PAL

Prep and Load Platform

# Accessories

# LC

## PAL and PAL-*xt* product line accessory catalogue 2010 / 2011


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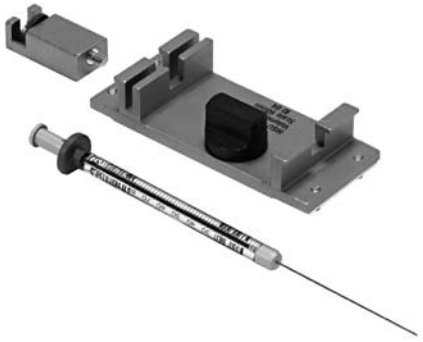
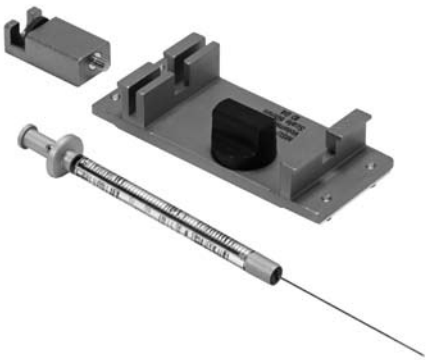
**Important notice:**
If not specifically mentioned all options and accessories are also available for previous PAL HTC / HTS systems.

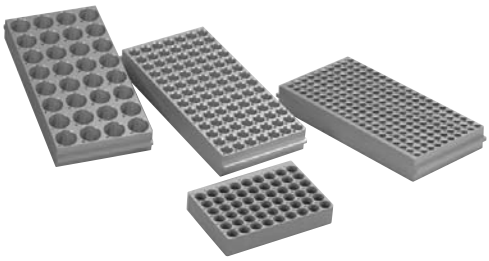
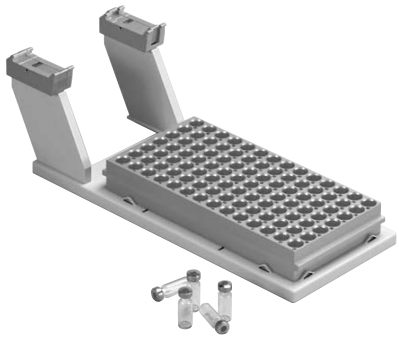
PALBrochCat2010-11

# PAL LC Accessories

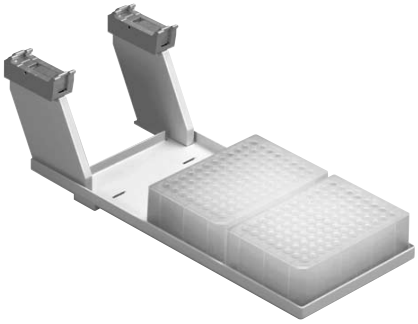
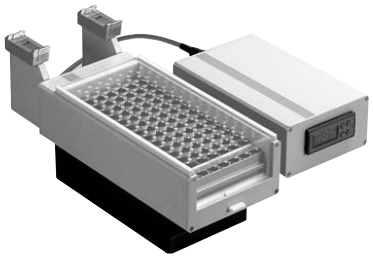
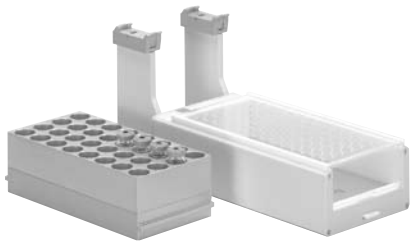
| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Syringe Kits** | PAL SyrLCX25µl | Kit LC ***X***-Syringe 25µl*<br>1 pc syringe adapter and 1pc plunger holder<br>2 pcs syringe SYRX G25-22S-3 | • | • | • |
|  | PAL SyrLCX50µl | Kit LC ***X***-Syringe 50µl*<br>1 pc syringe adapter and 1pc plunger holder<br>2 pcs syringe SYRX G50-22S-3 | • | • | • |
| | PAL SyrLCX100µl | Kit LC ***X***-Syringe 100µl*<br>1 pc syringe adapter and 1pc plunger holder<br>2 pcs syringe SYRX G100-22S-3 | • | • | • |
| | PAL SyrLCX100µl-22 | Kit LC ***X***-Syringe 100µl*<br>1 pc syringe adapter and 1pc plunger holder<br>2 pcs syringe SYRX G100-22-3 | • | • | • |
| | | *Special inert syringe for high throughput and ***X***-tra low carry-over applications | | | |
|  | PAL SyrLC10µl | Kit LC Syringe 10µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G10-22S-3 | • | • | • |
| | PAL SyrLC25µl | Kit LC Syringe 25µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G25-22S-3 | • | • | • |
| | PAL SyrLC100µl | Kit LC Syringe 100µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G100-22S-3 | • | • | • |
| | PAL SyrLC250µl | Kit LC Syringe 250µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G250-22-3 | • | • | • |
| | PAL SyrLC500µl | Kit LC Syringe 500µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G500-22-3 | • | • | • |
| | PAL SyrLC1000µl | Kit LC Syringe 1000µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G1000-22-3 | • | • | • |
| | PAL SyrLC2500µl | Kit LC Syringe 2500µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G2500-22-3 | • | • | • |
| | PAL SyrLC5000µl | Kit LC Syringe 5000µl<br>1 pc syringe adapter and plunger holder<br>2 pcs syringe SYRC G5000-22-3 | • | • | • |

