

TECHNICAL DATA SHEET

UNIBLOCK UBTD+ 1500 with POWERBRIDGE 21MJ

Highlights UNIBLOCK UBTD+

- Single machines sized 500 kW up to 2700 kW and paralleling up to 40MW
- Higher reliability than other technologies
- Highest efficiency, up to 97% on line (with energy store connected)
- Total Design Flexibility
- Medium Voltage available
- Water cooling available using building chilled water
- Battery- or flywheel backed versions
- More than 3 times longer bridging time from Piller kinetic energy storage than with any other commercially available flywheel system
- Redundant on-board power supplies
- Leading and lagging output power factor without derating
- 100% load step capability
- Inherent fault clearing ability for short circuit faults without bypass
- Virtual unity input power factor
- 99% input/output harmonic isolation



Nothing protects quite like Piller

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Output

Rated power	kVA	1670
Rated active power	kW	1500
Rated voltage	V	400 / 231 (±5% adjustable)
Rated frequency	Hz	50
Rated current	A	2410
Power factor		0,9
Voltage stability		
■ static with symmetrical load	%	±1
■ dynamic with 50% load change (PF 1,0)	%	±1
■ dynamic with 50% load change (PF 0,9)	%	±3
■ dynamic with 50% load change (PF 0,8)	%	±5
Settling time (±2%)	ms	200
Frequency stability		
■ static self controlled	%	0,1
■ on mains ¹	%	1
■ dynamic with 100% load change	%	1
Voltage distortion (EN 62040-1)		
■ symmetrical linear load (Ph-Ph/Ph-N)	%	1,5 / 2,5
Overload capability (normal operation)		
■ 1 hour	%	10
■ 2 minutes	%	50
Maximum crest factor		limitless for harmonic loads
Phase angle (symmetrical load)	°	120 ±1
Maximum permissible unbalance ²	%	100
Short-circuit current	kA	29,4 (ca. 12x rated current) for 10ms

¹ According to the adjusted tolerance for the mains frequency

² Load unbalance capacity = different loading of the individual phases in a three-phase AC system.

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Input

Rated voltage	V	400 / 231
Rated frequency	Hz	50
Rated current	A	2314
Power factor		0,97
Permissible voltage deviation		
■ continuous	%	±10
■ short-time	%	-20
■ dynamic	%	-50
Frequency tolerance	%	±1 (adjustable ±5%)
Harmonic attenuation (input to output and output to input)	%	> 99
Current distortion	%	< 3
Synchronisation time after mains return	s	< 3
Maximum current ¹	A	2726
Max. reverse current on mains short-circuit	A	4659

POWERBRIDGE

Backup time	s	13
re-charge time	s	151 (adjustable ²)

¹ Individual input protection is required.

² Value affects the maximum input current

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General data

Efficiency (at 100% load, cos ϕ 1,0)	%	96,4
Losses (at 100% load, cos ϕ 1,0)	kW	55
Max. heat dissipation	kW	110
Interfaces (Standard)		
■ outputs (dry contacts)		6
Wall-distance backside		not required
Colour		RAL 5012
Ambient temperature	°C / °F	0-40 / 32-104
■ Daily mean average	°C / °F	≤ 35 / ≤ 95
Ambient humidity (without condensation)	%	0-95
Installation altitude (above mean sea level)		
■ up to 1000m		without any derating
■ 1000m - 2000m		5% derating
Protection type (DIN/VDE 0470 part 11/92 IEC 529)		IP 20
Radio interference level (IEC 62040-2)		class C2 (class A acc. to EN 50091-2)
Cable connection		from top and bottom possible
Accessibility		front
Parallel configuration		up to 16 modules
Dimensions / Weight		
■ Width	mm (in.)	4600 (181,102)
■ Depth	mm (in.)	1320 (51,968)
■ Height	mm (in.)	2300 (90,551)
■ Weight	kg (lb.)	11440 (25220,624)

