



BISON POWER

TEST LOADBANKS

TLB SERIES RATED UP TO 650kW

LBO SERIES RATED UP TO 3000kW

LBM SERIES RATED UP TO 3000kW

INDUSTRIAL





LBO - 3000H (HORIZONTAL)



LBO - 1000H (HORIZONTAL)



TLB - 250H (HORIZONTAL)



LBO - 1000V (VERTICAL)



LBM - 3000V (VERTICAL)



BISON POWER LBI AND LBO OFFER THE FOLLOWING:

Two models of portable NEMA 1 indoor load banks single or multi-voltage resistive test load banks: TLB-H (Horizontal) and TLB-V (Vertical). For other customized models, please consult the Bison Power Sales Team.

- TLB-H models from 80 kW - 650 kW. The cooling air moves horizontally across the cool load elements. The enclosure is constructed of 16 gauge galvanized steel, rests on four 6" neoprene casters and is complete with a steel push handle bar. Local control and instrumentation are conveniently positioned at the top right side of the load bank. A weather sealed lockable cover protects all instrumentation and control
- TLB-V models available from 300kW - 650kW. The cooling air moves vertically across the cool load elements. The enclosure is constructed of 10 gauge aluminum, rests on four 6" neoprene castors and is complete with a steel push handle bar. The load bank width of 32" permits passage through typical access doors and elevators
- Both the TLB-H and TLB-V models utilize test power for fan motor and control. Provisions for connections to an external source are provided. When testing is confined to an area with restricted air discharge or ceiling equipped with heat sensors, the TLB-H load bank is designed to operate on its side with horizontal air discharge. TLB-V load bank is designed to

operate on its top with vertical air discharge

- Bison Power offers two models of fixed mounted resistive test load banks: LBI (indoor) and LBO (outdoor)
- The LBI and LBO series load banks are fixed mount indoor or outdoor single voltage units and the cooling air moves horizontally or vertically. A remote load step control panel is provided as standard equipment for the LBI and LBO models. Auto load step control is optional
- The LBM series load banks are fixed mount outdoor direct connection medium voltage units and the cooling air moves vertically and exhausted hoods are mounted on top of load bank body. A remote load step control panel is provided for all LBM models. Auto load step control (HMI c/w 10" LCD screen) and Modbus TCP/IP communication are optional

QUALITY ASSURANCE

- ISO 9001 Registered

SAFETY STANDARDS

- DND AQAP - 4 (optional)
- CSA Z299.3 (optional)
- Certified to CSA & UL standards

WARRANTY

- 1 year limited warranty included

Bison Power Resistive Test Load Banks are utilized in testing the following power sources:

- Engine Generators
- Turbine Generators
- Battery Systems
- Wind Generators
- UPS Systems

Bison Power Resistive Test Load Banks utilize coiled chromium alloy load elements supported with cool cast ceramic insulators. 4.5" maximum continuous spacing is provided between each support point. All load resistor ends are fitted with silver soldered stainless steel connection studs. Bison Power's "cool load®" resistor design guarantees lower operating temperatures and extended life in the most adverse environments.

Each "cool load®" resistor is mounted in removable load resistor frames. Load resistor frames are designed for dual pass "cool load®" resistors. Removable racks and dual pass "cool load®" resistors provide superior serviceability and reliability.

Five standard load resistor frames are used in a single or stacked configuration for load banks from 80kW - 3000kW. Custom load resistor frames are available for fan cooled load banks. Integral, direct drive, single or three phase cooling fans provide up to 108,000CFM per load bank. Adjustable temperature and air flow sensors are provided to guarantee safety shutdown in case of airflow failure.

Load bank control compartments are located in a heat resistant compartment. Control components include load stepping contactors, load step selector switches and fault indicators. Optional features include AC metering, integral over current protection and automatic load step control.

LOAD BANK INDOOR SELECTION TABLES (TLB HORIZONTAL)

MODEL		TLB-80H-S	TLB-150H-S	TLB-300H-S	TLB-500H-S	TLB-700H-S
MAX CAPACITY		80kW@3ø	150kW@3ø	300kW@3ø	500kW@3ø	650kW@3ø
CDN	208/240V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
	480V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
	600V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
U.S.	208V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
	480V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
INTL.	380V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
FREQUENCY		50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
TYPICAL LOAD STEP RESOLUTION		2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V
AIR FLOW		3,300CFM	6,000CFM	8,000CFM	9,500CFM	15,000CFM
TEMPERATURE MAX AMBIENT		120°F / 50° C	120 °F / 50° C	120 °F / 50° C	120 °F / 50° C	120 °F / 50° C
MAXRISE		100 °F / 40° C	158 °F / 70° C	195 °F / 90° C	250 °F / 120° C	250 °F / 120° C
OPERATION MODE		MANUAL				
DIMENSIONS W x H x D(approx.)		21"x 32"x42"	33.5"x 40"x 54"	36"x 47"x61"	36"x 47"x74"	44"x 49"x74"
WEIGHT (lbs)		160	440	490	700	950
CONTROL		LOCAL				
ENCLOSURE TYPE		PORTABLE				
ENCLOSURE CLASS		NEMA 1 INDOOR				
AIR FLOW DISCHARGE		HORIZONTAL				
HANDLING		NEOPRENE CASTORS				
STANDARD FEATURES		STANDARD LUGS INCLUDED				
LOAD BANK PROTECTION		OVER TEMPERATURE AND AIR FLOW				

