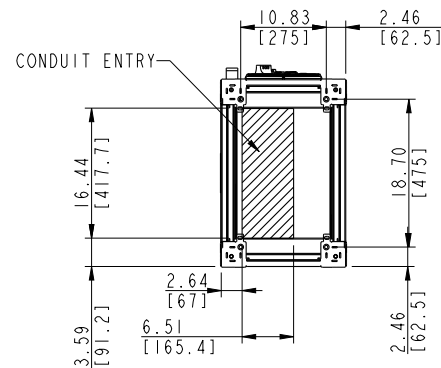
TYPE 1 CONFIGURATION



DOOR PROJECTION



TOP VIEW



BOTTOM VIEW  
MOUNTING LOCATIONS

# ATV660 Drive Systems

75HP[55KW] -  
125HP[90KW] AT 460V  
NORMAL DUTY\*

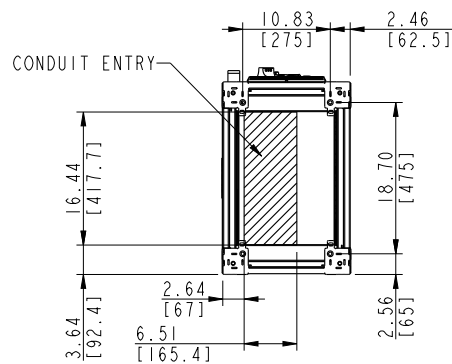
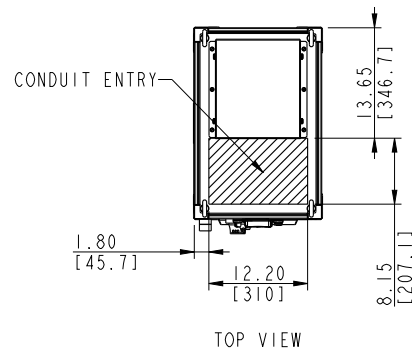
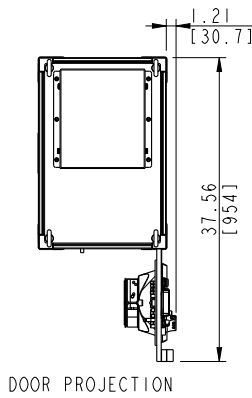
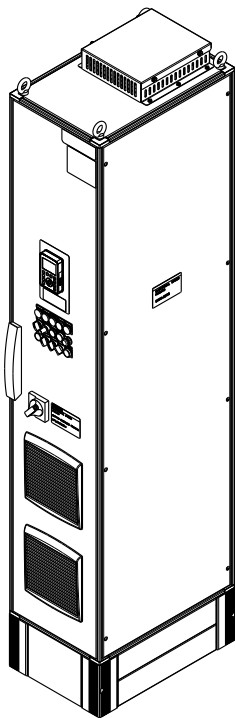
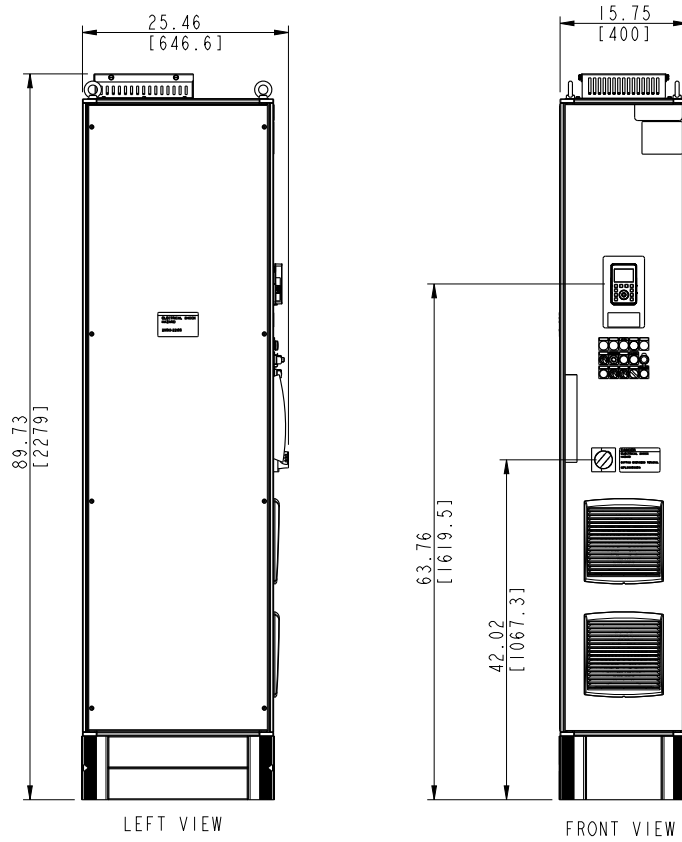
60HP[45KW] -  
100HP[75KW] AT 460V  
HEAVY DUTY\*