Options

- 4pole for neutral switching
- customer specific colours
- Castell-Key / Kirk-Key
- water cooling
- APOCONNECT (remote diagnostics)
- UNMS (Visualisation)
- DATAWATCH (shut-down)
- Profibus-DP
- Protocol-Gateway (3 maximum)
- I/O-card (3 maximum)
- SNMP-adaptor with Ethernet Interface
- OPC-Server

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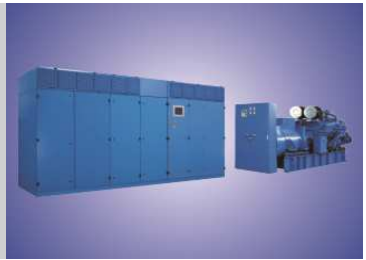


Issue:
15.Jan.15

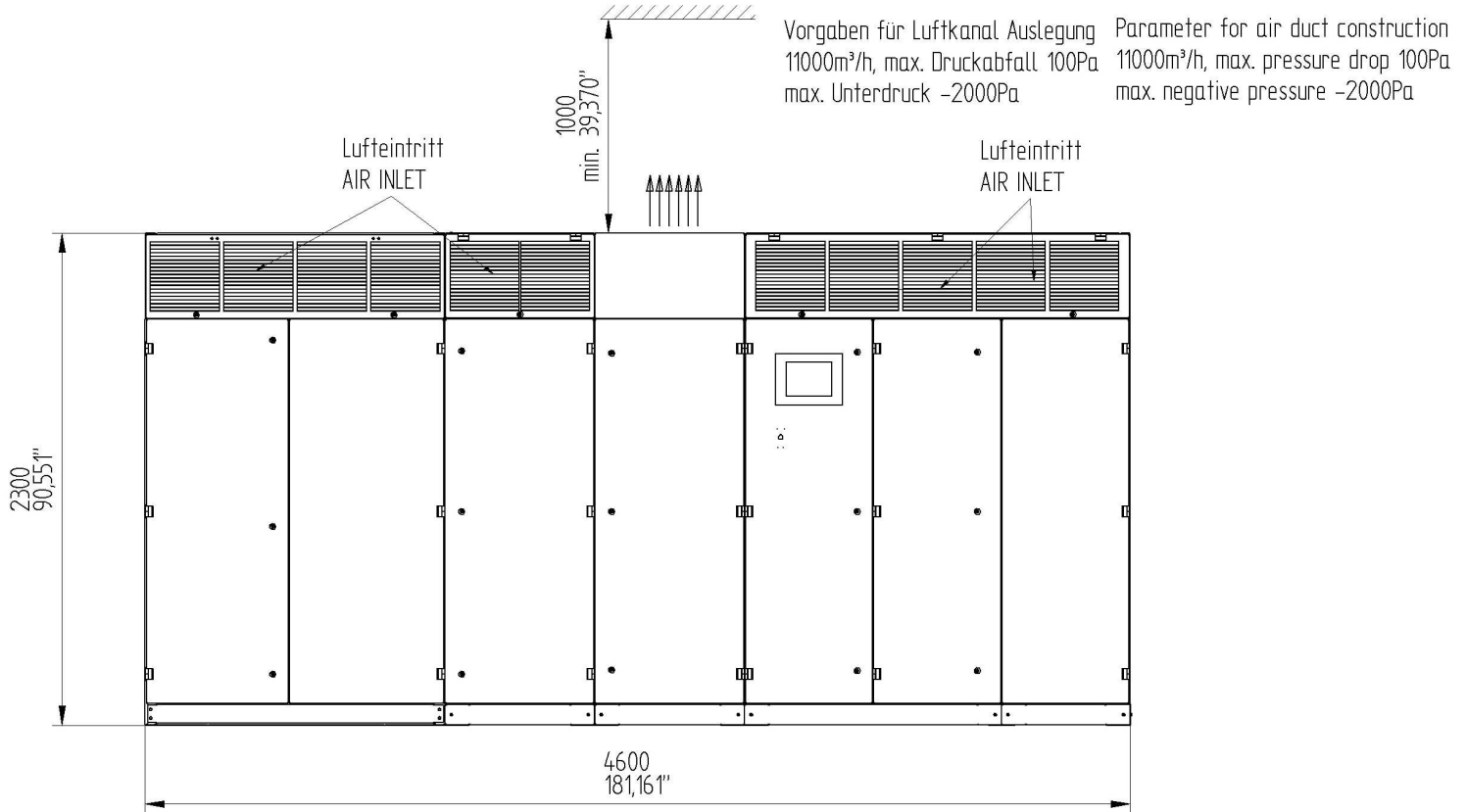
Modifications reserved

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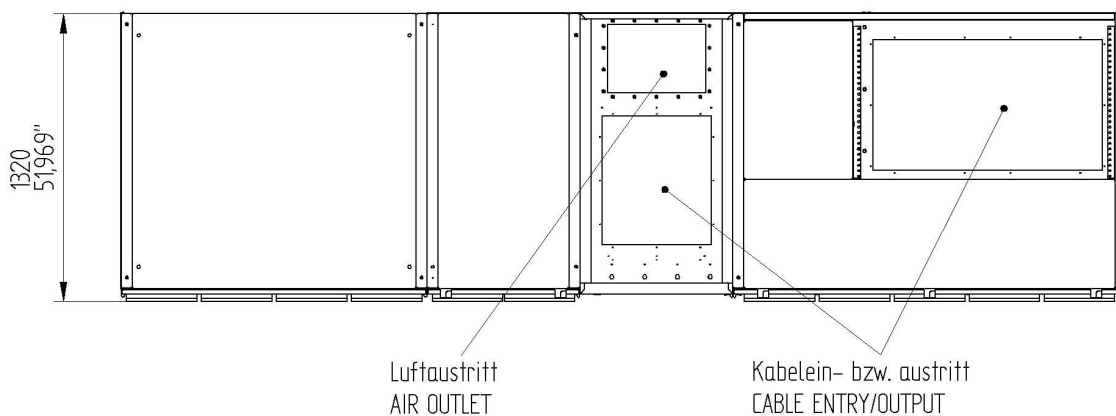
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Dimensions / Weight



