

Fluorescence Spectrophotometer

FP-8000 Series

Accessories



JASCO Comparison Proven

Categories

Bio science

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1-1. Intracellular Calcium Measurement (water thermostatted)

Minimum necessary items:

6961-J028A	CSP-828	Sample compartment lid with syringe port
6961-J011A	STR-811	Water thermostatted cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath
4880-7972A	FWTC-873	Dual-wavelength time course measurement program

Note:

1. Applicable syringe for the CSP-828 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-828



STR-811



FP-8200 + CSP-828 + STR-811

1-2. Intracellular Calcium Measurement (water thermostatted)

Minimum necessary items:

6961-J029A	CSP-829	Sample compartment lid with syringe port
6961-J012A	STR-812	Water thermostatted cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath
4880-7972A	FWTC-873	Dual-wavelength time course measurement program

Note:

1. Applicable syringe for the CSP-829 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-829



STR-812



FP-8300 + CSP-829 + STR-812

1-3. Intracellular Calcium Measurement (water-cooled Peltier)

Minimum necessary items:

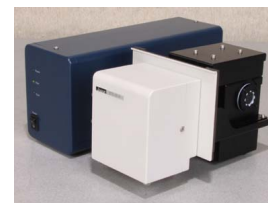
6961-J028A	CSP-828	Sample compartment lid with syringe port
6961-J014A	ETC-814	Water-cooled Peltier thermostatted single cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath
4880-7972A	FWTC-873	Dual-wavelength time course measurement program

Note:

1. Applicable syringe for the CSP-828 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-828



ETC-814



FP-8200 + CSP-828 + ETC-814

1-4. Intracellular Calcium Measurement (water-cooled Peltier)

Minimum necessary items:

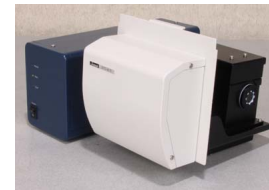
6961-J029A	CSP-829	Sample compartment lid with syringe port
6961-J015A	ETC-815	Water-cooled Peltier thermostatted single cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath
4880-7972A	FWTC-873	Dual-wavelength time course measurement program

Note:

1. Applicable syringe for the CSP-829 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-829



ETC-815



FP-8300 + CSP-829 + ETC-815

1-5. Intracellular Calcium Measurement (air-cooled Peltier)

Minimum necessary items:

6961-J029A	CSP-829	Sample compartment lid with syringe port
6961-J013A	EHC-813	Air-cooled Peltier thermostatted single cell holder with stirrer
4880-7972A	FWTC-873	Dual-wavelength time course measurement program

Note:

1. Applicable syringe for the CSP-829 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-829



EHC-813



FP-8500 + CSP-829 + EHC-813

2-1. Kinetics (Enzymatic reaction rate calculation) by Single Cell accessory (water thermostatted)

2

Minimum necessary items:

6961-J011A STR-811 Water thermostatted cell holder with stirrer

6970-J010A MCB-100 Mini water circulation bath

Selectable items:

{ 6961-J001A FMH-801 3 mm micro cell jacket

{ 6808-J022A FMM-100 3 mm micro quartz cell

{ 6961-J002A FMH-802 5 mm micro cell jacket

{ 6961-J202A FMM-200 5 mm micro quartz cell

Additional items:

6961-J028A CSP-828 Sample compartment lid with syringe port

2330-0030 Micro stirrer bar



STR-811



FMH-802
5 mm micro cell
with micro cell jacket

Note:

1. [Time Course Measurement] program is included in standard Spectra Manager software.
2. [Enzymatic Reaction Rate Calculation] program is included in standard Spectra Manager software.
3. Selecting the sample cell depends on the desired sample analysis.
4. 10 x 10 mm fluorescence quartz cell included in the standard accessories for main unit can be used.
5. The FMM-100 has no stirring capability.
6. Using the CSP-828 depends on sample type.
7. Applicable syringe for the CSP-828 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-828



FP-8200 + STR-811 + CSP-828

2-2. Kinetics (Enzymatic reaction rate calculation) by Single Cell accessory (water thermostatted)

3/5/6

Minimum necessary items:

6961-J012A STR-812 Water thermostatted cell holder with stirrer

6970-J010A MCB-100 Mini water circulation bath

Selectable items:

{ 6961-J001A FMH-801 3 mm micro cell jacket

{ 6808-J022A FMM-100 3 mm micro quartz cell

{ 6961-J002A FMH-802 5 mm micro cell jacket

{ 6961-J202A FMM-200 5 mm micro quartz cell

Additional items:

6961-J029A CSP-829 Sample compartment lid with syringe port

2330-0030 Micro stirrer bar



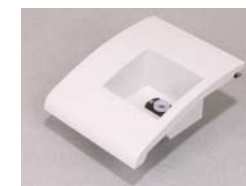
STR-812



FMH-802
5 mm micro cell
with micro cell jacket

Note:

1. [Time Course Measurement] program is included in standard Spectra Manager software.
2. [Enzymatic Reaction Rate Calculation] program is included in standard Spectra Manager software.
3. Selecting the sample cell depends on the desired sample analysis.
4. 10 x 10 mm fluorescence quartz cell included in the standard accessories for main unit can be used.
5. The FMM-100 has no stirring capability.
6. Using the CSP-829 depends on sample type.
7. Applicable syringe for the CSP-829 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-829



FP-8300 + STR-812 + CSP-829

2-3. Kinetics (Enzymatic reaction rate calculation) by Single Cell accessory (water-cooled Peltier)

