

Part no.	Description			HTS	HTC	LC	COMBI	GC
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**PAL Instruments Options, Accessories and Spare Parts for HPLC PAL Systems**

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Part no.	Description			HTS	HTC	LC	COMBI	GC
<b>PAL DLW Option</b>								
PAL DLW-2 Option	<b>Dynamic Load and Wash Option for fast and clean LC Cycles</b> 1pc DLW-2 Injection Adapter with sample holding loop and syringe 100µl 1pc Wash Station 1pc Wash Solvent Pump Station with 2 active micro pumps 2 pc 1 Liter Wash Solvent bottles 2 pc Solvent bottle transfer line including solvent filter 1 pc System CD ROM DLW including Cycles <b>requires but does not include xt-Upgrade for PAL and Firmware 4.X or higher</b> <b>Choose this kit if your PAL HTC/HTS is already equipped with the XT-Upgrade</b>			•	•			
PAL DLW-2-HTC-xt	<b>Dynamic Load and Wash Option including HTC-xt Upgrade Kit</b> 1pc DLW-2 Injection Adapter with sample holding loop and syringe 100µl 1pc Wash Station 1pc Wash Solvent Pump Station with 2 active micro pumps 2 pc 1 Liter Wash Solvent bottles 2 pc Solvent bottle transfer line including solvent filter 1 pc System CD ROM DLW including Cycles <b>1 pc Kit HTC-xt (Control Board-xt for PAL System - Firmware 4.X or higher)</b> <b>Choose this kit if you want to upgrade an existing HTC PAL to the DLW Option</b>				•			
PAL DLW-2-HTS-xt	<b>Dynamic Load and Wash Option including HTS-xt Upgrade Kit</b> 1pc DLW-2 Injection Adapter with sample holding loop and syringe 100µl 1pc Wash Station 1pc Wash Solvent Pump Station with 2 active micro pumps 2 pc 1 Liter Wash Solvent bottles 2 pc Solvent bottle transfer line including solvent filter 1 pc System CD ROM DLW including Cycles <b>1 pc Kit HTS-xt (Control Board-xt for PAL System - Firmware 4.X or higher)</b> <b>Choose this kit if you want to upgrade an existing HTS PAL to the DLW Option</b>			•				
PAL TubeDLW	DLW Tubing Kit HTS/HTC			•	•			
SYRC DLW100-R	CTC Syringe gastight DLW 100µl, removable needle, not included			•	•			
PLG DLW100	Replacement Plunger for SYRC DLW100-R, pk of 10 pcs			•	•			
PAL DLW-2Loop	PAL DLW-2 Loop incl. PEEK hex-head nut and lock nut for needle adapter			•	•			
PAL TubeWaste	Tube Waste for Wash Station, length 2m			•	•			
PAL DLW-2 UpgrdKit	PAL DLW-2 Upgrade Kit, includes : DLW-2 Syringe Holder Plate DLW-2 Actuator Control PCB DLW Needle Holder			•	•			
PAL PMKitDLW	Preventative Maintenance (PM) Kit for PAL HPLC Technique with DLW Option consisting of: 1 pc Kit PAL DLW Holding Loop (PAL DLWLoop) 1 pc DLW Needle Kit (PAL DLWNdI) 1 pc PAL Lubrication Kit 1 pc PAL Brush 1 pc Tension Cord 280 mm 1 pc Tension Cord 90 mm 1 pc Needle Seal for LC-Valve 1 pc PM Documentation			•	•			

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**HTX, HTS PAL, HTC PAL and LC PAL Syringe Kits**

PAL SyrLC10ul	Kit LC Syringe 10µl for HTX/HTS/HTC/LC PAL consisting of: 1pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G10-22S-3	•	•	•		
PAL SyrLC25ul	Kit LC Syringe 25µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G25-22S-3	•	•	•		
PAL SyrLCX25ul	Kit LC X-Syringe 25µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRX G25-22S-3	•	•	•		
PAL SyrLCX50ul	Kit LC X-Syringe 50µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRX G50-22S-3	•	•	•		
PAL SyrLC100ul	Kit LC Syringe 100µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G100-22S-3	•	•	•		
PAL SyrLCX100ul	Kit LC X-Syringe 100µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRX G100-22S-3	•	•	•		
PAL SyrLCX100ul-22	Kit LC X-Syringe 100µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRX G100-22-3	•	•	•		
PAL SyrLC250ul	Kit LC Syringe 250µl for HTX/HTS/HTC/LC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G250-22-3	•	•	•		
PAL SyrLC500ul	Kit LC Syringe 500µl for HTX/HTS/HTC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G500-22-3	•	•			
PAL SyrLC1000ul	Kit LC Syringe 1000µl for HTX/HTS/HTC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G1000-22-3	•	•			
PAL SyrLC2500ul	Kit LC Syringe 2500µl for HTX/HTS/HTC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G2500-22-3	•	•			
PAL SyrLC5000ul	Kit LC Syringe 5000µl for HTX/HTS/HTC PAL consisting of: 1 pc syringe adapter and 1pc plunger holder 2 pc syringe SYRC G5000-22-3	•	•			