40HP[30KW] - 60HP[45KW]  
AT 230V NORMAL DUTY\*

30HP[22KW] - 50HP[37KW]  
AT 230V HEAVY D

\*STANDARD DRIVE  
PACKAGE

ELEVATION 2000MM  
TYPE 12



TYPE 12 CONFIGURATION

# ATV660 Drive Systems

75HP[55KW] -  
125HP[90KW] AT 460V  
NORMAL DUTY\*

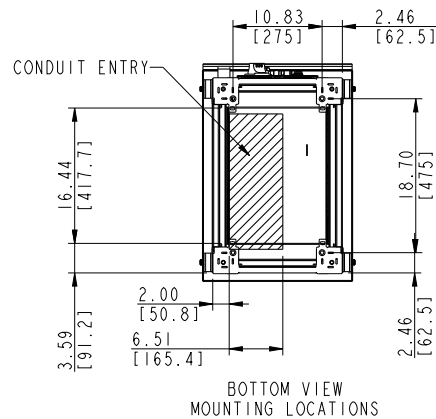
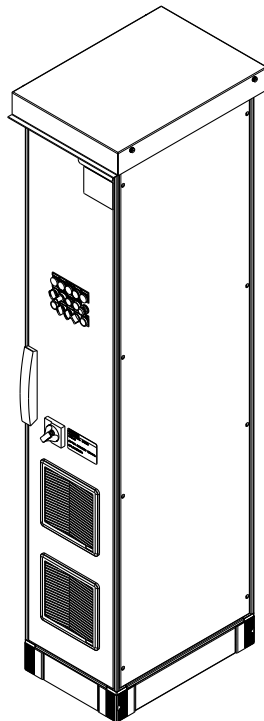
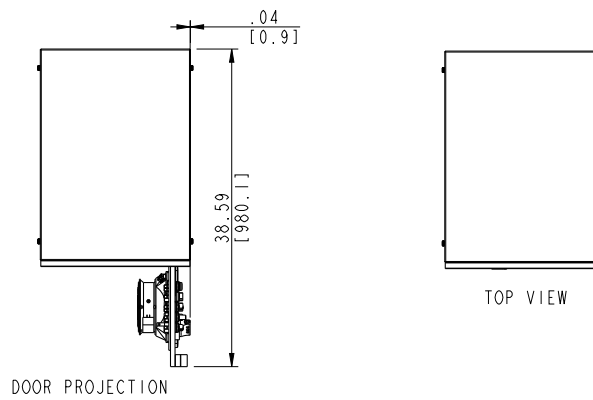
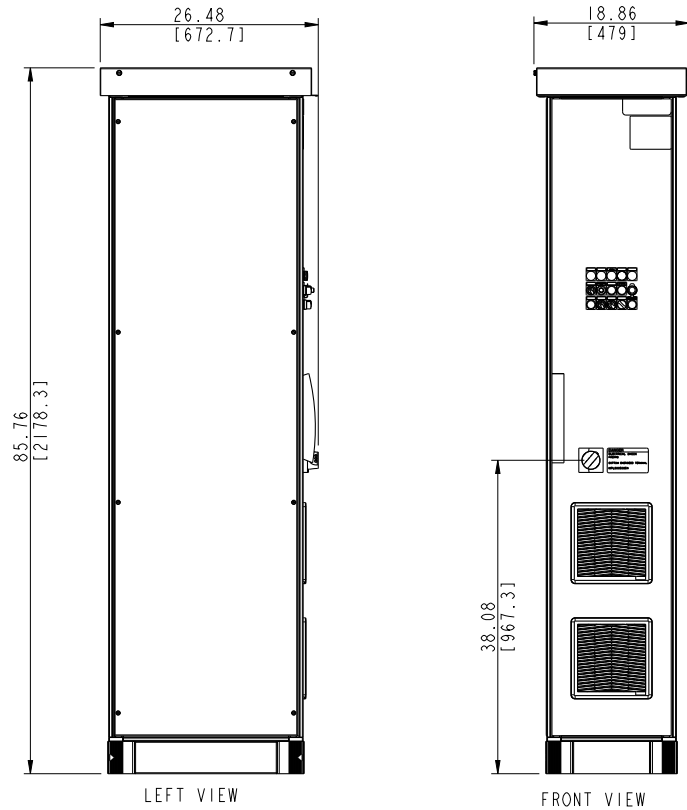
60HP[45KW] -  
100HP[75KW] AT 460V  
HEAVY DUTY\*

