

V-700 series optional accessories

¥-770

UV/Vis/NIR Spectrophotometers



Wide range of optional accessories

The following cell holder accessories can be used with water circulators for maintaining samples at a uniform temperature. The circulators available separately.

Constant temperature cell holders/cell changers

The V-700 Series can be integrated with a complement of more than 70 accessories to offier flexible configurations for a wide variety of analytical requirements. Experimental capabilities range from simple educational applications and routine daily use, to specific applications for advanced biochemical and semiconductor research. The range of accessories include various types of cell holders for liquid samples and options for a wide variety of solid samples.

Cell holders/cell changers used at ambient temperature



rature accuracy

ment stand, a 2 mm path width micro cell can be used to measure sample raise the cell height. Using the cell-height adjust Cell mask kit This ski tinehdes sample masks and a cell-height adju with a minimum 100 uL volume. OPS-515 In-cell sensor with holder (factory option) This is an optional sensor which can be used to monit

sensor: ±0.5°C

Call spaces Spaces for calls with an optical path length of 1, 2 and 5 mm are available. (P/N: 6039-4501) PA for 1 mm call, 6016-6018 PA for 2 mm call spaces for calls with an optical path length of 1, 2 and 5 mm are available. (P/N: 6039-4501) PA for 5 mm call capillary adapter (for C-3D40X-73D40) calls) PPN: 6096-E1360AC capillary caller for a capillary call (minimum sample volume of 3 uL). The opticaal sensor (OPS-315) in the call adapter is required for temperature monitoring PPN: 6096-E1360AC capillary adapter.

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5µLmiero cell 5µLmiero cell spacer_r

0µLm icro cell

The EMC-709 is a cell holder for a 50 uL micro cell. A 5 uL micro cell can be used with an optional spacer.

Peltier thermostatted cell changers



variable speed magnetic stirrer (not available for the 2 mm path width cell) ange) Rectangular cell, 10 × 10, 2 or 4 × 10 mm, max. 6 pcs. Rectangular cell, 10 × 10, 2 or 4 × 10 mm, 1 pc. Heating/cooling system utilizing Petiter effect (Sample side only) g 10. 0.7°C, for room temperature at 20°C) 13 to 03°C (for room temperature at 20°C) =0.1°C (cell holder sensor). With eithloader sensor: =0.5°C (20°C to 40°C), =1°C (other With optional temperature sensor: =0.2°C. Stirring system: Temperature setting range: Temperature control range: Temperature setting precision: Temperature accuracy: erature control syste radiating system:

atible cell:

Light phil agits: 10 mm Light phil agits: 10 mm Cell material: Countra Cell material: Countra Minimum sample requirement: Minimum sample requirement: War dength range: 220 – 200 nm (V-6306 G0660) 223 – 200 nm (V-6306 G0660)

A 10 mm rectangular cell holder is integrated in addition to the 10 mm flow cell, and can be easily switched. The sample can be recovered by reversing the 'drain' direction.

NPF-782 Peristaltic sipper

Sippers, Autosampler, syringe pump and flow cell

NQF-783 Vacuum sipper with long-path flow cell

NQF-781 Vacuum sipper

Specifications:

A 10 mm rectangular cell holder is integrated in addition to the 10 mm flow cell, and can be easily switched.

inside of a single sample

$\mathrm{PAC-743R}$ [Automatic 68-position Peltier cell changer (water-cooled, thermostatted reference)] PAC-743 [Automatic 6/8-position Petiter cell changer (water-cooled)]

Specifications: Miero Cell

 $0.5^{\circ}C~(20^{\circ}C~to~40^{\circ}C),\pm1^{\circ}C~(other~temp.~range)$ -10 to 110°C 0 to 100°C (at 20°C) ±0.1°C With cell holder sensor: Reference: Rentradiang system: Heat radiang system: Temperature setting range: Temperature setting precision: Temperature accuracy.



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[AWU-820 Washing unit] This is a waing unit gotesically for the NQF-781, NQF-722 and NFF-783. The AWU-820 can automatically wash the ASU-200 autosampler system.

Dust cover This is a dust case that covers the rack part of ASU-800

The ASU-300 autosampler automates measurements of multiple liquid sampler employing a sipper or syringe pump. Various racks are available to be used with test tubes and/or vials. The PC control software is included as standard.