**HTX, HTS PAL, HTC PAL and LC PAL Standard Syringes**

SYRC G10-22S-3	Liquid Syringe gastight 10µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22S, Pointstyle 3	•	•	•		
SYRC G25-22S-3	Liquid Syringe gastight 25µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22S, Pointstyle 3	•	•	•		
SYRX G25-22S-3	Liquid Syringe X-type gastight 25µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22S, Pointstyle 3	•	•	•		
SYRX G50-22S-3	Liquid Syringe X-type gastight 50µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22S, Pointstyle 3	•	•	•		
SYRX G100-22-3	Liquid Syringe X-type gastight 100µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22, Pointstyle 3	•	•	•		
SYRX G100-22S-3	Liquid Syringe X-type gastight 100µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22S, Pointstyle 3	•	•	•		
SYRC G100-22-3	Liquid Syringe gastight 100µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22, Pointstyle 3	•	•	•		
SYRC G100-22S-3	Liquid Syringe gastight 100µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22S, Pointstyle 3	•	•	•		
SYRC G250-22-3	Liquid Syringe gastight 250µl for HTX/HTS/HTC/LC PAL Fixed needle, gauge 22, Pointstyle 3	•	•	•		
SYRC G500-22-3	Liquid Syringe gastight 500µl for HTX/HTS/HTC PAL Fixed needle, gauge 22, Pointstyle 3	•	•			
SYRC G1000-22-3	Liquid Syringe gastight 1000µl for HTX/HTS/HTC PAL Fixed needle, gauge 22, Pointstyle 3	•	•			
SYRC G2500-22-3	Liquid Syringe gastight 2500µl for HTX/HTS/HTC PAL Fixed needle, gauge 22, Pointstyle 3	•	•			
SYRC G5000-22-3	Liquid Syringe gastight 5000µl for HTX/HTS/HTC PAL Fixed needle, gauge 22, Pointstyle 3	•	•			

Part no.	Description	HTS	HTC	LC	COMBI	GC
PLG G10	10 pcs. Replacement syringe plunger for syringe SYRC G10-22S-3	•	•	•		
PLG G25	10 pcs. Replacement syringe plunger for 25µl syringe	•	•	•		
PLG X25	3 pcs. Replacement syringe plunger for SYRX G25 syringe	•	•	•		
PLG X50	3 pcs. Replacement syringe plunger for SYRX G50 syringe	•	•	•		
PLG X100	3 pcs. Replacement syringe plunger for SYRX G100 syringe	•	•	•		
PLG G100	10 pcs. Replacement syringe plunger for 100µl syringe	•	•	•		
PLG G250	10 pcs. Replacement syringe plunger for 250µl syringe	•	•	•		
PLG G500	10 pcs. Replacement syringe plunger for 500µl syringe	•	•	•		
PLG G1000-L	1 pcs. Replacement syringe plunger for 1000µl syringe	•	•	•		
PLG G2500	1 pcs. Replacement syringe plunger for 2500µl syringe	•	•	•		
PLG G5000	1 pcs. Replacement syringe plunger for 5000µl syringe	•	•	•		

**HTX, HTS PAL, HTC PAL and LC PAL Trays, Traysets, Tray Holders, Thermostatted Tray Holders and Stacks**

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 MT footprint, for 54x2ml vials for PAL Stacks all types or PAL MTHolders all types	•	•	•		
PAL TrayMT2ml/6	Set of 6 pcs. PAL TrayMT2ml sample trays	•	•	•		
PAL TrayMT10ml/6	Sample tray with Microtiter footprint for 15 vials 10ml, Pack of 6 pcs	•	•	•		
PAL Stack8MT	PAL System stack for 8 Microtiter plates	•	•			
PAL Stack12MT	PAL System stack for 12 Microtiter plates	•	•			
PAL Stack4DW	PAL System stack for 4 micro- or deepwell plates	•	•			
PAL Stack6DW	PAL System stack for 6 Deepwell plates or 6 PAL TrayMT2ml	•	•			
PAL MTHolder	Tray Holder 76mm for 2 Microtiter/Deepwell plates or 2 PAL TrayMT2ml	•	•			
PAL MT4Holder	Tray Holder 76mm for 4 Microtiter/Deepwell plates or 4 PAL TrayMT2ml	•	•			
MR 21-00	Tray holder 76mm for standard vial trays 1ml, 2ml, 10ml vials	•	•			
MR 22-00	Tray holder 114mm for standard vial trays 10/20ml vials	•	•			
PAL TraySet1ml	Sample tray for 200 vials 0.7/1ml, including Tray Holder 76mm	•	•			
PAL TraySet2ml	Sample tray for 98 vials 2ml or 78 vials 0.7/1ml, including Tray Holder 76mm	•	•			
PAL TrayCooler-xt	Peltier tray cooler 4°C to 70°C for one PAL Tray2ml (without tray) consisting of: 1 pc Tray Cooler with 84mm legs 1 pc Tray cover for PAL Tray2ml 1 pc Power supply 100-240V incl. Temperature Regulator	•	•			
PAL LiqCooler	Liquid Tray Cooler 4°C to 70°C* for 1 PAL Tray2ml (without sample tray) consisting of: 1pc LiqCooler with 84mm legs 1pc plastic tray cover for PAL Tray2ml (circulator connection tube OD 8mm) *excluding external heating/cooling circulator	•	•			
PAL LiqCooler2	Liquid Tray Cooler 4°C to 70°C* consisting of: 1 pc TrayCooler with 136mm legs 1 pc Cooling plate for 20ml vials 1 pc plastic tray cover for PAL Tray2ml (* excluding PAL Tray2ml and external circulator)	•	•			
MC 30-10	Plastic Tray Cover to use 1 PAL Tray1ml in PAL TrayCooler or PAL LiqCooler	•	•			
MC 30-11	Plastic Tray Cover to use 1 PAL Tray2ml in PAL TrayCooler / PAL LiqCooler	•	•			
MC 30-14	Plastic Tray Cover to use 1 96well MT/DW in PAL TrayCooler/PAL LiqCooler	•	•			
MC 50-01	Adapter plate to use 1 96 well MT/DW in PAL TrayCooler / LiqCooler	•	•			
MP 50-031	Cooling plate 32x20 for PAL LiqCooler2 and PAL TrayCooler2	•	•			
PAL StkCooler-xt	Peltier cooled 6 DW Stack 4°C to 40°C for 6 standard microplates or 6 deepwell plates or 6 x 54 2ml vials including LCD display, temperature regulation ±1°C and power supply 100V-240V	•	•			
PAL StkCooler12MT-xt	Peltier cooled 12MT Stack 4°C to 40°C for 12 standard microplates including LCD display, temperature regulation ±1°C and power supply 100V-240V	•	•			
PAL StkCooler2DW-xt	Peltier cooled 2DW Stack 4°C to 40°C for 2 pcs Standard Microplates or 2 pcs Deepwell plates or 2 pcs PAL TrayMT2ml including 1 pc Power Supply 100V-240V LED Display, temperature regulation ±1°C	•	•			