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Syringes** | SYRX G25-22S-3 | Syringe ***X***-type gastight 25µl*<br>fixed needle, gauge 22S,pointstyle 3 | • | • | • |
| | SYRX G50-22S-3 | Syringe ***X***-type gastight 50µl*<br>fixed needle, gauge 22S,pointstyle 3 | • | • | • |
| | SYRX G100-22-3 | Syringe ***X***-type gastight 100µl*<br>fixed needle, gauge 22, pointstyle 3<br>(fast aspiration and eject speed) | • | • | • |
| | SYRX G100-22S-3 | Syringe ***X***-type gastight 100µl*<br>fixed needle, gauge 22S,pointstyle 3<br>(low dead volume) | • | • | • |
| | | *Special inert syringe for high throughput and ***X***-tra low carry-over applications | | | |
| | SYRC G10-22S-3 | Syringe gastight 10µl<br>fixed needle, gauge 22S, pointstyle 3 | • | • | • |
| | SYRC G25-22S-3 | Syringe gastight 25µl<br>fixed needle, gauge 22S, pointstyle 3 | • | • | • |
| | SYRC G100-22-3 | Syringe gastight 100µl<br>fixed needle, gauge 22, pointstyle 3<br>(fast aspiration and eject speed) | • | • | • |
| | SYRC G100-22S-3 | Syringe gastight 100µl<br>fixed needle, gauge 22S, pointstyle 3<br>(low dead volume) | • | • | • |
| | SYRC G250-22-3 | Syringe gastight 250µl<br>fixed needle, gauge 22, pointstyle 3 | • | • | • |
| | SYRC G500-22-3 | Syringe gastight 500µl<br>fixed needle, gauge 22, pointstyle 3 | • | • | • |
| | SYRC G1000-22-3 | Syringe gastight 1000µl<br>fixed needle, gauge 22, pointstyle 3 | • | • | • |
| | SYRC G2500-22-3 | Syringe gastight 2500µl<br>fixed needle, gauge 22, pointstyle 3 | • | • | • |
| | SYRC G5000-22-3 | Syringe gastight 5000µl<br>fixed needle, gauge 22, pointstyle 3 | • | • | • |
| | SYRSGE G25-22S-3 | Liquid Syringe SGE 25 µl,0.72 OD,<br>gauge 22, diameter 7.6mm, fixed needle – 51mm<br>green coloured | • | • | • |

# PAL LC Accessories

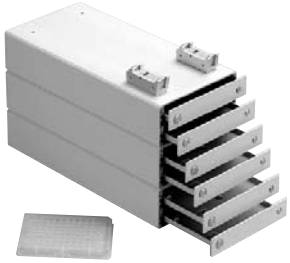
| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Replacement Plungers** | | | | | |
| | PLG X25 | 3 pcs replacement plunger for SYRX G25 syringe | ● | ● | ● |
| | PLG X50 | 3 pcs replacement plunger for SYRX G50 syringe | ● | ● | ● |
| | PLG X100 | 3 pcs replacement plunger for SYRX G100 syringe | ● | ● | ● |
| | PLG G10 | 10 pcs replacement plunger for 10µl syringe | ● | ● | ● |
| | PLG G25 | 10 pcs replacement plunger for 25µl syringe | ● | ● | ● |
| | PLG G100 | 10 pcs replacement plunger for 100µl syringe | ● | ● | ● |
| | PLG G250 | 10 pcs replacement plunger for 250µl syringe | ● | ● | ● |
| | PLG G500 | 10 pcs replacement plunger for 500µl syringe | ● | ● | ● |
| | PLG G1000-L | 1 pc replacement plunger for 1000µl syringe | ● | ● | ● |
| | PLG G2500 | 1 pc replacement plunger for 2500µl syringe | ● | ● | ● |
| | PLG G5000 | 1 pc replacement plunger for 5000µl syringe | ● | ● | ● |
| **Trays** | | | | | |
|  | PAL Tray1ml | Sample tray for 200 vials 0.7/1ml | ● | ● | ○ |
| | PAL Tray2ml | Sample tray for 98 vials 2ml or 78 vials 0.7/1ml | ● | ● | ○ |
| | PAL Tray20ml | Sample tray for 32 vials 10/20ml or 21 vials 2ml | ● | ● | ○ |
| | PAL TrayMT2ml | Sample tray for PAL Stack6DW or LC PAL Trayholder 54 x 2ml vials<br>6 Trays for 1 PAL Stack6DW<br>4 Trays for 1 LC PAL Trayholder | ● | ● | ● |
| | PAL TrayMT2ml/6 | Set of 6 pcs PAL TrayMT2ml sample trays | ● | ● | ● |
| **Traysets** | | | | | |
|  | PAL TraySet1ml | Sample tray for 200 vials 0.7/1ml, including trayholder 76mm | ● | ● | ○ |
| | PAL TraySet2ml | Sample tray for 98 vials 2ml or 78 vials 0.7/1ml, including trayholder 76mm | ● | ● | ○ |
| | PAL TraySet10ml | Sample tray for 32 vials 10ml or 21 vials 2ml, including trayholder 76mm (cannot be used for 20ml vials) | ● | ● | ○ |
| | PAL TraySet20ml | Sample tray for 32 vials 10/20ml or 21 vials 2ml, including trayholder holder 114mm (positioned 38mm lower than standard holder) | ● | ● | ○ |
| | PAL TraySet2ml-2 | Sample tray for 98 vials 2ml or 78 vials 0.7/1ml, including trayholder 114mm (holder may be alternatively used for 20ml vial trays) | ● | ● | ○ |