Note:

* S - Single Voltage

* Not all ratings are listed. Please consult Bison Power Sales Team for more information.



LOAD BANK INDOOR SELECTION TABLES (TLB VERTICAL)

MODEL		TLB-80V-S	TLB-150V-S	TLB-300V-S	TLB-500V-S	TLB-700V-S
MAX CAPACITY		80kW@3ø	150kW@3ø	300kW@3ø	500kW@3ø	650kW@3ø
CDN	208/240V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
	480V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
	600V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
U.S.	208V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
	480V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
INTL.	380V	10 - 80kW@3ø	80 - 150kW@3ø	150 - 300kW@3ø	300 - 500kW@3ø	500 - 650kW@3ø
FREQUENCY		50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
TYPICAL LOAD STEP RESOLUTION		2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V
AIR FLOW		3,300CFM	6,000CFM	8,000CFM	9,500CFM	15,000CFM
TEMPERATURE MAX AMBIENT		120°F / 50°C	120 °F / 50° C	120 °F / 50° C	120 °F / 50° C	120 °F / 50° C
MAXRISE		100°F / 40°C	158 °F / 70° C	195 °F / 90° C	250 °F / 120° C	250 °F / 120° C
OPERATION MODE		AUTO OR MANUAL				
DIMENSIONS W x H x D(approx.)		34" x 63" x 50"	334" x 63" x 50"	34" x 63" x 50"	36" x 74" x 44"	44"x 49"x74"
WEIGHT (lbs)		160	440	490	700	950
CONTROL		LOCAL				
ENCLOSURE TYPE		PORTABLE				
ENCLOSURE CLASS		NEMA 1 INDOOR				
AIR FLOW DISCHARGE		VERTICAL				
HANDLING		NEOPRENECASTERS				
STANDARD FEATURES		STANDARD LUGS INCLUDED				
LOAD BANK PROTECTION		OVER TEMPERATURE AND AIR FAIL				

Note:

* S - Single Voltage

* Not all ratings are listed. Please consult Bison Power Sales Team for more information.

LOAD BANK INDOOR SELECTION TABLES (TLB -M)

MODEL		TLB-300H-M	TLB-500H-M	TLB-700H-M	TLB-300V-M	TLB-500V-M	TLB-650V-M
CAPACITY (@SPECIFIED VOLTAGE)							
CDN	208/ 240V	142kW@3ø	248kW@3ø	326kW@3ø	142kW@3ø	248kW@3ø	326kW@3ø
	480V	198kW@3ø	336kW@3ø	438kW@3ø	198kW@3ø	336kW@3ø	438kW@3ø
	600V	302kW@3ø	512kW@3ø	670kW@3ø	302kW@3ø	512kW@3ø	670kW@3ø
U.S.	208V	206kW@3ø	406kW@3ø	280kW@3ø	206kW@3ø	406kW@3ø	280kW@3ø
	480V	287kW@3ø	568kW@3ø	652kW@3ø	287kW@3ø	568kW@3ø	652kW@3ø
INTL.	380V	300kW@3ø	500kW@3ø	650kW@3ø	300kW@3ø	500kW@3ø	650kW@3ø
FREQUENCY		50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
TYPICAL LOAD STEP RESOLUTION		2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 12kW@600V 13kW@380V	2kW@208V 7kW@480V 11kW@600V 13kW@380V	2kW@208V 7kW@480V 11kW@600V 13kW@380V	2kW@208V 7kW@480V 11kW@600V 13kW@380V	2kW@208V 7kW@480V 11kW@600V 13kW@380V
AIR FLOW		8,000CFM	9,500CFM	15,000CFM	8,000CFM	9,500CFM	15,000CFM
TEMPERATURE MAX AMBIENT		120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C
MAXRISE		100°F / 40°C	158°F / 70°C	195°F / 90°C	250°F / 120°C	250°F / 120°C	250°F / 120°C
OPERATION MODE		MANUAL					
DIMENSIONS W x H x D (approx. inches)		38" x 47" x 67"	38" x 47" x 74"	44" x 49" x 80"	34" x 63" x 50"	34" x 74" x 50"	36" x 77" x 56"
WEIGHT (lbs)		600	800	860	550	950	980
CONTROL		LOCAL (REMOTE OPTIONAL)					
ENCLOSURE CLASS		NEMA 1 INDOOR			NEMA 1 INDOOR		
AIR FLOW DISCHARGE		HORIZONTAL			VERTICAL		
HANDLING		NEOPRENE CASTORS			NEOPRENE CASTORS		
STANDARD FEATURES		STANDARD LUGS INCLUDED					
LOAD BANK PROTECTION		OVERTEMPERATUREANDAIRFAIL					

Note:

* M - Multi-Voltage option available on smaller ratings. Please consult Bison Power Sales Team for more information.