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**HTX, HTS PAL and HTC PAL Valve Drives**

PAL 4VlvDrv-C2V6	PAL 4-Valve Module, type 2 consisting of: 4 pcs. Valve Drives 4 pcs. VICI Cheminert 6-port Injection valves, type C2V-1006D-CTC 4 pcs. Sample loops 20µl 1 pc PEEK Solvent manifold 1 set PEEK tubing kit including PEEK fittings 1 set Electrical connection cables			•	•			
PAL 4VlvDrv	PAL 4-Valve Module, type 2 consisting of: 4 pcs. Valve Drives 1 pc PEEK Solvent manifold 1 set PEEK tubing kit including PEEK fittings 1 set Electrical connection cables (requires VICI Valco LC Valves, type DCxWK, type C or Rheodyne PD)			•	•			
PAL ColSel6	Column Switching Valve Module for up to 6 columns 2pc C5-1006 type 6-port Column Selector Valve 0.25mm bore (requires Cycle Composer or PAL ICC-CE Software and PAL 1VlvDrv)			•	•			
PAL 1VlvDrv-D	PAL 1Valve Drive Module High Torque consisting of: 1 pc Multiposition Valve Drive with bracket 1 set Electrical connection cable (requires LC Injection Valve, VICI type)			•	•			
PAL 1VlvDrv	PAL 1-Valve Drive Module consisting of: 1 pc Multiposition Valve Drive with bracket 1 set Electrical connection cable (requires LC Injection Valve, VICI type)			•	•			
PAL 2VlvDrv	PAL 2-Valve Drive Module consisting of: 2 pcs Multiposition Valve Drives with bracket 1 set Electrical connection cable (requires LC Injection Valve, VICI type)			•	•			
PAL 3VlvDrv	PAL 3-Valve Drive Module consisting of: 3 pcs Multiposition Valve Drives with bracket 1 set Electrical connection cable (requires LC Injection Valve, all types)			•	•			
PAL VlvDrv	PAL Valve Drive for VICI LC valve type WK or C (without Valve) 1 pc 2 Position Valve Drives with bracket 1 set Electrical connection cable (requires LC Injection Valve, VICI type)			•	•			
PAL VlvDrvR	Valve drive for PAL System for Rheodyne valve PD7921 and PD7991 (without valve), consisting of: 1 pc Valve drive module 1 pc Connection cable 1300mm (requires LC Injection Valve, Rheodyne type PD7921 / PD7991)			•	•			
PAL VlvDrvR-32	Valve drive for PAL System for Rheodyne valve PD718 series (without valve), consisting of: 1pc Valve drive 1pc Connection cable 1300mm (requires LC Injection Valve, Rheodyne type PD 718 series)			•	•			

**HTX, HTS PAL and HTC PAL Injection Valves, Valve Adaptors**

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			•	•			
C2V-0006D-CTC-K	6-port VICI Cheminert Injection Valve 0.15mm bore incl. Needle Guide, Needle Seal, Kit LCVlv			•	•			
C2V-0346D-CTC-K	6-port VICI Cheminert Injection Valve PAEK 0.15mm bore incl. Needle Guide, Needle Seal, Kit LCVlv			•	•			
C2V-1006D-CTC-K	6-port VICI Cheminert Injection Valve 0.25mm bore incl. Needle Guide, Needle Seal, Kit LCVlv			•	•			
C2V-1346D-CTC-K	6-port VICI Cheminert Injection Valve PAEK 0.25mm bore incl. Needle Guide, Needle Seal, Kit LCVlv			•	•			

Part no.	Description	HTS	HTC	LC	COMBI	GC
C2V-3606D-CTC-K	6-Port Cheminert Injection Valve 0.75 mm bore, 4000 psi 75°C incl. Needle Guide gauge 19, Needle Seal gauge 19, Kit LCVlv	•	•			
C2VH-1000D-CTC-K	10-port VICI Cheminert Injection Valve 0.25mm bore incl. Needle Guide, Needle Seal, Kit LCVlv	•	•			
CN2-4340D-CTC	10-port VICI Cheminert Switching Valve PAEK version 0.1mm bore 1/32" Connections, no vertical port, can not be used as injection valve	•	•			
C5F-1004D-CTC	8-port VICI Selector Valve 0.25mm bore (requires Valve Drive MV 03-01)	•	•			
C72VU-6676D-CTC-K	6 port VICI injection valve Cheminert Pressure up to 18'500 psi / 1275 bar 50°C liq. / ID 0.15 mm incl. 2µl and 20µl loop. 20µl loop already mounted.	•	•			
C72VX-1676D-CTC-K	6-port VICI Cheminert Injection Valve, 0.25mm bore Pressure up to 15'000 psi / 1000 bar incl. Needle Guide, Needle Seal, Kit LCVlv	•	•			
C72VX-1670D-CTC-K	10-port VICI Cheminert Injection Valve, 0.25mm bore Pressure up to 15'000 psi / 1000 bar incl. Needle Guide, Needle Seal, Kit LCVlv (requires PAL 1VlvDrv-D high torque version)	•	•			
C72X-6670D-CTC	10-port VICI Cheminert Valve 15'000 psi 75°C ID 0.15 mm (requires PAL 1VlvDrv-D High Torque Version)	•	•			
C2-Adptr	Adaptor to mount C2V valve on PAL VlvDrv old style (MV 10-00)	•	•	•		
MV 36-01	Valve-Adapter for VICI Valco valves	•	•			
Kit LCVlv	Kit Waste-Tubing for Valve	•	•			
PD7991-K	6-port Rheodyne Injection Valve 0.20mm bore SPC4 (Special plating on Titanium, biocompatible) Pressure up to 15'000 psi / 1000 bar incl. Needle Guide, Needle Seal, Kit LCVlv	•	•			
SS-100 Set	SWAGELOK ferrule 1/16" SST, pack of 10 Front and Back Ferrule (required for PD 7991-K fluid connections)	•	•			
PD718-313-K	6 port Rheodyne Injection Valve 0.20mm bore Coated, stainless steel rotor seal (RPC-13) Pressure up to 17'500 psi / 1200 bar, incl. Needle Guide, Needle Seal, Kit LCVlvR, mounted 2ul loop and VHP-200 fittings (requires PAL VlvDrvR-32)	•	•			
PD718-315-K	6 port Rheodyne Injection Valve 0.20mm bore and MBB Coated, stainless steel rotor seal (RPC-13) Pressure up to 17'500 psi / 1200 bar, incl. Needle Guide, Needle Seal, Kit LCVlvR, (requires PAL VlvDrvR-32)	•	•			

