

## Vehicle Restraint System

System VECU-STOP ® er 480



Description

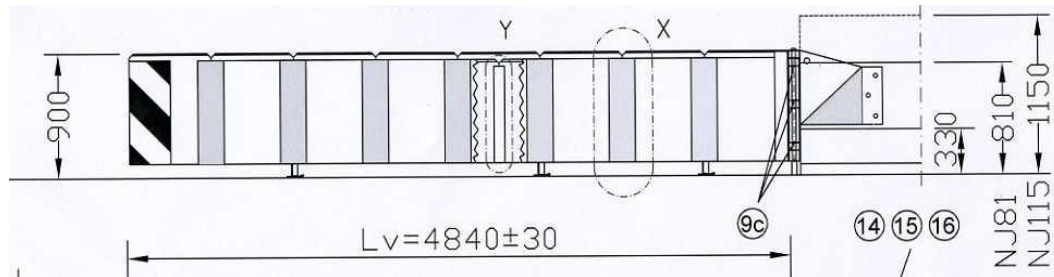
Installation Instructions

List of Machines and Devices



Vehicle Restraint System VECU-STOP®er 480

A) The structure of the restraint system VECU-STOP® er 480



A-1) Product description

The (construction product) structure is used as upstream construction on vehicle restraint systems made of steel or concrete, especially in workplaces.

It consists of 8 cylinders (1 and 2) of a diameter of 600 mm and a length of 4.84 m; the wall thickness of the cylinders however varies as follows:

Cylinders No. 1 + 2 + 8 = 3 mm wall thickness

Cylinders No. 3 + 4 + 5 + 6 + 7 = 4 mm wall thickness

The eight cylinders are bonded to each other via web plates. Cylinder No. 2 includes double pipe elements (3a) of 292 mm diameter and 2.5 mm wall thickness, cylinders 3 to 8 of 3.0 mm wall thickness (3). The double pipe elements are also bonded to each other via web plates (5) of 1.5 mm wall thickness. The double pipe elements (3 and 3a) are connected to the outer pipes (1, 2) via M 16 screwing. For the installation of the edge protection distance plates (7) are longitudinally arranged between the outer pipes.

A steel plate (9a) with horizontal webs is welded to the end of the cylinder row.

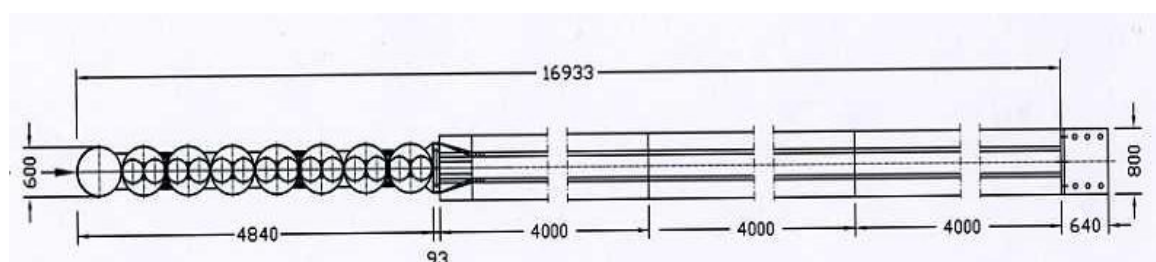
The entire construction has 6 feet serving as contact and sliding elements.

Depending on the restraint system "ADAPTER components" will be screwed or dowelled at the beginning of the following vehicle restraint systems. At the end of the cylinder row there is a steel plate with horizontal webs which is pushed into the box frame of the "ADAPTER component" also including horizontal webs on final installation. The denticulations are connected via horizontal webs with holes of Ø 35 mm toothed in such way using three socket pins of Ø 30 mm and 800 mm length.

Edges upwards projecting out of the outer pipes are mitigated with an edge protection.

All the construction parts are made of steel Stahl S 235 JR and hot-dip galvanized against corrosion through immersion into melted zinc according to ISO EN 1461.

For installation on concrete walls, anchor the "ADAPTER component" to the concrete wall via M 16 bolts; if installed on steel systems screw to the systems.



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Installation and shipment

Installation is carried out with tools that are common for the installation of steel or concrete vehicle restraint systems:

- a) the "ADAPTER component" is connected to the continuing safety device just as illustrated in the drawing.  
The installation height is determined via stands.
- b) the compact cylinder system is toothed with the "ADAPTER component" and connected via 3 round steel bars of Ø 30 mm.
- c) Installation time: approx. 20 to 30 min.
- d) the cylinder system with plate (9a) has a weight of approx. 599 kg and can be lifted / moved without any problems via rope or chain suspensions using an installation crane.  
(see drawing SPS-No. 5638.01)

The system "VECU-STOP®er" is shipped in one piece as welded overall steel construction.

Length: approx. 4.80 m      Weight: approx. 656.00 kg  
Width: approx. 0.60 m      Volume: approx. 2.61.m/3  
Height: approx. 0.90 m

Maintenance and care

The system is hot-dip galvanized and therefore maintenance-free.

Durability

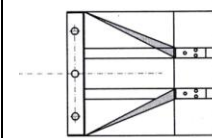
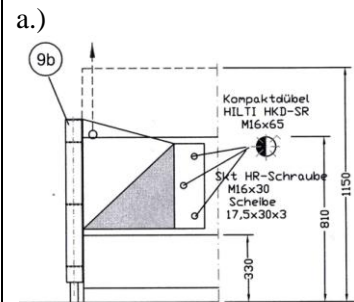
Its usable life can be defined as approx 25 years subject to any damages due to natural usage, faulty or improper use, exceeding stress as well as due to chemical, thermal, and mechanic influences.

