

## FRIEM has developed a full line of High Power Solar and Wind Inverters



The **RECon Line** concept is derived from the long experience **FRIEM** has achieved in Power Conversion and in the use of all kind of semiconductors.

The Line has been developed following **FRIEM's** traditional concepts of reliability, efficiency and modularity devoted to high flexibility and easy maintenance.



All the different models of the **RECon Line** can be either used as single units or combined in parallel configuration to reach the requested power.

Besides the most advanced and flexible Output Power Regulation and the highest Conversion Efficiency, the **RECon Line Inverters** also offer:

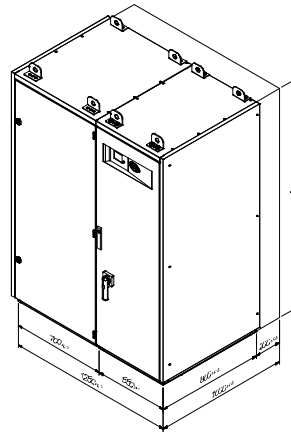
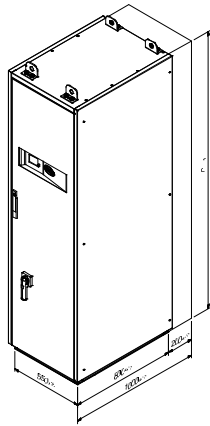
- Modular draw-out and Compact Design for configuration flexibility, space saving and fast installation.
- Parallel Modules or Independent Modules Configurations.
- Easy Maintenance thanks to the completely withdrawable Power Section.
- The Digital Regulator FRIEM DRP-6Ph Type allows the fully automated Control and Protection of the Inverter itself and offers the availability of:
  - Single or Multiple MPPT management.
  - Real Time and Recorded Measurements.
  - Event Recording, Load Profile and Oscylography.
  - Internal Canbus Communication Protocol for I/O management (temperature, irradiation and wind speed sensors).
  - Programmable Output Relays, Digital Inputs and Outputs.
  - Comprehensive self diagnostic - not just memory checksums - periodically tests the entire regulator.
- A Touch Screen Operator Panel for easy access to Measurements and Setting Parameters of One or More Inverters and of the PV Field, equipped with:
  - Front Face USB Serial Comm. Port for Local Interface.
  - Second Serial RS485 Comm. Port.
  - RS232/Modem Comm. Port.
  - Ethernet Serial Comm. Port.
- Standard Modbus-RTU or Profibus-DP communication protocols.
- Conformance to IEC Standards and CE Directive; UL-CSA approved.
- ISO 9001 Certified Quality System.





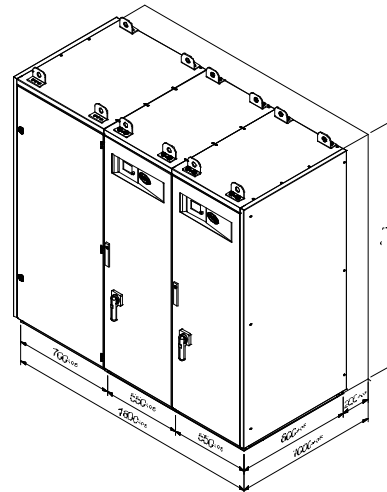
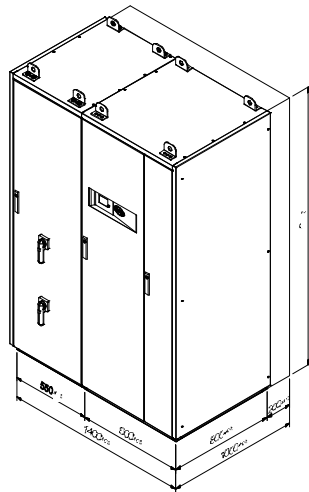
**RECon 30L-H 100-150**

**RECon 30L-H 100-150T**

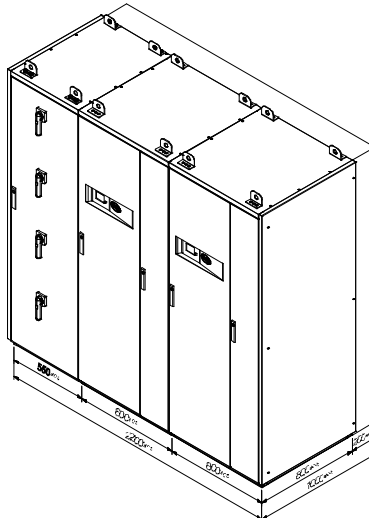


**RECon 30L-H 200-300**

**RECon 30L-H 200-300T**



**RECon 30L-H 300-450 400-600**



RECon 30H-		150		150-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	150 - 225	150 - 225
	Maximum Current [A]	I <sub>MAX</sub>	=	325	325
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	1	1
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>100 - 150</b>	<b>100 - 150</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>165</b>	<b>165</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (193 - 290)	3 x (145 - 218)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
EU	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	50	50

