

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.



1st Wave of Launch 1-125hp

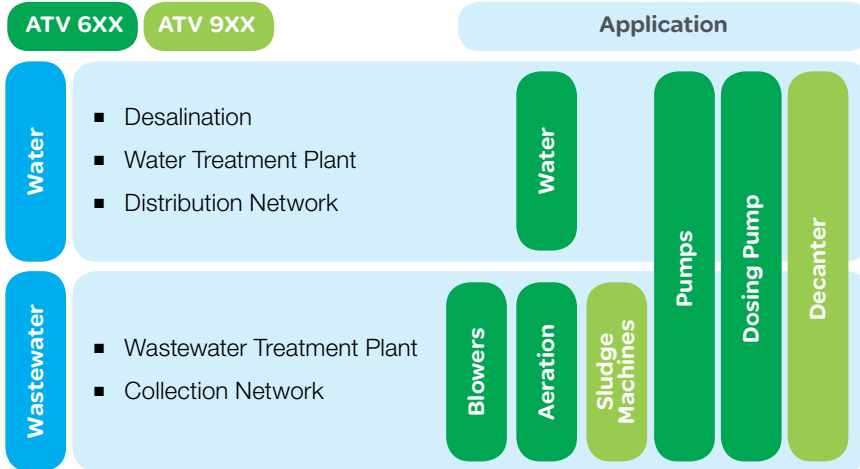
- Pre-engineered, ready to use solutions in highly efficient designs
- Modular and compact to maximize space utilization
- Flexibility for application requirements
- UL Type 1, 12 and 3R rated enclosures

- 1 – 125 hp utilizing the ATV630
- Built in pump curves
- Embedded ethernet and web server
- Dynamic QR codes
- Real time clock

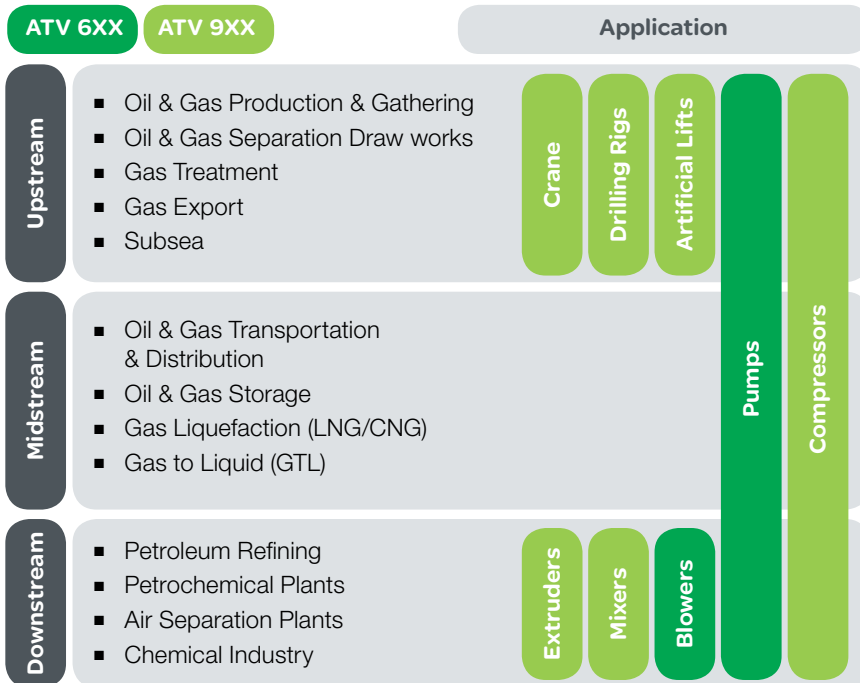
ATV660 Drive Systems

- Applications4
- 1-125 hp6
- Configured to Order8
- Engineered to Order10
- Make the Switch14
- Specifications15

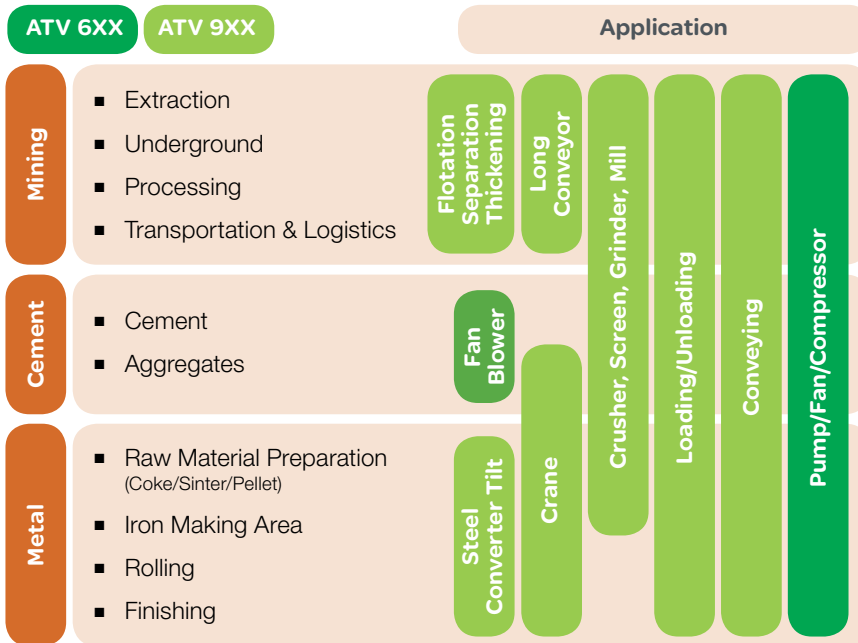
Applications in WWW



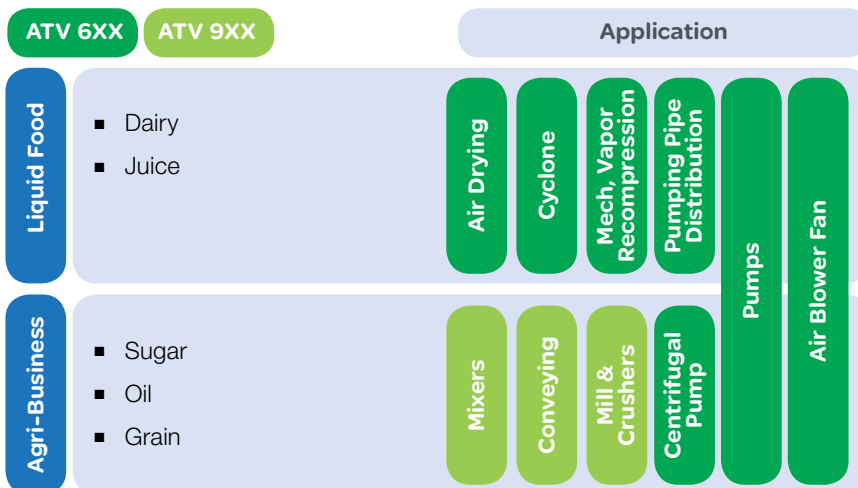
Applications in O&G



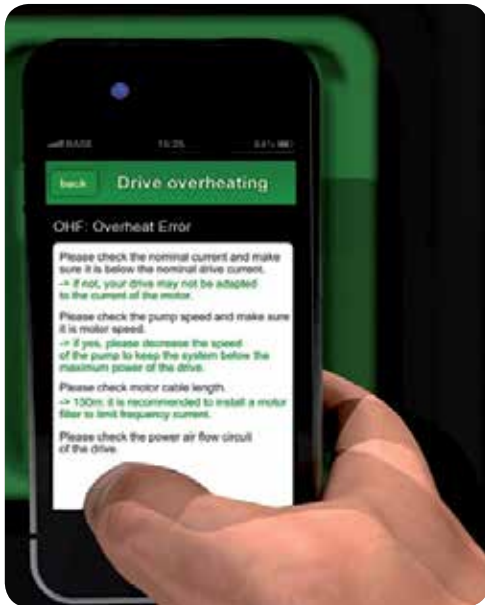
Applications in MMM



Applications in F&B



ATV660 Drive Systems (1-125 hp)



