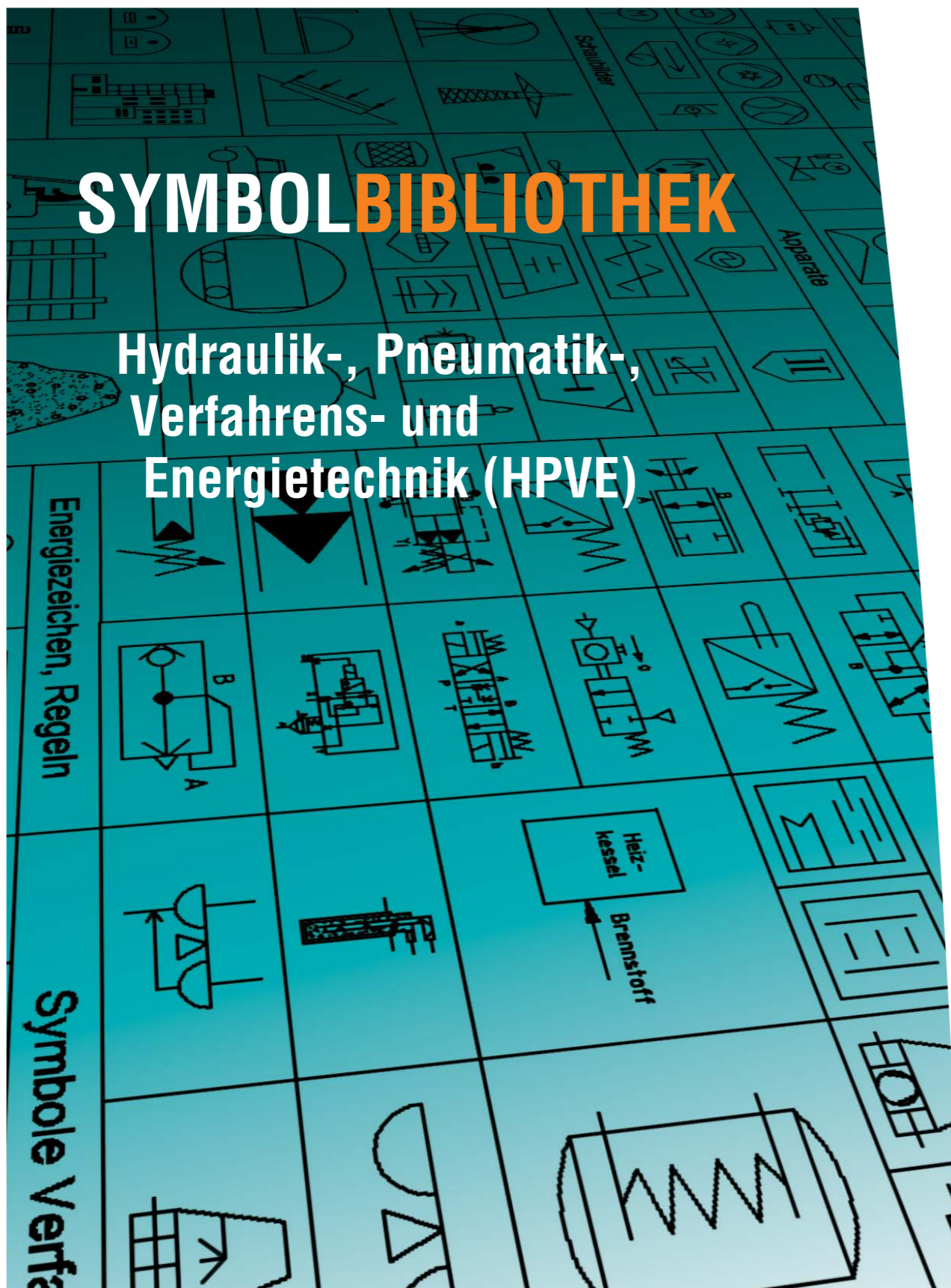


SYMBOLBIBLIOTHEK

Hydraulik-, Pneumatik-,
Verfahrens- und
Energietechnik (HPVE)



Die Bibliothek Hydraulik, Pneumatik-, Verfahrens- und Energietechnik (HPVE) enthält über 1.600 Elemente für die Erstellung von Schemaplänen.

- Übersicht 2
- Verfahrenstechnik:
Maschinen und Antriebe 3
- Verfahrenstechnik:
Armaturen, Leitungssteile 8
- Verfahrenstechnik: Apparate 12
- Verfahrenstechnik: Symbole 25
- Messen / Regeln / Energiezeichen 27
- Schaubilder 30
- Energietechnik 31
- Hydraulik und Pneumatik 39



Dieses Feld dient lediglich der optischen Aufteilung

MuM Symbolbibliotheken menschmaschine

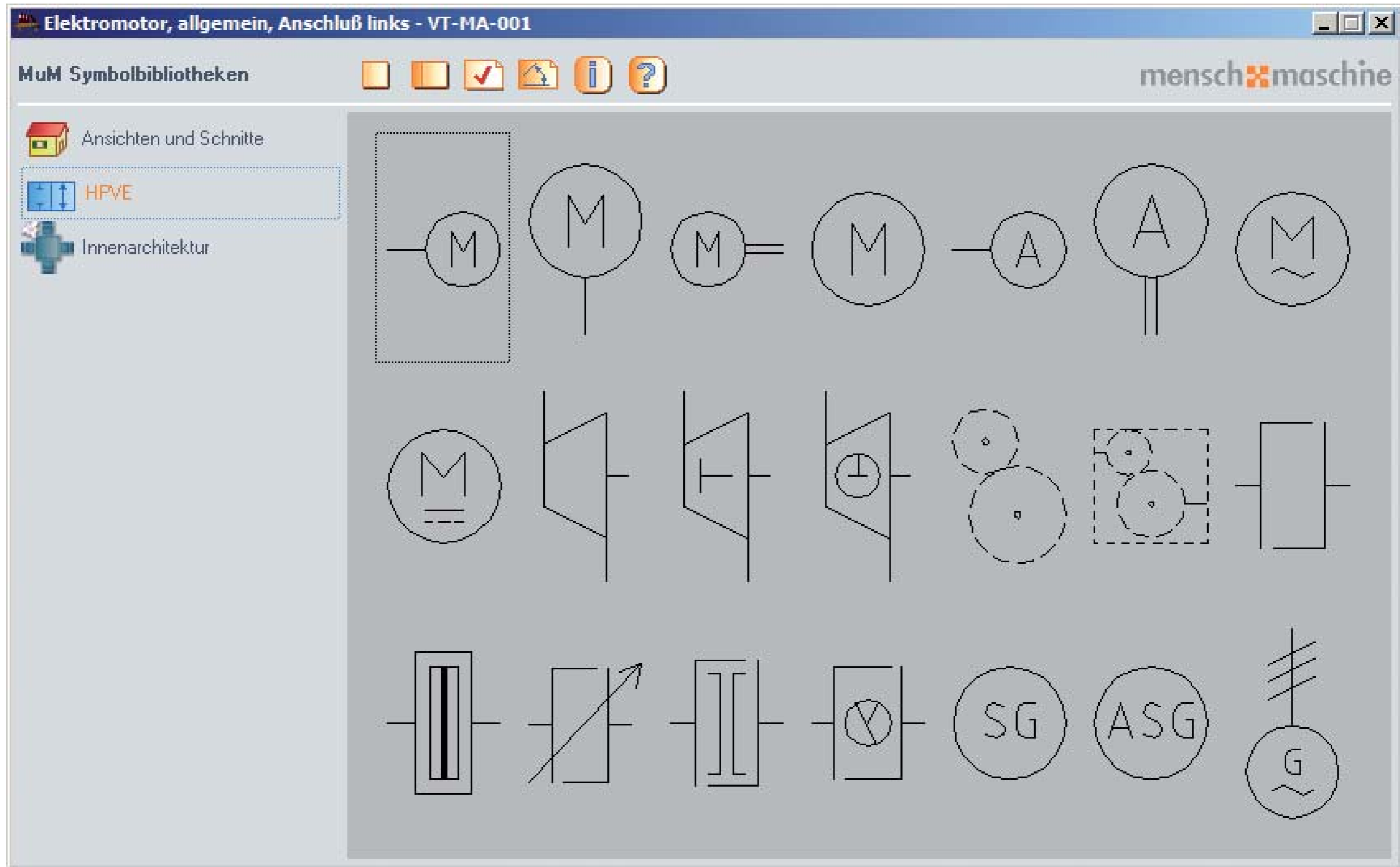
Ansichten und Schnitte

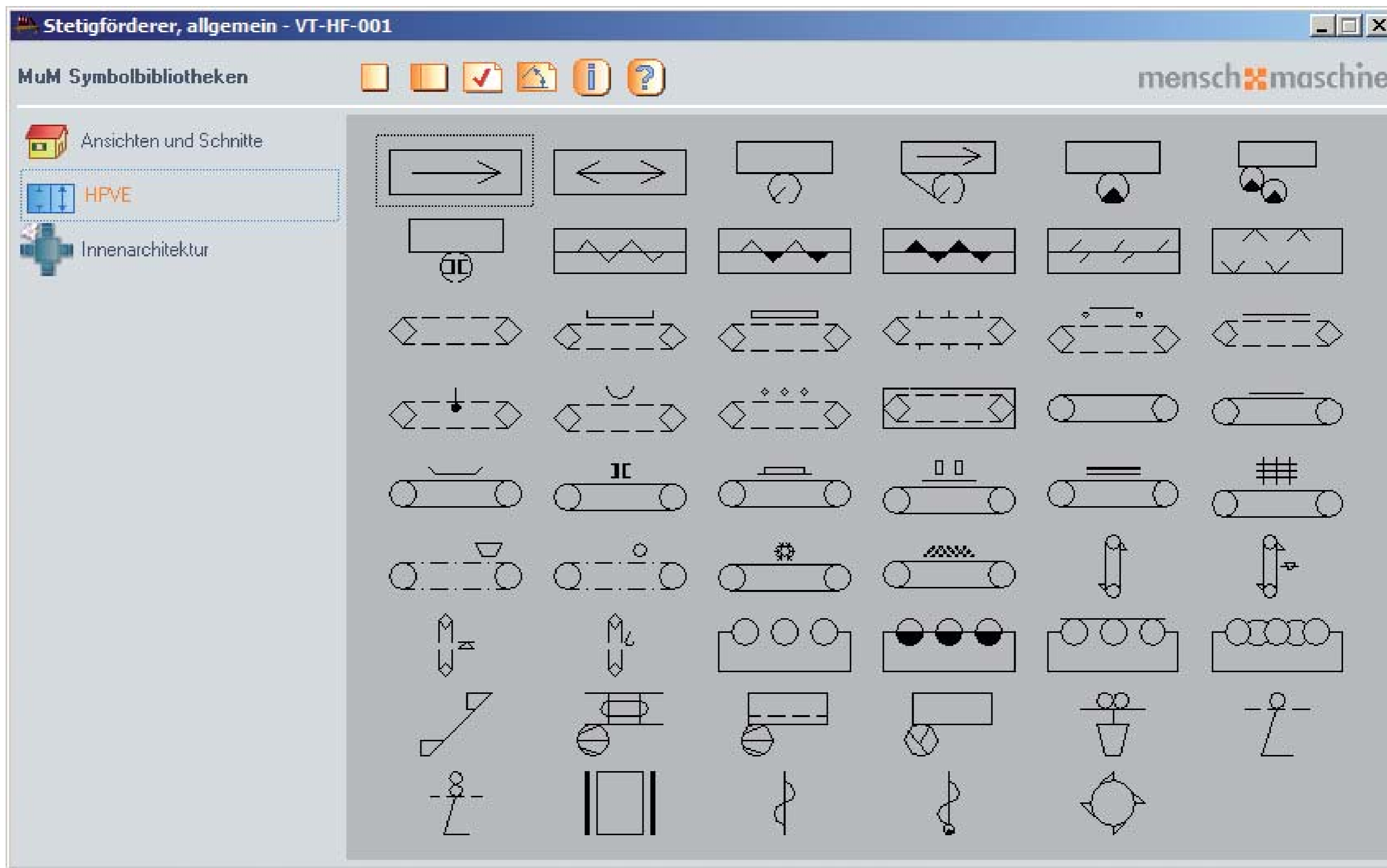
HPVE

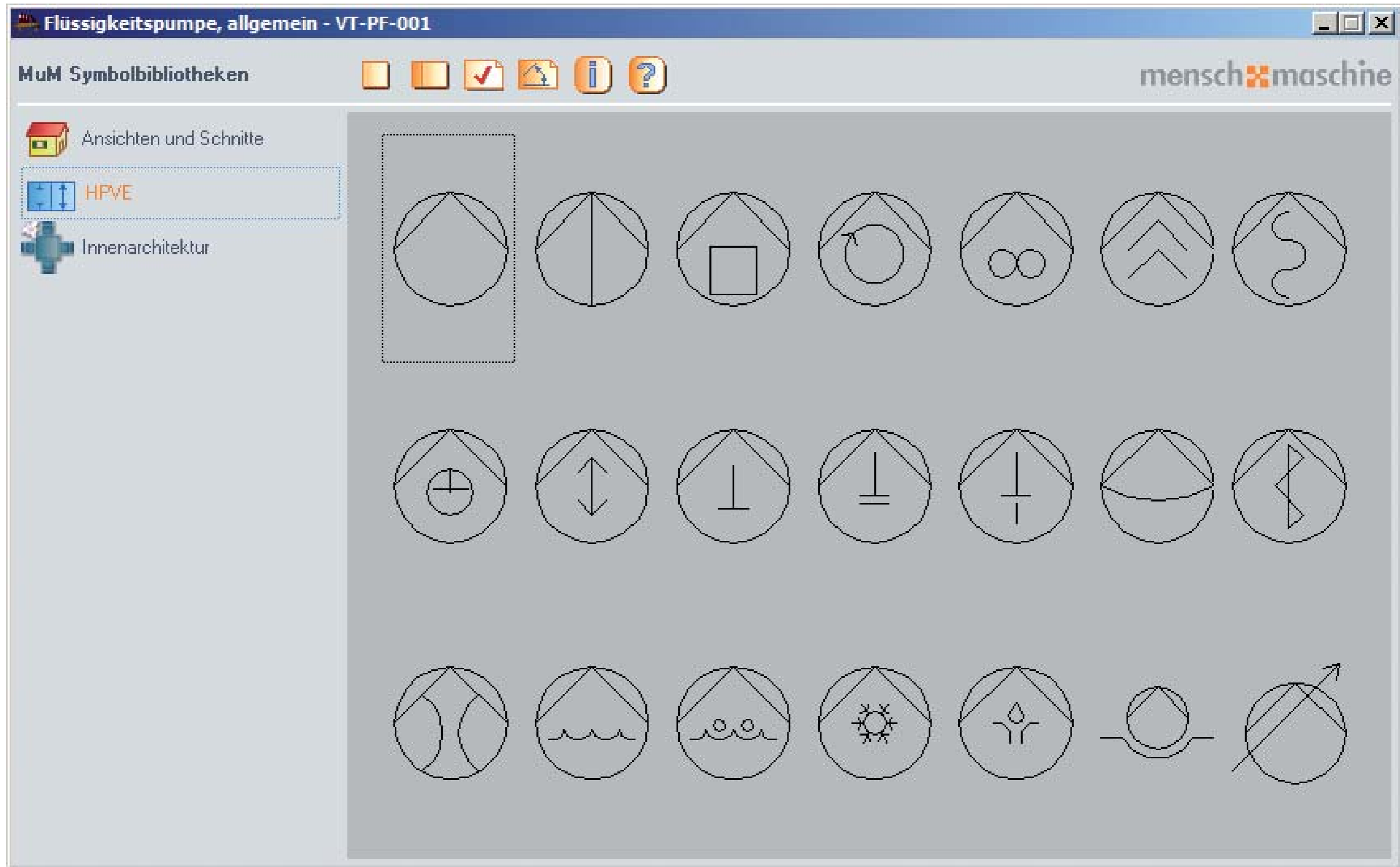
Innenarchitektur

Verfahrenstechnik				Energie-technik	Hydraulik und Pneumatik				
Maschinen und Antriebe	Armaturen, Leitungsteile	Apparate		Verfahrenstechnik, Symbole					
				Messen, Regeln, Energiezeichen					
Schaubilder									

