SR HV DC POWER SUPPLY

DC VOLTAGE UP TO 60KV

POWER FROM 1.5W TO 40KW

SR serie is designed to offer optimal performance in a compact design. SR Power Supply from 700V to 60kV provide high reliability without any special maintenance.

APPLICATIONS

- Pulsed applications
- Capacitors
- Research and Dévelopment
- Test equipment
- Accelerators
- Beams (electron-ion)
- Tubes

MAIN SPECIFICATIONS

- Output Voltage: up to 60kV
- Output power: 1.5W to 40kW
- Polarity: positive-negative-reversible-floating
- Rise -time (10-90%): < 80 ms
- Ripple + Noise: 0.1% RMS of max output voltage
- Remote interface : 0-10V analog

Your contact:

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TECHNICAL SPECIFICATIONS

FORMAT	19” Rack or 19” cabinet
EFFICIENCY	> 92% at full load
MAINS INPUT	up to 2kW: 230 VAC ±10%, 47-63 Hz, single phase above 1.5kW: 400VAC ±10%, 47-63 Hz, 3 Phases + Earth
INPUT POWER FACTOR	≥ 0.90 at full load
INRUSH CURRENT	Limited to operating current at full power
REGULATION MODES	Constant Voltage (CV) and Constant Current (CC) regulations, automatic crossover. Power regulation on demand.
STATIC LOAD REGULATION	±0.05% of full voltage or current, from no load to full load (lower on demand)
STATIC LINE REGULATION	±0.05% of full voltage or current for ±10% mains voltage (lower on demand)
STABILITY (AFTER 1-HOUR WARM-UP)	100 ppm/hour, 300ppm/8 hours operating at constant load and temperature
PROTECTIONS	Short circuit, Arc quench, External interlock, Over temperature, Overload, Over voltage, Over current
STORED ENERGY	1 J/kW
ACCESSORIES	3m removable coaxial HV cable, interlock terminator, safety key

CONTROL

LOCAL CONTROLS	Mains power switch, safety lock, HV on, HV off, Over current mode, Preset, Limitation of voltage setting
OUTPUT VOLTAGE AND CURRENT SETTING	10 turn potentiometer (0.05% resolution) Continuously adjustable from 0 to 100%
VOLTAGE AND CURRENT DISPLAY	4.5 Digit
STATUS INDICATORS	HV on, HV off, Line, Fault, Interlock, Remote, Over current limitation/ protection, Regulation mode
REMOTE CONTROL INTERFACE	0-10V Analog On demand: RS-232, Ethernet, 0-10V Isolated Analog, 0-10V Analogue with 24V relay, Optical fiber
REMOTE CONTROL SOFTWARE	On demand Labview

OPERATING ENVIRONMENT

AMBIENT TEMPERATURE	From 0 to 50 °C
AMBIENT HUMIDITY	0 to 80% at 25°C, 50% at 40°C (non-condensing)
TEMPERATURE COEFFICIENT	100 ppm/°C
COOLING	Air forced Inlet through front panel (dust filters) Outlet at rear panel

STANDARDS AND REGULATIONS

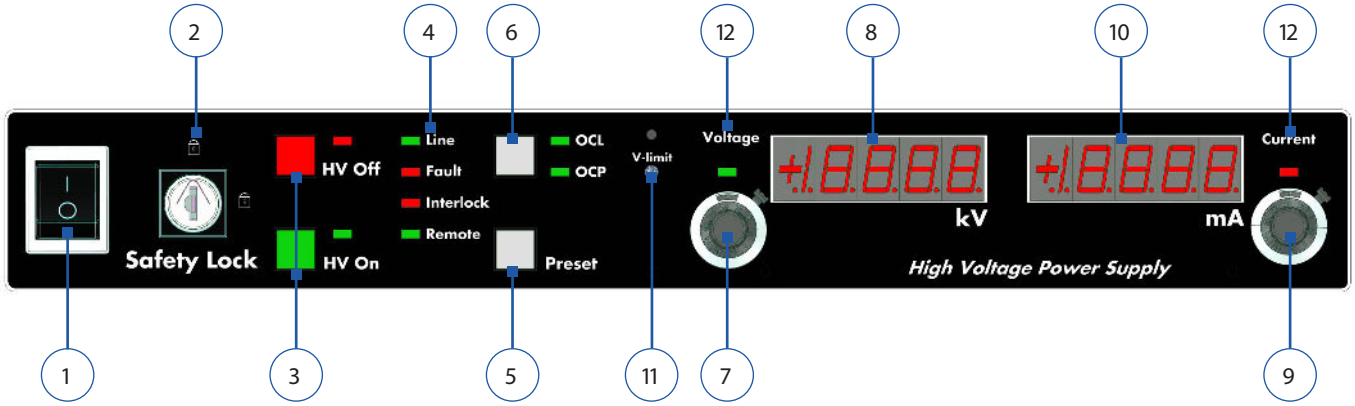
CE CERTIFIED AND ACCORDING	Low voltage directive: 2014/35/EU EMC directive: 2014/30/EU RoHS directive: 2011/65/EU EN 61000-6-2: 2019 EN 61000-6-4: 2019 EN 61326-1: 2021 EN 61000-3-2: 2019 EN 61000-3-3: 2013 + A1: 2019 EN 61010-1: 2010 + A1: 2019 EUROLAB EMC decision n°11: issue 1 of 18 of December 2007