- 1-125 hp Normal Duty at 460V, 1-60 hp Normal Duty at 230V
- 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



40-60hp



20-30hp



1-15hp



ATV660 Drive Systems (1-125 hp)

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



Configuration To Order

Catalog number example: ATV660D22T4N2ANWAANAGK

<p>ATV660</p> <p>Product line (Utility) 660 ATV660 Drive System 680 Low Harmonic</p> <p>Product line (Industry) 960 ATV960 Drive System 980 Regen</p>	<p>D22</p> <p>Normal Duty Values</p> <table border="0"> <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> <tr><td>C80</td><td>1100</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	C80	1100	<p>T4</p> <p>Voltage U3 230V T4 460V</p>	<p>N</p> <p>2 UL (default) 6 cUL</p> <p>Normal Duty (default) H Heavy Duty</p>	<p>2</p> <p>Enclosure G Type 1 (default) A Type 12 H Type 3R (>125hp)</p>	<p>A</p> <p>Power Circuit W W/O bypass (default) Y Bypass</p>	<p>N</p> <p>Harmonic Mitigation N None (default) A 5% line impedance M Harmonic filter</p>	<p>W</p> <p>Control Options N Prewired for HOA A HOA, Speed Pot (default) B HOA, Speed Pot, Start-Stop</p>	<p>A</p> <p>Light Options N None A Red pwr on, Yell trip gr AFC run, Yell auto B Red pwr on, Yell trip gr AFC run</p>	<p>A</p> <p>Misc Options N None A Ethernet port on front door (PC/iPad) B Line contactor C Drive I/O extension D Drive extended relay module (3 NO) E 0-10V auto speed reference F 1 NO auxiliary auto mode contact G Type 1 SPD 40 k H Type 2 SPD 80 k J Not assigned K Additional 150VA control power transformer L Push-to-test pilot lights M Not assigned P Permanent wire markers (sleeve type) Q Trip reset button R Not assigned S 50 deg C (3R only, 125hp & below) T Service Switch U Top entry cubical (150hp & above) V Assembled in US (60hp & below) W Not assigned X DV/DT filter</p>	<p>N</p> <p>Comms Options N None A Profibus DP B CANopen daisy chain C Devicenet D CANopen sub-D9 E CANopen open style F Profinet</p>	<p>A</p> <p>Comms Options N None A Profibus DP B CANopen daisy chain C Devicenet D CANopen sub-D9 E CANopen open style F Profinet</p>	<p>G</p> <p>Comms Options N None A Profibus DP B CANopen daisy chain C Devicenet D CANopen sub-D9 E CANopen open style F Profinet</p>	<p>K</p> <p>Comms Options N None A Profibus DP B CANopen daisy chain C Devicenet D CANopen sub-D9 E CANopen open style F Profinet</p>
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Catalog Number Example: (Configuration To Order)

ATV660D22T4N2ANWAANAGK

ATV660	D22	T4	N	2	A	N	W	A	A	N	A,G,K
Altivar 660 Process Drive	22kW	460V 3 phase	Normal Duty Rating	UL Listed	UL Type 12	No Harmonic Mitigation	Without Bypass	H-O-A Speed Pot	Red Power On Yellow Tripped Green AFC Run Yellow Auto	No Comm Card	Ethernet Port on Front Door Type 1 SPD 40k Additional 150Va Control Power

Process drives without bypass are available up to 900hp HD / 1100hp ND at 460V or 50hp HD / 60hp ND at 230V. The following standard features for process drives without bypass, when no options are ordered:

- Circuit breaker disconnect
- UL listed per UL508A
- 100,000 SCCR short-circuit rating
- Disconnect handle with lockout/tagout provisions
- Door mounted keypad holder and display
- One form C tripped relay
- Two form A sequence relays
- White component mounting plate
- Six programmable digital inputs
- Standard 3% equivalent impedance
- Standard color RAL735
- Removable conduit entry plate on floor-mounted enclosures
- Class 10 overload protection
- Controller programming
 - Acceleration (ACC): 10s
 - Deceleration (DEC): 10s
 - Low Speed (LSP): 3Hz

Engineered to Order Options / TAG

Code	Option Description
C10	Allows the controller to follow a user supplied 3–15 PSI input
E10	Provides a smoke purge operating mode controlled by a user-supplied 120 Vac signal wired to terminal block TB1. Smoke purge operation is full speed bypass (when provided) or High Speed in the drive controller. This operation is designed run the motor from any operator control setting except emergency stop or open safety interlocks.
H10	Seismic - Future
L10	Provides 1 additional N.C. contact for drive fault indication wired to TB1
M10	Provides 1 additional N.O. contact for bypass run indication wired to TB1
R10	Provides an automatic transfer (time adjustable 0.1–10 s) to bypass in the event that the drive controller faults. A selector switch is provided inside the enclosure to enable or disable this function. Longer transfer time requirements are available by replacing the plug-in adjustable timer.
S10	Provides a dedicated non-resettable elapsed time meter to record the motor run time; runs whenever the motor is running
T10	Provides door mounted maintained off emergency stop red mushroom pushbutton with turn-to-reset feature
U10	Provides 50 VA/120 V to terminal block TB1 for motor space heater whenever the motor is not running
V10	Provides 50 VA/120 V to terminal block TB1 for seal water solenoid whenever the motor is running
W10	Provides an automatic shutdown of the drive controller when the user supplied N.C. contact from the check valve limit switch does not open within 5 seconds after the motor starts. The user limit switch contact connects to terminal block TB1. Circuit provides reset function with an illuminated (blue) push-button.
410	Provides radio frequency interference suppression with ferrite cores which are factory supplied on the power wires ahead of the power converter
R	Barrired Bypass - RVAT
S	Barrired Bypass – Soft Start
E201	Analog percent speed meter scaled 0 to 120% base speed
E202	Analog percent current scaled 0 to 100% of rated output current
E203	Digital ammeter (amperes) scaled 0 to 2 times rated output amperes
E204	Digital speed meter (frequency) scaled 0 to 72 Hz output frequency
E205	Digital percent speed meter scaled 0 to 120% base speed
E206	Digital percent current scaled 0 to 100% of rated output current
E219	Provides a relay circuit operating in the fail safe mode where a remote initiating contact opens the relay, de-energizes and after a specified time shuts the drive controller down in the AFC mode (hand or auto) and/or in the bypass mode (hand or auto)

Engineered to Order Options / TAG

Code	Option Description
E221	Provides relay, which will energize a remote seal water solenoid limited to 50 VA during drive controller operation. Additionally, the remote initiating contact will open the relay, de-energizing and after a specified time shuts the drive controller down in the AFC mode (hand or auto) and/or in the bypass mode (hand or auto).
E222	Provides 24 V or 120 V control power to a customer supplied moisture detection relay device, either electronic or electro-mechanical. Factory provides pre-wired socket or mounting space only.
E223A	Relay option: Provides 24 V or 120 V control power to a moisture detection relay device, either electronic or electro-mechanical. The moisture detection relay is mounted and wired by the factory.
E223B	Relay and Pilot Light indication option: Provides 24 V or 120 V control power to a customer supplied moisture detection relay device, either electronic or electro-mechanical. Includes a pilot light for discrete input(s). The customer supplied moisture detection relay is mounted and wired by the factory.
224	Substitute Type K operators; provides Class 9001 Type K 30 mm heavy duty multi-function operators in lieu of standard 22 mm pilot devices
225	Provides control relays mounted and unwired for customer use. Up to (3) are available
226	Substitute pilot light lens color(s); provides the flexibility to configure lens cap colors to contract equipment designations
227	Blown fuse indicators on control fuses. Provides blown circuit fuse indicators on control circuit fuses in lieu of standard fuses
228	Provides dedicated terminals using an external motor over temperature input (N.C. contact) factory wired and programmed
229	RTD inputs (motor protection alarm)b. Provides capability for accepting RTD inputs using an RTD limit alarm, factory mounted and wired; limited to three (3) RTD inputs
230A	Schneider Electric Sepam™ Series 20 motor protective relay
230B	Schneider Electric Sepam Series 41 motor protective relay
230C	GE Multilin® 269+ motor management relay
230D	GE Multilin 469 motor management relay
231A	PM820 power module
231B	PM850 power module
231C	PM870 power module
232A	CM3250 circuit monitor
232B	CM3350 circuit monitor

