ALR Reactor Overview


**Ambient Pressure Reactors**

- Reactors
- Covers
- Adapters
- Stirrers and Probes

# Reactor Overview

## – Wide Ranges in Volume and Pressure

METTLER TOLEDO

| Part Number | Adapter Description | Material | Size | O-ring Needed |
|---|---|---|---|---|
| 51 162 406 | PTFE adapter for 6 mm and 1/4″ probes, M12/6.5-6.35 | PTFE GF25 | M12/6.5, Ø 6.35 mm inside | 51 191 852 [1,2] |
| 51 162 381 | PTFE adapter for baffles and 3/8″ probes, M24/14-10 | PTFE GF25 | M24/14, Ø 10 mm inside | 51 191 857 [1] |
| 51 162 411 | PTFE adapter for S400, M24/14 | PTFE GF25 | M24, Ø 14 mm inside | 51 191 857 [1] |
| 51 162 410 | PTFE adapter, M24/14-ST19/26 | PTFE GF25 | M24/14, Ø ST19/26 inside | 51 191 857 [1] |
| 51 162 448 | PTFE adapter for 5/8″ probes, M24/16 | PTFE GF25 | M24/16, Ø 16 mm inside | 51 191 858 [2] |
| 51 162 535 | PTFE adapter, M24/16-ST19/26 | PTFE GF25 | M24/16, Ø ST19/26 inside | 51 191 858 [2] |
| 51 162 449 | PTFE adapter for 3/4″ probes, M27/19 | PTFE GF25 | M27, Ø 19 mm inside | 51 191 859 [2] |
| 51 162 536 | PTFE adapter, M27/19-ST19/26 | PTFE GF25 | M27/19, Ø ST19/26 inside | 51 191 859 [2] |
| 660 023 | PTFE adapter, ST19/26-10 | PTFE GF25 | ST19/26, Ø 10 mm inside | – |
| 51 104 154 | Eccentric PTFE adapter, ST19/26-10 | PTFE GF25 | ST19/26, Ø 10 mm inside | – |
| 51 160 975 | PTFE adapter, ST29/32-12 | PTFE GF25 | ST29/32, Ø 12 mm inside | – |
| 14 152 015 | PTFE adapter, ST29/32-5/8″ | PTFE, SS | ST29/32, Ø 5/8″ inside | – |
| 51 160 970 | Eccentric PTFE adapter for 3/4″ probes, ST29/32-19 | PTFE GF25 | ST29/32, Ø 19 mm inside | – |

[1] Part of the cover set for standard probes in Kalrez®; alternative material is Viton®

[2] Part of the cover set for large probes in Kalrez®; alternative material is Viton®

## Glossary of terms used

**RTCal™** = Real Time Calorimetry
**FBRM®** = Focused Beam Reflectance Measurement
**PVM®** = Particle Vision and Measurement
**IR** = InfraRed Spectroscopy
**HC22/276** = Hastelloy® C22/C276
**SS** = Stainless Steel 316, AISI
**PEEK** = Polyetheretherketone
**PTFE GF25** = Teflon® (Polytetrafluoroethylene), 25% Glass
**PTFE C25** = Teflon® (Polytetrafluoroethylene), 25% Carbon
**ETFE** = Ethylene-Tetrafluoroethylene
**FFKM** = Kalrez® (Perfluoroelastomer)
**FPM** = Viton® (Fluorine Rubber)

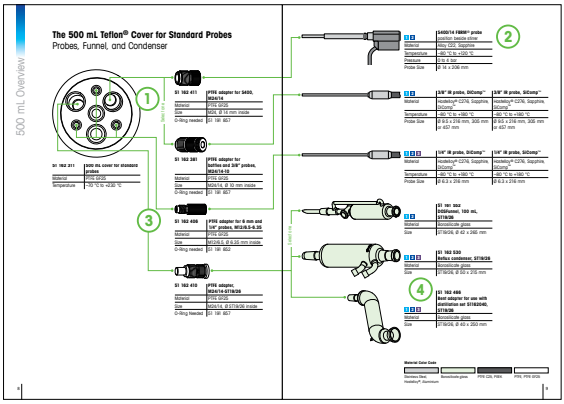
# ALR Reactor Overview
## Editorial

Dear customer

We would like to express our sincere thanks for choosing lab reactor products from METTLER TOLEDO. With our investments in product development, support and service we take all possible efforts to provide you with high quality products and solutions.

METTLER TOLEDO provides a large variety of reactors, covers, accessories, and probes together with the respective adapters for its lab reactor portfolio. Many of the accessories and sensors can be used as standalone or in combination to fulfill a specific application. However, there are limitations with regard to number, size or geometry which may prohibit the use of certain combinations or may require a specific setup.

The "Reactor Overview" document describes the individual items, their specifications and use in combination with other items. It shall help identifying application solutions that will work properly and differentiate from those that are not feasible. The parts are easily identifiable thanks to clear names, numbers and descriptions.




The names and numbers in the document are the METTLER TOLEDO order numbers at the same time.

### How to use the document?

(1) On the left hand side of the double-spread you will always find the cover with the openings and the respective adapters clearly marked.

(2) On the right side you will find the stirrers, probes, inserts and accessories that fit the cover.

(3) A connecting line between the cover, the adapter and inserts show the suitable combinations.

