

DVW 1

In-line height and width measurement of profiles.
Very accurate readings, independent of position and twist.

The Problem

Non-contact in-line measurement of profile shapes has always been a problem. Most optical systems using laser or CCD cameras measure the height of the shadow of the product that is subject to strong variations, if the product is not perfectly aligned with the laser beam.

A twist angle of 1° or less can already cause errors which are often larger than the specified product tolerance.

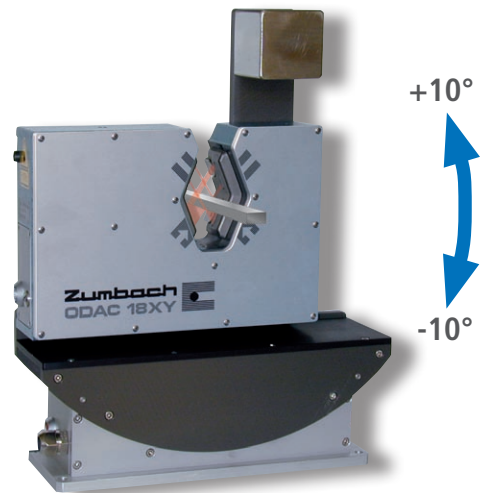
Most profiles, in particular steel, can not be guided absolutely parallel, due to their mechanical stiffness and due to required forces for guiding.

The Solution

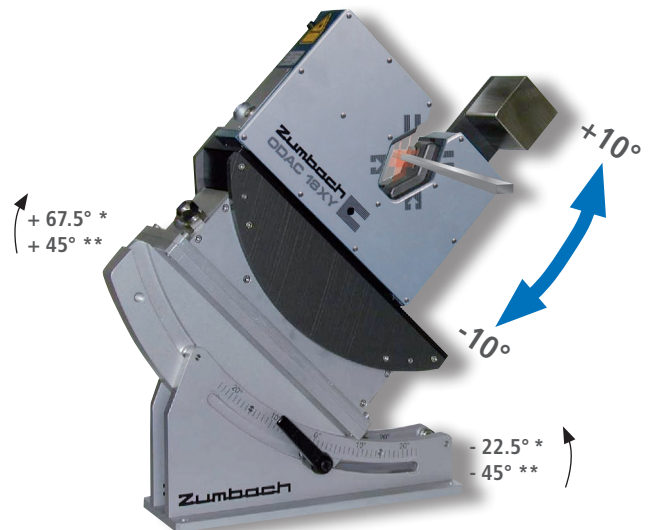
The pivoting support DVW 1 is a simple accessory for some ODAC® laser head models used for such applications.

With the continuously pivoting motion of the laser heads combined with the electronic "minimal value detection" of the relevant dimension, the height (or thickness) will be measured very accurately in most cases.

The device needs no additional electronics. It is, together with the laser measuring head, directly powered and controlled by the respective processor unit.



Measuring head on the DVW 1

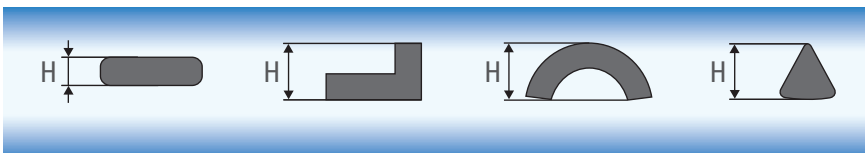


Measuring head on the DVW 1 with adjustment device

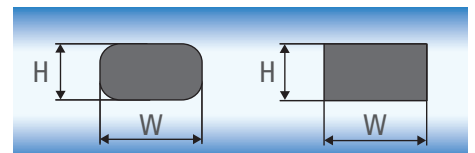
* for 2 axis models
** for 1 axis models

Typical product shapes and measured dimensions

Measurable with single axis heads



Measurable with X/Y heads



Description

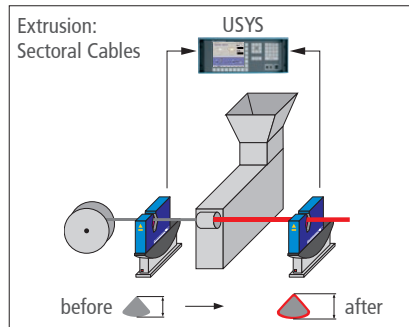
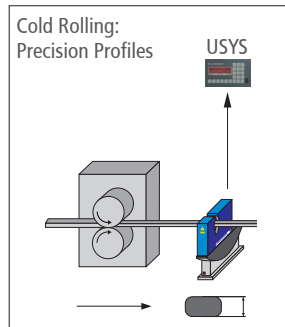
The support is a simple mechanical device which pivots ODAC® laser measuring heads continuously around the normal measuring axis within $\pm 2.5^\circ$, $\pm 5^\circ$, $\pm 7.5^\circ$ or $\pm 10^\circ$ (selectable). With this method the height (or thickness) of the profile will always be measured accurately, regardless its angular position (twist). This is possible by using peak value detection software.