Autosampler unit

ASU-800

Specifications: Reproducibility of volume delivery: Within ±1% Syringe capacity: 2.5 mL (1, 5, 10 mL options)

The ASP-849 can be used in conjunction with the ASU-890 and SFC-712 How cell holder. The syringe pump is suitable for drawing small quantities of sample.

viscosity samples 2.4 mL with low-viscosity sample

0.7 mL with low-

t sample ent: igth range:

Specifications:

Less than 1% $20 \sim 830 \text{ nm}$

ASP-849 Peristatic sipper 1

Cell block (Cell and temp. sensor are optional.)	#	Compatible cell#		In-cell sensor (factory option)
		Rectangular quartz cell, 2x10, max. 6 pcs	\mathbf{IA}	
6. nosition cell block with interrated veriable sneed merratic		Rectangular quartz cell, 4 x 10, max. 6 pcs	ч.	6016.H5164 Sansor in call 1 no
\sim posterior can above the management of the management structure for rectangular cell, $10 \times 10 \text{ mm}$	-	Rectangular quartz cell, 10x 10, max. 6 pcs.	1B	6916-H517A Sensor in cell, 6 pcs/set
		Capillary cell adaptor, max. 6 pcs. and Capillary cell A sealing compound (P/N: 1107-0015) is required for using capillary cells.	1C	-
8-position cell block with integrated variable speed magnetic stirrer for rectangular cell, 5 x 5mm	3	Rectangular quartz cell, 5 x 5, up to 8ps.: 2	2A	6916-H516A Sensor in cell, 1 pc. 6916-H518A Sensor in cell, 8 pcs/set
1 mm 8-position micro cell block including Silicon cap x 8 Silicon cap with sensor hole x1, and ca fixture	m	8-position 1 mm miero cell, 1 mm path length 10 uL for each position	3A	6916-H516A Sensor in cell, 1 pc. *The 8th cell position is used only to
 * Stirrer function is not available. 				monitor cell block temperature.
		B -position 10 mm micro cell, 10 mm path length, 10 uL for each position, without capability for well caps : 4E	4A	N/A
10 mm 8-position micro cell block	4	8-position 1 mm micro cell, 1 mm path length, 10 uL for each position	4B	6916-H516A Sensor in cell, 1 pc.
* Surfer function is not available.		Sulicon cap isti for 1103-1168, to prevent volatilization of samples at high temperatures, consisting of silicon cap x8, Silicon cap with sensor holex1, and cap fixture	4C	*T he 8th cell position is used only to monitor cell block temperature.

Water circulation bath

MCB-100 Mini water circulation bath



control range: Bath capacity. Temperature sensor accura Cooling/heating capacity: Dimensions: Specifications emperature

10°C below ambient temperature to 40°C (IN and OUT connected) Approx. 200 mL ±0.2°C (at 20°C)

 $O(W) \times 263(H) \times 225(D) \text{ mm}$

Autosampler systems for multiple samples







































ASU-800 with NQF-720 vacuum sipper

ASU-800 with ASP-849 syringe pump and the SFC-712 micro flow cell

ASU-800 with NPF-721 peristaltic sipper

FIC-715 Micro flow cell holder

MFC-714 Micro flow cell holder

Tubing: SUS Light path length: 10mm Cell Capacity: 20 uL

Tubing: SUS Light path length: 10mm Cell Capacity: 20 uL

6 mL cell canacity)

Three different cell blocks are available as options, please specify.

block (50 uL cell ca block (100 uL cell

Two different cell blocks are available as options, please specify.

SFC-712 Flow cell holder

Long path flow cell holder

LFC-713

Integrating spheres

ISV-922/ISN-923/ISN-9011 Integrating sphere, 60 mm diam.



of nowder samples nple area: 16 mm diameter 0.5 - 6 mm

	001000	00004	. 1004 104	
lodel namel	276AS	ISV923	11064 SI	_
fain unitV	-750/760	0/2A	08/2 A	_
side diameter of integrating sphere		60mm diam.		_
finimum sample size (Reflectance)	2	0 (H) x 20 (W) x 0.5 (t) m	ų	_
faximum sample size (Reflectance)		55(H) x 50 (W) x 25(t) mn	я	_
ample cell (Transmittance)	Rectan	gular cell 5, 10, 20 mm pa	ath length	_
eference cell (Fananittance)	Re	ference cell block is option	nal.	
avelength range	200~870nm	200~2500nm	200~1600nm	_
dector	PMT	PMT& PbS	PMT& InGsAs	_
icident angle to reflection surface		0°, approx. 5°		_
				•

IL V-924/IL N-925/IL N-902i Integrating sphere, 60 mm diam.

