

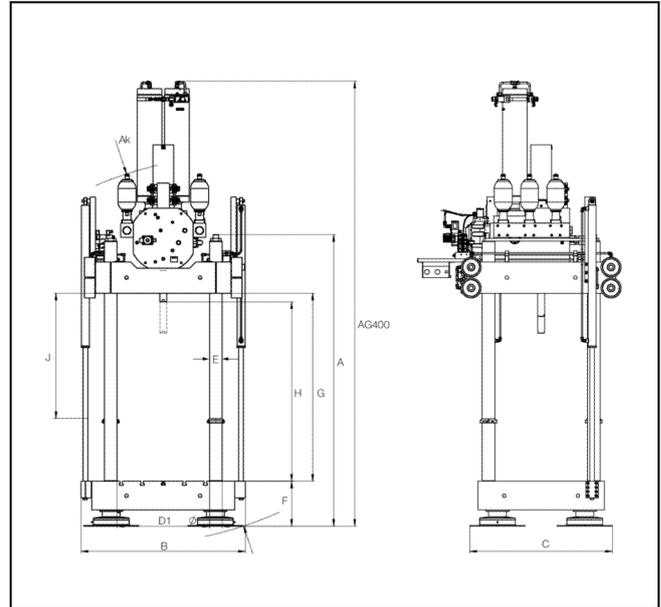
Product Information

HTM 16020 high-speed testing machine

CTA: 27518 27517



HTM 16020 high-speed testing machine



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 performed over a very wide loading-rate range from quasi-static to 20 m/s.
- The large T-slotted platform also enables crash tests on components to be performed.
- Hydraulic clamping and adjustment for easy positioning of upper crosshead.
- 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 300 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.
- Double-rod cylinder with hydrostatic bearings for tension and compression with reinforced 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.
- Incremental piston displacement 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.
- High-speed data acquisition with MHz (optional 80 MHz) for precise recording of highly dynamic processes.

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Type HTM	16020	
Nominal force, static	160	kN
Piston speed	20 / 0.001	max/min m/s
Total piston stroke	400	mm
End cushioning	2 x 50	mm
Effective stroke	300	mm
Nominal pressure	280	bar
Actuator design	Double-rod actuator with hydrostatic bearings	
Force measurement	Piezo-electric	
Displacement measurement	Incremental	
T-slots	To DIN650-22H8, spacing 200 mm	
Dimensions ¹⁾		
A - Min. height of test frame	2793	mm
A _K - Tilted dimension for installation	3552	mm
A _{G400} - Overall height with actuator	4264	mm
Max. width of test frame	1560	mm
Max. depth of test frame	1353	mm
D - Distance between columns	880	mm
E - Column diameter	120	mm
F - Height of upper edge of lower crosshead	432	mm
G - Max. test area height	1800	mm
H - Max. working test area height	1718	mm
J - Crosshead displacement range	1200	mm
Weight with actuator	13000	kg
Item No.		
HTM load frame with T-slot platform	026388	
HTM actuator	026390	
HTM safety device	026392	
Required accessories²⁾		
HTM hydraulic distribution unit B-II with hose-holder	072577	
2x leak oil drain pump	924785	

1) Dimensions without safety housing and pipe brackets

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	ArticleNumber
testControl II	1097226
<ul style="list-style-type: none"> • Mounted in electrical cabinet • Width x Height x Depth: 600 x 1000 x 600 • Including charge amplifier and 8-channel transient recorder card 	

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Software

Description	ArticleNumber
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	ArticleNumber
ProPact correction software <ul style="list-style-type: none">• For optimizing set-value signals, to achieve the best-possible speed constancy	020926
Trigger module <ul style="list-style-type: none">• For integration of a high-speed camera	009533
Analog measurement amplifier <ul style="list-style-type: none">• Broadband measurement amplifier, bandwidth DC up to 1.5 MHz for use with specimens with strain gauges applied	075699