

Leica TCS SPE

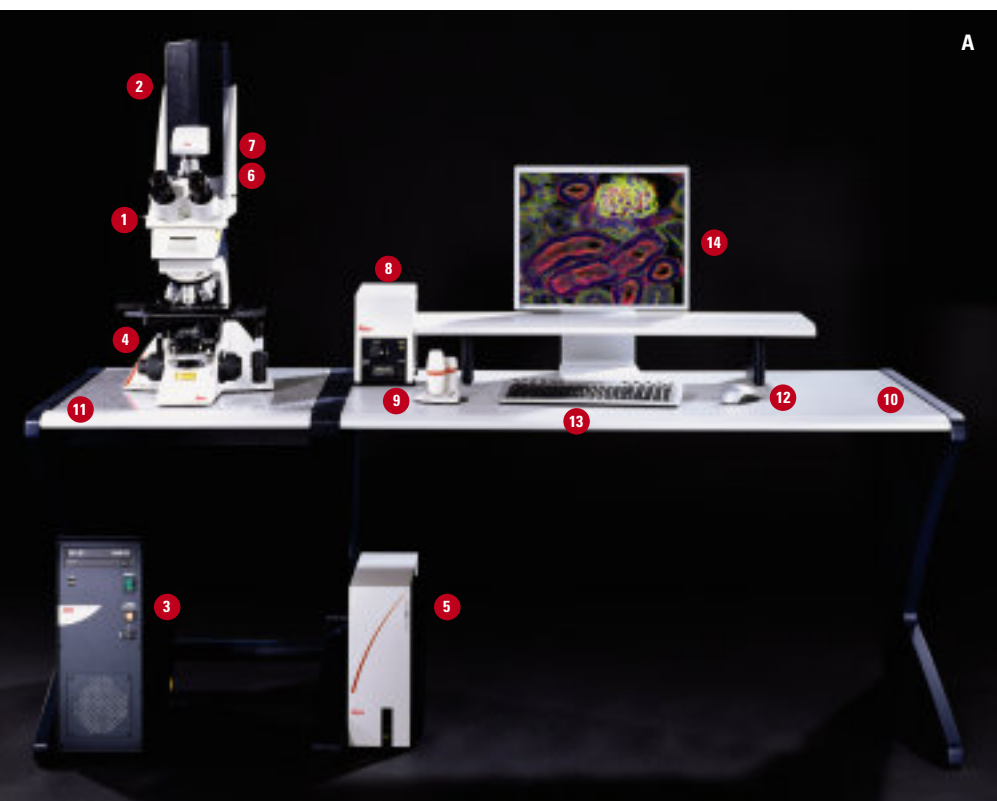
Spectacular Imaging!