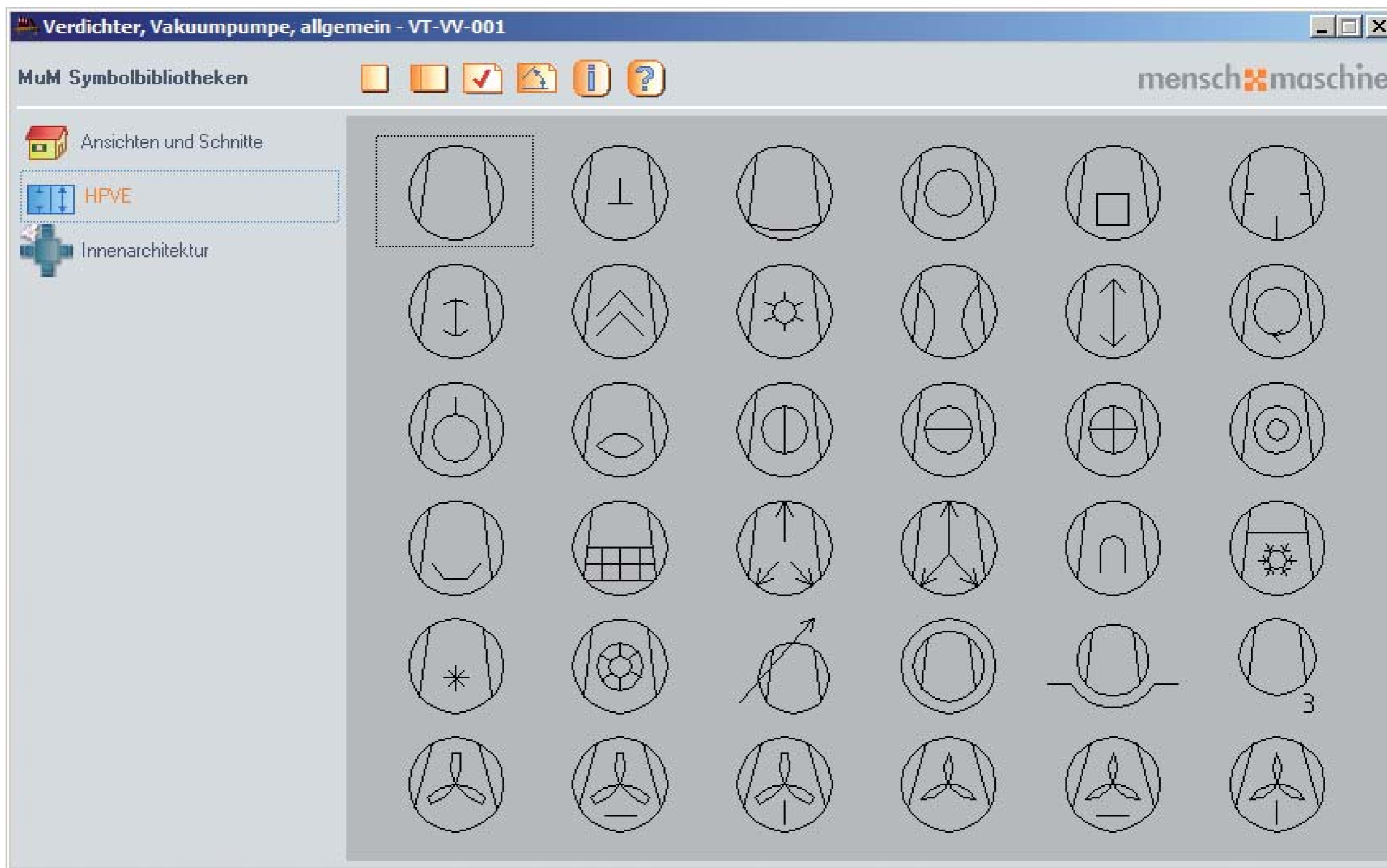


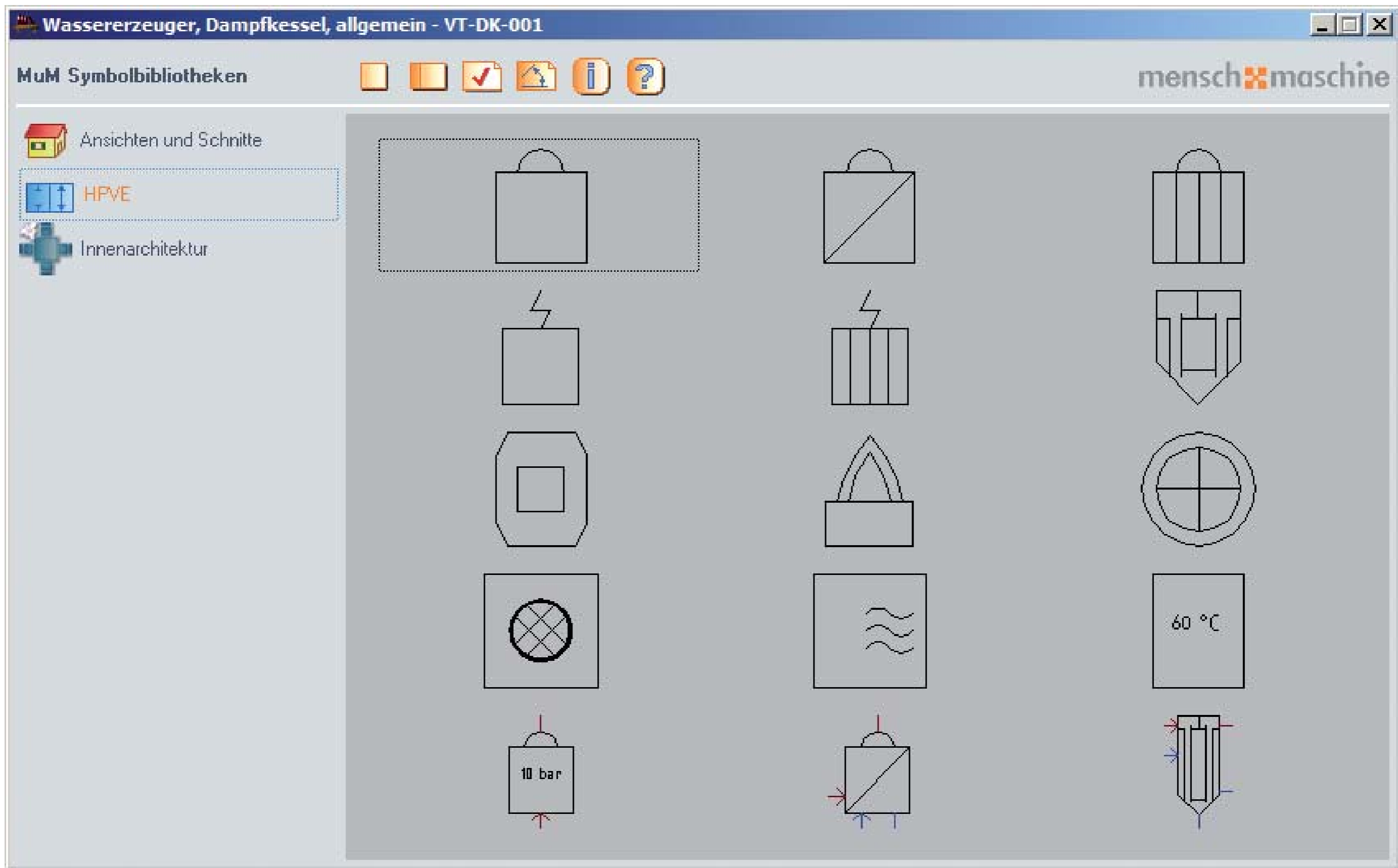




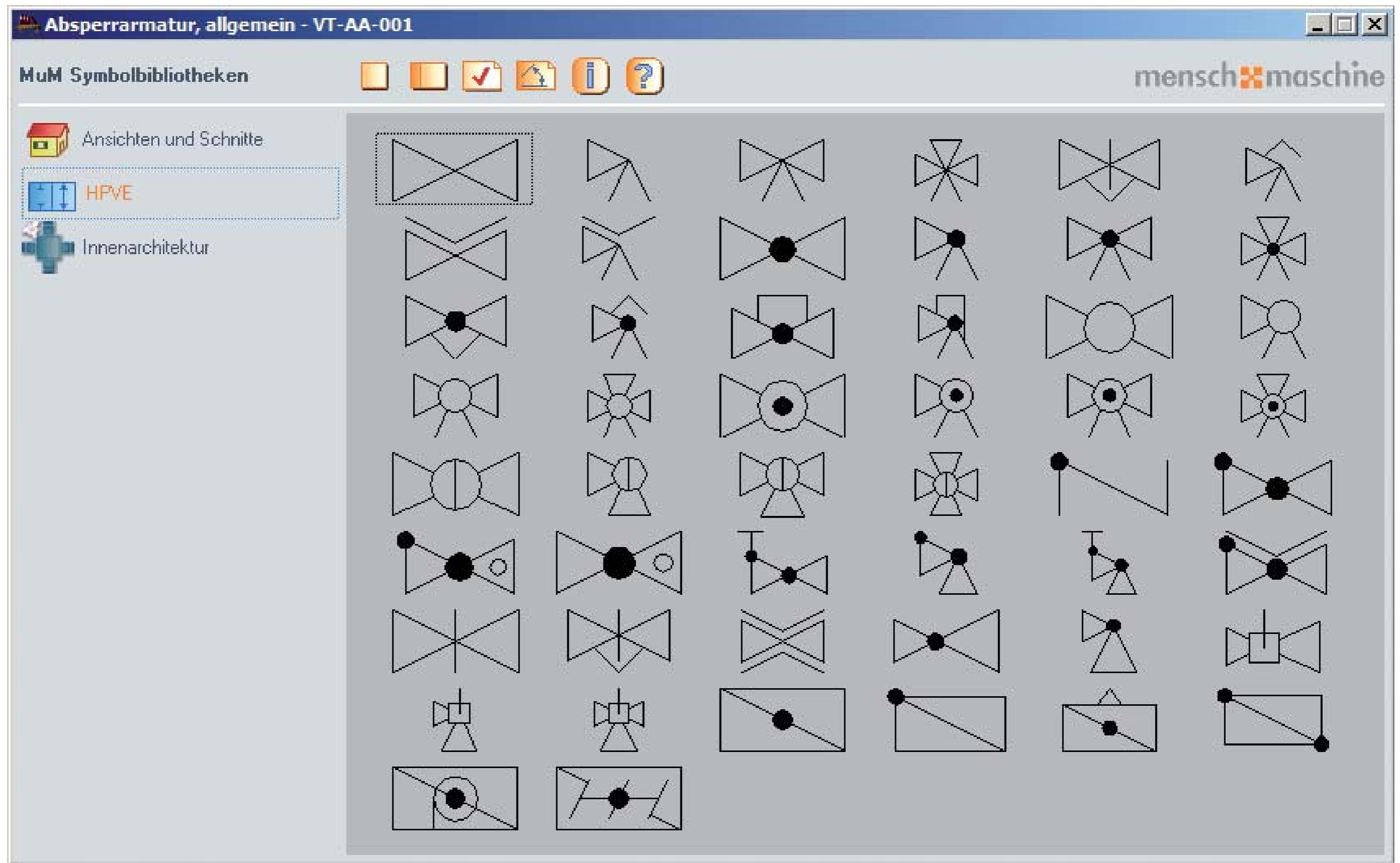


Verfahrenstechnik - Maschinen und Antriebe: Verdichter, Ventilatoren





Verfahrenstechnik - Armaturen, Leitungsteile: Absperrarmaturen



Verfahrenstechnik - Armaturen, Leitungsteile: Stellantriebe und Zusatzzeichen

Absperrarmatur mit Antrieb von Hand - VT-SZ-001

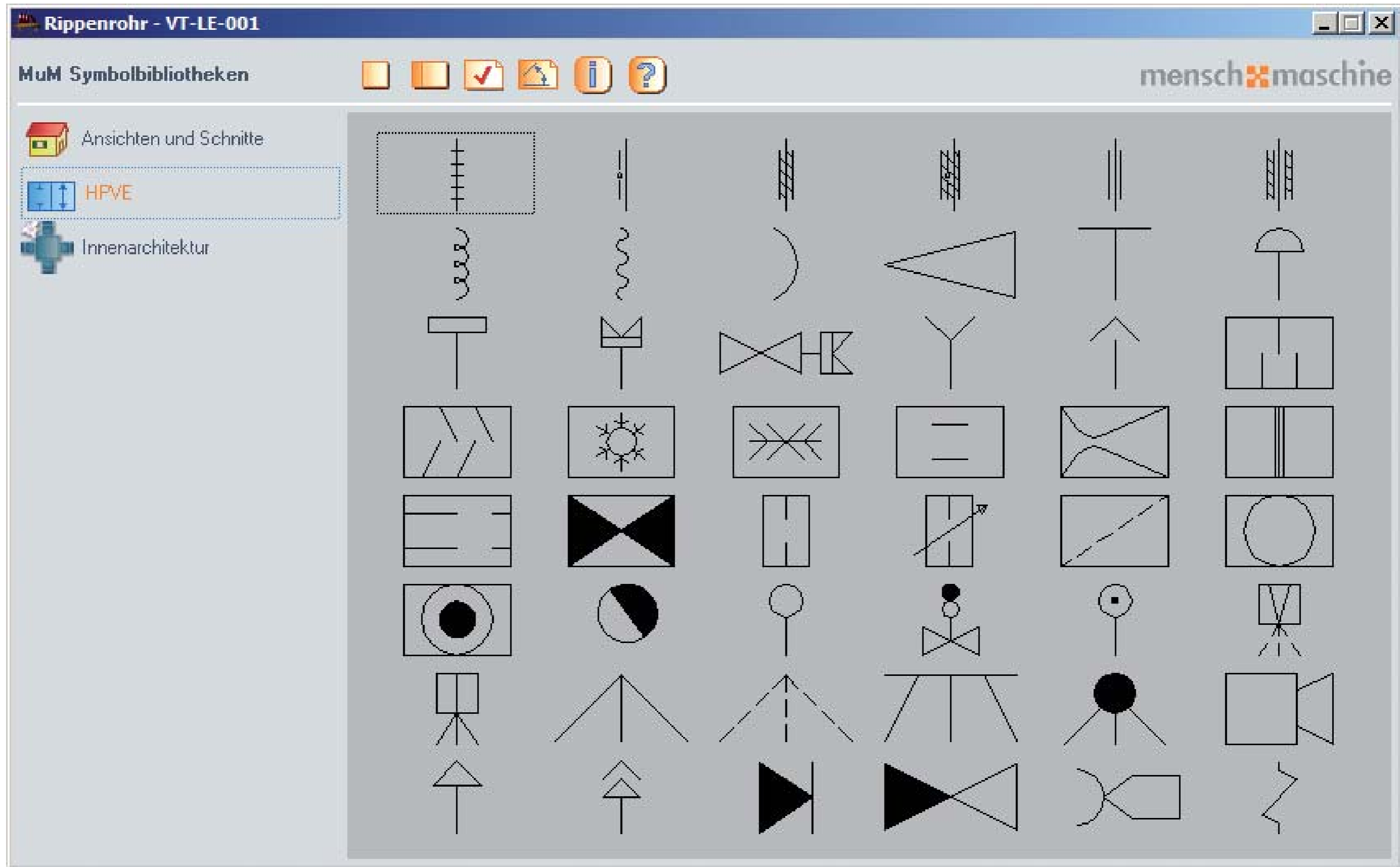
MuM Symbolbibliotheken

Ansichten und Schnitte
HPVE
Innenarchitektur

menschmaschine

The screenshot displays a software window titled "Absperrarmatur mit Antrieb von Hand - VT-SZ-001". The interface includes a menu bar with "MuM Symbolbibliotheken" and a toolbar with icons for selection, deletion, confirmation, undo, information, and help. On the left, there is a sidebar with categories: "Ansichten und Schnitte", "HPVE" (highlighted), and "Innenarchitektur". The main area shows a grid of 28 valve symbols, each with a unique configuration of actuators and connection lines. The top-left symbol, a simple butterfly valve, is enclosed in a dashed rectangular border.





