Table S1: Coverage rates of different sensor schemes arranged by the proposed method under different hydraulic conditions

Numbers of sensors	Pipe burst level	Coverage rate		
		Average flow	Maximum flow	Minimum flow
6	0.2	0.5043	0.4784	0.4181
	0.3	0.7672	0.6918	0.6034
	0.4	0.9246	0.9009	0.8362
	0.5	0.9375	0.9332	0.9138
	0.6	0.9397	0.9375	0.931
8	0.2	0.5366	0.5043	0.4418
	0.3	0.8772	0.8276	0.7435
	0.4	0.9677	0.9677	0.9418
	0.5	0.9741	0.9741	0.9698
	0.6	0.9763	0.9741	0.972
10	0.2	0.5474	0.5216	0.4741
	0.3	0.8836	0.8384	0.7608
	0.4	0.9677	0.9677	0.9418
	0.5	0.9741	0.9741	0.9698
	0.6	0.9763	0.9741	0.972
12	0.2	0.5517	0.5259	0.4784
	0.3	0.8944	0.8491	0.7629
	0.4	0.9677	0.9677	0.9591
	0.5	0.9741	0.9741	0.9698
	0.6	0.9763	0.9741	0.972

Table S2: Coverage rates of different sensor schemes arranged by the K-means method under different hydraulic conditions

Numbers of sensors	Pipe burst level	Coverage rate		
		Average flow	Maximum flow	Minimum flow
6	0.2	0.5043	0.4784	0.4181
	0.3	0.7672	0.6918	0.6034
	0.4	0.9246	0.9009	0.8362
	0.5	0.9375	0.9332	0.9138
	0.6	0.9397	0.9375	0.931
8	0.2	0.5366	0.5043	0.4418
	0.3	0.8772	0.8276	0.7435
	0.4	0.9677	0.9677	0.9418
	0.5	0.9741	0.9741	0.9698
	0.6	0.9763	0.9741	0.972
10	0.2	0.5474	0.5216	0.4741
	0.3	0.8836	0.8384	0.7608
	0.4	0.9677	0.9677	0.9418
	0.5	0.9741	0.9741	0.9698
	0.6	0.9763	0.9741	0.972
12	0.2	0.5517	0.5259	0.4784
	0.3	0.8944	0.8491	0.7629
	0.4	0.9677	0.9677	0.9591
	0.5	0.9741	0.9741	0.9698
	0.6	0.9763	0.9741	0.972