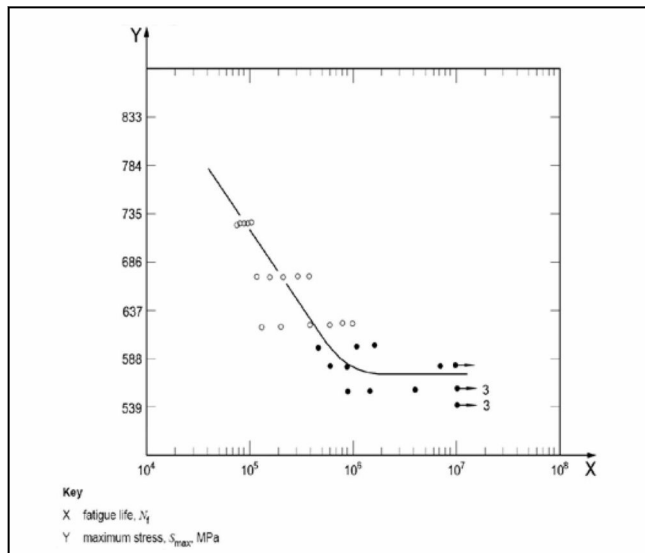


Product Information

ARBM 120 Amsler Rotary Bending Machine

CTA: 131748 131749



Description of Operation

The purpose of the rotating bar bending fatigue test (as per DIN 50113-1982 and ISO 1143-2010) is to determine the bending fatigue strength properties of round specimens under rotating load. During determination of bending fatigue strength the specimen is subjected exclusively to alternating loading in order to obtain a mean value of zero between positive and negative loads of equal magnitude.

As the greatest stresses occur on the surface of the specimen, the condition of the surface is of particular importance in this test method.

The rotating bar bending fatigue test can also be performed with an optionally available high-temperature furnace at elevated temperatures up to 850°C.

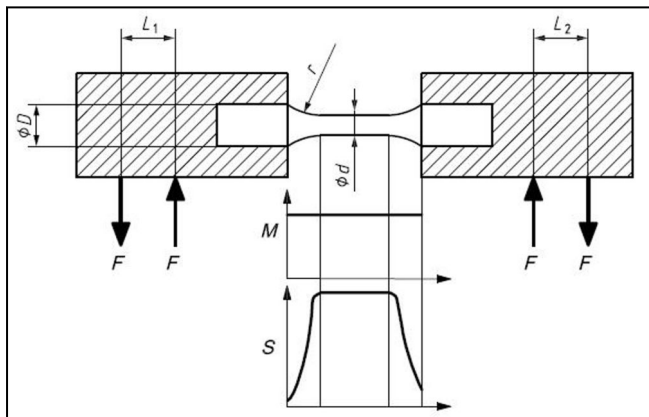
Range of application

This device can be widely used in various industries, such as: rail transit, energy, automotive, aviation, materials research institute, college, etc.

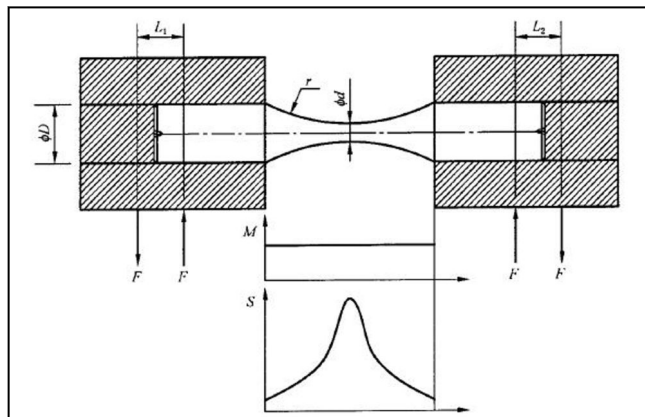
Advantages and features

- Fast, easy setup
- Variably adjustable bending moment via weights
- Constant bending moment over the specimen length
- Steplessly adjustable rotational speed
- Self-centering specimen clamping; high alignment accuracy
- Safety systems as per Machinery Directives 89/392/EEC and 91/368/EEC

