

### Filters and connection

This section contains everything you need to connect the vacuum generators to the suction pads with hoses. It also offers a wide range of dust filters for protection of your vacuum system.

You should select the components carefully in order to ensure correct operation of your vacuum system.

The following checklists provide valuable tips and notes about the things you should remember when selecting filters and connecting elements in order to ensure trouble-free operation of your vacuum system.



### Planning checklist for hoses

| Criterion/material                  | PVC (soft)   | PU  |
|-------------------------------------|--|---|
| Resistance to oil                   | medium   | excellent   |
| Resistance to fuels and natural gas | medium   | very good   |
| Resistance to weathering            | medium   | excellent   |
| Behaviour at low temperatures       | Freezes at -20 °C  | Similar to a hard plastic at -35 to -40 °C, but no embrittlement  |
| Behaviour at high temperatures      | Withstands 70 °C for long periods  | Continuous operating temperature up to +80 °C, for short periods up to +100 °C  |
| Dynamic stress resistance           | Tensile strength up to 19 N/mm <sup>2</sup> , ductile yield about 350%, suitable for static installation | Tensile strength up to 55 N/mm <sup>2</sup> , ductile yield up to 600%, very high elasticity, excellent creepage resistance, thus suitable for trailing cable installations |
| Resistance to abrasion              | good   | excellent   |

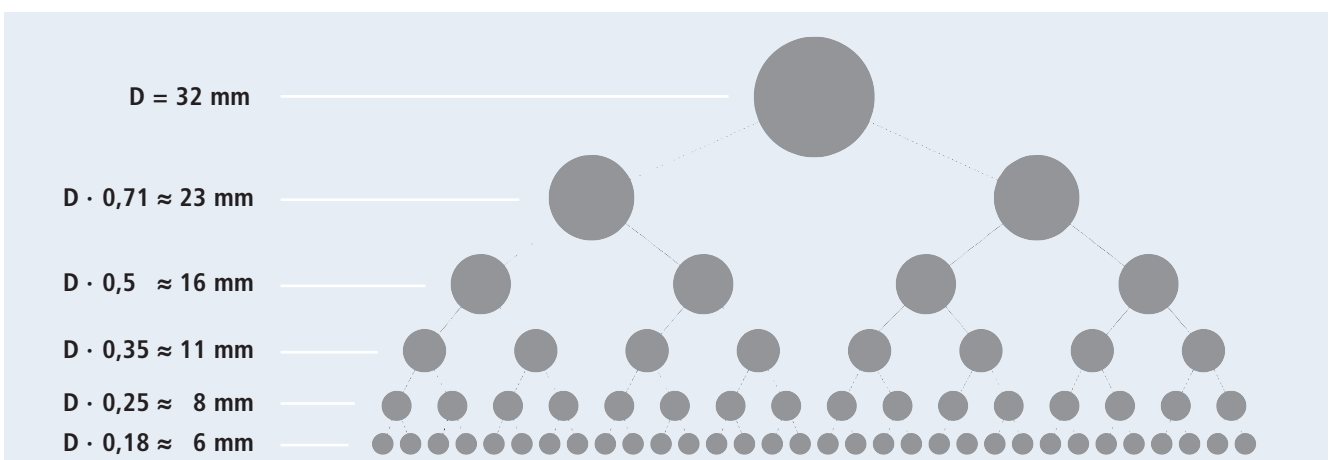
### Planning checklist for filter selection

|   |   |
|---|---|
| What is the minimum required nominal flow rate? | See the notes in the technical data.                |
| Are there any size restrictions?                | See the notes in the design data.                   |
| Is maintenance assured?                         | Planning and design should permit easy maintenance. |

### Planning checklist for connecting elements

|   |  |
|---|--|
| Which diameter is needed?                               | See the design diagram below.  |
| How long are the hoses?                                 | The hose recommendations are based on a hose length of 2 m. For longer hoses, larger diameters must be used. |
| Which hose material is needed?                          | See the material notes. In trailing cable installations, we recommend the use of polyurethane hoses.         |
| What are the best hose connections for the application? | For dynamic applications, you should always use unions which are secured with union nuts or hose clamps.     |

### Flow resistance in hoses



#### Aid for the dimensioning of distribution hoses:

Example: A hose with an internal diameter  $D = 32$  mm has the same internal flow rate as 32 hoses with an internal diameter of 6 mm or four hoses with an internal diameter of 16 mm.

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## Accessories for filters and connections

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### Sealing rings (DR)

Robust PA sealing rings with excellent sealing properties. Further information in Section 8.



### Plug-in screw-unions

For quick, tool-free connection of hoses to vacuum generators. Further information in Section 8.



### Accessories for screw-unions

Are used to plug, reduce, expand or extend threaded holes. Further information in Section 8.