

Filters and Connections

Schmalz –
The Company

Vacuum
Knowledge

Vacuum
Suction Pads

Special
Grippers

Mounting
Elements

Vacuum
Generators

Valve
Technology

Switches and
Monitoring

**Filters and
Connections**

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Filters and Connections

Everything at a Glance

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Vacuum Filters		
	Vacuum Filters VF / STF / STF-D <ul style="list-style-type: none"> Nominal flow rates: from 6 to 360 m³/h Pore sizes 3 to 30 µm 	 <p>Vacuum filter for use in very dusty environments with a degree of separation of almost 100%; central installation in the vacuum system for protection of the vacuum generator.</p>
	Vacuum Cup Filters VFT <ul style="list-style-type: none"> Pore sizes 80 and 100 µm Connection thread 1/8" to 3/4" Materials PE and stainless steel Nominal flow rate: from 45 to 770 l/min 	 <p>Vacuum cup filter for central integration in vacuum systems with light to medium degrees of contamination for protection of the vacuum generator; filter elements can be cleaned.</p>
	Inline Filters VFI <ul style="list-style-type: none"> Nominal flow rates: from 32 to 66 l/min Filter mesh: 50 µm Connection options: hose 4/2, 6/4 or 8/6 	 <p>Inline filter for simple, decentralized installation directly on the suction pad, in vacuum systems with light to medium degrees of contamination for protection of the vacuum generator.</p>
Vacuum Distributors		
	Vacuum / Compressed-Air Distributors VTR <ul style="list-style-type: none"> 5-way and 9-way manifolds Connections G1/8" and G1/4" 	 <p>Distributor for vacuum supply of several suction pads for central vacuum generation.</p>
Hoses and Connectors		
	Vacuum / Compressed-Air Hoses VSL <ul style="list-style-type: none"> External/internal diameters from 4/2 to 85/75 Materials: PA, PE, PU, PVC 	 <p>Vacuum / compressed air hose made from PA, PE, PU or PVC, optionally reinforced with hard PVC spirals, wire spirals or fabric lining.</p>

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Schmalz - The Company		Hose Clamps SSB / SSD <ul style="list-style-type: none"> Clamping diameters from 10 to 84 mm 		Hose clamps with stable threaded spindle for securing smooth or wire-reinforced hose lines on hose nozzles.	641
Vacuum Knowledge		Screw in Push Fittings <ul style="list-style-type: none"> Connection thread M5 to G1/2" Material: nickel-plated brass 		Screw in push fittings for quick, tool-free connection of hoses.	644
Vacuum Suction Pads		Accessories for Screw Unions <ul style="list-style-type: none"> Connection thread M5 to 1 1/2" Material: nickel-plated brass 		Accessories for screw fittings for closing, reducing, enlarging and extending threaded holes.	652
Special Grippers		Rotary Inlets DEF <ul style="list-style-type: none"> Rotation speed: 21 to 3,500 rpm 		High-strength aluminum or steel rotary connections for connecting hose lines.	661
Mounting Elements		Sealing Rings DR <ul style="list-style-type: none"> Internal diameters: 3.5 to 48 mm Material: PA 		Sealing rings for sealing of connection nipples and other connection elements.	663
Vacuum Generators	Vacuum accessories				
Valve Technology		Service and installation products Leak detection spray, vacuum testing kit, lubricant for vacuum equipment, special adhesives, screw-locking compound, Teflon sealing tape, ejector tester	Installation of vacuum components. Maintenance of vacuum systems.	665	
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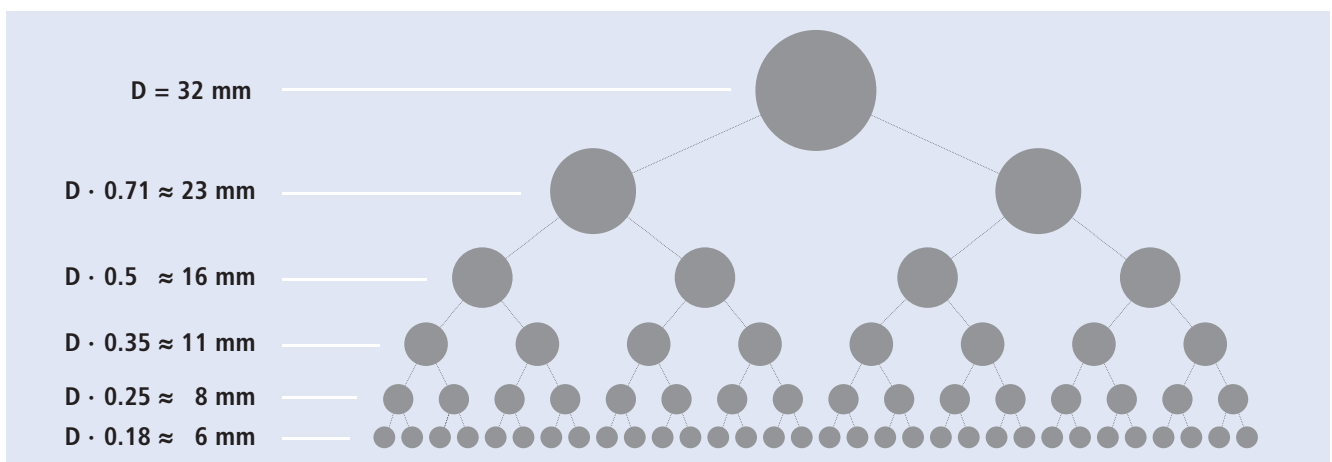
Checklist for Selection of Filters

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.

Checklist for Selection of Connecting Elements

Which diameter is needed?	See the design diagram below "Overview Flow Resistance in Hoses"
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.

Overview 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 4 hoses with an internal diameter of 16 mm.

Checklist for Selection of Hoses

Criterion/material	PVC	PU	PE	PA
Resistance to oil	Good	Excellent	Good	Very good
Resistance to fuels and natural gas	Medium	Very good	Medium	Good
Resistance to weathering	Medium	Excellent	Medium	Medium
Behaviour at low temperatures	Freezes at -20 °C	Similar to a hard plastic at -35 to -40 °C, but no embrittlement	Freezes at -50 °C	Freezes at -40 °C
Behaviour at high temperatures	Withstands 70 °C for long periods	Withstands 80 °C for long periods, for short periods up to 100 °C	Withstands 70 °C for long periods	Withstands 85 °C for long periods
Dynamic stress resistance	Tensile strength: good; Ductile yield: very good; suitable for static installation	Tensile strength: excellent Ductile yield: excellent, very high elasticity, excellent creepage resistance, thus suitable for trailing cable installations	Tensile strength: very good Ductile yield: very good, suitable for static installation	Tensile strength: very good Ductile yield: good, suitable for static installation
Resistance to abrasion	Good	Excellent	Good	Good