DOCUMENTATION AND SERVICES

DOCUMENTATIONS	User manual Test report EU declaration of conformity CE RoHS2 declaration of conformity RoHS
WARRANTY	2 years Extension on demand
ON DEMAND	Witnessed Factory Acceptance Test (FAT) Detailed design report Custom tests Manufacturing process certification Special engineering

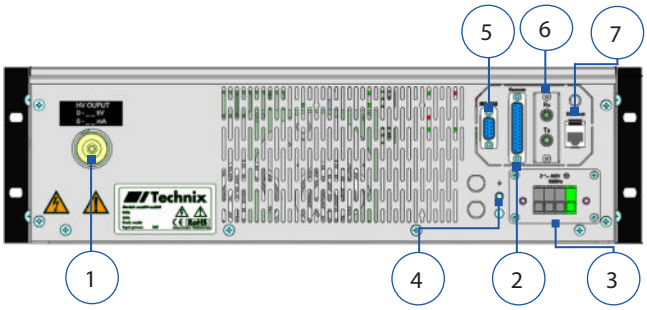
INTERFACES

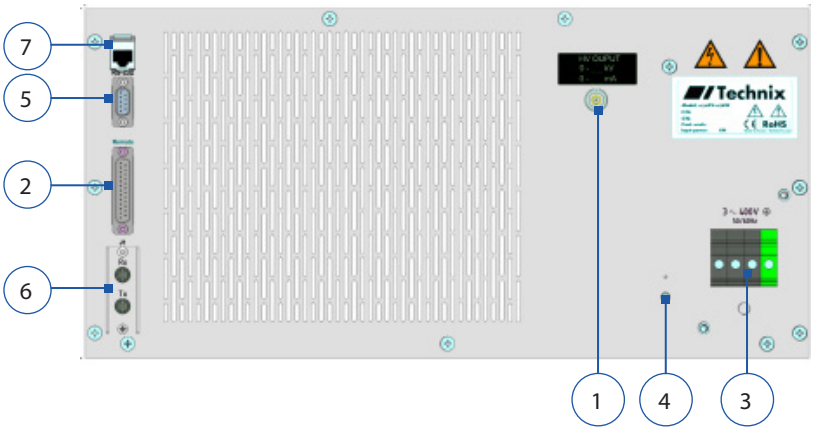
FRONT PANEL



1. ON/OFF switch
2. Safety lock (key)
3. HV ON/OFF push button
4. Statuses (Line, Fault, Interlock, Remote)
5. Preset push button
6. Over Current Limitation (OCL) Over Current Protection (OCP)
7. Voltage setting
8. Voltage display
9. Current setting
10. Current display
11. Local voltage setting limitation
12. Regulation mode

REAR PANEL





1. HV output
2. Analog interface
3. Mains input
4. Earth bolt
5. RS-232 (option)
6. Optical fiber (option)
7. Ethernet (option)

