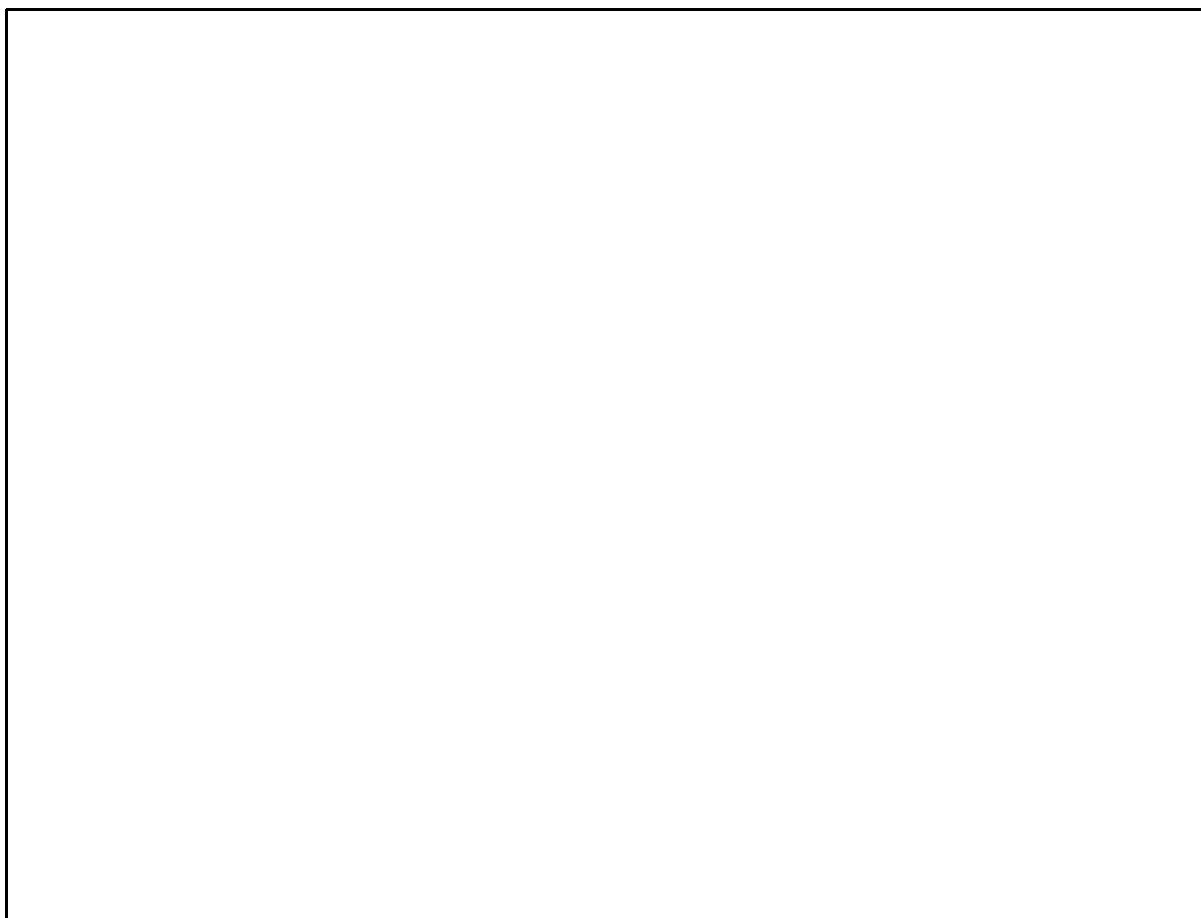


# FOCUS GC

Gas Chromatograph

## Spare Parts Catalog



[HOME](#)

**Thermo**  
ELECTRON CORPORATION

FOCUS™ GC Spare Parts Catalog

June 2006 Edition

Part Number 317 094 13

© 2006 Thermo Electron S.p.A. All rights reserved.

Printed in Italy

Published by Thermo Electron S.p.A., Strada Rivoltana, 20090 Rodano - Milan - Italy

Tel: +39 02 95059373 Fax: +39 02 95059388

Printing History: First Edition, released June 2002

Second Edition, May 2003

Third Edition, April 2004

Fourth Edition, November 2004

Fifth Edition, January 2005

Sixth Edition, September 2005

Seventh Edition, January 2006

Eight Edition, released June 2006

**Disclaimer**

Technical Information contained in this publication is for reference purposes only and is subject to change without notice. Every effort has been made to supply complete and accurate information; however, Thermo Electron assumes no responsibility and will not be liable for any errors, omissions, damage, or loss that might result from any use of this manual or the information contained therein (even if this information is properly followed and problems still arise).

This publication is not part of the Agreement of Sale between Thermo Electron and the purchaser of a FOCUS™ GC system. In the event of any conflict between the provisions of this document and those contained in Thermo Electron's Terms and Conditions, the provisions of the Terms and Conditions shall govern.

Reference to System Configurations and Specifications supercede all previous information and are subject to change without notice.

**Trademarks**

FOCUS™ is a trademark of Thermo Electron S.p.A.. Other brand and product names may be trademarks or registered trademarks of their respective companies.

---

# Contents

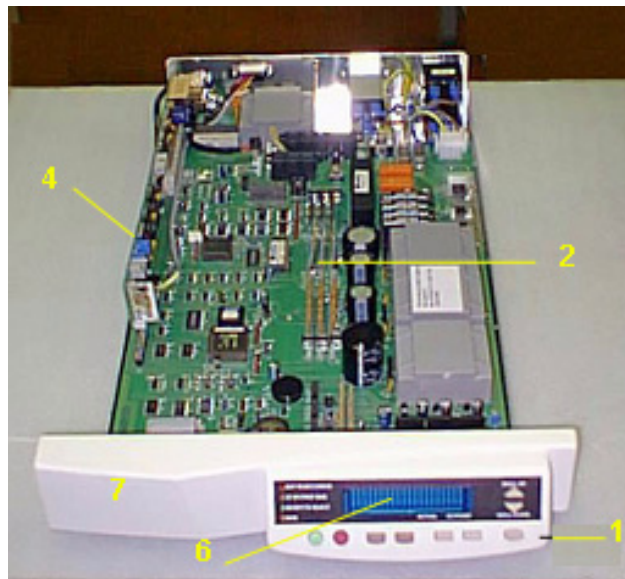
Electronics .....	4
Pneumatics.....	6
Split/Splitless Injector (S/SL).....	8
Purged Packed Column Injector (PPKD) .....	10
Flame Ionization Detector (FID).....	12
Thermal Conductivity Detector (TCD).....	14
Detector Base Body.....	16
Adapters for Packed Columns .....	18
Miscellanea.....	22
AI 3000/AS 3000 .....	24
TriPlus Autosampler .....	26
Appendix A	
Customer Communication.....	33

# 1

# Electronics

**Table 1-1.** Electronics spare parts

No	Description	Qty.	P/N
1	Front Panel assembly		432 101 40
2	MY04 printing circuit board		236 485 17
3	FRTMY 100 printing circuit board		236 485 16
4	ELI201 printing circuit board		236 485 25
5	CVA201 printing circuit board		236 485 70
6	TCD I-203 printing circuit board		236 487 65
7	TCD E-203 printing circuit board		236 487 70
8	LCD display		305 085 10
9	FID FOCUS GC cassette control unit assembly		432 101 55
10	TCD FOCUS GC cassette control unit assembly		432 101 60
11	Battery Li 3V		219 015 10
12	Fuse F.0.63A 5x20 mm IEC127/I		282 000 12
13	Fuse T.1.6A 5x20 mm IEC127/III		282 040 18
14	Fuse F.2A 5x20 mm IEC127/I		282 000 17
15	Breaker 15A for 120 Vac		237 099 02
16	Breaker 15A for 230 Vac		237 099 12



# 2

## Pneumatics

**Table 2-1.** Spare parts for electronics pneumatics (DPFC 2001 Module)

No	Description	Qty.	P/N
1	Flow regulator module 250 kPa for S/SL injector		425 091 35
2	Flow regulator module 1000 kPa for S/SL injector		425 091 40
3	O-ring for injector/detector to gas regulator connection		290 013 03
4	O-ring for 1/8" union to gas regulator connection		290 013 06
5	O-ring PARKER COL TYPE V884-75 BROWN		290 013 01
6	Built-in Split line filter		281 131 95
7	ON/OFF 24V Solenoid Valve		405 161 01
8	Proportional Valve		405 161 03

