

# ACW 400/DVA

AUTOMATIC CUT & WEIGH



DENIER VARIATION ACCESSORY

Fineness (dtex, den) and evenness are two main key figures for the quality of filament yarns. But the time gap between the moment they leave the spinning position and their determination in the laboratory can cause the production of large lots of low quality yarn.

Such losses can be avoided. The special design of the **ACW 400** in combination with the **DVA** module realizes the measurement of fineness and evenness of filament yarns only moments after they have left the spinning position - enabling fastest possible reaction to production irregularities.

The instrument shows an exceptionally high level of automation and flexibility since all essential parts of the measurement device are totally computer controlled - that includes fast change of testing parameters, automatic data transfer, optimized handling and a sophisticated evaluation software including an expert system.

This expert system monitors automatically the quality of the yarn. That liberates experts in the laboratory from evaluating the graphs of most individual samples which is enormously time consuming and prevents them from taking care of further quality issues.

**ACW 400/DVA** stands for faster testing, higher accuracy, automatic string up and sample removal, integrated automatic calibration, totally computer controlled and exceptionally easy handling. That means high speed testing with automatic data transfer for differing yarn types in an in-stream process is realized as a tool for efficient process control. **ACW 400/DVA** conforms to ASTM D6612 and D6587.

FILAMENT TESTING

# ACW 400/ DVA

## AUTOMATIC CUT & WEIGH DENIER VARIATION ACCESSORY

### Scope:

Automated evaluation of fineness and evenness of filament yarns by an expert system immediately after their production, with the aim of:

- fast reaction to irregularities
- independence from subjective influence in the judgement of measurement results

- high percentage of production tested
- minimal man power for operation
- no impact from moisture on yarn (spin finish)
- evenness and fineness of the same sample within one test run

### Method:

Denier is obtained by automatically cutting a certain length of yarn and weighing it onto an integrated balance - **ACW 400** - in accordance with ASTM D6587.

Evenness is determined by capacitive sensors. These sensors are automatically chosen by the system according to the actual fineness - **DVA** - in accordance with ASTM D6612.

### ACW 400 Automatic Cut & Weigh

#### Sample feeding:

Automatic string up and sample removal

#### Accuracy:

± 0,1%

#### Denier range:

7 - 4000 den (4400 dtex)

#### Power supply:

220 V / 50 Hz or  
110 V / 60 Hz, 1000 W

#### Dimensions:

Height: 178 cm  
Width: 85 cm  
Depth: 62 cm  
Weight: approx. 220 kg

#### Control system:

Totally computer controlled with integrated monitor

#### Data base:

For long-term evaluations, statistics, graphical result interpretation and fast data access

#### Calibration:

Fully automatically in-between test runs

#### Testing speed:

Up to 900 m/min

#### Testing time:

30 - 35 s/test  
(including DVA evenness test)

#### Pretension:

- Self adjusting for textile yarns
- Servo controlled yarn break for BCF-yarns

#### Air supply:

90 psi instrument air, 40 scfm (6 bar, 1.2 Nm<sup>3</sup>/min)

#### Options:

- DVA module
- Serial port communication with external source
- SESS automatic bobbin changer
- Bar code sample identification

### DVA Denier Variation Accessory

*Optional module to the ACW 400*

#### Reproducibility:

± 0,1%

#### Denier range:

7 - 600 den (higher ranges on request)

#### Results:

Within one test run fineness, evenness and CV% are obtained. Additional special process key figures (BGT, DFV) for the continuously monitoring expert system are given.

#### Testing speed:

Up to 900 m/min

### ACW 500-BCF

**Dtex/den of BCF and technical yarns.**

**Based on Windows NT®.**