

Product Information

Electromechanical Creep Testing Machine Kappa DS

CTA: 179072



Kappa 50 DS

Applications

The flexible electromechanical creep testing machine Kappa DS is equipped with a double lead screw and was designed for classic and advanced creep tests. The large crosshead travel distance and the resulting extended test area provide sufficient space for e.g., temperature, vacuum or inert gas chambers, making this testing machine ideal for tests in changing environmental conditions.

The Kappa DS offers a wide range of applications:

- Advanced creep tests:
 - Creep test with slow strain rate (SSRT)
 - Strain modeling (e.g. determination of creep curve at different loads)
 - Fatigue tests in the tensile range
 - Creep data from components tests
- Static crack growth/widening test (CCG)
- Determination of hydrogen embrittlement
- Relaxation tests
- Classic fatigue tests:
 - Creep, creep rupture
 - Stress rupture
- Short-term tensile, compression, and flexure tests can also be performed with this testing machine

Advantages and features

Specific machine design

- Load frame with dual lead screw drive and precision guidance via four steel columns for precise axial loading
- Dual lead screw drive
- High drive control frequency of 1000 Hz. This allows for precise force and strain control for a wide range of applications.
- High-resolution force and travel measurement for optimum control properties, especially at very low test speeds
- Precise loading rate with tolerance of ± 0.1 % of the set speed in the measurement range of $1 \mu\text{m/h}$ to nominal speed, unloaded or under constant load
- Wide force measurement range for tests with small and large forces according to DIN EN ISO 7500-1 in class 0.5 and class 1
- Precision testing machine to DIN EN ISO 7500-1

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Technical data

Type Kappa Item No.	50 DS MP00423	100 DS MP00424	150 DS MP00588	250 DS MP00425	
Test load F_{max}	50	100	150	250	kN
Test area					
Height	1350 ¹⁾	1350 ¹⁾	1350 ¹⁾	1350 ¹⁾	mm
Width	610 ²⁾	610 ²⁾	617 ²⁾	617 ²⁾	mm
Load frame					
Dimensions					
Height	2310	2310	2404	2404	mm
Width	860	860	860	860	mm
Width with machine electronics	1110	1110	1110	1110	mm
Depth	655	655	685	685	mm
Weight					
With machine electronics, approx.	840	840	1120	1120	kg
Drive					
Crosshead speed $v_{min} \dots v_{max}$	1 ... 100	1 ... 100	1 ... 100	1 ... 100	$\mu\text{m/h} \dots \text{mm/min}$
Deviation from the set drive speed, max.	$\pm 0.1^{3)}$	$\pm 0.1^{3)}$	$\pm 0.1^{3)}$	$\pm 0.1^{3)}$	% of v_{actual}
Drive travel resolution	0.068	0.068	0.068	0.068	nm
Crosshead return speed, max.	100	100	100	100	mm/min
Power input specifications					
Power supply voltage	230	230	230	230	VAC
Power consumption (full load), approx.	2.3	2.3	2.3	2.3	kVA

1) Maximum distance from the moving crosshead to the height-adjustable crosshead or base crosshead, without any accessories

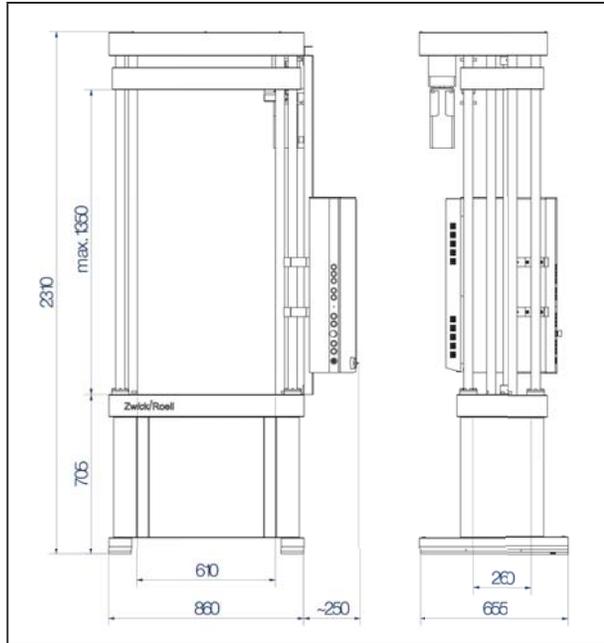
2) Clearance between the lead screws

3) Measured over an interval of at least 5 s or 10 mm travel

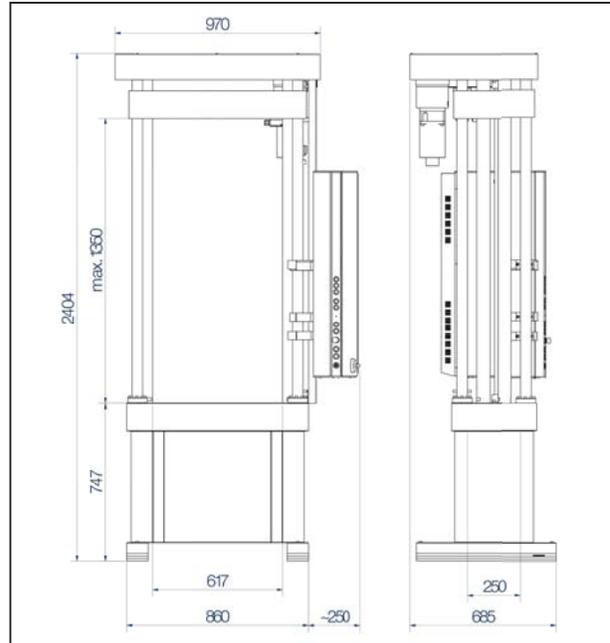
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CTA: 179333 179334



Kappa 50 / 100 DS



Kappa 150 / 250 DS