Parts list

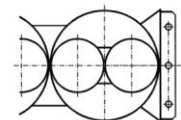
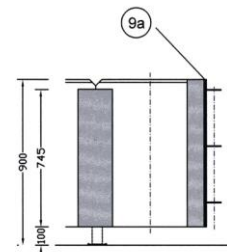
See enclosure

Recycling

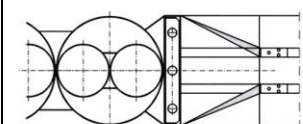
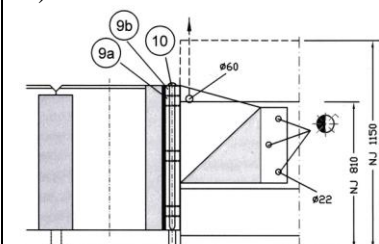
As it is an "overall steel construction" it can be disposed of/scrapped in one piece without being disassembled.



b.) a. c.)



d.) finished



## *INSTALLATION EQUIPMENT:*

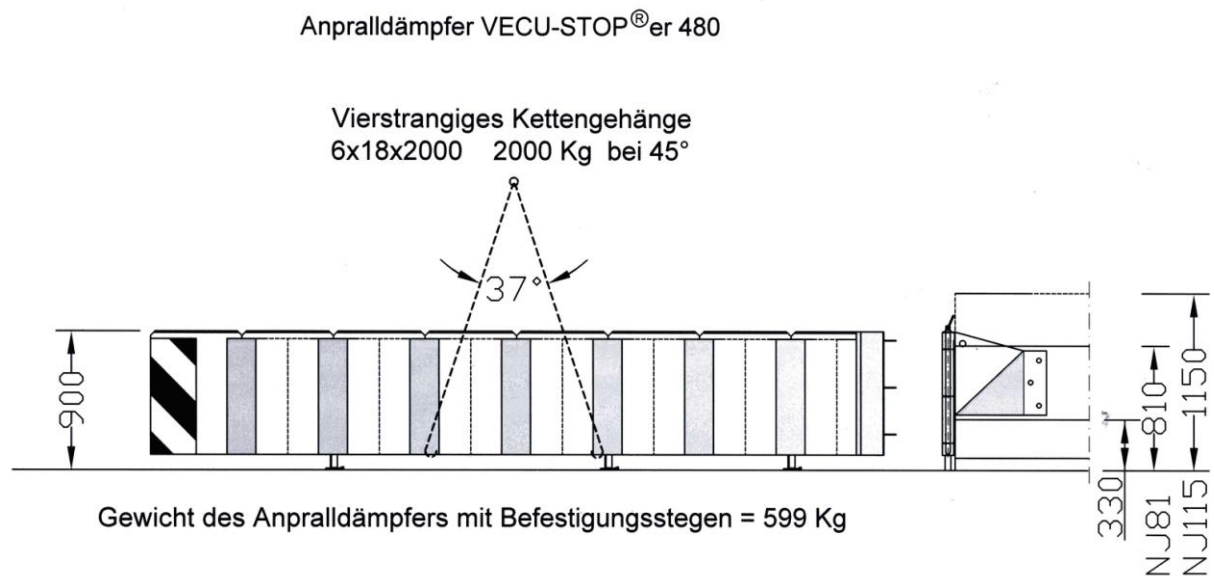
### **A) Vehicles and devices:**

- Utility truck with cargo crane, working range approx. 5.0 m / 3.5 to (or all-terrain forklift)
- rope or chain suspensions for loading and unloading the system as well as for installation on the "ADAPTER component" on the continuing vehicle restraint system, 4 slabs, L = approx. 2.00 m / 2000 kg

### **B) Small tools:**

- Impact wrench with socket wrench
- Drilling machine  $\varnothing$  20 mm bore diameter
- Dowel installation tool
- Ratchet wrench with SW 24 for M 16
- Fork wrench SW 24 for M 16
- Hand-held hammer 1 x 200 g and 1 x 500 g

The pre-mounted assembly of the deformation part has a weight of approx. 599 kg.



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The Essential Requirements (ER) of a building product include different requirements which also apply to road restraint systems and which are met by the crash cushion system

"VECU-STOP®er":

1) Mechanical solidity and stability:

- no detached parts which get loose or detach on vehicle impact;
- anchored to the following VRS

2) Fire protection

- Overall steel construction
- no combustible parts

3) Hygiene, health and environmental protection (DIN 55 926, T3, A 4.4)

- Overall steel construction
- Fire galvanization
- no combustible parts
- completely recyclable
- without toxic or harmful substances
- no form aggressive construction parts

4) Reliability

- laterally closed on all sides
- impact surface at only 10 cm floor clearance, avoids running underneath even by motorcycles
- The service life of the overall construction is approx. 25 years depending on the region where the products shall be installed.

5) Sound absorption

- not required for VRS - VECU-STOP®er.

6) Energy saving and heat protection

- not required for VRS – VECU-STOP®er.

**Advantages of the system "VECU-STOP®er"**

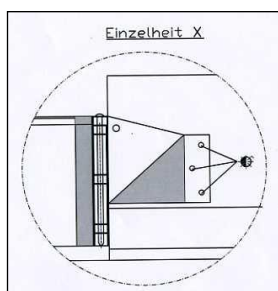
A) Maintenance and care

- maintenance free
- no inaccessible parts
- no construction parts get stuck
- no detached parts

B) Repair-friendliness

- all parts are easily accessible
- all parts are recognizable
- quick damage identification
- short-term repair through pre-installed assemblies.

*Installation example:*



*Installation example:*