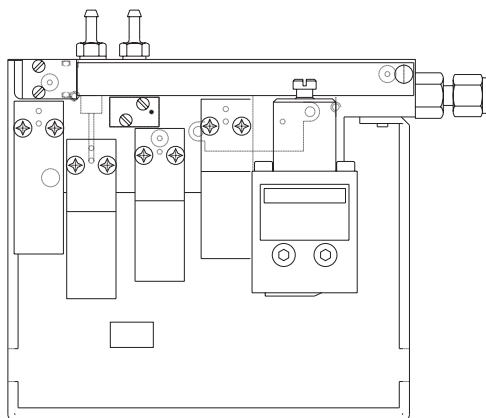


**WARNING!** FOCUS GCs, having S/N higher than 20024350, are equipped with the DPFC 2001 module (1000 kPa)

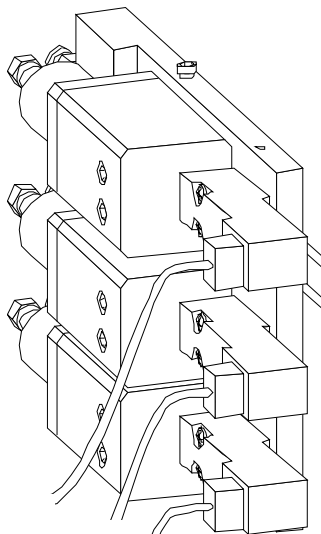
**Table 2-2.** Spare parts for analog pneumatics

No	Description	Qty.	P/N
1	Pressure regulator module		425 091 30
2	Pressure regulator – Air 600 cc		425 090 73
3	Pressure regulator – H <sub>2</sub> 200 cc		425 090 74
4	Pressure regulator – H <sub>2</sub> 10 cc		425 090 75
5	Non-DGFC regulator module (AB) for TCD		425 091 45
6	On-off Solenoid valve		405 160 95
7	O-ring for injector/detector to gas regulator connection		290 013 03
8	O-ring for 1/8" union to gas regulator connection		290 013 06
8	Manual pressure regulator module (AB) for TCD		

DPFC 2001



Non-DGFC



# 3

# Split/Splitless Injector (S/SL)

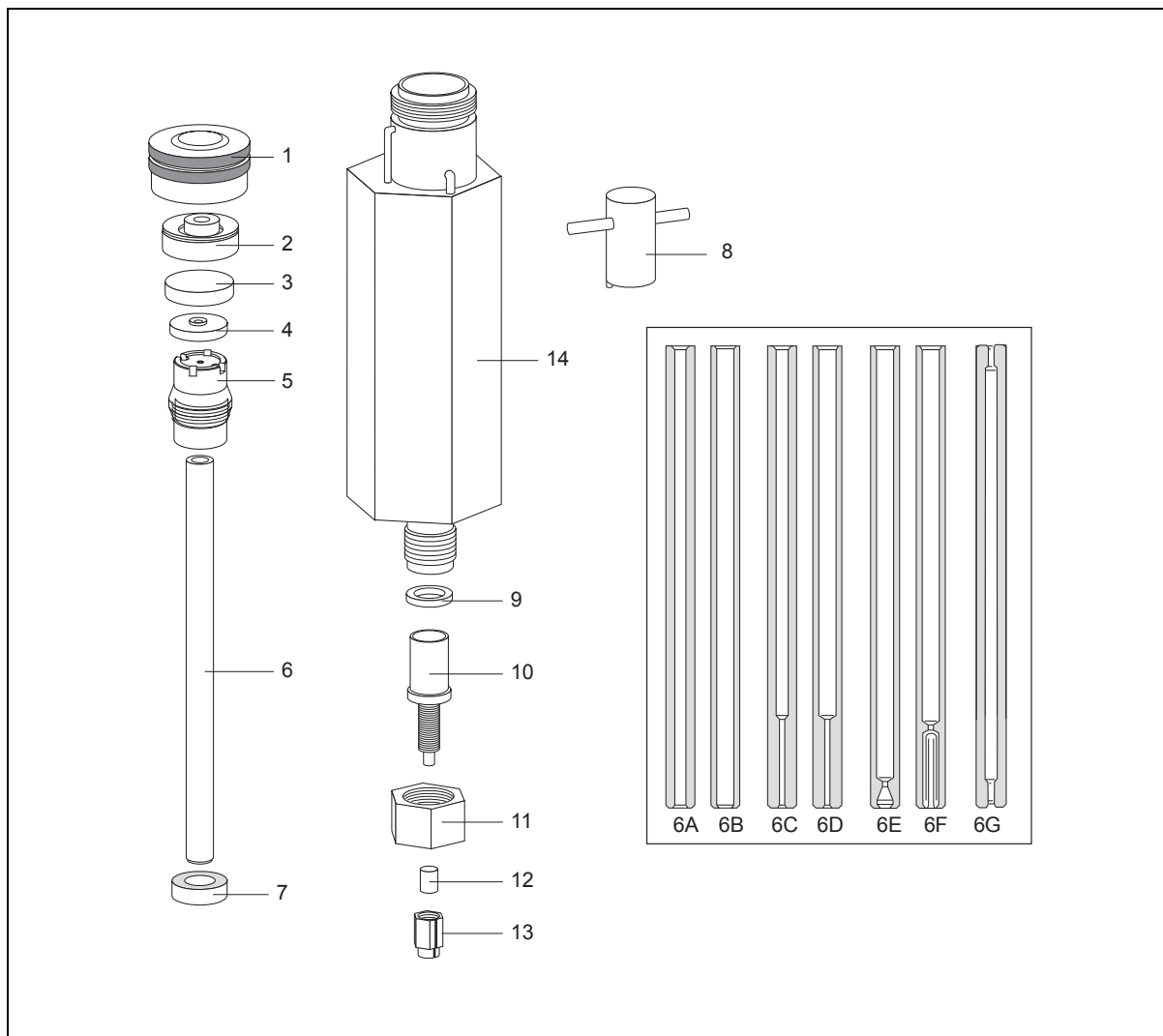
Table 3-1. Split/splitless Injector spare parts

No	Description	Qty.	P/N
1	Septum cap		350 010 50
2	Septum holder		233 030 15
3	Septum	50	313 032 11
4	Septum support		350 054 33
5	Liner cap		290 042 90
6A	Liner, split 3 mm	5	453 500 30
6B	Liner, split 5 mm	5	453 500 31
6C	Liner, splitless 3 mm	5	453 500 32
6D	Liner, splitless 5 mm	5	453 500 33
	Multiliners pack 5 mm	4	453 020 90
	Multiferrules Pack	6	290 050 65
6E	Liner, wide bore columns	2	453 003 10
6F	Liner, for polar solvent	2	453 003 20
6G	Liner double gooseneck for nano-volumes injections	2	453 220 80
7	Liner seal	10	290 334 06
8	Liner cap removing tool		205 070 10
9	Silver seal	10	290 336 29
10	Terminal fitting for cap. columns		347 054 51
11	Nut for terminal fitting	2	350 221 25
	Washer		356 040 15
12	Graphite ferrule for 0.2 mm ID column	2	290 134 89
12	Graphite ferrule for 0.25 mm ID column	2	290 134 88
12	Graphite ferrule for 0.32 mm ID column	2	290 134 87
12	Graphite ferrule for 0.53 mm ID column	2	290 134 86
13	Fixing nut for column	5	350 324 23
14	S/SL main body including heating block and filter (for FOCUS GC with S/N lower than 20024350)		247 052 21



Table 3-1. Split/splitless Injector spare parts (Continued)

14	S/SL main body including heating block without filter (for FOCUS GC with S/N upper than 20024350)		247 052 25
	Blanking disk for leak test	10	290 326 55
	Heater 115 V		354 250 58
	Heater 230 V		354 250 76
	Temperature sensor		403 112 50