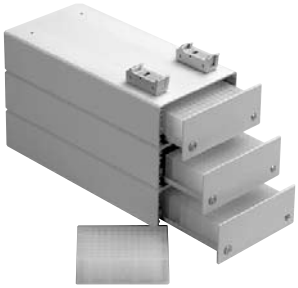
# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Trayset MT**  | PAL MTHolder | Trayholder 76mm for<br>2 microtiter/deepwell plates (96/384 wells) or<br>2 PAL TrayMT2ml | ● | ● | ○ |
| **MT4 Holder** | PAL MT4Holder | Trayholder 76mm for<br>4 microtiter/deepwell plates (96/384 wells) or<br>4 PAL TrayMT2ml | ● | ● | ● |
| **Tray Cooler (Peltier Version)**  | PAL TrayCooler | Peltier Cooler 4°C to 70°C* for<br>1 PAL Tray2ml or<br>1 PAL Tray1ml or<br>1 microtiter- or deepwell plate (96 wells)<br>including 1 plastic tray cover for PAL Tray2ml<br>and power supply 110V/220V<br>LED display, temperature regulation ± 1°C<br>(* sample tray not included) | ● | ● | ○ |
| | MC 30-10 | Cooler plastic tray cover for PAL Tray1ml | ● | ● | ○ |
| | MC 30-11 | Cooler plastic tray cover for PAL Tray2ml | ● | ● | ○ |
| | MC 30-14 | Cooler plastic tray cover for 96 well MT/DW | ● | ● | ○ |
| | MC 50-01 | Adapter plate for 196 well MT/DW | ● | ● | ○ |
| **Tray Cooler 2 (Liquid Version)**  | PAL LiqCooler2 | Liquid Tray Cooler 4°C to 70°C* consisting of:<br>1 pc Liquid TrayCooler with 136mm legs<br>1 pc cooling plate for 32 20ml vials<br>1 pc plastic tray cover for PAL Tray2ml<br>(* excluding external circulator) | ● | ● | ○ |
| | MP 50-031 | Cooling plate for 32 20ml vials<br>(requires PAL LiqCooler2) | ● | ● | ○ |

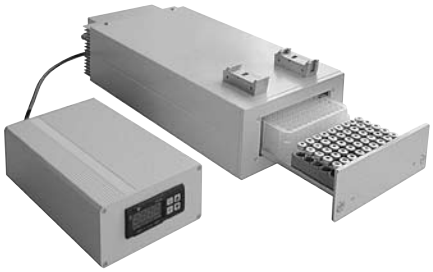
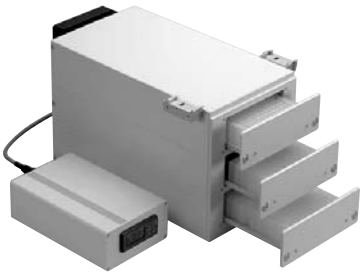
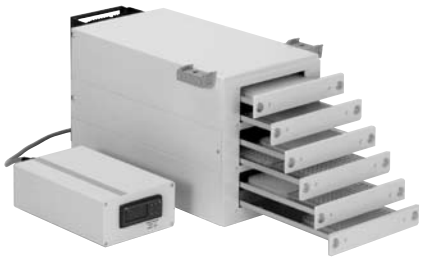
# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Tray Cooler (Liquid Version)** | PAL LiqCooler | Liquid Tray Cooler 4°C to 70°C* for<br>1 PAL Tray2ml or<br>1 PAL Tray1ml or<br>1 microtiter- or deepwell plate (96 wells)<br>including 1 plastic tray cover for PAL Tray2ml<br>(*excluding Sample Tray and external circulator) | ● | ● | ○ |
| | MC 30-10 | Cooler plastic tray cover for PAL Tray1ml | ● | ● | ○ |
| | MC 30-11 | Cooler plastic tray cover for PAL Tray2ml | ● | ● | ○ |
| | MC 30-14 | Cooler plastic tray cover for 96 well MT/DW | ● | ● | ○ |
| | MC 50-01 | Adapter plate for 196 well MT/DW | ● | ● | ○ |
| **Stack for standard microplates** | PAL Stack12MT | PAL System stack for<br>12 microtiter plates (96/384 wells) | ● | ● | ○ |
| **Stack for deepwell plates** | PAL Stack6DW | PAL System stack for<br>6 microtiter plates (96/384 wells) or<br>6 deepwell plates (96/384 wells) or<br>6 PAL TrayMT2ml | ● | ● | ○ |





# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Stack Cooler 2DW (Peltier Version)**  | PAL StkCooler2DW | Peltier cooled 2DW Stack 4°C to 40°C for<br>2 deepwell- or microplates (96/384 wells) or<br>2 PAL TrayMT2ml<br>including 1 pc power supply 110V/240V<br>LED display, temperature regulation ± 1°C | ● | ● | ○ |
| **Stack Cooler DW (Peltier Version)**  | PAL StkCooler | Peltier cooled 6DW Stack 4°C to 40°C for<br>6 microtiter plates (96/384 wells) or<br>6 deepwell plates (96/384 wells) or<br>6 PAL TrayMT2ml<br>including power supply 110V/220V<br>LED display, temperature regulation ± 1°C | ● | ● | ○ |
| **Stack Cooler MT (Peltier Version)**  | PAL StkCooler12MT | Peltier cooled 12MT Stack 4°C to 40°C for<br>12 microtiter plates (96/384 wells)<br>including power supply 110V/220V<br>LED display, temperature regulation ± 1°C | ● | ● | ○ |

