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Information Bulletin

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Mini Spray Dryer B-290 acid resistant

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- efficient and safe spray drying of acid containing substances

The acid resistant Mini Spray Dryer B-290 version is made to spray dry acid solutions in open mode configuration. It comprises a highly effective perfluoroalkoxy polymer coating (PFA) on the metallic parts of the spray dryer which are in contact with the product and drying gas. The coating prevents corrosion and results a good quality similar to polytetrafluoroethylene (PTFE).

Areas of application

- Materials science and chemical industries working with acids
- Spray drying of corrosive salt solutions
- Solidifying of metals for catalyst applications in ceramics industry
- Processing of hydrocarbons
- Development of new materials for electronic applications



NOTE: The internal surface of the aspirator (gas circulator) is PTFE coated. The exhaust gas has to be lead away by a ventilation system.

Order information

Instruments



	Order no.
Mini Spray Dryer B-290 acid resistant, 230 V, 50-60 Hz	11056420
Mini Spray Dryer B-290 acid resistant, 200 V, 50-60 Hz	11056421

Optional accessories



	Order no.
Nozzle set 1.4 mm titanium complete (includes nozzle cap 2.2 mm, nozzle tip 1.4 mm and needle 1.4 mm)	11056415
Nozzle set 2.0 mm titanium complete (includes nozzle cap 2.8 mm, nozzle tip 2.0 mm and needle 2.0 mm)	11056416



	Order no.
Outlet filter acid resistant complete	11056333
Inlet drying gas filter	011235
Spray cylinder with vertical outlet	044697
Safety lamella curtain	044783
Feed switch valve	044725
Remote control unit	044702



	Order no.
Two-fluid nozzle acid resistant	11056320
Three-fluid nozzle acid resistant	11056971



	Order no.
Glass assembly acid resistant complete	11056386
High performance cyclone complete	046369

Spare parts



	Order no.
Needle 0.7 mm titanium	11056315
Needle 1.4 mm titanium	11056417
Needle 2.0 mm titanium	11056422
Nozzle tip 0.7 mm titanium	11056317
Nozzle tip 1.4 mm titanium	11056419
Nozzle tip 2.0 mm titanium	11056424
Nozzle cap 1.5 mm titanium	11057509
Nozzle cap 2.2 mm titanium	11057510
Nozzle cap 2.8 mm titanium	11057511



	Order no.
Filter body PFA coated	11056335
Connecting piece for filter PFA coated	11056334



	Order no.
Spray cylinder holder PFA coated	11056324
Knurled screw PFA coated	11056325



	Order no.
Flange screw coupling PFA coated	11056326



	Order no.
Metal cover PFA coated	11056327



	Order no.
Connecting piece for tube PFA coated	11056328
PTFE seal SVL 42	003575

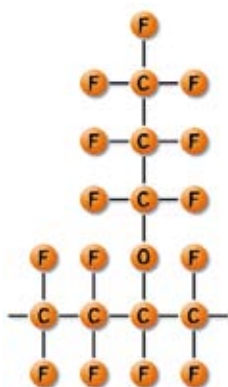


	Order no.
Sensor support adapter	11056318
Clamp ring ID 8 mm	11056387
O-ring of fluoroelastomer 7x1.5 mm	004223
Temperature sensor acid resistant	11056329



	Order no.
Hose of fluorinated ethylene propylene ID 6x1 mm	027900
PTFE seal for cyclone collection vessel	034152
Set of perfluoroelastomer O-rings	046364
Set of o-rings for nozzle in fluoroelastomer	044759

Perfluoroalkoxy (PFA) polymer coating with excellent properties



Perfluoroalkoxy (PFA) polymer is a fluorised hydrocarbon with high molecular, partially crystalline structure. It is recommended in chemical process technology under extreme conditions as a long-lasting, chemically inert coating with very good non-adhesive properties.

The mechanical and chemical properties are similar to PTFE.

The major properties are:

- chemically resistant
- excellent non-adhesive properties
- high temperature resistance

Common acids used in spray drying

Name	Formula	Boiling point
Acetic acid	$C_2H_4O_2$	118°C
Citric acid	$C_6H_8O_8$	175°C (decomposition)
Formic acid	CH_2O_2	101°C
Nitric acid	HNO_3	83°C

Cleaning instructions

1. Clean the nozzle and glass parts immediately after each spray drying run. Wear protective equipment.
2. Wash the parts with a mild detergent solution.
3. Rinse the parts with hot water and let them dry.
4. Examine the nozzle parts under a microscope to verify cleanliness.
5. Check the integrity of the o-rings. Replace if necessary.

NOTE: Do not spray hydrochloric acid (HCl) because it will corrode the stainless steel parts of the nozzle.



Not coated metal



PFA coated metal (acid resistant)



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