**HTX, HTS PAL, HTC PAL and LC PAL Stators, Rotors, Sample Loops**

SL1KCW	Sample loop 1000µl for VICI, type WK	•	•			
SL500CW	Sample loop 500µl for VICI, type WK	•	•			
SL250CW	Sample loop 250µl for VICI, type WK	•	•			
SL200CW	Sample loop 200µl for VICI, type WK	•	•			
SL100CW	Sample loop 100µl for VICI, type WK	•	•			
SL50CW	Sample loop 50µl for VICI, type WK	•	•			
SL20CW	Sample loop 20µl for VICI, type WK	•	•			
CSL5K	Sample loop 5000µl for Cheminert Injection valve	•	•			
CSL2K	Sample loop 2000µl for Cheminert Injection valve	•	•			
CSL1K	Sample loop 1000µl for Cheminert Injection valve	•	•			
CSL500	Sample loop 500µl for Cheminert Injection valve	•	•			
CSL250	Sample loop 250µl for Cheminert Injection valve	•	•	•		
CSL100	Sample loop 100µl for Cheminert Injection valve	•	•	•		
CSL50	Sample loop 50µl for Cheminert Injection valve	•	•	•		
CSL20-CTC	Sample loop 20µl for Cheminert Injection valve	•	•	•		
CSL10-CTC	Sample loop 10µl for Cheminert Injection valve	•	•	•		
CSL5-CTC	Sample loop 5µl for Cheminert Injection valve	•	•	•		
CSL2-CTC	Sample loop 2µl for Cheminert Injection valve	•	•	•		
CZSL20PK	Sample loop PEEK 20µl for Cheminert Injection valve	•	•	•		
CZSL10PK	Sample loop PEEK 10µl for Cheminert Injection valve	•	•	•		
CZSL5PK	Sample loop PEEK 5µl for Cheminert Injection valve	•	•	•		
CZSL2PK	Sample loop PEEK 2µl for Cheminert Injection valve	•	•	•		

Part no.	Description	HTS	HTC	LC	COMBI	GC
TR050306B	Sample Loop 5ul Stainless Steel for Rheodyne type PD 7991	•	•			
TR050306C	Sample Loop 10ul Stainless Steel for Rheodyne type PD 7991	•	•			
TR050306D	Sample Loop 20ul Stainless Steel for Rheodyne type PD 7991	•	•			
TR050306E	Sample Loop 50ul Stainless Steel for Rheodyne type PD 7991	•	•			
TR050306F	Sample Loop 100ul Stainless Steel for Rheodyne type PD 7991	•	•			
PD718SL2	Rheodyne Sample loop 2ul for PD 718-313 and PD718-315 type valves	•	•			
PD718SL10	Rheodyne Sample loop 10ul for PD 718-313 and PD718-315 type valves	•	•			
PD718SL20	Rheodyne Sample loop 20ul for PD 718-313 and PD718-315 type valves	•	•			
PAL NdlSealP	10pcs. PEEK Needle seal, gauge 22 for Valco PEAK valve	•	•	•		
PAL NdlSealP-19	10pcs PEEK Needle seal , gauge 19 for Valco PEAK valve	•	•	•		
PAL NdlSeal	10pcs. Needle seal, gauge 22 for Valco valve	•	•	•		
PAL NdlSeal-19	10pcs. Needle seal, gauge 19 for Valco valve	•	•	•		
PAL NdlSealR	10pcs. Needle seal, gauge 22 for Rheodyne valves	•	•			
C2-00R6	Rotor for C2V-0006D-CTC and C2-0006D-CTC	•	•			
C2V-0C06	Stator for C2V-0006D-CTC	•	•			
C2-13R0H	Rotor for C2VH-1340D-CTC	•	•			
C2V-1C40H	Stator for C2VH-1340D-CTC	•	•			
C2-10R0H	Rotor for C2VH-1000D-CTC	•	•			
C2V-1C00H	Stator for C2VH-1000D-CTC	•	•			
C2-03R6	Rotor for C2V-0346D-CTC	•	•			
C2V-0C46	Stator for C2V-0346D-CTC	•	•			
C72-16R6	Rotor for C72VX-1676D-CTC and C72VX-1696D-CTC	•	•			
C72V-1C76	Stator for C72VX-1676D-CTC	•	•			
C72-16R0	Rotor for C72VX-1670D-CTC and C72VX-1690D-CTC	•	•			
C72V-1C70	Stator for C72VX-1670D-CTC	•	•			
C2-13R6	Rotor for C2V-1346D-CTC	•	•			
C2V-1C46	Stator for C2V-1346D-CTC	•	•			
C2V-3C06	Stator C2V-3006D-CTC	•	•			
C72-36R6	Rotor for C2V-3606D-CTC	•	•			
C2-10R6	Rotor for C2V-1006D-CTC	•	•	•		
C2V-1C06	Stator for C2V-1006D-CTC	•	•	•		
C2-20R6	Rotor for C2V-2006D-CTC	•	•	•		
C2V-2C06	Stator for C2V-2006D-CTC	•	•	•		
C2-23R6	Rotor for C2V-2346D-CTC	•	•	•		
C2V-2C46	Stator for C2V-2346D-CTC	•	•	•		
C72-66R6	Rotor for C72VX-6696D-CTC, C72VU-6696D-CTC and for C72VU-6676D-CTC	•	•			
C72V-6C76	Stator for C72VU-6676D-CTC	•	•			
C5F-10R4	Rotor for PAL SelVlv C5 Selector Valve	•	•			
C5-1C28	Stator for PAL SelVlv C5 Selector Valve	•	•			
SSAC14W.5/1	Rotor for DC14WK.5/1-CTC, internal loop 0.5/1µl	•	•			
SSAC6W	Rotor for DC6WK-CTC	•	•			
SSAC10W	Rotor for DC10WK-CTC	•	•			
7991-999	RheBuild Kit Rotor for PD 7991	•	•			
7990-005	Stator for PD 7991	•	•			
PD718-RPC13-6	Rotor for PD718-313 Rheodyne 1200 Bar Valve	•	•			
PD718-SPC3	Stator for PD718-313 Rheodyne 1200 Bar Valve	•	•			
PD718-315-RPC	Rotor for PD718-315 Rheodyne 1200 Bar MBB Valve	•	•			
PD718-315-SPC3	Stator for PD718-315 Rheodyne 1200 Bar MBB Valve	•	•			