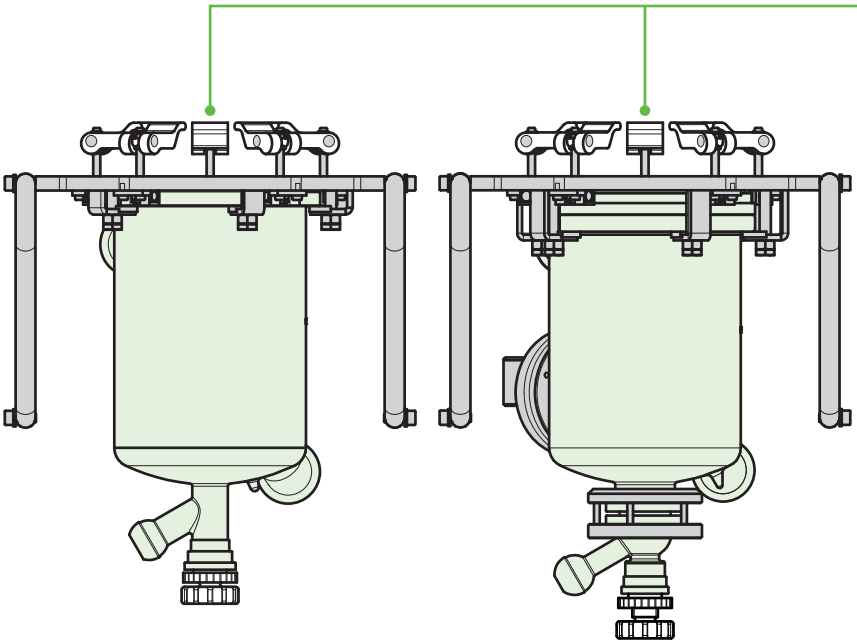
(4) Because there might be multiple inserts that can be combined color coding and a numbering system highlight possible combinations. Probes, inserts and stirrers with the same color code and number can be combined to form a working solution. Probes, inserts and stirrers of different color codes and numbers cannot be combined because there might be a geometrical conflict.

Please observe comments indicating additional seals or O-rings that might be required to ensure proper operation.

Whenever you may have questions about the products or applications please do not hesitate to contact your local product specialist.

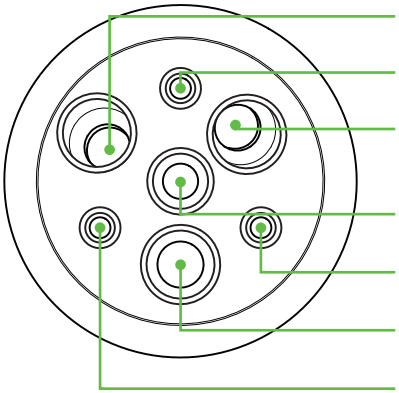
Sincerely,
Your AutoChem RXE team

# The 500 mL Reactor Platform
## Ambient Pressure Reactors and Covers



| 51 162 348 | 3-wall glass reactor without RTCal™ sensors, mounting included |
|---|---|
| Nominal Volume | 500 mL |
| Operating Volume | 70 mL – 500 mL |
| Temperature, Tj | –70 °C to +230 °C |
| Pressure | 0.05 bar up to ambient pressure (checked at 25 °C) |
| Material | Duran® Glass, PTFE spindle, LUBRIFLON 904 valve plug, BS 29 ball joint |
| Inner Dimensions | Ø 70 x 166 mm |

| 51 162 400 | 3-wall glass reactor with RTCal™ sensors, mounting included |
|---|---|
| Nominal Volume | 500 mL |
| Operating Volume | 100 mL – 400 mL |
| Temperature, Tj | –53 °C to +163 °C |
| Pressure | 0.05 bar up to ambient pressure (checked at 25 °C) |
| Material | Duran® Glass, PTFE spindle, LUBRIFLON 904 valve plug, BS 29 ball joint |
| Inner Dimensions | Ø 70 x 166 mm |



**M24/14**
Dosing, DOSFunnel, DosValve, 3/8″ IR probe

**M12/6.5**
Turbidity probe, pH probe, 1/4″ IR probe

**M24/14**
S400/14 FBRM® probe, reflux condensor or distillation set, 3/8″ IR probe

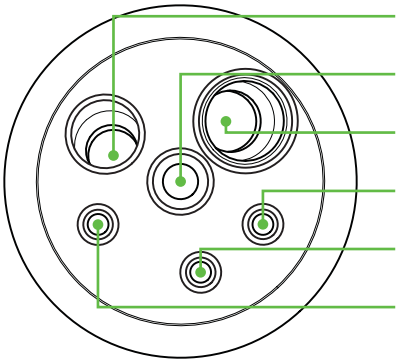
**M20/11**
Stirrer port

**M12/6.5**
Temperature sensor, calibration heater, dosing

**M24/14**
Baffle

**M12/6.5**
Temperature sensor, calibration heater, no adapter required for Hastelloy® version

| **51 162 311** | **500 mL cover for standard probes** |
|---|---|
| Material | PTFE GF25 |
| Temperature | –70 °C to +230 °C |



**M24/16**
3/8″ or 5/8″ IR probe, DOSFunnel, reflux condenser, dosing

**M20/11**
Stirrer port

**M27/19**
FBRM® D600L or PVM® V819 3/4″ probe, DOSFunnel, reflux condenser

**M12/6.5**
Tr probe, no adapter required for Hastelloy® version

**M12/6.5**
Turbidity probe, 1/4″ IR probe, pH probe, dosing

**M12/6.5**
Temperature sensor, calibration heater, no adapter required for Hastelloy® version

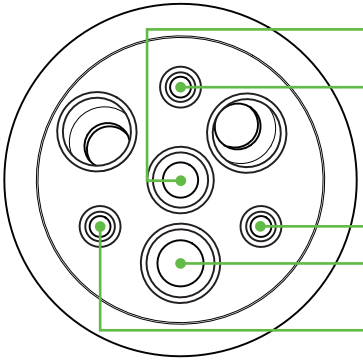
| **51 162 444** | **500 mL cover for large probes** |
|---|---|
| Material | PTFE GF25 |
| Temperature | –70 °C to +230 °C |

**Material Color Code**

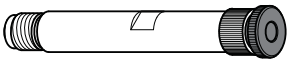
| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

