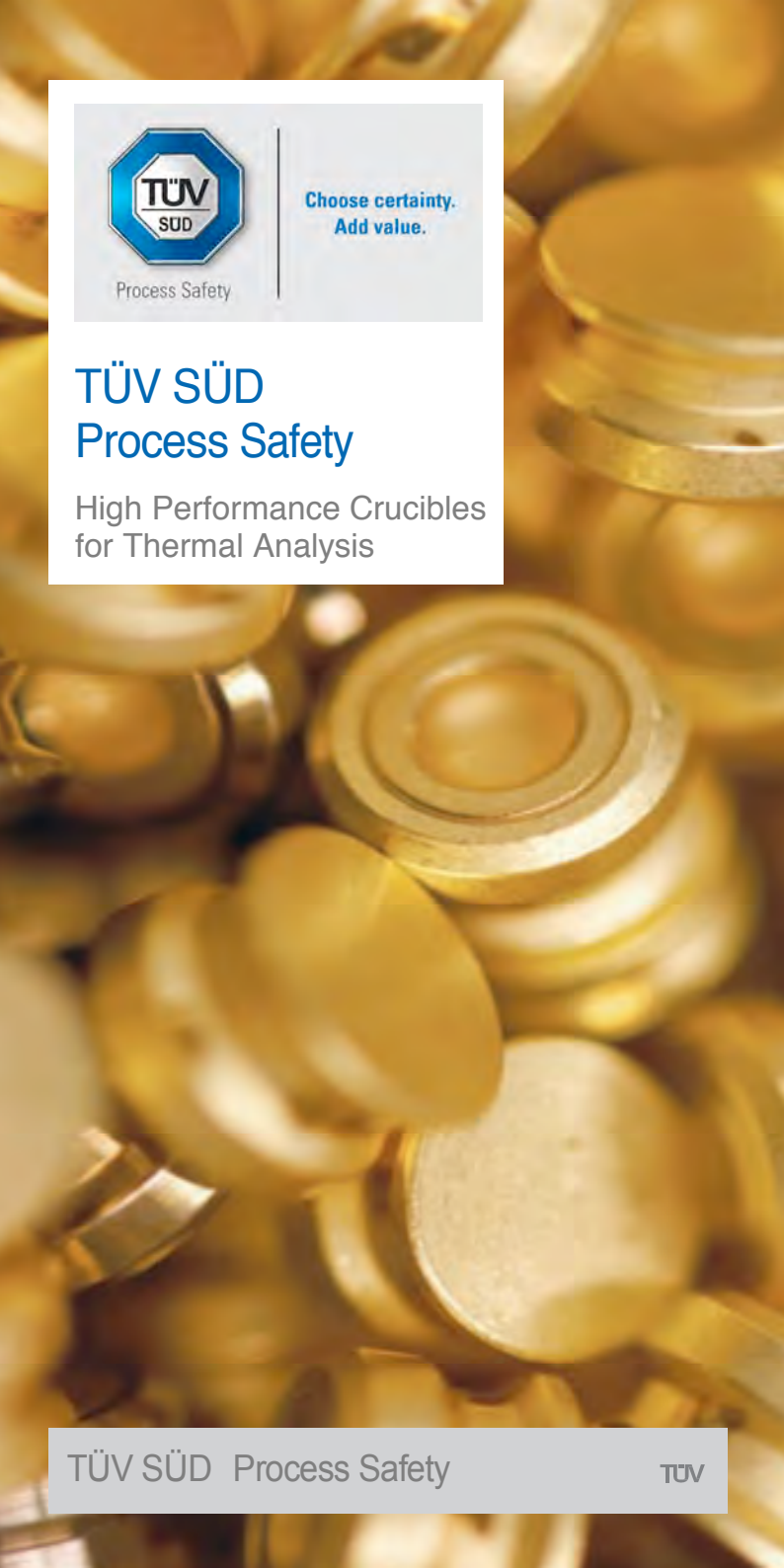


TÜV SÜD Process Safety

High Performance Crucibles for Thermal Analysis

About us

TÜV SÜD Process Safety

Since more than 25 years we provide high quality services in the fields of risk analysis, thermal process safety, chemical reaction hazards, explosion protection, ignition due to static electricity sources and chemical safety. Our services are mainly devoted to industrial partners in areas like pharmaceuticals, special chemicals, agro chem istry, metal and wood processing, but also for logistics, insurance companies and authorities.

Our work is neutral and objective. The customized safety and security concepts we develop for our clients have an optimized cost-benefit ratio and incorporate state-of-the-art technology. We take into account not only the statutory regulations but also the operational and economic conditions of the client. Our specialists long standing experience in various areas within industrial companies or as external consultants, as well as our quality management certified ISO 9001:2008 guarantee an immaculate service both in the technical and in the administrative aspects.

In addition, TÜV SÜD Process Safety offers a wide range of **Safety Testing Equipment** for thermal process safety and explosion protection. We do not only deliver equipment, we also support our clients in training the operators and in solving special application problems.