Verfahrenstechnik - Apparate: Abscheider

Abscheider, allgemein - VT-AB-001

MuM Symbolbibliotheken

Ansichten und Schnitte

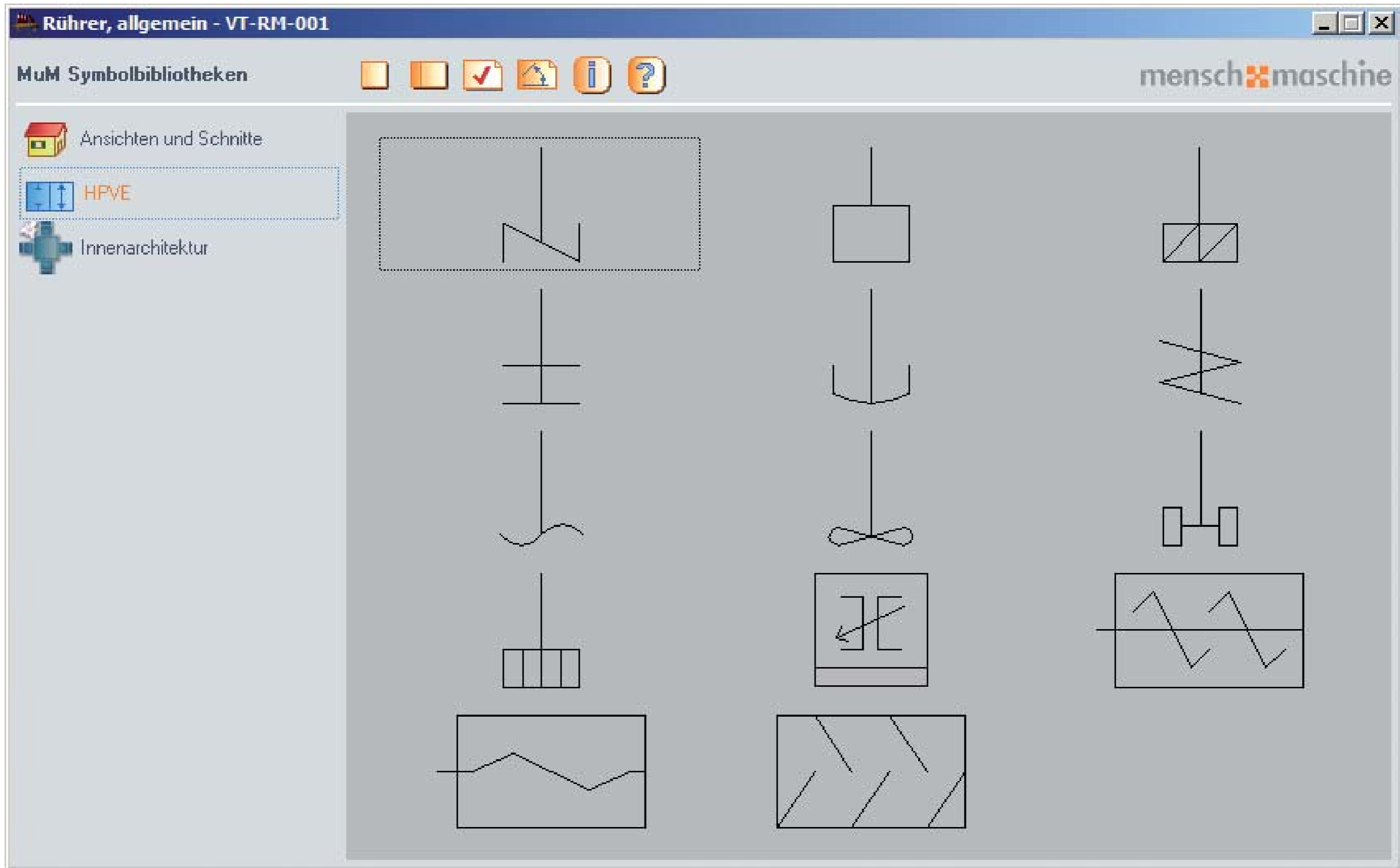
HPVE

Innenarchitektur

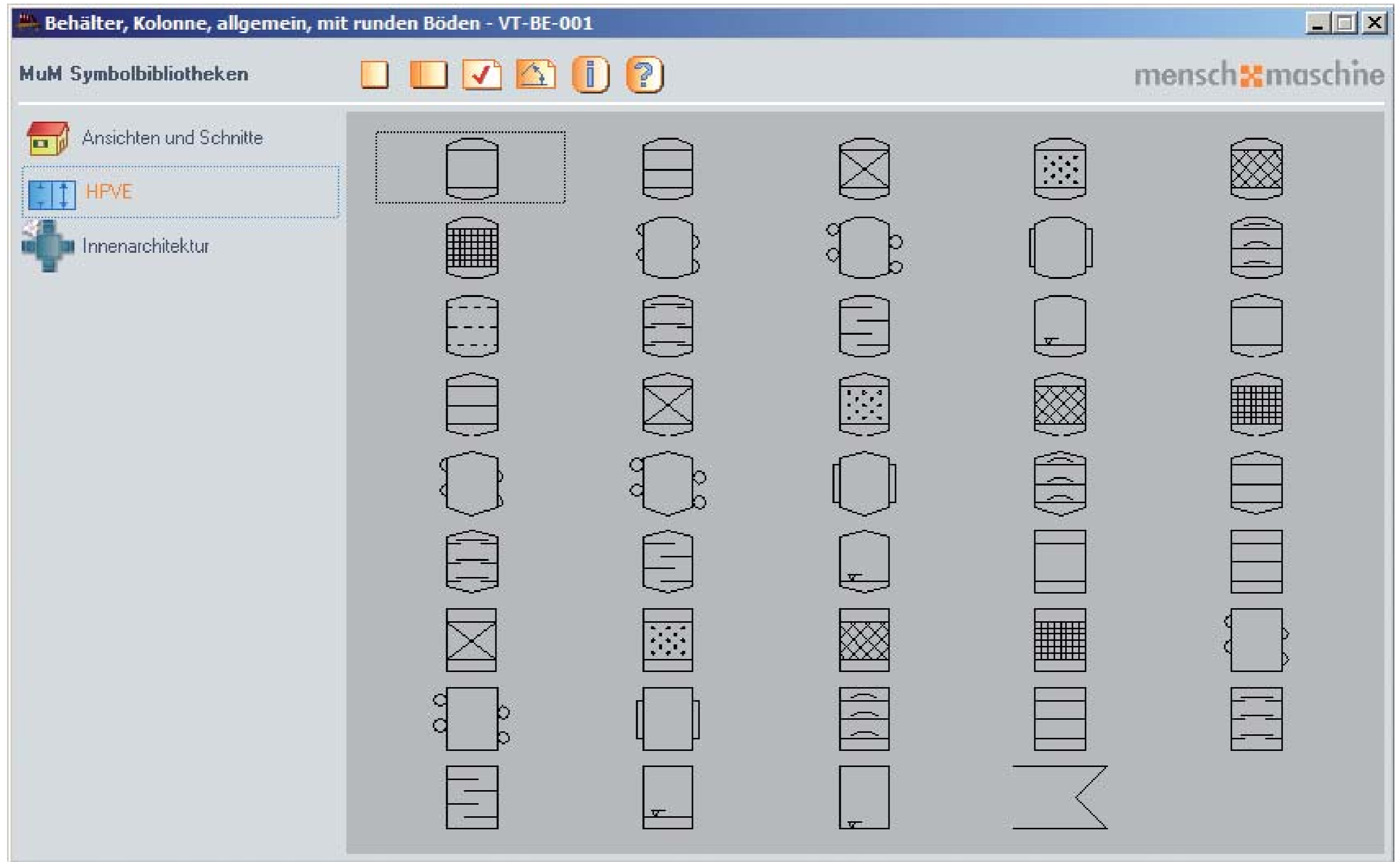
menschmaschine



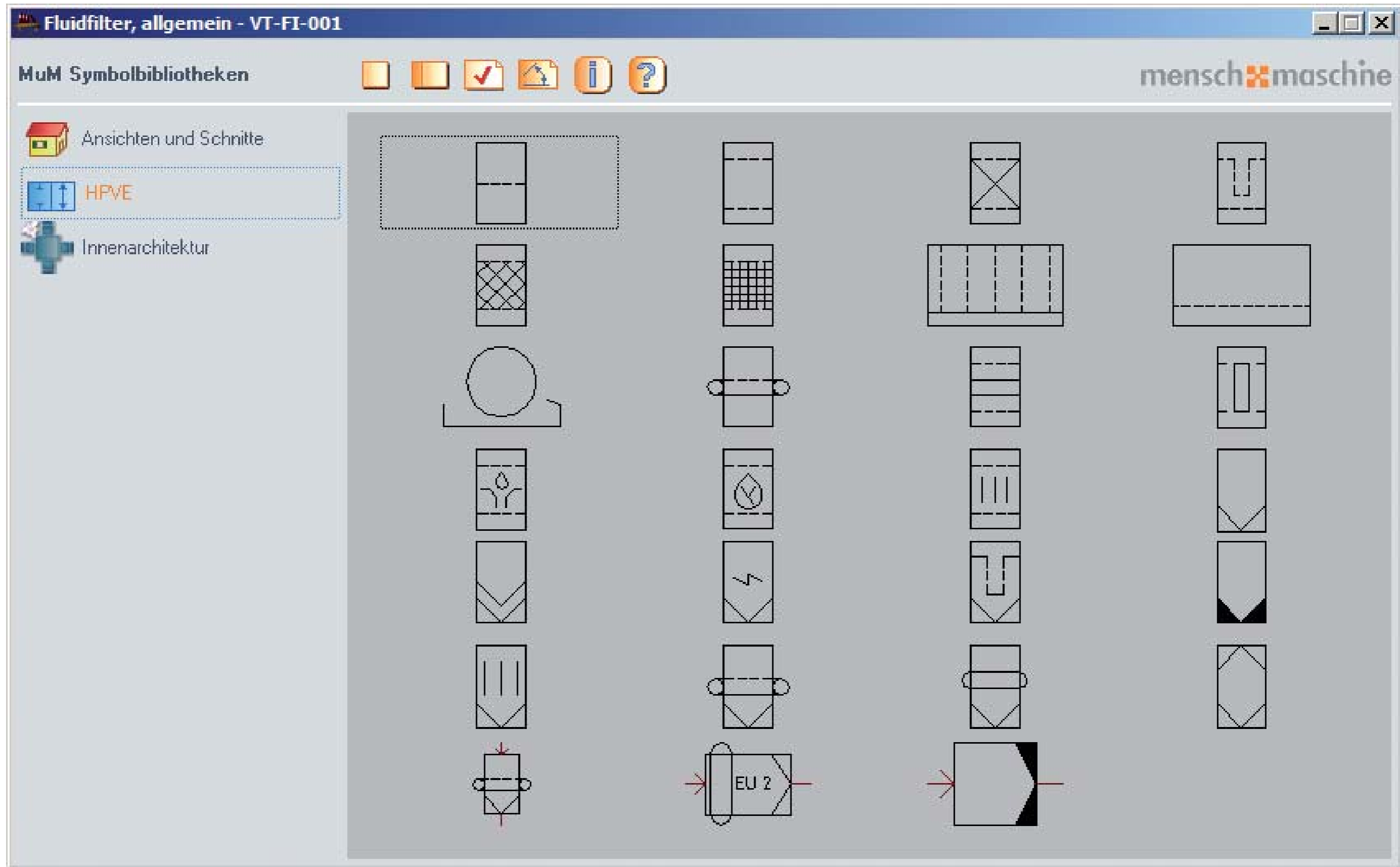
Verfahrenstechnik - Apparate: Rührer, Mischer



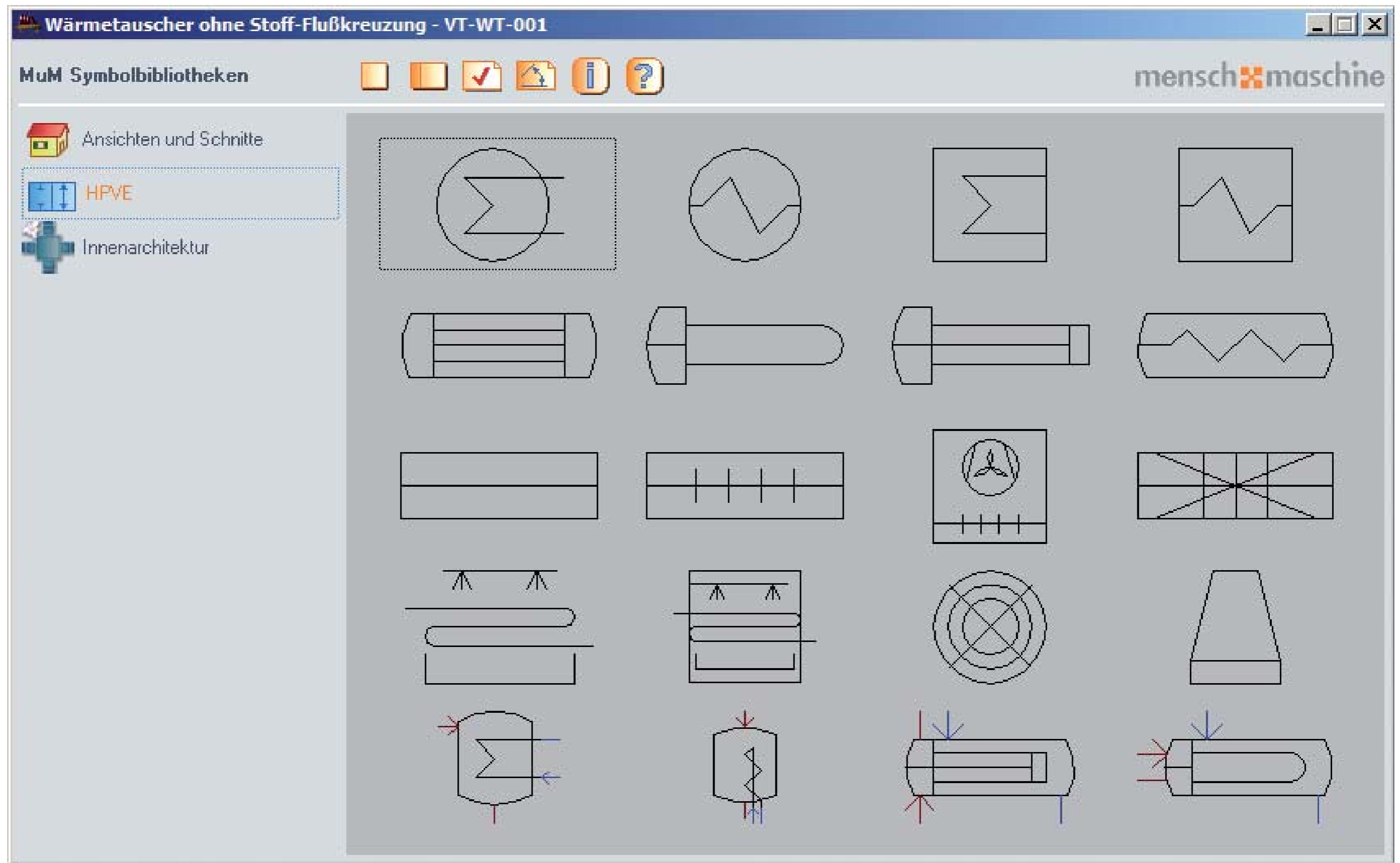
Verfahrenstechnik - Apparate: Behälter mit Einbauten



