

Instruction sheet 460 32

Precision Optical Bench,
Standardized Cross-Section, 1 m (460 32)

Precision Optical Bench,
Standardized Cross-Section, 2 m (460 33)

Auxiliary Bench with
Swivel Joint and Protractor (460 34)

These devices are designed for optical arrangements which require precise and stable axis adjustment of the ray path and an exact determination of distance.

Connecting the optical benches (460 32/33) with the auxiliary bench (460 34) creates an arrangement suitable for experiments with angled ray paths.

1 Description, scope of supply, technical data

1.1 Precision optical benches, standardized cross-section (460 32/33)

- ① Triangular aluminum rail, black anodized
Length: 1 m (Cat. No. 460 32)
2 m (Cat. No. 460 33)
- ② Millimeter scale
- ③ Double-sided groove for clamping of optic riders (460 351 ff.)
- ④ Groove for mounting support ⑤ and adjusting screw ⑧ in any position.

- ⑤ Bench support
- ⑥ Leveling feet (constitute three-point stand base for optical bench in conjunction with ⑧), height adjustment with screws (6.1), height fixed using lock washers (6.2)
- ⑦ Screw (7.1) and lock nut (7.2) for mounting the bench support ⑤ in groove ④
- ⑧, ⑨ Screw with leveling foot of three-point stand base, height adjustment of bench using knurled wheel (8.1); with screw with transverse hole (9.1) and lock nut (9.2) for attaching the leveling foot ⑧ in groove ④
- ⑩ Holes for screws with transverse hole ⑩ for connecting the optical benches (460 32/34) to the auxiliary bench (460 34); see section 2.1.2

Weight: approx. 2.5 kg (Cat. No. 460 32)
approx. 7.2 kg (Cat. No. 460 33)

