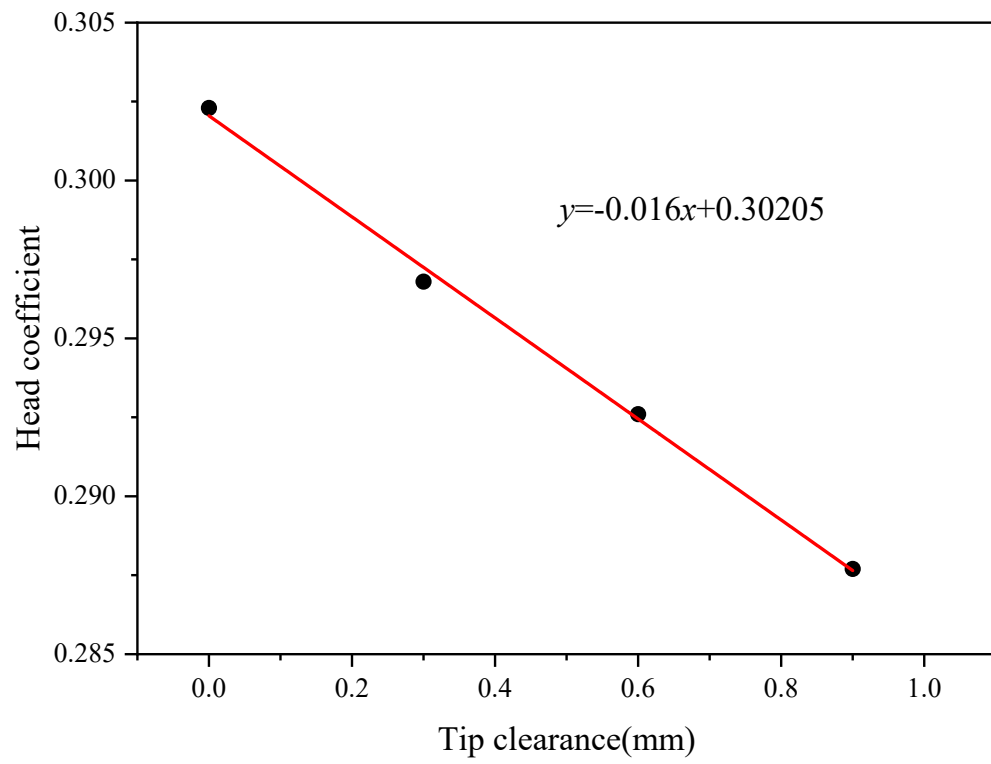


**Figure S1.** Tip clearance grid.

**Table S1.** Main sensor parameters

Category	Model	Manufacturer	Measurement Range	Output	Accuracy	Power Supply
Pressure Sensor 1	PX309	Omega	0-1000 psi	4-20 mA	±0.25% FSO	12-36 VDC
Pressure Sensor 2	PMP55	Endress+Hauser	0-600 psi	4-20 mA	±0.1% FSO	10-30 VDC
Flow Meter 1	FMG600	Omega	0.2-20 GPM	Frequency	±1.5% FSO	12 VDC
Flow Meter 2	Proline Prowirl F 200	Endress+Hauser	0.03-30 m/s	4-20 mA	±0.5% FSO	24 VDC
Air Compressor	Atlas Copco GA 37	Atlas Copco	30-40 CFM	37 HP	±1% FSO	230/460 V, 3 ph, 60 Hz
Water Tank	Specific Model	N/A	N/A	N/A	N/A	N/A
Buffer	Specific Model	N/A	N/A	N/A	N/A	N/A



**Figure S2.** Relationship between the gap and head coefficient.