* Load steps indicated are typical.



LOAD BANK OUTDOOR SELECTION TABLES (LBO HORIZONTAL)

MODEL		LBO-300H-S	LBO-500H-S	LBO-700H-S	LBO-1000H-S	LBO-1500H-S	LBO-2000H-S	LBO-3000H-S
MAX CAPACITY		300kW	500kW	700kW	1000kW	1500kW	2000kW	3000kW
CDN	208/240V	80 - 300kW	300 - 500kW	500 - 700kW	700 - 1100kW	1000 - 1500kW	1500 - 2000kW	2000 - 3000kW
	480V	80 - 300kW	300 - 500kW	500 - 700kW	700 - 1100kW	1000 - 1500kW	1500 - 2000kW	2000 - 3000kW
	600V	80 - 300kW	300 - 500kW	500 - 700kW	700 - 1100kW	1000 - 1500kW	1500 - 2000kW	2000 - 3000kW
U.S.	208V	80 - 300kW	300 - 500kW	500 - 700kW	700 - 1100kW	1000 - 1500kW	1500 - 2000kW	2000 - 3000kW
	480V	80 - 300kW	300 - 500kW	500 - 700kW	700 - 1100kW	1000 - 1500kW	1500 - 2000kW	2000 - 3000kW
INTL.	380V	80 - 300kW	300 - 500kW	500 - 700kW	700 - 1100kW	1000 - 1500kW	1500 - 2000kW	2000 - 3000kW
FREQUENCY		50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
TYPICAL LOAD STEP RESOLUTION		APPROXIMATELY 5% OF LOAD BANK RATING						
AIR FLOW		8,000CFM	9,000CFM	12,000CFM	18,000CFM	24,000CFM	36,000CFM	48,000CFM
TEMPERATURE MAX AMBIENT		120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C
MAX RISE		212°F / 100°C	250°F / 120°C	250°F / 120°C	212°F / 120°C	250°F / 120°C	250°F / 120°C	250°F / 120°C
OPERATION MODE		AUTO OR MANUAL						
DIMENSIONS W x H x D (approx.)		36"x39"x80"	36"x39"x90"	44"x41"x87"	36"x64"x87"	44"x75"x87"	72"x64"x87"	88"x75"x87"
WEIGHT (lbs)		550	900	1,200	1,700	1,900	3,400	3,800
CONTROL		REMOTE MANUAL PANEL						
ENCLOSURE TYPE		STATIONARY, INSTALLED ON A STAND						
ENCLOSURE CLASS		NEMA 3 OUTDOOR						
AIR FLOW DISCHARGE		HORIZONTAL						
HANDLING		LIFTING EYES						
STANDARD FEATURES		STANDARD LUGS INCLUDED						
LOAD BANK PROTECTION		OVER TEMPERATURE AND AIR FAIL						

Note:

* S - Single Voltage option available on smaller ratings. Please consult Bison Power Sales Team for more information.

* Weight - Exclusive of stand and control panel.

LOAD BANK OUTDOOR SELECTION TABLES (LBO VERTICAL)

MODEL		LBO-750V-S	LBO-1500V-S	LBO-2250V-S	LBO-3000V-S
MAX CAPACITY		750kW	1500kW	2250kW	3000kW
CDN	280/240V	80 - 750kW	750 - 1500kW	1500 - 2250kW	2000-3000kW
	480V	80 - 750kW	750 - 1500kW	1500 - 2250kW	2000-3000kW
	600V	80 - 750kW	750 - 1500kW	1500 - 2250kW	2000-3000kW
U.S.	208V	80 - 750kW	750 - 1500kW	1500 - 2250kW	2000-3000kW
	480V	80 - 750kW	750 - 1500kW	1500 - 2250kW	2000-3000kW
INTL.	600V	80 - 750kW	750 - 1500kW	1500 - 2250kW	2000-3000kW
FREQUENCY		50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
TYPICAL LOAD STEP RESOLUTION		APPROXIMATELY 10% OF LOAD BANK RATING			
AIR FLOW		18,000CFM	36,000CFM	54,000CFM	72,000CFM
TEMPERATURE MAX AMBIENT		120°F / 50°C	120°F / 50°C	120°F / 50°C	120°F / 50°C
MAX RISE		212°F / 100°C	250°F / 120°C	250°F / 120°C	250°F / 120°C
OPERATION MODE		AUTO OR MANUAL			
DIMENSIONS W x H x D (approx.)		60" x 129" x 71"	120" x 129" x 71"	180" x 129" x 71"	240" x 129" x 71"
WEIGHT (lbs.)		1,600	3,200	4,800	6,400
CONTROL		REMOTE MANUAL PANEL			
ENCLOSURE TYPE		STATIONARY, INSTALLED ON A STAND			
ENCLOSURE CLASS		NEMA 3 OUTDOOR			
AIR FLOW DISCHARGE		VERTICAL			
HANDLING		LIFTING EYES			
STANDARD FEATURES		STANDARD LUGS INCLUDED			
LOAD BANK PROTECTION		OVER TEMPERATURE AND AIR FAIL			