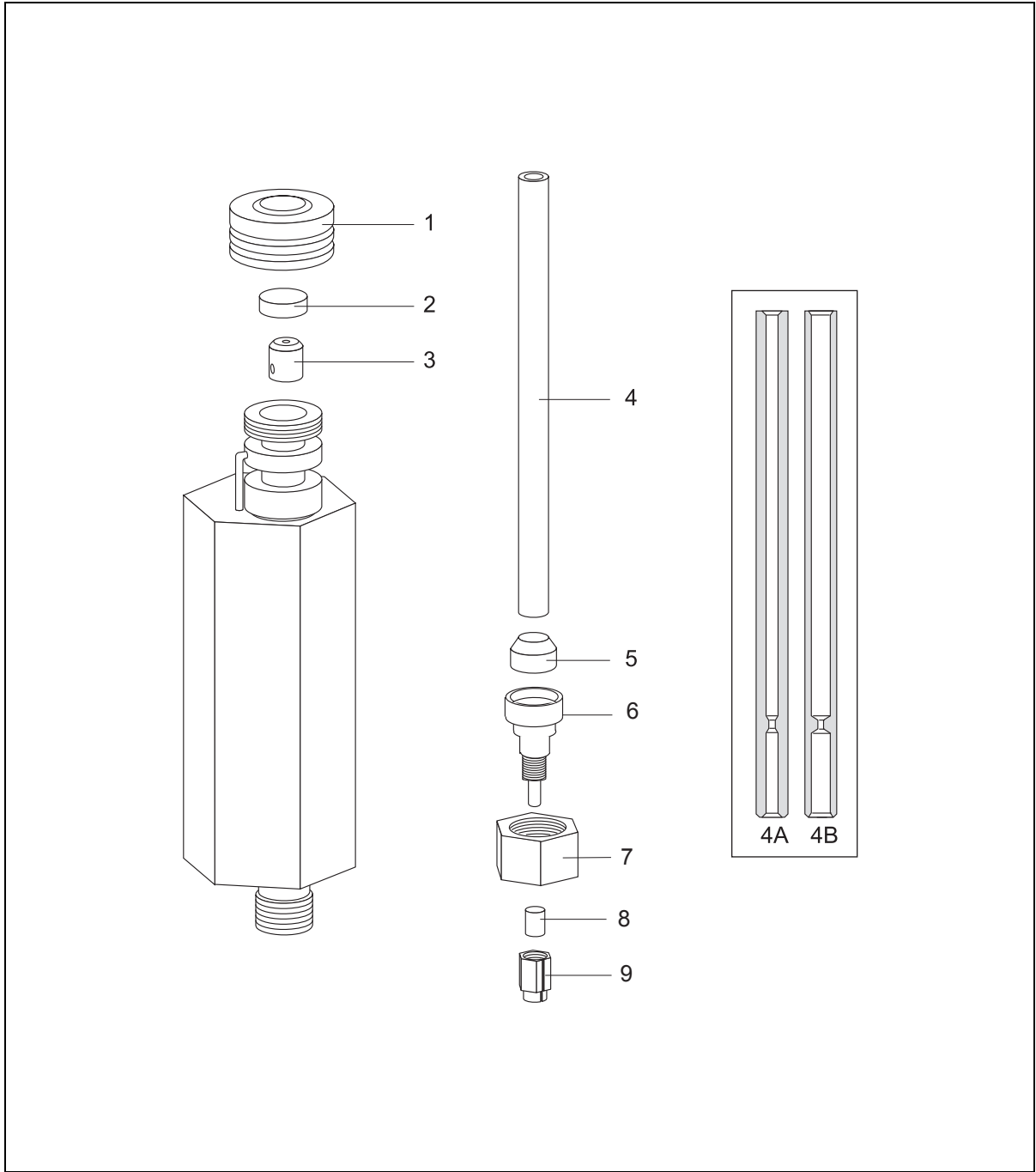
# 4

## Purged Packed Column Injector (PPKD)

**Table 4-1.** Purged Packed Column Injector spare parts

No	Description	Qty.	P/N
1	Septum cap		350 010 51
1	Septum cap for TriPlus HS and HS 2000		347 500 03
2	Septum	50	313 032 30
3	Septum support		453 020 48
4A	Liner, wide bore 2 mm	2	453 220 50
4B	Liner, wide bore 4 mm	2	453 220 49
5	Liner seal	10	290 334 05
6	Adapter for wide bore columns		347 003 03
7	Retaining Nut		350 024 04
8	Graphite ferrule for 0.53 mm ID column	2	290 134 86
9	Fixing nut for capillary column	5	350 324 23
	Blanking disk for leak test	10	290 326 55
	Heater 115 V		354 250 58
	Heater 230 V		354 250 57
	Temperature sensor		403 112 30
	Kit for capillary columns on packed injector		190 500 91

Please refer to Packed Column Injector (page 13) for parts relevant to the use of this injector with packed columns.

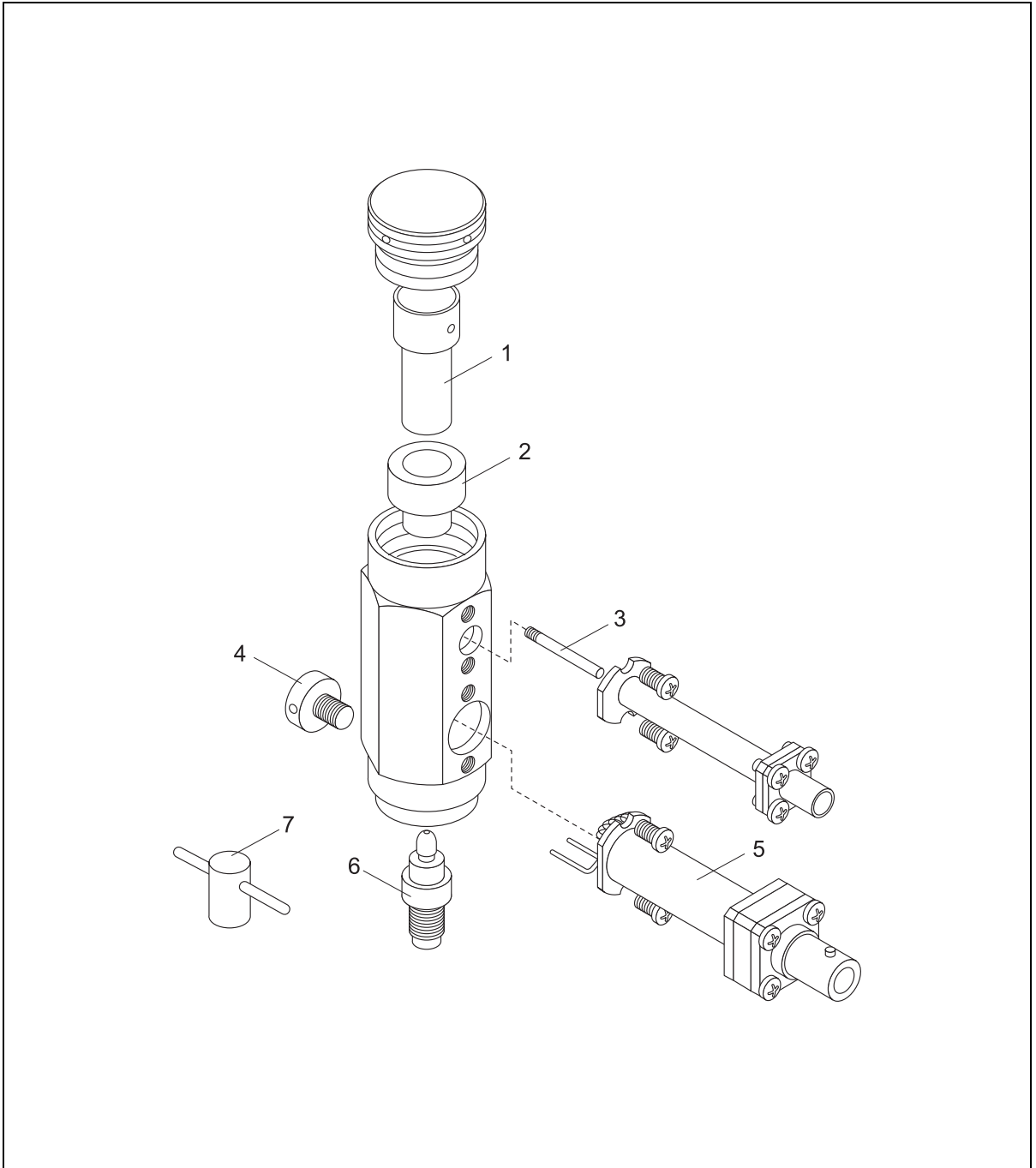


# 5

## Flame Ionization Detector (FID)

Table 5-1. Flame Ionization Detector spare parts

No	Description	Qty.	P/N
	FID cell, complete		419 106 46
1	FID collecting electrode		259 011 15
2	Ceramic insulator		302 023 10
3	Collecting electrode pin		206 016 02
4	Retaining screw		311 060 08
5	Flame ignition coil/polarization electrode assembly		206 016 03
6	FID jet		404 043 01
7	Jet removing tool		205 019 00