CTA: 136938 136939



Parallel specimen - Four-point loading

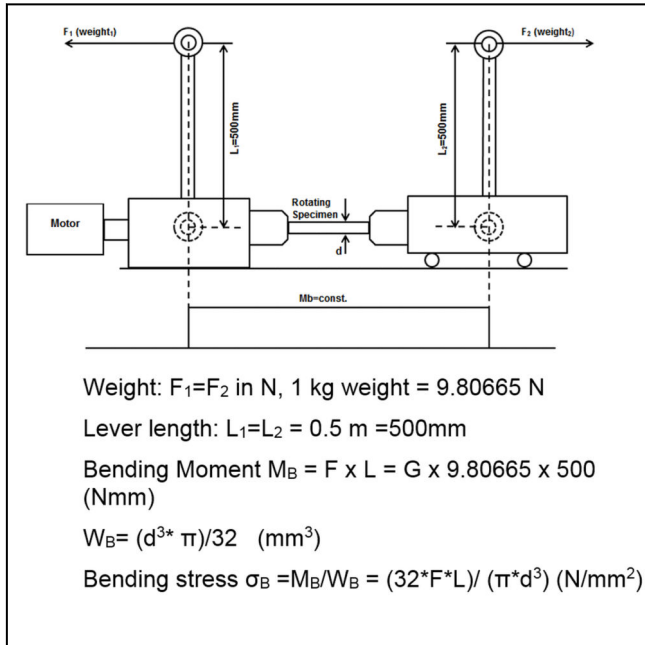


Hourglass specimen - Four-point loading

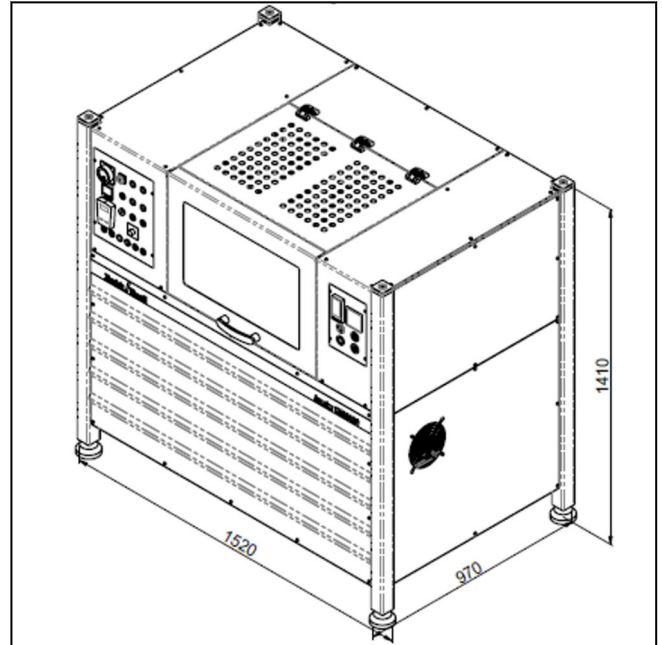
Product Information

ARBM 120 Amsler Rotary Bending Machine

CTA: 136940 136941



Bending stress calculation



ARBM 120: Outline dimensions

CTA: 124477 136935



Testing area open – clamping specimen



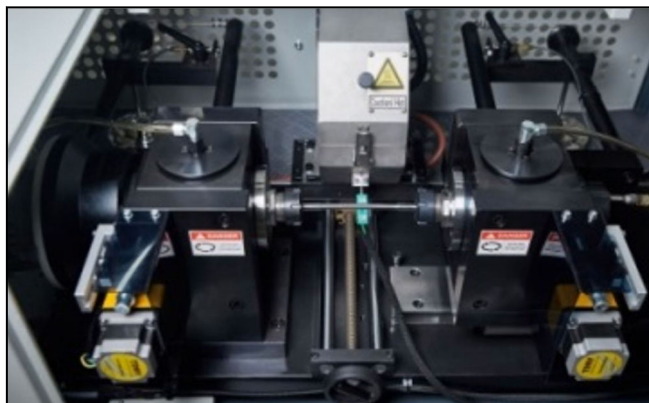
Back side open – adjusting weights

Product Information

ARBM 120 Amsler Rotary Bending Machine

Description of ARBM 120

CTA: 136942 136945



Test area



Axis alignment tool

CTA: 136943 136944



Accessories



Weights

Technical data

Description	Value	
Main machine		
Bending moment (in steps of 0.5 Nm)	2.5 to 120	Nm
Rotational speed, stepless	500 to 5000	r/min
Max. cycle counter ¹⁾	99999900 (= 1x10 ⁸)	
Max. bending angle	7°	
Dimensions (W x D x H)	1520 x 1010 x 1450	mm
Total weight	690	kg
Test area		
Grip-to-grip separation (tests at room temperature) ²⁾	50 to 200	mm
Grip-to-grip separation (tests at high temperature)	160 to 200	mm
Furnace width	130	mm
Clamping diameter	2-20 ³⁾⁴⁾	mm
Clamp length (with clamp diameter 8 ~ 20 mm)	40 ± 10	mm
Clamp length (with clamp diameter 2 ~ 7.5 mm)	25 ± 5	mm

All data at ambient temperature.

Subject to change in the course of further development.