Experience gained in our own testing labs is thus made available to customers.

Content

M50

Description

Based on the standard S50.

The sealing system (patented) consists only of a lid, allows lower sealing pressure and is **easier to use than a system with a rupture plate**.

Single-use

A press is used to close the crucible.

Specifications:

Mass	~ 1.5 g
Dimensions (height / diameter)	5.9 / 7.0 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	50 µl
Gold plating	5 µm

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

F50

Description

The sample compartment is exclusively made of steel (DIN 1.4435).

The sealing system (patented) consists only of a lid, allows lower sealing pressure and is easier to use than a system with a rupture plate.

Single-use

A press is used to close the crucible.

Specifications:

Mass	~ 1.4 g
Dimensions (height / diameter)	5.9 / 7.0 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	50 µl
Material	Steel DIN 1.4435

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

M20

Description

Based on the standard M50.

Easier to use than a system with a rupture plate. Lower weight than M50 crucible. Better ratio of sample mass to gas volume. The M20 crucible has a tearing edge inside to avoid that fluids will rise up along the wall.

Single-use

A press is used to close the crucible.

Improved corrosion resistance: 10 µm gold coating

Specifications:

Mass	~ 0.98 g
Dimensions (height / diameter)	4.5 / 7.0 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	20 µl
Gold plating	10 µm

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

F20

Description

The sample compartment is exclusively steel (DIN 1.4435).

Easier to use than a system with a rupture plate. Lower weight than F50 crucible. Better ratio of sample mass to gas volume. The F20 crucible has a tearing edge inside to avoid that fluids will rise up along the wall.

Single-use

A press is used to close the crucible.

Specifications:

Mass	~ 0.92 g
Dimensions (height / diameter)	4.5 / 7.0 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	20 µl
Material	Steel DIN 1.4435

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

M30

Description

Based on the standard M50.

Same features as M20 and M50 crucibles - modified for Setaram Device.

Single-use

A press is used to close the crucible.

Improved corrosion resistance: 10 µm gold coating

Specifications:
developed for Setaram devices

Mass	~ 1.22 g
Dimensions (height / diameter)	5.5 / 6.8 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	40 µl
Gold plating	10 µm

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

F30

Description

The sample compartment is made exclusively of steel (DIN 1.4435)
Same features as F20 and F50 crucibles - modified for Setaram Device.
Single-use
A press is used to close the crucible.

Specifications:
developed for Setaram devices

Mass	~ 1.17 g
Dimensions (height / diameter)	5.5 / 6.8 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	40 µl
Material	Steel DIN 1.4435

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

M130

Description

Based on the standard M50.

Same features as M20 and M50 crucibles – but modified for Setaram Device.

Particularly suitable for large sample volumes.

Single-use

A press is used to close the crucible.

Improved corrosion resistance: 10 µm gold coating

Specifications:
developed for Setaram devices

Mass	~ 2.45 g
Dimensions (height / diameter)	12.0 / 6.8 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	~ 130 µl
Gold plating	10 µm

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

F130

Description

The sample compartment is made exclusively of steel (DIN 1.4435).

Same features as F20 and F50 crucibles – but modified for Setaram Device.

Particularly suitable for large sample volumes.

Single-use

A press is used to close the crucible.

Specifications:
developed for Setaram devices

Mass	~ 2.3 g
Dimensions (height / diameter)	12.0 / 6.8 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	~ 130 µl
Material	Steel DIN 1.4435

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

M40

Description

Based on the standard M50.

The sealing system (patented) consists only of a lid, allows lower sealing pressure and is easier to use than a system with a rupture plate.

Single-use

A press is used to close the crucible.

Improved corrosion resistance: 10 µm gold coating

Specifications:

Mass	~ 1.00 g
Dimensions (height / diameter)	6.0 / 6.0 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	~ 40 µl
Gold plating	10 µm

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

F40

Description

The sample compartment is exclusively steel (DIN 1.4435).

The sealing system (patented) consists only of a lid, allows lower sealing pressure and is easier to use than a system with a rupture plate.

Single-use

A press is used to close the crucible.

Specifications:

Mass	~ 0.8 g
Dimensions (height / diameter)	6.0 / 6.0 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	~ 40 µl
Material	Steel DIN 1.4435

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

S50

Description

The traditional standard crucible.

This crucible has been used and sold to our customers for more than 20 years. The crucible consisting of 3 parts: baker, cover and rupture plate.

Single-use

A press is used to close the crucible.

Specifications:

Mass	~ 1.5 g
Dimensions (height / diameter)	5.9 / 7.0 mm
Parts	3
Sealing pressure	10 kN
Maximum operation pressure	217 bar
Maximum operation temperature	400°C
Internal volume	~ 40 µl
Gold plating	10 µm

Tested up to 200 bars at 400°C
(tested with supercritical pressure of water)

Insert:
On request, available with bottom pin

P20

Description

Based on the standard M20.

Same features as M20 – but modified for - modified for some Perkin Elmer Device.

