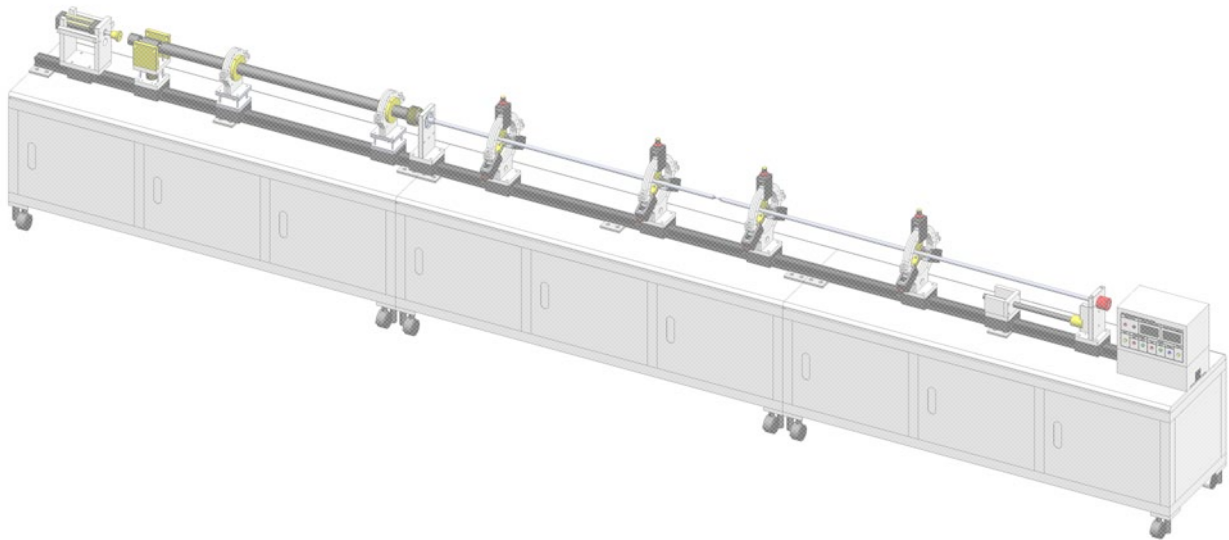


*Series of High-Strain-Rate Test Apparatus*

# **LW-9398**

## **Split Hopkinson Tension Bar Tester**



LW-9397A: Without loading bar structure

LW-9397B: With loading bar structure

Design & Manufacture

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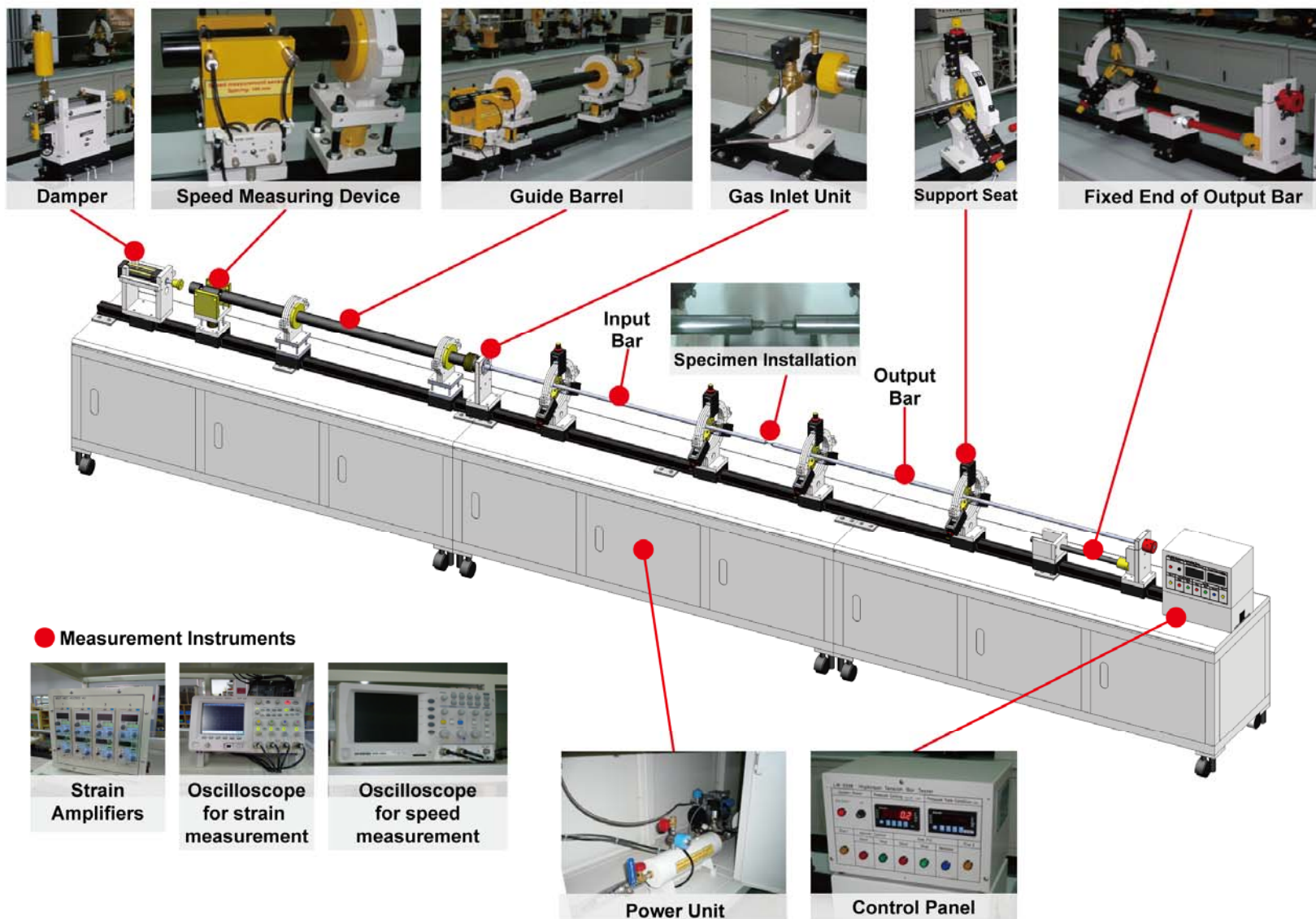
FAX: 886-3-496-1307

