⊖TUFT : ROBOTIC TUFTING SOLUTION

eTuft Pro 3x4

no limits for creativity

① Design freely in pixels ② Define the tufting paths ③ Tuft it automatically

⊖FAB GmbH

made in germany

⊖TUFT

⊖TUFT (Hand-tuft Robot) is an advanced robotic tufting machine for producing wide range of modern and fashionable tufted carpets and area rugs. This advanced robot is able to handle your single orders, mass production running as well as sampling.

General information
- Cut pile height 12–75mm (U-tuft or J-tuft)
- Loop pile height 4-55mm
- Production throughput: 1~6.5 Sqm/Hour
- Works with wide range of yarns including Wool, Viscose, Bamboo, Polyester, Fancy yarns, Nylon, Linen, Polypropylene, Cotton or their blends

Key Benefits
- Variable pile height tufting effects
- Nonstop cut-loop changeover
- Smart HMI operator interface
- Advanced and high-speed tufting head
- Rigid mechanical structure for high speed and reliable production
- Fully compatible with ⊖DESIGNER carpets/rugs design software
- Production throughput: 1~6.5 SqM/Hour
- Return on Investment: Minimum ROI within one year (subject to the customer's production requirements and design complexities)

eTuft Tower 4x6

- Using high accuracy linear units driven by servo motors for optimal penetration of tufting gun onto the backing fabric. (Versus other relatively primitive methods of pneumatic cylinder and manual adjustments)
- Precise control of backing fabric's tension, thus ensuring top tufting quality (precise positioning of tufting head's penetration via ⊖HMI control logics)

Tufting gun
- Ability to produce with maximum speed of tufting gun (2000 stitches/minute) without any vibration or instability in mechanical structure.
- Cutting mechanism is based on guillotine cutting principle which is very efficient for a wide range of yarns.

eTuft Pro 4x6

Mechanical structure
- Carefully designed and built with mainly German components.
- Rigid mechanical structure which enables high speed tufting without harmful vibrations.
- No need for any floor preparation. Thus, the ⊖TUFT robotic tufting machine can be relocated very easily as required by your production needs.
- Over-engineered for excellent tufting quality and machine reliability: e.g., using 4x linear units and 6x servo motors.
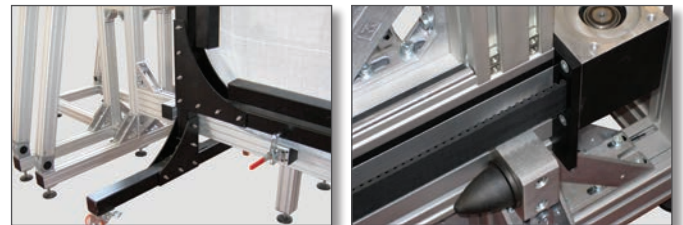
- For switching over of tufting from cut to loop or vice versa, you won't need to stop the machine for 5~10 minutes for changing of cutting blade. On **ETUFT** machine, the switch over is done automatically under software control.
- **ETUFT** machine works with a wide range of yarns, including many types of hard-to-cut fancy yarns.

Control unit
- Advanced control unit, armed by our own HMI software with very unique Graphical User Interface
- Touch Screen User Interface
- **ETUFT** machine is uniquely equipped with wireless remote control device. This remote device greatly improves the machine operator's efficiency, as he can operate more than one machine simultaneously from different spots around the machines (front or back of machine) or even 40~50 meters away from the machines.

EHMI

EHMI (Human Machine Interface) software is specially developed to ease the robot operator tasks.
- Unique multilingual Graphical User Interface
- Design preview both in Raster and Vector format
- Transferring design to the tufting machine by one single file
- Ability to rotate or flip designs
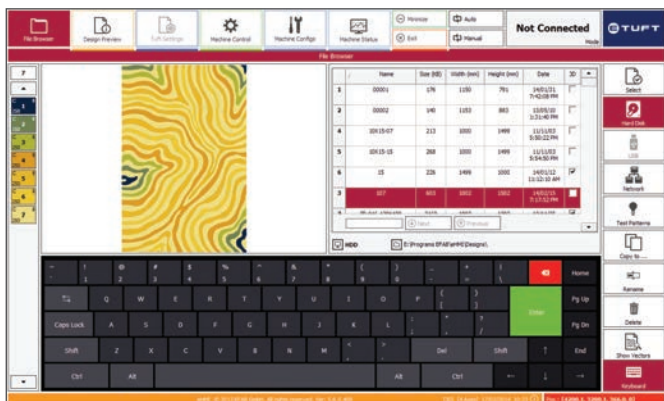
- Ability to change tufting parameters on the fly, including: density, cut or loop mode, tufting speed, pile heights, and much more

# **EDESIGNER**

EDESIGNER (Carpet Designer CAD Software) is a comprehensive solution which is able to meet all designing tasks in handmade, machine made and robotic tufted carpet and rug production.