Options	PSH-002 Powder sample holder For diffuse retlectance measurements of powder samples - Sizze of sample anex. 16 mm diameter - Thickness: 0.5 - 6 mm	$\begin{array}{l} SSH-507 \ Solid sample holder\\ For diffuse transmitmene measurements of a solid sample e for diffuse transmitmene measurements of the solid sample size: 20(H) \times 20(W) \times 40(T) mm - Maximum sample size: 70(H) \times 20(W) \times 40(T) mm$	
	-	5	

ngth

angular cell 5, 10, 20 mm path Deference cell bloch is cotione

 $SIV-767/SIN-768 \quad \text{Integrating sphere with stirrer}$



cell holder ference side v for the diffuse transmittan The 5, 10 and 20m this cell holder. all holder

hermostatted Ce his cell holder al y using a 10 × 10 f 10 to 90°C. A ti

nce measurements of turbid liquid samples.	
mm pathlength rectangular cells can be used with	Cell (Samp
	Cell (Refe
ell Holder	
llows measurements under temperature control	Wavelengt
0 mm rectangular cell with a temperature range	Detector
nermostatted water circulator is required.	Thoughant ar

ence side):

Dedicated genstone integrating sphere
JV-726/JJN-727/JJN-904i
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IJV-726/IJN-727/IJF	N-904i Dedicat	ted gemstone integrati	ing sphere	PIV-756/PIN-757/P	PIN-903i	Horizontal sampling in	egrating sphere
Specifications:]	Specifications:			
Model name	IJV726	DN-727	IJN-904i	Model name	PIV756	PIN-757	PIN-903
Main unitV	-750/760	V770	08/2A	Main unit	V750/760	V-770	084A
Inside diameter of integrating sphere		60mm diam.		Inside diameter of integrating sphere		60mm dam.	
Minimum sample size	2 mm (ham. (Transmittance/Reflex	ctance)	Maximum sample size (Reflectance)		30 x 30 x 10 (t) mm	
Maximum sample size (Transmittance)		10 mm diam.		Reflectance measurement adaptor	20 n	un diam. x 2 mm (no windov	required)
Maximum sample size (Reflectance)		30 mm diam.		Minimum sample size (Transmittance)		3 mm diam.x 0.5(T) mm	
Mävelength range	220~850nm	220~2000nm	220~1600nm	Maximum sample size (Transmittance)		50(H) x 50(W) x 2(T) m	-

visite SuperSource in manuem spierr	Maximum sample size (Reflectance)	Reflectance measurement adaptor	Minimum sample size (Transmittance	Maximum sample size (Transmittance	Wavelength range			
	ctance)			220~1600nm				
	un. (Transmittance/Refle	10 mm diam.	30 mm diam.	220~2000nm			1	
	÷				1		1.5	





HISV-728/HISN-729 [Portable integrating sphere



pecifications:						
Aodel name	HISV728	HISV729	Options			
Asin unit	V-750/760	V-770	Model neme	OFV624 OFV	J625 C	JFN-626
nside diameter of integrating sphere	60mm	diam.	Portable integrating sphere	HISV728		Ħ
Vindow size:	25mm	diam.	Length1	m2 1	n1	m2
Våvelength range	250~800mm	250~2000mm	Wavelength range	250~800m	a	250-



SLM-907/SLM-908 Specular reflectance accessory

The SLM-756 and SLM-73° accessories are designed to measure the relative reflectance of a stangle using the releaded high thom an adminance appointed plane time as a reflections. These accessives allow measurement of the reflectance of media deposited films and/or media. That are a well as a measurement of the reflectance of media deposited films mador media. The SLM-738 accessory at measurement is a strained well as the strained and program. The SLM-738 accessory at measurement is a strained well as third billow moder.



mm dian 7 x 7 mm00~870 nm nn diam. options ď /-780 sction Reference elength Range sample chamber lid: cam Port Diameter