2

Minimum necessary items:

6961-J014A	ETC-814	Water-cooled Peltier thermostatted single cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath

Selectable items:

6961-J001A	FMH-801	3 mm micro cell jacket
6808-J022A	FMM-100	3 mm micro quartz cell
6961-J002A	FMH-802	5 mm micro cell jacket
6961-J202A	FMM-200	5 mm micro quartz cell

Additional items:

6961-J028A	CSP-828	Sample compartment lid with syringe port
2330-0030		Micro stirrer bar



ETC-814



FMH-802
5 mm micro cell
with micro cell jacket

Note:

1. [Time Course Measurement] program is included in standard Spectra Manager software.
2. [Enzymatic Reaction Rate Calculation] program is included in standard Spectra Manager software.
3. Selecting the sample cell depends on the desired sample analysis.
4. 10 x 10 mm fluorescence quartz cell included in the standard accessories for main unit can be used.
5. The FMM-100 has no stirring capability.
6. Using the CSP-829 depends on sample type.
7. Applicable syringe for the CSP-828 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-828



FP-8200 + ETC-814 + CSP-828

2-4. Kinetics (Enzymatic reaction rate calculation) by Single Cell accessory (water-cooled Peltier)

3/5/6

Minimum necessary items:

6961-J015A	ETC-815	Water-cooled Peltier thermostatted single cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath

Selectable items:

6961-J001A	FMH-801	3 mm micro cell jacket
6808-J022A	FMM-100	3 mm micro quartz cell
6961-J002A	FMH-802	5 mm micro cell jacket
6961-J202A	FMM-200	5 mm micro quartz cell

Additional items:

6961-J029A	CSP-829	Sample compartment lid with syringe port
2330-0030		Micro stirrer bar



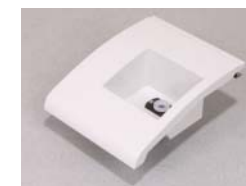
ETC-815



FMH-802
5 mm micro cell
with micro cell jacket

Note:

1. [Time Course Measurement] program is included in standard Spectra Manager software.
2. [Enzymatic Reaction Rate Calculation] program is included in standard Spectra Manager software.
3. Selecting the sample cell depends on the desired sample analysis.
4. 10 x 10 mm fluorescence quartz cell included in the standard accessories for main unit can be used.
5. The FMM-100 has no stirring capability.
6. Using the CSP-829 depends on sample type.
7. Applicable syringe for the CSP-829 is micro syringe with 2-inch (approx. 50 mm) needle length.



CSP-829



FP-8300 + ETC-815 + CSP-829

2-5. Kinetics (Enzymatic reaction rate calculation) by Single Cell accessory (air-cooled Peltier)

3/5/6

Minimum necessary items:

6961-J013A EHC-813 Air-cooled Peltier thermostatted single cell holder with stirrer

Selectable items:

6961-J001A	FMH-801	3 mm micro cell jacket
6808-J022A	FMM-100	3 mm micro quartz cell
6961-J002A	FMH-802	5 mm micro cell jacket
6961-J202A	FMM-200	5 mm micro quartz cell

Additional items:

6961-J029A CSP-829 Sample compartment lid with syringe port
2330-0030 Micro stirrer bar



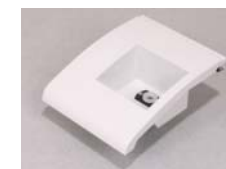
EHC-813



FMH-802
5 mm micro cell
with micro cell jacket

Note:

1. [Time Course Measurement] program is included in standard Spectra Manager software.
2. [Enzymatic Reaction Rate Calculation] program is included in standard Spectra Manager software.
3. Selecting the sample cell depends on the desired sample analysis.
4. 10 x 10 mm fluorescence quartz cell included in the standard accessories for main unit can be used.
5. The FMM-100 has no stirring capability.
6. Using the CSP-829 depends on sample type.
7. Applicable syringe for the CSP-829 is micro syringe with 2-inch (approx.50 mm) needle length.



CSP-829



FP-8300 + EHC-813

3-1. Parallel Kinetics by Multi-Cell accessory (water thermostatted, 4-position)

2

Minimum necessary items:

6961-J116A	FCT-816S	Water thermostatted automatic 4-position turret cell changer with stirrer
4880-7472A	VWKN-772	Advanced kinetics analysis program
6970-J010A	MCB-100	Mini water circulation bath

Note:

1. The VWKN-772 Advanced kinetics analysis program is used for calculation of K_m , V_{max} and plot in addition to enzymatic reaction rate calculation.
2. The FCT-816 (P/N 6961-J016A) can be used instead of the FCT-816S if stirring capability is not required.



FCT-816S

3-2. Parallel Kinetics by Multi-Cell accessory (water thermostatted, 8-position)

Minimum necessary items:

6961-J117A	FCT-817S	Water thermostatted automatic 8-position turret cell changer with stirrer
4880-7472A	VWKN-772	Advanced kinetics analysis program
6970-J010A	MCB-100	Mini water circulation bath

Note:

1. The VWKN-772 Advanced kinetics analysis program is used for calculation of K_m , V_{max} and plot in addition to enzymatic reaction rate calculation.
2. The FCT-817 (P/N 6961-J017A) can be used instead of the FCT-817S if stirring capability is not required.



