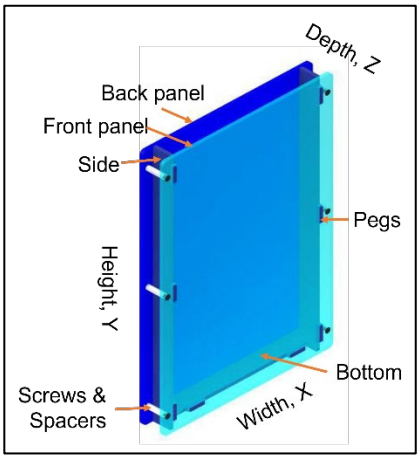
Vienna Scientific Instruments GmbH
Heiligenkreuzer Strasse 466, 2534 Alland, AUSTRIA
Email: office@vienna-scientific.com;
Mr. Seehra +43 650 69 74 672

COMPANY: _____

YOUR NAME: _____

VSI Rhizobox Configuration # _____ *(please use a separate form for each design)*

Number of Rhizoboxes: _____
(*give options (e.g. 10, 20 or 48) to calculate several quotes)*



Dimensions. Test effects on volume, rooting depth etc. with the VSI Rhizobox Configurator.

☑ Inside (Standard) or ☐ Outside dimensions (H x W)
(ca. 2-3 cm more than inside dim. to left, right and bottom, depending on material thickness and rhizobox size).

Height (cm, Y): _____

Width (cm; X): _____

Depth (cm, Z): _____ ***Depth** in **multiples of 5 mm** for **inner** dimensions.*

Note: Final product dimensions can vary ±2 mm (on all axes) for technical reasons.

Materials. *Panel thickness varies with Rhizobox dimensions (4-12 mm).*

☑ **Transparent front panel** (standard; PMMA "Acrylic").
☐ Transparent front & back panels.
☐ All panels transparent (front, back, sides, bottom).

Opaque/non-transparent material is used for bottom, (middle strip), sides if not defined otherwise. Standard opaque material is black PMMA. [Note: "Classic" Rhizoboxes (see below; tapped thread holes) with sides / middle strip from PP (Polypropylen) ≥ 8 mm].

Screws with spacers (lowered Torx screws from back and front, quality V4A, metal spacers); front & back panels detachable independently.

Pegs (cutouts) in front and back panel to position sides and bottom.

☐ Special Material requests (e.g. PP for back panels, colour of PMMA, screws, etc.). *Please define at end of configuration form.*

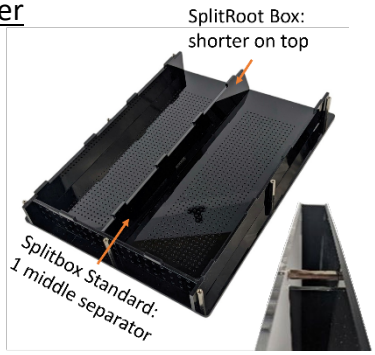
Bottom Configuration

☑ Bottom with **drainage holes (**Standard; Ø 3 mm, approx. 1 row per 1 cm **D**epth, centered, approx. 1.5 cm distance within row).

☐ **No** drainage holes.

☐ Special bottom (e.g., larger holes etc.). *Please define at end of configuration form.*

Splitbox design *(compartmentalizing the Rhizobox vertically into two (or more) sections)*



☐ **Standard Splitbox.** One separating strip in the middle of chamber width (**same height as sides**)

☐ **SplitRoot Box**. One separating strip, **≥25 mm shorter than sides (on top)**. Allowing for split root experiments **OR** providing additional stability by an extra screw on top of each middle separator (recommended for 50-60 cm height Splitboxes with heavy soil).

Define reduced height: _____ mm,

Add Center Screw (hole)? ☐ Yes. (Note: does not work for split root experiments with inserted screw)

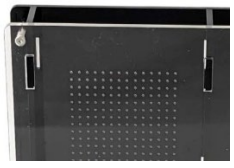
☐ **Reinforced Split**. Double middle separator i.e. additional spacers/screws within a double middle strip, ~1 cm air gap). Recommended for very wide and/or high boxes filled with heavy substrate (approx. ≥60 cm height x ≥40 cm wide).

☐ Special Splitbox design (e.g. ≥ 2 compartments etc.):

_____

_____

Rhizonbox design *(for soil pore water sampling and manipulation with RRP (Micro-)Rhizons)*



☐ Array of holes in back plate (1.5 mm inner diameter), 5 mm x 5 mm grid (starting approx. 2 cm from sides & bottom, 4 cm from top; not in figure), allowing entering MicroRhizon samplers for localized soil pore water sampling (e.g. next to roots); Back panel must be PMMA.

☐ Holes in side panels (4.5 mm inner diameter), to enter Rhizon Samplers (with silicon sleeves) and/or RhizonIrrigators for "integral" soil pore water extraction or soil moisture manipulation (at different depth); *Please define hole locations below!*

_____

Detachable Front Panels Segments

☑ **No**. Front panel is one piece.

☐ **Yes**. Segments the front panel into depth layers (e.g. 20-30 or 30-40 cm detachable) for individual removal. Ideal for sampling roots, rhizosphere; not perfect for gapless imaging of roots. Small gaps between sections can be sealed with tape. Define the section(s) (X-Y cm) to be removed individually below:

_____

_____

Classical, compact "old" Rhizobox design *(with screws inside side walls (i.e. tapped thread holes), see Fig.*

☑ **No**. Apply new rhizobox design with pegs, cutouts and spacers (as above).