Product Information

ARBM 120 Amsler Rotary Bending Machine

Description	Value	
Hydraulic system		
Working pressure	5	bar
Pump flow-rate	2	l/min
Reservoir capacity	30	l
Oil viscosity, approx.	10 ⁵⁾	cSt
Load weight		
Weights	(1x 1 N; 2x 2 N; 1x 5 N; 2x 10 N; 1x 20 N; 1x 50 N; 2x 100 N) x 2 boxes	
Material	stainless steel, density 7.9 g/cm ³ , G = 9.80665 N/kg	
Packing/package	net weight: (30.5 kg; gross weight: 34.5 kg) x 2 boxes	
Power supply		
Input voltage	3x 380/400 V + PE + N, 50/60 Hz	
Current	16	A
Power rating	1.8 (without furnace); 2.3 (with furnace)	kW
IP Protection	Design complies with IP 33	

1) Cycle counts up to 999999000 (i.e. 1×10^9) also can be configured - please enquire

2) Shorter grip-to-grip separation possible - please enquire.

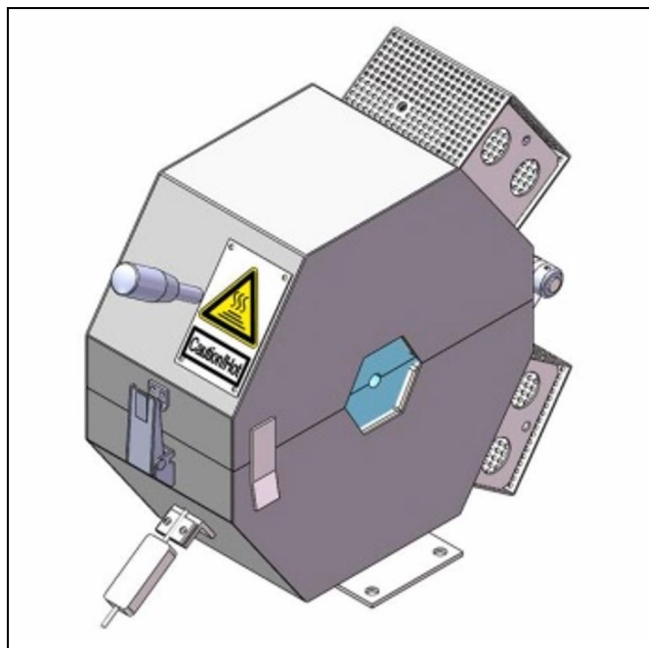
3) Depending on chuck selected from ER32 range

4) Scope of supply includes collets Ø 10 and Ø 20

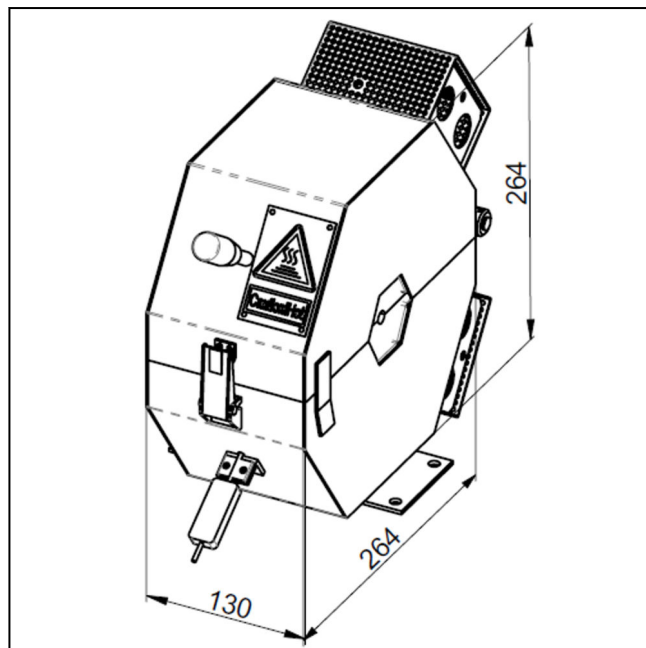
5) at 40 °C

Option available: AHTF 850-A high-temperature furnace

CTA: 136946 136947



General view of furnace



Outline dimensions of furnace

Description	Value	
High-temperature furnace		
Max. temperature	200 to 850	°C

All data at ambient temperature.

Subject to change in the course of further development.

Product Information

ARBM 120 Amsler Rotary Bending Machine

Description	Value	
Heating time	45 ± 5 ¹⁾	min.
Control method	PID controller	
Controller accuracy	± 2	°C
Input voltage	3x 380/400	V

1) From room temperature to 850°C, empty furnace

Basic instruments

Description	ArticleNumber
Rotating bending fatigue testing machine, with pre-installed furnace including mechanical interface	03.0027 / 1036340
Rotating bending fatigue testing machine - furnace not supplied (mechanical interface included)	03.0001 / 1036342
High Temperature Furnace and control system	08.0053
Load weights, 1 N to 100 N, stainless steel	08.0054