# The 500 mL Teflon® Cover for Standard Probes

## Stirrers, Baffles, and Probes



| 51 162 311 | 500 mL cover for standard probes |
|---|---|
| Material | PTFE GF25 |
| Temperature | –70 °C to +230 °C |



| 51 162 421 | Stirrer bearing including bushing and bearing screw, M20/11-10 |
|---|---|
| Material | PTFE GF25, PTFE C25 |
| Size | M20/11, Ø 10 mm inside |
| O-Ring Needed | 51 191 851 |

Select one

| 51 162 381 | PTFE adapter for baffles and 3/8" probes, M24/14-10 |
|---|---|
| Material | PTFE GF25 |
| Size | M24/14, Ø 10 mm inside |
| O-Ring Needed | 51 191 857 |

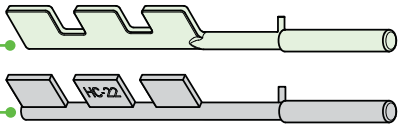
| 51 162 406 | PTFE adapter for 6 mm and 1/4" probes, M12/6.5-6.35 |
|---|---|
| Material | PTFE GF25 |
| Size | M12/6.5, Ø 6.35 mm inside |
| O-Ring Needed | 51 191 852 |

Select one

| 1 | 51 162 423<br>Glass stirrer, 4 blades at 45° (downward) | 51 162 424<br>Glass stirrer, 4 blades at 45° (upwards) |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Size | Ø 38/10 x 400 mm | Ø 38/10 x 400 mm |

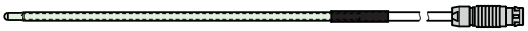
| 2 | 51 162 431<br>Hastelloy® stirrer shaft with pitch blade elements 4 blades at 45° (downwards) | 51 162 442<br>Hastelloy® pitch blade elements only, 4 blades at 45° (upwards), requires 51 162 431 stirrer shaft |
|---|---|---|
| Material | Hastelloy® C22 | Hastelloy® C22 |
| Size | Ø 38/10 x 400 mm | Ø 38/10 |

| 3 | 51 162 432<br>Hastelloy® stirrer with 3 elements each with 4 blades at 45° (downward) |
|---|---|
| Material | Hastelloy® C22 |
| Size | Ø 38/10 x 400 mm |

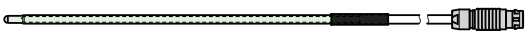


| 1 2 3 | 51 162 425<br>Glass baffle | 51 162 420<br>Hastelloy® baffle |
|---|---|---|
| Material | Borosilicate glass | Hastelloy® C22 |
| Size | Ø 10 x 205 mm | Ø 10 x 205 mm |

Select



| 1 2 3 | 51 191 327<br>Hastelloy® turbidity probe | 51 343 161<br>Inlab Semi-Micro-L pH probe |
|---|---|---|
| Material | Hastelloy® C22, Sapphire, Kalrez® | Borosilicate glass |
| Probe Size | Ø 6 x 205 mm | Ø 6 x 230 mm |



| 1 2 3 | 51 162 456<br>Glass temperature sensor | 51 162 457<br>Glass calibration heater, 5 W |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Power | – | 5 W |
| Probe Size | Ø 6 x 230 mm | Ø 6 x 230 mm |

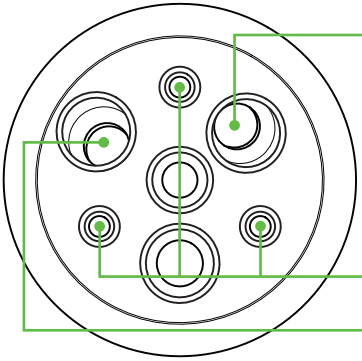
| 1 2 3 | 51 162 458<br>Hastelloy® temperature sensor | 51 162 459<br>Hastelloy® calibration heater, 5 W |
|---|---|---|
| Material | Hastelloy® C22 | Hastelloy® C22 |
| Power | – | 5 W |
| Probe Size | Ø 6.35 x 170 mm | Ø 6.35 x 170 mm |
| O-Ring Needed | 51 191 852 | 51 191 852 |

**Material Color Code**

| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

# The 500 mL Teflon® Cover for Standard Probes

## Probes, Funnel, and Condenser



| 51 162 311 | 500 mL cover for standard probes |
|---|---|
| Material | PTFE GF25 |
| Temperature | –70 °C to +230 °C |

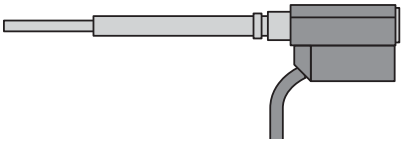
Select one

| 51 162 411 | PTFE adapter for S400, M24/14 |
|---|---|
| Material | PTFE GF25 |
| Size | M24, Ø 14 mm inside |
| O-Ring needed | 51 191 857 |

| 51 162 381 | PTFE adapter for baffles and 3/8" probes, M24/14-10 |
|---|---|
| Material | PTFE GF25 |
| Size | M24/14, Ø 10 mm inside |
| O-Ring needed | 51 191 857 |

| 51 162 406 | PTFE adapter for 6 mm and 1/4" probes, M12/6.5-6.35 |
|---|---|
| Material | PTFE GF25 |
| Size | M12/6.5, Ø 6.35 mm inside |
| O-Ring needed | 51 191 852 |

| 51 162 410 | PTFE adapter, M24/14-ST19/26 |
|---|---|
| Material | PTFE GF25 |
| Size | M24/14, Ø ST19/26 inside |
| O-Ring Needed | 51 191 857 |

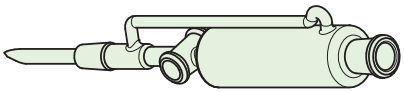


| 1 2 | **S400/14 FBRM® probe** position beside stirrer |
|---|---|
| Material | Alloy C22, Sapphire |
| Temperature | –80 °C to +120 °C |
| Pressure | 0 to 4 bar |
| Probe Size | Ø 14 x 206 mm |