**HTX, HTS PAL, HTC PAL Dilutor Option**

PAL Dilutor	PAL Dilutor Option, consisting of: 1 pc Dilutor module 1 pc Connection cable 1 pc Dilutor syringe 2.5ml 1 pc Transfer tube 1/16" 1 pc Solvent bottle 1000ml 1 pc Aspirating tube 1/8" (requires PAL SyrLCSP80µl, PAL SyrLCSP20µl)						•			
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Part no.	Description			HTS	HTC	LC	COMBI	GC
PALDilutor-HTX	PAL Dilutor Option for HTX PAL, consisting of: 1 pc Dilutor module 1 pc Connection cable 1 pc Dilutor syringe 2.5ml 1 pc Transfer tube 1/16" 1 pc Solvent bottle 1000ml 1 pc Aspirating tube 1/8" (requires PAL SyrLCSP80µl, PAL SyrLCSP20µl)	4.500						
PAL SyrLCSP80µl	Kit Dilutor Syringe 80µl for HTS PAL consisting of: 1pc Sideport Syringe Plunger Sealing Screw 1pc Sideport Syringe Adapter and Plunger Holder 1pc Sideport Syringe 80µl SYRC SP80-R 3pcs Ndl S-22-3 Needles gauge 22 pointstyle 3 for Sideport Syringe			•				
PAL SyrLCSP20µl	Kit Dilutor Syringe 20µl for HTS PAL consisting of: 1pc Sideport Syringe Plunger Sealing Screw 1pc Sideport Syringe Adapter and Plunger Holder 1pc Sideport Syringe 20µl SYRC SP80-R 3pcs Ndl S-22S-3 Needles gauge 22S pst 3 for Sideport Syringe			•				
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			•				
PLG DIL1.0	Replacement Dilutor Syringe Plunger 1ml			•				
PLG DIL2.5	Replacement Dilutor Syringe Plunger 2.5ml			•				
PLG DIL5	Replacement Dilutor Syringe Plunger 5.0ml			•				
PLG DIL10	Replacement Dilutor Syringe Plunger 10ml			•				
PLG SP80	10pcs Replacement syringe plunger for 80µl Sideport Syringe			•				
PLG SP20	10pcs Replacement syringe plunger for 20µl Sideport Syringe			•				
Ndl S-22-3	3pcs Replacement needle gauge 22 pst 3 for Sideport Syringe 80µl			•				
Ndl S-22S-3	3pcs Replacement needle gauge 22S pst 3 for Sideport Syringe 20µl			•				
PAL SyrOringSP20	1pc Perfluor O-Ring for SYRC SP20-R			•				
PAL SyrOringSP80	1pc Perfluor O-Ring for SYRC SP80-R			•				
PAL TubeDilHTX	1pc PAL Dilutor Transfer Tubing Kit for 120cm X-axis			•				
PAL TubeDilutor(B)	1pc PAL Dilutor Transfer Tubing Kit for 50cm or 80cm X-axis			•				
PAL DilAspKit	Aspiration tube kit, PFA tube and glass filter 40µl pore size			•				
1000-SV	1pc Dilutor Solvent bottle 1000ml			•				
MM 30-36	1pc Dilutor Syringe Screw			•				
PAL DilWasher	PTFE Dilutor washer, set of 10 pcs			•				
MM 90-02	3-way Dilutor Valve, PCTFE			•				
MM 90-03	3-way Dilutor Valve, PTFE			•				

**HTS PAL, HTC PAL MALDI Option**

PAL MALDIOpt	PAL MALDI Option - Fraction Collection system consisting of: 1pc Tool parking bracket 1pc MALDI spotting tool 3pcs. Spotting tips 1pc Tool holder 1pc Waste tube 1pc Microfluidic fitting and tubing accessories 1pc CD-ROM PAL firmware 3.0 and CycleComposer cycles (requires PAL firmware 3.0 or higher and Cycle Composer or preferably PAL-xt System and Firmware 4.1.X or higher)			•	•			
MSpoTip3	3 pcs. Coated Fused Silica Spotting Tips, 360µm OD, 20µm ID			•	•			
MP 52-01	MALDI Target Adapter for 2pcs. Waters 96/384 Targets			•	•			
MP 52-02	MALDI Target Adapter for 2pcs. ABI Opti-TOF or ABI 4700 / Voyager			•	•			
MP 52-04	MALDI Target Adapter for 1pc Bruker AnChor Chip			•	•			
MP 52-05	MALDI Target Adapter for 1pc ABI 4800 Target			•	•			