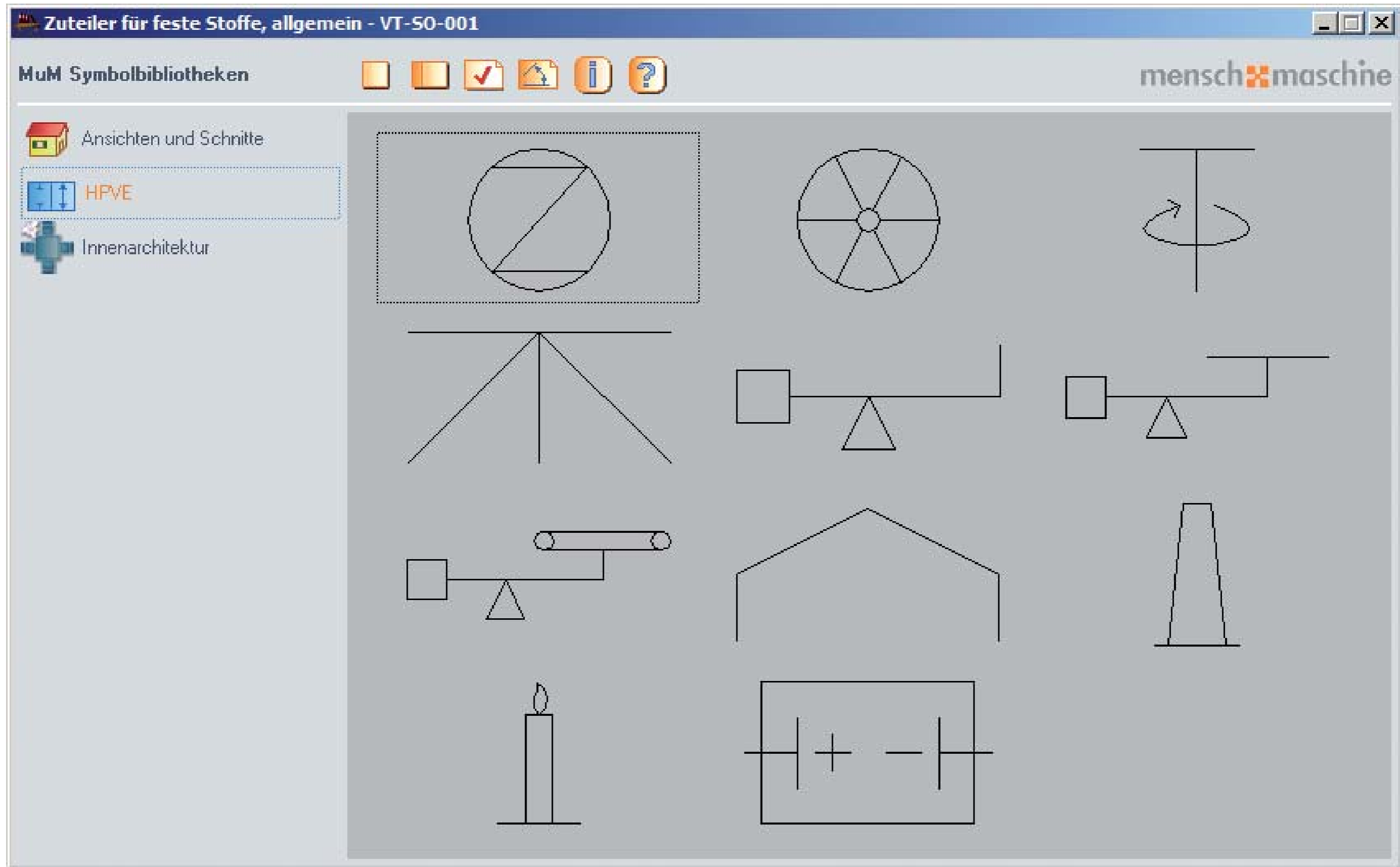
Verfahrenstechnik - Apparate: Filter



Verfahrenstechnik - Apparate: Wärmetauscher



Verfahrenstechnik - Apparate: Sonstige Anlagenteile



Verfahrenstechnik - Apparate: Zentrifugen

Zentrifuge, allgemein - VT-ZF-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

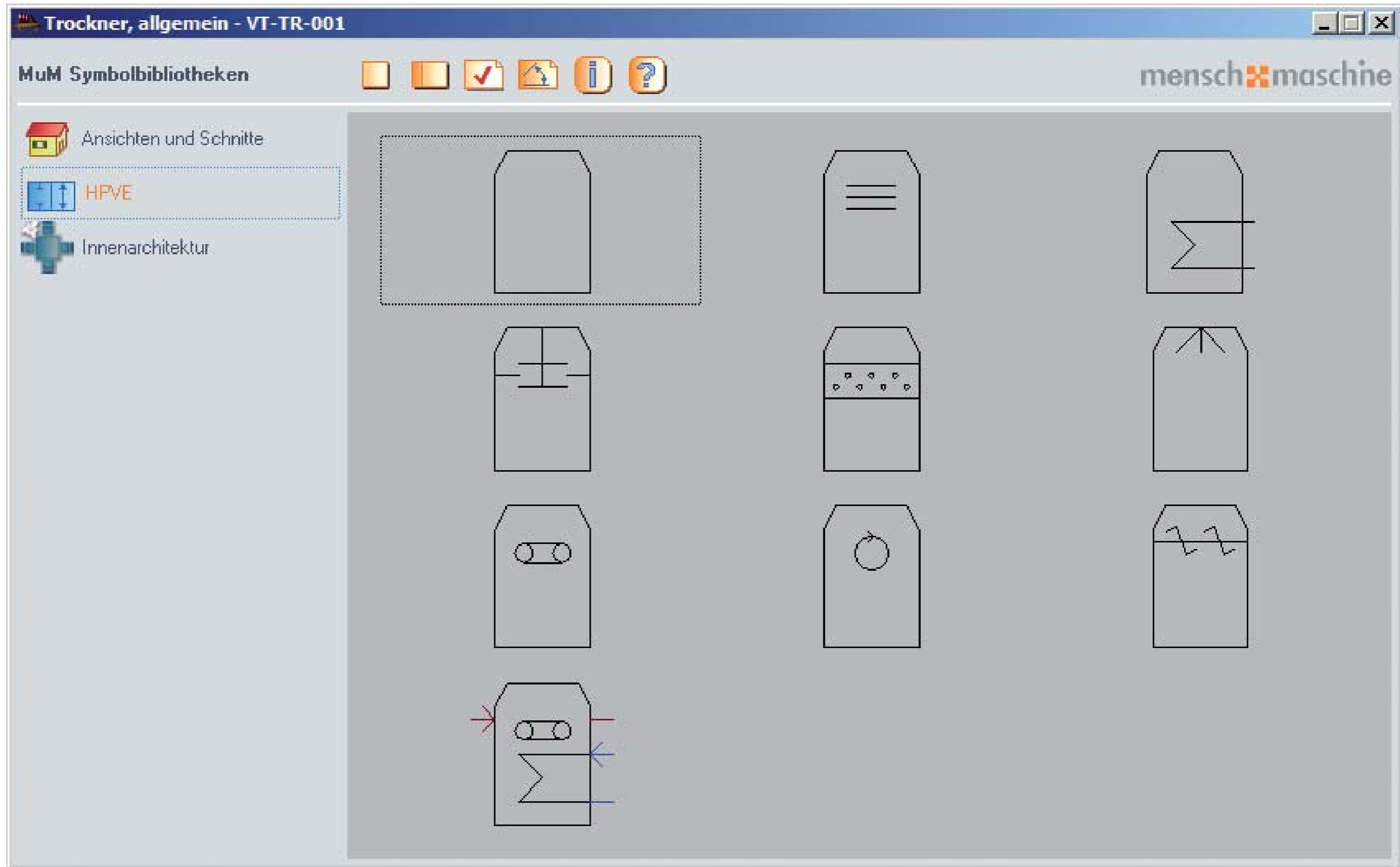
Innenarchitektur

menschmaschine

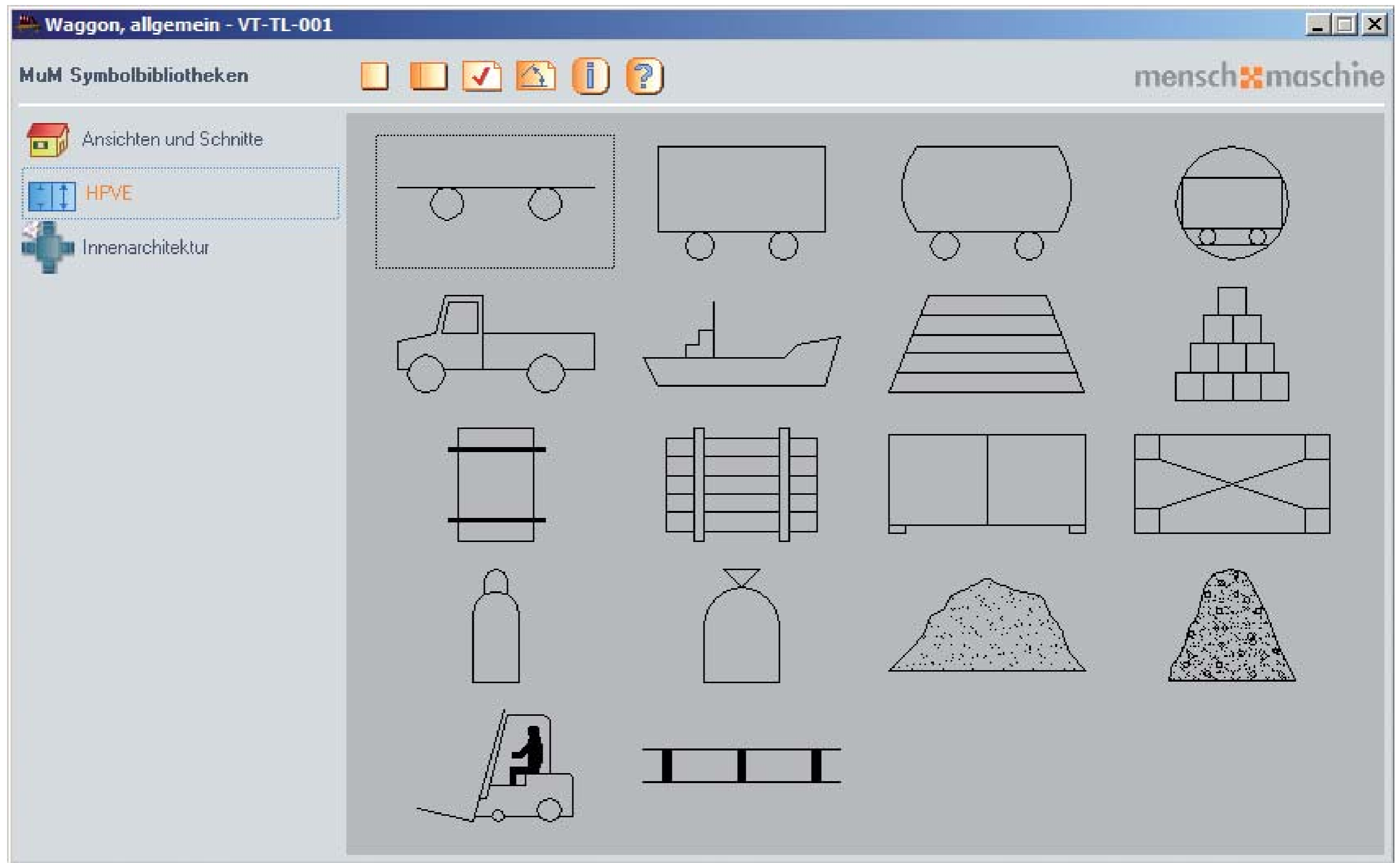
The image displays a software interface for technical drawing, showing a library of symbols for centrifuges. The interface includes a title bar, a menu bar, and a main workspace. The workspace contains a 3x3 grid of symbols. The top-left symbol is highlighted with a dashed border. The symbols represent various views and sections of a centrifuge, including front, side, and cross-sectional views.