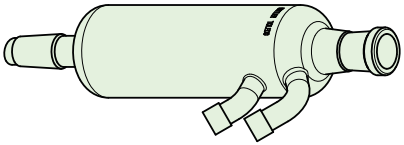
| 1 2 | **3/8" IR probe, DiComp™** | **3/8" IR probe, SiComp™** |
|---|---|---|
| Material | Hastelloy® C276, Sapphire, DiComp™ | Hastelloy® C276, Sapphire, SiComp™ |
| Temperature | –80 °C to +180 °C | –80 °C to +180 °C |
| Probe Size | Ø 9.5 x 216 mm, 305 mm or 457 mm | Ø 9.5 x 216 mm, 305 mm or 457 mm |

| 1 2 3 | **1/4" IR probe, DiComp™** | **1/4" IR probe, SiComp™** |
|---|---|---|
| Material | Hastelloy® C276, Sapphire, DiComp™ | Hastelloy® C276, Sapphire, SiComp™ |
| Temperature | –80 °C to +180 °C | –80 °C to +180 °C |
| Probe Size | Ø 6.3 x 216 mm | Ø 6.3 x 216 mm |

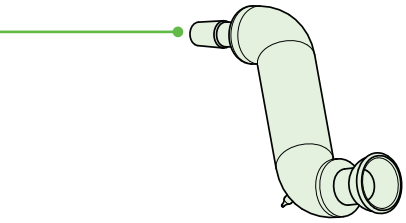
Select one



| 1 2 | **51 161 552 DOSFunnel, 100 mL, ST19/26** |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 42 x 265 mm |



| 1 2 3 | **51 162 530 Reflux condenser, ST19/26** |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 50 x 215 mm |



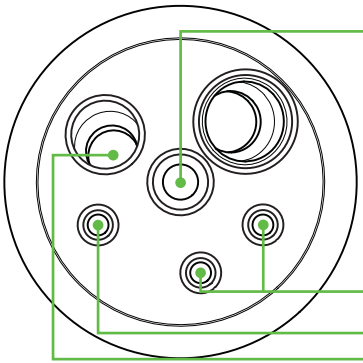
| 1 2 3 | **51 162 466 Bent adapter for use with distillation set 51162040, ST19/26** |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 40 x 250 mm |

**Material Color Code**

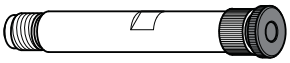
| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

# The 500 mL Teflon® Cover for Large Probes

## Stirrers and Probes



| 51 162 444 | 500 mL cover for large probes |
|---|---|
| Material | PTFE GF25 |
| Temperature | –70 °C to +230 °C |



| 51 162 421 | Stirrer bearing including bushing and bearing screw, M20/11-10 |
|---|---|
| Material | PTFE GF25, PTFE C25 |
| Size | M20/11, Ø 10 mm inside |
| O-Ring Needed | 51 191 851 |

| 51 162 406 | PTFE adapter for 6 mm and 1/4" probes, M12/6.5-6.35 |
|---|---|
| Material | PTFE GF25 |
| Size | M12/6.5, Ø 6.35 mm inside |
| O-Ring Needed | 51 191 852 |

| 51 162 381 | PTFE adapter for baffles and 3/8" probes, M24/14-10 |
|---|---|
| Material | PTFE GF25 |
| Size | M24/14, Ø 10 mm inside |
| O-Ring Needed | 51 191 857 |

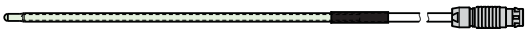
Select one

| 1 | **51 162 423 Glass stirrer, 4 blades at 45° (downward)** | **51 162 424 Glass stirrer, 4 blades at 45° (upwards)** |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Size | Ø 38/10 x 400 mm | Ø 38/10 x 400 mm |

| 2 | **51 162 431 Hastelloy® stirrer shaft with pitch blade elements 4 blades at 45° (downwards)** | **51 162 442 Hastelloy® pitch blade elements only, 4 blades at 45° (upwards), requires 51 162 431 stirrer shaft** |
|---|---|---|
| Material | Hastelloy® C22 | Hastelloy® C22 |
| Size | Ø 38/10 x 400 mm | Ø 38/10 |

| 3 | **51 162 432 Hastelloy® stirrer with 3 elements each with 4 blades at 45° (downward)** |
|---|---|
| Material | Hastelloy® C22 |
| Size | Ø 38/10 x 400 mm |

Select



| 1 2 3 | **51 191 327 Hastelloy® turbidity probe** | **51 343 161 Inlab Semi-Micro-L pH probe** |
|---|---|---|
| Material | Hastelloy® C22, Sapphire, Kalrez® | Borosilicate glass |
| Probe Size | Ø 6 x 205 mm | Ø 6 x 230 mm |

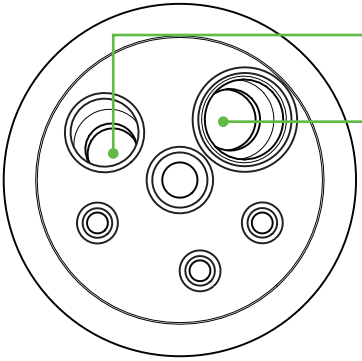
| 1 2 3 | **51 162 456 Glass temperature sensor** | **51 162 457 Glass calibration heater, 5 W** |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Power | – | 5 W |
| Probe Size | Ø 6 x 230 mm | Ø 6 x 230 mm |

| 1 2 3 | **51 162 458 Hastelloy® temperature sensor** | **51 162 459 Hastelloy® calibration heater, 5 W** |
|---|---|---|
| Material | Hastelloy® C22 | Hastelloy® C22 |
| Power | – | 5 W |
| Probe Size | Ø 6 x 170 mm | Ø 6 x 170 mm |
| O-Ring Needed | 51 191 852 | 51 191 852 |

