

Overview

- The main advantage of the a4S is that it does not require an air supply, which gives it the flexibility to be used on standard lab benches as a stand-alone unit, or integrated within a robotic set-up
- The sealer's rapid heating element enables a fast start-up, and the stand-by function saves energy when the unit is not in use
- The a4S sealer is compatible with a wide range of SBS footprint plates, including all PCR plate formats from 96 well to 1536 well, assay plates, deep well storage plates and microplates
- Varying plate heights, from 3mm to 60mm can be accommodated with minimal adjustments of the instrument
- Plates are presented in portrait format and the plate position on the shuttle allows good access for robotic integration
- Rolls with a width of between 75-85mm can be loaded in either of two roll positions, depending on roll length and available space, enabling the entire instrument to fit under the gantry of most liquid handling robots
- The width and length of the applied seals are set to precisely cover an SBS footprint plate without interfering with plate stacking
- The seal position can be adjusted to give an overhang at one end of the plate to facilitate ease of seal removal

Key Features

Simple installation

- No need for compressed air: installation is fast and flexible
- 2 positions for different roll sizes: increased flexibility
- Optional roll cover provides seal protection for sensitive applications

Easy handling

- Color touch screen with intuitive user interface for ease of use
- Unlimited password protected protocols: 3 security levels save personalized and SOP set temperatures and times
- Rapid heating: fast start up time, block uniformity is maintained to $\pm 1^{\circ}\text{C}$
- Variable time/temperature controls: adjustment of time and temperature settings enables the perfect seal to be established for any sealer friendly, high-quality plate type, e.g. all 4titude plates
- Up to 5,000 seals without manual intervention: true walk-away-system

Reproducible sealing

- Reproducible sealing: fixed pressure and accurate time and temperature controls ensure consistent sealing
- High sealing pressure: improved seal uniformity on a wide range of plates
- Sealing cycle time of less than 15 sec: time saving

Highest flexibility

- Compatible with a wide range of plate types, from racked tubes to 1536 well PCR plates
- Flexibility of seal material choice: 4titude offers a [wide range of sealing materials](#), with a variety of properties for use with the a4S
- Compatible with gas permeable heat seals: no instrument modification necessary for maximum convenience

Economic efficiency

- Competitive pricing: save money without compromises
- Auto standby mode: saves energy and extends component life
- 2 year warranty on parts and labor
- Extended warranty and service contracts available for peace of mind

Plug and play robotic integration

- The a4S heat sealer is extremely versatile leaving you the freedom to expand and configure your systems such as adding robotic plate handling
- [SiLA](#) compatible: quick and easy integration with other SiLA compliant devices using the SiLA driver (available at extra cost, please see ordering information); all 4titude instruments are compliant with SiLA standards for rapid integration of automated systems

- This means they can be "plug and play" connected with other instruments, such as readers, robotic arms and liquid handlers, to give a custom automated system without the need to write expensive custom drivers
- Full communication protocol available: operate the instrument and record sealing conditions for each seal using the RS232 communication port

Applications

qPCR: reduce evaporation and save money

- The optimized sealing performance of the a4S heat sealer prevents reagent volume loss by evaporation
- Up to a fivefold reduction in the costs of sealing can be achieved when heat sealing with the a4S compared to using caps or adhesive seals
- Reliable qPCR results and significant reagent savings can be achieved by using [Clear Heat Seal](#) (4ti-0540) and [Clear Weld Heat Seal Mark 2](#) (4ti-0573, particularly designed for hydrocyclers)

Cell assays and cell culture: increase cell viability and assay performance

- Heat sealing is the optimal method for cell based assay plates and cell culture plates
- It is a proven method for compound storage, particularly in protective gases such as Argon and CO₂
- [Gas Permeable Heat Seal Mark 2](#) (4ti-0598) is the perfect choice for cell culture: allows for optimized gaseous exchange, whilst limiting evaporation

Sample storage: strongest resistance against organic solvents

- Essential requirements for long-term storage include maintaining sample integrity and minimizing the risks of sample degradation
- When applied using the a4S heat sealer, [Foil Heat Seal](#) (4ti-0535), [Pierce Heat Seal](#) (4ti-0530), and [DMSO Resistant Peel Heat Seal](#) (4ti-0585) demonstrate the highest performance in compound storage, drug screening and subsequent sample retrieval
- [DMSO Resistant Peel Heat Seal](#) is the first 100% DMSO resistant seal: pure DMSO can be stored at room temperature for 12 months with this seal with no deterioration of the seal quality

Tailor-made solutions

- We stock one of the widest ranges of sealing solutions for varying applications
- We can also design and manufacture custom solutions for specific non-standard sealing requirements
- This service includes custom sealer blocks for the a4S and [IntelliXseal™ SA](#) heat sealers, as well as custom size and specification seal material
- [Contact us](#) and tell us what you need

Specifications

Parameter	a4S Automatic Roll Heat Sealer
Dimensions (W x L x H)	230 x 507 x 276mm
Sealing temperature range	100-195°C
Sealing time range	0.1-10 sec
Weight (without roll)	27kg

Power supply	V in: AC 100-240V; V out: DC 24V 320W
Power consumption	700W (max)
Working temperature range	10-30°C
Operating humidity (RH)	0-85%
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Connection	RS-232 serial port, USB port

Ordering Information

Use these part numbers to [request a quote](#):

Part number	Description
a4S Automatic Roll Heat Sealer	
For automated heat sealing of microplates, PCR plates, assay plates and storage plates used in medium to high-throughput or full automation applications	
4ti-0665 <i>Buy this product on GENEWIZ</i>	Includes: universal power supply, power cord, plate support adapters A (4ti-0665-2) and B (4ti-0665-3), 24 month parts and labor warranty; 1 unit
a4S adapters and accessories	
4ti-0665-1*	a4S Seal Loading Tool; 1 tool
4ti-0665-2*	a4S Plate Support Adapter A; 1 adapter
4ti-0665-3*	a4S Plate Support Adapter B; 1 adapter
4ti-0665-4*	a4S Roll Holder Set; includes spindle, clamping wheels, locking nut; 1 set
4ti-0665-5*	a4S Vacuum Cups, Front; clear, set of 2; 1 set

4ti-0665-6*	a4S Vacuum Cups, Back; black, set of 2; 1 set
4ti-0665-7	Plastic Tweezers; 1 tweezers
4ti-0665-8**	a4S Clear Plastic Roll Dust Cover; 1 cover
4ti-0665-41	SiLA driver for a4S heat sealer; 1 license
a4S warranties	
4ti-0665-11	Warranty extension, third year (36 months total); 1 extension
4ti-0665-12	Warranty extension, third and fourth year (48 months total); 1 extension
4ti-0665-113	Warranty extension, fourth year; 1 extension

*These items are included with the a4S heat sealer (product code 4ti-0665)

**Please note: only applicable for smaller rolls (product code 4ti-xxxx80, /100, /122)