FCT-817S



FP-8300 + FCT-817S

3-3. Parallel Kinetics by Multi-Cell accessory (water-cooled Peltier, 4-position)

Minimum necessary items:

6961-J018A PCT-818 Water-cooled Peltier thermostatted 4-position automatic cell changer with stirrer

4880-7472A VWKN-772 Advanced kinetics analysis program

Additional items:

6970-J010A MCB-100 Mini water circulation bath

Note:

1. The VWKN-772 Advanced kinetics analysis program is used for calculation of K_m , V_{max} and plot in addition to enzymatic reaction rate calculation.
2. The MCB-100 does not satisfy the specification when the PCT-818 is used under low temperature measurement or rapid heating/cooling. In such cases, water circulation bath, such as Julabo model F25-ED and F25-ME should be prepared locally.



PCT-818



FP-8300 + PCT-818

4-1. Temperature Ramping and DNA Melting Analysis by Single Cell (water-cooled Peltier)

2

Minimum necessary items:

6961-J014A	ETC-814	Water-cooled Peltier thermostatted cell holder with stirrer
4880-7970A	FWTP-874	Temperature programming measurement program
6970-J010A	MCB-100	Mini water circulation bath



ETC-814

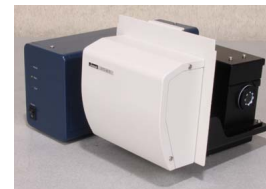


FP-8200 + ETC-814

4-2. Temperature Ramping and DNA Melting Analysis by Single Cell (water-cooled Peltier)

Minimum necessary items:

6961-J015A	ETC-815	Water-cooled Peltier thermostatted cell holder with stirrer
4880-7970A	FWTP-874	Temperature programming measurement program
6970-J010A	MCB-100	Mini water circulation bath



ETC-815



FP-8300 + ETC-815

4-3. Temperature Ramping and DNA Melting Analysis by Single Cell (air-cooled Peltier)

Minimum necessary items:

6961-J013A	EHC-813	Air-cooled Peltier thermostatted single cell holder with stirrer
4880-7970A	FWTP-874	Temperature programming measurement program



EHC-813



FP-8300 + EHC-813

4-4. Temperature Ramping and DNA Melting Analysis by Multi-Cell accessory (water-cooled Peltier, 4-position)

Minimum necessary items:

6961-J018A	PCT-818	Water-cooled Peltier thermostatted 4-position automatic cell changer with stirrer
4880-7970A	FWTP-874	Temperature programming measurement program
6970-J010A	MCB-100	Mini water circulation bath

Note:

1. The MCB-100 does not satisfy the specification when the PCT-818 is used under low temperature measurement or rapid heating/cooling. In such cases, water circulation bath, such as Julabo model F25-ED and F25-ME should be prepared locally.



PCT-818



FP-8300 + PCT-818

5-1. Phosphorescence Spectrum/Lifetime Measurement

Minimum necessary items:

6961-J030A PMU-830 Liquid nitrogen cooling unit

Selectable items:

6961-H230A LPH-140 Phosphorescence measurement cell kit for liquid sample

6961-H330A PPH-150 Phosphorescence measurement cell kit for powder sample

6961-H130A CPH-160 Phosphorescence measurement cell kit for solid sample

Note:

1. [Phosphorescence Measurement] program is included in standard Spectra Manager software.
2. Selecting the cell kit for liquid nitrogen cooling unit depends on the sample type:
 - a. The LPH-140 has a 5 mm diameter quartz sample tube for liquids.
 - b. Dimension of a powder sample for the PPH-150 is 7 mm diameter with a thickness of 0.5 – 1 mm. Incident angle of EX light for the PPH-150 is 55 degrees.
 - c. The CPH-160 is a sample cell for a powder sample sandwiched between KBr plates or a plate-like solid sample. Incident angle of EX light for the CPH-160 is 7 degrees.



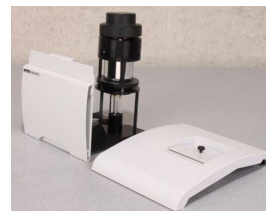
LPH-140



CPH-160



PPH-150



PMU-830



FP-8300 + PMU-830

6-1. Fluorescence Polarization Measurement (manual)

2/3/5/6

Minimum necessary items:

6808-J138A FDP-223(W) Polarizer and analyzer accessory, 2 pcs./set

Note:

1. The above is for UV/VIS wavelength range, 220-700 nm.



FDP-223

6-2. Fluorescence Polarization Measurement (manual)

2/3/5/6

Minimum necessary items:

6808-J139A FDP-243(W) Polarizer and analyzer accessory, 2 pcs./set

Note:

1. The above is for VIS wavelength range only, 400-700 nm.



FDP-243

6-3. Fluorescence Polarization Measurement (automatic)

Minimum necessary items:

6961-J037A FDP-837 Automatic polarizer for UV/VIS range (includes excitation and emission polarizer units)

4880-7973A FWAP-875 Fluorescence polarization measurement program

Additional items:

6961-J015A ETC-815 Water-cooled Peltier thermostatted cell holder with stirrer

6970-J010A MCB-100 Mini water circulation bath

6961-J013A EHC-813 Air-cooled Peltier thermostatted cell holder with stirrer

Note:

1. The ETC-815 and the MCB-100 or EHC-813 are used when temperature control is needed.
2. The above is for UV/VIS wavelength range, 220-700 nm.