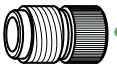
| 1 2 | **3/8" IR probe, DiComp™** | **3/8" IR probe, SiComp™** |
|---|---|---|
| Material | Hastelloy® C276, Sapphire, DiComp™ | Hastelloy® C276, Sapphire, SiComp™ |
| Temperature | –80 °C to +180 °C | –80 °C to +180 °C |
| Probe Size | Ø 9.5 x 216 mm, 305 mm or 457 mm | Ø 9.5 x 216 mm, 305 mm or 457 mm |

# The 500 mL Teflon® Cover for Large Probes

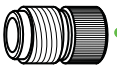
## Probes, Funnel, and Condenser



| 51 162 444 | 500 mL cover for large probes |
|---|---|
| Material | PTFE GF25 |
| Temperature | –70 °C to +230 °C |

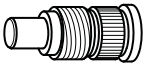


| 51 162 448 | PTFE adapter for 5/8" probes, M24/16 |
|---|---|
| Material | PTFE GF25 |
| Size | M24/16, Ø 16 mm inside |
| O-Ring Needed | 51 191 857 |



| 51 162 449 | PTFE adapter for 3/4" probes, M27/19 |
|---|---|
| Material | PTFE GF25 |
| Size | M27, Ø 19 mm inside |
| O-Ring Needed | 51 191 859 |

| 51 162 536 | PTFE adapter, M27/19-ST19/26 |
|---|---|
| Material | PTFE GF25 |
| Size | M27/19, Ø ST19/26 inside |
| O-Ring Needed | 51 191 859 |

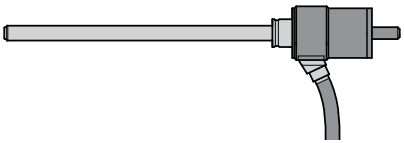


| 51 162 535 | PTFE adapter, M24/16-ST19/26 |
|---|---|
| Material | PTFE GF25 |
| Size | M24/16, Ø ST19/26 inside |
| O-Ring Needed | 51 191 858 |

Select one

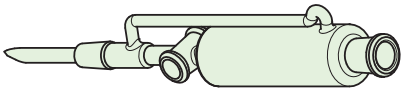
| 1 2 | 5/8" IR probe, DiComp™ | 5/8" IR probe, SiComp™ |
|---|---|---|
| Material | Hastelloy® C276, Sapphire, DiComp™ | Hastelloy® C276, Sapphire, SiComp™ |
| Temperature | –80 °C to +200 °C | –80 °C to +200 °C |
| Probe Size | Ø 16 x 178 mm, 299 mm, or 362 mm | Ø 16 x 178 mm, 299 mm, or 362 mm |

| 1 2 | D600-L FBRM® probe, 3/4" |
|---|---|
| Material | Alloy C22, Sapphire, Kalrez® |
| Temperature | std. –10 °C to +150 °C<br>opt. –90 °C to +150 °C |
| Pressure | 0 to 4 bar |
| Probe Size | Ø 19 x 406 mm |

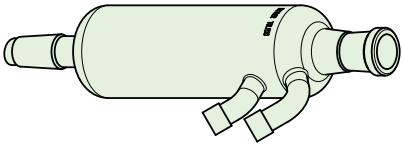


| 1 2 | V819 PVM® probe, 3/4" |
|---|---|
| Material | Alloy C22, Sapphire |
| Temperature | –80 °C to +120 °C |
| Probe Size | Ø 19 x 400 mm |

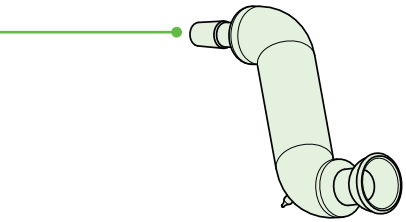
Select one



| 1 2 | 51 161 552<br>DOSFunnel, 100 mL, ST19/26 |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 42 x 265 mm |



| 1 2 3 | 51 162 530<br>Reflux condenser, ST19/26 |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 50 x 215 mm |

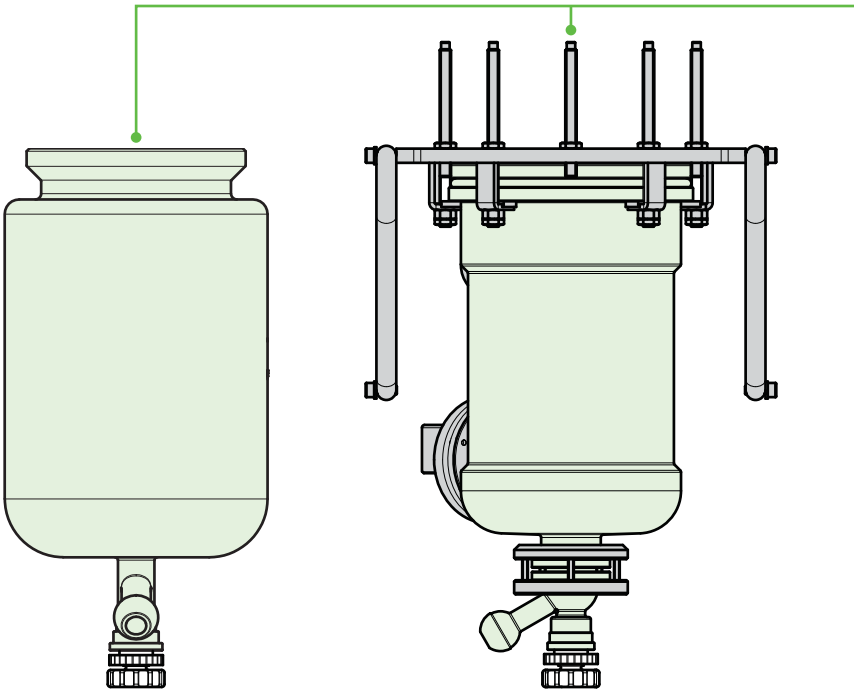


| 1 2 3 | 51 162 466<br>Bent adapter for use with distillation set 51162040, ST19/26 |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 40 x 250 mm |