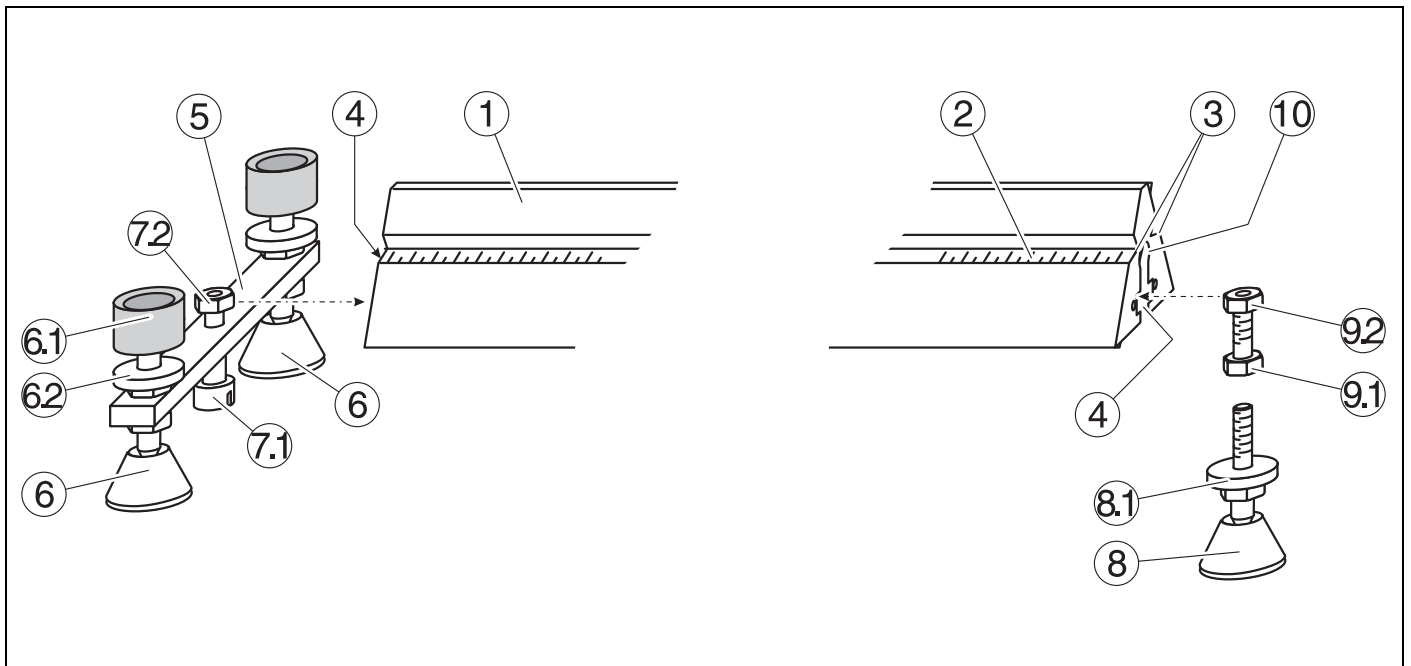


Fig. 1.1 Precision optical bench, standardized cross-section, 1 m and 2 m (460 32/33)

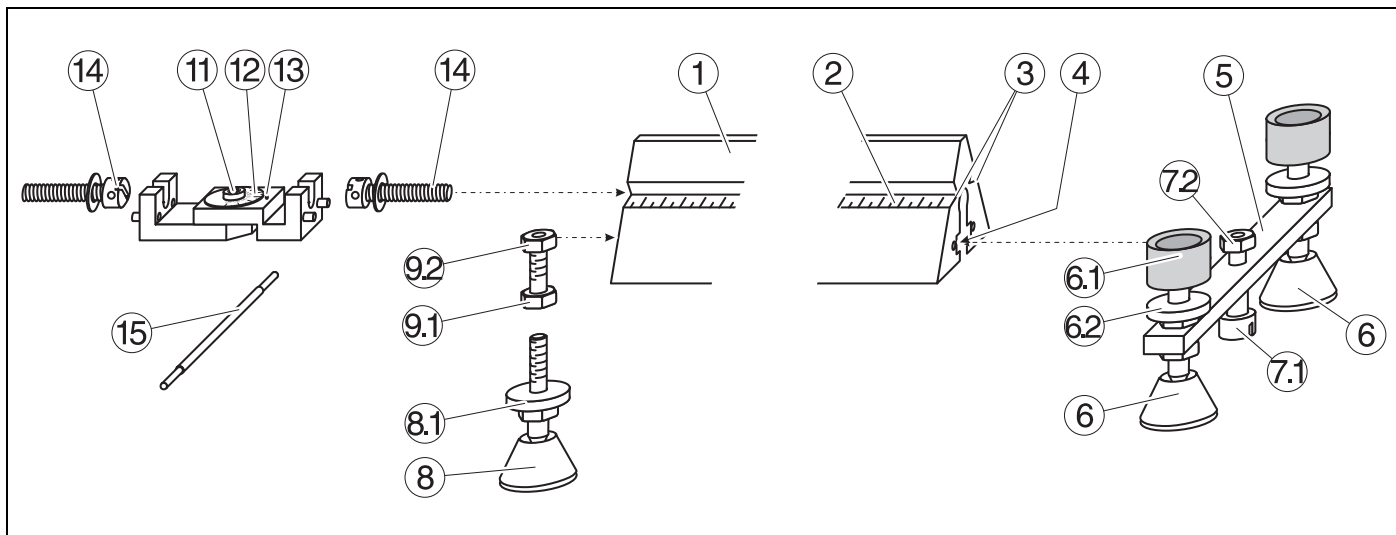


Fig. 1.2 Auxiliary bench with swivel joint and protractor (460 34)

1.2 Auxiliary bench with swivel joint and protractor (460 34)

- ① - ⑩ Auxiliary rail like optical benches with standardized cross-section (460 32/33), see section 1.1; Length: 0.5 m
- ⑪ Swivel joint for connection of optical benches (460 32/33) to the auxiliary bench (460 34)
- ⑫ Protractor, ± 90°, with 5° divisions
- ⑬ Marking pin for indication of angle
- ⑭ Screws with transverse hole with washers, for mounting swivel joint ⑪ in holes ⑩ (Fig. 2)
- ⑮ Tool for ⑭