0-10V ANALOG INTERFACE

PIN	SIGNAL	SIGNAL DESCRIPTION	I/O	IMPEDANCE
1	HV-Off control	Produced by a fleeting opening from pin 16	Input	20Ω
2	Fault status	Internal Fault: 0V = Detected; +15V = No fault	Output	100Ω
3	Interlock status	External interlock: 0V = Open; +15V = Closed	Output	475Ω
4	HV-On control	Produced by a fleeting closing to pin 16	Input	20Ω
5	Output voltage measurement	0V to 10V = 0% to 100%	Output	475Ω
6	Output current measurement	0V to 10V = 0% to 100%	Output	475Ω
7	Inhibit control	Activated by digital signal between +5V to +24V	Input	
8	Remote control	Open contact = Local control mode Closed contact= Remote control mode	Input	20Ω
9	Not connected			
10	Arc monitor (Mains Monitor for older models)	Generates a signal when an arc is detected: +15V = No arc; 0V = Arc detected Older models (shipped before january 2023): Generates a fault if the mains input is failing: 0V = Mains is fine ; +15V = Mains is failing	Output	100Ω
11	Output power measurement (option)	0V to 10V = 0% to 100% (option)	Output	475Ω
12	Local output voltage setting	Copy of the setting on the front panel potentiometer. 0V to 10V = 0% to 100%	Output	10Ω
13	Local output current setting	Copy of the setting on the front panel potentiometer. 0V to 10V = 0% to 100%	Output	10Ω
14	Remote output current setting	0V to 10V = 0% to 100%	Input	115Ω
15	+10V reference	+10V reference for analog signals, max current : 5mA	Output	2.7Ω
16	0V reference (digital signals)	0V ground reference for digital signals	Output	
17	Remote output voltage setting	0V to 10V = 0% to 100% of max output voltage	Input	115Ω
18	Regulation mode status or End of Charge status	DC power supply: Open contact = Current Regulation; +24V = Voltage Regulation CC power supply: Open contact = Capacitor charging; +24V = End of charge	Output	100Ω
19	HV-On status	0V = HV output disabled (HV Off) +15V = HV output enabled (HV On)	Output	100Ω
20	0V reference (analog signals)	0V ground reference for analog signals	Output	
21-22-23	Not connected			
24	External Interlock	Connect to pin 16 to close the interlock.	Input	500Ω
25	+10V Reference or Remote output power setting (option)	Standard: +10V reference for analog signals, max current : 5mA Option: 0V to 10V = 0% to 100% of max output power	Output	2.7Ω or 115Ω

OPTIONS

- Reversibility
- Floating Outputs
- Arc Management
- Parallel operation
- Custom remote interface
- Zero floating
- Emergency stop switch
- Adjustable rise time
- Special mains input
- Non Instrumented front panel
- Industrial dust filters
- Transportable case
- Remote Front panel
- Power regulation
- Tropicalization
- Custom design

RANGE

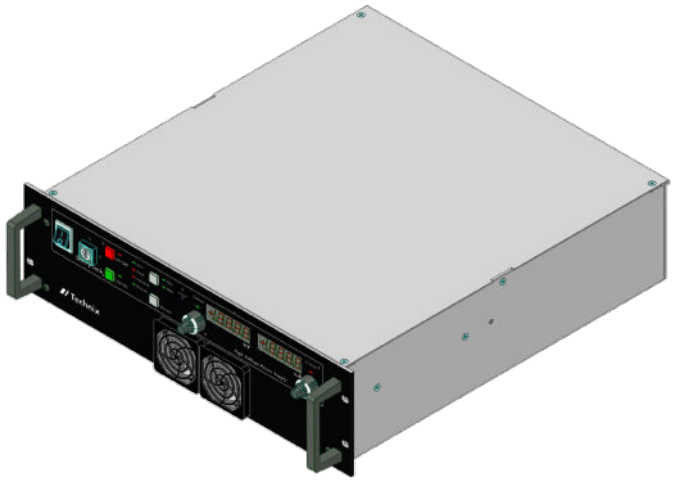
MODEL REFERENCE: SR 0.7 kV to 60 kV - 1.5 kW to 40 kW

