

Dosing technology



Saphirwerk manufactures high-quality pistons from ceramic materials which are used, for instance, in equipment fitted with HPLC and dosing pumps. The materials used are very hard, chemically stable and resistant to most solvents.



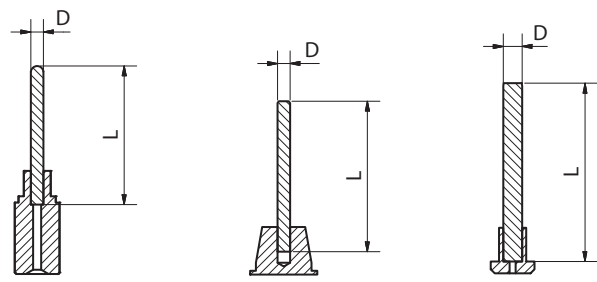
Pistons and cylinders

Standard measures of pistons

Diameter (mm)	0.4 – 0.5 – 1.0 – 2.0 – 3.175 – 4.5 – 4.75 – 6.35 – 10 – 25
Length mm	20 – 30 – 40 – 60 – 120 – 170
Material	Ruby – Sapphire – Alumina – Zirconia – Tungsten carbide
General tolerances	Outer diameter 0/-0.005 mm Length +/-0.05 mm
Surface roughness	Ra 0.025 mm or customized (Ra, Rt, Rz)
Form deviation	0.002 mm cylindricity until diameter 4.0 0.005 mm cylindricity from diameter 4.0
Design	A) without adaptor (custom made piston end) B) with adaptor (design custom made) C) piston cylinder pairing



Examples of design



We would be delighted to assemble the right piston/cylinder set for your particular application on request.

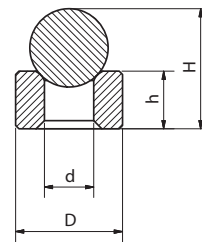
Valve and cartridge



Saphirwerk manufactures ceramic balls and seats in the form of valves, including pre-fitted inside cartridges, which are frequently used in dosing and analytical equipment. The combinations of materials used are characterised by their strength, chemical stability, leakproofness and resistance to solvents:

Standard measures of valves (ball and seat)

dk (mm)	1.587 – 1.75 – 3.0 – 3.175 – 4.763 – 7.5
dk (inch)	1/16 – 0.069 – 0.118 – 1/8 – 3/16 – 0.295
Mat. ball	Ruby – Sapphire – Alumina
Mat. seat	Sapphire – Alumina – Zirconia
D	2.35 – 4.0 – 4.58 – 6.0 – 6.27 – 6.5 – 7.0 – 10.0
d	1.2 – 2.0 – 2.14 – 2.38 – 2.54 – 3.0 – 3.5 – 5.0
h	1.0 – 1.3 – 1.59 – 2.0 – 2.29 – 3.0 – 3.5 – 5.0
H	3.4 – 4.4 – 6.3 – 7.2 – 11 – 12 – 16.4

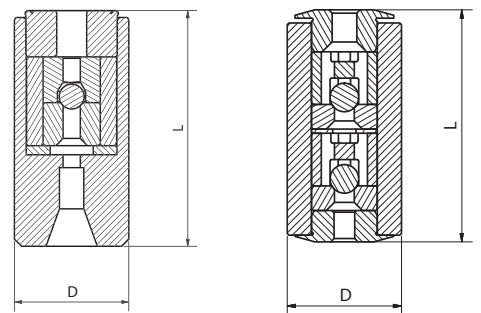


Standard measures of cartridges single seat

Standard ball diameter	1.75 – 3.175 – 4.763 – 7.5
Diameter cartridges D	5.0 – 6.0 – 6.35 – 7.0 – 8.0 – 9.5
Length of cartridges L	10 to 25 mm

Standard measures of cartridges double seat

Standard valve diameter	1.75 – 3.175 – 4.763 – 7.5
Diameter cartridges D	5.0 – 6.0 – 7.0 – 8.0 – 9.5
Length of cartridges L	12 to 30 mm



We would be delighted to assemble the right valve or the right cartridge for your particular application on request.



SCS 073



ISO 9001

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swiss precision in ceramics

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