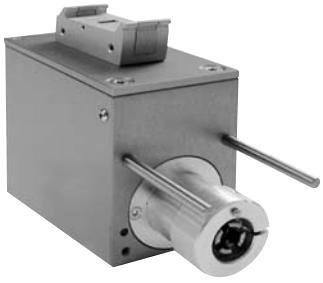
# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **LC Injection Valves, type WK** | DC10WK-CTC-K | 10-Port VICI type WK Injection Valve 0.4mm bore incl. needle guide, needle seal, kit LCVlv | ● | ● | ● |
| | DC6WK-CTC-K | 6-Port VICI type WK Injection Valve 0.4mm bore incl. needle guide, needle seal, kit LCVlv | ● | ● | ● |
| | DCI4WK.5/1-CTC-K | 4-Port VICI type WK Injection Valve 0.4mm bore, internal loop 0.5/1.0µl incl. needle guide, needle seal, kit LCVlv | ● | ● | ● |
| **Valve Accessories, type WK** | SL1KCW | Sample loop 1000µl | ● | ● | ● |
| | SL500CW | Sample loop 500µl | | | |
| | SL250CW | Sample loop 250µl | | | |
| | SL200CW | Sample loop 200µl | | | |
| | SL100CW | Sample loop 100µl | | | |
| | SL50CW | Sample loop 50µl | | | |
| | SL20CW | Sample loop 20µl | | | |
| | PAL NdlSeal | 10 pcs needle seal, gauge 22, VICI valve type WK or Cheminert | ● | ● | ● |
| | SSACI4W.5/1 | Rotor for DCI4WK.5/1-CTC-K, internal loop 0.5/1µl | ● | ● | ○ |
| | SSAC6W | Rotor for DC6WK-CTC-K | ● | ● | ● |
| | SSAC10W | Rotor for DC10WK-CTC-K | ● | ● | ○ |
| **LC Injection Valve, type Rheodyne** | PD7991-K | 6-port Rheodyne Injection Valve, 0.2mm bore pressure up to 1000bar (15'000psi) incl. needle guide, needle seal, kit LCVlvR (requires valve drive PAL VlvDrvR) | ● | ● | ○ |
| | PD718-313-K | 6- port Rheodyne Injection Valve 0.20mm bore Pressure up to 1200 bar (17'500psi) incl. needle guide, needle seal, kit LCVlvR mounted 2µl loop and VHP-200 fittings (requires valve drive PAL VlvDrvR-32) | ● | ● | ○ |
| **Valve Accessories, type Rheodyne** | TR050306B | Sample loop 5µl Stainless Steel | ● | ● | ○ |
| | TR050306C | Sample loop 10µl Stainless Steel | ● | ● | ○ |
| | TR050306D | Sample loop 20µl Stainless Steel | ● | ● | ○ |
| | TR050306E | Sample loop 50µl Stainless Steel | ● | ● | ○ |
| | TR050306F | Sample loop 100µl Stainless Steel | ● | ● | ○ |
| | 9055-021 | Sample loop 10µl PEEK | ● | ● | ○ |
| | 9055-022 | Sample loop 20µl PEEK | ● | ● | ○ |
| | PD718SL2 | Sample loop, 2µl for Rheodyne PD718-313 | ● | ● | ○ |
| | PD718SL10 | Sample loop, 10µl for Rheodyne PD718-313 | ● | ● | ○ |
| | PD718SL20 | Sample loop, 20µl for Rheodyne PD718-313 | ● | ● | ○ |
| | PD718-SPC3 | Stator for PD718-313 | ● | ● | ○ |
| | PD718-RPC13-6 | Rotor for PD718-313 | ● | ● | ○ |
| | PAL NdlSealR | 10pc needle seal, gauge 22 | ● | ● | ○ |

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **LC Injection Valve, type Cheminert** | C2V-0006D-CTC-K | 6-port Cheminert Injection Valve 0.15mm bore<br>incl. needle guide, needle seal, kit LCVlv | ● | ● | ○ |
| | C2V-0346D-CTC-K | 6-port Cheminert Injection Valve PAEK 0.15mm bore<br>incl. needle guide, needle seal, kit LCVlv | ● | ● | ○ |
| | C2V-1006D-CTC-K | 6-port Cheminert Injection Valve 0.25mm bore<br>incl. needle guide, needle seal, kit LCVlv | ● | ● | ● |
| | C2V-1346D-CTC-K | 6-port Cheminert Injection Valve PAEK 0.25mm bore<br>incl. needle guide, needle seal, kit LCVlv | ● | ● | ○ |
| | C2V-3006D-CTC-K | 6-Port Cheminert Injection Valve 0.75mm bore<br>(prep version)<br>incl. needle guide gauge 19, kit LCVlv | ● | ● | ○ |
| | C2VH-1000D-CTC-K | 10-port Cheminert Injection Valve 0.25mm bore<br>incl. needle guide, needle seal, kit LCVlv | ● | ● | ○ |
| | C5F-1004D-CTC | 8-port VICI Selector Valve 0.25mm bore<br>(requires PAL SelVlv) | ● | ● | ○ |
| | C72VX-1696D-CTC-K | 6-port VICI Cheminert Injection Valve, 0.25mm bore<br>pressure up to 1000bar (15'000psi)<br>incl. needle guide, needle seal, kit LCVlv | ● | ● | ○ |
| | C72VX-1690D-CTC-K | 10-port VICI Cheminert Injection Valve, 0.25mm bore<br>pressure up to 1000bar (15'000psi)<br>incl. needle guide, needle seal, kit LCVlv<br>(requires PAL 1VlvDrv-D high torque valve drive) | ● | ● | ○ |
| | C72VU-6676-D-CTC-K | 6- port injection valve Cheminert, 0.15mm bore<br>pressure up to 1275bar (18'500psi)<br>incl. 2µl and 20µl loop. 20µl loop already mounted.<br>incl. needle guide, needle seal, kit LCVlv<br><br>If not otherwise mentioned<br>all valves require the following valve drive: PAL VlvDrv | ● | ● | ○ |

# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Valve Accessories, type Cheminert** | C2-00R6 | Rotor for C2V + C2-0006D-CTC-K | ● | ● | ○ |
| | C2V-0C06 | Stator for C2V-0006D-CTC-K | ● | ● | ○ |
| | C2-03R6 | Rotor for C2V + C2-0346D-CTC-K | ● | ● | ○ |
| | C2V-0C46 | Stator for C2V-0346D-CTC-K | ● | ● | ○ |
| | C2-10R6 | Rotor for C2V-1006D-CTC-K | ● | ● | ● |
| | C2V-1C06 | Stator for C2V-1006D-CTC-K | ● | ● | ● |
| | C2-13R6 | Rotor for C2V-1346D-CTC-K | ● | ● | ○ |
| | C2V-1C46 | Stator for C2V-1346D-CTC-K | ● | ● | ○ |
| | C2-30R6 | Rotor for C2V-3006D-CTC K, Valcon-H | ● | ● | ○ |
| | C2V-3C06 | Stator for C2V-3006D-CTC-K | ● | ● | ○ |
| | C2-10R0H | Rotor for C2VH-1000D-CTC-K | ● | ● | ○ |
| | C2V-1C00H | Stator for C2VH-1000D-CTC-K | ● | ● | ○ |
| | C5F-10R4 | Rotor for C5F-1024D-CTC/C5F-1004D-CTC-K | ● | ● | ○ |
| | C5-1C28 | Stator for C5F-1004D-CTC-K | ● | ● | ○ |
| | C72-16R6 | Rotor for C72VX-1696D-CTC-K | ● | ● | ○ |
| | C72V-1C96 | Stator for C72VX-1696D-CTC-K | ● | ● | ○ |
| | C72-16R0 | Rotor for C72VX-1690D-CTC-K | ● | ● | ○ |
| | C72V-1C90 | Stator for C72VX-1690D-CTC-K | ● | ● | ○ |
| | C72-66R6 | Rotor for C72VU-6676D-CTC / C72VX-6690D-CTC | ● | ● | ○ |
| | C72-6C76 | Stator for C72VU-6676D-CTC | ● | ● | ○ |
| | CSL5K | Sample loop 5000µl | ● | ● | ● |
| | CSL2K | Sample loop 2000µl | ● | ● | ● |
| | CSL1K | Sample loop 1000µl | ● | ● | ● |
| | CSL500 | Sample loop 500µl | ● | ● | ● |
| | CSL250 | Sample loop 250µl | ● | ● | ● |
| | CSL100 | Sample loop 100µl | ● | ● | ● |
| | CSL50 | Sample loop 50µl | ● | ● | ● |
| | CSL20-CTC | Sample loop 20µl | ● | ● | ● |
| | CSL10-CTC | Sample loop 10µl | ● | ● | ● |
| | CSL5-CTC | Sample loop 5µl | ● | ● | ● |
| | CSL2-CTC | Sample loop 2µl | ● | ● | ● |
| | CZSL20PK | Sample loop PEEK 20µl | ● | ● | ● |
| | CZSL10PK | Sample loop PEEK 10µl | ● | ● | ● |
| | CZSL5PK | Sample loop PEEK 5µl | ● | ● | ● |
| | CZSL2PK | Sample loop PEEK 2µl | ● | ● | ● |
| | PAL NdlSealP | 10 pcs PEEK needle seal, gauge 22 | ● | ● | ○ |
| | PAL NdlSeal | 10 pcs needle seal, gauge 22 | ● | ● | ● |
| | PAL NdlSeal-19 | 10 pcs needle seal, gauge 19 | ● | ● | ○ |
| **2-Position Injection Valve Drive (AUX)** | PAL VlvDrv | PAL Valve drive for Valco LC valve type WK or C (without valve), consisting of:<br>1 pc valve drive<br>1 set connection cable | ● | ● | ● |
| | PAL VlvDrvR-32 | PAL Valve drive for Rheodyne valve PD718 series (without valve), consisting of:<br>1 pc valve drive<br>1 set connection cable | ● | ● | ● |
| | PAL VlvDrvR | PAL Valve drive for Rheodyne valve PD7991-K (without valve), consisting of:<br>1 pc valve drive<br>1 set connection cable | ● | ● | ● |

