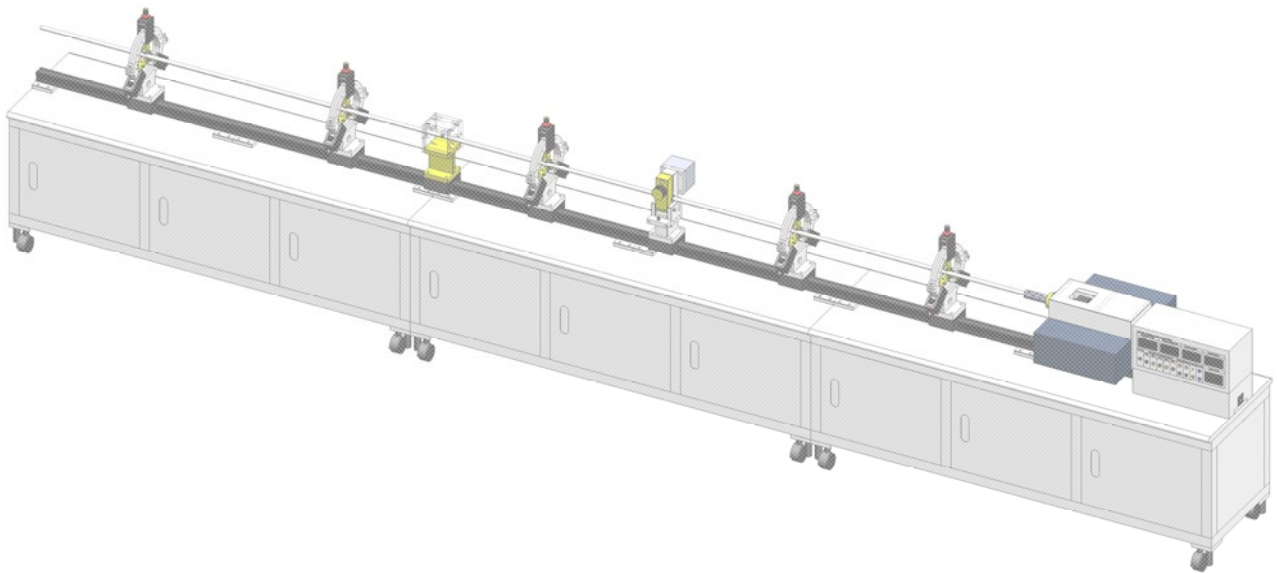


*Series of High-Strain-Rate Test Apparatus*

# LW-9361

## Split Hopkinson Torsion Bar Tester



Design & Manufacture

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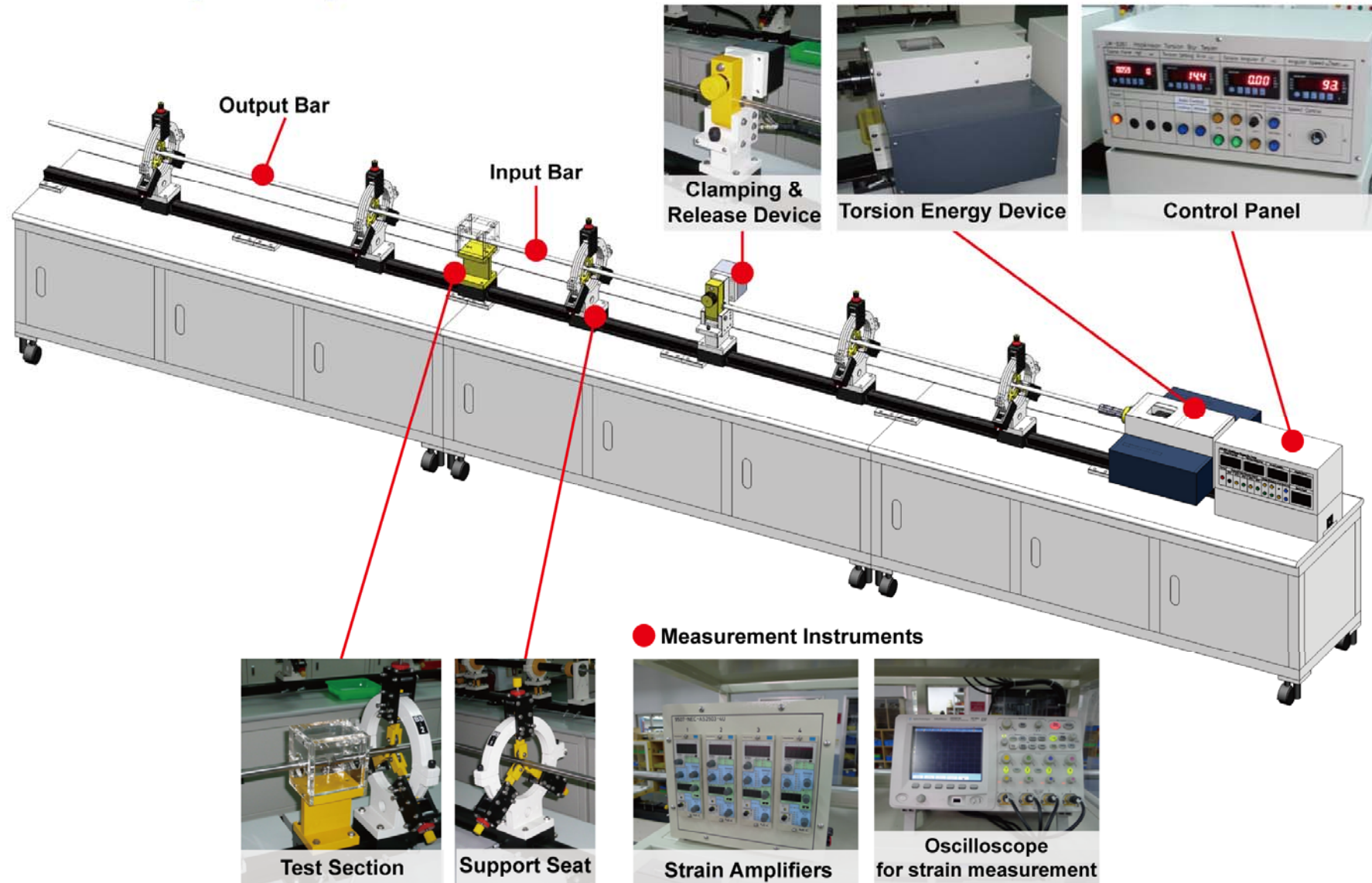
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# I. System Drawing of Torsion Bar Tester