FDP-837



ETC-815



FP-8300 + ETC-815

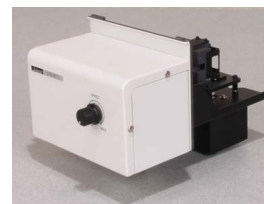
7-1. Automatic Titration Measurement (water thermostatted)

Minimum necessary items:

6961-J026A	ATS-826	Automatic titration unit
6961-J011A	STR-811	Water thermostatted cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath

Note;

1. [Automatic Titration Measurement] program is included in the Spectra Manager software provided with the ATS-826.
2. A dedicated sample compartment lid with syringe port is included as standard with the ATS-826.



STR-811



FP-8200+ATS-826+STR-811

7-2. Automatic Titration Measurement (water thermostatted)

Minimum necessary items:

6961-J027A	ATS-827	Automatic titration unit
6961-J012A	STR-812	Water thermostatted cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath

Note;

1. [Automatic Titration Measurement] program is included in the Spectra Manager software provided with the ATS-827.
2. A dedicated sample compartment lid with syringe port is included as standard with the ATS-827.



STR-812

7-3. Automatic Titration Measurement (water-cooled Peltier)

Minimum necessary items:

6961-J026A	ATS-826	Automatic titration unit
6961-J014A	ETC-814	Water-cooled Peltier thermostatted single cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath

Note;

1. [Automatic Titration Measurement] program is included in the Spectra Manager software provided with the ATS-826.
2. A dedicated sample compartment lid with syringe port is included as standard with the ATS-826.



ETC-814

7-4. Automatic Titration Measurement (water-cooled Peltier)

Minimum necessary items:

6961-J027A	ATS-827	Automatic titration unit
6961-J015A	ETC-815	Water-cooled Peltier thermostatted single cell holder with stirrer
6970-J010A	MCB-100	Mini water circulation bath

Note;

1. [Automatic Titration Measurement] program is included in the Spectra Manager software provided with the ATS-827.
2. A dedicated sample compartment lid with syringe port is included as standard with the ATS-827.



ETC-815

7-5. Automatic Titration Measurement (air-cooled Peltier)

Minimum necessary items:

6961-J027A	ATS-827	Automatic titration unit
6961-J013A	EHC-813	Air-cooled Peltier thermostatted single cell holder with stirrer

Note;

1. [Automatic Titration Measurement] program is included in the Spectra Manager software provided with the ATS-827.
2. A dedicated sample compartment lid with syringe port is included as standard with the ATS-827.



EHC-813

8-1. Quantitative Analysis using Microplate Reader

Minimum necessary items:

6961-J025A FMP-825 Automatic microplate reader

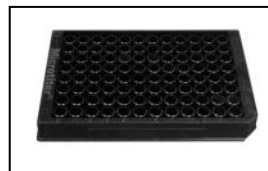
Selectable items:

0410-0085 96-well microplate, 50 pcs./set

0410-0127 384-well microplate, 50 pcs./set

Note:

1. A dedicated driver for the automatic microplate reader is included in the standard Spectra Manager software.
2. Selecting the microplate format depends on the number of samples and sample volume.
3. The minimum sample volume with the 96-well microplate (0410-0085) is 80 μ L, while the 384-well microplate (0410-0127) is 30 μ L.
4. The above 96-well and 384-well microplates are in compliance with SBS (the Society for Biomolecular Sciences) standard.



96-well microplate



FMP-825



FP-8300 + FMP-825

9-1. One Drop Measurement Accessory

Minimum necessary items:

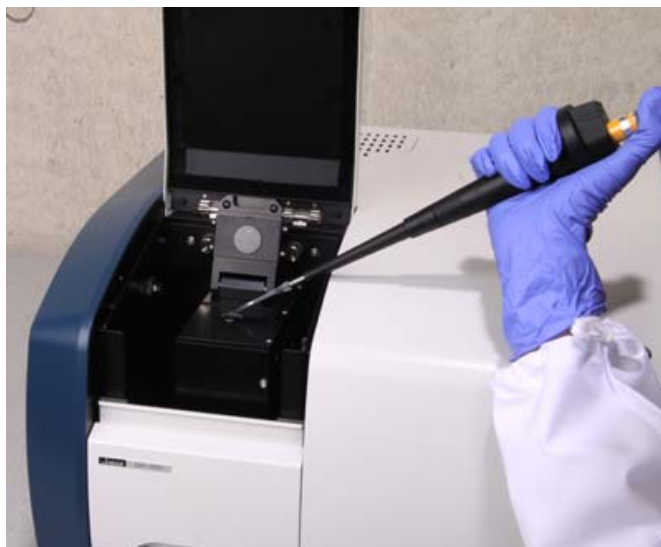
6961-J050A SAF-850 One-drop measurement unit

Additional parts:

1103-0206GC 1.0 mm pathlength cell for SAH-769/SAF-850/SAF-851

Note:

1. The 1.0 mm pathlength cell (P/N 1103-0206GC) is included as standard with the SAF-850.



SAF-850



FP-8200 + SAF-850

9-2. One Drop Measurement Accessory

3/5/6

Minimum necessary items:

6961-J051A SAF-851 One-drop measurement unit

Service parts:

1103-0206GC 1.0 mm pathlength cell for SAH-769/SAF-850/SAF-851

Note:

1. The 1.0 mm pathlength cell (P/N 1103-0206GC) is included as standard with the SAF-851.



SAF-851

10-1. Quantum Efficiency Calculation (powder, planar sample)

Minimum necessary items:

6961-J034A ISF-834 60 mm dia. integrating sphere
 4880-7978A FWQE-880 Quantum yield calculation program

Selectable parts:

6746-J009A WRE-362 PM tube for wavelength expansion
 6961-J042A ESC-842 Calibrated light source (WI, 300-1010 nm)
 6961-J043A ESC-843 Calibrated light source (D2, 200-400 nm)
 6961-J040A VDK-840 Validation Kit 1
 6916-H122A PSH-002 Powder sample cell (16 mm dia., thickness: 0.5~4 mm)
 6916-H222A PSH-003 Micro powder sample cell (5 mm dia., thickness: 0.5~4 mm)
 6961-H134A PSH-004 Powder sample cell (12 mm dia., thickness: 0.5~4 mm)
 6961-H234A PSH-005 Powder sample cell (8 mm dia., thickness: 0.5~4 mm)

Service parts:

6708-H006A White plate for integrating sphere

Note:

1. The WRE-362 should be used depends on the required wavelength range.
2. The WRE-362 is not needed for FP-8600.
3. The VDK-840 is included as standard with FP-8500/8600.
4. Selecting the calibrated light source depends on the required wavelength range.
5. The PSH-004 Powder sample cell is included as standard with the ISF-834.
6. Selecting the sample cell depends on the desired sample analysis.
7. Planar sample should not be passed through by light beam.



ISF-834



WRE-362



ESC-842



ESC-843



FP-8500 + ISF-834 + ESC-842

10-2. Quantum Efficiency Calculation (liquid, powder, solid, film samples)

Minimum necessary items:

6961-J035A ILF-835 100 mm dia. integrating sphere
 4880-7978A FWQE-880 Quantum yield calculation program

Selectable items:

6746-J009A WRE-362 PM tube for wavelength expansion
 6961-J042A ESC-842 Calibrated light source (WI, 300-1010 nm)
 6961-J043A ESC-843 Calibrated light source (D2, 200-400 nm)
 6961-J040A VDK-840 Validation Kit 1
 6808-H150A Liquid sample cell, 1 mm thickness, 1 x 10 x 25 mm
 6808-H250A Liquid sample cell, 2 mm thickness, 2 x 10 x 25 mm
 6808-H350A Powder sample cell, 3 mm thickness, 3 x 10 x 19 mm
 6961-H235A 10mm rectangular cell holder

Service parts:

6708-H006A White plate for integrating sphere

Note:

1. The WRE-362 should be used depends on the required wavelength range.
2. The WRE-362 is not needed for FP-8600.
3. Selecting the calibrated light source depends on the required wavelength range.
4. The VDK-840 is included as standard with FP-8500/8600.
5. The powder sample cell, 3 mm thickness, 3 x 10 x 19 mm (P/N 6808-H350A) can also be used for liquid samples.
6. Selecting the sample cell depends on the desired sample analysis.



ILF-835

WRE-362



ESC-842



ESC-843



FP-8500 + ILF-835 + ESC-842

10-3. Quantum Efficiency Calculation (liquid, powder, solid, film samples, low temperature)

Minimum necessary items:

6961-J047A	ILFC-847	Cooled 100 mm dia. integrating sphere
4880-7978A	FWQE-880	Quantum yield calculation program

Selectable items:

6746-J009A	WRE-362	PM tube for wavelength expansion
6961-J042A	ESC-842	Calibrated Light Source (WI, 300-1010 nm)
6961-J043A	ESC-843	Calibrated Light Source (D2, 200-400 nm)
6961-J040A	VDK-840	Validation Kit 1

Selectable items for cooled liquid nitrogen measurement:

6961-H230A	LPH-140	Phosphorescence measurement cell kit for liquid sample
6961-H330A	PPH-150	Phosphorescence measurement cell kit for powder sample
6961-H130A	CPH-160	Phosphorescence measurement cell kit for solid sample

Selectable items for room temperature measurement:

6808-H150A	Liquid sample cell, 1 mm thickness, 1 x 10 x 25 mm
6808-H250A	Liquid sample cell, 2 mm thickness, 2 x 10 x 25 mm
6808-H350A	Powder sample cell, 3 mm thickness, 3 x 10 x 19 mm
6961-H235A	10mm rectangular cell holder

Service parts:

6708-H006A	White plate for integrating sphere
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Note:

1. The WRE-362 should be used depends on the required wavelength range.
2. The WRE-362 is not needed for FP-8600.
3. Selecting the calibrated light source depends on the required wavelength range.
4. The VDK-840 is included as standard with FP-8500/8600.
5. The powder sample cell, 3 mm thickness, 3 x 10 x 19 mm (P/N 6808-H350A) can also be used for liquid samples.
6. Selecting the sample cell and cell kit depends on the desired sample analysis.



ILFC-847



WRE-362



ESC-843



ESC-842



FP-8500 + ILFC-847 + ESC-842

11-1. Luminous Color Measurement

Minimum necessary items:

6746-J009A	WRE-362	PM tube for wavelength expansion
6961-J042A	ESC-842	Calibrated light source (WI, 300-1010 nm)
4880-7976A	FWLU-879	Luminous color measurement program
6961-J040A	VDK-840	Validation Kit 1

Note:

1. Using the ESC-842 is for EM spectral correction and wavelength range is from 300 to 1010 nm. (Recommended range: 350-1010 nm) Actual wavelength range depends on measurable wavelength of each instrument.
2. The WRE-362 is not needed for FP-8600.
3. The VDK-840 is included as standard with FP-8500/8600.