Engineered to Order Options / TAG

Code	Option Description
232C	CM4000T circuit monitor
232D	CM4250 circuit monitor
234	Provides (10) spare terminal blocks 'unwired' for customer use using the Class 9080 Type G series terminals
235	End damper control circuit: provides a damper control circuit to coordinate starting of the drive controller or the bypass with the position of the damper. Requires connection to customer damper limit switch
236	Provides a shunt trip modified molded case switch or circuit breaker where a push pull maintained energizes the audible alarm horn with silencer
238	Audible alarm horn with silencer: provides an audible alarm horn, timer to annunciate a user defined conditions with a silencer push-button, factory assembled and wired for customer use
239A	Monitor input full load amps
239B	Monitor output full load amps
240A	Alarm with pilot light: Provides relay circuit and pilot light indicator alarm for high level alarm limit switch via contact closure. Includes master reset push-button and (1) Form 'C' contact for customer use.
240B	Command to run and alarm with pilot light indication: Provides relay circuit, timer and pilot light indicator sequenced for high level alarm limit switch via contact closure, energizing the drive controller and/or bypass to run full speed. Includes master reset push-button and (1) Form 'C' contact for customer use.
241	Provides relay circuit and pilot light indicator sequenced for low level alarm limit switch via N.O./N.C.contact closure, causing the drive controller to stop. Includes master reset push-button and (1) Form 'C' contact for customer use.
242	Provides interlocking and timer functions of enclosure ventilation fans to shutdown during drive controller idle conditions
243	Provides relay circuitry with pilot light indicator sequenced from a pressure switch input, causing the drive controller to stop; includes master reset push-button
244	Provides relay circuit, timer with pilot light sequenced from a pressure switch input when low discharge condition; includes master reset push-button and (1)
245	Provides relay circuitry, timer with pilot light sequenced from a pressure switch input when not enough seal water is supplied; includes master reset push-button and (1) Form 'C' contact for customer use
246	Provides dedicated terminals using an external motor over temperature input (Form 'C' contact) and a pilot light indicator factory wired and programmed
247	Provides a phase failure relay (Tele RM4T series) mounted and wired to indicate phase reversal, phase loss and imbalance operating conditions
248	Provides a dedicated 30 mm push-to-test button for indication of operable pilot lights
249	Substitutes TeSys Type NEMA® rated relays rated 600 V, 10A

Engineered to Order Options / TAG

Code	Option Description
303	Converts all standard wall and floor mounted enclosures up one enclosure size
304	Uses Barriered enclosure for non-bypass drives controllers. Bypass space is configured with circuit breaker disconnect and handle only
305A	Space heater only; provides a Hoffman type enclosure strip heater and thermostat to maintain internal low temperature ambient ratings
305B	Space heater with storage operation provision; provides a Hoffman type enclosure strip heater and thermostat to maintain internal low temperature ambient ratings. Includes 120 V remote source input terminals for operation during storage conditions.
401	Provides dynamic braking resistor top mounted on the enclosure. Resistors are 10% duty cycle constant torque (CT) applications. Overload protection for externally mounted dynamic braking resistor is mounted inside the drive controller enclosure
403	Provides NEMA rated contactors for isolation and bypass configuration in lieu of the IEC rated contactors
404	Provides supplementary surge protection using a Class 1310 TVSS XWF Series Transient Voltage Surge Suppressor hard-wired and factory mounted; 100,000 peak volts of surge protection
405	Provides supplementary surge protection using a Class 1310 TVSS XWF Series Transient Voltage Surge Suppressor hard-wired and factory mounted; 100,000 peak volts of surge protection.
406	Provides short circuit and overload protection for (2) motors connected to the output of the drive controller. Includes thermal overload modules for each motor
407	Provides a contactor interlocked for the selection of one motor for load share via a selector switch or rotation timer scheme
409	Provides a line contactor between the circuit breaker disconnect (or line reactor or harmonic filter where provided) and the power converter; when the line contactor is open, serial communications is disabled
413	Provides a secondary surge arrester Class 6671 SDSA3650 mounted and wired

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

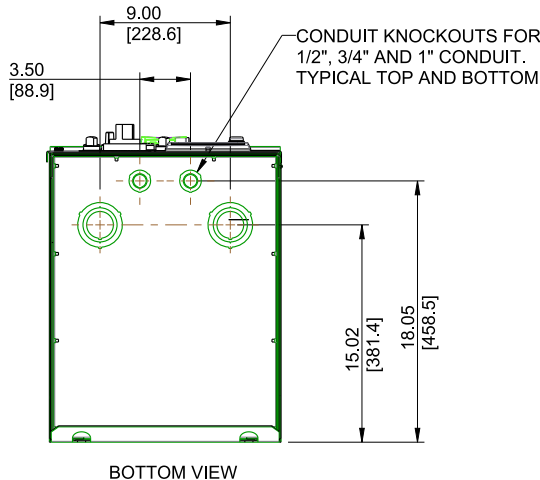
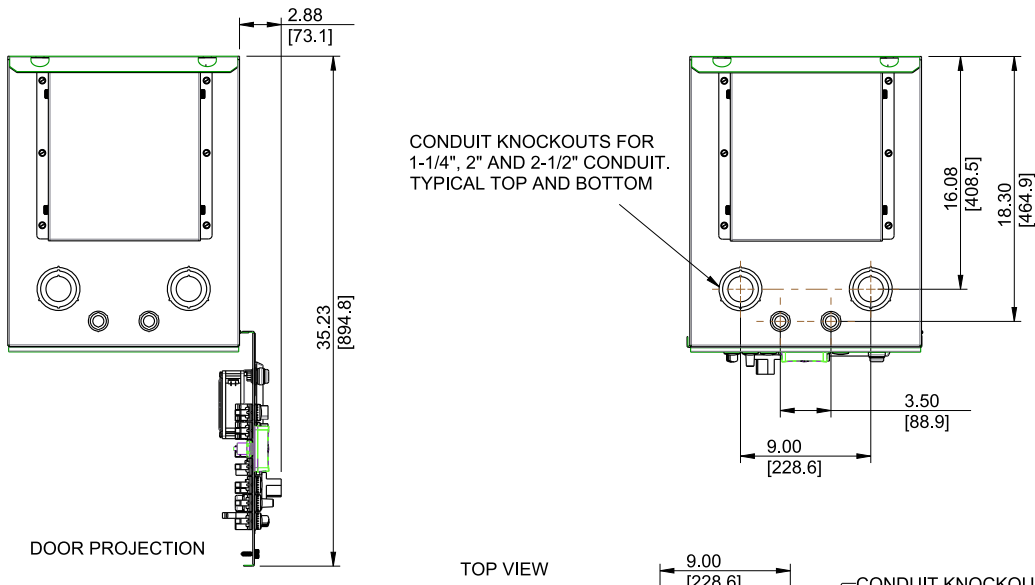
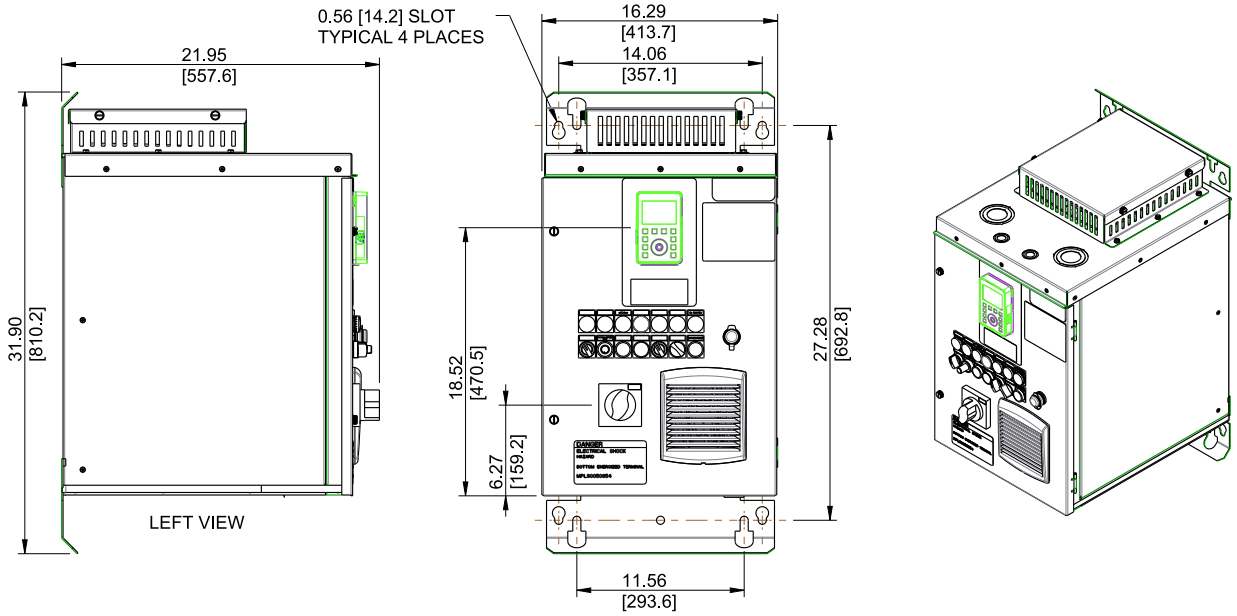
Embedded pump curves
Embedded web server
Dynamic QR codes



