



**P1.3.2**

**One-dimensional motions with Fletcher's trolley**

**P 1.3.2.2** Recording the path-time diagrams of linear motions – recording and evaluating with CASSY  
**CASSY-S**

**P 1.3.2.3** Definition of the Newton as a unit of force – recording and evaluating with CASSY  
**CASSY-S**

Recording the path-time diagrams of linear motions – recording and evaluating with CASSY (P 1.3.2.2 (a))

Cat. No.	Description	P 1.3.2.2		P 1.3.2.3		Text
		(a)	(b)	(a)	(b)	
337 130	Track, 1.5 m	1	1	1	1	The first experiment looks at motion events which can be transmitted to the combination spoked wheel by means of a thin thread on Fletcher's trolley. The combination spoked wheel serves as an easy-running deflection pulley, and at the same time enables path measurement using the combination light barrier. The signals of the combination light barrier are recorded by the computer-assisted measuring system CASSY and converted to a path-time diagram. As this diagram is generated in real time while the experiment is running, the relationship between the motion and the diagram is extremely clear.  In the second experiment, a calibrated weight exercises an accelerating force of 1 N on a trolley with the mass 1 kg. As one might expect, CASSY shows the value $a = 1 \frac{\text{m}}{\text{s}^2}$  for the acceleration. At the same time, this experiment verifies that the trolley is accelerated to the velocity $v = 1 \frac{\text{m}}{\text{s}}$  in the time 1 s.
337 110	Trolley	1	1	1	1	
315 410	Slotted weight hanger, 10 g	1	1			
315 418	Slotted weight, 10 g	4	4			
337 114	Additional weights	1*	1*			
337 115	Newton weights			1	1	
337 462	Combination light barrier	1	1			
337 464	Combination spoked wheel	1	1	1	1	
683 41	Holding magnet	1	1	1	1	
524 010USB	Sensor-CASSY	1	1	1	1	
524 074	Timer S	1	1	1	1	
524 200	CASSY Lab	1	1	1	1	
501 16	Multicore cable, 6-pole, 1.5 m long	1	1			
309 48	Cord, 10 m	1	1	1	1	
501 46	Pair of cables, 1 m, red and blue	1	1	1	1	
	<i>additionally required:</i>					
	1 PC with windows 95/NT or higher	1	1	1	1	
337 463	Holder for combination spoked wheel			1	1	
524 073	Laser motion sensor S			1	1	
300 02	Stand base, V-shape, 20 cm			1	1	

\* additionally recommended