40HP[30KW] - 60HP[45KW]  
AT 230V NORMAL DUTY\*

30HP[22KW] - 50HP[37KW]  
AT 230V HEAVY DUTY\*

\*STANDARD DRIVE  
PACKAGE

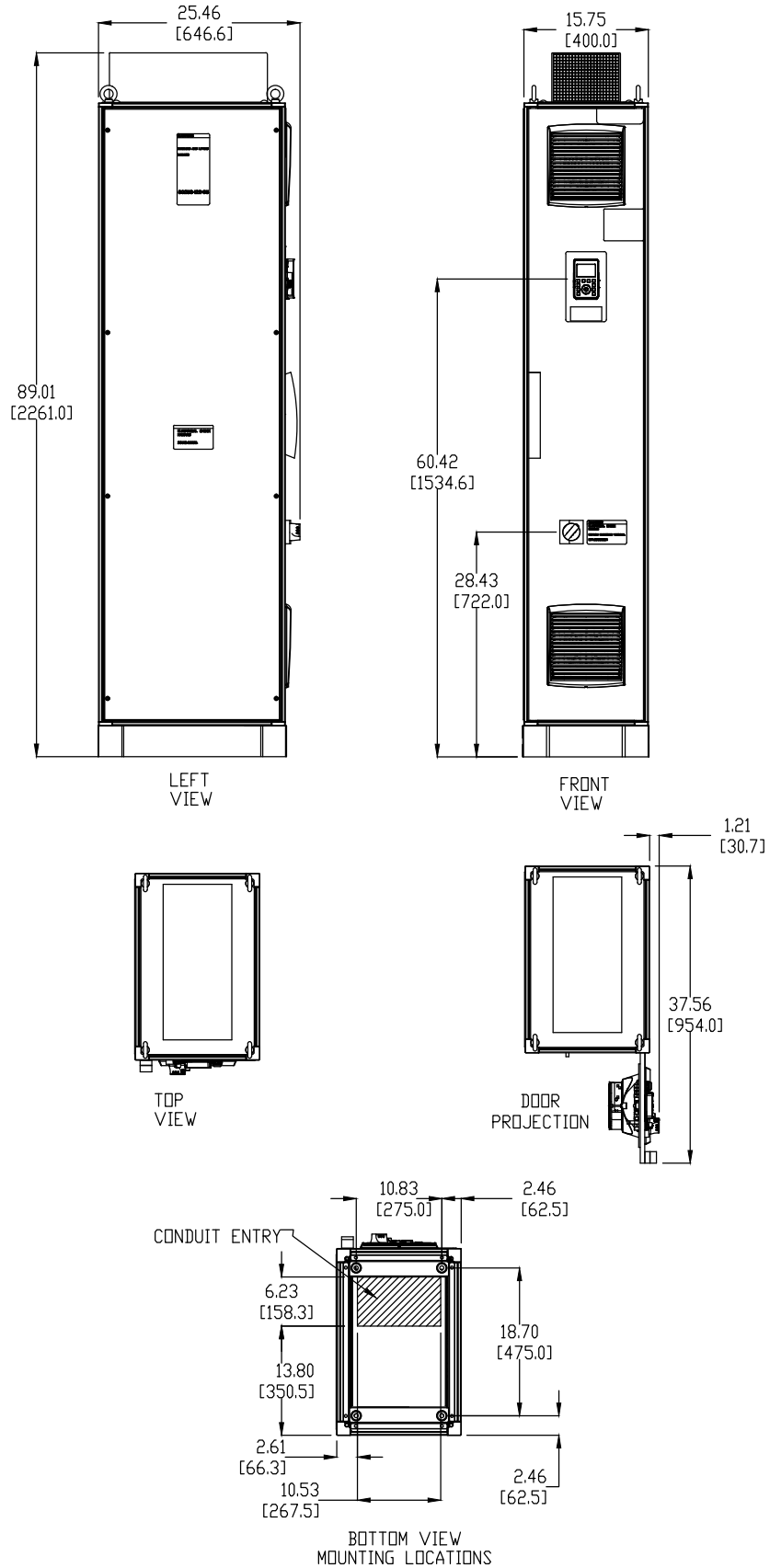
ELEVATION 2000MM  
TYPE 3R



# ATV660 Drive Systems

ATV660  
TYPE 1 FRAME 1P  
150-250HP @ 460V

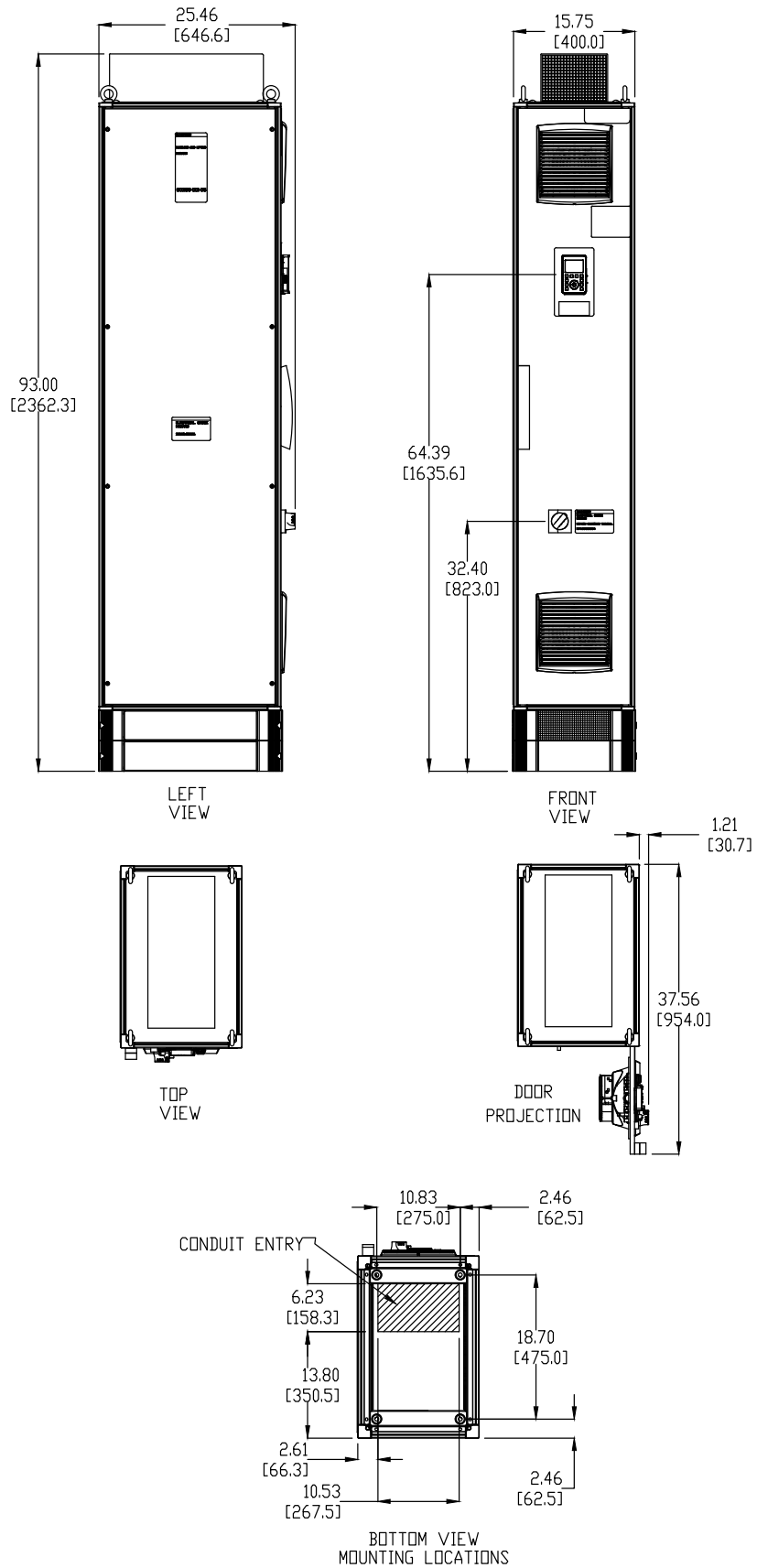
