

# OLYMPUS®

---

ryf ag  
**ryf**  
Ryf AG  
Bettlachstrasse 2  
2540 Grenchen  
tel 032 654 21 00  
fax 032 654 21 09  
[www.ryfag.ch](http://www.ryfag.ch)

## INSTRUCTIONS

---

# SZX-DO

## COUNTERED TYPE DISCUSSION OBSERVATION TUBE

This instruction manual is for the Olympus SZX-DO Countered Type Discussion Observation Tube. This attachment has been designed to be mounted on an SZX series microscope frame to turn it into a face-to-face discussion type microscope.

To ensure the safety, obtain optimum performance and familiarize yourself fully with the use of this attachment, we recommend you study this manual thoroughly before operating the microscope. Retain this instruction manual in an easily accessible place near the work desk for future reference.

— *This publication is printed on 100% recycled paper* —

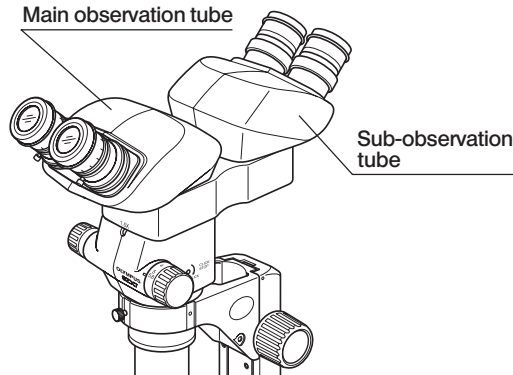


A X 7 2 6 8

# IMPORTANT

## 1 Getting Ready

1. This manual pertains only to the SZX-DO viewing attachment. Before using this attachment together with the SZX microscope and ancillary accessories, be sure to read their manuals carefully to understand the overall operation of the system.
2. Applicable modules
  - Zooming microscope body: SZX-ZB7, SZX-ZB9, SZX-ZB12.
  - Observation tubes: The mountable tube combinations are restricted considering the interference between the main and sub-observation tubes.



Main Observation	Sub-Observation	Interference Prevention Measure
	SZX-BI30 SZX-BI45 SZX-TBI	—
SZX-TR30	SZX-BI30	Use the SZX-EPA on the main observation tube.
SZX-TR30	SZX-BI45 SZX-TBI	Use the SZX-BS on the main observation tube.

- Intermediate attachments: One of the following intermediate attachments can be mounted on the main observation tube mounted on the SZX-DO.  
SZX-APT, SZX-FAD, SZX-DA, SZX-EPA, SZX-BS, SZX-AS.
- Eyepieces: WHS or WHSZ series.

- Base: The SZX-DO has the column for the base on the side of the sub-observation tube. However, if the auxiliary column or column is projected, the SZX-DO can be mounted by raising the microscope frame height. There may be a case in which the focus position does not reach the stage surface (see the table below). In this case, adjust the specimen height using the SZX-STAD1 or SZ2-FO.

Microscope frame	Base	Objective whose focus reaches stage surface
SZX-ZB12	SZX-ILLB2/ILLD2/ILLK/ ST/STL/STL2	No restriction
SZX-ZB9		DFPLAPO1X-4 SZX-ACH1X DFPL0.5X-4 DFPL0.75X-4
SZX-ZB7	◁Combined with SZX-STF▷ SZX-ST/STL/STL2/ILLB2/ ILLD2/ILLK	
		SZ2-ST/ILST

(Note) When the SZH-P400/P600 auxiliary column is used, there is no objective whose focus reaches the stage surface.

3. When the iris diaphragm of the SZX-ZB12 is stopped down, insufficiency in light or obscuration may be observed in the visual field of the sub-observation tube.

## 2

### Maintenance and Storage

1. Clean all glass components by wiping gently with gauze. To remove fingerprints or oil smudges, wipe with gauze slightly moistened with a mixture of ether (70%) and alcohol (30%).  
**▲ Since solvents such as ether and alcohol are highly flammable, they must be handled carefully. Be sure to keep these chemicals away from open flames or potential sources of electrical sparks — for example, electrical equipment that is being switched on or off. Also remember to always use these chemicals only in a well-ventilated room.**
2. Do not use organic solvents to clean the parts other than the lens components. Particularly, when a plastic part gets dirty, wipe with a soft cloth slightly moistened with neutral detergent.
3. Do not disassemble any part of the attachment.