Gesamtgewicht TOTAL WEIGHT	PB Schrank PB CUBICLE	GR/WR Schrank GR/WR CUBICLE	Diesel Anschluss Schrank Diesel Connection Cubicle	Netz/Last Schrank Mains/Load Cubicle
11440 kg / 25221 lbs	7000 kg / 15432 lbs	780 kg / 1720 lbs	350 kg / 772 lbs	3310 kg / 7297 lbs



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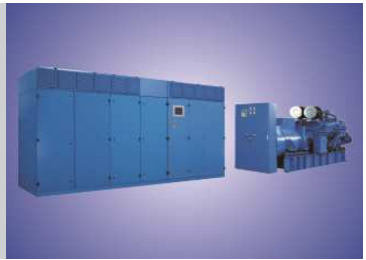
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Option Water Cooling

Max. heat dissipation	kW	110
Volume flow (per cooler)		
■ air *	m ³ /h	4500
■ water	m ³ /h	6
Pressure loss (per cooler)		
■ air *	Pa	50
■ water	kPa	25
Cooling water inlet temperature	°C / °F	5-20 / 41-68
Nominal size of connection	in.	1 ½" DN40
Condenser drain (inner diameter)	mm	13
Weight (additional)	kg (lb.)	1500 (3306,9)

Dimensions (optional fan / fan cabinet is required)