ETUFT and **EHMI** are fully compatible with our **EDESIGNER** Carpet Designer CAD software, supporting variable pile height (3D) and combination of cut and loop designs.
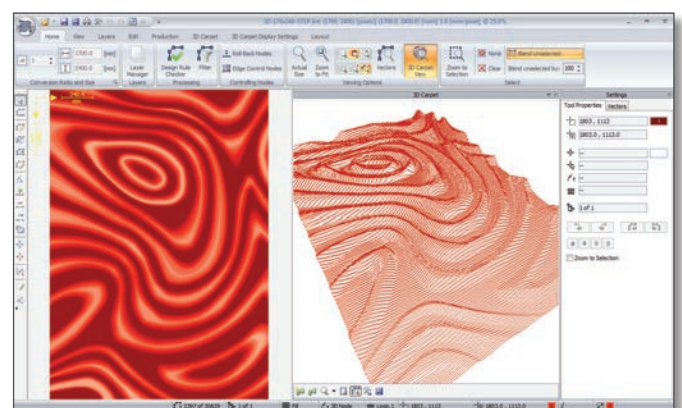
Software Features
- Raster and Vector editing tools
- 3D Carpet designing tools
- Ability to defining different properties of tufting for each color in design, such as: cut-loop, pile height, density and …
- Advanced "Path Optimizer" to improve up to 60% of robot movement
- Import and Export to major Raster and Vector files: DXF, DWF, PLT, BMP, PCX, GIF, TIF, PNG etc.
- Yarn and material consumption calculations
- Transferring design to the tufting machine by one single file instead of several files. (The relevant machine codes will be generated by the machine control unit, an automatic process transparent to the operators.)
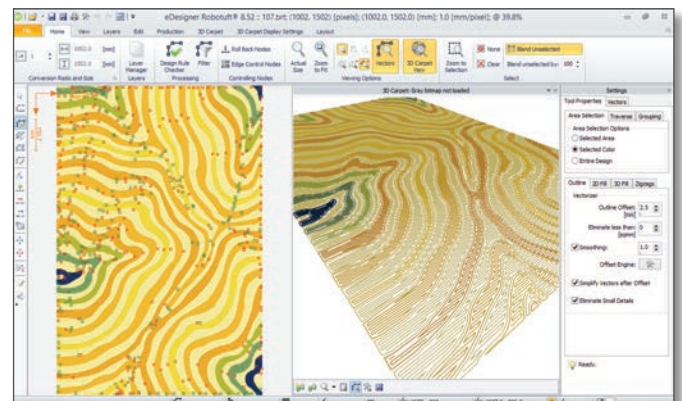
ETUFT

:: Models

ETUFT PRO 3X4
Tufting area: 3200x4200 mm
Size: 7910 x 4952 x 2000 mm (LxHxW)

ETUFT TOWER 4X6
Tufting area: 4100x6100 mm
Size: 8960 x 5318 x 1312 mm (LxHxW)

ETUFT PRO 4X6
Tufting area: 4200x6200 mm
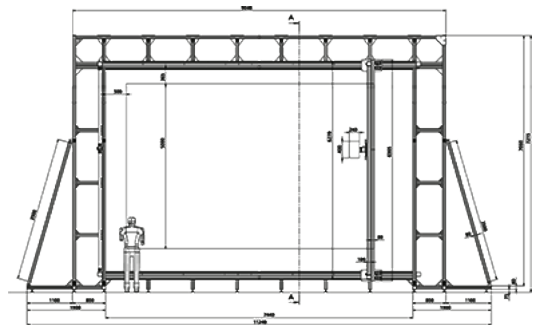Size: 11480 x 6215 x 3000 mm (LxHxW)

:: Control Unit
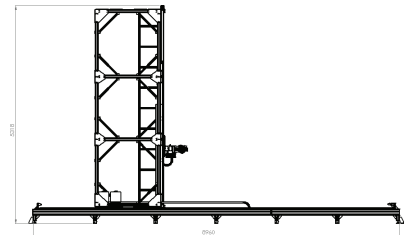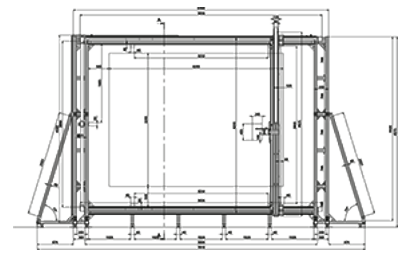. Control panel with EHMI (Human Machine Interface) software in different languages based on requests
. Windows XP Professional with USB & Network support
. Industrial Touch-Screen monitor
. Wireless Remote Control
. Laser pointer for easy repairing by machine

:: Tufting Unit
. Tufting needles Ø4.8mm, Ø6mm, Ø8mm or Ø11mm
. Cut pile height 12–75mm (U-tuft or J-tuft)
. Loop pile height 4-55mm
. Tufting speed 2000 stitches per minute
. Production throughput: 1~6.5 SqM/Hour
. Smart Cut/Loop change over
. Variable pile height (3D effect)

:: Working Requirements
. Main voltage 220 VAC 50-60 Hz single phase, 16A
. Compressed air 400 lit/min, minimum 8 bar