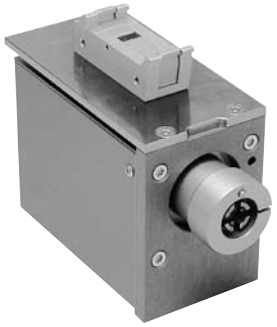


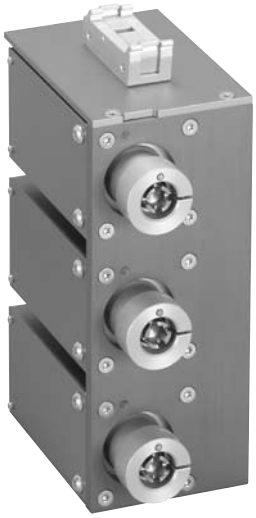
# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **4 Fold Injection Valve Module** | PAL 4VlvDrv | PAL 4-Valve Module, type 2 consisting of:<br>4 pcs valve drives<br>1 pc PEEK solvent manifold<br>1 set PEEK tubing kit including PEEK fittings<br>1 set connection cable<br>(requires VICI Valco Valves, type DCxWK, type C and sample loops) | ● | ● | ○ |
| | PAL MuxKit | Kit for Waters MUX™ interface consisting of:<br>4pcs check valve for waste port | ● | ● | ○ |
| | CV-3345 | 1 pc check valve for MUX Kit | ● | ● | ○ |
| **PAL Selector Valve** | PAL SelVlv | 8-port Selector valve, type 2 consisting of:<br>1 pc 8-port Selector valve C5F<br>1 pc 2 meter Teflon tubing waste lines<br>1 pc valve drive<br>1 set connection cable to PAL 4VlvDrv<br>(requires PAL 4VlvDrv) | ● | ● | ○ |
| | C5-1C28 | Stator for PAL SelVlv C5 Selector Valve | ● | ● | ○ |
| | C5F-10R4 | Rotor for PAL SelVlv C5 Selector Valve | ● | ● | ○ |
| **Valve Drive High Torque** | PAL 1VlvDrv-D | PAL 1-Valve Drive Module consisting of:<br>1 pc High torque multiposition valve drive<br>1 set connection cable<br><br>(requires VICI Valco LC Valves, type DCxWK-K or type C) | ● | ● | ○ |

# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Multiposition Valve Drive Module** | PAL 1VlvDrv | PAL 1-Valve Drive Module consisting of:<br>1 pc multiposition valve drive with bracket<br>1 set connection cable<br>(requires VICI Valco LC Valves, type DCxWK-K or type C) | ● | ● | ○ |
| **Dual Valve Drive Module** | PAL 2VlvDrv | PAL 2-Valve Drive Module consisting of:<br>2 pcs multiposition valve drives with bracket<br>1 set connection cable<br>(requires VICI Valco LC Valves, type DCxWK-K or type C) | ● | ● | ○ |
| **Triple Valve Drive Module** | PAL 3VlvDrv | PAL 3-Valve Drive Module consisting of:<br>3 pcs multiposition valve drives with bracket<br>1 set connection cable<br>(requires VICI Valco LC Valves, type DCxWK-K or type C) | ● | ● | ○ |





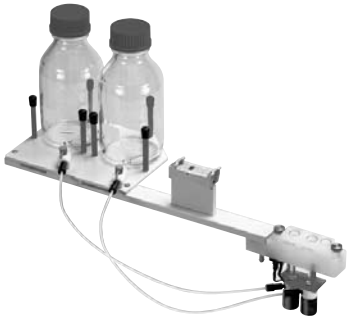
# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Column Switching Valve Module** | PAL ColSel6 | Column Switching Valve Module for up to 6 columns consisting of:<br>2 pcs 6-port Column Selector Valve 0.25mm bore<br>(requires Cycle Composer or<br>PAL ICC-CE Software and PAL 1VlvDrv) | ● | ● | ○ |
| **MALDI Option** | PAL MALDIOpt | PAL MALDI Option Fraction Collection system consisting of:<br>1 pc tool parking bracket<br>1 pc MALDI spotting tool<br>3 pcs spotting tips<br>1 pc tool holder<br>1 pc waste tube<br>1 pc microfluidic fitting and tubing accessories<br>1 pc CD-ROM PAL firmware 3.0 and CycleComposer cycles<br>(requires PAL firmware 3.0 or higher and Cycle Composer) | ● | ● | ○ |
| | MP 52-01 | MALDI target adapter for 2pcs. Waters 96/384 Targets | ● | ● | ○ |
| | MP 52-02 | MALDI target adapter for 2pcs. ABI Opti-TOF or<br>2 pcs ABI 4700 / Voyager | ● | ● | ○ |
| | MP 52-04 | MALDI target adapter for 1pc Bruker AnChor Chip | ● | ● | ○ |
| | MSpoTip3 | 3 pcs coated fused silica spotting tips,<br>360µm OD, 20µm ID | ● | ● | ○ |
| **Solvent Reservoir** | PAL 3xSolv100 | Solvent Reservoir consisting of:<br>1 pc holder for 3pcs 100ml vials<br>3 pcs solvent vials 100ml including caps and seals | ● | ● | ○ |
| | 100-WV | 100ml solvent bottle for LC PAL Wash Station, PAL WashLarge or PAL 3xSolv100 Solvent Reservoir including cap and seal | ● | ● | ● |
| | Kit SealCap | 10 caps and 10 seals for 100-WV solvent bottle or LC PAL waste port | ● | ● | ● |