Single-use

A press is used to close the crucible.

Specifications:
developed for Perkin Elmer devices

Mass	~ 0.9 g
Dimensions (height / diameter)	3.0 / 7.5 mm
Parts	2
Sealing pressure	4 kN
Maximum operation pressure	~ 150 bar
Maximum operation temperature	~ 300°C
Internal volume	~ 20 µl
Gold plating	10 µm

Tested up to 100 bars at 300°C
(tested with pressure of water)

B20 – extreme pressure crucible

Description

Extremely high maximum operation pressure. Particularly suitable for samples with high toxicity, physiological activity or explosives.

Single-use

A press is used to close the crucible.

Specifications:

Mass	~ 2.2 g
Dimensions (height / diameter)	8.0 / 7.0 mm
Parts	2
Sealing pressure	~ 4 kN
Maximum operation pressure	up to 400 bar (calculated)
Maximum operation temperature	600°C
Internal volume	~ 20 µl
Material	Steel 1.4435 Bottom part Steel 1.4301 (Lid)

Tested up to 600°C
(tested during 8h with supercritical pressure of water)

CM100

Description

The crucible combines a large volume with a small weight.

Single-use

A press is used to close the crucible.

Improved corrosion resistance: 10 µm gold coating.

Specifications:

Mass	~ 0.79 g
Dimensions (height / diameter)	6.0 / 6.0 mm
Parts	2
Sealing pressure	ca 2 kN
Maximum operation pressure	~ 100 bar
Maximum operation temperature	400°C
Internal volume	~ 100 µl
Gold plating	10 µm

Tested up to 100 bars at 400°C
(tested with supercritical pressure of water)

CF100

Description

The sample compartment is made exclusively of steel (DIN 1.4435)
The crucible combines a large volume with a small weight.
Single-use
A press is used to close the crucible.

Specifications:

Mass	~ 0.75 g
Dimensions (height / diameter)	6.0 / 6.0 mm
Parts	2
Sealing pressure	ca 2 kN
Maximum operation pressure	~ 100 bar
Maximum operation temperature	400°C
Internal volume	~ 100 µl
Material	Steel DIN 1.4435

Tested up to 100 bars at 400°C
(tested with supercritical pressure of water)

Toggle-Press 11F

To close our crucibles it is necessary to have a press.

We recommend using the Toggle Press 11F. The Press 11F is also available at Process Safety. For this press we have different closing tools in our stock.

Specifications:

Mass	~ 28 kg
Dimensions (height)	68 / 80 cm
Dimensions (width)	15 cm
Dimensions (depth)	26 cm

Closing tools (for Press 11F)

Standard closing tool

Plunger (P11F) and die (D11F) for press 11F.

To close M50, F50, M20 and F20

Compensation disc

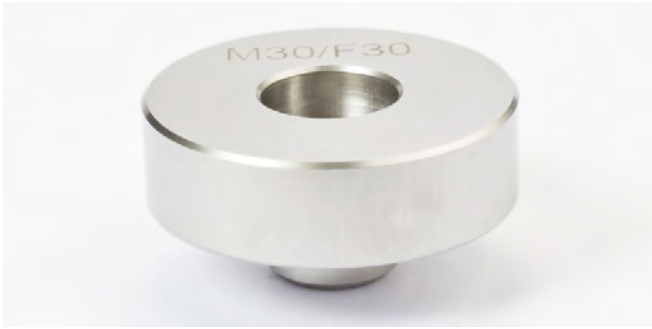
Fits into the hole of standard die (D11F).
This tool facilitates closing the crucibles, if both M20/F20 and M50/F50 are used. It compensates the height difference between these crucibles, such that the press must not be adjusted when changing the crucible type.

Closing tool for Setaram crucibles

Plunger (P11F) and die (D11F Ø6.8) for press 11F.

To close M30, F30, M130 and F130

Compensation disc (Setaram)



Fits into the hole of standard die (D11F, Ø6.8).
This tool facilitates closing the crucibles, if both M30/F30 and M130/F130 are used. It compensates the height difference between these crucibles, such that the press must not be adjusted when changing the crucible type.

Closing tool for P20 crucibles

Plunger and die for press 11F, to close the P20 crucible

Without Pictures:

Closing tool for M40 / F40
Plunger and die for press 11F, to close the M40 or F40 crucibles

Closing tool for B20
Plunger and die for press 11F, to close the B20 crucible

Closing tool for CM 100 / CF100
Plunger and die for press 11F, to close the CM 100 or CF100 crucible

Our quality – your advantage

One single source of service for you

- high working quality
- short time of reaction
- high value added

Our laboratory is accredited to ISO/IEC17025.

The ISO 9001 certified quality management supports our daily work.

Process Safety

Process Safety

No matter where you are.

www.tuev-sued.ch

TÜV SÜD Process Safety

Mattenstrasse 24
CH-4002 Basel
Fax: +41 (0)58 517 80 21
E-Mail: products.bs@tuev-sued.ch

GER-fly-105x210- June 2018