☐ **"Classic" rhizobox** with screws directly in the side walls/panels (tapped thread holes in ≥8 mm PP, ~beige color); see Figure. Front (transparent PMMA), back panel and bottom (black PMMA).

☐ **Double Split Box** (split **in depth**). Features a separating panel with cutouts in the middle of the Side Walls, allowing e.g. to install 50 µm mesh to separate hyphae from root compartments etc.; see Figure. Give details (depth of each compartment, size of cutouts, etc.) :

_____

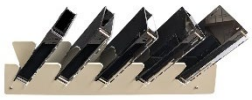
_____

Please note: Due to the labor-intensive building process, a surcharge applies for the classic Rhizobox design. Minimum order: 30 classical Rhizoboxes per design. *Can only be delivered assembled!*

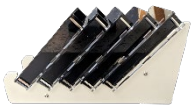
Rhizobox Accessories

Rhizobox Racks

☐ **Standard** rack system, to position the Rhizoboxes in an angled (40° from vertical) fashion (front plate down), holds 5 boxes per unit, **with gaps in-between boxes**, allowing to remove each box separately. Made from 6-10 mm PP, color as available.



☐ **Compact** rack system, angled (40° from vertical), holds 5 boxes per unit, **with NO gap in-between boxes** (front leaning against back of previous Rhizobox). Made from 6-10 mm PP, color as available.



☐ **Heavy duty rack compact**, for high & heavy Rhizoboxes. Angled (45°, or custom (define below)), up to 10 boxes per unit (depending on depth), with **NO gaps** (front leaning against back of previous Rhizobox), Shading Panel for first Rhizobox; see Figure. Rack made from aluminum. Adjustable legs. Recommended for large Rhizoboxes with mineral soil, ≥50/60 cm in height (heavy!).

☐ **Heavy duty rack single**, for high & heavy Rhizoboxes. Angled (45°, or custom), **with gaps** (allowing to remove each box separately). Shading Panels for all Rhizoboxes. Made from aluminum. Adjustable legs. Recommended for large Rhizoboxes with very heavy mineral soil, ≥50/60 cm in height.

Quantity of Racks: _____ (of selected type)

Rhizoboxes per Rack: _____ (standard: 5 or 10 as given above)

☐ Custom inclination angle: _____ ° (if deviating from above)

Cover (shading) panel for transparent front

☐ **Shading panels** (1 mm, black PMMA; fitting Rhizobox outside dimensions) to cover the transparent front plates, attached to front with office binders (included). Sold in sets of 5 panels. Note: for a "perfect" light exclusion, all sides of the front plate incl. the inside of the soil-free "plant compartment" (on top) must be covered with non-transparent tape once (not included).

Quantity of sets: _____ (5 Shading Panels each)

Manipulation / Imaging stands

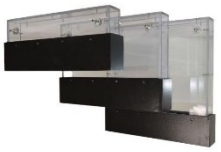
☐ **Manipulation stand**. Allows to place rhizoboxes 30°-angled (standard) from horizontal (define custom angles below)), when opening the front or back panel for manipulation tasks, reducing the risk of soil falling out while plants are still growing inside.

Quantity: _____ ; Custom angle (°): _____

☐ **Imaging stand**. Allows to place an A4/letter-size flatbed scanner angled (30° from horizontal) for imaging. Please provide detailed scanner dimensions (x, y, z housing and scanner area, and images) for designing the rhizobox imaging stand. (*Individual design depending on scanner & Rhizobox geometry; we will get in contact; scanner not included*).

Quantity: _____

Rhizobox Respiration Chamber



☐ Respiration chamber for top placement. Acrylic chamber (transparent) with black sleeve for sealing towards the Rhizobox. (*Individual design depending on Rhizobox geometry; we will get in contact):*

Chamber height (width, depth as Rhizobox): _____ cm

Number of gas in-/outlets: _____ ; incl. Fan for mixing (large chambers): ☐ Yes.

Soil water sampling, manipulation, and irrigation in Rhizonboxes

☐ _____ sets of MicroRhizon samplers; RRP # _____ (see website for types)

☐ _____ sets of Rhizon samplers (with sleeves) RRP # _____ (see website for #)

☐ _____ sets of RhizonIrrigators (RRP# 19.21.71)

☐ Additional RRP Products: _____

_____

10 samplers per set. Please give the type of (Micro-)Rhizon sampler (RRP number #) as given on website. See our webpage for a list of RRP products or contact manufacturer for details (info@rhizosphere.com).

Rhizobox Assembly

☑ Self-assembly, standard *(reduces shipping volume = costs significantly)*

☐ Pre-assembly required *(only option for classical "old" Rhizobox design, see above)*

Additional requirements *(please specify here or on additional page(s)*; please include a sketch/drawing for complex Rhizobox designs; examples of further "special" rhizobox designs):

Please fill in manually or electronically, save/scan/photograph the form including all pages. **Send to office@vienna-scientific.com** for quoting (and as reference for pot. manufacturing). Design changes require written confirmation.

(electronic) Signature, Place, Date