

Tar-Analyzer TA120-3



Applications:

Function:

The hot sample gas from the gasifier is sucked into the analyzer by use of Venturi nozzles and distributed into three sample loops over inbuilt dust-filters. The content of the loops will be shifted by Nitrogen to the FID detector sequentially. The first and the second loop content passing a cooled filter section, each section can be adjusted to such a temperature to condense the type of tar to be eliminated on this sample measurement. The third loop content is shifted to the detector containing the original sample gas from the gasifier.

After running the measurement cycle, the values of the different concentrations are calculated by the control and monitoring software of the analyzer TA120-3.

All controller function of the TA120-3 software (*TA 120 DataAquisition©*) can be also performed manually from the keyboard on the analyzers frontpanel.

Specifications:

- **Detector:**
Flame ionization detector (FID)
- **Analysis Temperature:**
Up to 300 °C
- **Filter Temperatures:**
0 to + 80 °C
(adjustable in steps of 1 °C)
- **Number of Filters:**
Two
- **Number of Pumps:**
Tree, heated Venturi
- **Number of Sample Inputs:**
Two, (with temp. controller)
- **Number of Calibration Inputs:**
Two
- **Measurement Range:**
3, up to 120 gC/m³
- **Time for one Analysis:**
approx. 120 seconds
- **Measurement Limit:**
< 0,2 % of the total Hydrocarbon content
- **Reproducibility:**
± 1 % of the measured value
- **Linearity:**
± 2 % of the effective range accumulated value
- **Sample Pressure:**
- 30 to 50 mbar
- **Sample Gas Flow Rate:**
100 - 300 l/h
- **Heating Time:**
about 60 minutes
- **Temperature Control:**
PID- Controller
- **Ambient Temperature:**
+5 to + 35 °C
- **Signal Output / Peripheral Control:**
RS 485/232 – Interface
- **Alarms:**
 - Sample loops
 - Oven Temperature
 - Temperature of both filters
 - Sensor break (temperature)
 - Flame Status
 - Amplifier Zero
- **Status Displays:**
 - Status of the analytic cycle
 - Sample Inlet
 - Oven Temperature
 - Filter Temperature 1 and 2
- **Software:**
TA 120 DataAquisition® running on
WINDOWS 98, XP
- **Required Gases:**
 - Fuel FID:
 - Hydrogen (Purity 5.0), 2 bar, about 2 l/h
 - Air FID:
 - compressed air (HC-free), 3 bar, 20 l/h
 - Carrier Gas:
 - Nitrogen (Purity 5.0) or compressed air, 2 bar, 5 l/h
 - Valve Control:
 - compressed air, 6 bar, 50 l/h
 - Calibration Gas:
 - about 5 Vol.-% Methane in N₂ ,
max. 100 mbar
- **Gas Connections:**
¼" clamping ring screw joint.
- **Type of Pumps**
Venturi jet
- **Main Power:**
230 V / 50 Hz / 900 VA
- **Weights and Dimension:**
about 40 kg
6 HE x 19 " x 480 mm (H x W x D)