* during emergency operation due to loss of water

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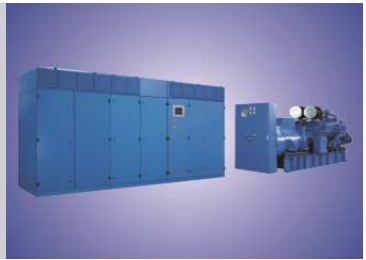
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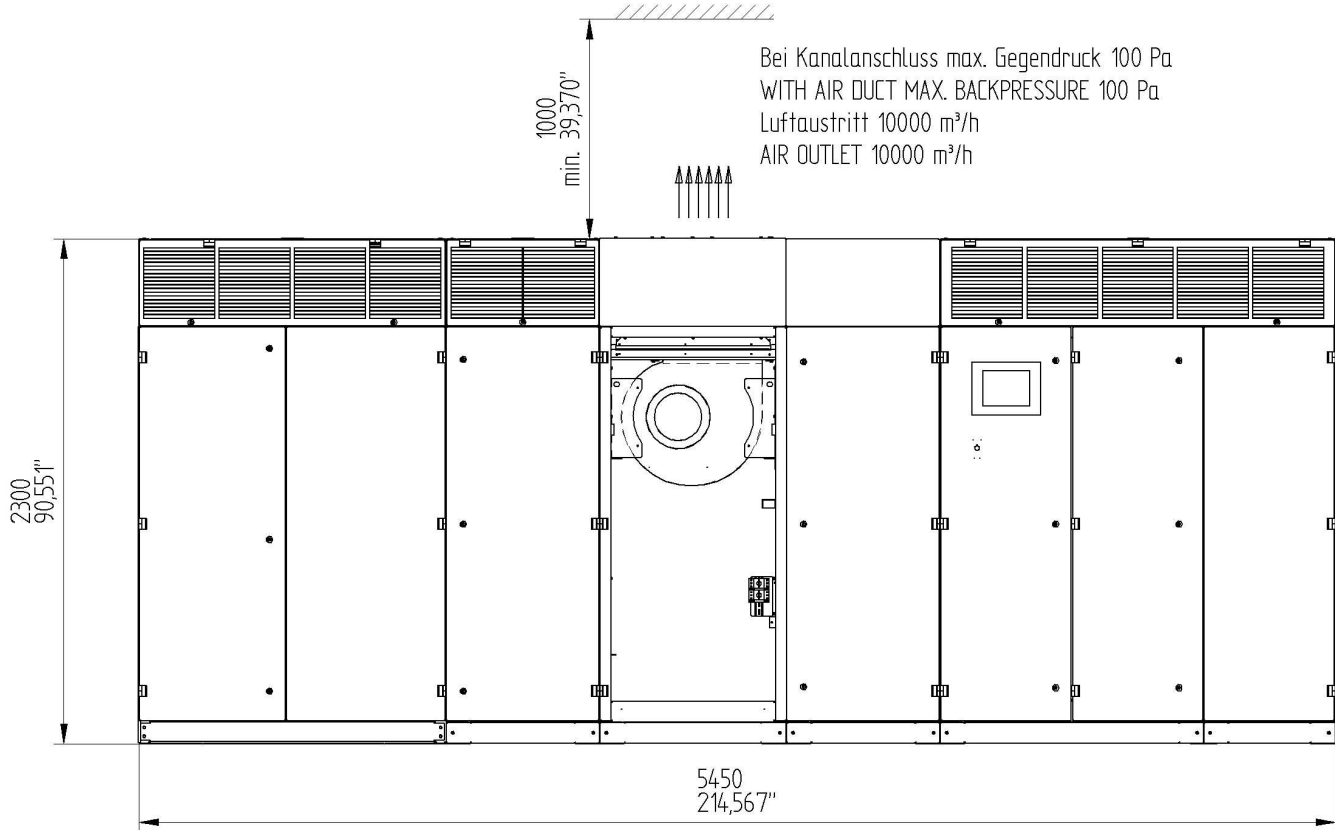

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Option fan cabinet



Gesamtgewicht TOTAL WEIGHT	PB Schrank PB CUBICLE	GR/WR Schrank GR/WR CUBICLE	Lüfter Schrank FAN CUBICLE	Diesel Anschluss Schrank DIESEL CONNECTION CUBICLE	Netz/Last Schrank MAINS/LOAD CUBICLE
12040 kg / 26544 lbs	7000 kg / 15432 lbs	780 kg / 1720 lbs	540 kg / 1190 lbs	370 kg / 815 lbs	3310 kg / 7297 lbs