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Dilutor Set** | PAL Dilutor | PAL Dilutor Option consisting of:<br>1 pc Dilutor module<br>1 pc Dilutor syringe 2.5ml<br>1pc solvent bottle transfer line including solvent filter<br>1 pc solvent bottle 1000ml with cap<br>1 pc transfer tubing kit 1/16“<br>1 pc Dilutor module connection cable<br>1 pc operating manual<br>(requires PAL SyrLCSP80µl or PAL SyrLCSP20µl) | ● | ○ | ○ |
| | PAL SyrLCSP80µl | Kit Dilutor Syringe 80µl for HTS PAL consisting of:<br>1 pc sideport syringe plunger sealing screw<br>1 pc sideport syringe adapter<br>1 pc sideport syringe plunger holder<br>1 pc sideport syringe 80µl SYRC SP80-R<br>3 pcs Ndl S-22-3 needles gauge 22 | ● | ○ | ○ |
| | PAL SyrLCSP20µl | Kit Dilutor Syringe 20µl for HTS PAL consisting of:<br>1 pc sideport syringe plunger sealing screw<br>1 pc sideport syringe adapter<br>1 pc sideport syringe plunger holder<br>1 pc sideport syringe 20µl SYRC SP20-R<br>3 pcs Ndl S-22S-3 needles gauge 22S | ● | ○ | ○ |
| **Dilutor Syringes and Plungers** | SYRC DIL1.0 | PAL Dilutor Syringe 1ml | ● | ● | ○ |
| | SYRC DIL2.5 | PAL Dilutor Syringe 2.5ml | ● | ● | ○ |
| | SYRC DIL5.0 | PAL Dilutor Syringe 5ml | ● | ● | ○ |
| | SYRC DIL10 | PAL Dilutor Syringe 10ml | ● | ○ | ○ |
| | SYRC SP80-R | Sideport syringe 80µl gastight without needle | ● | ○ | ○ |
| | SYRC SP20-R | Sideport syringe 20µl gastight without needle | ● | ○ | ○ |
| | Ndl S-22-3 | 3 pcs replacement needle gauge 22 pointstyle 3 for sideport syringe 80µl | ● | ○ | ○ |
| | Ndl S-22S-3 | 3 pcs replacement needle gauge 22S pointstyle 3 for sideport syringe 20µl | ● | ○ | ○ |
| | PLG SP80 | 10 pcs replacement syringe plunger for 80µl sideport syringe | ● | ○ | ○ |
| | PLG SP20 | 10 pcs replacement syringe plunger for 20µl sideport syringe | ● | ○ | ○ |
| | 1000-SV | 1 pc Dilutor solvent bottle 1000ml | ● | ○ | ○ |
| | PAL DIL 1.0 | Replacement plunger for dilutor syringe 1.0ml | ● | ● | ○ |
| | PAL DIL 2.5 | Replacement plunger for dilutor syringe 2.5ml | ● | ● | ○ |
| | PAL DIL 5.0 | Replacement plunger for dilutor syringe 5.0ml | ● | ● | ○ |
| | PAL DIL 10 | Replacement plunger for dilutor syringe 10ml | ● | ○ | ○ |

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **DLW-2 Dynamic Load & Wash Option** | PAL DLW-2-HTS-***xt*** | DLW-2 Option including HTS-***xt*** Upgrade Kit<br>1pc DLW injection adapter with sample holding loop and syringe 100µl<br>1 pc wash station<br>1 pc wash solvent pump station with 2 active micro pumps<br>2 pcs 1 liter wash solvent bottles<br>2 pcs solvent bottle transfer line including solvent filter<br>1 pc system CD ROM DLW for –***xt*** Systems<br>1 pc manual DLW Option<br>1 pc kit HTS-***xt*** (control board-***xt*** for PAL System - Firmware 4.X)<br><br>**Choose this kit if you want to upgrade an existing HTS PAL to the DLW-2 Option** | ○ | ○ | ○ |
| | PAL DLW-2-HTC-***xt*** | DLW-2 Option including HTC-***xt*** Upgrade Kit<br>1pc DLW injection adapter with sample holding loop and syringe 100µl<br>1 pc wash station<br>1 pc wash solvent pump station with 2 active micro pumps<br>2 pcs 1 liter wash solvent bottles<br>2 pcs solvent bottle transfer line including solvent filter<br>1 pc system CD ROM DLW for –***xt*** Systems<br>1 pc manual DLW Option<br>1 pc kit HTC-***xt*** (control board-***xt*** for PAL System - Firmware 4.X)<br><br>**Choose this kit if you want to upgrade an existing HTC PAL to the DLW-2 Option** | ○ | ○ | ○ |
| | PAL DLW-2 Option* | DLW-2 Option for fast and clean LC Cycles<br>1pc DLW injection adapter with sample holding loop and syringe 100µl<br>1 pc wash Station<br>1 pc wash Solvent pump station with 2 active micro pumps<br>2 pcs 1 liter wash solvent bottles<br>2 pcs solvent bottle transfer line including solvent filter<br>1 pc system CD ROM DLW for –***xt*** Systems<br>1 pc manual DLW Option<br>requires but does not include ***xt***-Upgrade for PAL and Firmware 4.X<br><br>**Choose this kit if your PAL is already equipped with the *xt*-Upgrade**<br><br>* only if HTS/HTC is equipped with ***xt*** Upgrade | ● | ● | ○ |