## LW-9361 Split Hopkinson Torsion Bar Tester



## II. System Specification

No.	Item	Description		Remark
1.	Torsion Force	Range	10~500 N-m	<b>Spec. adjustable</b>
2.		Accuracy	0.2% FS	
3.		Max. angle	90°	
4.		Accuracy	<0.04°	<b>Spec. adjustable</b>
5.		Power source	Electric and manually control	
6.		Setting	Closed-loop control system, with amplified circuit and meter.	

7.	Control Panel	Display parameter	Clamping force	
8.			Torsion setting	
9.			Torsion angle	
10.			Angular speed	
11.		Controllable items	Clamping mechanism	
12.			Release mechanism	
13.			Torsion value setting	
14.			Angular speed setting	
15.		All digit meters are with RS-485 interface		

16.	Support Seats	4 sets; 3-point supporting, easy for bars' alignment	<b>Qty adjustable</b>
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17.	Strain Measurement	Amplifier	1. NMB DAS-406B (DC to 220 kHz) or 2. NEC AS2503 (DC to 500 K Hz)	<b>Spec. adjustable</b>
18.		Oscilloscope	Agilent DSO X-3014A	

19.	Dimension	0.6 (W) × 1.3 (H) × 6 (L) M	<b>Ref.</b>
20.	Power Source	AC220V, single phase, 50/60 Hz, 5 Amp	<b>Prepared by clients</b>
21.	Gas Source	Nitrogen gas cylinders 130 kg/cm <sup>2</sup>	

### III. Bar Options

#### 1. Dimension

Nominal Diameter*	Length of	
	Input bar	Output bar
mm	m	m
18	3	2

\* The diameter of bar system can be modified from 12~25 mm according to clients' need.

It is very welcomed to discuss with us.

#### 2. Material

Bar	Options*				
	SAE 1045	A7075-T6	SCM440 HRC30	SUS630 H1150	Ti-6Al-4V alloy
Input	V	V	V	V	V
Output	V	V	V	V	V

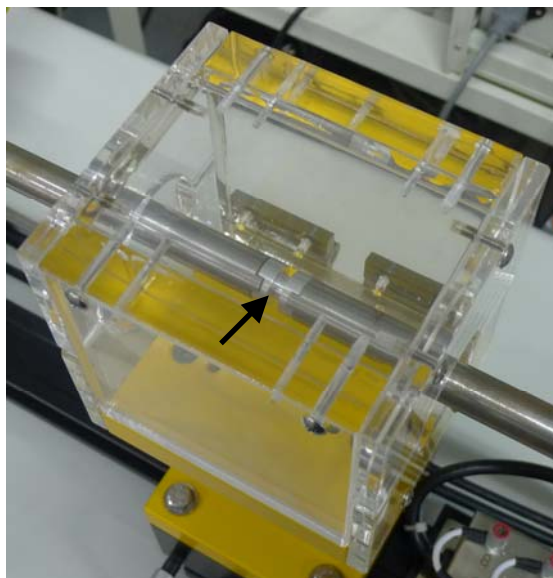
\* Yield strength of each option:

SAE1045: 500 MPa; A7075-T6: >500 MPa; SCM440: >500 MPa;

SUS630\_H1150: >950 MPa; Ti-6Al-4V alloy: >950 MPa;

\* Other options about bar material can be discussed based on clients' requirement.

### VI. Specimen Demonstration



Upper: After torsion tests, specimens with different types of neck condition.

Lower: Specimen installed in the protection cover of test section