Weight: approx. 1.8 kg

2 Operation

2.1 Assembly

2.1.1 Assembling the three-point stand base (required only before first use)

Insert screw (7.1) through the mounting hole of support (5); fix the lock nut (7.2) in position in groove (4) and support (5) by tightening screw (7.1) at a distance of about 5 cm from the beginning and end of the optical benches.

Screw lock nut (9.2) onto screw with transverse hole (9.1) and insert it in groove (4). Tighten the screws with transverse hole about 5 cm from the beginning and end of the optical bench and screw the leveling foot into the threaded hole of (9.1).

2.1.2 Swivel joint between optical benches (460 32/33) and auxiliary bench with swivel joint and protractor (460 34); see Fig. 2

Screw the screws with transverse hole (14) into holes (10) (no more than two full turns), place them in swivel (11) as shown in Fig. 2 and tighten them using the tool (15).

2.2 Recommended clamp riders and setup aids:

For setting up components in the optical axis:

Optics riders (460 351/2/3/7)

For tilting components out of the optical axis:

Tilting rider (460 354)

For moving components perpendicular to the optical axis:

Sliding rider (460 355)

For positioning components over the swivel point of two linked optical benches:

Cantilever arm 100 mm (460 356)

For attaching apparatus with threaded rods (e.g. flint-glass square with holder, 560 481)

Rider base with threaded holes, 1 x M8 and 4 x M5 (460 358)

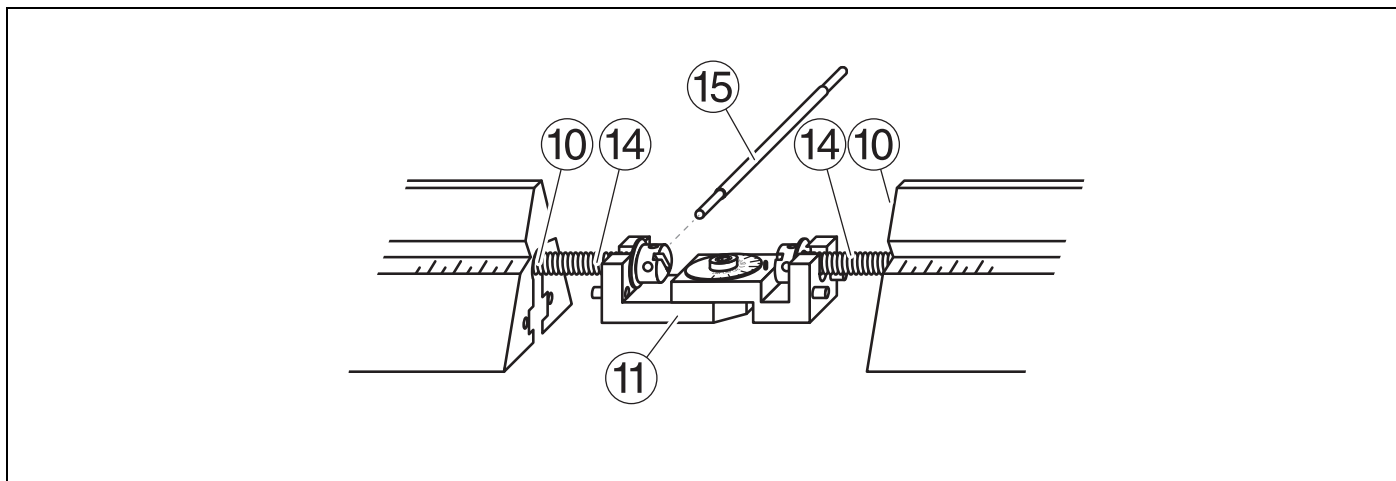


Fig. 2