ELEVATION 2000MM  
TYPE 1



# ATV660 Drive Systems

ATV660  
TYPE 12 FRAME 1P  
150-250HP @ 460V

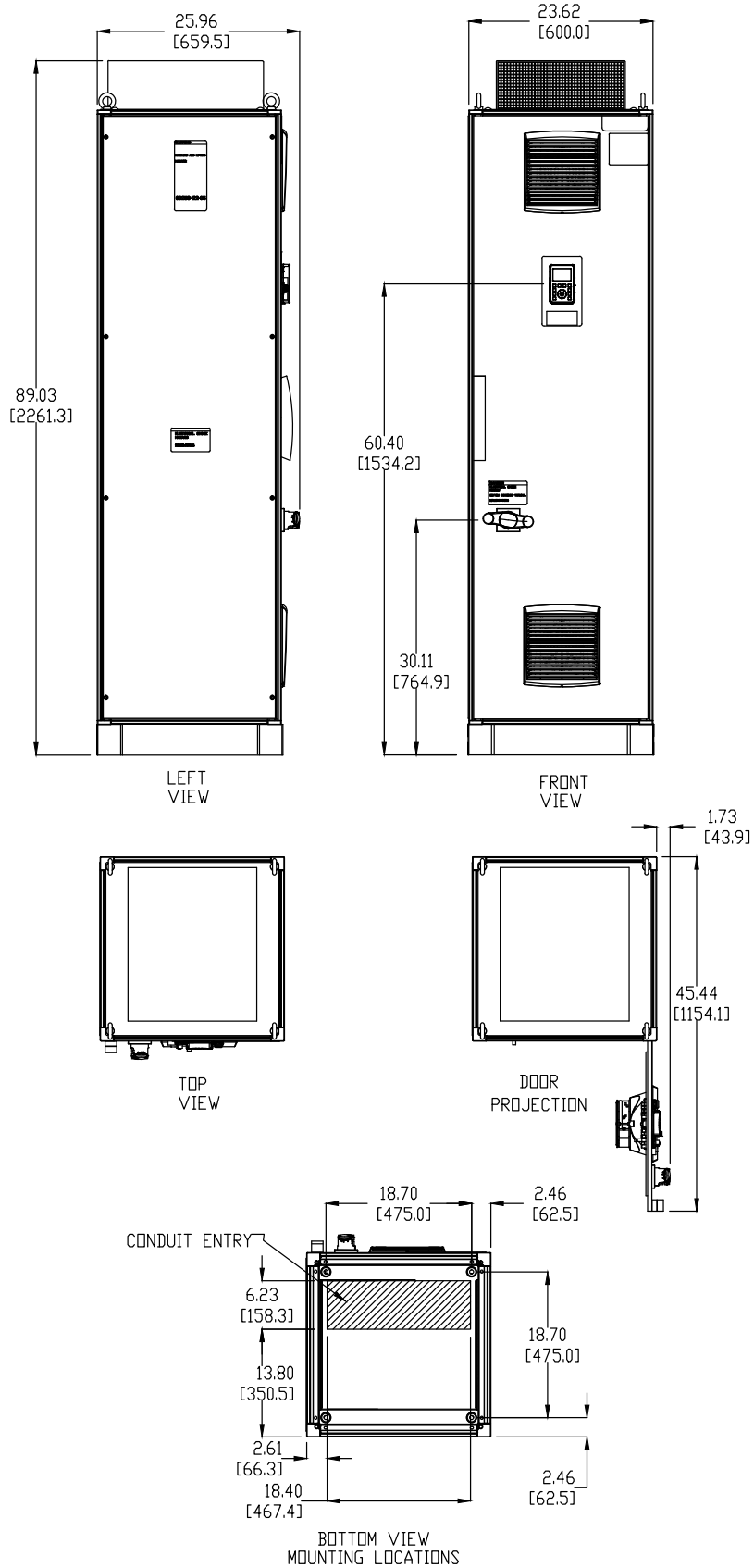
ELEVATION 2000MM  
TYPE 12



# ATV660 Drive Systems

ATV660  
TYPE 1 FRAME 2P  
300-500HP @ 460V

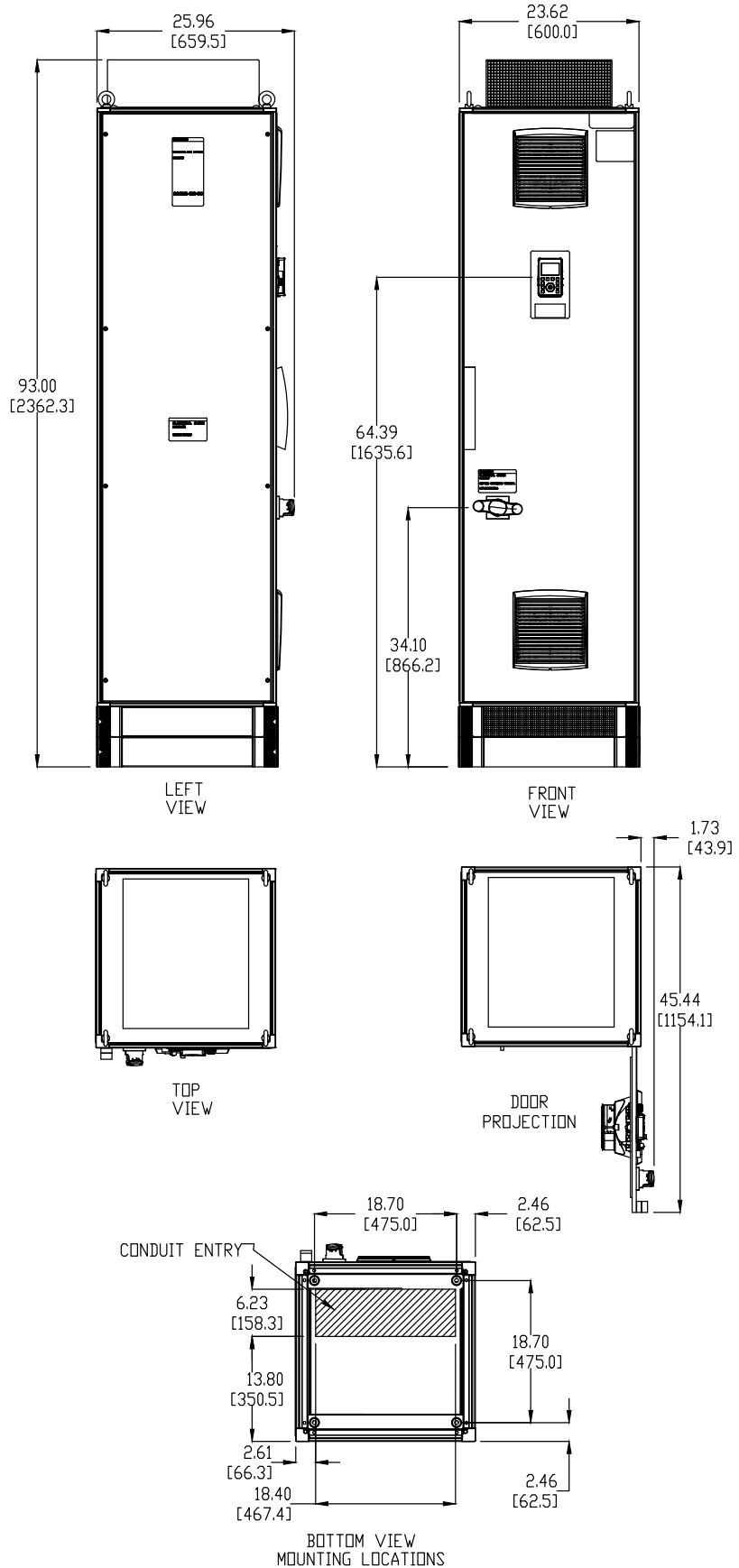
ELEVATION 2000MM  
TYPE 1



# ATV660 Drive Systems

ATV660  
TYPE 12 FRAME 2P  
300-500HP @ 460V

ELEVATION 2000MM  
TYPE 12





# ATV660 Drive Systems

---

---

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

© 2016 Schneider Electric. All rights Reserved. Schneider Electric, Altistart, Altivar, Magelis, Make the most of your energy, Modbus and The Global Specialist in Energy Management are trademarks and the property of Schneider Electric SE, its subsidiaries and affiliated companies. All other trademarks are the property of their respective owners.

Design: Schneider Electric  
Photos: Schneider Electric