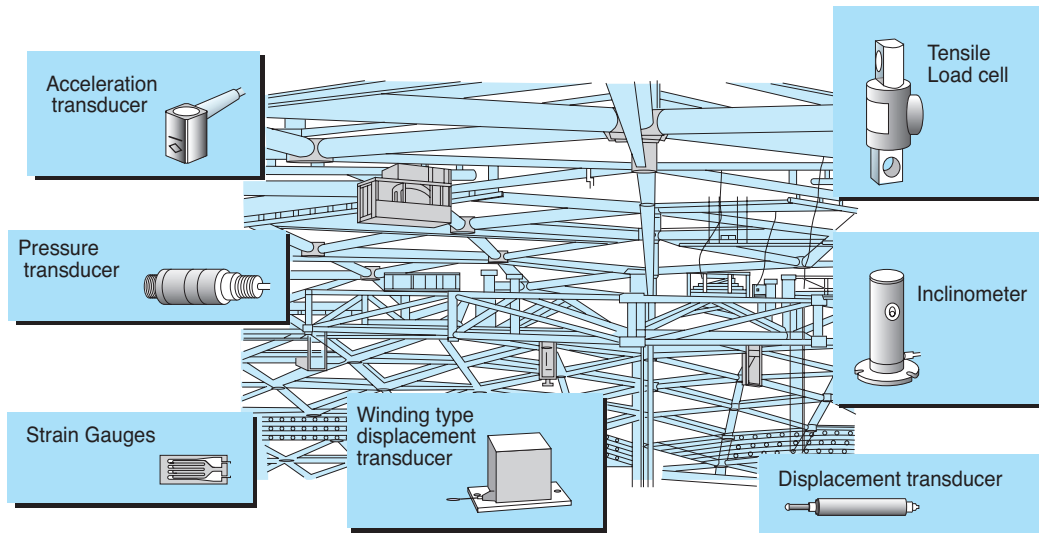


15 Large Roof and Dome Measurement

During construction of a dome and gymnasium, data on load and stress is collected using various sensors to verify the load bearing capacity (jacking-up and -down capacity).



A list of Measuring Instruments

Measurement items	Instruments	Type	Description
Stresses in truss members and supports and tensile force of rods	Strain gauge	FLA, FCA, FRA	Bonded on supports and truss members to find stress from strain measurement.
	Weldable strain gauge	AW, AWC-B	Bonded on supports and truss members to find stress from strain measurement.
Lifting load	Load cell	TLP-NB	Installed at a lifting point within a dome to measure a tensile load.
Shearing deformation	Inclinometer	KB-AB, KB-AC	Installed at a key point within a dome to find a shearing deformation from measurement of inclination angle.
Jacking load	Pressure transducer	PWH-PA	Finds a jacking load by measuring a pressure using pressure transducer.
Vertical and horizontal displacement	Displacement transducer	CDP	Installed on truss, etc. to measure the amount of displacement.
		DP	Installed on truss, etc. to measure the amount of displacement.
Vibration of dome	Accelerometer	ARF-A	Installed on truss, etc. to measure acceleration in dynamic application.
Temperature outside/inside dome	Thermocouple, Temperature gauge	T, KT-A	Measures temperature inside or outside the dome.

Measuring System Block Diagram