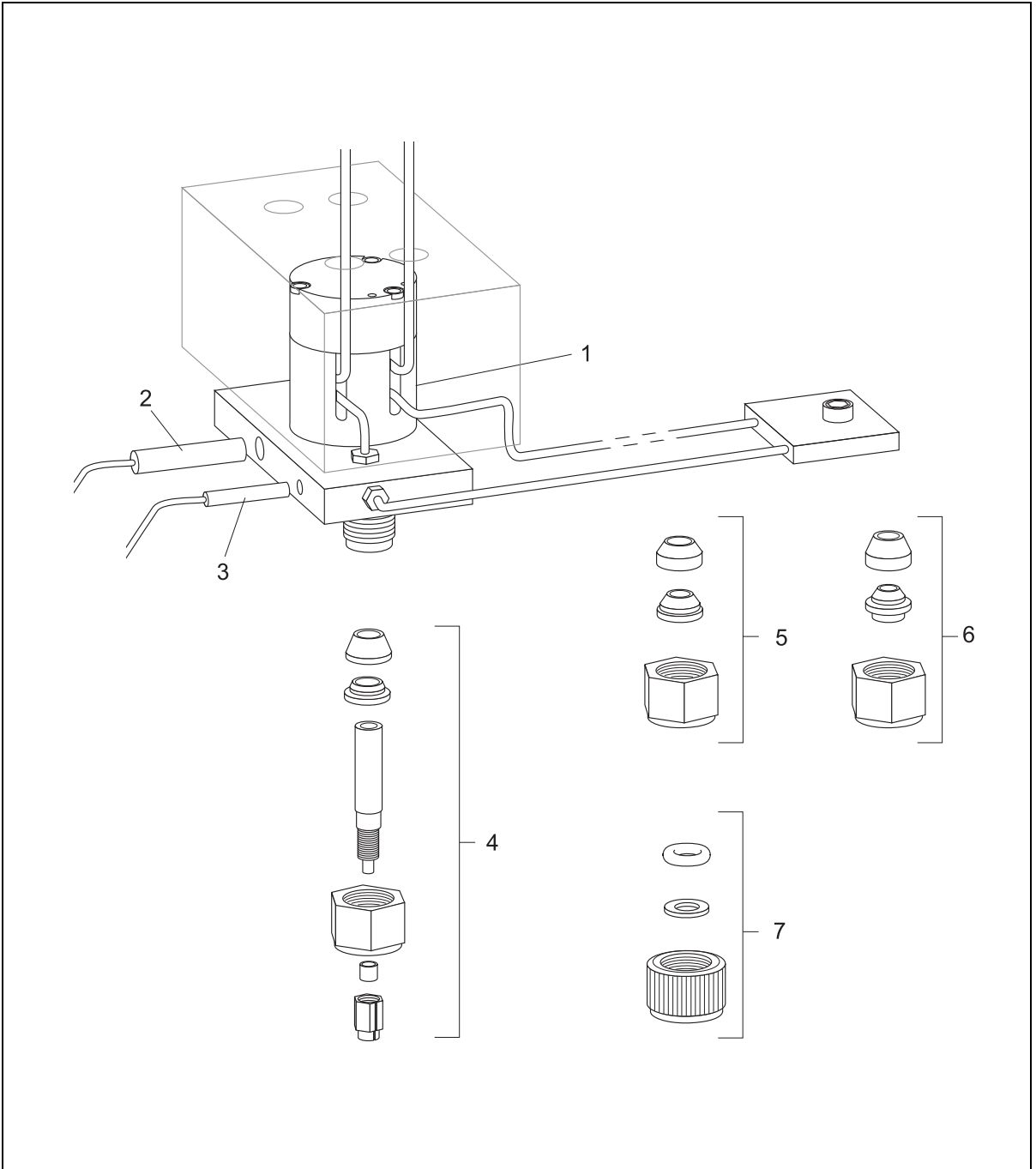
# 6

## Thermal Conductivity Detector (TCD)

**Table 6-1.** Thermal Conductivity Detector spare parts

No	Description	Qty.	P/N
1	TCD cell, complete		419 105 05
	Heater and temperature sensor assembly for TCD cell		230 434 71
2	Heater for TCD base 230 V		354 250 36
2	Heater for TCD base 115 V		354 250 37
3	Temperature sensor for TCD base		403 112 30
4	Adapter for capillary columns (kit)		347 095 42
5	Retaining nut for 6 mm OD metal column and ferrule		350 201 17
6	Brass front/back ferrule for 1/8" OD metal column		290 046 66
7	Retaining nut for 1/8" mm OD column and ferrule		350 030 62

Please refer to Detector Base Bodies for further details on parts for column connection.