Note:

* S - Single Voltage option available on smaller ratings. Please consult Bison Power Sales Team for more information.

* Weight - Exclusive of control panel and exhaust hood(s).



LOAD BANK OUTDOOR SELECTION TABLES (LBM VERTICAL)

MODEL		LBM-2000V	LBM-3000V
MAX CAPACITY		2000kW	3000kW
CDN	690V-15kV	500 - 2000kW	2000 - 3000 kW
U.S.	690V-15kV	500 - 2000kW	2000 - 3000 kW
INTL.	690V-15kV	500 - 2000kW	2000 - 3000 kW
FREQUENCY		50Hz/60Hz	50Hz/60Hz
TYPICAL LOAD STEP RESOLUTION		Four load steps	Six load steps
AIR FLOW		72,000CFM	108,000CFM
TEMPERATURE MAX AMBIENT		120°F / 50°C	120°F / 50°C
MAX RISE		212°F / 100°C	250°F / 120°C
OPERATION MODE		AUTO OR MANUAL	
DIMENSIONS W x H x D (approx.)		153" x 124" x 102"	200" x 124" x 102"
WEIGHT (lbs.)		9,039	13,685
CONTROL		REMOTE MANUAL PANEL c/w DIGITAL POWER METER	
ENCLOSURE TYPE		FREE STANDING, FLOOR MOUNTED	
ENCLOSURE CLASS		NEMA 3 OUTDOOR	
AIR FLOW DISCHARGE		VERTICAL	
HANDLING		LIFTING EYES	
LOAD BANK PROTECTION		OVER TEMPERATURE, MAIN FUSE, AND AIR FAIL	

Note:

* M - Medium Voltage ratings. Not all ratings are listed, please consult Bison Power Sales Team for more information.

* Weight - Exclusive of control panel and exhaust hoods.

* CSA certification available upon request.

OPTIONAL FEATURES

- Automatic load sensing option maintains a constant load on the power source. There are up to 12 adjustable setpoints and a kW load transducer. When the load decreases below preset limits the load bank automatically adds load steps to the source. When the load increases above the preset limits, the load steps will automatically drop off.

To satisfy typical generator loading requirements, the load bank is normally sized between 75% and 100% of maximum generator capacity. The automatic load control incorporates a Man-Off-Auto mode selector. When the manual position is selected all load steps can be switched on and off manually (LBI and LBO only).

- Digital metering system
- Elevated mounting stand (maximum of 36" high) (LBO series only)

- Trailer mounting skid (maximum of 15" high) (LBO series only)
- Load circuit breaker with enclosure for remote installation at the generator
- Integrally mounted molded case circuit breaker or molded case switch (LBO and LBI series only)
- Special custom paint
- Over voltage protection
- Snow guards
- Intake air filters
- Single phase control (up to 300kW maximum)
- Custom load steps
- Exhaust louvres (replaces standard hoods)
- Fused steps
- Analog kW meter
- Cam locks
- Modbus TCP/IP COMM
- HMI with LCD screen

ORDERING INFORMATION

PRODUCT:

LBI - Indoor

LBO - Outdoor

TLB - Portable Load Bank

LBM - MV Load Bank

CAPACITY (kW):

TLB: 80-650kW

LBO:80-3000kW

LBM:500-3000kW

AIRFLOW DIRECTION:

H - Horizontal

V - Vertical

VOLTAGE:

S - Single Voltage

M - Multi-Voltage

PHASE:

1 - Single Phase

3 - Three Phases

TLB - 600 H - S - 3

Note:

* For customized load banks, please consult Bison Power Sales Team for more information.

* Specifications, design, and dimensions subject to change without notice.

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APPLICATION CONSIDERATIONS

The proper selection and application of power generation products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, and other factors can materially affect the application and operating results of the products and components, and the customer should carefully review its requirements. Any technical advice or review with respect to the use of products and components is given in good faith and without charge, and Bison Power assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted.

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