

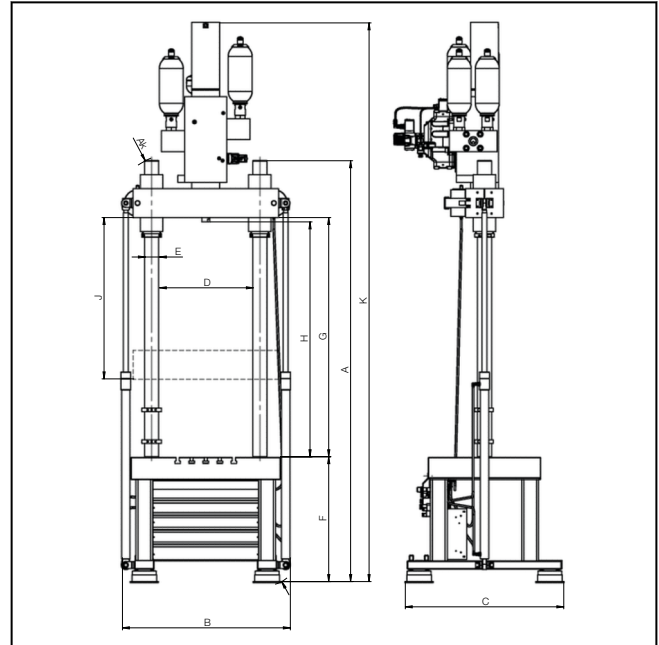
Product Information

HTM 5020 / 8020 high-speed testing machines

CTA: 27519 27511



HTM 5020 with T-slotted platform



Drawing of HTM showing dimensions

Application

The fracture behavior of many materials is dependent (among other things) on the loading rate. Numerical calculation of crash safety requires relevant data and constitutive equations. ZwickRoell's HTM range of servo-hydraulic high-speed testing machines enable strain-rate-dependent characteristic values to be determined over a wide speed range. High-speed punch and tensile tests plus peel and shear tests can be performed on plastics and metals as well as on glued and welded connections, while test speed can be adjusted continuously over a wide range.

Advantages

- Tests can be carried out over a very wide speed range from quasi-static to 20 m/s.
- Crash tests on components can also be performed using the optional T-slotted platform.
- Clamping of very short tensile specimens also possible.
- With testXpert a uniform software platform is available, from test definition right through to evaluation.
- Easy integration of optical extensometers.
- Machine is mounted on pneumatic springs, allowing installation almost anywhere.

Features

- Effective piston stroke of 250 mm allows highly ductile specimens to be tested or especially long specimens used.
- Extremely stiff 2-column load frame designed to minimize the effects of high impulse peaks during high-speed tests.
- Hydrostatic bearing, double-rod actuator for tension and compression with enhanced end-cushioning.
- System pressure 280 bar for maximum dynamic response.
- Accumulators used to supply hydraulic energy are mounted directly adjacent to the actuator to minimize flow losses.
- Digital piston transducer is temperature-stable, possesses a very high dynamic response and requires no calibration.
- Electronics with integrated high-speed data-acquisition; four channels as standard (can be expanded to eight).
- The safety housing and hydraulic safety-circuit reflect the special demands placed on safety during high-speed tests.

Product Information

HTM 5020 / 8020 high-speed testing machines

HTM Type	5020	8020	
Nominal force	50	80	kN
Piston speed	20 / 0.001	20 / 0.001	max / min m/s
Total piston stroke	350	350	mm
End cushioning	2x50	2x50	mm
Effective stroke	250	250	mm
Nominal pressure	280	280	bar
Actuator design	double-rod actuator with hydrostatic bearings		
Force measurement	piezo-electric		
Displacement measurement	digital		
Dimensions ¹⁾			
A - Height of test frame	3000	3000	mm
A _K - Topple measure for installation	3160	3160	mm
A _{G350} - Overall height with actuator	3990	3990	mm
B - Max. width of test frame	1200	1200	mm
C - Max. depth of test frame	1130	1130	mm
D - Distance between columns	670	670	mm
E - Column diameter	100	100	mm
F - Height of upper edge of lower crosshead	890	890	mm
G - Max. test area height	1705	1705	mm
H - Max. working test area height	1670	1670	mm
J - Crosshead displacement range	1150	1150	mm
Weight with T-slotted platform	2900	3000	kg
Item No.			
HTM load frame with T-slotted platform	028320	1038693	
HTM actuator	009522	022354	
HTM safety device	935683	022356	
HTM safety device (for temperature conditioning device)	041059	041059	
Accessories required²⁾			
HTM B-I hydraulic distribution unit with hose-holder	072574	072574	
Leakage oil pump	924785	924785	

1) Dimensions without safety housing

2) The machine can be connected to a central 280 bar hydraulic supply or to a dedicated hydraulic power unit.

Measurement and control electronics

Description	Item number
testControl II	1050755
<ul style="list-style-type: none"> • Mounted in an electrical cabinet • Width x height x depth: 600 x 1000 x 600 • Including load measurement amplifier and 4-channel transient memory 	
Workstation for two transient memory cards (009521)	3005235

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Software

Description	Item number
testXpert [®] basic program, German	058388
testXpert [®] basic program, English	058389
Master test program 'Transient Recorder' <ul style="list-style-type: none">• Memory for performing tests with high-speed data logging	640034
Test program for performing HTM tensile / punch tests	935674

Accessories

Description	Item number
Data acquisition <ul style="list-style-type: none">• Additional transient memory card for 4 additional analog inputs	009521
Analog measurement amplifier <ul style="list-style-type: none">• Broadband measurement amplifier, DC bandwidth up to 1,5 MHz for specimens with strain gages applied	075699
ProPact correction software <ul style="list-style-type: none">• For optimizing set-value signals, to achieve best possible speed constancy	020926