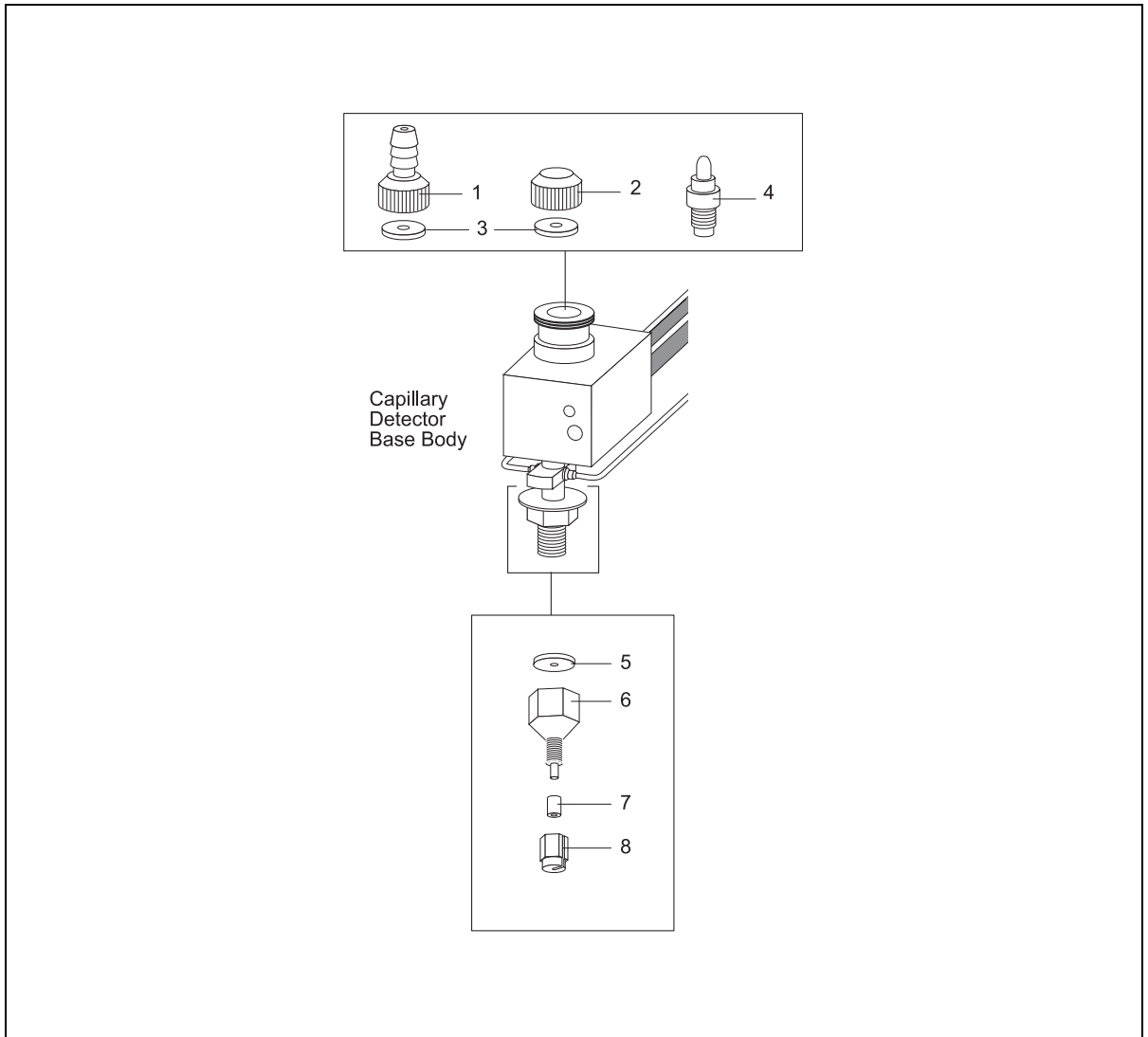
# 7

# Detector Base Body

Table 7-1. Spare parts for Detector Base Body

No	Description	Qty.	P/N
	CB71 CAP		299 022 81
	CB70 PKD/WB		299 022 86
	Heating Block for CB71		222 061 50
1	Adapter for flow measurement		350 041 07
2	Brass blind cap		350 061 01
3	Silicon seal	10	290 330 37
4	Blind jet	2	404 019 00
5	Seal, silver	10	290 371 00
6	Adapter for capillary column	2	347 254 36
7	Graphite ferrule for 0.2 mm ID column	2	290 134 89
7	Graphite ferrule for 0.25 mm ID column	2	290 134 88
7	Graphite ferrule for 0.32 mm ID column	2	290 134 87
7	Graphite ferrule for 0.53 mm ID column	2	290 134 86
	Anti-turn fixing plate for capillary and packed injector base body	3	334 121 19
	Nut, 1/4" for PKD detector base body	1	350 024 03
	Alluminium seal for PKD detector base body	1	356 034 03
	Nut, 1/8" for capillary detector base body	1	350 024 18
	Alluminium seal for capillary detector base body	1	356 034 48
8	Fixing nut for column	5	350 324 23
	Heater 115 V		354 250 80
	Heater 230 V		354 250 81
	Temperature sensor		403 112 50