## 3

### Caution

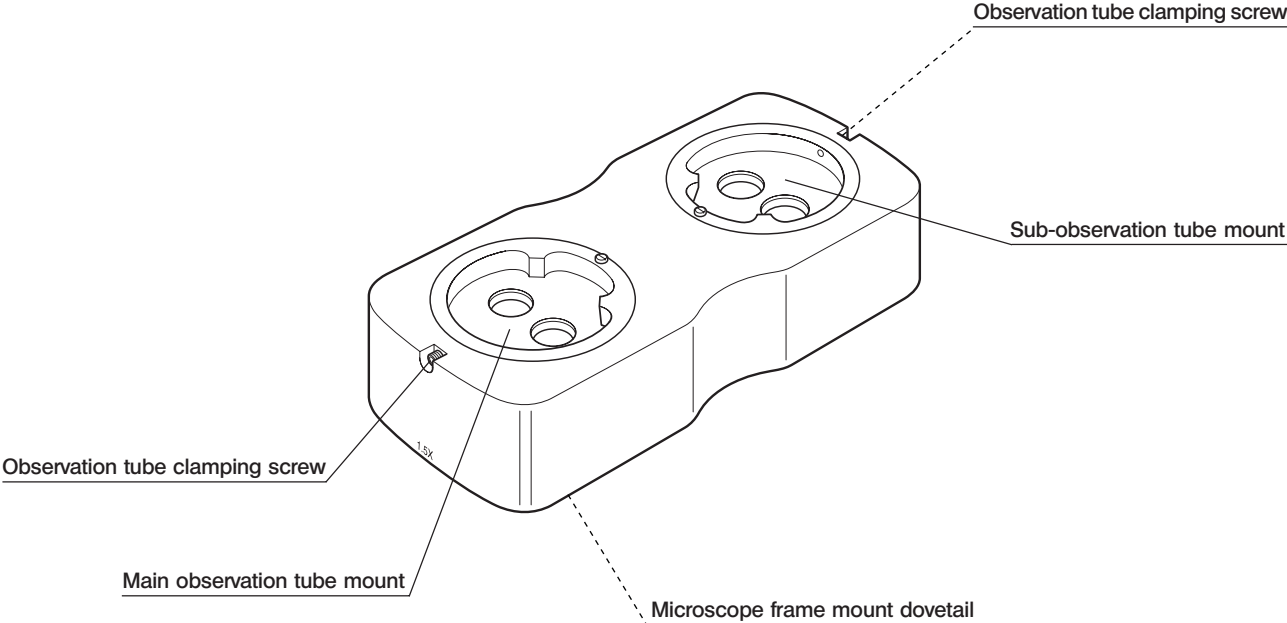
If the attachment is used in a manner not specified by this manual, the safety of the user may be imperiled. In addition, the equipment may also be damaged. Always use the equipment as outlined in this instruction manual.

The following symbols are used to set off text in this instruction manual.

- ▲ : Indicates that failure to follow the instructions in the warning could result in bodily harm to the user and/or damage to equipment (including objects in the vicinity of the equipment).
- ★ : Indicates that failure to follow the instructions could result in damage to equipment.
- ◎ : Indicates commentary (for ease of operation and maintenance).

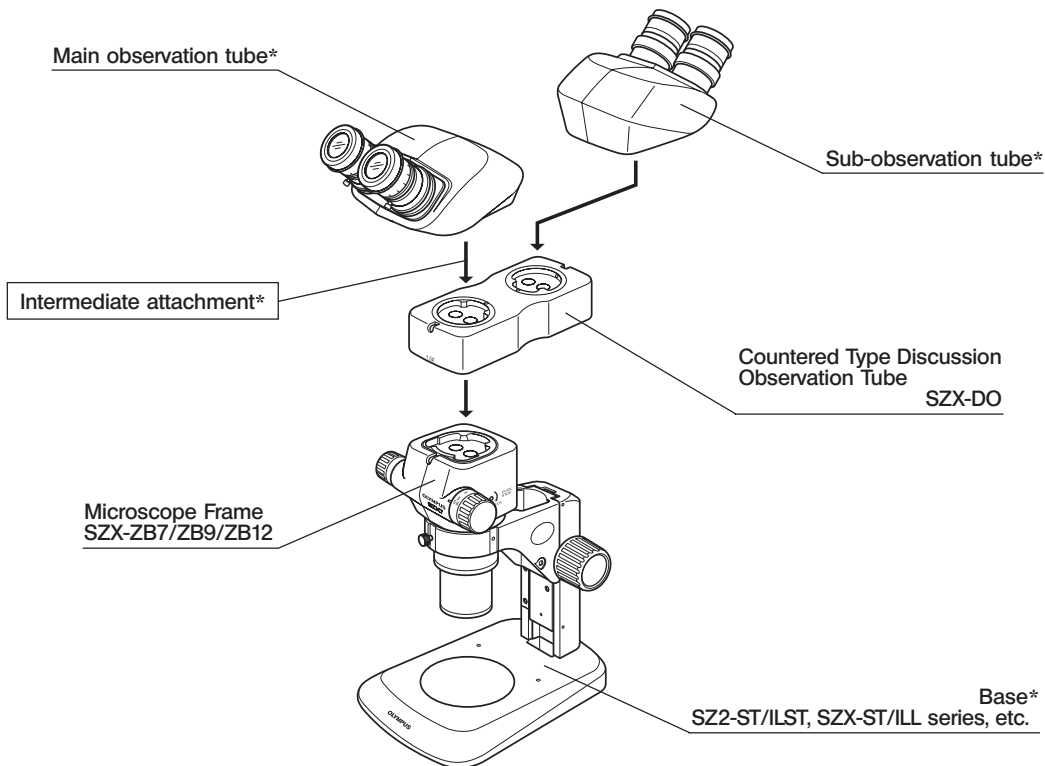
# 1 NOMENCLATURE

**Countered Type Discussion Observation Tube  
SZX-DO**



# 2 ASSEMBLY

\*These modules are mountable only under certain conditions. For details, see “Applicable modules” on page 1.  
◎The SZX-DO can be mounted in the same way as mounting an observation tube.



# 3

## *FOCUS ADJUSTMENT OF THE MAIN AND SUB-OBSERVATION TUBES*

©When the SZX-DO is used, the total observation magnification becomes 1.5X.

The magnifications and views of the observation images at the main and sub-observation tubes are identical.

1. On the main observation tube, bring the specimen into focus as described in the instruction manual for the microscope frame.
2. After the focus adjustment of the main observation tube has completed, adjust the sub-observation tube by turning the diopter adjustment rings on the left and right eyepieces to that the observation image is brought into focus.