

# Academia Box

6-axis robot training cell | Robotics Academy







# The perfect introduction to the fascinating world of robotics

The automation boom has continued unabated for many years now, and robots are becoming established in new industries and applications all the time. The missing element in the equation is qualified operators. To fill the gap, Stäubli has developed a revolutionary training cell.

With its Academia Box, Stäubli now offers industrial enterprises, vocational colleges,

schools and universities of all kinds a modern tool with which automation knowledge can be acquired more quickly and conveniently than ever before.

In tomorrow's world, the operation of robots should become as intuitive as handling a tablet.

**At the cutting edge of technology.**

## ACADEMIA BOX

# Teach, program, operate – faster and easier than ever before



To maximize the learning effect, the Academia Box has been equipped with the latest generation of Staubli robots and controls. At the heart of the cell is the six-axis TX2-60, one of the fastest and most

powerful robots currently available in this market segment. Thanks to its outstanding performance, the TX2 series is now the first choice in many industrial applications. These universally usable robots can cope

with all levels of man-robot-collaboration and are particularly suitable for training purposes.



Robot arm TX2-60



**Angled dual vacuum gripper**

For a better understanding of robot tools and 6-axis robots



**Parts feeder**

Uninterrupted production cycle due to automated parts supply



**Highly sophisticated, latest generation robot**

TX2-60 robot featuring a PLe rating in the most important safety functions



**Optional safety equipment**

Light barrier, laser scanner, door switches and safety PLC for teaching various safety aspects



**Variable angle parts tray**

Serves to understand variable coordinate systems and palletizing tasks

# The added values of the Academia Box

**Cross divisional application in various types of training institutions**

- Industrial enterprises and vocational academies (industrial mechanics, electronic and mechatronic technicians, milling operators, safety officers, etc.)
- Universities and technical colleges (mechanical engineering, electronics engineering, automation technology, IT technology, product design, etc.)

**Ease of use in various types of training facilities**

- Standard 230 V connection
- Compact measurements, made to fit through standard doorways

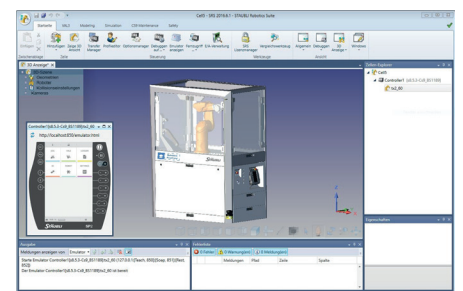
- Mobile design - coaster wheels with brakes
- Simple and quick installation

**Designed to provide a realistic hands-on training environment**

- Introduction to different modes of robot arm movement (joint, line, circular)
- Learning about practical aspects of tool design
- Optimization of robot applications and its effect on cycle times
- Setup of uninterrupted production cycles to simulate 24/7 operations
- Introducing and training man-robot-collaboration (MRC) setups

**Development Studio License (SRS 2019)**

- Safe, hardware independent operations in an offline environment
- Easy access to designing exercises and practical robot applications
- 3D robot cell design
- Complete robot simulation, including parts handling
- Collision detection
- Analysis of cycle times



# Characteristics

ROBOT ARM	TX2-60
Maximum load	4,5 kg (9 kg under certain conditions)
Nominal load	3,5 kg
Reach (between axis 1 and 6)	670 mm
Number of degrees of freedom	6
Repeatability - ISO 9283	± 0,02 mm
Stäubli series controller	CS9
Weight	51,4 kg

WORK ENVELOPE ROBOT ARM	
Maximum reach between axis 1 and 5 (R.M)	600 mm
Minimum reach between axis 1 and 5 (R.m1)	190 mm
Minimum reach between axis 2 and 5 (R.m2)	189 mm
Reach between axis 3 and 5 (R.b)	310 mm

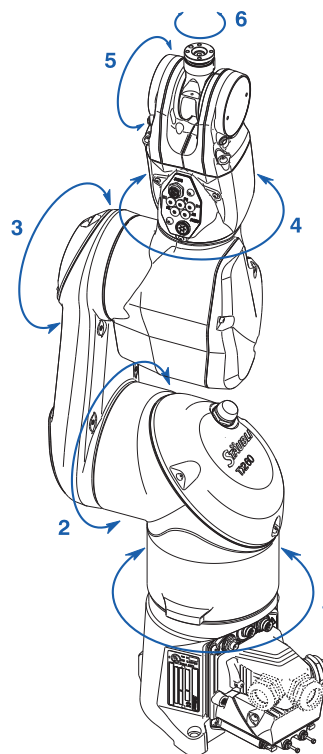
ACADEMIA BOX	
Power supply	1 x 230 V (10 m retractable cable)
Compressed air	4-6 bar (min. 5 m on retractable hose reel) Coupling compatible with standard air connector 7,2 mm
Dimensions of training cell without laser scanner <sup>(1)</sup>	1950 mm x 910 mm x 1500 mm (H x W x L)
Dimensions of training cell with laser scanner <sup>(1)</sup>	1950 mm x 980 mm x 1570 mm (H x W x L)
Dimensions of transport box	2300 mm x 1300 mm x 1800 mm (H x W x L)
Weight of training cell	600 kg
Weight of transport box	270 kg