WRE-362



ESC-842



FP-8500 + ESC-842

12-1. Color Evaluation of Fluorescent Material (Powder, planar sample)

Minimum necessary items:

6961-J034A	ISF-834	60 mm dia. integrating sphere
6746-J009A	WRE-362	PM tube for wavelength expansion
6961-J042A	ESC-842	Calibrated light source (WI, 300-1010 nm)
6961-J040A	VDK-840	Validation Kit 1
4880-7975A	FWFC-878	Fluorescence object color measurement program

Selectable items:

6916-H122A	PSH-002	Powder sample cell (16 mm dia., thickness: 0.5~4 mm)
6916-H222A	PSH-003	Micro powder sample cell (5 mm dia., thickness: 0.5~4 mm)
6961-H134A	PSH-004	Powder sample cell (12 mm dia., thickness: 0.5~4 mm)
6961-H234A	PSH-005	Powder sample cell (8 mm dia., thickness: 0.5~4 mm)

Service parts:

6708-H006A	White plate for integrating sphere
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Note:

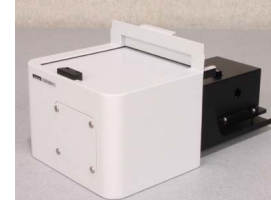
1. The PSH-004 is included as a standard with the ISF-834.
2. The WRE-362 is not needed for FP-8600.
3. The VDK-840 is included as standard with FP-8500/8600.
4. Selecting the sample cell depends on the desired sample analysis.
5. Planar sample should not be passed through by light beam.



WRE-362



ESC-842



ISF-834



FP-8500 + ISF-834 + ESC-842

13-1. Spectra Measurement by Temperature Interval Scan

2

Minimum necessary items:

6961-J014A	ETC-814	Water-cooled Peltier thermostatted cell holder with stirrer
4880-7971A	FWTS-872	Temperature interval scan measurement program
6970-J010A	MCB-100	Mini water circulation bath



ETC-814



FP-8200 + ETC-814

13-2. Spectra Measurement by Temperature Interval Scan

3/5/6

Minimum necessary items:

6961-J015A	ETC-815	Water-cooled Peltier thermostatted cell holder with stirrer
4880-7971A	FWTS-872	Temperature interval scan measurement program
6970-J010A	MCB-100	Mini water circulation bath



ETC-815



FP-8300 + ETC-815

14-1. Solid Sample Surface Measurement including Powder samples

Minimum necessary items:

6961-J008A FDA-808 Solid sample holding block

Service items:

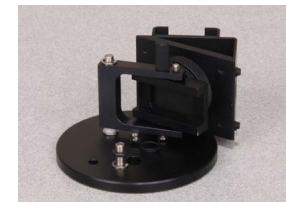
6105-J129A FP-1061 Powder sample holder (included)

Note:

1. The FP-1061 is included as standard with the FDA-808.
2. Incident angle of the FDA-808 is 30 degrees.



FP-1061



FDA-808

15-1. Powder Sample Measurement

2/3/5/6

Minimum necessary items:

6961-J010A FPA-810 Powder sample cell block

Service parts:

6961-H110A PSH-101 Powder sample cell (included)

Note:

1. Incident angle of the FPA-810 is 30 degrees.
2. The PSH-101 is included as standard with the FPA-810.
3. Sample size of the PSH-101 is 12 mm diameter with 0.5 ~ 4 mm thickness.



FPA-810

16-1. High Temperature Measurement for Powder Sample

3/5/6

Minimum necessary items:

6961-J036A	HPC-836	High temperature powder cell unit
6970-J010A	MCB-100	Mini water circulation bath

Service parts:

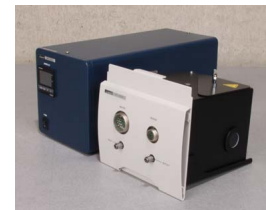
6961-H136A	Powder sample cell A, 20 mm dia., thickness 1 mm
6961-H236A	Powder sample cell B, 20 mm dia., thickness 0.5 mm

Example:

1. Fluorescent material for plasma display panel

Note:

1. The powder sample cell A (6961-H136A) and B (6961-H236A) are included as standard with the HPC-836.



HPC-836



FP-8500 + HPC-836

17-1. Reading Fluorescence Intensity (Quantitative analysis using peristaltic sipper)

2

Minimum necessary items:

6961-J019A SHP-819 Peristaltic sipper

Note:

1. Sample recovery is possible.



SHP-819



FP-8200 + SHP-819

17-2. Reading Fluorescence Intensity (Quantitative analysis using peristaltic sipper)

Minimum necessary items:

6961-J020A SHP-820 Peristaltic sipper

Note:

1. Sample recovery is possible.



SHP-820



FP-8300 + SHP-820

17-3. Reading Fluorescence Intensity (Quantitative analysis using vacuum sipper)

2

Minimum necessary items:

6961-J021A QFS-821 Vacuum sipper

Note:

1. Sample recovery is impossible.



QFS-821



FP-8200 + QFS-821

17-4. Reading Fluorescence Intensity (Quantitative analysis using vacuum sipper)

Minimum necessary items:

6961-J022A QFS-822 Vacuum sipper

Note:

1. Sample recovery is impossible.



QFS-822



FP-8300 + QFS-822

17-5. Reading Fluorescence Intensity (Quantitative analysis using autosampler, microplate)

Minimum necessary items:

6989-J001A	ASU-800	Autosampler
6961-J049A	ASP-849	Syringe pump
6961-J023A	FSC-823	Micro flow-cell holder

Selectable items:

6989-J116A	SRA-816	Microplate rack
		96-well microplate, 50 pcs./set
6989-J117A	SRA-817	Constant temperature microplate rack
		96-well amplification plate, 50 pcs./set
6961-H124A		15 μ L flow-cell block for FSC-823/824
6961-H224A		30 μ L flow-cell block for FSC-823/824
6961-H324A		100 μ L flow-cell block for FSC-823/824

Note:

1. Selecting the microplate rack depends on the sample temperature.
2. Selecting the flow-cell block depends on the desired sample analysis.
3. The sample volume should be 250 μ L.



