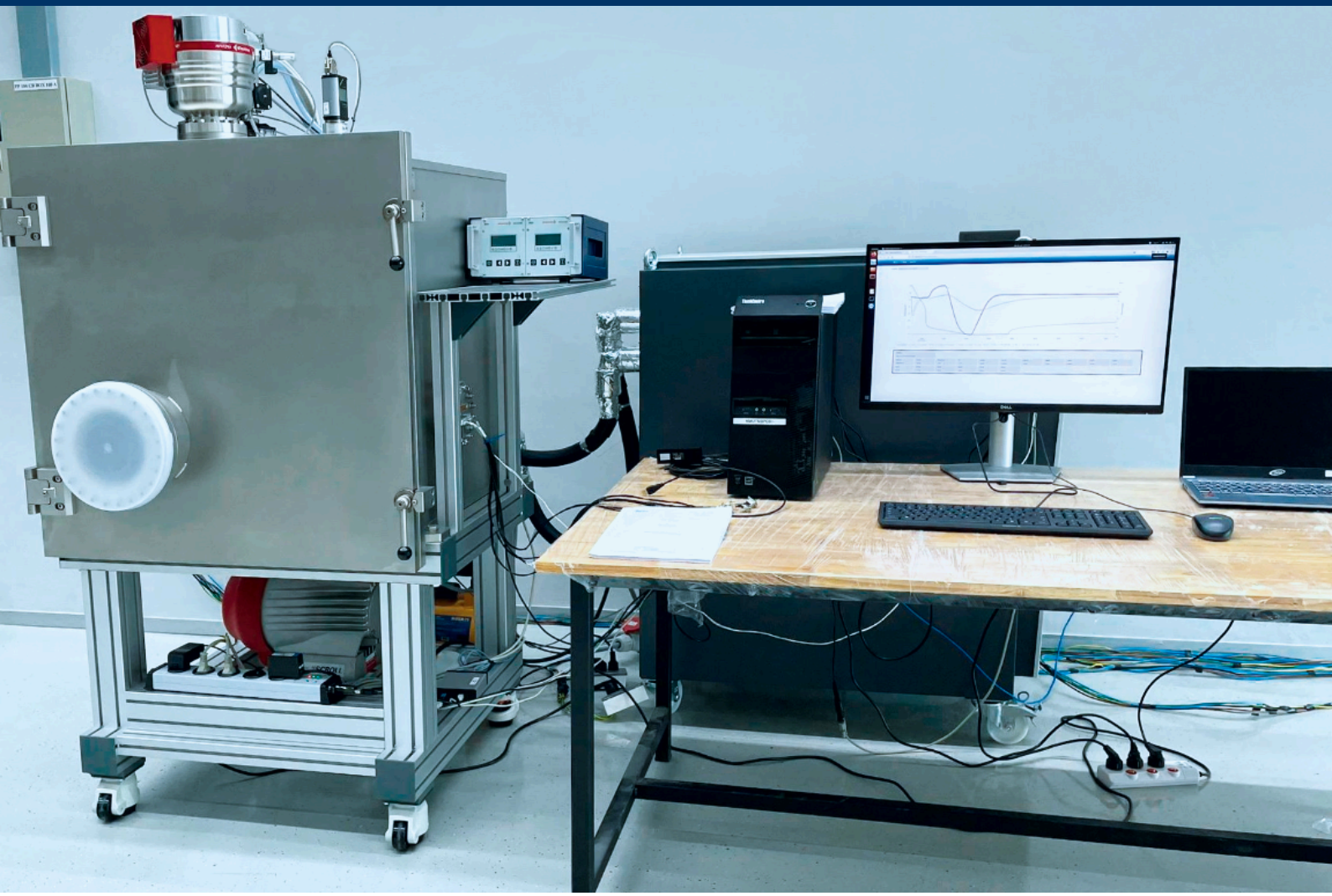


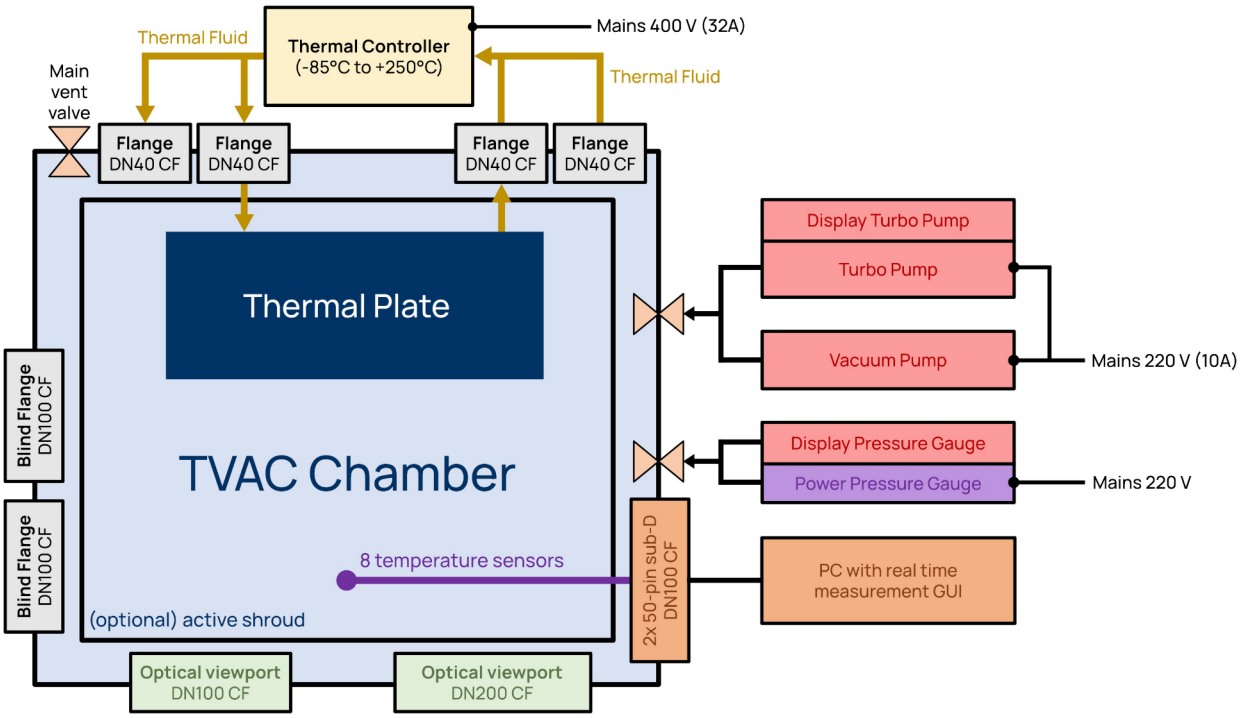
THERMAL VACUUM CHAMBERS

Berlin Space Technologies offers cost-effective solutions for thermal vacuum tests (TVAC). Our TVAC chambers are built according to the complex test regime of the space industry. They offer automatic safety and logging modes which allow the operator to run the chamber without human supervision. They are available in two configurations: the TVAC-SQ500 and the TVAC-SQ750, both with modular plate and shroud options.

FURTHER INFORMATION: Max-Planck-Str. 3 12489 Berlin, Germany I info@berlin-space-tech.com
www.berlin-space-tech.com

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The BST vacuum chamber is equipped with an autonomous monitoring station. The automated monitoring station can be controlled remotely and includes several automated safety features — and thus does not require human attendance. This greatly improves operations as the chamber can now be left running during nights and on weekends without human observers.



Block Diagram

Technical specifications can be found on the next pages.

TECHNICAL SPECIFICATIONS

TVAC-SQ750		
CHARACTERISTICS	**VALUE**	**COMMENTS**
Vacuum Level	< 1e-6 mbar	Empty chamber
Pump Down Time	20 mins	To < 1e-3 mbar
Temperature Range	-60°C to +120°C	Thermal plate tested by BST
	-85°C to +250°C	Range of the cooler
Active Shroud	Optional	Via main cooler, optionally via secondary cooler
Thermal Cycling Gradient	< 2K / min	
Chamber Internal Size (larger versions on request)	750 x 750 x 680 mm^3	With thermal plate only
	750 x 700 x 650 mm^3	With active shroud
Electrical Feedthrough	2 x 50 pin	More pins on request
Optical Feedthrough (max. aperture diameter)	2 x 100 mm (80 mm) 1 x 200 mm (150 mm)	Lambda/4 @ 632 mn Other configurations on request