ACADEMIA BOX - ADDITIONAL EQUIPMENT	
Angled dual vacuum gripper with vacuum sensor	
Parts feeder slide for uninterrupted parts supply	
Adjustable pallet accommodating 10 sample product tokens	
Slotted aluminium tool tray featuring parts drawers on both sides	
LED-illuminated cell frame incl. cell status indicator	

ACADEMIA BOX - SAFETY OPTIONS	
SAFEcell+	4 safe cartesian zones 4 safe tool points Safe cartesian speed
Light curtain	Transmitter/receiver with QuickFix bracket Resolution: 14 mm Height of protective field: 950 mm
Laser scanner	S300 Mini Standard, S32B-3011BA Protective field range: 3m Scanning angle: 270° Number of fields: 3

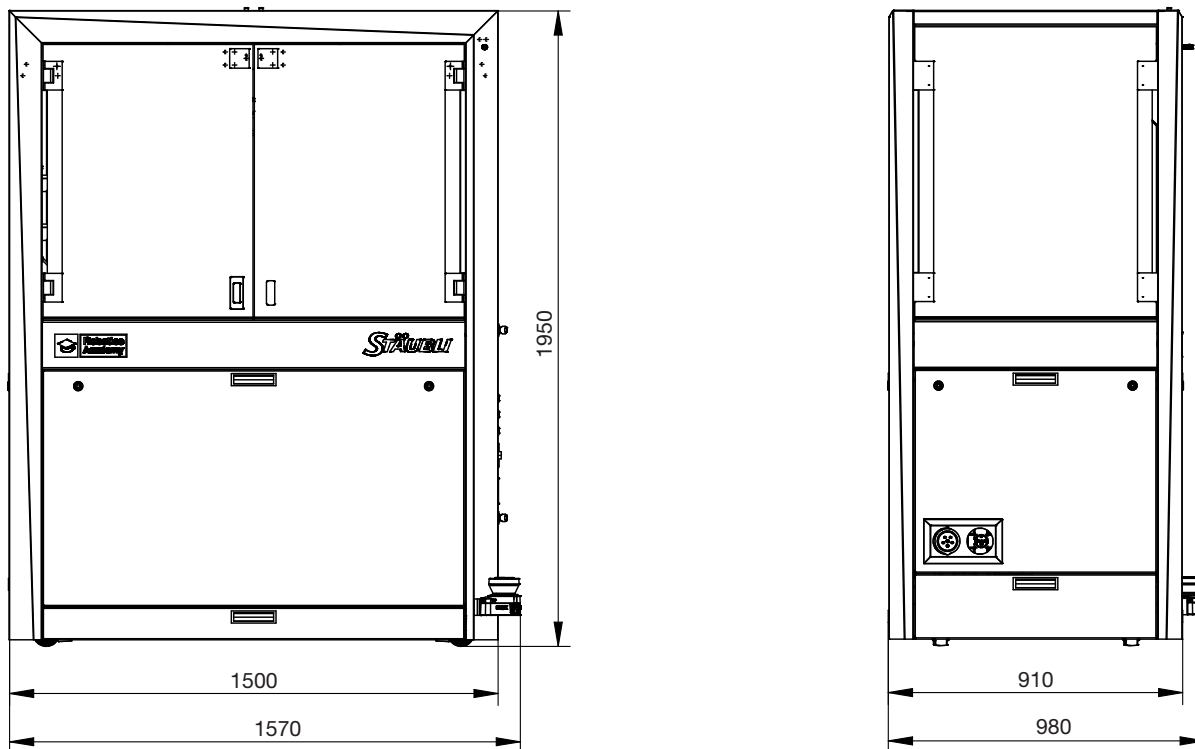
ACADEMIA BOX - OPTIONS	
Network Dongle (USB)	
Development Studio License (SRS 2019)	
VAL3 CS9 programming training	

TX2-60 robot kinematics

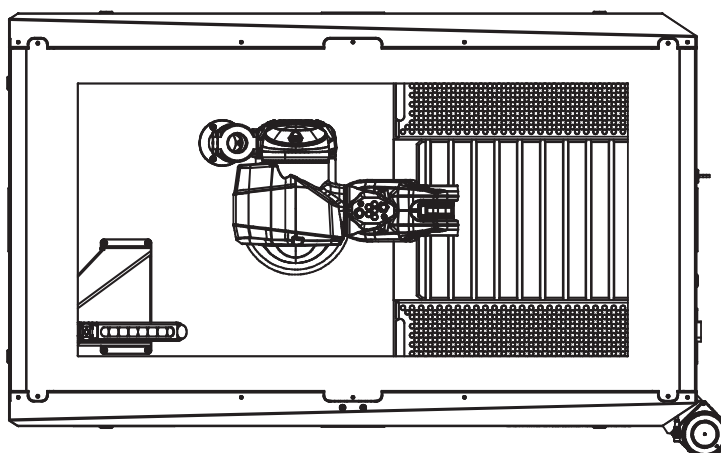


<sup>(1)</sup> Dimensions valid for stationary use. When moved on its wheels, cell height is increased by a maximum of 10 mm.

Academia Box dimensions



Academia Box top view





■ Stäubli Units    ○ Agents

## Global presence of the Stäubli Group

[www.staubli.com](http://www.staubli.com)