



40-190 VST/HDT Test Systems

Standards

ASTM D 648, ASTM D 1525, BSI 2782 (method 120 C), BSI 2782 (method 121 C), DIN 53460, DIN 53461, DIN EN 727, DIN EN ISO NF 2507, ISO 75, ISO 306, NT T 51-005, NT T 51-201, UNE 53075, UNE 53118



Application

Test System for determining the VICAT softening temperature of thermoplastics and the heat deflection temperature (HDT) of fibre-reinforced and filled thermosetting plastics, as well as of thermoplastics and hard rubber.

Features

The Coesfeld VST/HDT systems are semi-automated test devices and are available with two bath sizes (3 stations/ 6 stations). The systems can be operated via touch panel and/or Win-Software, which is included to delivery. The user is automatically guided through the test. The measurement is carried out in silicone oil. The bath volume is kept as small as possible, so that the operating costs are low. The oil-vapour outlet in all devices enables targeted extraction and optionally the immediate integrated filtering of the oil vapors at high temperatures. As a result, less oil film settles on the device and the room air stays clean. After the test, the system immediately cools down to the starting temperature within about 45 minutes. An optional external oil cooler can reduce the cooling time to less than 15 minutes.

Technical Data

Temperature range	+20°C..+300°C (+350°C)*, resolution ± 0.1 K
Temperature gradient	50 K/h, 120 K/h or freely selectable
Start temperature	freely selectable
Inductive displacement gauges, resolution	0.001 mm
Inductive displacement gauges, accuracy	better than 0.01 mm
Displacement range	up to 15 mm
HDT support clearance	64 mm, 100 mm, 101,6 mm
Bath volume	~7.5 l (3 Station Unit) / ~11.5 l (6 Station Unit)
Creep tests	possible




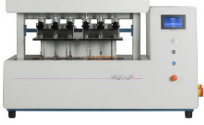

* optional high temperature extension available



Dimensions and Connection

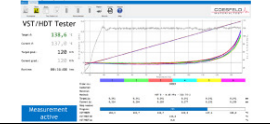








	3 Station Unit	6 Station Unit	6 Station Automat
Dimensions (WxDxH) approx.	850 x 560 x 710 mm	1100 x 560 x 710 mm	1600 x 736 x 1.000 mm
Weight	~80 kg	~100 kg	~150 kg
Mains	230 V, 50 Hz 240 V, 60 Hz	230 V, 50 Hz / 240 V, 60 Hz	230 V, 50 Hz 240 V, 60 Hz
Power	3200 VA	3200 VA	3200 VA
Interfaces	RJ45		
Air	2-8 bar for Full-Automat		
Cooling	Water cooling (from +300°C to +23°C in approx. 45 min.); optional: external heat exchanger (from +300°C to +23°C in approx. 15 min.)		
Others	n.a.		

Device configuration



incl.	Article number	Description	
-	40-190-009	VST/HDT Basic 3 Stations manual Station Lift and manual Load application	
-	40-190-010	VST/HDT Standard 3 Stations motorized Station lift and automatic weight lowering	
-	40-190-011	VST/HDT Standard 6 Stations motorized Station lift and automatic weight lowering	
-	40-190-012	VST/HDT Semi-Automat 6 Stations motorized Station lift and full automatic load control (no weight set required) for highest comfort and process safety	
-	40-190-013	HDT Vollautomat 6 Stations like Semi-Automat plus motorized sampled feeding system for ISO and ASTM sample geometries for 24/7 testing	



Accessories

incl.	Article number	Description	
1		Windows Software	
-	9-902-531	PMMA Safety Housing 3 Stations	
-	9-902-527	PMMA Safety Housing 6 Stations	
-	3-897-068	Transformator for Coesfeld devices; 110 V / 5000 W	
-	3-897-065	Transformator for Coesfeld devices; 127 V / 5000 W	
-	40-191	Vicat indenter (1 required per measuring station)	
-	40-192	HDT compression fin (1 required per measuring station)	
-	40-196	Vicat weights set 10 N and 50 N in accordance with ISO 306 and ASTM D 1525 (1 set required per measuring station)	
-	40-217	HDT weight set ISO 75-2, flatwise; for test samples 4 x 10 x 80mm for bending stresses of 1.8/0.45 or 8 MPa (1 set required per measuring station)	
-	40-218	HDT weight set ISO 75-2, edgewise; for test samples 4 x 10 x 120mm for bending stresses of 1.8/0.45 or 8 Mpa (1 set required per measuring station)	
-	40-261	Universal weight set for Vicat/HDT test standards, All loads from 1 to 5500g are possible in 1g steps. (1 set required per measuring station)	
-	40-194-001	HDT calibrating and centring tool for aligning the HDT compression fin (1 required per tester)	
-	40-240	Calibrating set for displacement sensor, for VICAT and HDT (1 required per tester)	
-	40-212-005	Standard heat transfer liquid (silicone oil, 10 l)	
-	40-212-006	Standard heat transfer liquid (silicone oil, 5 l)	
-	40-213-002	System extension to run tests up to 350°C (requires high temperature heat transfer liquid)	
-	40-212-017	High temperature heat transfer liquid (silicone oil, 10 l)	
-	40-212-018	High temperature heat transfer liquid (silicone oil, 5 l)	



-	9-944-019	External High-Performance Oil-Heat-Exchanger for Vicat/HDT +300 °C to RT in ~ 15 min	
-	60-005-029	Recirculating cooler for Vicat/HDT water cooling +300 °C to RT in ~ 40 min	
-	40-213-104	Active Carbon Filter System including: - Activated carbon filter (40-213-001) - Prefilter (40-213-002) - Extraction hose 5 m, Ø 75mm (40-213-003)	
-	40-213-200	Filtration System for water cooling Protects the solenoid valve from particle buildup. Recommended for regions with hard water	
-	40-201	Cutting pincers for 10x10 mm Vicat specimen preparation	
-	9-913-216	Digital Specimen Measurement Device	
-	9-913-218	Data-Transfer Connection to PC For the direct transfer of data from the digital specimen measurement device to the Coesfeld software	