**HTX, HTS PAL, HTC PAL and LC PAL Software**

PAL CycCompCD	Cycle Composer Remote Control Software for PAL System CD ROM consisting of: Cycle Composer standalone version (Requires PAL Firmware 2.2 or higher and Windows XP/ VISTA)			•	•	•		
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Part no.	Description	HTS	HTC	LC	COMBI	GC
PAL CycCompCD5	Cycle Composer Remote Control Software for PAL System CD ROM, site license for 5 instruments consisting of: Cycle Composer standalone version including 5 serial numbers (Requires PAL Firmware 2.2 or higher and Windows XP/ VISTA)	•	•	•		
PAL CC-Upgrd	Cycle Composer Remote Control Software for PAL System CD Upgrade Version 1.6 (requires Cycle Composer license number)	•	•	•		
PAL CycEdit	PAL Cycle Editor License	•	•	•		
PAL ICC-CE	CTC Instrument Control Components incl. Cycle Editor	•	•	•		
PAL DrvEmp	PAL Driver License for Waters Empower2 Software	•	•	•		
PAL DrvEmp3	PAL Driver License for Waters Empower3 Software	•	•	•		

**HTX, HTS PAL, HTC PAL and LC PAL Accessories**

PAL LC-QDoc	Instrument Qualification for HTS/HTC and LC PAL consisting of: 1pc LogBook 1pc Documentation IQ procedure 1pc Documentation OQ procedure	•	•	•		
PAL LC-ReQ	Instrument Requalification for HTS/HTC and LC PAL consisting of: 1pc Documentation OQ procedure	•	•	•		
PAL WashFast-22	Wash station HTS PAL for two solvents consisting of: 1 pc Double wash station incl. Holder for 2 x 500ml bottles 1 pc Electrical Connection cable 1 pc Tubing Kit 2 pc Solvent bottles 500ml	•				
PAL WashFast3-22	Wash station HTC PAL for two solvents consisting of: 1 pc Double wash station incl. Holder for 2 x 500ml bottles 1 pc Electrical Connection cable 1 pc Tubing Kit 2 pc Solvent bottles 500ml		•			
Kit FWash1000	1000ml Solvent Kit consisting of: 1 pc Bottle Holder bracket incl. screws 2 pcs. 1000ml Solvent Bottles	•	•	•		
PAL WashLarge	LC PAL Wash station for two solvents, consisting of: 1 pc Vial holder for 2 x 100ml vials 2 pcs Vial 100ml, including Caps and Seals 1 pcs Waste port including septa, cap waste tubing	•	•	•		
PAL 3xSolv100	Solvent Reservoir consisting of: 1 pc Holder for 3pc 100ml vials 3 pcs Solvent vials 100ml including caps and seals	•	•			
PAL FlowCell	Flow-Through Cell for PAL System, new design to accommodate up to 6 flow cells, consisting of* : 1 pc Holder 88mm 1 pc Flow-Cell Stainless Steel 316 with connectors Swagelok 1/4" (*required external pump and transfer tubing not included)	•	•			
MM 06-00	Single Flow-Cell for PAL System, consisting of: 1 pc Flow-Cell Stainless Steel 316 with connectors Swagelok 1/4" 1 pc Septa (requires PAL FlowCell)	•	•			
PAL OutExpBox	Output Expansion Box for HTS PAL or COMBI PAL System 8 x Relay Contact / 8 x 24V (P tot = 12W) consisting of: 1 pc Output Expansion Box 1 pc Cable DSub25M/F 1 pc Cable Power 36V (requires PAL Firmware 2.4 or higher)	•				
PAL BCReader	Barcode Reader Laser scanner for barcode labels on 2ml/10ml/20ml vials with magnetic caps including adapter and connection cables (PAL and PAL-xt Systems)	•	•			
PAL BCAdapter	Barcode Adapter for PAL-xt System including cable - only required when upgrading existing PAL to PAL-xt System (Requires PAL firmware version 4.1.2 or higher)	•	•			
USB-Ser2	USB to 2 RS232 Converter (connects PAL SER ports to USB port)	•	•	•		
MSZ 02-01	Microtiter Plate Foil Cutter for needles Gauge 22 max.	•	•	•		
PAL TwinKit1-xt	Mounting kit for two PAL-xt cross rails	•				
PAL TwinSafetyGuard	Safety Guard for PAL Twin Kit with 126 mm displacement	•				
PAL XExtL-xt	PAL-xt X-Axis Extension Left hand side, 126mm	•				
PAL XExtR-xt	PAL-xt X-Axis Extension Right hand side, 126mm	•				
PAL Toolkit	Tool Kit for PAL System	•	•	•		

Part no.	Description	HTS	HTC	LC	COMBI	GC
<b>HTX, HTS PAL, HTC PAL and LC PAL Brochures</b>						

PAL Broch-HPLC-xt	Brochure HPLC-xt systems	•	•	•		
PAL BrochCat	Accessories catalog	•	•	•		
PAL HintsLC	Poster Application Hints LC	•	•	•		