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# I. System Drawing of SHTB

## LW-9398 Split Hopkinson Tension Bar Tester

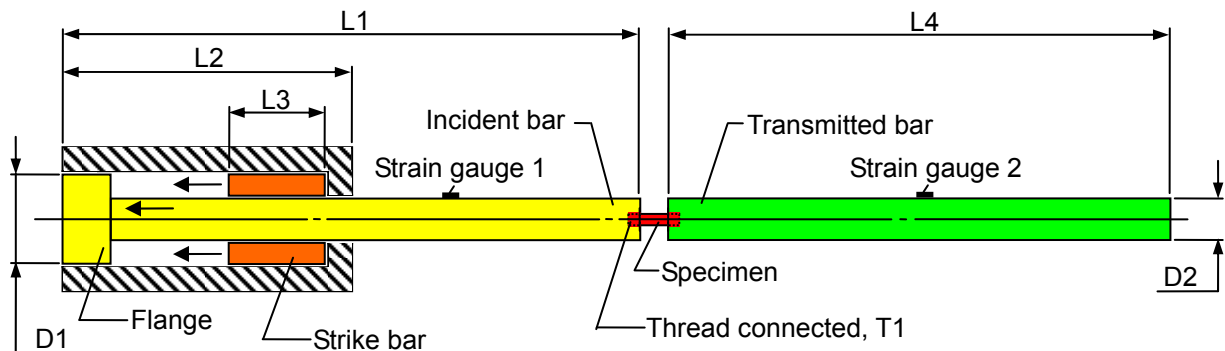


## II. System Specification

No.	Item	Description		Remark
1.	Power Unit	Pressure tank	Volume: 5 liter	Spec. adjustable
2.		Operation range	4~30 kg/cm <sup>2</sup>	
3.		Supplied gas	Compressed nitrogen gas, including regulator and related assembly	
4.	Control Panel	Pressure display and setting		
5.		For system operation, indication, interlock switch for safety issues		
6.		Alarm or buzzer before firing		
7.	Damper	It is to absorb residual energy after each test. With a set of oil cylinder and can be repositioned by a manual toggle switch.		
8.	Support Seats	4 sets for 9398A, which is without loading bar structure; 5 sets for 9398B, which is with loading bar structure; 3-point supporting, easy for bars' alignment		Qty adjustable
9.	Speed	Optical sensor	2 sets	
10.	Measurement	Oscilloscope	Model: GW GDS1052	
11.	Strain Measurement	Amplifier	1. NMB DAS-406B (DC to 220 kHz) or 2. NEC AS2503 (DC to 500 K Hz)	Spec. adjustable
12.		Oscilloscope	Agilent DSO X-3014A	
13.	Dimension	0.6 (W) × 1.1 (H) × 6 (L) M		Ref.
14.	Power Source	AC220V, single phase, 50/60 Hz, 10 Amp		Prepared by clients
15.	Compressed Air Source	5~7 kg/cm <sup>2</sup> Air consumption: < 1 liter/min.		
16.	Gas Source	Nitrogen gas cylinders		
17.	Energy Range	4~2000 J		
18.	Strike Bar Speed	4~20 m/sec		
19.	Tensile Wave Amplitude	40~200 μs		

