A Flow Measurement Guide
for Industry Bioengineers

# URODYNAMIC SYSTEM

transonic
THE MEASURE OF BETTER RESULTS.

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# Transonic Applications

Transonic began partnering with outside companies shortly after its inception in 1983 to develop innovative devices. Soon, a robust Transonic/Customer synergy developed between Transonic and device manufacturers and this vital Customer/Manufacturer relationship has become part of Transonic's DNA. It lies at the heart of the development of all Transonic products.

Our applications range from utilizing standard products straight off the shelf to creating such novel designs that they would not be recognized as a Transonic product. Together with our collaborators, Transonic has striven to push the limit on flow measurements including ultra-low flow applications in novel measurement mediums. Transonic customized Flowsensors and Flowboards are being used in a wide range of products and applications including:

Mechanical Circulatory Support Devices including:

1. Heart Lung Machines
2. Extracorporeal Membrane Oxygenation (ECMO) circuits
3. Artificial Hearts (AH)
4. Ventricular Assist Devices (VADs)

Renal Replacement Devices: Hemodialysis Machines

Organ Preservation Devices

Treatment Delivery /Therapy Devices

1. Anesthesia Delivery / Pain Management Systems including:
2. Organ Infusion Pumps
3. Urodynamic System / Urometer
4. Pediatric Hydrocephalus
5. Endometrial Ablation
6. Ocular Surgery

Many More Possibilities

A sampling of the broad spectrum of Transonic application will be presented along with the solutions that Transonic offers for each application.

# Verify Flow Volume and Rates

Uroflowmetry is a test used by doctors to help identify the causes of urinary difficulties. The test measures the amount of urine voided during urination, and it also measures the speed of urination.

Doctors may recommend a uroflow test if a patient complains of having slow urination, a weak urine stream, or difficulty urinating. The test is also used to assess the sphincter muscle that closes tightly around the bladder opening to help prevent urine leakage.

Certain conditions that affect normal urine flow include: benign prostatic hypertrophy, or enlargement of the prostate gland, which can block the urethra completely. Other conditions include: bladder cancer, prostate cancer, urinary blockage, neurogenic bladder dysfunction, or trouble with the bladder due to a nervous system problem such as spinal cord tumor or injury.

Results from the test can help a physician determine how well the bladder and sphincter are functioning. The test can also be used to test for obstructions in the normal flow of urine. By measuring the average and maximum rates of your urine flow, the test can estimate the severity of any blockage or obstruction. It can also help identify other urinary problems, such as a weakened bladder or an enlarged prostate.

## Transonic Solutions

### Volume Flow Measurement

Provides highly accurate flow and volume measurement, that would assist in the diagnosis of incontinence systems and blockages.

### Urine Density

Provides an accurate measure of solids/ proteins and assists in assessing hydration.