

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

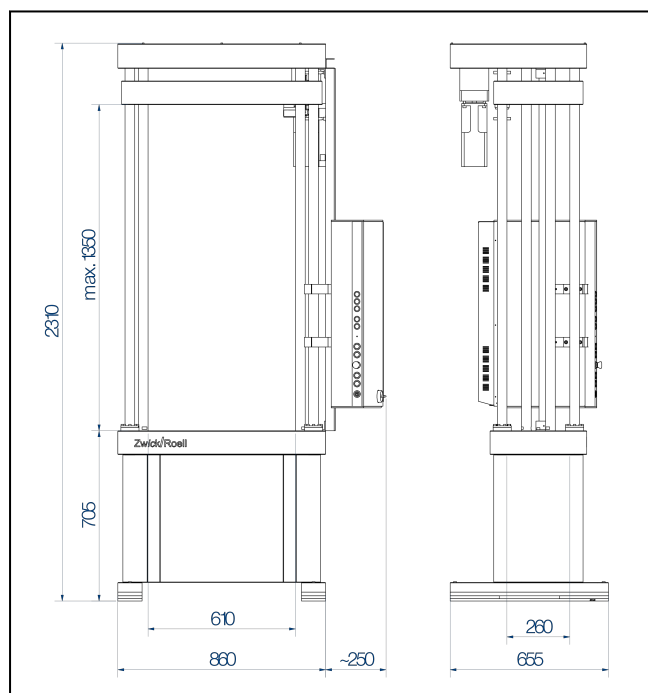
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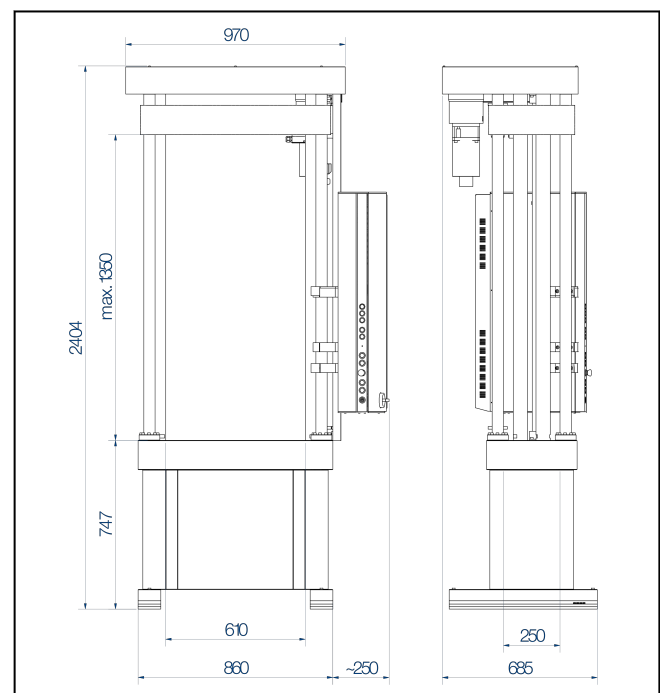
Technical data

Type Kappa	50 DS	100 DS	150 DS	250 DS
Test load F_{max}	50 kN	100 kN	150 kN	250 kN
Dimensions of the test frame				
Width	860 mm	860 mm	860 mm	860 mm
Depth	655 mm	655 mm	685 mm	685 mm
Height	2310 mm	2310 mm	2404 mm	2404 mm
Test area depth	Unlimited			
Test area width between the lead screws	610 mm	610 mm	610 mm	610 mm
Test area height, max.	1350 mm	1350 mm	1350 mm	1350 mm
Crosshead travel	1350 mm	1350 mm	1350 mm	1350 mm
Lateral guidance of the moving cross-head via precision bearings on four hard-chromed guide columns				
Up to 250 kN	Ø 40 mm	Ø 40 mm	Ø 40 mm	Ø 40 mm
From 250 kN	Ø 50 mm	Ø 50 mm	Ø 50 mm	Ø 50 mm
Test speed range	0.001 mm/h to 100 mm/min			
Return speed	100 mm/min	100 mm/min	100 mm/min	100 mm/min
Accuracy of the test speed	< ± 0.1 % (measured over an interval of at least 5 s or 10 mm travel)			
Position transducer travel resolution	0.068 nm	0.068 nm	0.068 nm	0.068 nm
Weight	840 kg	840 kg	1120 kg	1120 kg
Power supply voltage	230 VAC	230 VAC	3 x 400 VAC	3 x 400 VAC
Power rating	1 kVA	1 kVA	4 kVA	4 kVA

CTA: 179333 179334



Kappa 50 / 100 DS



Kappa 150 / 250 DS

All data at ambient temperature.

Subject to change in the course of further development.