ATV660 Drive Systems

ATV660 Drive Systems (1-1100 hp)

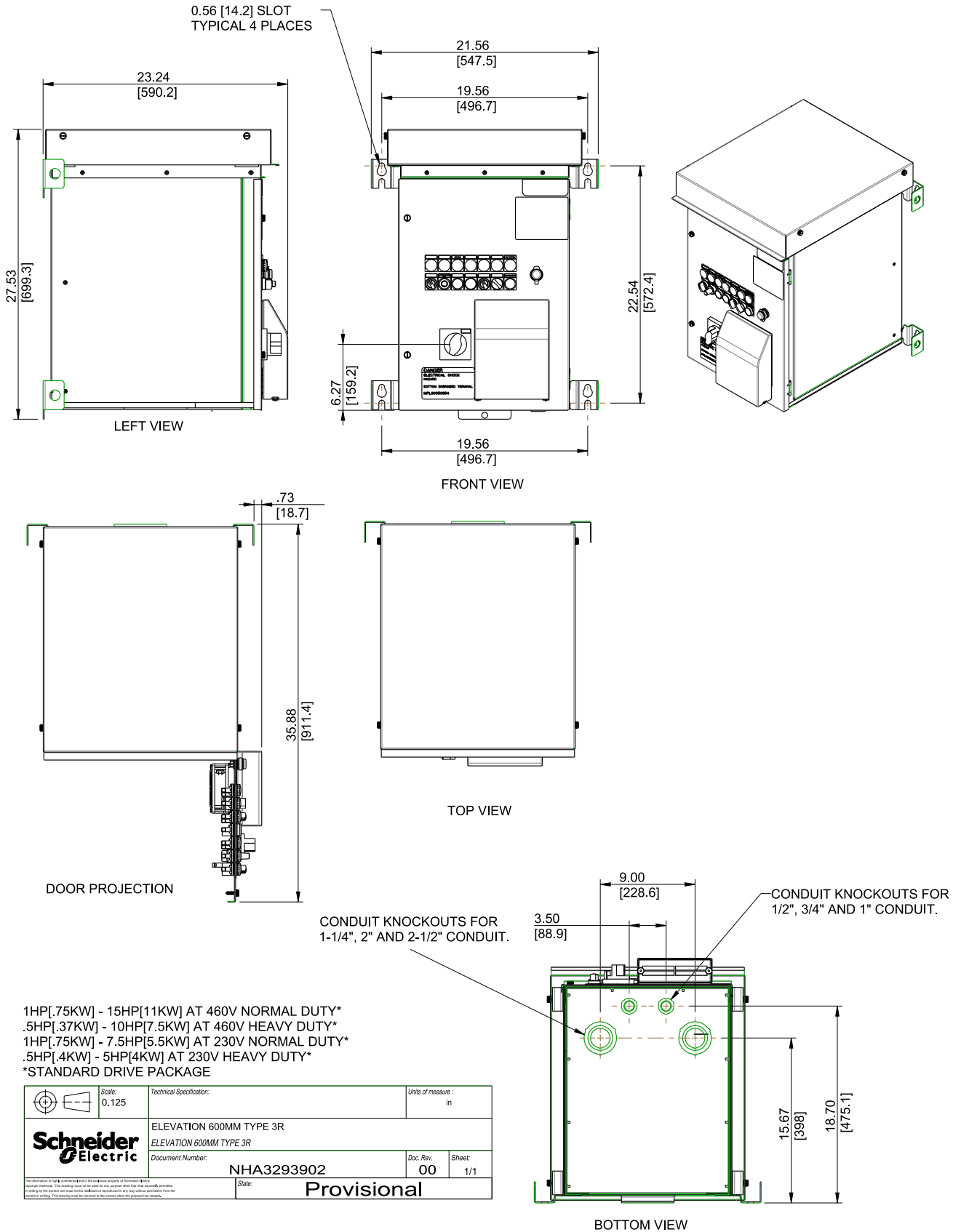
Electrical Specifications		Environmental Specifications	
Input mains voltage	230 Vac \pm 10%, 460 Vac \pm 10%	Storage temperature	-13 to +149 °F (-25 to +65 °C)
Short circuit current rating (AC symmetrical)	100 kA	Operating temperature	+14 to +104 °F (-10 to +40 °C) Type 1/12; +14 to +122 °F (-10 to +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 (in AFC mode)	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 \pm 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		
Efficiency	95% (or greater) at full load typical		