**Material Color Code**

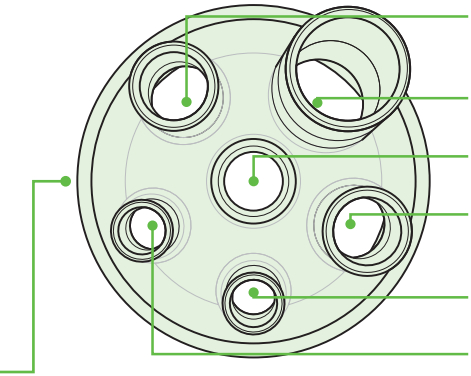
| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

# The 2 Liter Reactor Platform
## Ambient Pressure Reactors and Cover



| 51 162 348 | 2 Liter glass reactor vessel |
|---|---|
| Nominal Volume | 2.5 L |
| Operating Volume | 0.5 L to 2 L |
| Temperature, Tj | –70 °C to +230 °C |
| Pressure | 0.05 bar up to ambient pressure (checked at 25 °C) |
| Material | Duran® Glass, PTFE spindle, LUBRIFLON 904 valve plug, BS 29 ball joint |
| Inner Dimensions | Ø 70 x 166 mm |

| 51 162 400 | 2 Liter glass reactor with RTCal™ sensors, mounting included |
|---|---|
| Nominal Volume | 2.47 L |
| Operating Volume | 0.5 L to 2 L |
| Temperature, Tj | –53 °C to +163 °C |
| Pressure | 0.05 bar up to ambient pressure (checked at 25 °C) |
| Material | Duran® Glass, PTFE spindle, LUBRIFLON 904 valve plug, BS 29 ball joint |
| Inner Dimensions | Ø 70 x 166 mm |



**ST 29/32**
V819 PVM® probe, D600L FBRM® probe, 5/8″ IR probe, turbidity probe, distillation set

**ST 45/40**

**ST 29/32**
Stirrer port

**ST 29/32**
V819 PVM® probe, D600L FBRM® probe, 5/8″ IR probe, turbidity probe, distillation set

**ST 19/26**
Temperature probe, calibration heater, pH probe, DOSFunnel

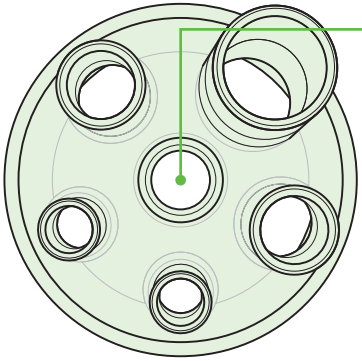
**ST 19/26**
Temperature probe, calibration heater, pH probe, DOSFunnel

| **51 160 868** | **2 Liter Glass cover** |
|---|---|
| Material | Borosilicate glass |
| Temperature | –70 °C to +230 °C |

**Material Color Code**

Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25

# The 2 Liter Glass Cover
## Glass Stirrers and Baffle



| **51 160 868** | **2 Liter Glass cover** |
|---|---|
| Material | Borosilicate glass |
| Temperature | –70 °C to +230 °C |

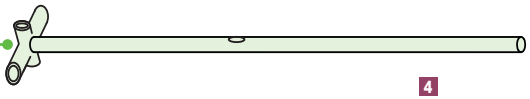
| **660 020** | **Stirrer bearing including bushing and bearing screw, ST29/32-10** |
|---|---|
| Material | PTFE C25 |
| Size | ST29/32, Ø 10 mm inside |

Select one

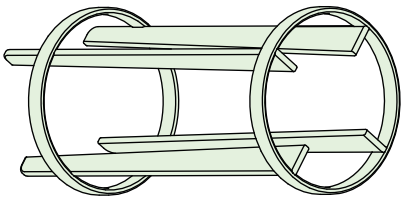
| 1 | **103 020**<br>**Glass stirrer, 4 blades at 60° (upward)** | **103 021**<br>**Glass stirrer, 4 blades at 60° (downward)** |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Size | Ø 60/10 x 425 mm | Ø 60/10 x 425 mm |

| 2 | **51 160 717**<br>**Glass stirrer, 4 lower blades at 60° (downward)** |
|---|---|
| Material | Borosilicate glass |
| Size | lower blades Ø 60, upper blades Ø 50 x 440 mm |

| 3 | **103 022**<br>**Glass anchor stirrer, blades height 115 mm** |
|---|---|
| Material | Borosilicate glass |
| Size | Ø 105/10 x 440 mm |



| 4 | **103 023**<br>**Glass gassing stirrer** |
|---|---|
| Material | Borosilicate glass |
| Size | Ø 46/10 x 425 mm |



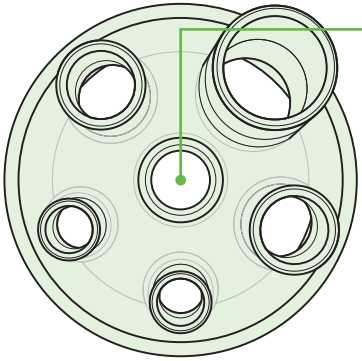
| 1 2 4 5 6 9 | **660 026**<br>**Glass baffle, 230 mm** |
|---|---|
| Material | Borosilicate glass |
| Size | Ø 112 x 230 mm |