96-well microplate



96-well amplification plate



FSC-823



FP-8200 + ASU-800 + ASP-849 + FSC-823

17-6. Reading Fluorescence Intensity (Quantitative analysis using autosampler, microplate)

Minimum necessary items:

6989-J001A	ASU-800	Autosampler
6961-J049A	ASP-849	Syringe pump
6961-J024A	FSC-824	Micro flow-cell holder

Selectable items:

6989-J116A	SRA-816	Microplate rack
		96-well microplate, 50 pcs./set
6989-J117A	SRA-817	Constant temperature microplate rack
		96-well amplification plate, 50 pcs./set
6961-H124A		15 μ L flow-cell block for FSC-823/824
6961-H224A		30 μ L flow-cell block for FSC-823/824
6961-H324A		100 μ L flow-cell block for FSC-823/824

Note:

1. Selecting the microplate rack depends on the sample temperature.
2. Selecting the flow-cell block depends on the desired sample analysis.
3. The sample volume should be 250 μ L.



96-well microplate



96-well amplification plate



FSC-824



FP-8300 + ASU-800 + ASP-849 + FSC-824

17-7. Reading Fluorescence Intensity (Quantitative analysis using autosampler, peristaltic sipper)

Minimum necessary items:

6989-J001A	ASU-800	Autosampler
6961-J019A	SHP-819	Peristaltic sipper

Selectable items:

6989-J111A	SRA-811	Test tube rack for OD 15 x 105 mm tube (10 mL)
		Test tube, 10 mL, 100 pcs./set
6989-J112A	SRA-812	Test tube rack for OD 13 x 100 mm tube (7 mL)
		Test tube, 7 mL, 100 pcs./set
6989-J113A	SRA-813	Test tube rack for OD 12 x 105 mm tube (5 mL)
		Test tube, 5 mL, 100 pcs./set
6989-J114A	SRA-814	Test tube rack for OD 10 x 90 mm tube (3 mL)
		Test tube, 3 mL, 100 pcs./set

Recommended items:

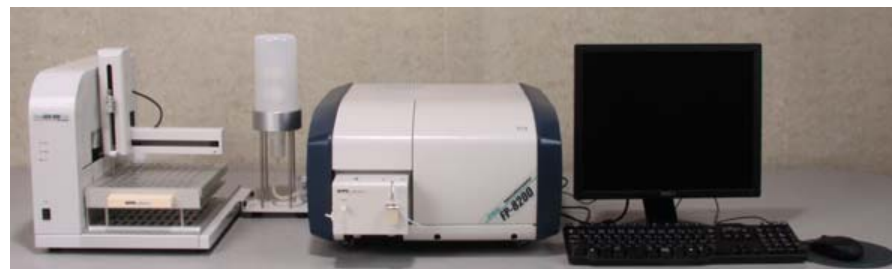
6989-J120A	AWU-820	Washing unit
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Note:

1. Sample recovery is possible.
2. Selecting the test tube racks depends on the desired sample analysis.
3. The AWU-820 washing unit is useful to reduce contamination.



SHP-819



FP-8200 + ASU-800 + SHP-819 + AWU-820

17-8. Reading Fluorescence Intensity (Quantitative analysis using autosampler, peristaltic sipper)

Minimum necessary items:

6989-J001A	ASU-800	Autosampler
6961-J020A	SHP-820	Peristaltic sipper

Selectable items:

6989-J111A	SRA-811	Test tube rack for OD 15 x 105 mm tube (10 mL)
		Test tube, 10 mL, 100 pcs./set
6989-J112A	SRA-812	Test tube rack for OD 13 x 100 mm tube (7 mL)
		Test tube, 7 mL, 100 pcs./set
6989-J113A	SRA-813	Test tube rack for OD 12 x 105 mm tube (5 mL)
		Test tube, 5 mL, 100 pcs./set
6989-J114A	SRA-814	Test tube rack for OD 10 x 90 mm tube (3 mL)
		Test tube, 3 mL, 100 pcs./set

Recommended items:

6989-J120A	AWU-820	Washing unit
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Note:

1. Sample recovery is possible.
2. Selecting the test tube racks depends on the desired sample analysis.
3. The AWU-820 washing unit is useful to reduce contamination.