Technical Documentation

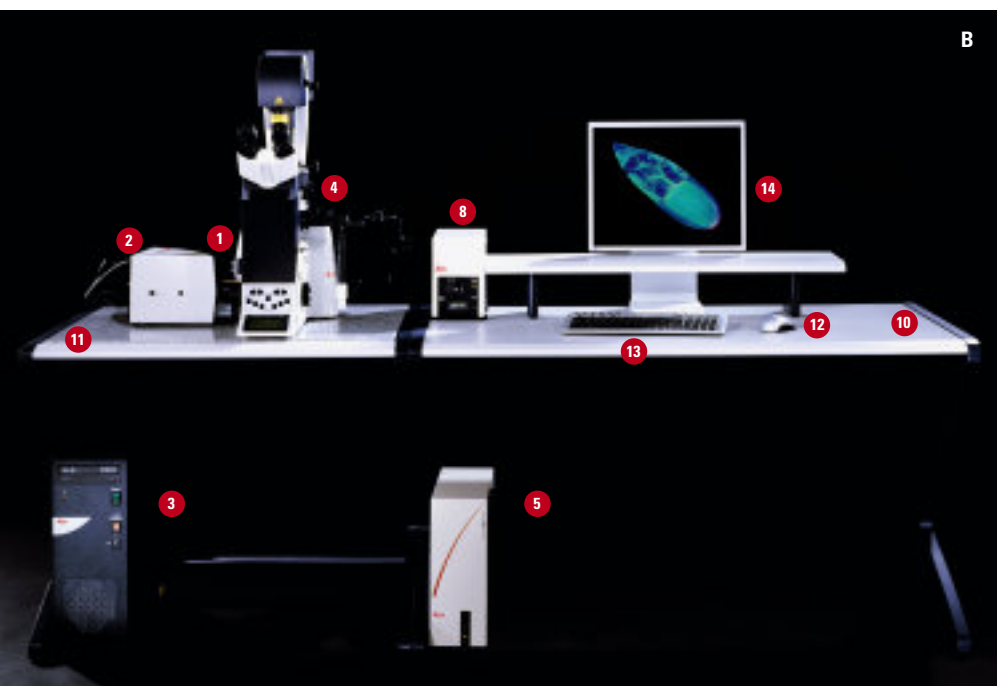
Leica TCS SPE

- Spectacular Imaging
- Easy to Achieve
- A Reliable System
- Affordable Excellence

The high resolution spectral confocal Leica TCS SPE is an integrated system, optimized for target applications in small research groups and multi-user environments. A reliable partner providing spectacular results – easily and yet affordably.



- 1 Research microscope
 - A Inverted
 - B Upright
- 2 Confocal scan head
- 3 Supply unit, including three or four lasers and power supply, PC
- 4 Galvometer stage
- 5 Microscope control unit
- 6 Camera port
- 7 Digital camera
- 8 EL6000 fluorescence illumination control
- 9 Smart move microscope control
- 10 Computer table
- 11 Microscope table
- 12 Computer mouse
- 13 Keyboard
- 14 Control monitor



Specifications





Scan Head	Scanner	Method	true confocal
		Confocal channels	1
		Scanner	Galvo, [x,y]
		Sequential scan	yes
		Channels	1-8, sequential multiplexing
Resolution	Range (min - max)	[pixel]	128 ² - 2048 ²
		Scan formats	128, 256, 512, 1024, 2048
		Image depth	8 or 12, switchable
Spectral Detection	Spectral detection		yes
	Type		continuously variable
	Spectral resolution	[nm]	5 nm
	Bandwidth	[nm]	430 - 750
Detector	Detector		1
	Detector type		ultra high dynamic PMT
	Detector connection		direct
	Illumination		laser
Pinhole	Pinhole type		motorized, variable
	Range (min - max)	[μm]	35 - 600
	Pinhole adjustment	[%]	0 - 100
	Control		automated via GUI
Beam Splitter	Type		new high performance dichroics
	Beam splitter wavelength	[nm]	405/532, 488/633
	ND-splitter for TLD	[%]	30/70
	Beam splitter exchange		automated
Zoom	Zoom type		continuously variable
	Zoom range		1x - 16x
	Zoom increment		0.1
Scan Modes	2D: x-y		yes
	x-z		yes
	x-t		yes
	3D: x-y-z		yes
	x-y-t		yes
	x-y-λ		yes
	Band		yes
	4D: x-y-z-t		yes
FOV	Field of view (diagonal)		15.5
Speed	Speed mode		uni-directional
	Line speed	[Hz]	800
	Line speed range	[Hz]	400, 600, 800
	max @ 128 ²	[f/s]	3.0
	standard @ 512 ²	[f/s]	1.0
	min @ 2048 ²	[f/s]	0.36