The FAP.754 accessory can be used for sample measurement using the internal discussory can be used for sample, measurement using instrument is imreduced to an optical fiber. The light from a sample as introduced to the detector of the spectrophotometer via a return optical fiber. $\label{eq:maintain} \begin{array}{l} \mbox{Minimum Sample Size: 15 (H) x 35 (W) x 1 (h) mm} \\ \mbox{Maximum Sample Size: 80 (H) x 70 (W) x 2 (h) mm} \\ \mbox{Range of rotation angle: $\pm90^\circ$} \end{array}$ The VTA-752 is a film holder to measure transmittance of a film type sample, changing the invident angle of the light beam. The invident angle of the source light beam can be set in 1° increments. The RSH-744 accessory can be used to measure a film type sample and votaing the sample manually. The sample can be rotated 560° around the optical axis and the inclination (iii) of the sample vorsus the source beam can be varied within a range of $\pm50^\circ$. ndicular to the optical Minimum Sample Size: 10 x 30 mm Maximum Sample Size: 18 x 38 mm Sample thickness: 1 to 2 mm Angle of rotation: Optical axis: 360° Film holder (variable incident angle) Specifications: pecifications: Rotary sample holder FAP-754 Optical fiber unit VTA-752 **RSH-744** The FLH-740 and FLH-741 accessories are used to measure the transmittance of solid, transparent samples such as films, plate glass, and filters. FAV-750/FAV-751 Optical fiber unit Film holder FLH-741 **Optical fiber probe units** FLH-740/FLH-741 Film holder FLH-740 Specificatio

axis: ±50°

Optical fiber and optical fiber port are optional

The FAV-750FAN-751 accesseries, consisting of an optical plotter unit and extension and detector, randles the measurement of bulky samples that aroanto be earling the support on the plotter of the plotter that are in gweed environments. The light from the main instrument is introduced to the optical fiber. The light from samples is introduced to the external detector virite optical fiber.

This interface is for introducing light from an external light scurre to the spectrophotometer, and measuring the spectrum of the external scurre. It can be used for the spectral/intensity evaluation of external light scurres.

ction of the n source is als

* For e

The optical fiber i

ELM-912 External light source interface

dle type for FAV-750/FAN-751 dle type for FAP-754 Optical fiber, optical fiber

r type for FAV-750/FAN-751 r type for FAP-754 type for FAV-750/FAN-751 type for FAP-754

Polarizer, Depolarization plate

GPH-506 Polarizer

The GPH-506 polarizar converts the source light from the instrument monochromator into linearly polarized light. The plane of polarized light and 90° thorizontal linearly polarized light). The applicable spectral range is from 2.15 to 2.300 m.



DPL-515 Depolarization plate The DPL-515 depolarizer converts incident light to non-polarized light. Non-polarized light is obtained when the rotation angle is set to 45°. The applicable spectral range is from 330 to 2,500 nm.



ARV-913/ARN-914/ARN-915i ARSV-916/ARSN-917/ARSN-918i



The ARV and ARN accessories provide absolute reflectance measurements of samples by the manual, synchronous movement of the sample stage and detector. Changing the incident angle of the sample by manually moving the detector position, the absolute reflectance of the sample can be measured at varied incident angles. The ARSV and ARSN accessories provide an asynchronous movement of the sample stage and detector, thus, the positions of the sample stage and detector an be independently varied to obtain the absolute reflectance and transmittance spectra of the sample at varied incident and detection angles. Using the optional polarizers, the polarization properties of the sample can also be examined.

ARMV-919/ARMN-920/ARMN-921i



The ARMV and ARMN automate the absolute reflectance measurements of specularly reflecting samples such as metal or glass samples. The detector is equipped with an integrating sphere and thus it also permits measurement of the relative reflectance of a diffusely reflecting sample. Since the angles of the sample stage and the detector can be changed independently, the absolute reflectance and transmittance of a sample can be measured with varied angles of incidence. A software controlled polarizer is provided as standard for the examination of the polarized lights, N polarized light that obtains the same measurement results as non-polarized light is available.

