

Oils 7400 and Oils 7600 Alignment Guide



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Introduction

When to Align the Autosampler

The autosampler's alignment is critical to its ability to operate reliably. It may be necessary to adjust the alignment if you find that the probe is not properly centered in the rinse station or the sample tubes.

Shipping or rough handling may disturb the autosampler's chassis, causing a need for a new alignment. Also, an alignment may be needed after an autosampler component (such as the Z-drive) has been replaced.

Origin Alignment

Performing an origin alignment sets the location of the home position so that the sample probe is centered in the rinse station. This alignment is done by setting offsets in the autosampler firmware. No mechanical adjustments are required.

Full Alignment

A full alignment sets the location of the sample vials and standards vials in relation to the rinse station. This alignment is done by setting offsets in the autosampler firmware. No mechanical adjustments are required.

Equipment Required

- Oils 7400 or Oils 7600 autosampler
- USB cable
- Sample probe
- Probe clamps
- Rinse station and spill tray
- Standard racks (two for Oils 7400, three for Oils 7600)
- Three standards vials, optionally with caps
- Alignment Utility software

Installing the Alignment Software

- **1** Insert the supplied CD into the computer.
- 2 On the included CD, find the alignment utility folder.
- **3** Double-click setup.exe and follow the on screen prompts.

Configuring the PC

If you customarily use a period as the decimal symbol, skip to the next section.

The alignment software assumes that your PC is set up to use a period as the decimal symbol. If you customarily use a comma as the decimal symbol, then you need to change the Region settings on your PC. The procedure may be a little different depending on your version of Microsoft Windows.

1 Open the Windows **Control Panel**.

2 Select **Region and Language**.



3 Click **Additional Settings**.

	Additional settings
Go online to learn about changing languages and regi	onal formats
ОК	Cancel Apply

4 For the **Decimal** symbol, choose the period (").

Numbers	Curre	ency	Time	Date				
Examp	le							
Positiv	ve: 1	123,49	56,789.0	00	Negative:	: [-123,456,789.00	1
Der	cimal	symb	ol:					
No	. of di	gits a	fter deo	imal:	2		•	

5 Click OK.

Starting the Software

- **1** Connect the autosampler to the PC using a USB cable. (You may use a direct serial connection instead. Do not use a USB-to-serial converter.)
- **2** Turn the autosampler on.
- **3** Select the Teledyne CETAC Alignment Utility from your desktop or select Start->All Programs->Teledyne CETAC Technologies->Teledyne CETAC Alignment Utility.



4 Select the appropriate COM port. Note that USB connections appear as COM ports.



Note: If the com port does not automatically populate, ensure that all other programs are closed and then select Refresh List. This will connect to any CETAC autosamplers present.

- **5** Click **Connect**.
- **6** A splash screen will appear while the devices are being detected.

Aligning the Origin/Rinse Station

1 Select **Origin Alignment**.

Teledyne CETAC Alignment Util	ty	and the second second	1000	
Refresh List Com Ports: COM11	Connect Disconnection Active Connection	Origin Alignment Full Alignment Alignment Routine	Alignment	
Origin Alignment Progress	Progress Messages	Citymen cenne.		
Start	Origin Alignment Selected Connected to: ASX-7600 STANDARD Press 'Begin Alignment' to start the alignm	ient process		
Initialize				
Align Origin	\bigcirc			
Verify Alignment	\bigcirc			
Save Alignment	\bigcirc			
Verify Save	\bigcirc			
Finish	\bigcirc			
Begin Alignment				
Skip Zone	X/Y Axis Controls	Z	Z Axis Controls	
Restart Zone	î			
		Δ = 0.01 mm	4	
No Alignment File Selected	Connected: ASX-7600 STANDARD	X=0 mm	Y=0 mm Z=0 mm	www.cetac.com

2 Click Begin Alignment.

3 Ensure that the autosampler is in the home position before proceeding. If the autosampler is not in the home position, cycle power then reestablish communications with the alignment software.



4 Ensure that the probe and stirrer are firmly attached and that the tip of the probe is level with the tip of the stirrer paddle. The probe will be used to align all sample vial positions; the stirrer paddle is used to align the rinse station.

Note: If set too low, the probe can get caught in the drip cup causing damage to the probe and the drip cup. If the probe has already been caught or jammed, check it for straightness before proceeding with the alignment.

5 Right click in the axis controls section and select an appropriate step size for fine tuning. Use the alignment controls (X/Y Axis Controls and Z Axis Controls) to center the stirrer paddle in the rinse station. Position it so that the tip is approximately 1 cm into the rinse station (Z-axis) and the edges are equally spaced from the walls of the rinse station (X and Y axes).



6 Click **Set Alignment**.

7 The autosampler will recheck the rinse position and ask if it looks correct.

Teledyne CETAC Alignment Utility					
Did the probe return to the selected origin correctly? Pressing 'Yes' here will automatically save this position as the origin.					
Use the mouse wheel or but	tons below to adjust the Z-Axis.				
Ţ					
	Yes No				

8 When complete, the software will indicate a successful origin alignment with a pop-up window. Close the software when complete. The autosampler will home itself.