Thermal Feedthrough	4 x 400 mm	For shroud and thermal template
Additional Feedthrough	1 x 100 mm	E.g. RF feedthrough or other
Automatic Monitoring	Yes	Safety and data logging
DIMENSIONS & INTERFACES		
Chamber Ext. Dimensions without cooler systems	1770 mm +/- 200 mm	Height
	920 mm +/- 100 mm	Width
	1620 mm +/- 100 mm	Depth
Chamber Mass	1200 kg +/- 50 kg	Basic BST TVAC Chamber including thermal controller
Power Supply	400 V — 32 A	Cooler
	220 V — 10 A	Vacuum and turbo pump
	220 V — 3 A	Measurement equipment

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TECHNICAL SPECIFICATIONS

TVAC-SQ500		
CHARACTERISTICS	**VALUE**	**COMMENTS**
Vacuum Level	< 1e-6 mbar	Empty chamber
Pump Down Time	20 mins	To < 1e-3 mbar
Temperature Range	-60°C to +120°C	Thermal plate tested by BST
	-75°C to +200°C	Range of the thermal oil
Active Shroud	Optional	Via main cooler, optionally via secondary cooler
Thermal Cycling Gradient	< 2K / min	
Chamber Internal Size	500 x 500 x 500 mm^3	With thermal plate only
	450 x 450 x 450 mm^3	With active shroud
Electrical Feedthrough	2 x 50 pin	More pins on request
Optical Feedthrough (max. aperture diameter)	1 x 100 mm (80 mm)	Lambda/4 @ 632 mn Other configurations on request
Thermal Feedthrough	4 x 400 mm	For shroud and thermal template
Additional Feedthroughs	2 x 100 mm (optional)	E.g. optical, RF, pin or other applications
Automatic Monitoring	Yes	Safety and data logging
DIMENSIONS & INTERFACES		
Chamber Ext. Dimensions without cooler systems	1800 mm +/- 200 mm	Height
	620 mm +/- 100 mm	Width
	1485 mm +/- 100 mm	Depth
Chamber Mass	500 kg +/- 50 kg	Basic BST TVAC Chamber including thermal controller
Power Supply	230 V — 16 A	Cooler
	220 V — 8 A	Pre-pump
	220 V — 8.4 A	Turbo pump
	24 VDC	Measurement equipment

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