<b>HTX, HTS PAL, HTC PAL and LC PAL Spare Parts</b>						
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PAL PMKit1	Preventative Maintenance (PM) Kit for PAL HPLC Technique	•	•	•		
PAL MR-Std-xt	Standard Support Leg PAL-xt, 215mm, 2pcs	•	•			
PAL LubKit	PAL Lubrication Kit	•	•	•		
PAL PaintCTC	Paint for PAL System 20ml including brush (white)	•	•	•		
MSB6.3AT/10	Fuse 6.3AT for PAL CPU and Control Boards, pkg of 10pcs	•	•	•		
SFC 4/10	SupraFuse 4A for PAL CPU and Control Boards, pkg of 10pcs	•	•	•		
BAT VL2330	Backup Battery for PAL CPU/Control Board (1pc)	•	•	•		
Kit HTS-xt	Upgrade Kit for HTS PAL to PAL HTX-xt, incl. 1 pc Control Board-xt for PAL System - Firmware 4.X.X, back cover, cables, CD	•				
Kit HTC-xt	Upgrade Kit for HTC PAL to PAL HTC-xt, incl. 1 pc Control Board-xt for PAL System - Firmware 4.X.X, back cover, cables, CD		•			
APR Control-xt	Control Board for all PAL Models	•	•	•		
APR Control-HTC	Control Board for HTC PAL (non-xt)		•			
APR Control-LC	Control Board for LC PAL (non-xt)			•		
APR CPU	CPU Board for PAL System (non-xt)	•				
APR MOTIO	Motor Driver and Input/Output Processing Board for PAL System (non-xt)	•				
PAL-POWERSUPPLY	Main Power supply for PALSystem. Input Voltage 100-240V	•	•			
MN 03-02	Power supply for PAL StkCooler-xt and PAL TrayCooler-xt, all types Input Voltage 100V-240V (specify Cooler type)	•	•			
PAL-POWER-STACK	Power supply Peltier-Cooler incl. controller, PALxt	•	•			
PAL-POWER-TRAY	Power supply Tray Cooler incl. controller, PALxt	•	•			
Cbl RS20R-760	Cable 20p shielded, MiniRibbon connectors, 760mm long (Connection cable of COMBI PAL incubation heater , dilutor or valve drive)	•	•	•		
Cbl RS20R-1300	Cable 20p shielded, MiniRibbon connectors, 1300mm long (Connection cable of COMBI PAL incubation heater , dilutor or valve drive)	•	•	•		
Cbl RS2MR-2500	Power Cable for MultiposVlvDrv MV 03-01	•				
Cbl RS3JR-850	Signal Cable for MultiposVlvDrv MV 03-01, 850mm	•				
Cbl RS3JR-1200	Signal Cable for MultiposVlvDrv MV 03-01, 1200mm	•				
Cbl RS14R-250	Daisy chain Cable 14p shielded, MiniRibbon connectors, 250mm long (connection of MultiposVlvDrv MV 03-01)	•				
Cbl RS14R-850	Cable 14p shielded, MiniRibbon connectors, 850mm long (Connection of MultiposVlvDrv Type 2)	•				
Cbl RS3M-2000	Power cable 2m for PAL all types (Connection between PAL power supply and PAL)	•	•	•		
Cbl RS4EX-1300	Cable for dual Fast Wash Station HTX PAL	•				
Cbl RS4EX-800	Cable for dual Fast Wash Station HTS PAL	•				
Cbl R4LX-700	Cable for dual Fast Wash Station HTC PAL and LC PAL		•	•		
Cbl R4LX-1300	Cable for PAL-xt Wash Station, Round Connector (Length: 1300 mm)	•	•			
Cbl RS4C0-3000	PAL Interface cable 3m long 15 pin connector - open wires	•	•	•		
Cbl RS9B-3000	Cable RS-232 with connector DB9 3m long (Connection PAL - PC)	•	•	•		
Cbl RS9B-6000	Cable RS-232 with connector DB9 6m long (Connection PAL - PC)	•	•	•		
Cbl SS8J-700	Cable 8p shielded, RJ45 connectors, 700mm long, LCD Terminal	•	•	•		
PAL CblSerPrtr	Cable and adapter to connect a PAL System to a serial printer with DB 25 connector (requires Printer with serial interface)	•	•	•		
PAL 3Ferrule	1pc Flangeless Trio Ferrule PTFE 3 x 1/16" for ActiveWashStation	•	•	•		
PAL AWOring	Perfluor O-Ring for ActiveWashStation (set of 2 pcs)	•	•	•		
PAL TubeWasteAct	Waste Tube for Active Wash, 2m	•	•	•		
CV-3315	1pc 174-28 Waste Check Valve 0.2bar, for ActiveWashStation	•	•	•		
PAL TubeWashAct	Tubing Kit for Active WashStation with 1 Injection Valve	•	•	•		
MM 012-01	PTFE solvent overflow collector incl. ActiveWash Station needle guide	•	•	•		
MM 91-01	1pc PTFE Solenoid Micropump, for ActiveWashStation	•	•	•		
MB 20-00	Holder Assembly for PAL Control Terminal	•	•	•		
PAL TermCTC-xt	Control terminal for PAL-xt system all types	•	•	•		
Kit LCD Repl	Replacement Kit for PAL Control Terminal, incl. LCD-Module, flat cable, screws	•	•	•		
MM 01-01	Fast wash module for two solvents, without holder and cable	•	•	•		
MM 11-00	Fast wash module valve assembly	•	•	•		
MM 30-21	Glas tube for fast wash station, gauge 22, ID 0.8mm, length 57mm	•	•	•		
MM 30-19	Viewing glass OD 20mm for Fast wash module	•	•	•		
PAL ORingFWS	O-ring Perfluor white, kit of 4pcs. Fast wash module	•	•	•		