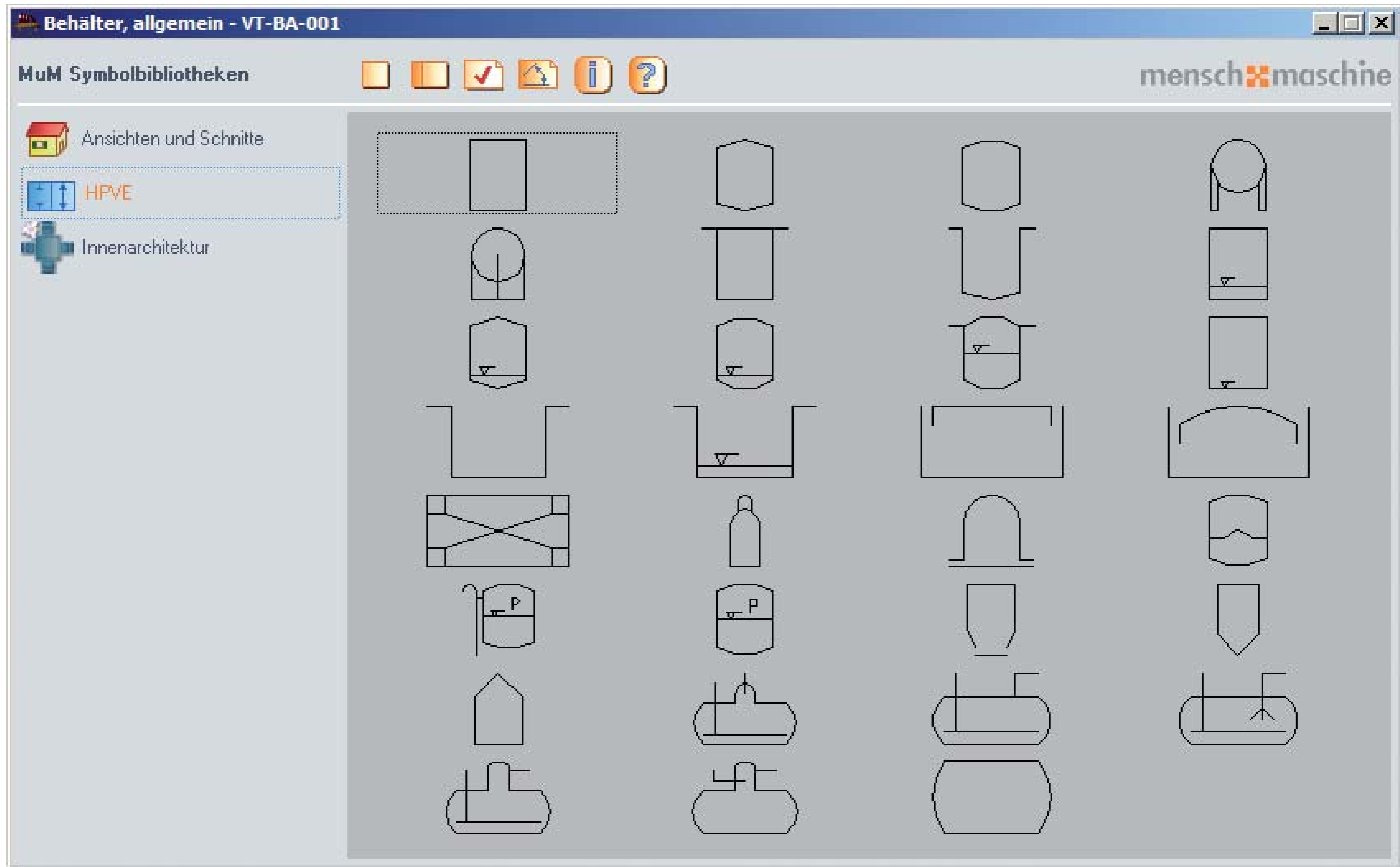
Verfahrenstechnik - Apparate: Trockner



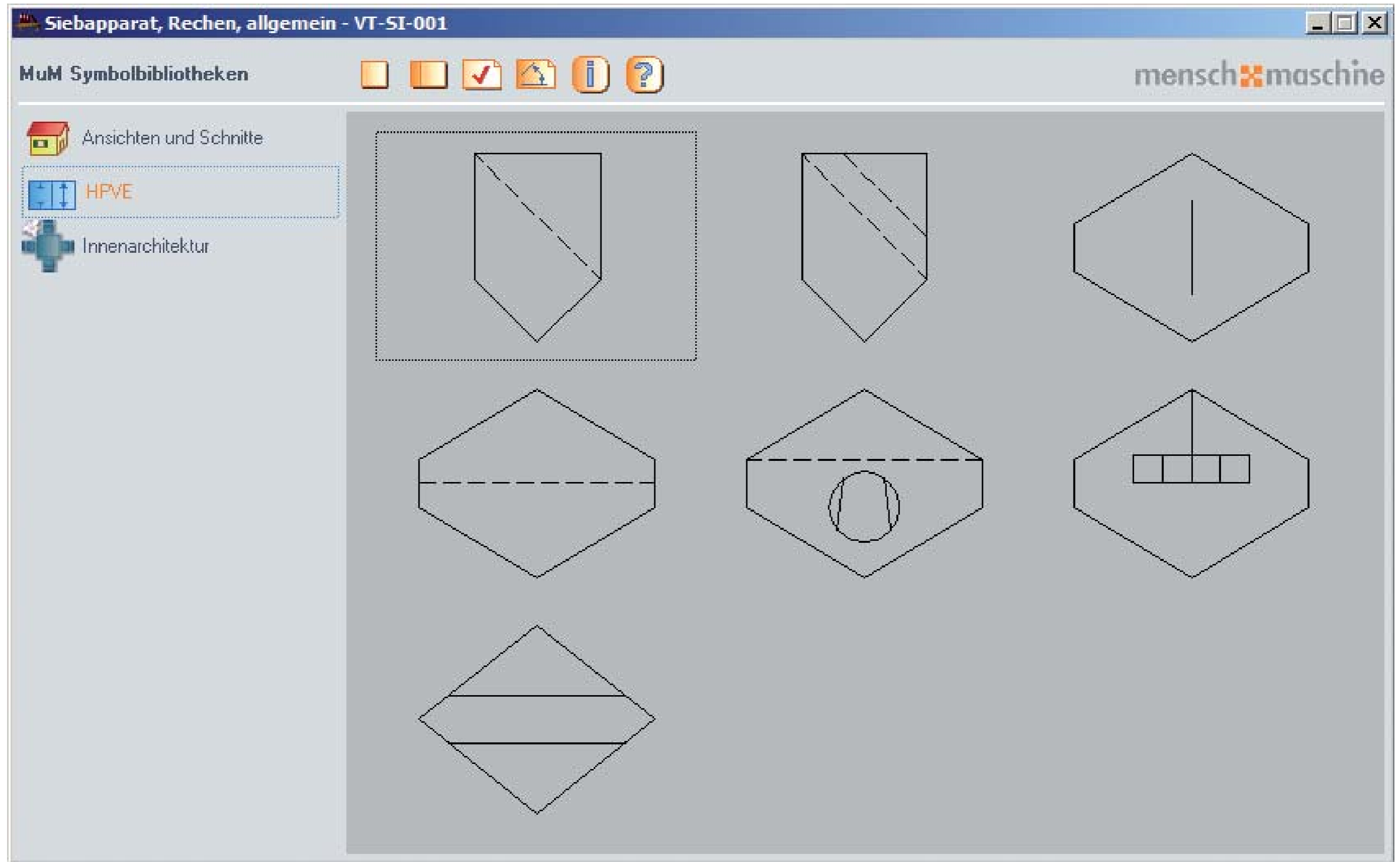
Verfahrenstechnik - Apparate: Transport und Lagerung



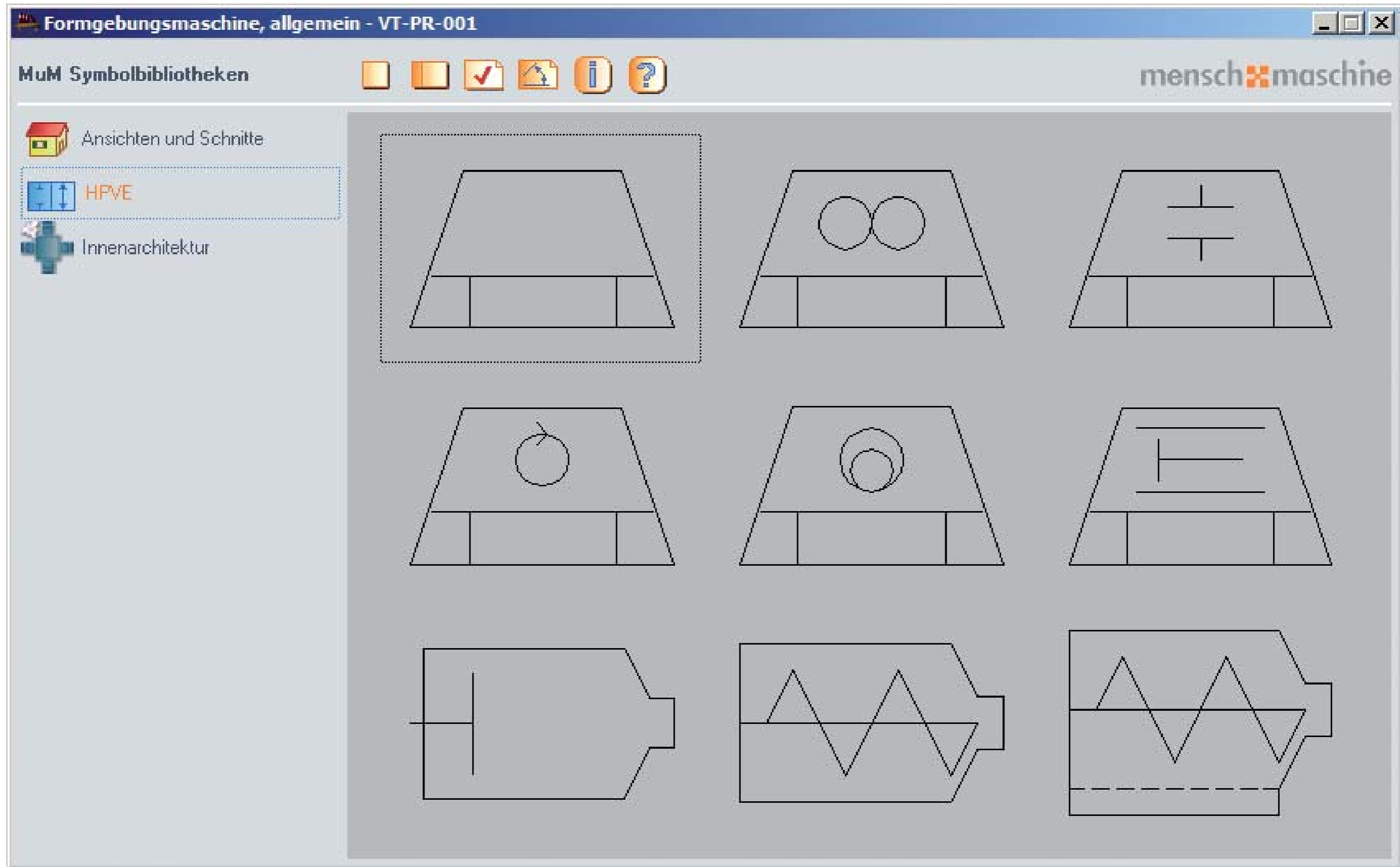
Verfahrenstechnik - Apparate: Behälter, allgemein



Verfahrenstechnik - Apparate: Siebapparate, Sichter, Sortierer



Verfahrenstechnik - Apparate: Formgebungsmaschinen, Pressen



Verfahrenstechnik - Apparate: Mühlen

Zerkleinerungsmaschine, allgemein - VT-MH-001

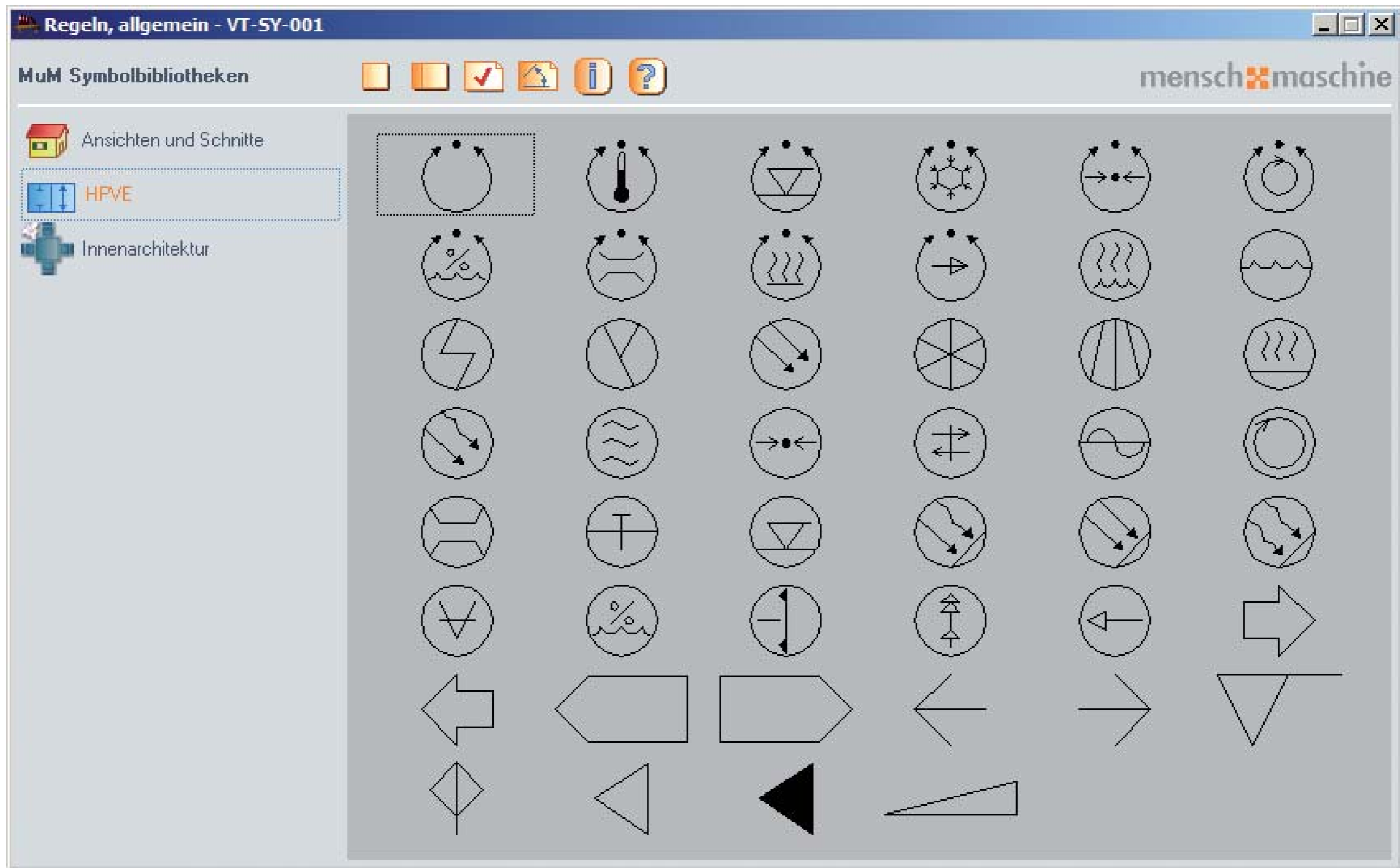
MuM Symbolbibliotheken

Ansichten und Schnitte
HPVE
Innenarchitektur

menschmaschine



Verfahrenstechnik - Symbole: Symbole



Verfahrenstechnik - Symbole: EMSR-Symbole

EMSR

MuM Symbolbibliotheken

menschmaschine

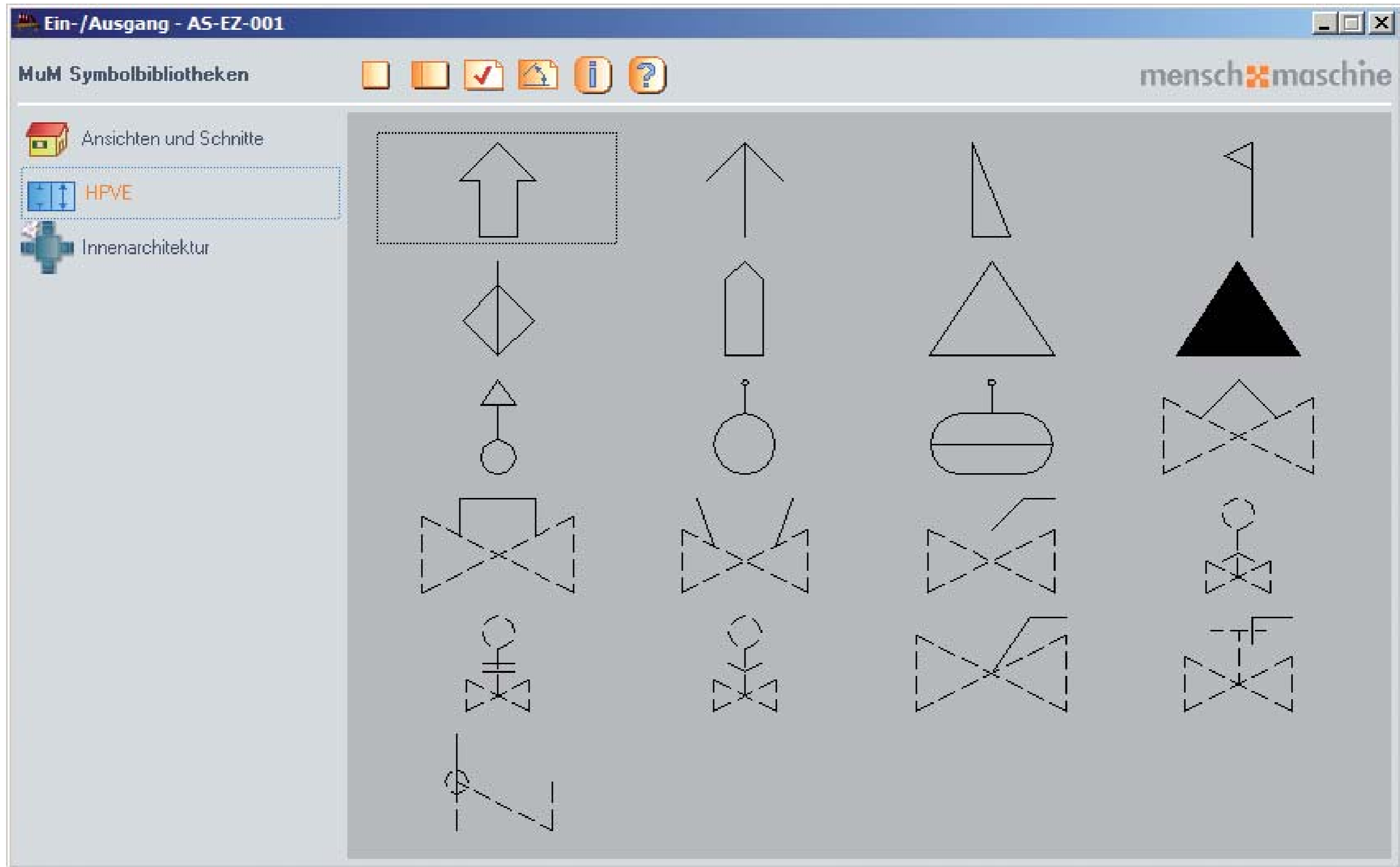
Ansichten und Schnitte

HPVE

Innenarchitektur

EMSR Aufgaben, mit Prozessrechner (PR); Ausgabe und Bedienung ...				
EMSR Aufgaben, mit Prozessleitsystem (PLS); Ausgabe und Bedienung ...				
EMSR Aufgaben allgemein; Ausgabe und Bedienung ...				
Meßort, besonders hervorgehoben				