**Material Color Code**

| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

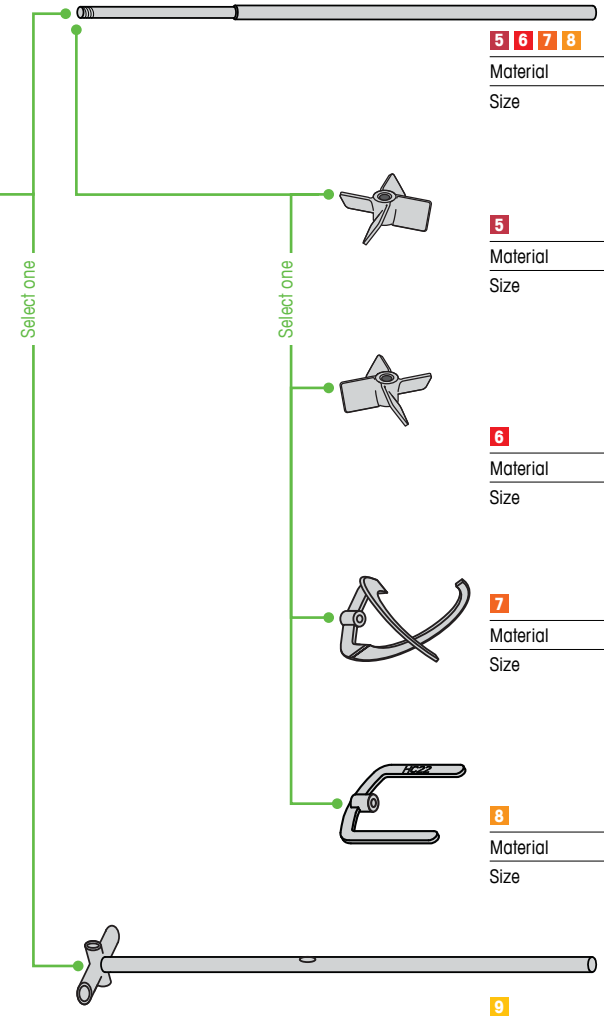
# The 2 Liter Glass Cover

## Stainless Steel and Hastelloy® Stirrers



| **51 160 868** | **2 Liter Glass cover** |
|---|---|
| Material | Borosilicate glass |
| Temperature | –70 °C to +230 °C |

| **660 020** | **Stirrer bearing including bushing and bearing screw, ST29/32-10** |
|---|---|
| Material | PTFE C25 |
| Size | ST29/32, Ø 10 mm inside |




| 5 6 7 8 | **51 103 920**<br>**Hastelloy® stirrer shaft** | **51 103 919**<br>**Hastelloy® stirrer shaft** |
|---|---|---|
| Material | Hastelloy® C22 | Hastelloy® C22 |
| Size | Ø 10 x 445 mm | Ø 10 x 460 mm |

| 5 | **51 103 916**<br>**SS stirrer blades (upward), blade angle 60°** | **51 160 025**<br>**Hastelloy® stirrer blades (upward), blade angle 60°** |
|---|---|---|
| Material | Stainless Steel 316 | Hastelloy® C22 |
| Size | Ø 60 mm | Ø 60 mm |

| 6 | **103 423**<br>**SS stirrer blades (downward), blade angle 60°** | **103 504**<br>**Hastelloy® stirrer blades (downward), blade angle 60°** |
|---|---|---|
| Material | Stainless Steel 316 | Hastelloy® C22 |
| Size | Ø 60 mm | Ø 60 mm |

| 7 | **51 103 853**<br>**SS Paravisc stirrer** | **51 103 854**<br>**Hastelloy® Paravisc stirrer** |
|---|---|---|
| Material | Stainless Steel 316 | Hastelloy® C22 |
| Size | Ø 105 x 115 mm | Ø 105 x 115 mm |

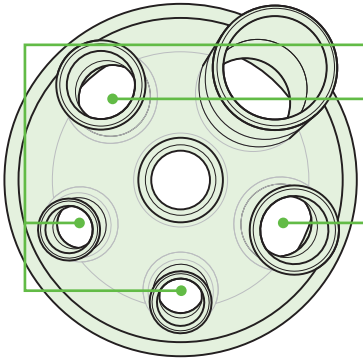
| 8 | **103 662**<br>**Hastelloy® anchor stirrer blades height 167 mm** |
|---|---|
| Material | Hastelloy® C22 |
| Size | Ø 105 x 167 mm |

| 9 | **103 409**<br>**SS gassing stirrer** | **103 514**<br>**Hastelloy® gassing stirrer** |
|---|---|---|
| Material | Stainless Steel 316 | Hastelloy® C22 |
| Size | Ø 46 x 355 mm | Ø 46 x 355 mm |

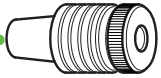
**Material Color Code**

| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

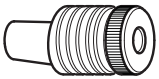
# The 2 Liter Glass Cover
## Probes



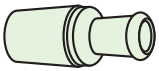
| **51 160 868** | **2 Liter Glass cover** |
|---|---|
| Material | Borosilicate glass |
| Temperature | –70 °C to +230 °C |



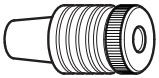
| **660 023** | **PTFE adapter, ST19/26-10** |
|---|---|
| Material | PTFE GF25 |
| Size | ST19/26, Ø 10 mm inside |



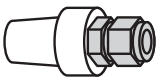
| **51 104 154** | **Eccentric PTFE adapter, ST19/26-10** |
|---|---|
| Material | PTFE GF25 |
| Size | ST19/26, Ø 10 mm inside |



| | **Reduction adapter, ST29/32-ST19/26** standard glassware |
|---|---|
| Material | Borosilicate glass |
| Size | ST29/32, Ø ST19/26 inside |

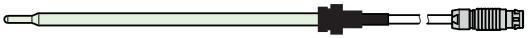


| **51 160 975** | **PTFE adapter, ST29/32-12** |
|---|---|
| Material | PTFE GF25 |
| Size | ST29/32, Ø 12 mm inside |



| **14 152 015** | **PTFE adapter for 5/8" probes, ST29/32-5/8"** |
|---|---|
| Material | PTFE, Stainless Steel 316 |
| Size | ST29/32, Ø 5/8" mm inside |

