

**IMPROVES RESULTS, OFFERS ALTERNATIVE PROTOCOLS,
MINIMISES ANIMAL HANDLING**

REDUCES STRESS

- No injections, no animal contact
- Dosing and checking via remote control

REDUCES COST

- Handler time reduced
- Automated dosing

REDUCES RISK

- Fully biocompatible
- Long-term implantation

REDUCES ERROR

- Automated dosing
- Drug dosing, data logging via remote computer connection
- Error logging

IMPROVE PROTOCOLS

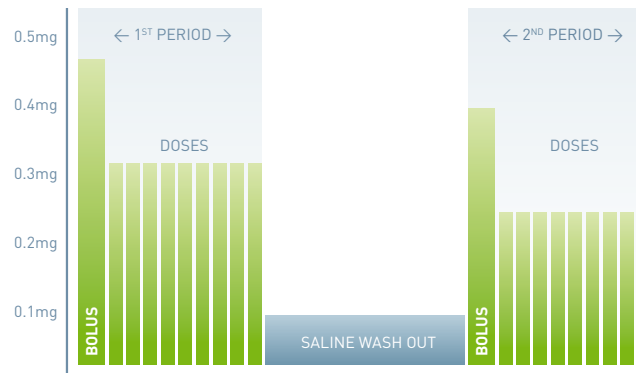
- where injection is not appropriate (i.e. continuous release)
- where precision is key
- for targeted delivery to specific areas (i.e. brain)
- when in need of reprogramming and flexibility in drug release

FLEXIBLE PROTOCOL DESIGNS

ithetis™ versatile programming opens new ways in delivering preclinical research results

- deliver up to 2 ml
- multiple solutions refill
- short or extended periods (months)

Example of protocol with two different agents



CONTACT



precision - programmable - pumps



The smallest implantable
wirelessly-controlled
pump in the World

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ithetis

Implantable
Drug Delivery Devices

ITHETIS™ MICRO-PUMP COMBINES UNRIVALLED SIZE AND EXTENSIVE PRACTICAL FEATURES FOR USES IN PRECLINICAL RESEARCH:

SIZE

- 5,2 grams
- 3,7 ml total volume (empty)
- 1ml reservoir (refillable)

IMPLANTABLE

- From small rodents, including mice, to larger animals
- Implantation over weeks or months
- Generic or targeted drug delivery

PROGRAMMABLE

- Fully programmable via remote control
- Adjustable drug release protocol
- Constant rate, bolus, periodic drug release or combinations of mode

WIRELESS COMMUNICATIONS

- 2.4 GHz telemetry for wireless communication
- User friendly computer interface
- Reprogram and control during experiments, when needed

REFILLABLE

- Extended protocols
- Varied protocols

DIMENSIONS

L x W x H
42 x 16 x 7/11 mm

World's smallest and most advanced implantable drug delivery device (micro IDDD)

Ultra-precise and versatile administration of test material/drug

ithetis™ wireless technology allows bidirectional communication with a large number of implanted devices

Two-way communication, allows programming on the fly and checking pump performance during experiments

high precision **volumetric pump** technology

IMPLANTABLE IN VERY SMALL ANIMALS

- The only programmable pump implantable in mice
- Catheter allows targeted drug delivery even in sensitive areas (brain)

