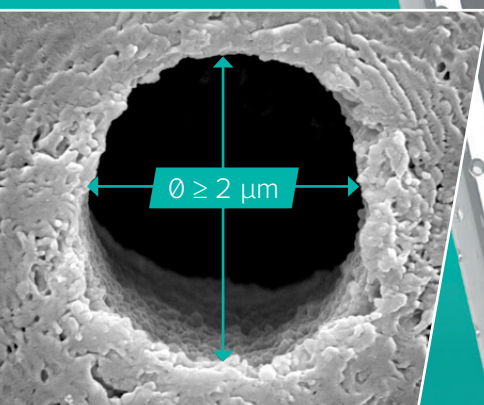


# MICROHOLES

## FOR DRUG DELIVERY BALLOON CATHETERS (DDB)

### We Laser Drill your Balloon

- ✓ Drilled diameters down to 2  $\mu\text{m}$
- ✓ Adjustable hole sizes in steps of 1  $\mu\text{m}$
- ✓ Any desired hole distribution on the balloon
- ✓ All kind of balloons: peripheral and coronary
- ✓ No limitations in the balloon function:  
expansion, pressure (NP, RBP) ...



Micro-drilled drug delivery balloon catheters (DDB) are an alternative to drugcoated balloons (DCB). The disadvantage of DCBs is that they lose some of their medication before they reach the lesion, which is not the case with DDBs. DDBs ensure localized intraluminal drug delivery (LIDD) when they are dilated and release their medication in the exact locations where the active drugs are required to do their job.

# Microholes for Drug Delivery Balloon Catheters

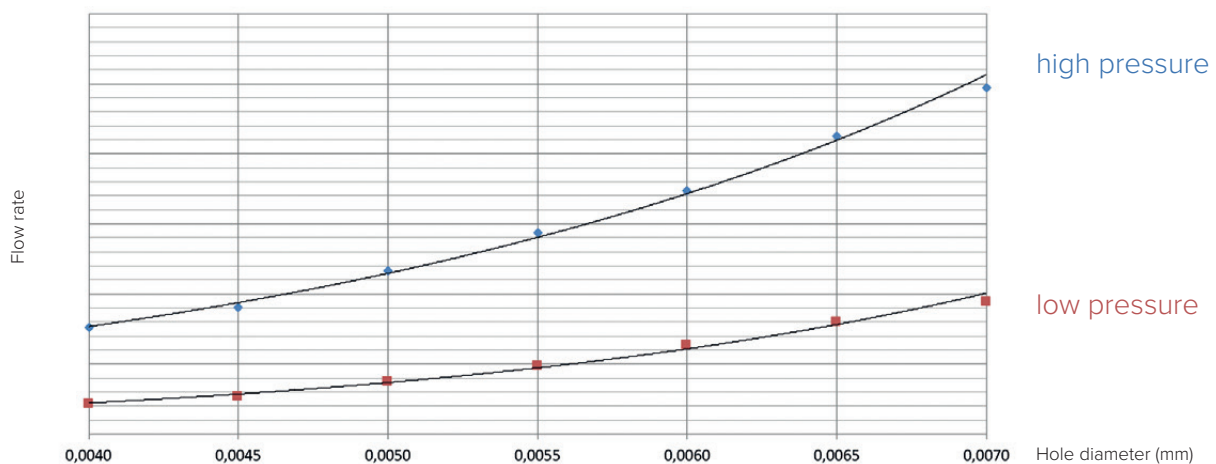
DDBs can release medication multiple times by repeated dilation of the balloon. This means a single DDB can be used to treat multiple lesions consecutively. The delivered dose of medication depends on the duration of the dilation, the pressure and the number of holes in the balloon. The drugs can be blended into the contrast medium which is filled into the balloon catheter just in the moment of intervention. The drilled balloon catheter itself does not therefore face drug expiry limitations. Drilled balloon catheters can also be used as “standard” balloon catheters without the addition of medication.



## Quality Assurance

- ✓ Inspection of hole sizes via on-site SEM
- ✓ Measurement of liquid release rate versus balloon pressure
- ✓ Alternatively: measurement of gas flow rate (non-destructive, 100 % inspection)
- ✓ Full traceability of laser-drilled balloons

## Flow rates at various hole diameters and pressures



## Professional Production Capabilities

- ✓ We can handle your solitary balloons or complete catheter systems.
- ✓ Customized balloon fixtures are used to ensure the best reproducible quality.
- ✓ We have manufacturing experience with different balloon materials, such as polyamide (Nylon), PET, polyurethane ...