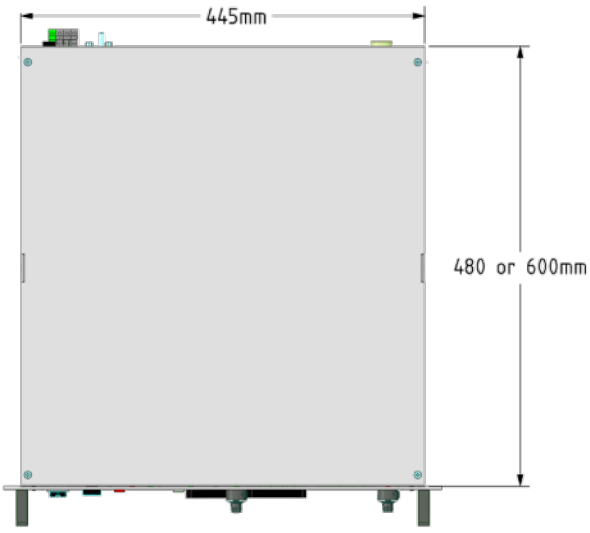
VOLTAGE POWER

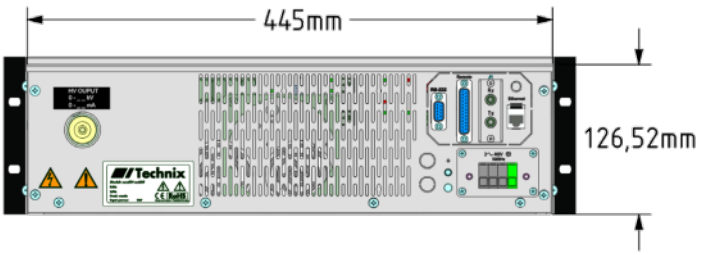
OUTPUT POWER	1.5 kW	3kW	5 kW	6 kW	8 kW	10 kW	15 kW	20 kW	30 kW	40 kW
OUTPUT VOLTAGE	Max Current									
0.7 kV	2.14 A	4.29 A	2.14 A	8.57 A	11.43 A	14.29 A	21.43 A	28.57 A	42.86 A	57.14 A
1 kV	1.5 A	3 A	5 A	6 A	8 A	10 A	15 A	20 A	30 A	40 A
2.5 kV	600 mA	1.2 A	2 A	2.4 A	3.2 A	4 A	6 A	8 A	12 A	16 A
3kV	500 mA	1 A	1.6 A	2 A	2.6 A	3 A	5 A	6.6 A	10 A	13 A
5kV	300 mA	600 mA	1 A	1.2 A	1.6 A	2 A	3 A	6.4 A	6 A	8 A
10 kV	150 mA	300 mA	500 mA	600 mA	800 mA	1 A	1.5 A	2 A	3 A	4 A
15 kV	100 mA	200 mA	333 mA	400 mA	533 mA	667 mA	1 A	1.33 A	2 A	2.67 A
20 kV	75 mA	150 mA	250 mA	300 mA	400 mA	500 mA	750 mA	1 A	1.5 A	2 A
30 kV	50 mA	100 mA	167 mA	200 mA	267 mA	250 mA	500 mA	667 mA	1 A	1.33 A
40 kV	37.5 mA	Contact us	125 mA	150 mA	200 mA	200 mA	275 mA	200 mA	750 mA	1 A
50 kV	30 mA		100 mA	100 mA	160 mA	30 mA	300 mA	400 mA	600 mA	800 mA
60 kV	25 mA		83.3 mA	100 mA	133 mA	167 mA	250 mA	333 mA	500 mA	667 mA

DIMENSION

MODEL 3U - 19'' : 133 x 483 x 480 or 600 mm (H x W x D)