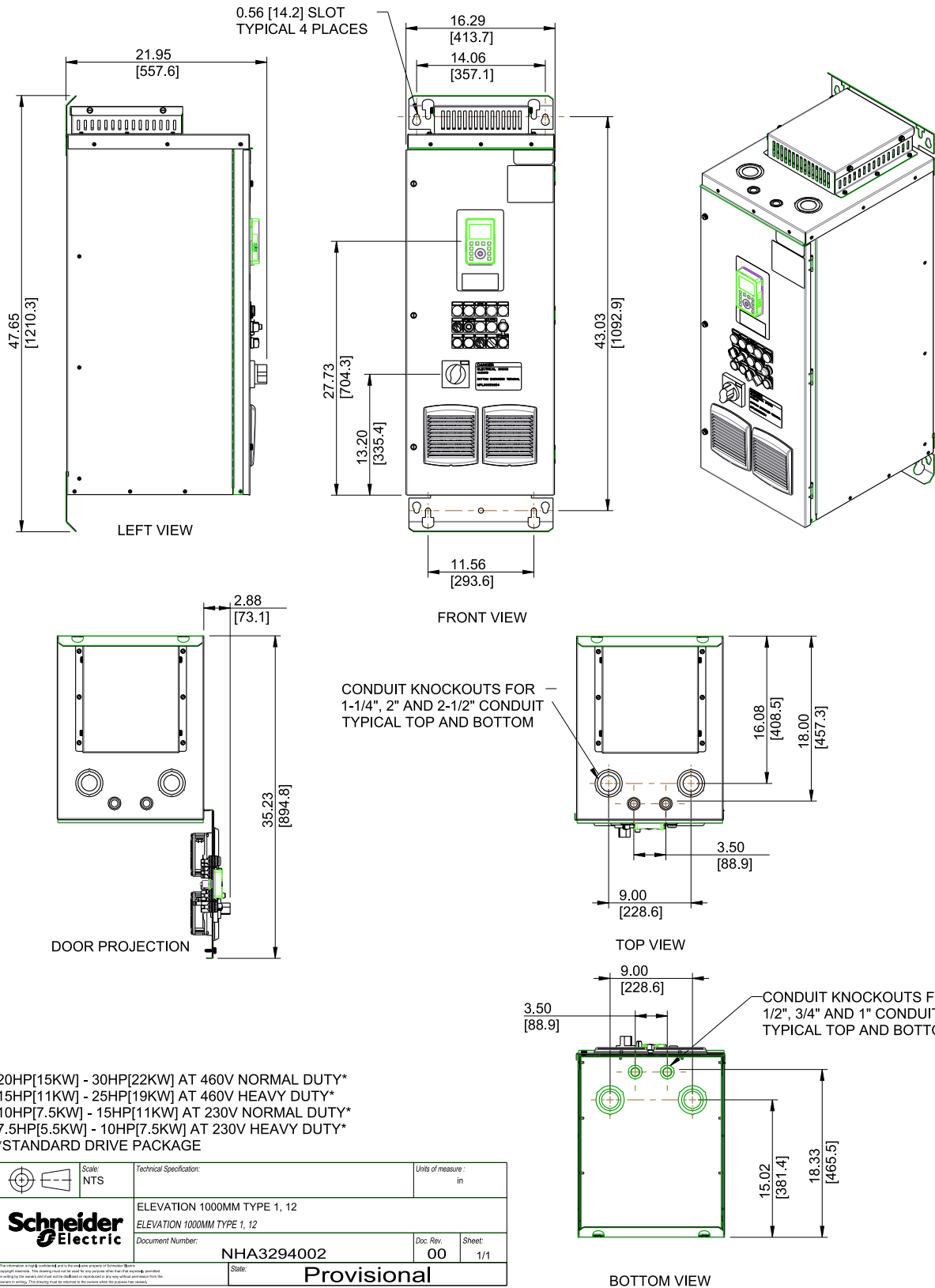


1HP[.75KW] - 15HP[11KW] AT 460V NORMAL DUTY*
 .5HP[.37KW] - 10HP[7.5KW] AT 460V HEAVY DUTY*
 1HP[.75KW] - 7.5HP[5.5KW] AT 230V NORMAL DUTY*
 .5HP[.4KW] - 5HP[4KW] AT 230V HEAVY DUTY*

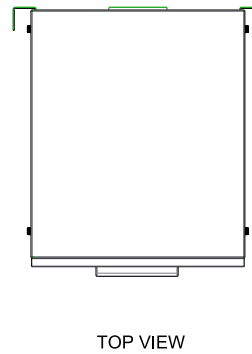
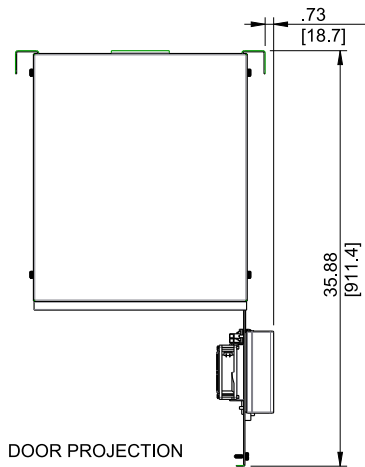
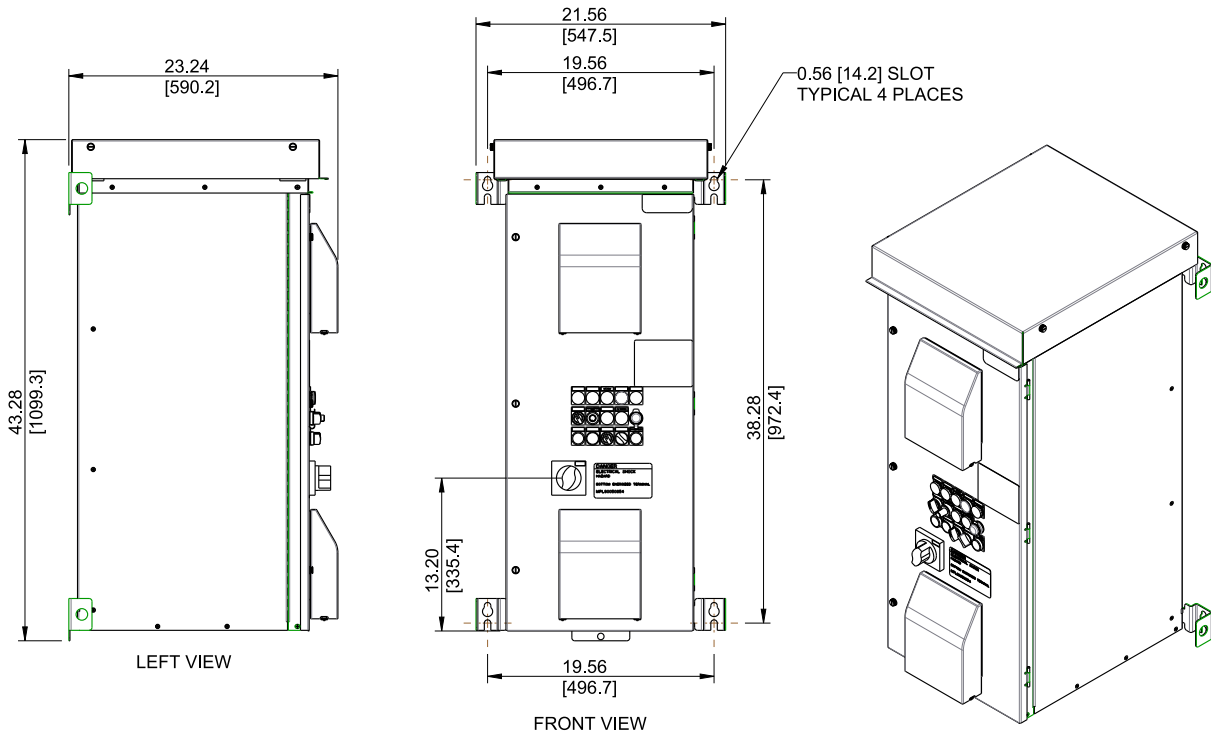
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ATV660 Drive Systems Specifications