9 Remove the stirrer paddle. The vial positions will be aligned using just the sample probe.

Aligning the Vial Positions

To complete a full alignment you will need three standards vials with caps* and two standard racks (three for the Oils 7600).

1 Mount the standards racks on their pegs and place the three standards vials in positions 1, 6, and 10 if on an Oils 7400 or 1, 8, and 15 if on an Oils 7600.



Arrows indicate the 4 alignment holes on each tray.



* You can leave the caps on the standards vials. Most caps have a small dot (left by injection molding) in the very center, which helps visualize the alignment.

2 Select File->Load Alignment File and load either the 7400 or 7600 rack file.

🕋 Teledyne CETAC Alignment Ut	ility
File 🔻	
Load Alignment File	
About	on
Quick Start Guide	Alignm
Help	Quick
Exit	e 'Alignment Routine' Me
	🕲 Exit Alignment Utility ment File' button under t

3 Select **Full Alignment**. The autosampler will immediately move the probe to the back left alignment hole.

🛖 Teledyne CETAC Alignment Utility		
File V Home Parameters	Hardware	
Refresh List Com Ports: COM17	Connect Disconnection Active Connection Active Connection Autosampler Connection	
Full Alignment Progress	Q ⁰ rigin	
Start	Rinse Z Peref Setting 10 Position Standards	
Initialize		
Align Zone	○ ○ ○	
Verify Zone Alignment	\odot	
Save Zone Alignment	Olis Sample Tray	
Verify Save	\bigcirc	
Finish		
	0	
Begin Alignment	Progress Messages Full Zone Alignment Selected Werkenzen Landerd	
Skip Zone	X/Y Axis Controls Z Axis Controls	
Restart Zone	0.01 mm 0.1 mm	
New Alignment		
Alignment File: ASX-7400 Oils Spil	Tray-Std10 Alignmt Connected: ASX-7400 OILS	Z=0 mm www.cetac.com

4 Right click in the Axis Controls section and select an appropriate step size for fine tuning.

5 Use the alignment controls (X/Y Axis Controls) to center the probe tip over the back left alignment hole. If necessary, adjust the Z axis position so you can better see the position of the probe.



NOTE

If the probe doesn't seem to move, right click and choose a larger step size.

- **6** Click **Set Landmark**. The autosampler will move the probe to the front left hole.
- 7 Align to the front left hole and click **Set Landmark**.
- 8 Align to the back right hole and click **Set Landmark**.
- **9** To verify the alignment, the probe will move to the front right position and the software will ask if the validation point is correct. Click **Yes** to continue.

Teledyne CETAC Alignment Utility					
PRE-WRITE VALIDATION: Did the probe arrive correctly at the validation point?					
Use the mouse wheel or buttons below to adjust the Z-Axis.					
	Yes No				

10 Click **Write Zone**.

NOTE

If you don't click Write Zone, the alignment information will not be saved.

- **11** The probe will move to the front right position again to verify that the new alignment information was saved correctly. Click **Yes** to continue.
- **12** The software will now begin aligning the "10 Position Standards" (15 position on the Oils 7600) zone. Click OK to continue.

13 Align the X and Y position for the first standards vial.



- **14** Click **Set Landmark**.
- **15** Align the X and Y position for the last vial.
- **16** Click **Set Landmark**.
- **17** Verify the position for the center vial and click **Yes** to continue.
- **18** Click **Write Zone**.
- **19** Verify the position of the center vial again and click **Yes** to continue.
- **20** The software will now begin setting the Z position in the rinse station. Click **OK**.

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File Home Parameters Hardwa	re				0
Refresh List Com Ports: COM5 - Com Port Selection	Connect Disconnection Active Connection	rigin Alignment Z Heigi Alignment Routine	ht Alignment		
Full Alignment Progress	rigin	1			
Start Start	Z Depth Setung	-			
Initialize 🧭	• •				
Align Zone					
Verify Zone Alignment					
Save Zone Alignment	90 Position Alignment Rack				
Verify Save					
Finish 🔵					
	•				
Set Landmark	Progress Messages				
	Workspace Loaded				
Shin Zowa	Full Zone Alignment Selected				
Skip Zone	X/V Avis Controls		7 Avis Controls		
				1	
Restart Zone			Î		
New Alignment	<u>+</u>	Δ = 1 mm			
Alignment File: 670110-xxx-ASX-280, 90 Pos	Racks, 1 Connected: ASX-280 Standard	X=0 mm	Y=0 mm	Z=30 mm	www.cetac.com

The tip of the probe will move into the rinse station. No additional action is required except to click **Set Landmark**, then click through the prompts (**Yes, Write Zone**, and **Yes)** to save the alignment.