SHP-820



FP-8300 + ASU-800 + SHP-820 + AWU-820

17-9. Reading Fluorescence Intensity (Quantitative analysis using autosampler, vacuum sipper)

Necessary items:

6989-J001A	ASU-800	Autosampler
6961-J021A	QFS-821	Vacuum sipper

Selectable items:

6989-J111A	SRA-811	Test tube rack for OD 15 x 105 mm tube (10 mL)
6774-H110A		Test tube, 10 mL, 100 pcs./set
6989-J112A	SRA-812	Test tube rack for OD 13 x 100 mm tube (7 mL)
6774-H109A		Test tube, 7 mL, 100 pcs./set
6989-J113A	SRA-813	Test tube rack for OD 12 x 105 mm tube (5 mL)
6905-H146A		Test tube, 5 mL, 100 pcs./set
6989-J114A	SRA-814	Test tube rack for OD 10 x 90 mm tube (3 mL)
6774-H111A		Test tube, 3 mL, 100 pcs./set

Recommended items:

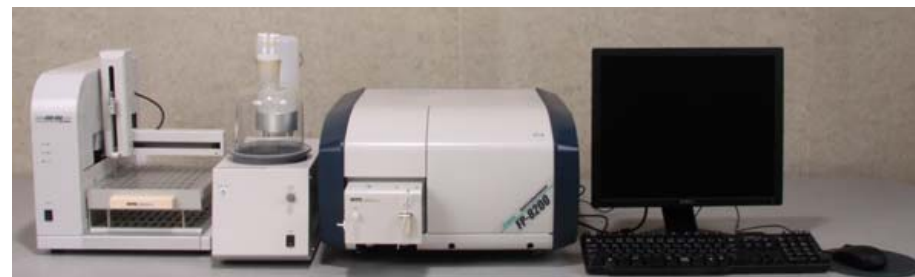
6989-J120A	AWU-820	Washing unit
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Note:

1. Sample recovery is impossible.
2. Selecting the test tube racks depends on the desired sample analysis.
3. The AWU-820 washing unit is useful to reduce contamination.



QFS-821



FP-8300 + ASU-800 + QFS-821 + AWU-820

17-10. Reading Fluorescence Intensity (Quantitative analysis using autosampler, vacuum sipper)

Minimum necessary items:

6989-J001A	ASU-800	Autosampler
6961-J022A	QFS-822	Vacuum sipper

Selectable items:

┌	6989-J111A	SRA-811	Test tube rack for OD 15 x 105 mm tube (10 mL)
	6774-H110A		Test tube, 10 mL, 100 pcs./set
┌	6989-J112A	SRA-812	Test tube rack for OD 13 x 100 mm tube (7 mL)
	6774-H109A		Test tube, 7 mL, 100 pcs./set
┌	6989-J113A	SRA-813	Test tube rack for OD 12 x 105 mm tube (5 mL)
	6905-H146A		Test tube, 5 mL, 100 pcs./set
┌	6989-J114A	SRA-814	Test tube rack for OD 10 x 90 mm tube (3 mL)
	6774-H111A		Test tube, 3 mL, 100 pcs./set

Recommended items:

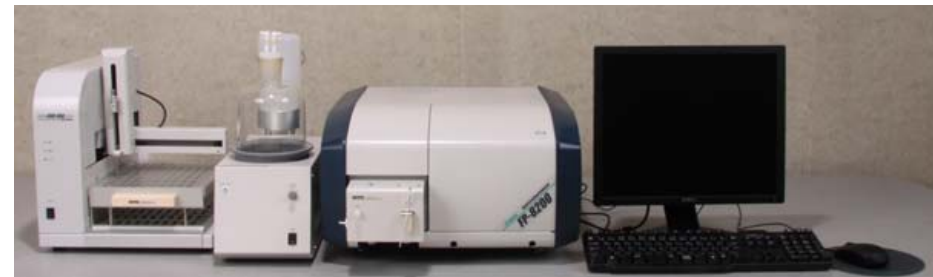
6989-J120A	AWU-820	Washing unit
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Note:

1. Sample recovery is impossible.
2. Selecting the test tube racks depends on the desired sample analysis.
3. The AWU-820 washing unit is useful to reduce contamination.



QFS-822



FP-8300 + ASU-800 + QFS-822 + AWU-820

18-1. Measuring Fluorescence of Liquid Sample Surface

Minimum necessary items:

6961-J005A FSA-805 30 degree incident angle cell block for triangle cell

Additional parts:

6105-J082A FSA-410 Triangular quartz cell

Note:

1. The FSA-410 Triangular quartz cell is included as standard with the FSA-805.
2. Using the above when fluorescence is attenuated by absorption of the excitation light by samples of high concentration.



FSA-805

19-1. Micro-volume Liquid Sample Measurement

2/3/5/6

Minimum necessary items 1:

6961-J001A	FMH-801	3 mm Micro cell jacket
6808-J022A	FMM-100	Micro quartz cell, 3 x 3 mm

Note:

1. Minimum sample volume=50 μ L

Minimum necessary item 2:

6961-J002A	FMH-802	5 mm Micro cell jacket
6961-J202A	FMM-200	Micro quartz cell, 5 x 5 mm

Additional items 2:

2330-0030	Micro stirrer bar
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Note:

1. Minimum sample volume=500 μ L
2. The micro stirrer bar (P/N 2330-0030) can be used.



FMM-100 + FMH-801



FMM-200 + FMH-802

20-1. Epifluorescence (Horizontal sample mounting)

3/5/6

Minimum necessary items:

6961-J033A EFA-833 Epi-fluorescence unit



EFA-833



FP-8500 + EFA-833

21-1. Absorbance Measurement of Liquid Sample

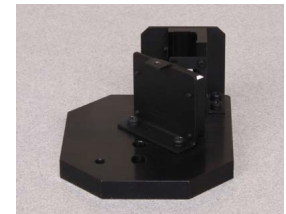
2/3/5/6

Minimum necessary items:

6961-J003A FUV-803 Absorbance measurement cell block

Note:

1. Use 10 x 10 mm fluorescence quartz cell included in the standard accessories for main unit.
2. The FUV-803 is commonly used with the [Absorbance Spectra Measurement] program for measuring absorbance or transmittance in the standard Spectra Manager software.



FUV-803