

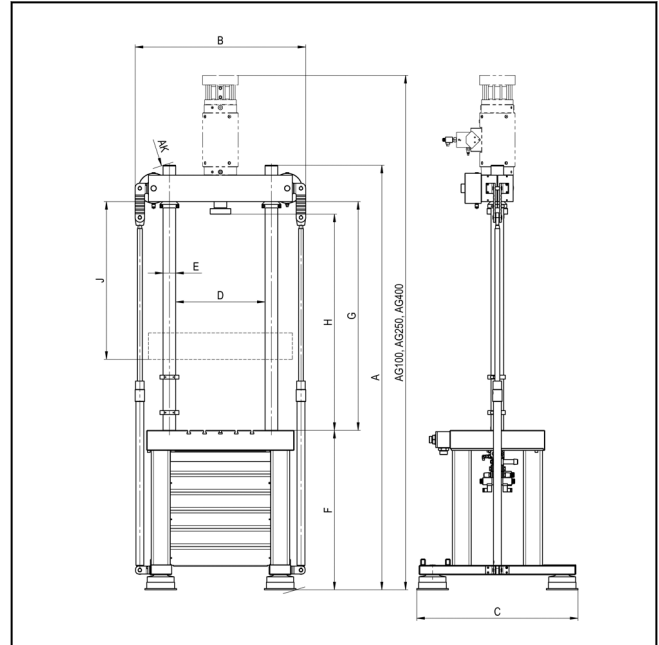
Product Information

Servo-hydraulic load frames – HB series, 2-column

CTA: 70966 70967



HB100 with T-slotted platform and mechanical grips



Drawing: HB load frame

Range of application

HB servo-hydraulic testing machines have the testing actuator mounted on the upper crosshead. This makes them extremely versatile in use, especially the version with integrated T-slotted platform, enabling flexure tests and component testing in addition to standard fatigue tests. The load cell can be attached to the lower cross-head or directly to the piston rod, depending on the application.

Description of operation

These 2-column load frames are designed for materials and component testing under dynamic loading in a closed force-flow. The frame is supported on vibration-isolating leveling units so that no appreciable forces are transmitted to the floor during normal operation. Where tests or environmental conditions are critical in nature, the use of optionally available air-springs is advisable; these have a natural frequency of approximately 3 - 6 Hz.

The efficiency of the testing system is enhanced by the especially high axial and lateral stiffness of the HB load frames, enabling higher frequencies and specimen deformations. Moreover, high lateral forces which may

occur in compression and flexure tests can be absorbed without difficulty.

The frames also feature extremely precise alignment; Following installation of the testing actuator and load cell, alignment accuracy is +0.1 mm per meter separation; at distances below 350mm the offset is constant at 0.05mm. Plane-parallelity of mounting surfaces is equal to or better than 0.03 mm per 100 mm. All fixtures and ZwickRoell load cells are mounted via flanges with centering-spigot.

Advantages and features

- 4 standard nominal ratings from 50 kN to 2500 kN
- testing actuator mounted on upper crosshead
- convenient working height
- hydraulic clamping and adjustment for easy positioning of upper crosshead
- comprehensive range of accessories, including hydraulic grips, compression platens, flexure test kit etc.
- safety housing for compliance with CE Machinery Directive
- version with integrated T-slotted specimen ideal for fatigue tests on components

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Technical data

Dynamic nominal force	50	100	250	500	kN
Crosshead clamping	electro-hydraulic	electro-hydraulic	electro-hydraulic	electro-hydraulic	
Crosshead adjustment	electro-hydraulic	electro-hydraulic	electro-hydraulic	electro-hydraulic	
A _{G100} – max. test-frame height with 100mm-stroke actuator	3175 (3675) ¹⁾	3259 (3759) ¹⁾	3523 (4023) ¹⁾	4045 (4545) ¹⁾	mm
A _{G250} – max. test-frame height with 250mm-stroke actuator	3475 (3975) ¹⁾	3559 (4059) ¹⁾	3823 (4323) ¹⁾	4345 (4845) ¹⁾	mm
A _{G400} – max. test-frame height with 400mm-stroke actuator	-	3859 (4359) ¹⁾	4123 (4623) ¹⁾	4635 (5135) ¹⁾	
A – max. column height	2690 (3190) ¹⁾	2690 (3190) ¹⁾	2900 (3400) ¹⁾	3250 (3750) ¹⁾	mm
A _K - tilted dimension for installation	2820 (3320) ¹⁾	2820 (3320) ¹⁾	3060 (3560) ¹⁾	3500 (3980) ¹⁾	mm
B – max. width of test frame	1079	1079	1197	1525	mm
C – max. depth of test frame	780 (1020) ²⁾	780 (1020) ²⁾	1130 (1130) ²⁾	1130 (1370) ²⁾	mm
D ₁ – column spacing	565	565	670	800	mm
E – column diameter	80	80	100	120	mm
F - height of top edge of lower cross-head ³⁾	950	950	890	900	mm
G – max. test area height ⁴⁾	1510 (2010) ¹⁾	1510 (2010) ¹⁾	1705 (2205) ¹⁾	2120 (2620) ¹⁾	mm
H – max. working test area height ⁵⁾	1434 (1934) ¹⁾	1434 (1934) ¹⁾	1614 (2114) ¹⁾	2020 (2520) ¹⁾	mm
J - crosshead displacement range	1000 (1250) ¹⁾	1000 (1250) ¹⁾	1150 (1400) ¹⁾	1250 (1400) ¹⁾	mm
Weight without T-slotted platform ⁶⁾	899 (945) ¹⁾	895 (941) ¹⁾	1361 (1430) ¹⁾	3660 (3780) ¹⁾	kg
Weight with T-slotted platform ⁶⁾	1137 (1182) ¹⁾	1133 (1178) ¹⁾	2082 (2232) ¹⁾	4860 (4980) ¹⁾	kg
Frame stiffness with crosshead separation 1000 mm ⁷⁾	730	730	988	1529	kN/mm
Frame stiffness with crosshead separation 1000 mm ²⁾	870	870	1332	1848	kN/mm
Item No.					
Standard height	077533	924779	040159	079720	
Standard height with T-slotted platform	077370	079752	040158	079728	
Extra-high + 500 mm	750972	077534	079755	079721	
Extra-high + 500 mm with T-slotted platform	077535	079753	079756	079733	

1) Variant with height increased by 500mm

2) Variant with t-slotted platform

3) With vibration-damping feet

4) Distance between upper and lower crossheads

5) Distance between piston flange and upper crosshead with piston retracted

6) Weight without actuator, load cell and any fixtures

7) Standard table plate

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Accessories

Vibration-damping feet

Rubber/air-spring element for impact and vibration isolation, natural frequency 3 - 6 Hz depending on static load, maximum permitted pressure 6 bar.

Description	Item number
Vibration-damping feet for HB 50 / 100	924749
Vibration-damping feet for HB 250	924770
Vibration-damping feet for HB 500	935215

Safety device

Aluminium profile section construction with Makrolon panels enclosing testing machine on all four sides, safety door at front, electrically monitored and interlocked.

Description	Item number
Safety device for HB 50 / 100	935500
Safety device for HB 50 / 100 - 500 mm extra height	1014330
Safety device for HB 250	007594
Safety device for HB 250 - 500 mm extra height	1014331
Safety device for HB 500	079736
Safety device for HB 500 - 500 mm extra height	079738