Part no.	Description	HTS	HTC	LC	COMBI	GC
PAL TubeWaste	Waste Tube for Fast Wash Station, 2m	•	•	•		
PAL TubeFWash	1 pc Connection tube incl. fittings and shutoff valve between Wash solvent bottle and Fast wash station module HTS/HTC/LC PAL	•	•	•		
PAL TubeFWash1	1 pc PFA tube including fittings between Solvent bottle shutoff valve and Fast wash valve assembly	•	•	•		
1000-WV	1000ml Wash solvent bottle for PAL Fast Wash Station	•	•	•		
500-WV	500ml Wash solvent bottle for PAL Fast Wash Station	•	•	•		
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	•	•	•		
CV-3345	1pc Check valve for MUX Kit	•				
PAL StkDrwMag	Stack Drawer Magnet Assembly, Kit	•	•			
Kit StkRollsSSt	12pcs rolls stainless steel incl. screws for stack drawer	•	•			
Kit DrawFront12MT	Kit, Drawer Fronts 31mm for Stack Cooler 12MT, consisting of: 6 pcs Drawer Front Covers with connecting plate mounted 1 pc Kit CStkScrews	•	•			
Kit DrawFront2DW	Kit, Drawer Fronts 63mm for Stack Cooler 2DW, consisting of: 1 pc Drawer Front Cover with connecting plate mounted 1 pc Kit CStkScrews	•	•			
Kit DrawFront6DW	Kit, Drawer Fronts 63mm for Stack Cooler 6DW, consisting of: 3 pcs. Drawer Front Covers with connecting plate mounted 1 pc. Kit CStkScrews	•	•			
Kit CStkScrews	Kit of replacement Nylon screws for PAL StkCooler front cover all types	•	•			
PAL UprNdlGde	Upper Needle Guide Assembly (Gauge 19)	•	•			
PAL UprNdlGde108	Upper Needle Guide Assembly 108mm (Gauge 19)	•	•			
MZ 23-01	Needle Guide Replacement Kit for HTS/HTC/LC PAL	•	•	•		
MZ 20-45	Lower Needle Guide with chemical resistant coating. Without transport magnets installed, hole size for needles Gauge 19	•	•	•		
MZ 20-46	Upper Needle Guide with chemical resistant coating Hole size for Gauge 19 needles	•	•	•		
MV 30-16	PEEK Needle guide for valve type C PAEK versions	•	•	•		
MV 30-12	Needle guide gauge 22, stainless steel for VICI type C or type WK	•	•	•		
MV 30-52	Needle guide gauge 19, stainless steel for VICI type C or type WK	•	•	•		
MZ 32-00	Safety Shield for PAL Injection Unit	•	•	•		
MX 32-00	Plexiglas Safety Guard for PAL80	•				
MX 33-00	Plexiglas Safety Guard for PAL50		•	•		
MX 36-00	Plexiglas Safety Guard for PAL120					
MX 37-00	Screw Kit for Safety Guard all types	•	•	•		
PAL TCord280	Tension Cord 280mm (set of 5 pcs)	•	•	•		
PAL TCord90	Tension Cord 90-95mm (set of 5 pcs)	•	•	•		
MZ 06-00	Injection unit for GC1 PAL or LC PAL			•		
MZ 01-00	Injection unit for HTX, HTS PAL or HTC PAL with needle guide Gauge 19	•	•			
MZ 017-00	Injection unit for HTX, HTS or HTC PAL-xt with needle guide Gauge 19	•	•			
PAL FlexBandKit	PAL Flexband for standard PAL50/80 Models, 1pc	•	•	•		
PAL FlexBandKit2	PAL Flexband for PAL Models 120cm length, single Z-Axis installed, 1pc					
MX 20-15	Metal Angle Bracket for Ribbon Cable	•	•	•		
PAL XYSens	X-Y-Axis Position Sensor PCB's, Kit	•	•	•		
PAL XYSensDual	X-Y-Axis Position Sensor PCB's, Dual Kit for Dual Injection Unit PAL Models					
MX 52-00	Grounding Conductor for X/Y Carriage	•	•	•		
PAL MZCovTop	Top Cover for Z-Axis, Kit	•	•	•		
PAL MZCovTop-xt	Top Cover for Z-Axis, Kit (PAL-xt)	•	•	•		
PAL SlidStopKit	Slider Stopper Assembly ( Z-Axis )	•	•	•		
PAL RCbl50	Ribbon Cable Kit for X-Axis 50cm		•	•		
PAL RCbl80	Ribbon Cable Kit for X-Axis 80cm	•				
PAL RCbl120	Ribbon Cable Kit for PAL X-Axis 120cm, for Single Injection Unit PAL Models					
PAL RCblDual	Ribbon Cable Kit for PAL X-Axis 120cm, for Dual Injection Unit PAL Models					
MZ 50-00	Ribbon Cable Z-Axis, 500mm	•	•	•		
MZ 51-00	Ribbon Cable Z-Axis, 450mm	•	•	•		
PAL MZCovCtrl	Cover for Control Module Z-Axis, Kit	•	•	•		
PAL MZCovCbl	Cover for Motors and Ribbon Cable Z-Axis, Kit, (Rev. B or higher)	•	•	•		
MZ 20-11	Lower Needle Guide Gauge22, transport magnets installed	•	•	•		
MZ 20-14	Mechanical Stop for Needle Guide	•	•	•		
MZ 20-15	Adapter for Short Tension Cord ( Z-Axis )	•	•	•		
PAL MZCtrl	PCB Assembly for PAL Injection Unit, Kit, (Rev. D or higher)	•	•	•		
PAL NdlBlkMag	Solenoid for Needle Guide Blocking Assembly, Kit	•	•	•		
PAL MotPlg	PAL Stepper Motor Plunger, Kit, (For Injection Rev.B or higher only)	•	•	•		
PAL MotZ	PAL Stepper Motor Z-Axis, Kit	•	•	•		

Part no.	Description			HTS	HTC	LC	COMBI	GC
PAL MZTRack350	Toothed Rack, 350mm, Kit			•	•			
PAL MZTRack300	Toothed Rack, 300mm, Kit					•		
PAL MZZMag	Switching Magnet for Z-Sensor, Kit			•	•	•		
BN4851 M4x25	Screws for X-Axis Side Covers, 10pcs			•	•	•		
BN4851 M3x20	Screws for Y-Axis Side Covers, 10pcs			•	•	•		