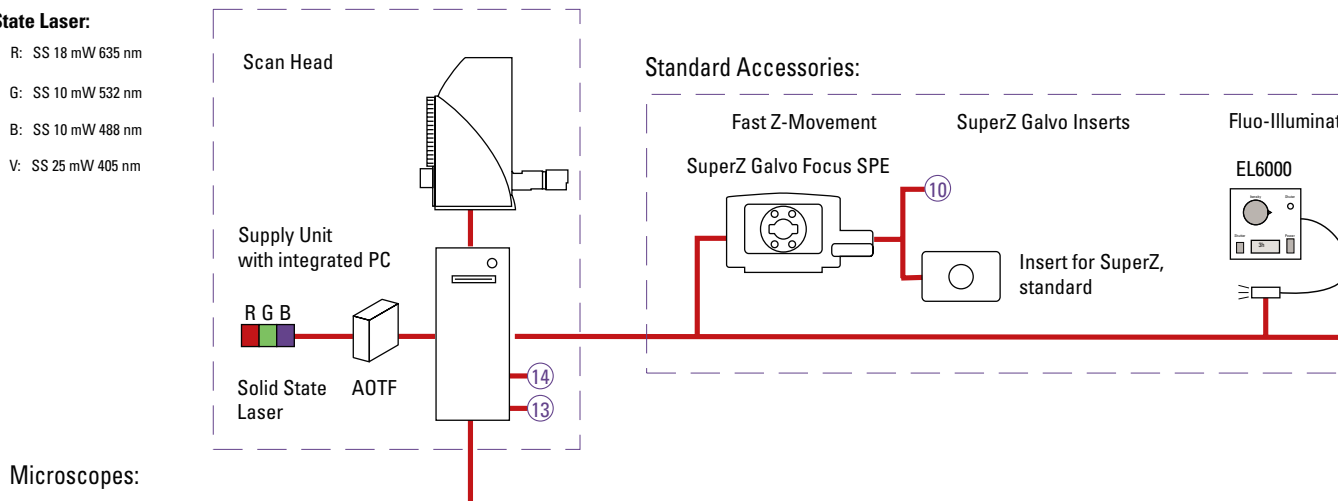
Supply Unit	Laser	Laser type		solid state
		Laser		max 4
		Laser excitation wavelength	[nm]	405, 488, 532, 635
		Excitation attenuation		AOTF
		Excitation attenuation control		automated
		Range	[%]	0- 100
	Computer	Integrated PC		yes
		Processor		Intel Pentium-M
		HD-Size	[GB]	120
		Operating system		XP-embedded
	Interfaces	Ethernet		1
		USB		4
		FireWire		2
		Parallel		1
		Serial		1
	Mouse	Type		optical
	Monitor	Monitor resolution	[Pixel]	1280 x 1024
		Monitor size		19"
	Power Supply	Power supply integration		yes
		Type		autoselect
		Voltage range	[V]	100- 240
Z-Drive		Z-focus		galvanometer stage
		Z-resolution		10 nm
		Z-focus device, other		no
Microscope	Types	upright		DM2500 CSQ
				DM5500 CSQ
		inverted		DMI 4000 CSQ
Software	Export	Formats		LEI, LIF, TIFF, AVI, JPEG
	Modules	Acquisition		yes
		3D-visualisation		yes
		Acquisition, time series		yes
		Averaging		yes
		Time lapse		yes
		Multi point time lapse		(yes)
		Colocalization		yes
Environment	Ratings	Humidity	[%]	10- 80
		Operating temperature	[°C]	18- 30
		Guaranteed stability		23°C +/- 2°C

System Overview Leica TCS SPE

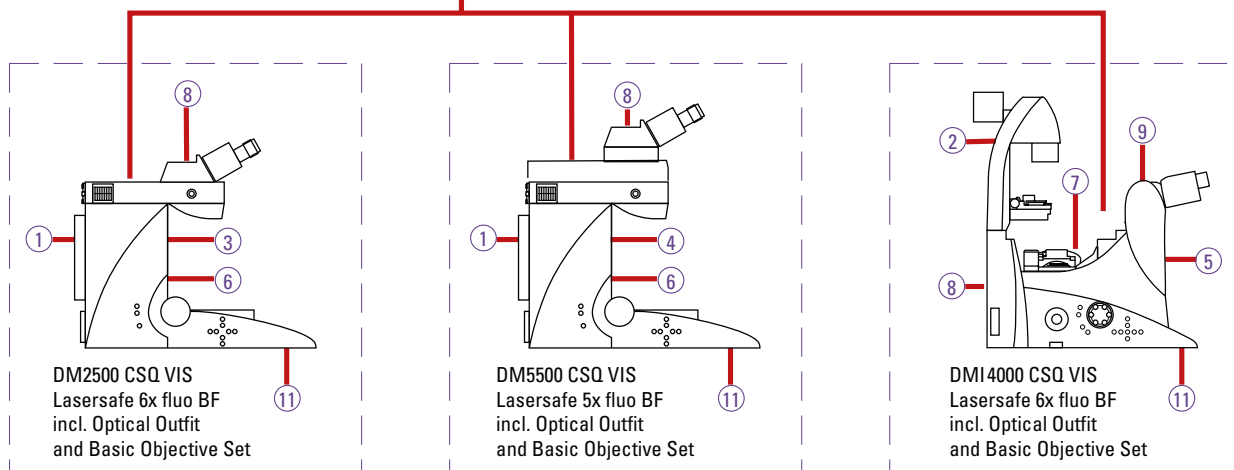
TCS SPE VIS with HC-Optics

Solid State Laser:

-  R: SS 18 mW 635 nm
-  G: SS 10 mW 532 nm
-  B: SS 10 mW 488 nm
-  V: SS 25 mW 405 nm



Microscopes:





15 6601 201
TCS SPE w. DM2500 CSQ VIS

15 6601 401
TCS SPE w. DM5500 CSQ VIS


15 6601 501
TCS SPE w. DMI4000 CSQ VIS


Additional Options:

Transmitted Light Detector-Kits

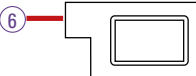
-  **15 6605 100**
TLD for DM
-  **15 6605 101**
TLD for DMI

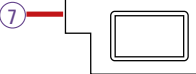
-  **15 5931 251**
Optical outfit DIC for DM2500 CSQ

-  **15 5931 551**
Optical outfit DIC for DM5500 CSQ

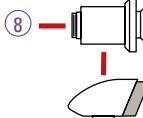
-  **15 5933 451**
Optical outfit DIC for DMI4000 CSQ

Motorized xy-Stage Kits

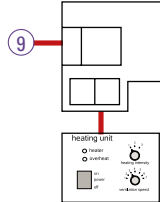
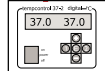
-  **15 6650 200**
DM Basic 3-Plate stage motorized kit

-  **15 6650 201**
DMI Basic 3-Plate stage motorized kit

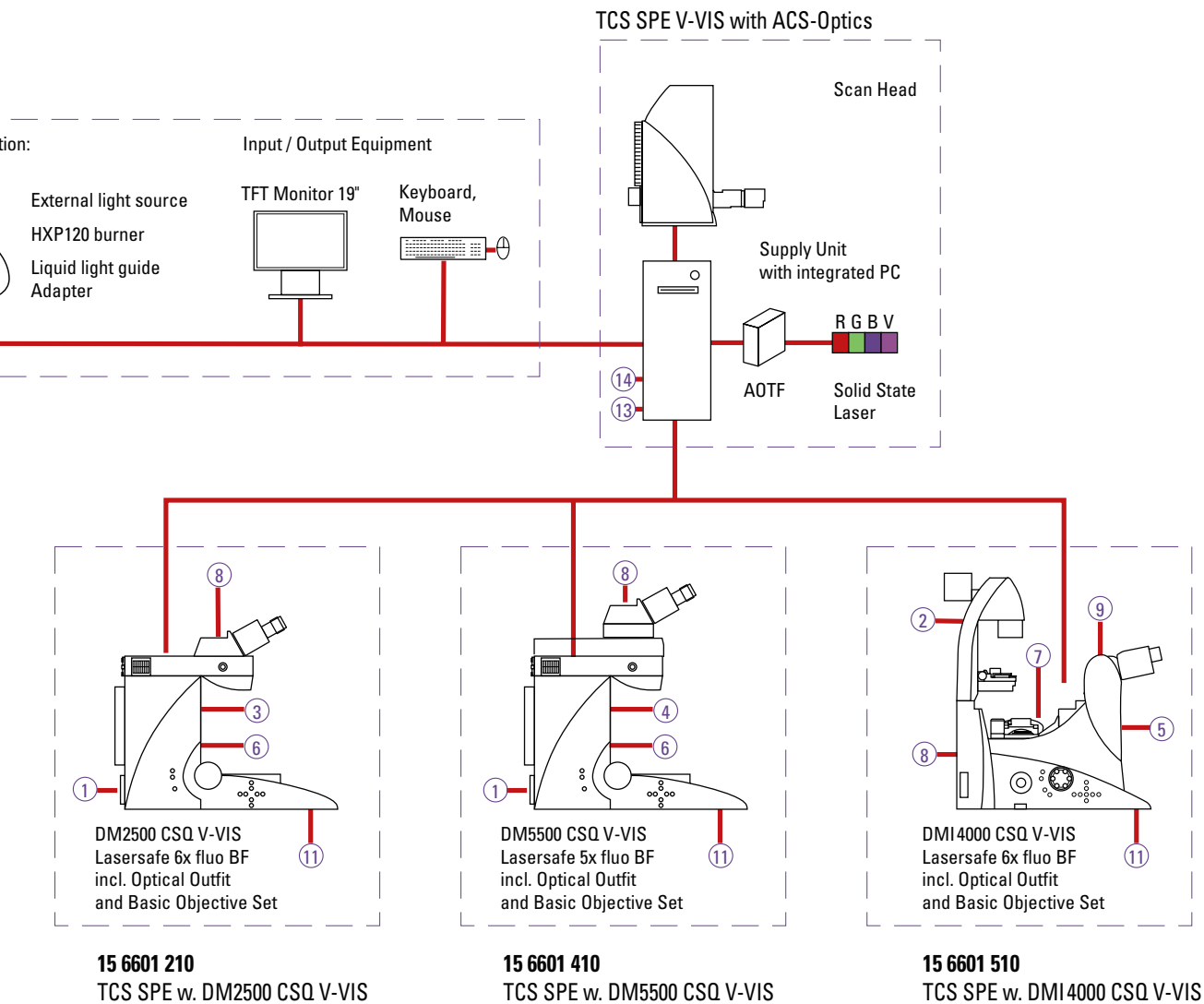
Digital Camera Kit

-  **15 5605 300**
Leica DFC350 FX incl. C-Mount Adapter x 0,63 (1)

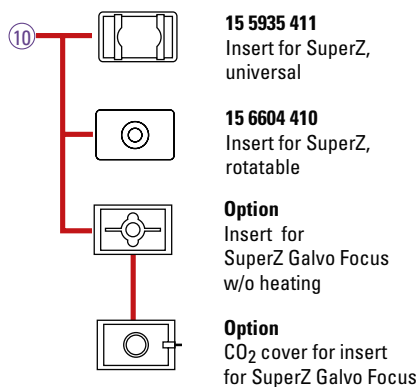
Climate Chamber Kit