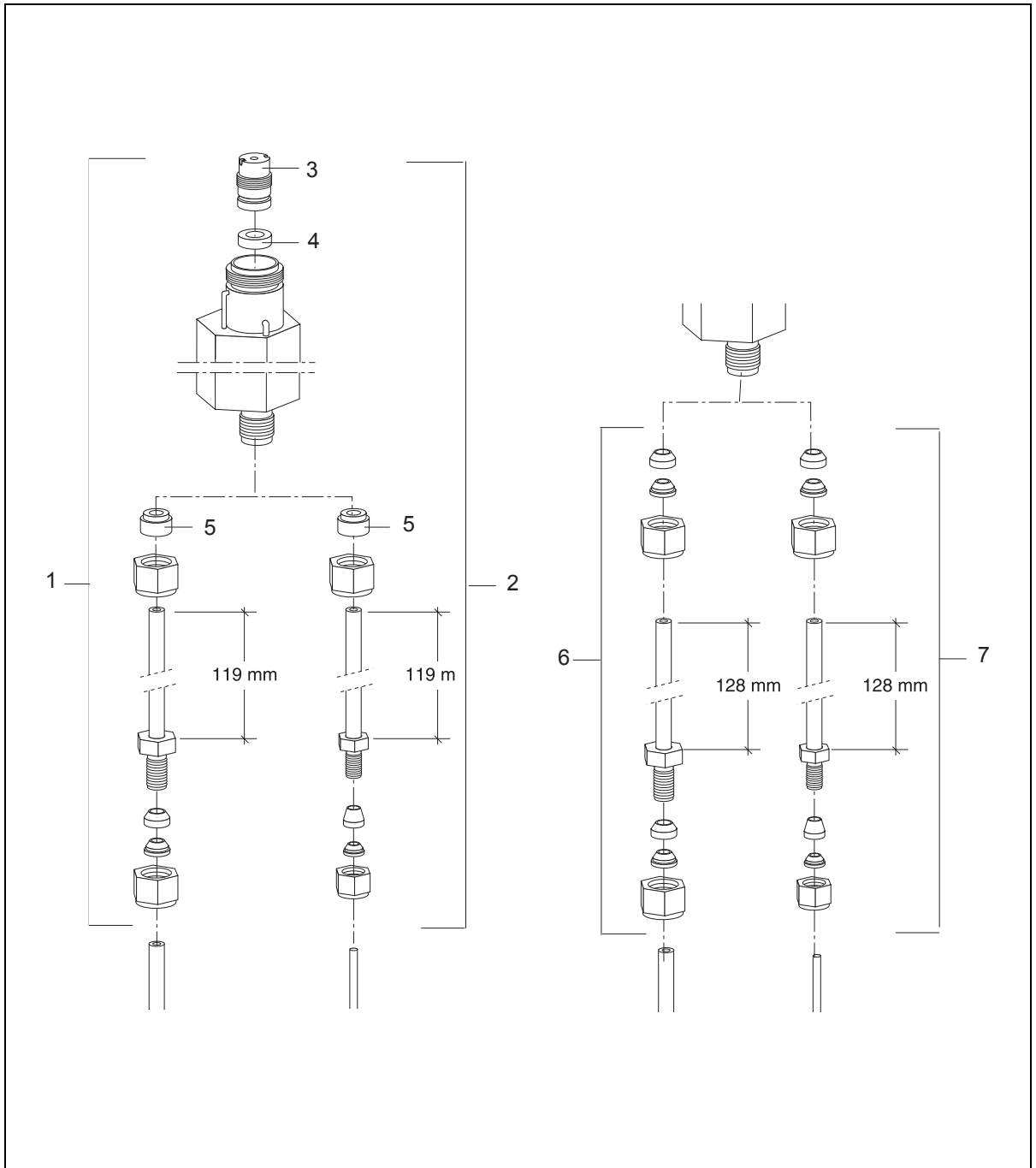


# 8

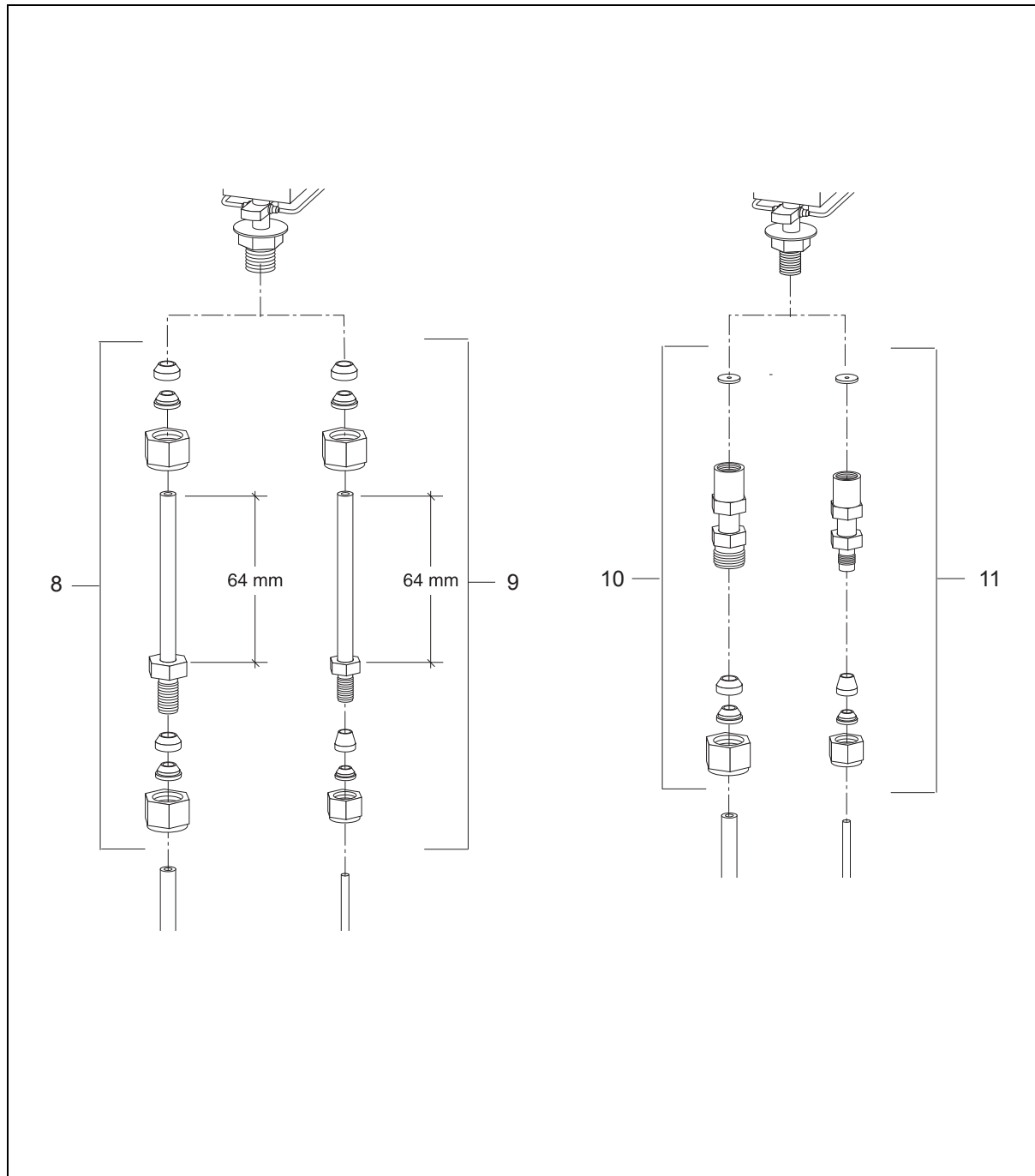
## Adapters for Packed Columns

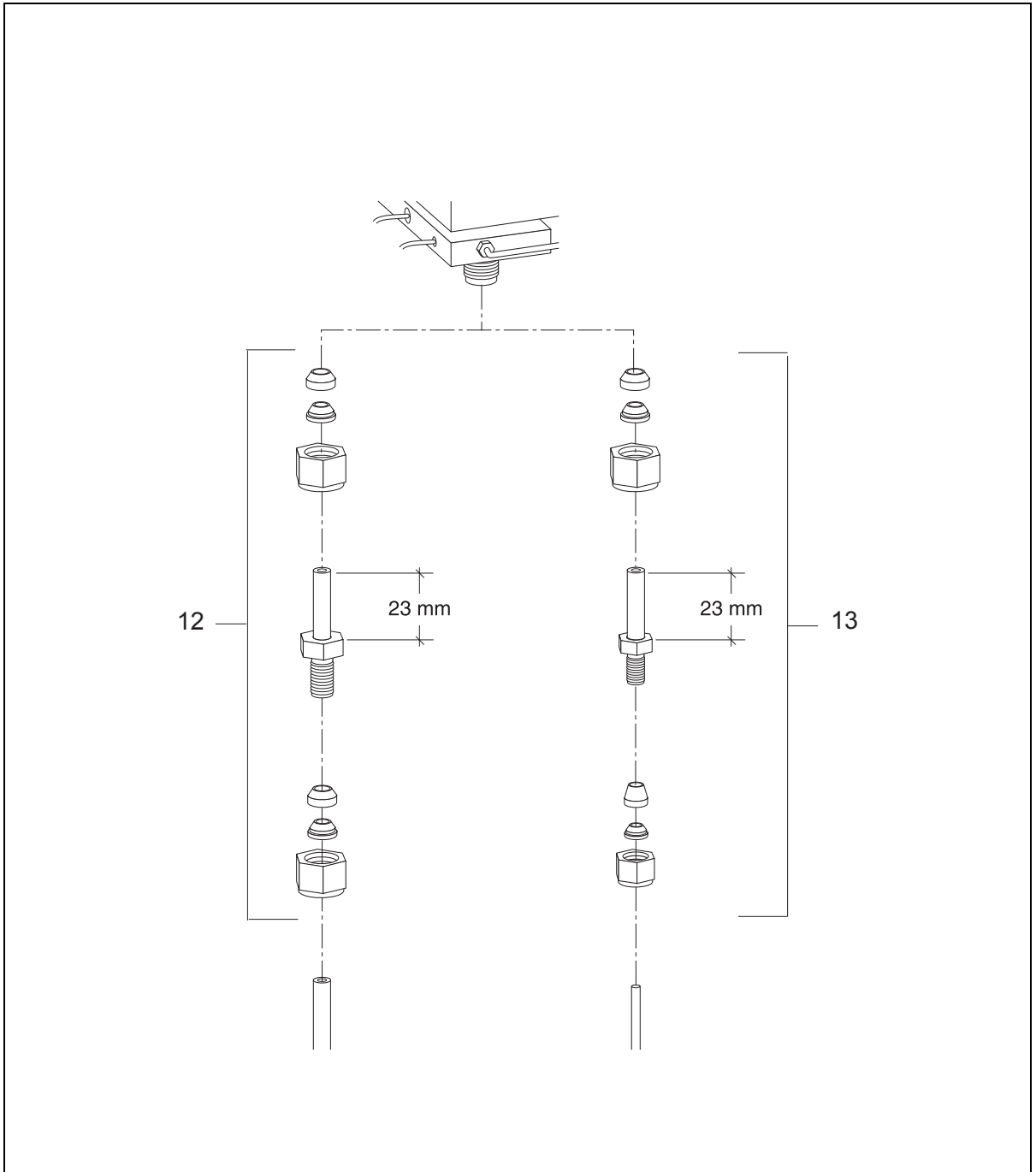
Table 8-1. Spare parts for Adapters for Packed Columns

No	Description	Qty.	P/N
1	Adapter for S/SL 6 mm and 1/4" columns		347 093 37
2	Adapter for S/SL 1/8" columns		347 093 23
3	Adapter cap for S/SL		290 042 92
4	Adapter seal for S/SL	2	290 134 16
5	Adapter PTFE ferrule	2	290 145 76
6	Adapter for PKD/PPKD 6 mm and 1/4" columns		347 093 25
7	Adapter for PKD/PPKD 1/8" columns		347 093 20
8	Adapter for capillary base body 6 mm and 1/4" columns		347 093 39
9	Adapter for packed base body 1/8" columns		347 093 21
10	Adapter for packed base body 6 mm and 1/4" columns		347 093 27
11	Adapter for capillary base body 1/8" columns		347 093 24
12	Adapter for TCD base body 6 mm and 1/4" columns		347 093 29
13	Adapter for TCD base body 1/8" columns		347 093 22
	Adapter kit for packed columns on capillary injector and base body (includes items 1, 2, 8, 9, 13)		190 500 96



Chapter 8  
Adapters for Packed Columns





# 9

## Miscellanea

**Table 9-1.** Oven spare parts

Description	Qty.	P/N
Heater with diaphragm and temperature sensor (230 V)		354 080 60
Heater with diaphragm and temperature sensor (120 V)		354 080 65
Oven temperature sensor		403 112 55
Stepping motor for flapper		318 070 50
Door switch assembly		237 069 03
Fan motor assembly (120 V)		318 070 58
Fan motor assembly (230 V)		318 070 57
Spring (flap return) [replaceable only on FOCUS GC with S/N upper than 20024350]		315 046 06

**Table 9-2.** Cables

Description	Qty.	P/N
Power cable (230 V)		230 330 25
Power cable (120 V)		230 330 35
Generic start/stop cable (integrator)		230 434 57
RS232 cable for FOCUS/PC communication, 2.5 m		230 434 85
Analog cable for detector connection to integrator		230 380 71
Connector, 4 positions, for cable 230 380 71		238 096 02