Specifications:

Model name	;	ARV-913	ARN-914	ARN-915i	ARSV-916	ARSN-917	ARSN-918i	ARMV-919	ARMN-920	ARMN-921i
Main Unit		V-750/760	V-770	V-780	V-750/760	V-770	V-780	V-750/760	V-770	V-780
Wavelength	range	250 ~ 850 nm	250 ~ 2,000 nm	250 ~ 1,600 nm	250 ~ 850 nm	250 ~ 2,000 nm	250 ~ 1,600 nm	250 ~ 850 nm	250 ~ 2,000 nm	250 ~ 1,600 nm
Movement of	of sample stage and detector	Synch	ronous			•	Asynchronous		•	
Control of sa	ample stage and detector			Ma	nual				Automated	
Measuremer	it mode	A	bsolute reflectant celative reflectant	ce ce			Absolute r Relative r Transn	eflectance eflectance nittance		
Integrating s	phere					60 mm diam.				
Incidence ar	ıgle				Absolute Relative refle	reflectance mode: ctance mode: Ver	5° to 60° ical incidence			
		- Transmittance						mode: 0 ° to 60°		
Angle setting		:	2.5° step (manual)	Sample Detect	stage: 0.1° step (or stage: 1° step (manual) manual)		0.1° step automat	ic
Absolute reflectance mode: Minimum		20(H) x 20(W) x 1(T) mm							H) x 20(W) x 1(T) mm
Sample size	Absolute reflectance mode: Maximum			70(H) x 100(V	W) x 10(T) mm			70(H) x 70(W) x 10(T) mm		
Sample size	Relative reflectance mode: Minimum			20(H) x 20(W	7) x 0.5(T) mm			20(H) x 20(W) x 0.5(T) mm		
	Relative reflectance mode: Maximum			70(H) x 100(V	W) x10(T) mm			70(H) x 70(W) x 10(T) mm		
Accuracy		±1.5% at incidence angle of 6 °								
100% line fl	atness					Within ±1%				
Polarizer				Ор	tionS				tandard	
Standard sof	tware			N	/A			Absolute ref	lectance spectral i Interval analysis	neasurement,

Options

SSH-508 Solid sample holder The SSH-508 is set on the entrance to the detector for diffuse transmittance measurements of scattering samples at vertical (0°) incidence

Specifications:

Minimum sample size: $30(H) \times 30(W) \times 0.5(t)$ mm Maximum sample size: $70(H) \times 80(W) \times 10(T)$ m Wide incident angle sample holder

This sample holder is attached to the sample stage to allow an angle of incidence up to a maximum of 85°.

Specifications

Minimum semple size: 30(H) x 60(W) x 1(t) mm (ARV/ARN) 30(H) x 30(W) x 1(t) mm (ARSV/ARSN/ARMV/ARMN) Maximum semple size: 70(H) x 100(W) x 10 (t) mm Incidence angle: 0 - 85 ° PDU-755 Phase difference measurement unit The PDU-755 option provides the measurement of the reflectance phase difference and the transmittance phase difference. It consists of an angle

difference and the transmittance phase difference. It consists of an any selective analyzer and the VWAP-794 phase difference measurement program.

Specifications: Wavelength range

250 - 850nm (ARV-913/ARSV-916/ARMV-919) 250 - 2000nm (ARN-914/ARSN-917/ARMN-920) 250 - 1600nm (ARN-915i/ARSN-918i/ARMN-921i) Polarization rotation angle: 0 - 90°



JASCO INTERNATIONAL CO., LTD.

4-21, Sennin-cho 2-chome, Hachioji, Tokyo 193-0835, Japan Tel: +81-42-666-1322 Fax: +81-42-665-6512 http://www.jascoint.co.jp/english/ Australia, China, Hong Kong, India, Indonesia, Korea, Malaysia, New Zealand, Pakistan, Philippines, Russia, Singapore, Taiwan, Thailand

JASCO INCORPORATED

28600 Mary's Court, Easton, MD 21601, U.S.A Tel:+1-800-333-5272 +1-410-822-1220 Fax:+1-410-822-7526 http://www.jascoinc.com U.S.A., Canada, Costa Rica, Mexico, Puerto Rico, Argentina, Brazil, Chile, Colombia, Paraguay, Peru, Uruguay, Guatemala

JASCO EUROPE s.r.l.

Via Luigi Cadorna 1, 23894 Cremella (Lc), Italy Tel: +39-039-9215811 Fax: +39-039-9215835 http://www.jasco-europe.com JASCO Deutschland www.jasco.de, JASCO UK www.jasco.co.uk, JASCO France www.jascofrance.fr, JASCO Benelux www.jasco.nl, JASCO Spain www.jasco-spain.com

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