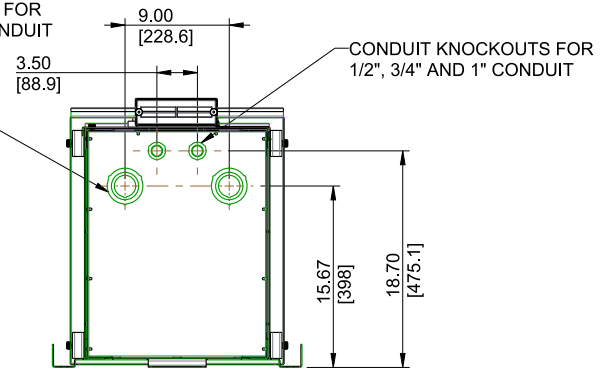




ATV660 Drive Systems Specifications



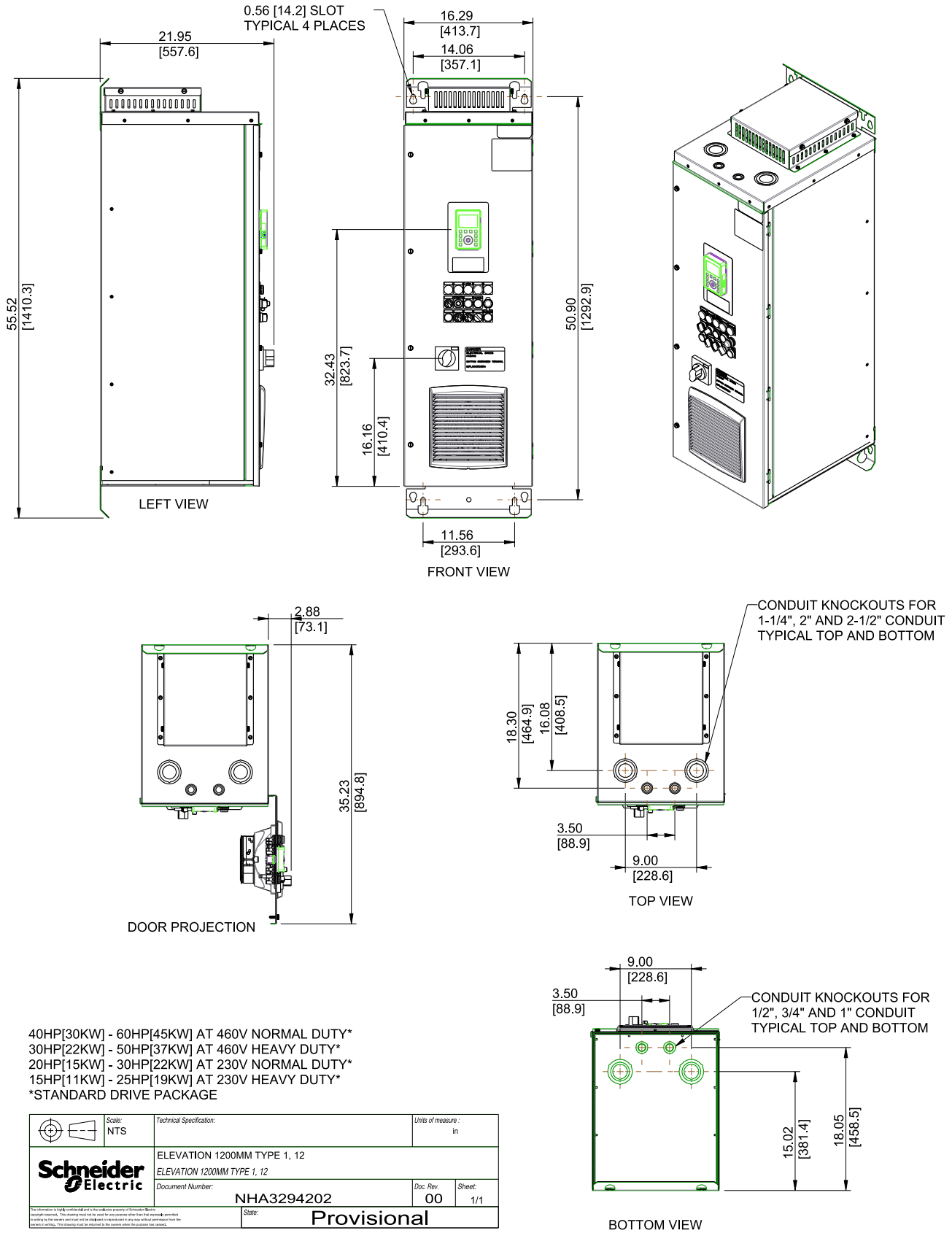
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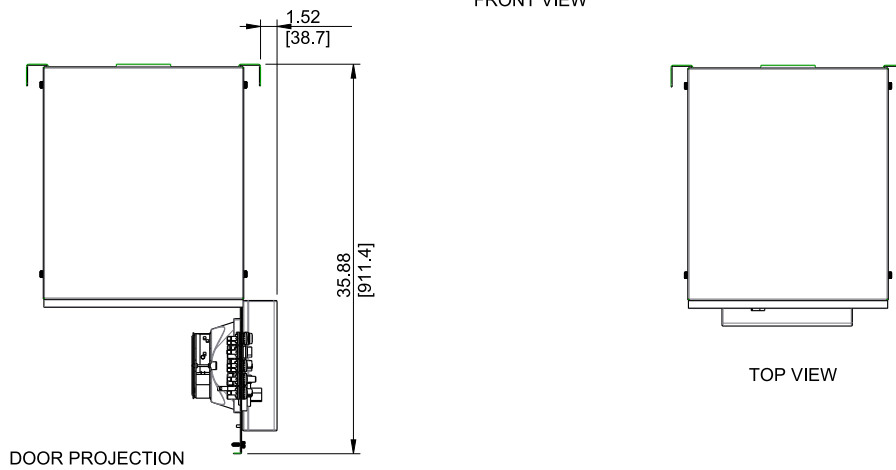
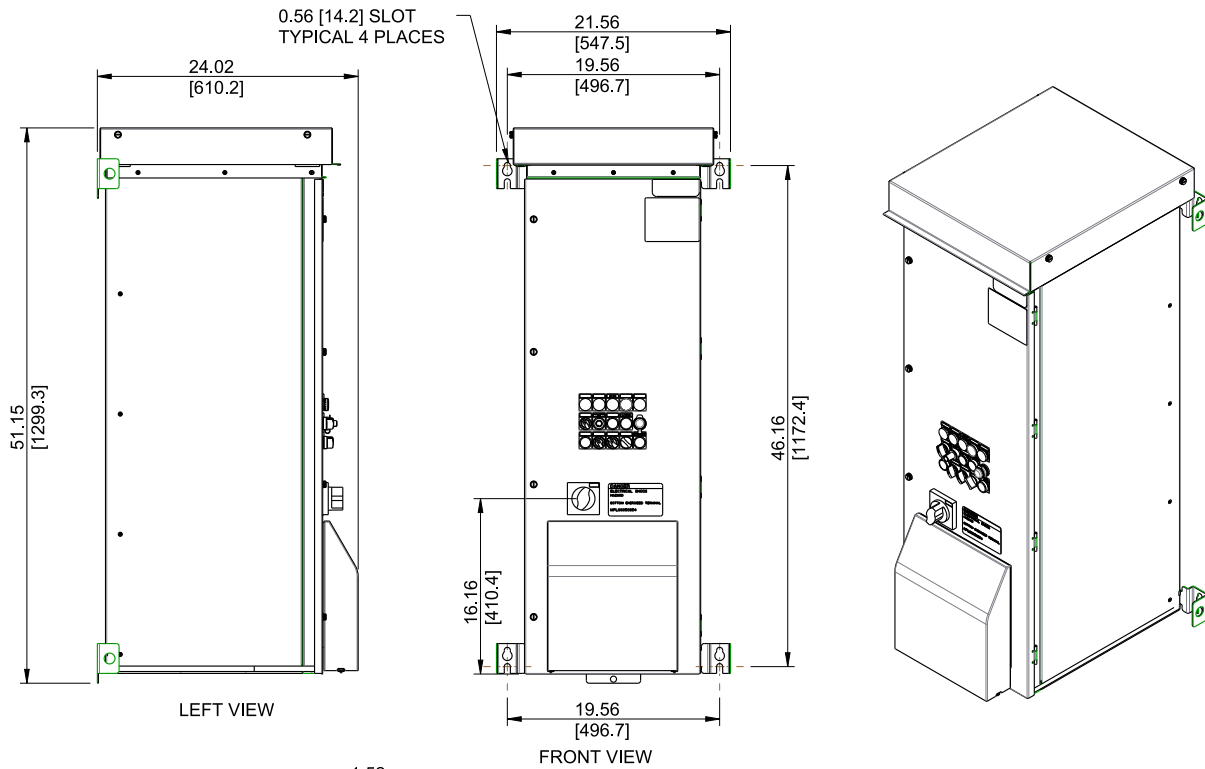
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 15HP[11KW] - 25HP[19KW] AT 460V HEAVY DUTY*
 10HP[7.5KW] - 15HP[11KW] AT 230V NORMAL DUTY*
 7.5HP[5.5KW] - 10HP[7.5KW] AT 230V HEAVY DUTY*
 *STANDARD DRIVE PACKAGE