# PAL LC Accessories

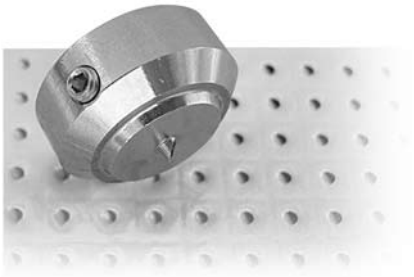
| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Fast Wash Station**  | PAL WashFast-22 | Fast Wash Station for HTS PAL two solvents, consisting of:<br>1 pc double wash station<br>1 pc holder for 2 x 500ml bottles<br>1 pc electrical connection cable<br>1 pc Teflon tubing kit<br>2 pcs solvent bottles 500ml | ● | ○ | ○ |
| | PAL WashFast2-22 | Fast Wash Station for LC PAL two solvents, consisting of:<br>1 pc double wash station<br>1 pc holder for 2 x 500ml bottles<br>1 pc electrical connection cable<br>1 pc Teflon tubing kit<br>2 pcs solvent bottles 500ml | ○ | ○ | ● |
| | PAL WashFast3-22 | Fast Wash Station for HTC PAL two solvents, consisting of:<br>1 pc double wash station<br>1 pc holder for 2 x 500ml bottles<br>1 pc electrical connection cable<br>1 pc Teflon tubing kit<br>2 pcs solvent bottles 500ml | ○ | ● | ○ |
| | PAL TubeFWash | Connection tube incl. fittings and shutoff valve between wash solvent bottle and Fast Wash Station module HTS / HTC / LC PAL<br>(2 pcs PAL TubeFWash are required for 1 Fast Wash Station) | ● | ● | ● |
| | PAL TubeWaste | Waste line for PAL Fast Wash Station all types | ● | ● | ● |
| | 500-WV | 500ml wash solvent bottle for PALWashFast-22 | ● | ● | ● |
| | KitFWash 1000 | 1000ml solvent kit for PAL WashFast-22 | ● | ● | ● |
| | 1000-WV | 1000ml wash solvent bottle for PAL WashFast-22<br>(requires KitFWash 1000) | ● | ● | ● |
| **Flow Cell** | PAL FlowCell | Flow-Through Cell consisting of:<br>1 pc Flow-Cell, Stainless Steel type 316<br>2 pcs Stainless Steel connectors Swagelok 1/4 inch<br>1 pc holder 88mm<br>5 pcs inlet Septa, ø10mm | ● | ● | ○ |

# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **HPLC -*xt* Upgrade Kits** | Kit HTS -***xt*** | Kit ***xt*** Upgrade for HTS PAL Systems<br>1 pc control board-***xt*** for PAL System - Firmware 4.X<br>1 pc back cover (for 80cm standard rail version) including screws<br>1 pc MOD BUS Cable (Cbl RS14R-850)<br>1 pc cable for Wash Station (Cbl RS4LX-1300)<br>1 pc aux cable (Cbl RS20R-1300)<br>1 pc LAN cable (3m) (RS81-3000)<br>1 pc system CD ROM for ***xt***-Systems<br>1 pc manual ***xt***-Upgrade<br><br>**Choose this kit if you want to upgrade an existing HTS PAL to the –*xt* version** | ○ | ○ | ○ |
| | Kit HTC -***xt*** | Kit ***xt*** Upgrade for HTC PAL Systems<br>1 pc control board-***xt*** for PAL System - Firmware 4.X<br>1 pc MOD BUS Cable (Cbl RS14R-850)<br>1 pc cable for Wash Station (Cbl RS4LX-700)<br>1 pc aux cable (Cbl RS20R-760)<br>1 pc LAN cable (3m) (Cbl RS81-3000)<br>1 pc system CD ROM for ***xt***- Systems<br>1 pc manual ***xt***-Upgrade<br><br>**Choose this kit if you want to upgrade an existing HTS PAL to the –*xt* version** | ○ | ○ | ○ |
| **Software and Drivers** | PAL CycCompCD | Cycle Composer remote control software for PAL System<br>CD ROM consisting of:<br>1 Cycle Composer standalone version<br>1 PAL Driver for Agilent ChemStation data system<br>1 PAL Driver for Thermo Xcalibur data system<br>(requires PAL Firmware 2.2.0 or higher and Win 2000/XP or higher) | ● | ● | ● |
| | PAL CycCompCD5 | Cycle Composer remote control software for PAL System<br>CD ROM, site license for 5 instruments consisting of:<br>1 Cycle Composer standalone version including 5 serial numbers<br>1 PAL Driver for Agilent ChemStation data system<br>1 PAL Driver for Thermo Xcalibur data system<br>(requires PAL Firmware 2.2.0 or higher and Win 2000/XP or higher) | ● | ● | ● |
| | PAL CycEdit | PAL Cycle Editor license | ● | ● | ● |
| | PAL ICC-CE | CTC Instrument control components including Cycle Editor | ● | ● | ● |
| | PAL DrvEmp | PAL Driver for Waters Empower | ● | ● | ● |

# PAL LC Accessories

| PAL Accessory | Part Number | Description | HTS-*xt* | HTC-*xt* | LC |
|---|---|---|---|---|---|
| **Barcode Reader** | PAL BCReader | Barcode Reader<br>Laser scanner for barcode labels on 2/10/20ml vials including electrical connection cable | ● | ● | ○ |
| **Microtiterplate Foil Cutter** | MSZ 02-01 | Microtiterplate foil cutter for needles max. gauge 22 | ● | ● | ● |
| **Toolkit** | PAL Toolkit | Torx driver set for PAL System | ● | ● | ● |
| **Instrument Qualification** | PAL LC-QDoc | Instrument Qualification for HTS/HTC and LC PAL consisting of:<br>1 pc Log Book<br>1 pc Documentation IQ procedure<br>1 pc Documentation OQ procedure | ● | ● | ● |
| | PAL LC-ReQ | Instrument requalification for HTS/HTC and LC PAL consisting of:<br>1 pc Documentation OQ procedure | ● | ● | ● |



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