Messen / Regeln / Energiezeichen: Aufnehmer

Aufnehmer, allgemein - AS-AN-001

MuM Symbolbibliotheken

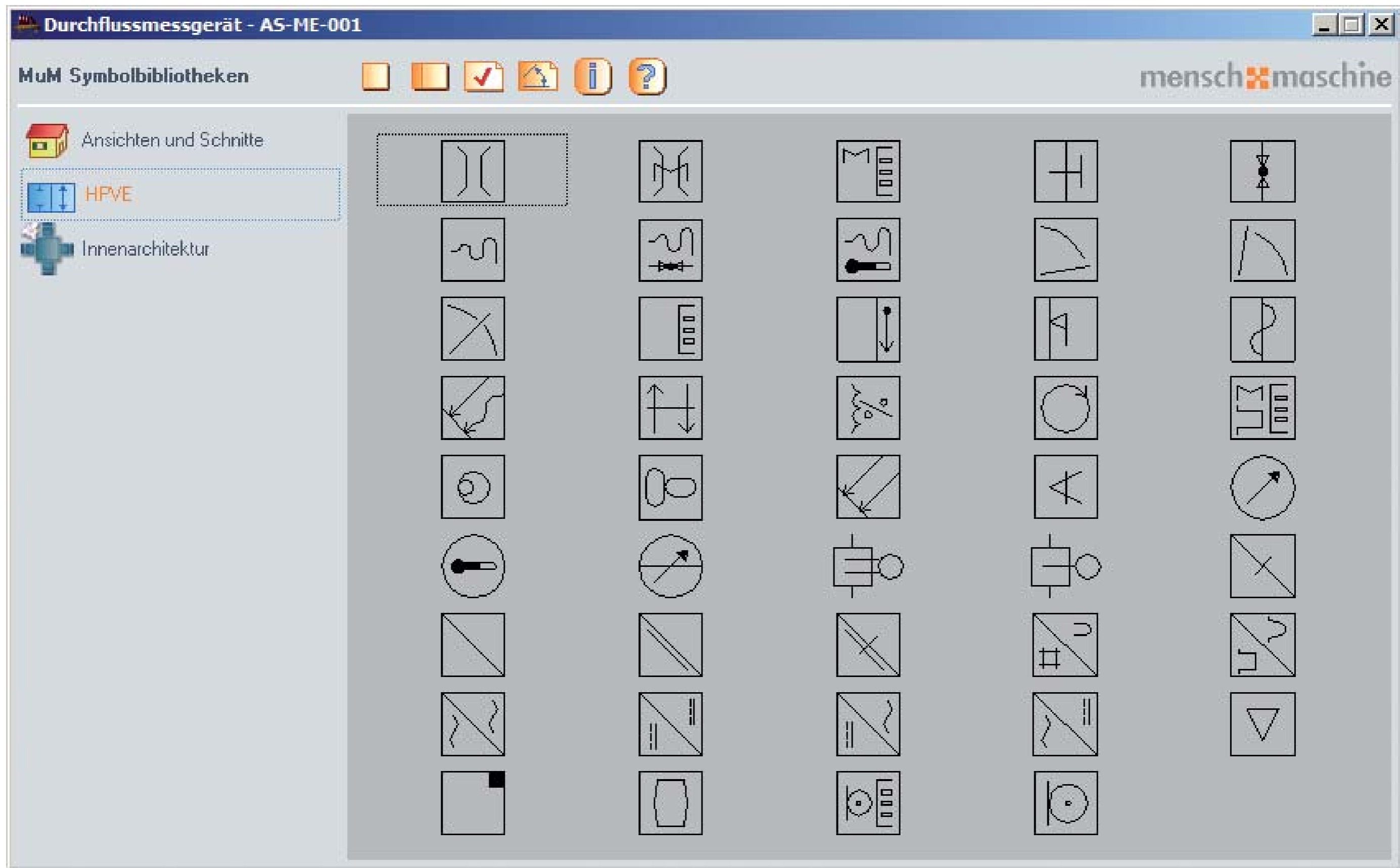
Ansichten und Schnitte

HPVE

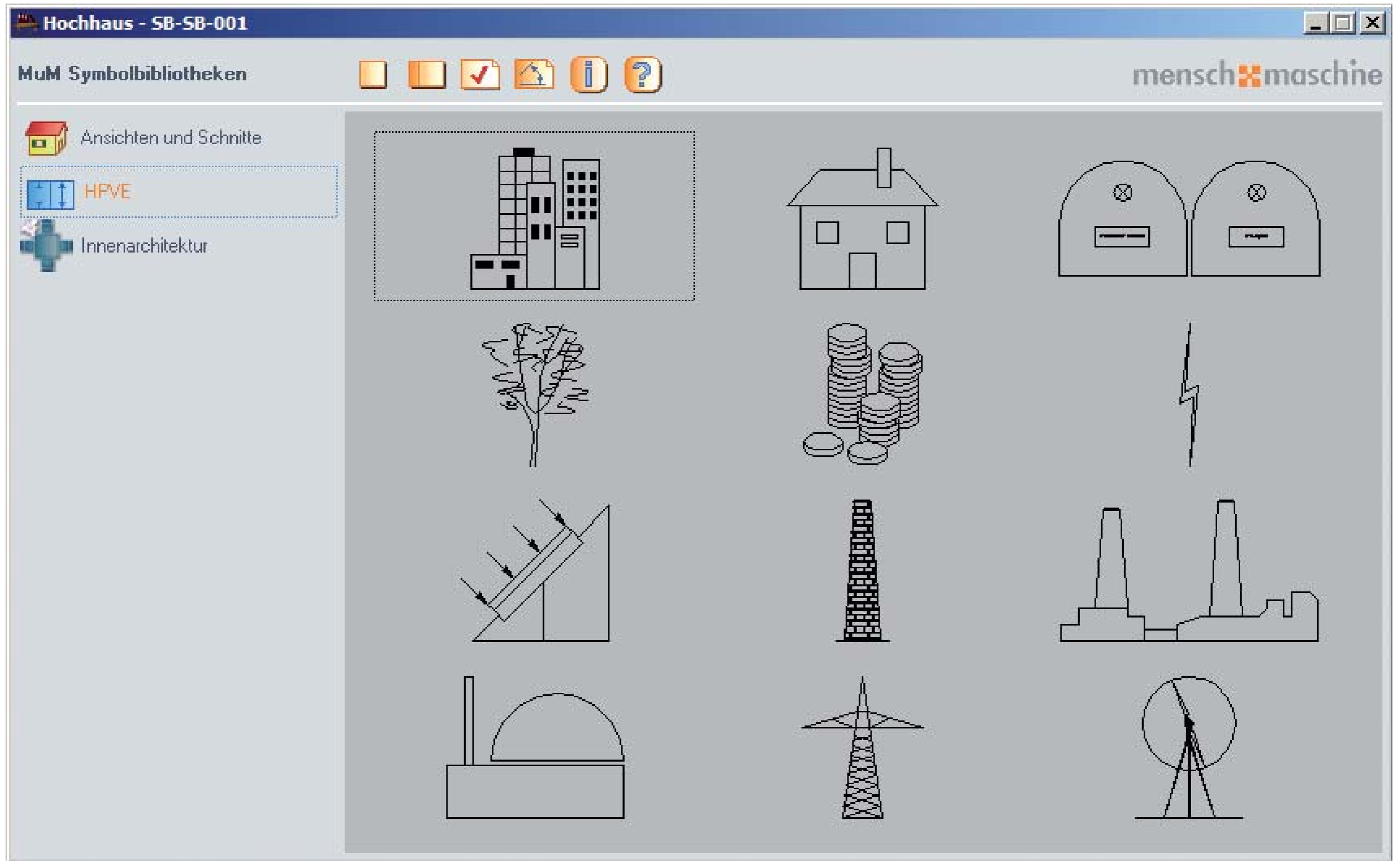
Innenarchitektur

menschmaschine

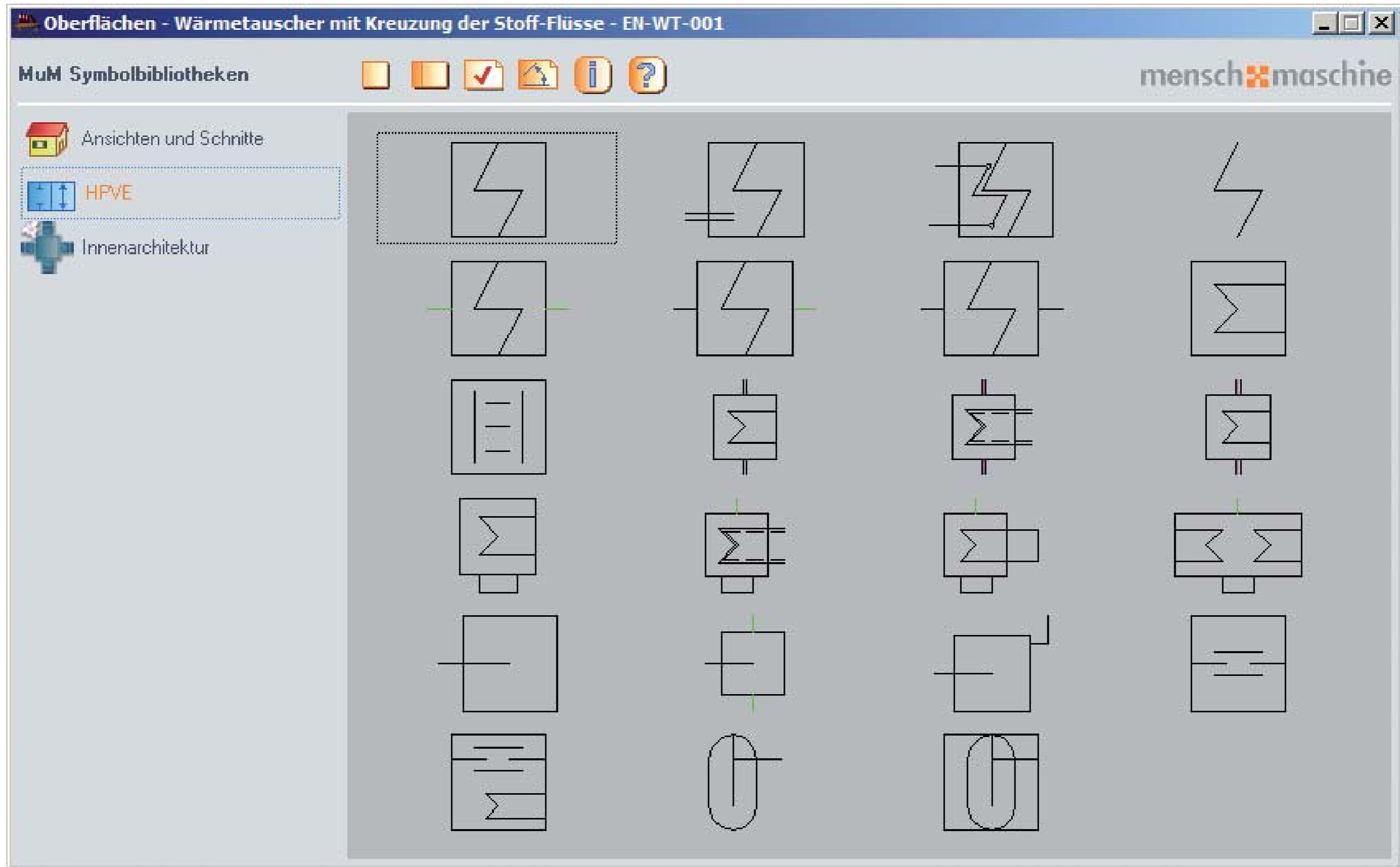


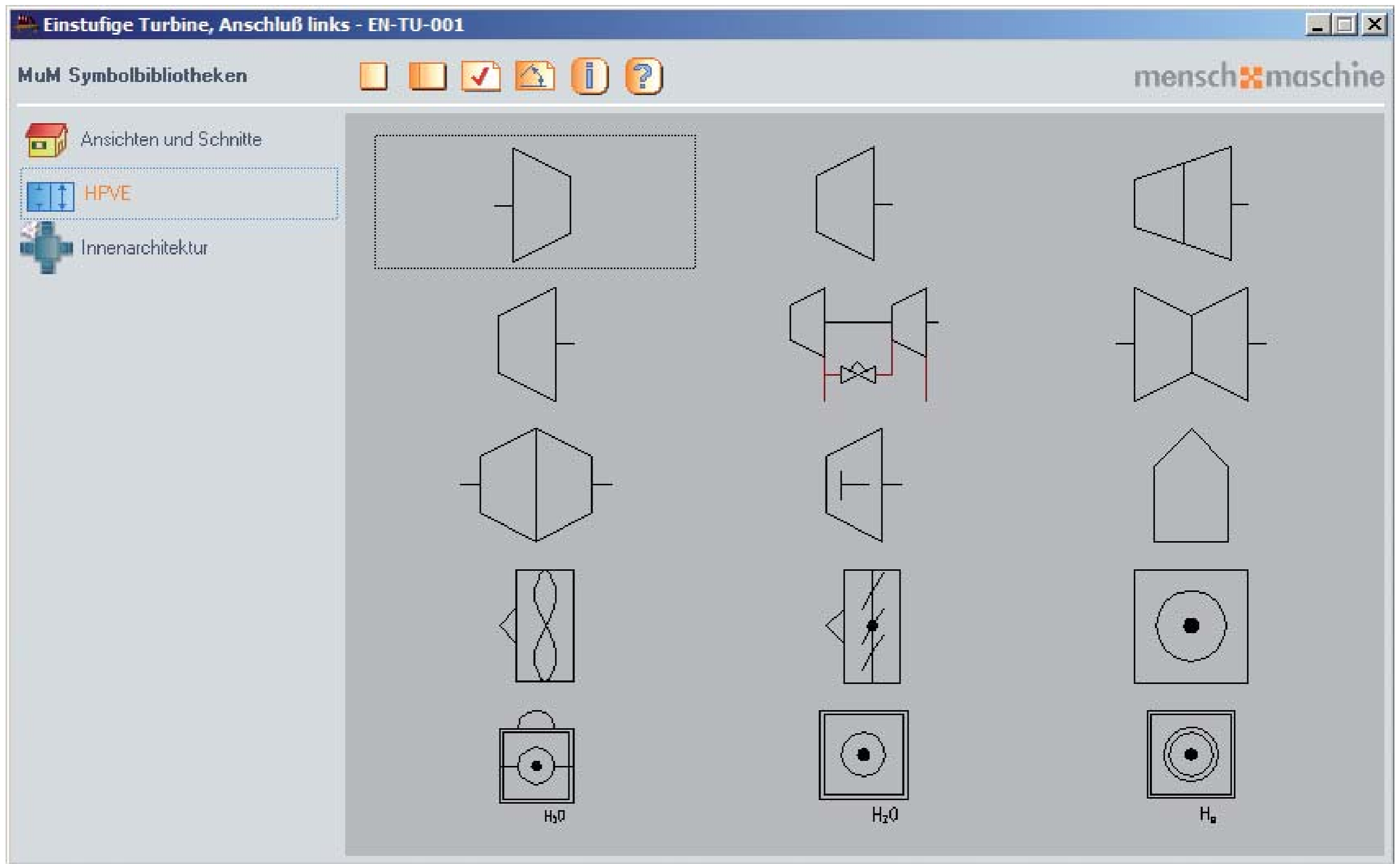


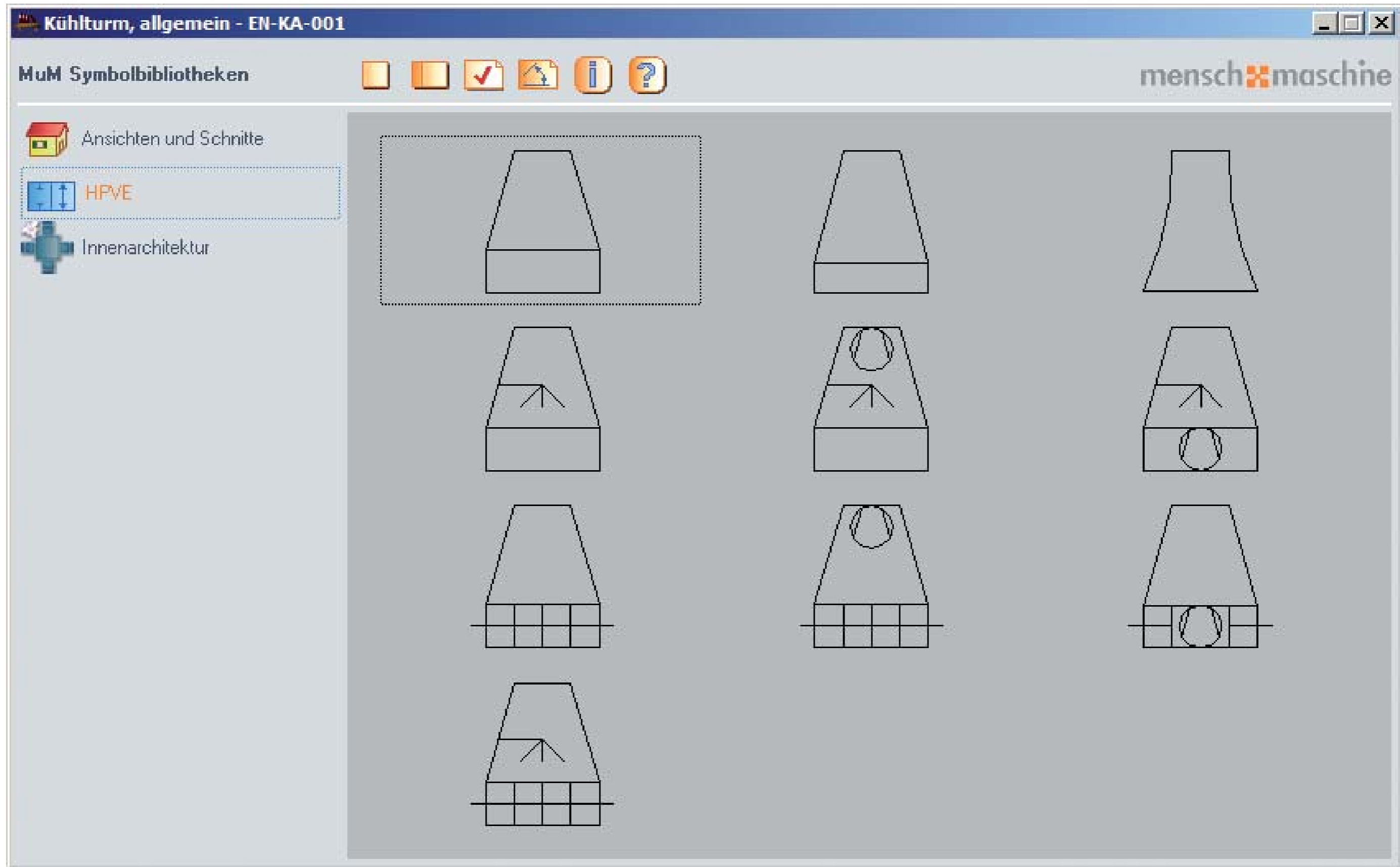
Schaubilder



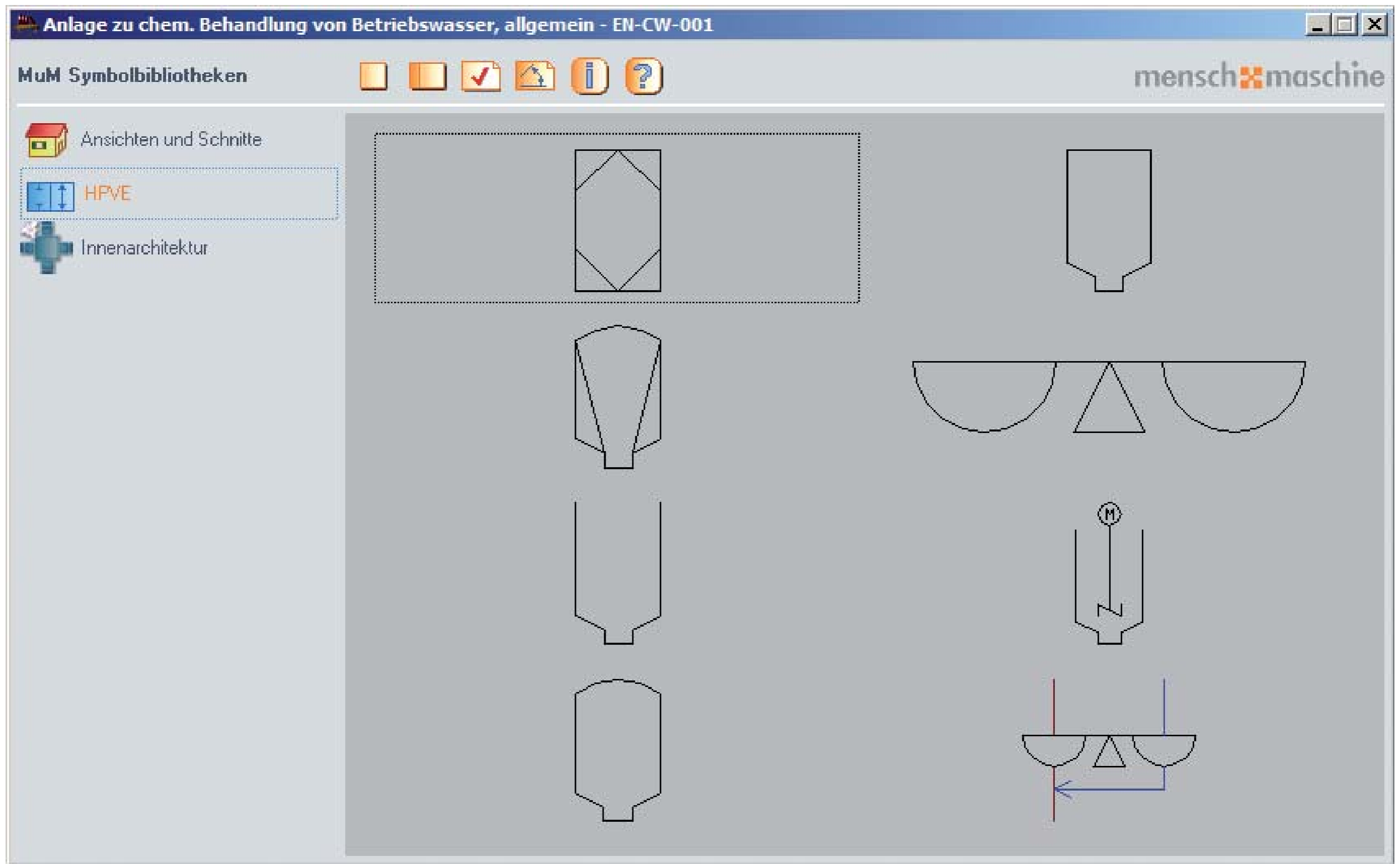
Energietechnik: Wärmetauscher Dampfsperren







Energetechnik: Chemische Wasseraufbereitungsanlagen



Produktionssonde - EN-WP-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

Innenarchitektur

The screenshot shows a software window titled "Produktionssonde - EN-WP-001" with a toolbar and a sidebar. The sidebar lists "Ansichten und Schnitte", "HPVE", and "Innenarchitektur". The main area contains a grid of symbols: a technical drawing of a heat exchanger, a schematic of a production probe, circular symbols for different heat exchanger types, and two detailed circuit diagrams of heat pump systems with components like "Verdichter", "Expansionsventil", "Verflüssiger", and "Verdampfer".



Windgeschwindigkeitsmesser - EN-WE-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

Innenarchitektur

menschmaschine

Betriebsführung

Pitchregelung

Stallregelung

Spannungsregelung

Wechselrichterregelung

Synchronisier-einrichtung

Pitch-Umrichterregelung

Stallregelung

Synchronisier-einrichtung

Betriebsführung

Spannungsregelung

Pitch-Umrichterregelung

Pitchregelung

Wechselrichterregelung



Sonnenkollektor mit Darstellung der Einstrahlung - EN-SE-001

MuM Symbolbibliotheken

Ansichten und Schnitte
 HPVE
 Innenarchitektur

menschmaschine

The symbols are arranged in a 4x4 grid:

- Row 1: A solar collector with incident radiation arrows; a collector with a vertical pipe; a circular collector; a rectangular box labeled "Solar-speicher" (Solar storage).
- Row 2: A rectangular box labeled "Heiz-kessel" (Boiler); a boiler with an arrow labeled "Brennstoff" (Fuel) pointing to it; a rectangular box labeled "Langzeit-wärmespeicher" (Long-term heat storage); a rectangular box labeled "Solare Temperatur-Regelung" (Solar temperature control).
- Row 3: A square with a zigzag line; a square with a jagged line; a square with a diagonal line; a cylindrical tank with a zigzag line.
- Row 4: A complex schematic of a solar system with a collector, pump, and storage tank; a schematic of a collector with a pump and storage tank; a schematic of a collector with a pump and storage tank; a schematic of a solar system with a collector, pump, and storage tank.



Verbraucher, allgemein - EN-VB-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

Innenarchitektur

menschmaschine

Wärmeabnehmer
z. B. Schwimmbad

Verbraucher
z. B. Heiznetz

el. Energie



Hydraulik und Pneumatik: 2/2 Wegeventile

2/2 Wegeventil - HP-22-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

Innenarchitektur

menschmaschine

The image displays a software interface for selecting hydraulic and pneumatic symbols. The main area shows a grid of 16 symbols for 2/2 way valves. The symbols are arranged in four rows and four columns. The first row shows a basic valve symbol and three variants with ports 'a', 'b', and 'p' labeled. The second row shows symbols with solenoid coils and pilot lines. The third row shows symbols with spring return and different port configurations. The fourth row shows symbols with different internal valve mechanisms and port labels.



Hydraulik und Pneumatik: 3/2 Wegeventile, Teil 1

3/2 Wegeventil mit Handhebelbetätigung A - HP-32-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

Innenarchitektur

menschmaschine