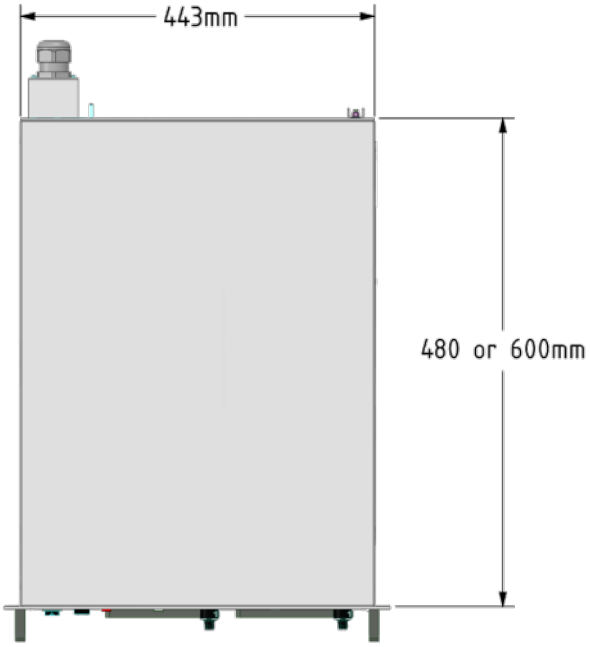


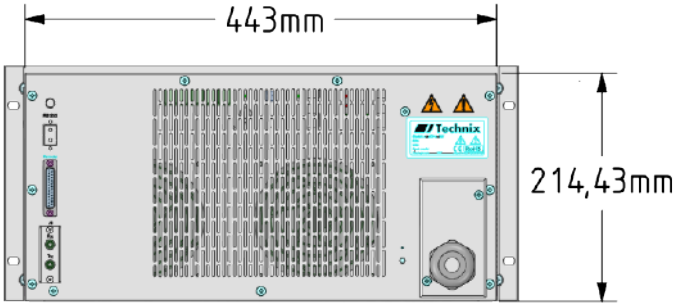




DIMENSION

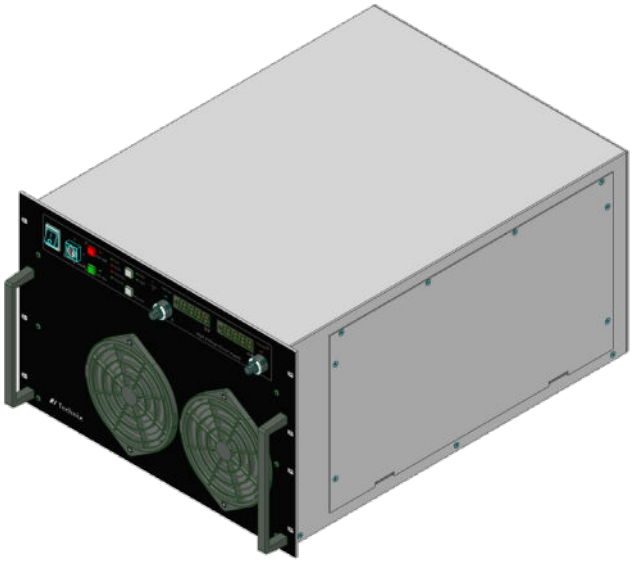
MODEL 5U - 19'' : 222 x 483 x (480 or 600 mm) (H x W x D)