RECon 30H-		300		300-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	300 - 450	300 - 450
	Maximum Current [A]	I <sub>MAX</sub>	=	650	650
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	2	2
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>200 - 300</b>	<b>200 - 300</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>330</b>	<b>330</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (387 - 580)	3 x (290 - 435)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
EU	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	80	80

L = Low PV Voltage Range H = High PV Voltage Range -T = LV/LV Grid Transformer Integrated

RECon 30H-		450		450-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	525 - 675	525 - 675
	Maximum Current [A]	I <sub>MAX</sub>	=	975	975
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	3	3
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>350 - 450</b>	<b>350 - 450</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>475</b>	<b>475</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (677 - 870)	3 x (508 - 653)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
E U	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	80	80

RECon 30H-		600		600-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	750 - 900	750 - 900
	Maximum Current [A]	I <sub>MAX</sub>	=	1300	1300
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	4	4
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>500 - 600</b>	<b>500 - 600</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>660</b>	<b>660</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (967 - 1160)	3 x (727 - 870)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
E U	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	100	100

L = Low PV Voltage Range H = High PV Voltage Range -T = LV/LV Grid Transformer Integrated

RECon 60H-		300		300-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	450	450
	Maximum Current [A]	I <sub>MAX</sub>	=	650	650
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	1	1
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>300</b>	<b>300</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>330</b>	<b>330</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x 580	3 x 435
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
E U	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	50	50

RECon 60H-		600		600-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	750 - 900	750 - 900
	Maximum Current [A]	I <sub>MAX</sub>	=	1300	1300
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	2	2
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>500 - 600</b>	<b>500 - 600</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>660</b>	<b>660</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (967 - 1160)	3 x (725 - 870)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
E U	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	80	80

L = Low PV Voltage Range H = High PV Voltage Range -T = LV/LV Grid Transformer Integrated

RECon 60H-		900		900-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	1125 - 1350	1125 - 1350
	Maximum Current [A]	I <sub>MAX</sub>	=	1950	1950
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	3	3
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>750 - 900</b>	<b>750 - 900</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>990</b>	<b>990</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (1450 – 1740)	3 x (1088 – 1305)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
E U	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	100	100

RECon 60H-		1200		1200-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	650	650
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	470 - 850	470 - 850
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	900	900
	Rated Current [A]	I <sub>IN</sub>	=	1500 - 1800	1500 - 1800
	Maximum Current [A]	I <sub>MAX</sub>	=	2600	2600
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	4	4
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>1000 - 1200</b>	<b>1000 - 1200</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>1320</b>	<b>1320</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (2030 – 2320)	3 x (1522 – 1740)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	300	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
E U	Maximum Efficiency [% @ V <sub>IN</sub> ]	η <sub>MAX</sub>	=	98,2	96,4
	EURO Efficiency [% @ V <sub>IN</sub> ]	η <sub>EURO</sub>	=	97,9	95,8
	Stand-By Aux. Power Consumption [W]		=	100	100

L = Low PV Voltage Range H = High PV Voltage Range -T = LV/LV Grid Transformer Integrated

RECon 60L-		200		200-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	490	490
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	325 - 665	325 - 665
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	700	700
	Rated Current [A]	I <sub>IN</sub>	=	450	450
	Maximum Current [A]	I <sub>MAX</sub>	=	650	650
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	1	1
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>200</b>	<b>200</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>220</b>	<b>220</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x 580	3 x 290
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	200	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
EU	Maximum Efficiency [% @ VIN]	η <sub>MAX</sub>	=	97,7	95,6
	EURO Efficiency [% @ VIN]	η <sub>EURO</sub>	=	97,3	94,9
	Stand-By Aux. Power Consumption [W]		=	50	50

RECon 60L-		400		400-T	
B	Rated Field Voltage [Vdc]	V <sub>IN</sub>	=	490	490
	Field Voltage Variation [VDC]	V <sub>MPPT</sub>	=	325 - 665	325 - 665
	Maximum Field Voltage [VDC]	V <sub>MAX</sub>	=	700	700
	Rated Current [A]	I <sub>IN</sub>	=	660 - 900	660 - 900
	Maximum Current [A]	I <sub>MAX</sub>	=	1300	1300
	Harmonic Residual	HRES	=	≤3%	≤3%
	Number of Independent MPPT		=	2	2
Z	<b>Rated Power [kVA @ cosφ = 1]</b>	<b>P<sub>OUT</sub></b>	=	<b>300 - 400</b>	<b>300 - 400</b>
	<b>Max. Power [kVA @ cosφ = 1]</b>	<b>P<sub>MAX</sub></b>	=	<b>440</b>	<b>440</b>
	Rated Output Current [ARMS]	I <sub>OUT</sub>	=	3 x (870 - 1160)	3 x (435 - 580)
	Rated Output Voltage [VRMS]	V <sub>OUT</sub>	=	200	400
	Rated Frequency [Hz]	f <sub>n</sub>	=	50÷60	50÷60
EU	Maximum Efficiency [% @ VIN]	η <sub>MAX</sub>	=	97,7	95,6
	EURO Efficiency [% @ VIN]	η <sub>EURO</sub>	=	97,3	94,9
	Stand-By Aux. Power Consumption [W]		=	80	80