The image displays a software interface for selecting hydraulic and pneumatic symbols. The main window title is "3/2 Wegeventil mit Handhebelbetätigung A - HP-32-001". On the left, there is a sidebar with "MuM Symbolbibliotheken" and three categories: "Ansichten und Schnitte", "HPVE" (highlighted), and "Innenarchitektur". The main area shows a grid of 25 symbols for 3/2-way valves. The symbols are arranged in a 5x5 grid. The first symbol in the top-left is highlighted with a dashed border. Each symbol shows a different configuration of ports (a, b, P, T), springs, and flow directions. The symbols are labeled with 'A' and 'B' for the two working ports and 'P' for the pressure port. Some symbols also include a 'T' for the tank port. The symbols are arranged in a 5x5 grid. The first symbol in the top-left is highlighted with a dashed border. Each symbol shows a different configuration of ports (a, b, P, T), springs, and flow directions. The symbols are labeled with 'A' and 'B' for the two working ports and 'P' for the pressure port. Some symbols also include a 'T' for the tank port.



Hydraulik und Pneumatik: 3/2 Wegeventile, Teil 2

3/2 Wegeventil mit Magnetbetätigung A - HP-32-022

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine



Hydraulik und Pneumatik: 4/2 Wegeventile

4/2 Wegeventil - HP-42-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for selecting hydraulic and pneumatic symbols. The main window is titled "4/2 Wegeventil - HP-42-001". On the left, there is a sidebar with "MuM Symbolbibliotheken" (MuM Symbol Libraries) containing categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted), "Innenarchitektur", and "Organisation und Planung". The main area shows a grid of 48 symbols for 4/2-way valves, arranged in 8 rows and 6 columns. The first symbol in the top row is highlighted with a dashed border. Each symbol represents a different configuration of a 4/2-way valve, showing ports A, B, P, and T, and various internal and external connections.



Hydraulik und Pneumatik: 4/3 Wegeventile, Teil 1

4/3 Wegeventil - HP-43-001

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine

The image displays a software interface for selecting hydraulic and pneumatic symbols. The main area shows a grid of 48 symbols for 4/3-way valves, arranged in 8 rows and 6 columns. The top-left symbol is highlighted with a dashed box. The symbols represent various configurations of ports (A, B, P, T) and valve states (X, H, I, R, etc.).



Hydraulik und Pneumatik: 4/3 Wegeventile, Teil 2

4/3 Wegeventil mit Handhebelbetätigung A - HP-43-051

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for selecting hydraulic symbols. The main area shows a grid of 49 symbols, each representing a different configuration of a 4/3-way valve with hand-lever actuation. The symbols are arranged in 7 rows and 7 columns. The first symbol in the top-left corner is highlighted with a dashed border. The symbols vary in their internal configurations, representing different valve states and actuation mechanisms.



Hydraulik und Pneumatik: 4/3 Wegeventile, Teil 3

4/3 Wegeventil mit Rollenstößelbetätigung A - HP-43-100

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine



Hydraulik und Pneumatik: 4/3 Wegeventile, Teil 4

4/3 Wegeventil mit Magnetbetätigung A & B - HP-43-148

MuM Symbolbibliotheken

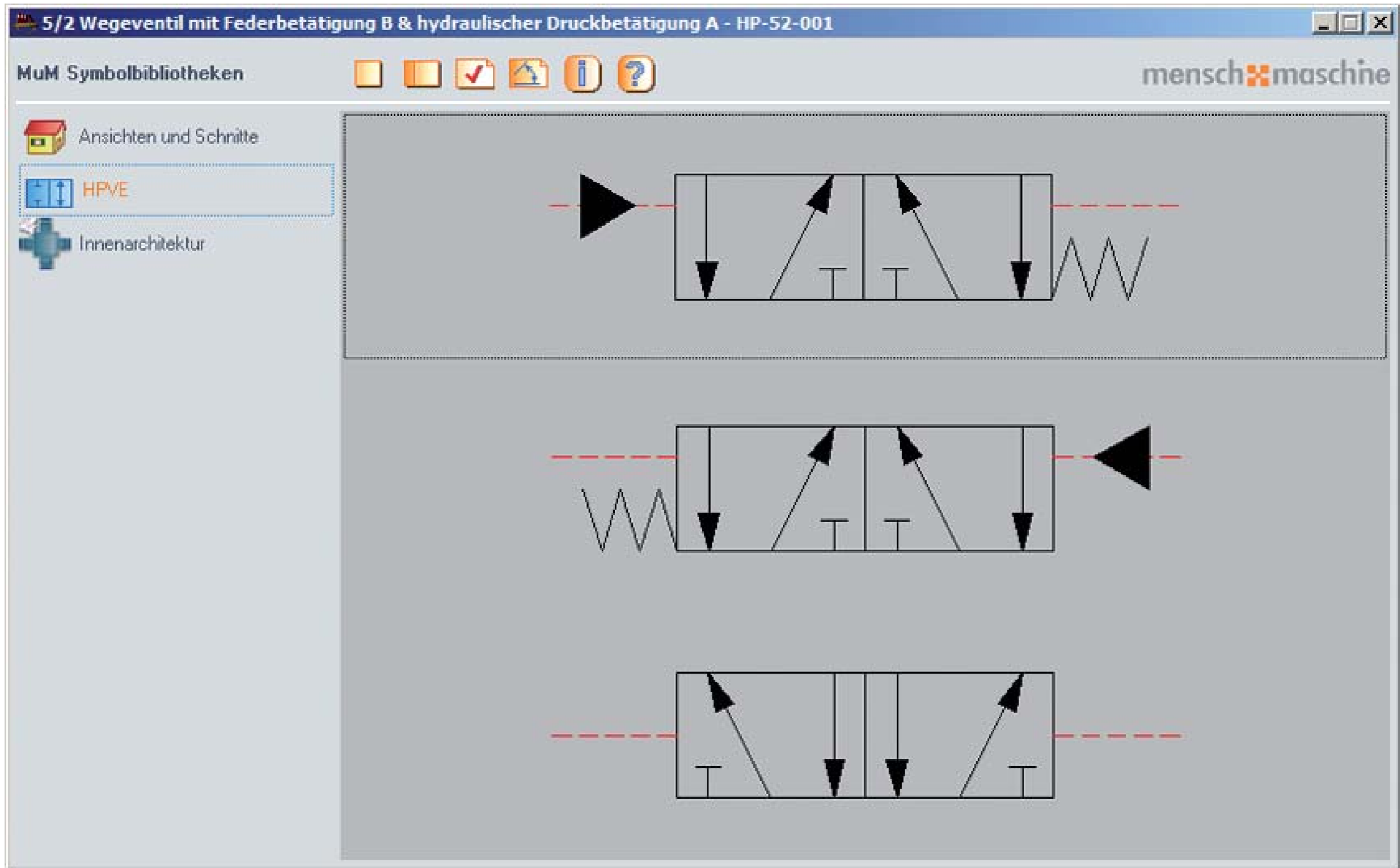
- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays six hydraulic symbols for 4/3-way valves with magnetic actuation A and B. Each symbol shows a different internal configuration of the valve, with ports labeled a, b, P, T, A, and B. The symbols are arranged in a 3x2 grid. The top-left symbol is enclosed in a dashed box.