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State: Provisional			

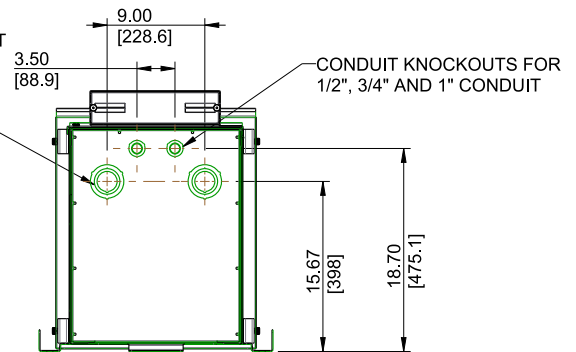
BOTTOM VIEW



ATV660 Drive Systems Specifications



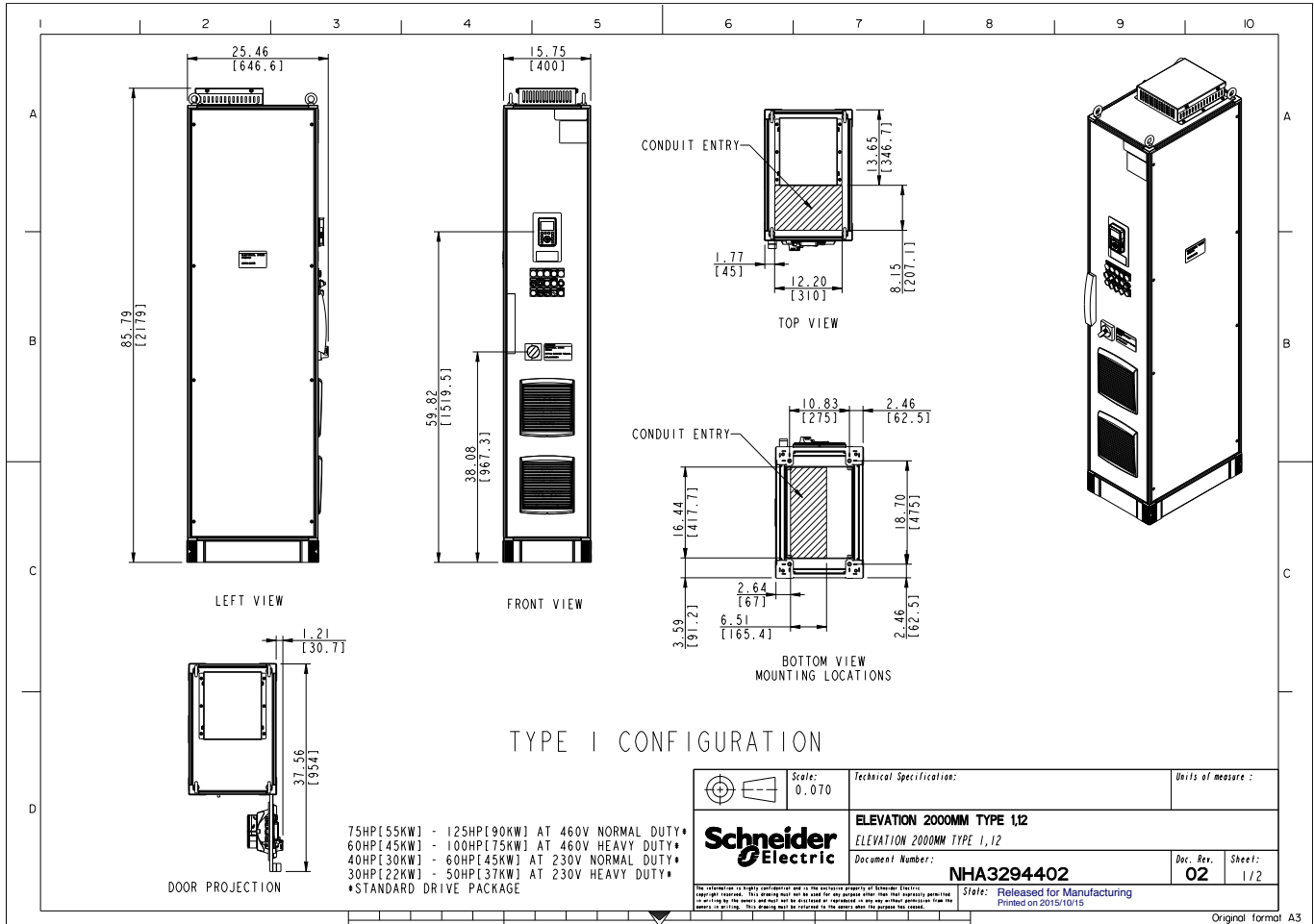
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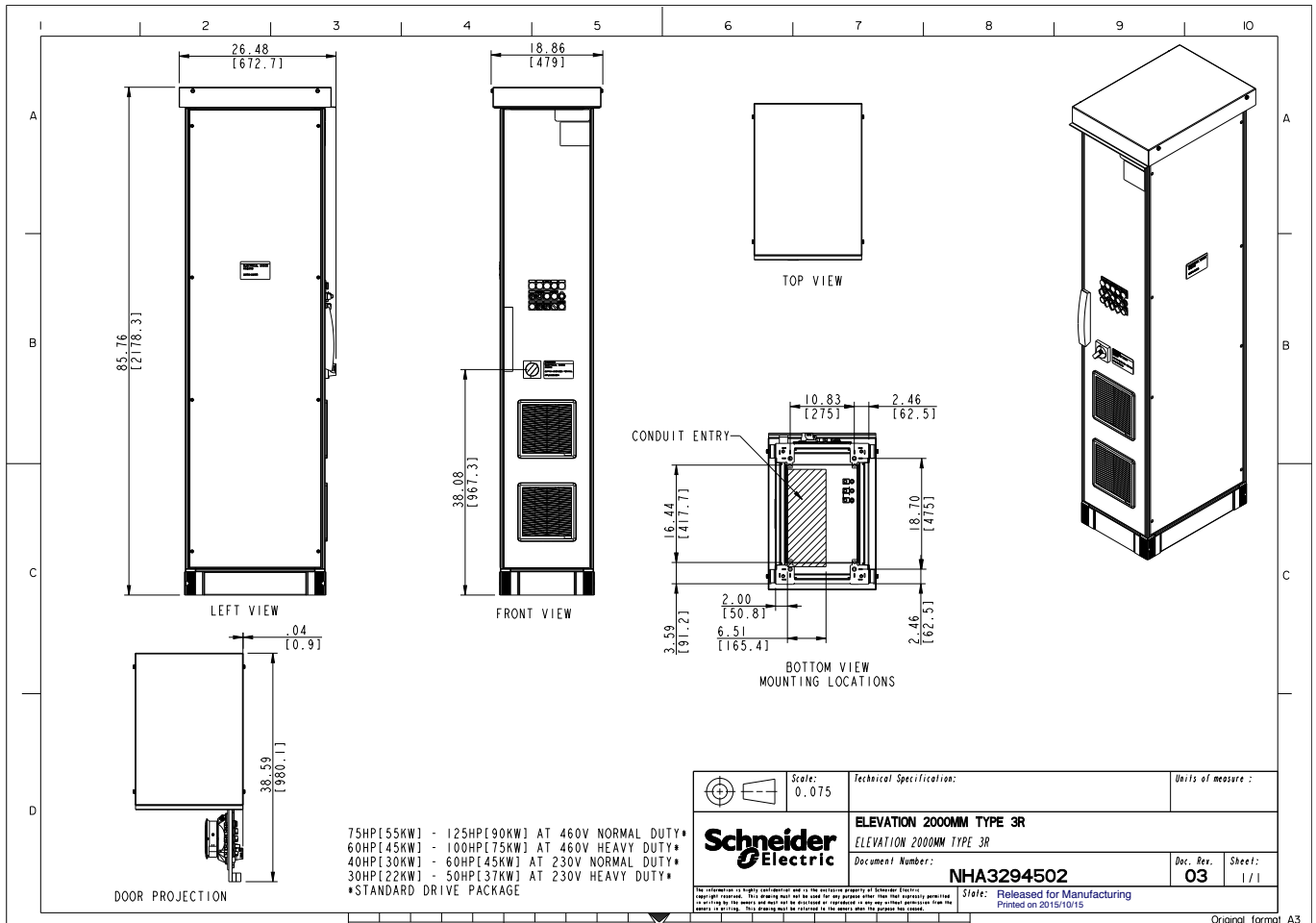
- 40HP[30KW] - 60HP[45KW] AT 460V NORMAL DUTY*
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- *STANDARD DRIVE PACKAGE