For cable sectors (bare or insulated) it is assumed that the apex is normally on top, so that the sector height over the apex is measured.

The pivoting support is mounted between the actual measuring head and the floor stand or some other mounting base. It consists of a stationary base and the pivoting mechanism with the mounting surface for the measuring head.

An additional adjustment device DVW 1, $\pm 45^\circ$ (for single axis heads) and DVW $+67.5^\circ/-22.5^\circ$ (for dual axis heads) is available for adjustment of the initial measuring angle.

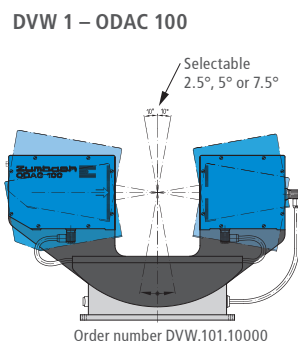
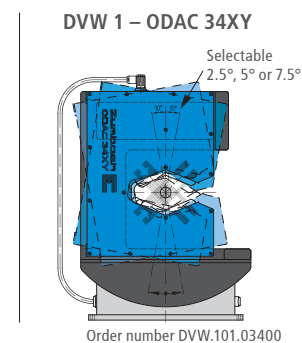
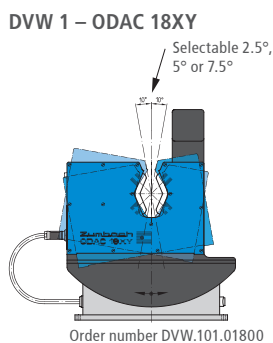
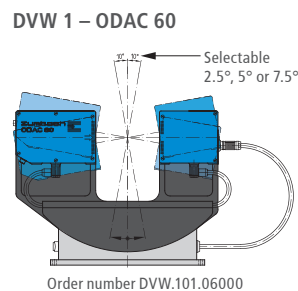
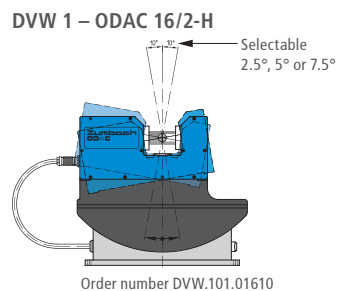
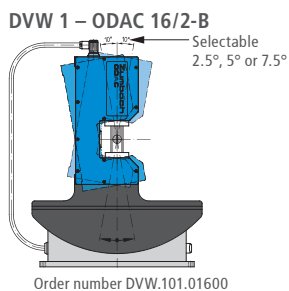
Typical Applications



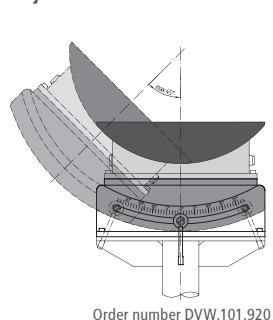
Main Data

Data acquisition, processing and display units	WIRESMASTER, USYS 20, 200, 2100, IPC
Interfaces	CI 1J/RS-RS/-DP/-EN
Measuring heads:	
- Single axis heads	ODAC 60, 100
- Dual axis heads	ODAC 18XY-J, 34XY-J
Cycle time	1...5 seconds
Selectable oscillation angles	$\pm 2.5^\circ$, $\pm 5^\circ$, $\pm 7.5^\circ$, $\pm 10^\circ$ (operating settings)
Power supply	24 VDC (supplied by the processor)

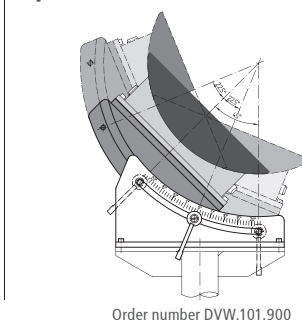
Version with pivoting support and/or adjustment device



Adjustment device DVW 1 $\pm 45^\circ$



Adjustment device DVW 1 $+67.5^\circ/-22.5^\circ$



• Technical specifications are subject to change without notice