-  **15 6605 400**
Climate chamber for DMI4000 CSQ (1)
Including Heating control unit
-  **Including Temp control unit**

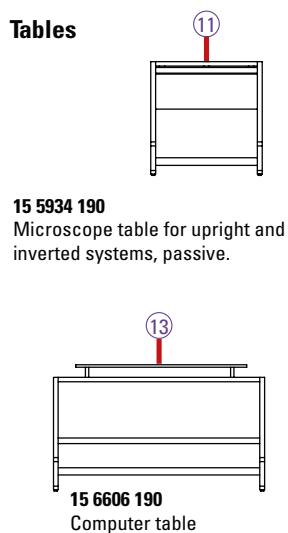
Note: (1) Available after May 2006



SuperZ Galvo Inserts



Tables

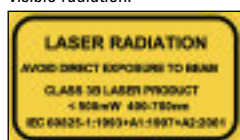


Software LAS AF TCS SPE

- 15 6022 202**
LAS AF SPE Live Data Mode
- 15 6022 203**
LAS AF SPE Colocalization
- 15 6022 204**
LAS AF SPE Deconvolution
- 15 6022 205**
LAS AF SPE 3D Visualization
- 15 6022 207**
LAS AF SPE Motion Spy
- 15 6022 208**
LAS AF SPE Dye Finder



visible radiation:



Room Requirements

Power Supply	Power supply integration		yes
	Type		autoselect
	Voltage range	[V]	100 - 240
	Power consumption	[VA]	800
	Independent circuits	[no.]	1
	Frequency	[Hz]	50/60
Environment	Fuse: standard	[A]	10
	Humidity (noncondensing)	[%]	10 - 80
	Operating temperature	[°C]	18 - 30
	Guaranteed stability		23°C +/- 2°C
Load Capacity and Weight	Confocal unit, max	[kg]	75
	Microscope, max	[kg]	45
	System	[kg]	120
	Static floor load	[kg/m ²]	150

