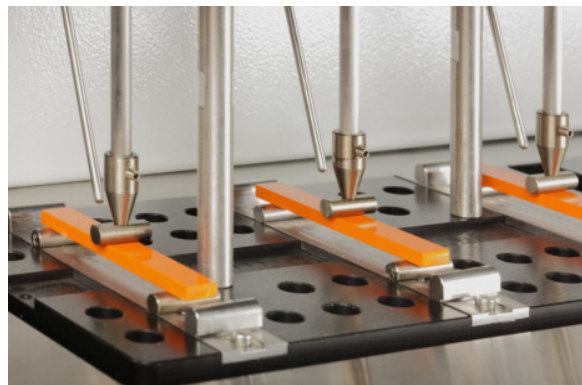


## 40-190 VST/HDT Test Systems

### Standards

ASTM D 648, ASTM D 1525, BSI 2782 (method 120 C), BSI 2782 (method 121 C), DIN 53460, DIN 53461, ISO 75, ISO 306, ISO 2507, 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.

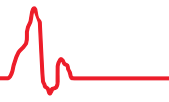
### Features

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 $\pm 0.1$ 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

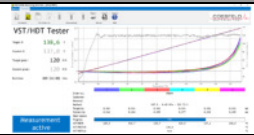







|                    | <b>3 Station Unit</b>  | <b>6 Station Unit</b>          | <b>6 Station Automat</b>     |
|--------------------|--|--------------------------------|------------------------------|
| Dimensions (WxDxH) | 804 x 470 x 604 mm   | 1054 x 470 x 604 mm            | 1502 x 646 x 1.000 mm        |
| Weight             | ~80 kg   | ~100 kg                        | ~150 kg                      |
| Mains              | 230 V, 50 Hz<br>240 V, 60 Hz   | 230 V, 50 Hz /<br>240 V, 60 Hz | 230 V, 50 Hz<br>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




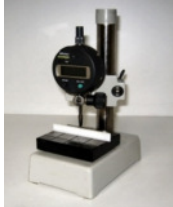
| incl. | Articlenumber     | Description  |  |
|-------|-------------------|--|--|
| -     | <b>40-190-009</b> | <b>VST/HDT Basic 3 Stations</b><br>manual Station Lift and manual Load application   |  |
| -     | <b>40-190-010</b> | <b>VST/HDT Standard 3 Stations</b><br>motorized Station lift and automatic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



### Accessories

| incl. | Articlenumber | Description  |   |
|-------|---------------|--|---|
| 1     |               | Windows Software   |    |
| -     | 9-944-034     | PMMA Safety Housing 3 Stations   |   |
| -     | 9-944-035     | 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<br>(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<br>(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<br>(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.<br>(1 set required per measuring station)       |  |
| -     | 40-199-001    | Automatic load application for Compact series  |   |
| -     | 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 (silcone oil, 10 l)  |   |
| -     | 40-212-017    | High Temperature Heat transfer liquid (silcone oil, 10 l)  |   |
| -     | 9-944-019     | External heat exchanger for Vicat/HDT<br><br>+300 °C to RT in ~ 15 min   |   |



|   |             |   |   |
|---|-------------|---|---|
| - | 60-005-027  | Recirculating cooler for Vicat/HDT water cooling<br>+300 °C to RT in ~ 40 min |  |
| - | 40-213-100  | Active Carbon Filter System   |  |
| - | 40-201      | Cutting pincers for 10x10 mm Vicat specimen preparation                       |  |
| - | 205-009-001 | Digital Sample Gauge  |  |