Hydraulik und Pneumatik: 5/2 Wegeventile



Hydraulik und Pneumatik: 5/3 Wegeventile

5/3 Wegeventil mit Feder- & hydraulischer Druckbetätigung A & B - HP-53-005

MuM Symbolbibliotheken menschenmaschine

- Ansichten und Schnitte
- HPVE
- Innenarchitektur

The image displays a software interface for a hydraulic symbol library. The main window shows six hydraulic symbols for a 5/3-way valve with spring and hydraulic pressure actuation. The symbols are arranged in a 3x2 grid. The top-left symbol is the default state with a spring on the left and a hydraulic pressure source on the right. The top-right symbol shows the valve actuated by hydraulic pressure from the left. The middle-left symbol shows the valve actuated by hydraulic pressure from the right. The middle-right symbol shows the valve actuated by hydraulic pressure from both sides. The bottom-left symbol shows the valve actuated by hydraulic pressure from both sides with a central pilot valve. The bottom-right symbol shows the valve actuated by hydraulic pressure from both sides with a central pilot valve and a spring on the right. The symbols are drawn in black lines on a light gray background.



Hydraulik und Pneumatik: 6/3 Wegeventile

6/3 Wegeventil mit Federbetätigung A & B - HP-63-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for selecting hydraulic symbols. The main area shows a grid of 10 different symbols for a 6/3-way valve with spring return. The symbols are arranged in three rows: the first row has three symbols, the second row has three symbols, and the third row has four symbols. The top-left symbol is enclosed in a dashed box. Each symbol shows a rectangular valve body with internal ports and a diagonal line representing the valve's position. Some symbols include a spring symbol (a zigzag line) and a small 'x' indicating the spring return position.



Hydraulik und Pneumatik: Betätigungselemente

Druckbedienung mit einem Rückschlagventil - HP-BE-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The main workspace displays a grid of symbols. The top-left symbol is a blue hydraulic circuit with a check valve and two ports, enclosed in a dashed red box. Other symbols include various red dashed-line symbols, a blue zigzag line with a black arrowhead, and a blue hydraulic circuit with a check valve and two ports.



Hydraulik und Pneumatik: Betätigungselemente, links

Raste - HP-BL-001

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine



Raste - HP-BR-001

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine



Hydraulik und Pneumatik: Druckbegrenzungsventile

Federbelastetes Druckbegrenzungsventil - HP-DB-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a library of hydraulic symbols for pressure relief valves. The symbols are arranged in a grid of 7 rows and 6 columns. The top-left symbol is highlighted with a dashed red box. The symbols show various configurations of ports (P, T, A, B, X, Y) and spring loading. The symbols include standard pressure relief valves, pilot-operated valves, and valves with additional ports for complex hydraulic circuits.



Hydraulik und Pneumatik: Druckreduzierventile

Federbelastetes Druckreduzierventil - HP-DR-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for hydraulic symbols. The main window is titled "Federbelastetes Druckreduzierventil - HP-DR-001". On the left, there is a sidebar with "MuM Symbolbibliotheken" and a list of categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted), "Innenarchitektur", and "Organisation und Planung". The main area shows a grid of 15 hydraulic symbols for pressure-reducing valves. The symbols are arranged in three columns and five rows. The first column shows basic valve symbols with ports A and B. The second column shows symbols with a spring and a pressure-reducing valve symbol. The third column shows symbols with a spring, a pressure-reducing valve symbol, and a pilot line. The symbols are color-coded with red and blue lines to indicate flow paths and pressure points.



Einfachwirkender Mediumwechsler, von pneumatisch nach hydraulisch - HP-EU-001

MuM Symbolbibliotheken

Ansichten und Schnitte

HPVE

Innenarchitektur

menschmaschine

The image displays a technical drawing of a single-acting medium converter (HP-EU-001) in a software interface. The drawing includes a front view (top left), a top view (middle left), and a side view (bottom left). The front view shows a rectangular symbol with a triangle on the left and a black triangle on the right. The top view shows a circular symbol with a triangle on the left and a black triangle on the right. The side view shows a rectangular symbol with a triangle on the left and a black triangle on the right. The drawing is annotated with blue lines and letters 'x' and 'y'.



Filter - HP-KO-001

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine

The screenshot displays a software interface for managing hydraulic and pneumatic symbols. The window title is "Filter - HP-KO-001". On the left, there is a sidebar titled "MuM Symbolbibliotheken" with several categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted in blue), "Innenarchitektur", and "Organisation und Planung". The main area shows a grid of symbols. The first row contains four diamond-shaped symbols, with the first one highlighted by a dashed border. The second row contains four symbols, including a vertical line with a valve symbol and a U-shaped symbol. The third row contains four diamond-shaped symbols with internal features. The fourth row contains four diamond-shaped symbols, with the last one being a square with a circle and a diagonal line. The fifth row contains four diamond-shaped symbols with internal features, some highlighted with red boxes. The sixth row contains four diamond-shaped symbols with internal features, some highlighted with red boxes. The seventh row contains four diamond-shaped symbols with internal features, some highlighted with red boxes. The eighth row contains four diamond-shaped symbols with internal features, some highlighted with red boxes. The bottom right corner of the interface shows the "menschmaschine" logo and the tagline "CAD as CAD can".



Hydraulischer Motor, 1 Stromrichtung, festes Schlagvolumen - HP-PM-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for hydraulic symbols. The main window title is "Hydraulischer Motor, 1 Stromrichtung, festes Schlagvolumen - HP-PM-001". On the left, there is a sidebar with "MuM Symbolbibliotheken" and a list of categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted), "Innenarchitektur", and "Organisation und Planung". The main area shows a grid of 30 hydraulic motor symbols. The symbols are arranged in 6 rows and 5 columns. The first symbol in the top-left is enclosed in a dashed box. The symbols represent various configurations of hydraulic motors, including different port types (e.g., 2, 3, 4 ports), flow directions (indicated by arrows), and mechanical connections (e.g., shafts, gears, and external components). Some symbols include labels like M , N , ϕ , and M_{max} .



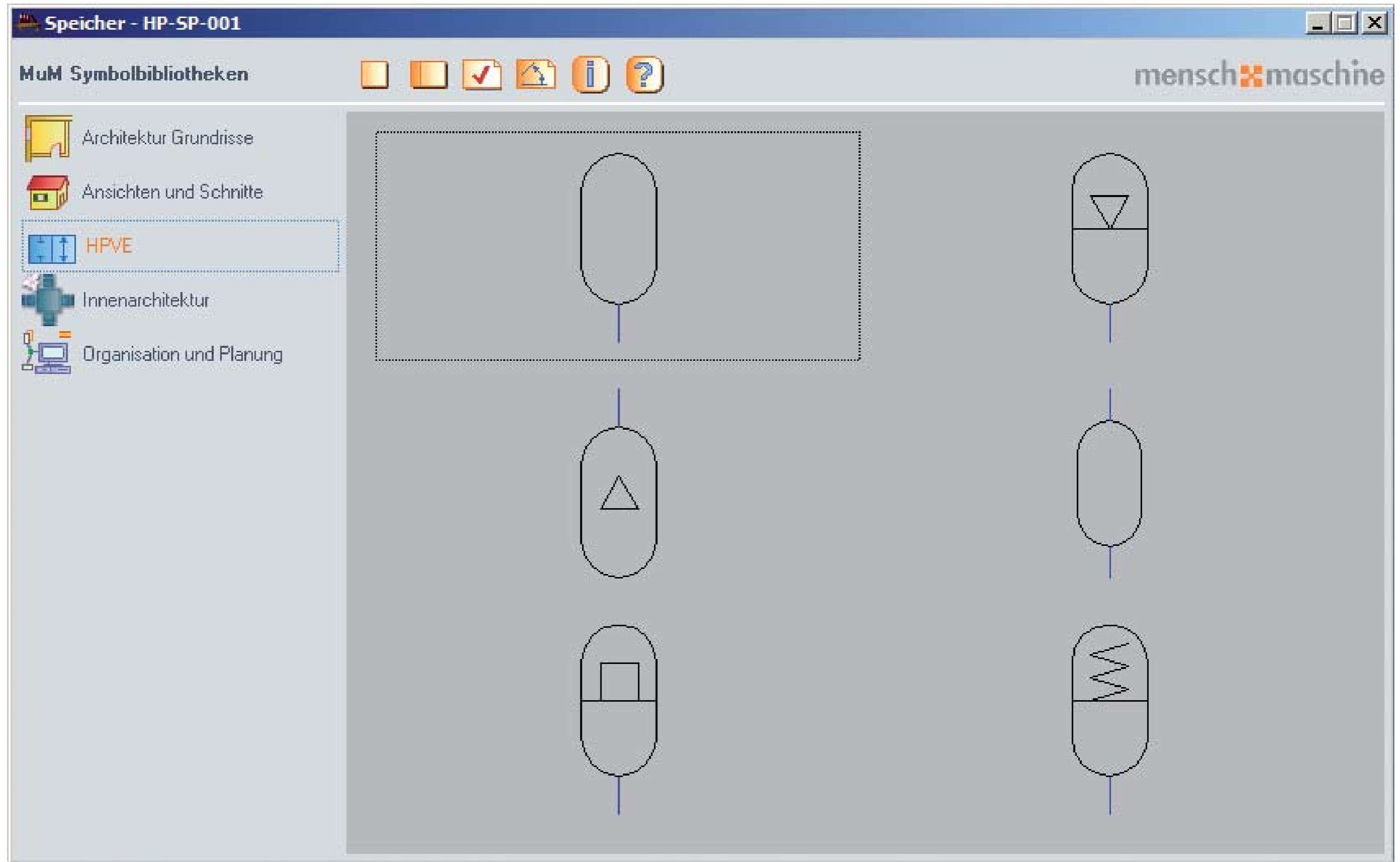
Parallelschaltbild - HP-SB-001

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine





Hydraulik und Pneumatik: Stromregelventile

Einsetzbare Einschränkung, ausführlich - HP-ST-001

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine



Hydraulik und Pneumatik: Sperrventile, vereinfacht

Leckfreie Sperrung in einer Richtung - HP-SV-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The screenshot displays a software interface for hydraulic and pneumatic symbols. The main area shows a grid of symbols for leak-free locking in one direction. The symbols are arranged in a grid and include various valve configurations with ports labeled A, B, X, Y, A1, and B1. The symbols are:

- Top-left: A valve symbol with port B at the top and port A at the bottom, enclosed in a dashed box.
- Top-middle: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side.
- Top-right: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port Y on the left side.
- Middle-left: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port X on the right side.
- Middle-middle: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port X on the right side.
- Middle-right: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port Y on the left side.
- Bottom-left: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port X on the right side.
- Bottom-middle: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port Y on the left side.
- Bottom-right: A valve symbol with port B at the top and port A at the bottom, with a spring symbol on the right side and port X on the right side.
- Bottom-most-left: A valve symbol with port A on the left and port A on the right, with port B at the top.
- Bottom-most-middle: A valve symbol with port B at the top and port A on the right, with a spring symbol on the right side and port A on the right side.
- Bottom-most-right: A valve symbol with port A1 on the left and port B1 on the right, with port A at the bottom and port B at the bottom.



Hydraulik und Pneumatik: Sperrventile, ausführlich

Leckfreie Sperrung in einer Richtung - HP-SV-013

MuM Symbolbibliotheken

- Ansichten und Schnitte
- HPVE
- Innenarchitektur

menschmaschine

The diagram illustrates nine different hydraulic symbols for leak-free locking valves in one direction. Each symbol is a rectangular box with internal components like valves, springs, and pistons. Red dashed lines show the flow paths. Labels A, B, X, and Y indicate ports. The symbols are arranged in a 3x3 grid. The top-left symbol is enclosed in a dotted box.

- Top-left: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Top-middle: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Top-right: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Middle-left: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Middle-middle: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Middle-right: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Bottom-left: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Bottom-middle: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.
- Bottom-right: A valve with a spring and a piston. Flow from A to B is blocked. A red dashed line shows flow from B to A.



Hydraulik und Pneumatik: Zwischenplatten 1

Senkbremsventil vorgesteuert & Rückschlagv. in A&B, int. Steuerözl. A&B - HP-ZP-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for a hydraulic symbol library. The window title is "Senkbremsventil vorgesteuert & Rückschlagv. in A&B, int. Steuerözl. A&B - HP-ZP-001". The interface includes a sidebar with categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted), "Innenarchitektur", and "Organisation und Planung". The main area shows a grid of 48 hydraulic symbols, each enclosed in a red border. The top-left symbol is highlighted with a dashed box. The symbols represent different configurations of a 3/2-way valve with a spring return and a check valve, showing various internal and external control and return paths.



Hydraulik und Pneumatik: Zwischenplatten 2

Senkbremsv., vorgesteuert & Rückschlagv. in A&B, int. Steuerözl. A&B - HP-ZP-047

MuM Symbolbibliotheken

Architektur Grundrisse
Ansichten und Schnitte
HPVE
Innenarchitektur
Organisation und Planung

menschmaschine

The screenshot displays a software window titled "Senkbremsv., vorgesteuert & Rückschlagv. in A&B, int. Steuerözl. A&B - HP-ZP-047". The window contains a sidebar on the left with the heading "MuM Symbolbibliotheken" and several categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted with a blue border), "Innenarchitektur", and "Organisation und Planung". The main area of the window is a grid of hydraulic and pneumatic symbols, each enclosed in a red rectangular frame. The symbols represent various components such as valves, pumps, and actuators, along with their interconnections. The top right corner of the window features the "menschmaschine" logo and standard window control buttons (minimize, maximize, close). The overall interface is clean and organized, typical of a professional CAD or engineering software.



Hydraulik und Pneumatik: Zwei-Wege-Einbauventile

Steuerventil, versch. Steuerflächen, leckfrei, A = 90% & B = 10% ausführlich - HP-ZW-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for selecting hydraulic and pneumatic symbols. The main window title is "Steuerventil, versch. Steuerflächen, leckfrei, A = 90% & B = 10% ausführlich - HP-ZW-001". On the left, there is a sidebar with "MuM Symbolbibliotheken" and a list of categories: "Architektur Grundrisse", "Ansichten und Schnitte", "HPVE" (highlighted), "Innenarchitektur", and "Organisation und Planung". The main area shows a grid of 25 symbols for 2-way solenoid valves. The symbols are arranged in a 5x5 grid. The top-left symbol is highlighted with a dashed red border. The symbols show various configurations of ports (A, B, X), solenoid coils, and spring returns. Some symbols include a 'W' symbol for a spring return. The symbols are drawn in black, blue, and red lines on a light gray background. The logo "menschmaschine" is visible in the top right corner of the window.



Hydraulik und Pneumatik: Zylinder, vereinfacht

Einfachwirkender Zylinder mit Druckbetätigung - HP-ZY-001

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a software interface for creating technical drawings of a hydraulic cylinder. The main workspace contains a 3x3 grid of drawing options. The top-left drawing is highlighted with a dashed border. The top-right drawing is labeled '2:1'. The drawings show different views: front view, side view, and cross-sectional views with section lines and arrows indicating the viewing direction.



Hydraulik und Pneumatik: Zylinder, ausführlich

Einfachwirkender Zyl. mit hydr. Druckbetätigung und Rückzugfeder - HP-ZY-013

MuM Symbolbibliotheken

- Architektur Grundrisse
- Ansichten und Schnitte
- HPVE**
- Innenarchitektur
- Organisation und Planung

menschmaschine

The image displays a technical drawing of a single-acting hydraulic cylinder with a return spring. The drawing is presented in a software interface with a sidebar containing a library of symbols. The main drawing area shows a 3D perspective view of the cylinder, a front view, a side view, and a section view. The section view is highlighted with a dashed box and shows the internal components: the piston rod, the piston, and the return spring. The drawing is annotated with blue arrows indicating the direction of fluid flow and a 2:1 magnification scale.



Hydraulik und Pneumatik: Zylinder, verschiedene