### III. Bar Options

#### (I) LW-9398A – Without loading bar structure



#### 1. Dimension

Spec	Nominal Dimension of						
	D1	D2	L1	L2	L3	L4	T1
	mm	mm	m	m	mm	m	
#1	25	18	3	1	100-500	2	M10 x 1.5
#2	35	25	3	1	100-500	2	M12 x 1.5
#3	45	35	3	1	100-500	2	M20 x 2
#4	55	40	3	1	100-500	2	M24 x 2
#5	60	40	3	1	100-500	2	M24 x 2

#### 2. Material

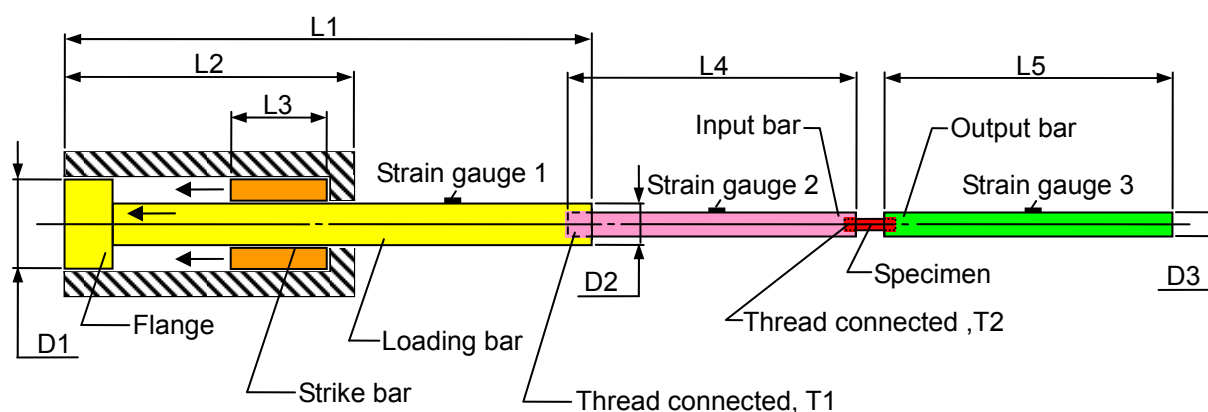
Bar	Options*				
	SAE1045	A7075-T6	SCM440 HRC30	SUS630 H1150	Ti-6Al-4V alloy
Strike	V	V	V		
Incident	V		V		
Transmitted	V		V		

\* Yield strength of each option:

A7075-T6: >500 MPa;

SCM440: >500 MPa;

## (II) LW-9398B – With loading bar structure



### 1. Dimension

Spec	Nominal Dimension of									
	D1	D2	D3	L1	L2	L3	L4	L5	T1	T2
	mm	mm	mm	m	m	mm	m	m	Thread connected	
#1	35	25	16-20	1.5	1	100-500	1.5	1.5	M16 x 2	M10 x 1.5
#2	45	35	20-28	1.5	1	100-500	2	2	M20 x 2	M12 x 1.5
#3	55	40	24-32	1.5	1	100-500	2.4	2.4	M24 x 2	M16 x 2
#4	60	40	24-32	1.5	1	100-500	2.4	2.4	M24 x 2	M16 x 2

### 2. Material

Bar	Options*				
	SAE1045	A7075-T6	SCM440 HRC30	SUS630 H1150	Ti-6Al-4V alloy
Loading	V		V		
Strike	V	V	V		
Input & Output	V	V	V	V	V

\* Yield strength of each option:

A7075-T6: >500 MPa;

SCM440: >500 MPa;

SUS630\_H1150: >950 MPa;

Ti-6Al-4V alloy: >950 MPa