Select two



| 1 2 3 4 5 6 7 8 9 | **103 041 Glass temperature probe Tr/Trs** | **51 103 806 Hastelloy® temperature probe Tr/Trs** |
|---|---|---|
| Material | Borosilicate glass | Hastelloy® C22 |
| Probe Size | Ø 10 x 430 mm | Ø 10 x 430 mm |

| 1 2 3 4 5 6 7 8 9 | **103 666 Glass temperature probe with third output Tr/Trs/Aux** | **103 575 pH probe pH01** |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Probe Size | Ø 10 x 430 mm | Ø 10 x 430 mm |

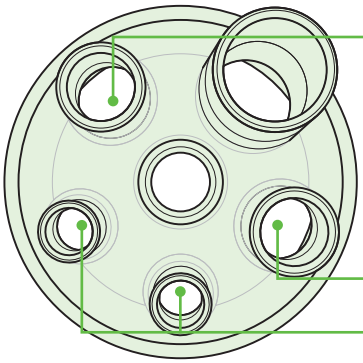
| 1 2 3 4 5 6 7 8 9 | **103 040 Glass calibration heater, 25 W** | **103 597 Glass calibration heater, 5 W** |
|---|---|---|
| Material | Borosilicate glass | Borosilicate glass |
| Power | 25 W | 5 W |
| Probe Size | Ø 10 x 430 mm | Ø 10 x 430 mm |

| 1 2 3 4 5 6 7 8 9 | **51 103 807 Hastelloy® calibration heater, 25 W** | **51 103 808 Hastelloy® calibration heater, 5 W** |
|---|---|---|
| Material | Hastelloy® C22 | Hastelloy® C22 |
| Power | 25 W | 5 W |
| Probe Size | Ø 10 x 430 mm | Ø 10 x 430 mm |

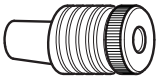
| 1 2 3 4 5 6 7 8 9 | **51 190 971 Hastelloy® turbidity probe** |
|---|---|
| Material | Hastelloy® C22, Sapphire, Kalrez® |
| Probe Size | Ø 12 x 407 mm |

| 1 2 3 4 5 6 7 8 9 | **5/8" IR probe, DiComp™** | **5/8" IR probe, SiComp™** |
|---|---|---|
| Material | Hastelloy® C276, Sapphire, DiComp™ | Hastelloy® C276, Sapphire, SiComp™ |
| Temperature | –80 °C to +200 °C | –80 °C to +200 °C |
| Probe Size | Ø 16 x 178 mm, 299 mm, or 362 mm | Ø 16 x 178 mm, 299 mm, or 362 mm |

# The 2 Liter Glass Cover
## Probes and Funnels

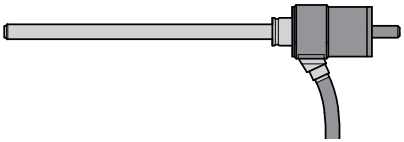


| 51 160 868 | 2 Liter Glass cover |
|---|---|
| Material | Borosilicate glass |
| Temperature | –70 °C to +230 °C |



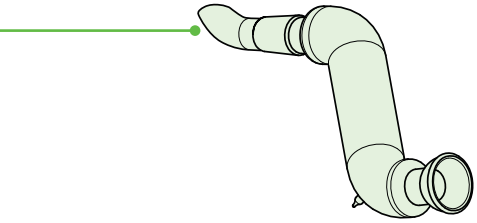
| 51 160 970 | Eccentric PTFE adapter for 3/4" probes, ST29/32-19 |
|---|---|
| Material | PTFE GF25 |
| Size | ST29/32, Ø 19 mm inside |

Select one



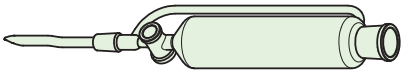
| 1 2 4 5 6 9 | **V819 PVM® probe, 3/4"** |
|---|---|
| Material | Alloy C22 |
| Temperature | –80 to +120 °C |
| Pressure | 0 to 10 bar |
| Probe size | Ø 19 x 400 mm |

| 1 2 4 5 6 9 | **D600L FBRM® probe, 3/4"** | **D600L FBRM® probe, 3/4"** |
|---|---|---|
| Material | Stainless Steel 316 | Alloy C22 |
| Temperature | std. –20 to +150 °C<br>opt. –90 to +300 °C | std. –10 to +150 °C<br>opt. –90 to +300 °C |
| Pressure | 0 to 10 bar | 0 to 10 bar |
| Probe Size | Ø 19 x 406 mm | Ø 19 x 406 mm |

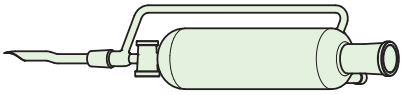


| 1 2 3 4 5 6 7 8 9 | **51 162 068<br>Bent adapter, part of distillation set 51162040, ST29/32** |
|---|---|
| Material | Borosilicate glass |
| Size | ST29/32, Ø 40 x 250 mm |

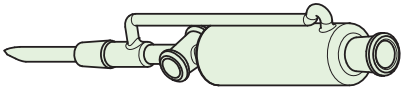
Select one



| 1 2 3 4 5 6 7 8 9 | **51 104 220<br>DOSFunnel, 250 mL, ST19/26** |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 52 x 315 mm |



| 1 2 3 4 5 6 7 8 9 | **51 104 265<br>Thermostatable DOSFunnel, 250 mL, ST19/26** |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 65 x 345 mm |



| 1 2 3 9 5 6 7 8 | **51 161 552<br>DOSFunnel, 100 mL, ST19/26** |
|---|---|
| Material | Borosilicate glass |
| Size | ST19/26, Ø 42 x 265 mm |

**Material Color Code**

| Stainless Steel, Hastelloy®, Aluminium | Borosilicate glass | PTFE C25, PEEK | PTFE, PTFE GF25 |
|---|---|---|---|

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