**Table 9-3.** Test mixtures

Description	Qty.	P/N
Test mix for FID		338 190 20
Test mix for TCD		338 190 16
Column (Mega-5, 7 m x 0.32 mm) for GC test		260 800 22

**Table 9-4.** Merlin Microseal™ High Pressure Valve Option Spare Parts

Description	Qty.	P/N
Microseal Valve (Merlin) for SSL		405 230 53
SGE 10 µl syringe (for Merlin Microseal Valve)		365 200 60

# 10

## AI 3000/AS 3000

**Table 10-1. Tower Assy**

Description	Qty.	P/N
Complete tower assy		370 014 30
Complete top cover assy		241 055 70
AS 3000 M/S printing circuit boards assy		152 200 50
Slide stepping motor		318 029 17
Elastic of injection head		315 052 60
Flat Cable H-FLEX 26F/16F+10F (FC1389)		230 436 10
Front door AI 3000		333 309 42
Front door AS 3000		333 309 44
SGE 10 µL syringe (Standard)		365 005 25
SGE 5 µl, 50 mm needle syringe for microvolumes S/SL injector		365 005 05
SGE 10 µL syringe (for Merlin Microseal Valve)		365 200 60

**Table 10-2. Base Assy**

Description	Qty.	P/N
Complete Base assy		221 071 00
Waste bottle		190 046 46
Tray 105-position assy		251 174 45
Tray 8-position holder		240 101 40
Power supply 100-240Vac/24Vdc		208 060 60
Round cable H-FLEX 34-pin (FC1377)		230 456 12

**Table 10-3. Vials and Septa**

Description	Qty.	P/N
2 mL screw top vials plus screw-top caps with septa. (Thermo brand combination of vials 240 140 21 and caps/septa 386 060 92)		240 140 19
2 mL screw top vials, set of 100 (require screw top cap with septa PN 386 060 92)		240 140 21



**Table 10-3. Vials and Septa (Continued)**

4 mL screw top vials, set of 100 (require screw top cap with septa PN 386 060 92)		240 140 31
300 µL micro-volume sampling vials, set of 100 (require screw top cap with septa PN 386 060 92)		240 140 26
Screw to caps 2 mL, 4 mL and 300 µL vials complete with septa, set of 100		386 060 92
Septa for Easte bottle, set of 100		313 032 17
Screw caps for Waste bottle, set of 100		386 060 74

**Table 10-4. Cables**

Description	Qty.	P/N
RS232 cable (9-pin)		230 434 53
GC - AI 3000/AS 3000 cable (6-pin)		230 435 77
Power cable 10A/250V		230 330 00
Power cable 10A/125V		230 330 35

**Table 10-5. Alignment Brackets with Centering Plate**

Description	Qty.	P/N
Centering Plate for Merlin Adapter on S/SL injector		368 127 34
Centering Plate for S/SL injector		368 127 38

**Table 10-6. Autosampler Support**

Description	Qty.	P/N
Autosampler support assy		368 127 32

**Table 10-7. Upgrade kits**

Description	Qty.	P/N
Kit Merlin Microseal Valve for AI 3000/AS 3000 (requires 190 502 05)		190 502 25
AS 3000 Upgrade kit for AI 3000		190 502 30

**Table 10-8. AI 3000/AS 3000 Standard Outfit**

Description	Qty.	P/N
AI3000 for FOCUS/TRACE GC		275 201 40
AS3000 for FOCUS/TRACE GC		275 201 41
AS 3000 Upgrade for AI 3000		275 201 42

# 11

# TriPlus Autosampler

## Consumables and Accessories

Table 11-1. Sample Vials

Description	Qty.	P/N
Adapters for 1ml Crimp-top vials; set of 100		290 646 90
Adapters for 1ml Crimp-top vials; set of 10		290 346 90
1 ml Crimp-top vials, 8 mm finish; set of 100 (require 8 mm aluminum caps and seals P/N 386 060 31; compatible also with LVI enhanced performance seals P/N 313 011 03)		240 700 15
2 ml Screw-top vials, 8 mm finish, set of 100 (require 8 mm plastic screw-top caps P/N 386 060 74 and teflon faced seals P/N 313 032 17; compatible also with LVI enhanced performance seals P/N 386 100 55)		240 740 41
2 ml Crimp-top vials, 11 mm finish, set of 100 (require 11 mm aluminum caps and seals P/N 386 060 40)		240 740 03
2 mL screw top vials plus screw-top caps with septa. (Thermo brand combination of vials 240 140 21 and caps/septa 386 060 92)		240 140 19
2 mL Screw-top vials, set of 100 (require screw-top caps with septa P/N 386 060 92)		240 140 21
300 µL micro-volume sampling vials, set of 100 (require screw top cap with septa PN 386 060 92)		240 140 26
2.5 ml Crimp-top vials, 11 mm finish, set of 100 (require 11 mm aluminum caps and seals P/N 386 060 40; compatible also with ring shaped silicon septa with Teflon membrane for LVI P/N 386 100 50, set of 100)		240 700 05
8 mm aluminum caps with teflon faced septa, set of 100		386 060 31
8 mm plastic screw-top caps, set of 100		386 060 74
8 mm teflon faced seals set of 100		313 032 17

Table 11-1. Sample Vials (Continued)

Description	Qty.	P/N
Screw-top caps for 2 ml vials P/N 240 140 21 complete with septa, set of 100		386 060 92
11 mm aluminum caps, with teflon faced septa, set of 100		386 060 40
LVI enhanced performance seals for crimp-top vials P/N 240 700 05 and P/N 240 740 03, with 11 mm aluminium caps, set of 100		386 100 50
LVI enhanced performance seals for vials P/N 240 700 15 and P/N 240 740 41, set of 100		313 011 03
LVI enhanced performance seals for vials P/N 240 700 15 and P/N 240 740 41 with 8mm screw-top caps, set of 100		386 100 55
10 ml Crimp-top vials, 20 mm finish, set of 125 (require 20 mm aluminum caps and seals and spacers only for the HS oven)		240 740 20
20 ml Crimp-top vials, 20 mm finish, set of 125 (require 20 mm aluminum caps and seals)		240 063 05
20 mm aluminum crimp-top caps with buthyl rubber seals, set of 100 Suitable for low temperatures applications		386 038 00
20 mm aluminium crimp-top caps with teflon-coated buthyl rubber seals, set of 100. Suitable for temperature up to 100°C.		386 036 00
20 mm aluminium crimp-top caps with high performance septa, set of 100. Suitable for high temperature applications or when multiple samplings are performed from the same vials.		386 094 10
20 mm snap caps and teflon faced septa for liquid applications, set of 100		386 100 40
20 mm teflon faced septa for liquid applications, set of 100		313 032 50
20 mm ring shaped silicon septa, and 20mm crimp-top aluminum caps, (set of 100) suitable for LVI liquid applications		386 100 30
Stainless steel spacers for 10 ml vials, set of 6 (used only in the HS oven).		347 095 40
<b>Accessories</b>		
Hand crimper for 8 mm vials		205 110 01
Hand crimper for 11 mm vials		205 110 00

**Table 11-1. Sample Vials (Continued)**

Description	Qty.	P/N
Hand crimper for 20 mm vials		205 007 00
Decapping tool for septum removal from glass vials		205 007 10
Magnetic caps for Bar Code Reader, assembled with 9 mm caps and septa, set of 100		386 060 95
Labels for bar code reading, set of 1000		387 067 82

**Table 11-2. Washing Station Vials**

Description	Qty.	P/N
10 ml Crimp-top washing solvent vials, complete of 20 mm snap-cap seals and teflon faced septa, set of 5		190 046 47
100 ml washing solvent bottle		240 140 85
10 ml Crimp-top waste vial with 2m long drain tube and fittings		190 505 50
20 mm snap caps with teflon faced septa, set of 5		386 100 45
20 mm ring shaped silicon septa with 20 mm crimp-top aluminum caps, set of 5		386 100 35