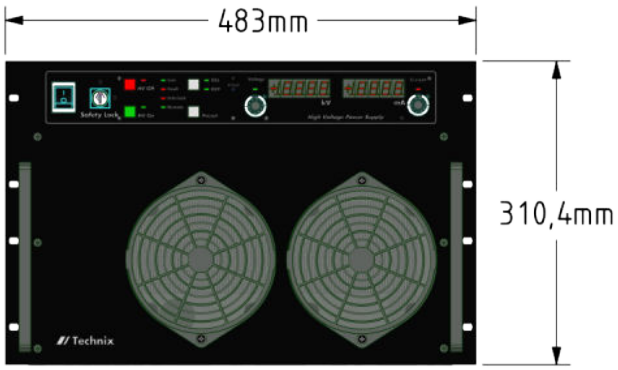


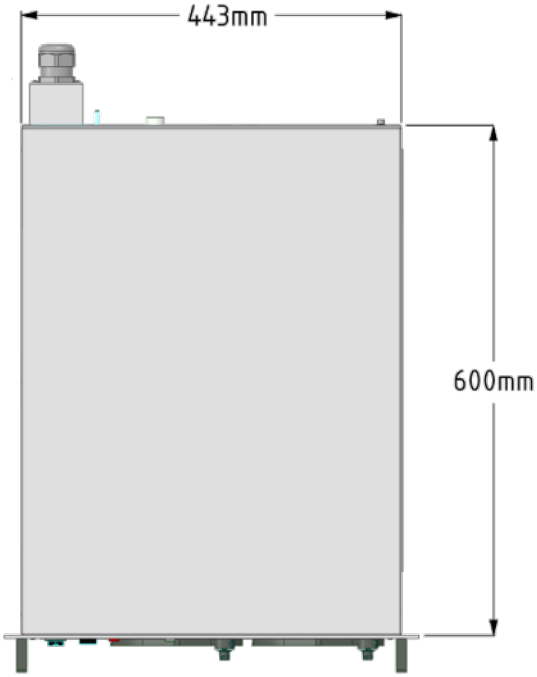


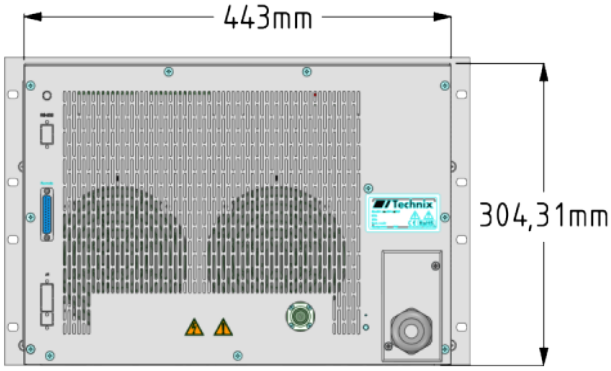
DIMENSION

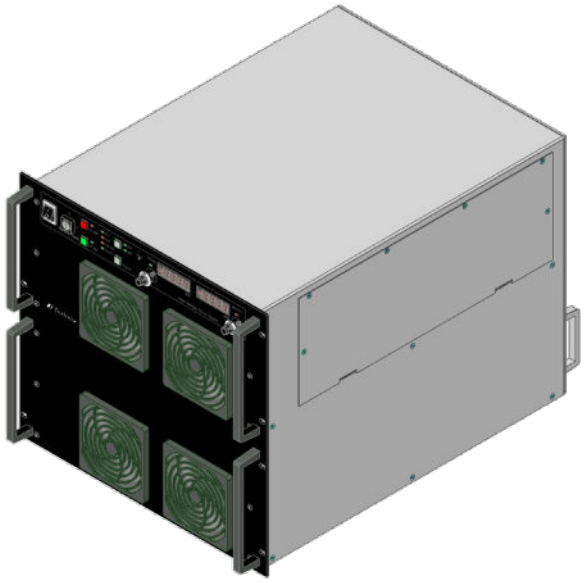
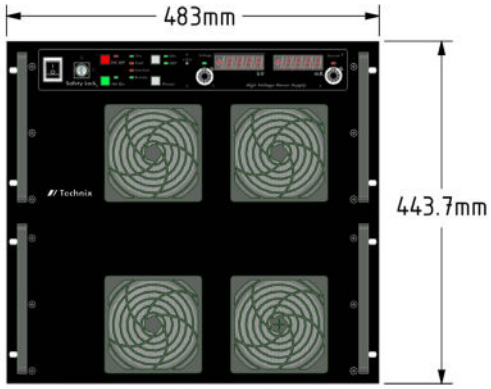
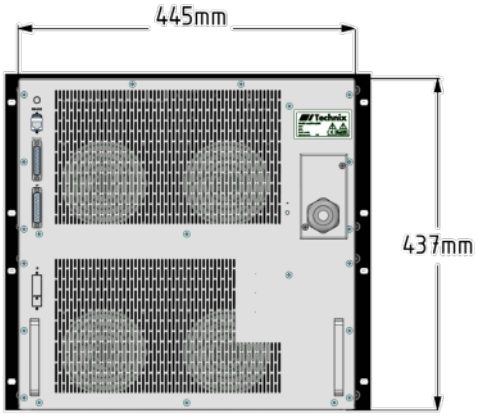
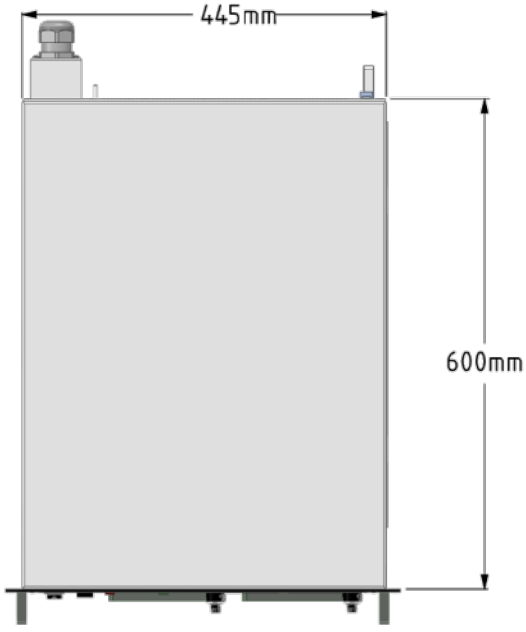
MODEL 7U - 19'' : 311 x 483 x 600 mm (H x W x D)









DIMENSION

MODEL 10U - 19'' : 444 x 483 x 600mm (H x W x D)