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ATV660 Drive Systems



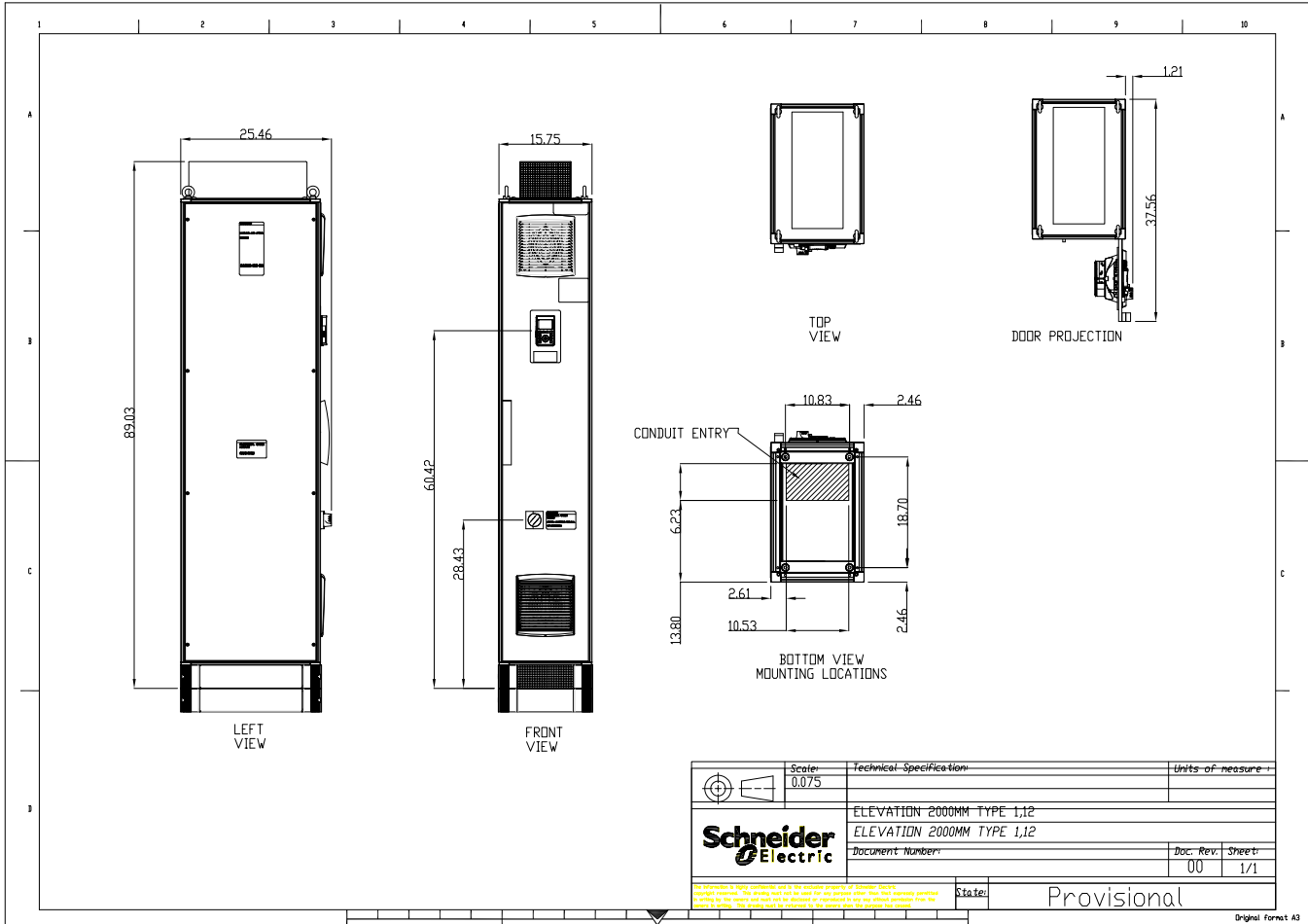
ATV660 Drive Systems



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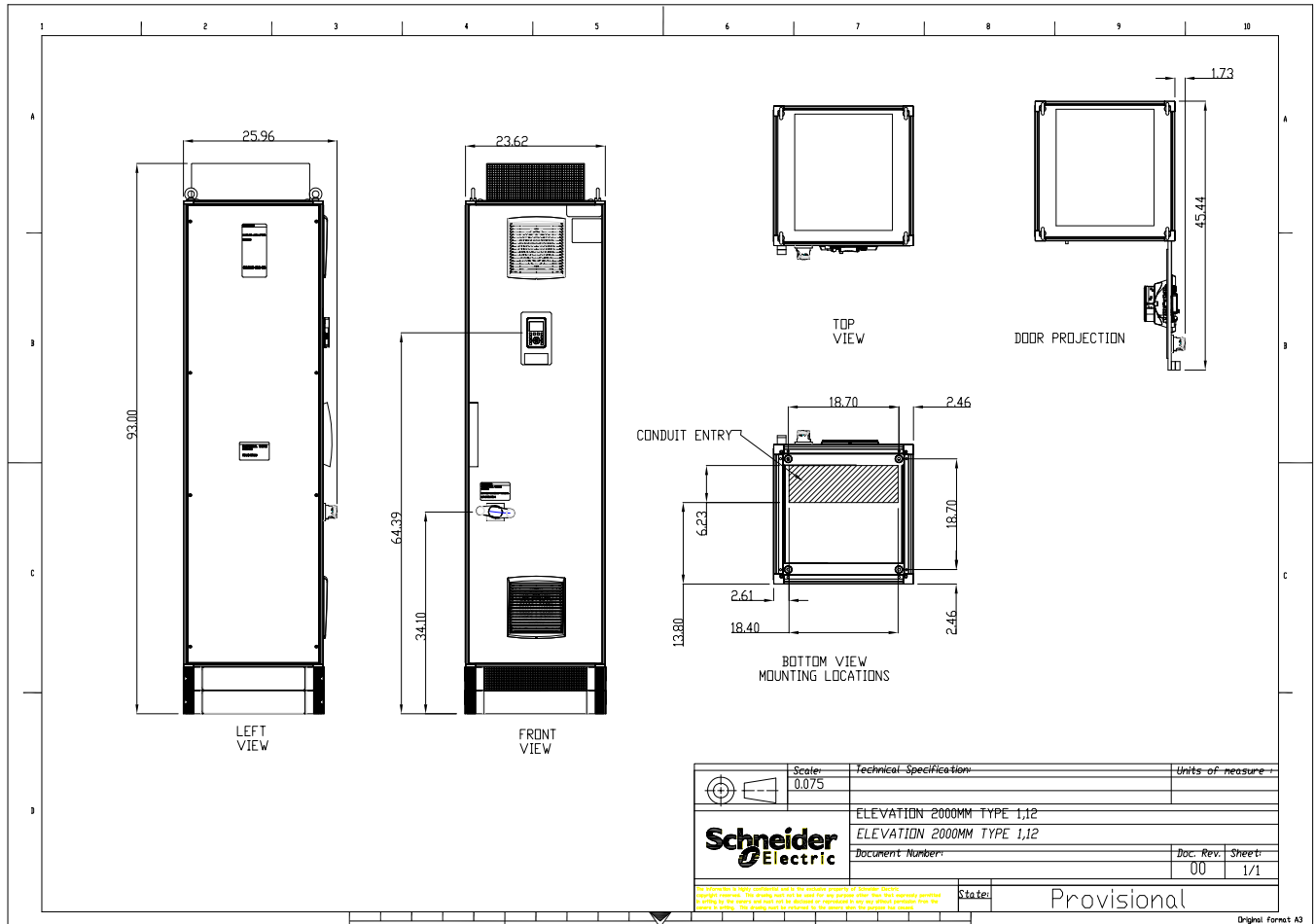
ATV660 Drive Systems

150-250 hp at 460 V



ATV660 Drive Systems

300-500 hp at 460 V



ATV660 Drive Systems

ATV600

MV variable speed drive

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