**Table 11-3. Syringe Holders**

Description	Qty.	P/N
<b>TriPlus AS</b>		
Syringe holder for 50 mm needle length for 5, 10, 100 250 µl syringes		254 010 10
Syringe holder for 50 mm needle length for 0.5, 10, 100 500 µl syringes		254 010 15
Syringe holder for 80 mm needle length for 5, 10, 100 250 µl syringes		254 010 20
Syringe holder for 80 mm needle length for 0.5, 10, 100 500 µl syringes		254 010 25
<b>TriPlus HS</b>		
Syringe holder		365 030 08

Table 11-4. Syringes and needles

Description	Qty.	P/N
<b>TriPlus AS</b>		
5 µl syringe (0.47/50/cone) fixed needle, suitable for Split injections		365 040 47
10 µl syringe (0.5/50/cone) fixed needle, suitable for Split injections		365 005 25
10 µl syringe (0.47/80/cone) fixed needle, suitable for Splitless and OC injections		365 020 19
10 µl syringe (0.63/50/cone) suitable for Merlin valve, suitable for Split injections		365 200 60
10 µl syringe (0.63/80/cone) suitable for Merlin valve, suitable for Splitless injections		365 200 61
10 µl syringe (dual gauge: 0.63-0.47/50/cone) suitable for PTV-simil OC with Merlin Valve		365 005 80
100 µl syringe (0.63/50/side hole) removable needle, suitable for PTV-LVI		365 200 50
250 µl syringe (0.63/50/side hole) removable needle, suitable for PTV-LVI		365 200 51
100 µl syringe (0.63/50/cone) removable needle, suitable for LV-SL		365 004 95
250 µl syringe (0.47/80/cone) removable needle, suitable for OC-LVI		365 004 90
Set of 2 needles (0.63/50/side hole) suitable for PTV-LVI		365 500 40
Set of 5 needles (0.47/80/cone) suitable for OC-LVI		365 664 80
Set of 5 needles (0.63/50/cone) suitable for LV-SL		365 664 85
<b>TriPlus HS</b>		
Gas tight syringe 1.0 ml capacity, without plunger (0.72/80/side hole)		365 030 05
Gas tight syringe 2.5 ml capacity, without plunger (0.72/80/side hole)		365 030 06
Gas tight syringe 5.0 ml capacity, without plunger (0.72/80/side hole)		365 030 07
Gas tight syringe 2.5 ml capacity, without plunger (0.64/80/side hole), suitable for Merlin valve		365 030 10
Gas tight syringe 1.0 ml capacity, complete with plunger and adapter		190 053 26
Gas tight syringe 2.5 ml capacity, complete with plunger and adapter		190 053 27
Gas tight syringe 5.0 ml capacity, complete with plunger and adapter		190 053 28

**Table 11-5. Trays**

Description	Qty.	P/N
Tray holder, configurable in field as Primary or Secondary		368 127 55
Primary Tray, positions 1-150, for 1, 2, 2.5 ml vials		240 101 50
Primary Tray, positions 1-54, for 10, 20 ml vials		240 101 60
Secondary Tray, positions 151-300, for 1, 2, 2.5 ml vials		240 101 55
Secondary Tray, positions 55-108, for 10, 20 ml vials		240 101 65

## Spare Parts

**Table 11-6. Print Circuit Boards**

Description	Qty.	P/N
MFS_ID position identification board	1	236 486 40
MFS_XY motor driver board	1	236 486 45
MFS_ZP motor driver board	1	236 486 50
MFS_TC temperature controller board	1	236 486 55
MFS_SY syringe identification	1	236 486 60
MFS_CP main CPU board	1	236 486 65
MFS_FN incubation oven and stirrer board	1	236 486 70
MFS_SU supply unit	1	236 486 75
MFS_HS hs syringe board	1	236 486 80
MFS_PI power interface board	1	236 486 85
MFS_EI external interface board	1	236 486 90
MFS_TI tray identifier board	1	236 486 95
MFS_CR bar code reader board	1	236 487 00
MFS_TR tray reader board programmed for Washing Station 4 solvents programmed for Washing Station 2 solvents programmed for Tray Holders	1	236 047 06 236 047 07 236 047 08

**Table 11-6. Print Circuit Boards (Continued)**

Description	Qty.	P/N
MFS_OC on-column presence board	1	236 487 10
MFS_OD on-column driver board programmed for Actuator A programmed for Actuator B	1	236 487 15 236 487 16


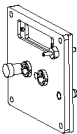




**Table 11-7. Assembled Parts**

Description	Qty.	P/N
Truck motor assy		254 010 30
XY crossrails assy		254 010 40
XY crossrails assy		254 010 40
XY extended crossrail assy		254 010 70
Turret AS assy		254 010 50
Turret HS assy		254 010 60
External power supply module		208 060 70
External power supply module + LAN		208 060 80
Incubation Oven/Agitator		354 080 70
Pressure regulator modulator (it is a part of P/N 354 080 70)		425 072 30
Assy front door for TriPlus AS		333 309 46
Assy front door for TriPlus HS		333 309 47
Heated Syringe Holder for TriPlus HS		365 030 08
Fast Washing Station		432 101 75
4-solvents Washing Station		432 101 80
2-solvents Washing Station		432 101 85

**Table 11-8. Cables**

Description	Qty.	P/N
Autosampler 9M/F cable		230 434 53
6-pin M-DIN M/M cable		230 435 77

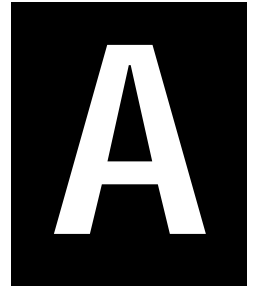
**Table 11-9. Miscellanea**

Description	Qty.	P/N	
2-m Black plastic tube		420 010 02	
Elastic of injection head	1	315 052 65	
	Crossrail Y - Guide pin with washer	2	212 004 10
	Crossrail Y - Plate assy for Z axis connection	1	334 130 52
	Label for Y axis	1	387 067 90
	Needle Guide assembly for 50 mm syringe needle (AS)	1	290 013 10
	Screwdriver for 3-mm Allen screw		206 026 06
	Phillips screwdriver		206 026 07

**Table 11-10. Installation Kits**

Description	Qty.	P/N
Kit External Tube (for TriPlus HS)		190 505 60
OC actuator		190 502 62





# Customer Communication

Thermo Electron provides comprehensive technical assistance worldwide and is dedicated to the quality of our customer relationships and services.

## How To Contact Us

---

This appendix contains contact information for Thermo Electron S.p.A office. Use the list reported in *Customer Communication* to contact your local Thermo Electron office or affiliate.

**Thermo Electron S.p.A**  
INTERNATIONAL SALES DEPARTMENT  
Strada Rivoltana  
20090 Rodano - Milano

Tel: +39 02 95059 226  
Fax: +39 02 95059 256

**Thermo Electron S.p.A**  
INTERNATIONAL CUSTOMER SUPPORT  
Strada Rivoltana  
20090 Rodano - Milano

Tel: +39 02 95059 373  
Fax: +39 02 95059 225

This appendix also contains a one-page [Reader Survey](#). Use this survey to give us feedback on this manual and help us improve the quality of our documentation.

## Reader Survey

**Product:** FOCUS GC  
**Manual:** Spare Parts Catalog  
**Part No.:** 317 094 13

**Please help us improve the quality of our documentation by completing and returning this survey.  
Circle one number for each of the statements below.**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The manual is well organized.	1	2	3	4	5
The manual is clearly written.	1	2	3	4	5
The manual contains all the information I need.	1	2	3	4	5
The instructions are easy to follow.	1	2	3	4	5
The instructions are complete.	1	2	3	4	5
The technical information is easy to understand.	1	2	3	4	5
Examples of operation are clear and useful.	1	2	3	4	5
The figures are helpful.	1	2	3	4	5
I was able to install the system using this manual.	1	2	3	4	5

**If you would like to make additional comments, please do. (Attach additional sheets if necessary.)**

---

---

---

**Fax or mail this form to:**  
Thermo Electron S.p.A.  
Strada Rivoltana km 4  
20090 Rodano (MI)  
ITALY  
Fax: 39 02 95059388