

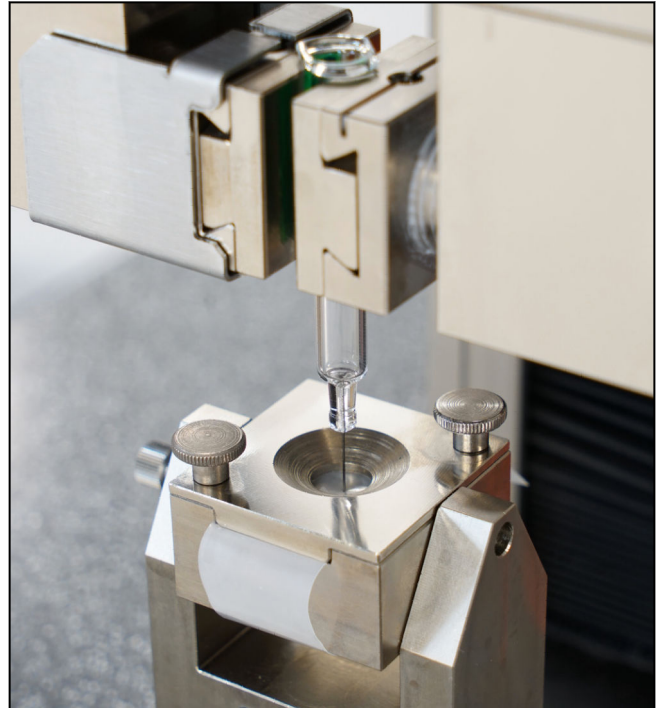
## Product Information

### ISO 11040-4/-6 Annex F - Needle penetration force

CTA: 167328 167985



Test arrangement with pneumatic grips and holding fixture for special film



Detail view with inserted syringe

#### Applications

Testing is performed on glass or plastic syringe barrels for injectables and sterilized subassembled syringes ready for filling.

Annex F describes the needle penetration test with special film that has properties similar to human skin.

To perform the test, the syringe is inserted into the upper pneumatic specimen grip, which is closed with the foot control. The protective cap is pulled off the syringe. Downward movement of the crosshead causes the needle to penetrate the film.

The expected force range is 2.5 N.

The test results contain the following information:

- Film specification
- Test speed
- Force curve
- Number of syringes tested
- Deviations

#### Advantages and features

- Variable test angle to test axis that can be locked at 30°, 45°, 60° and 90°
- Versatile pneumatic grips that can also be used for Annex G1, G3 and G6
- Secure gripping of sensitive specimens through adjustable gripping pressure
- Optional pneumatic control unit to open and close the specimen grips
- High stiffness and precise crosshead guidance of the zwickiLine
- Maximum safety for the user, the test results, the specimen material, and the testing system
- Online correction of machine compliance guarantees very high accuracy of travel measurement and positioning
- Traceable and reliable test results in accordance with ZwickRoell whitepaper FDA 21 CFR Part 11: This guarantees complete, tamper-proof documentation of all actions and changes that are performed in the testXpert III testing software

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#### Technical data

#### Pneumatic specimen grips type 8097

<b>Item No.</b>	<b>1106823</b>		
<b>Type</b>	<b>8097</b>		
Operating principle/identification	Opposing jaw with stepped and stepless adjustment		
Test load $F_{max}$	0.5		kN
Operating pressure	1 ... 10		bar
The operating pressure depends on the upstream components.			
Gripping force at 6 bar	0.75		kN
Gripping force at 10 bar	1.3		kN
Opening width with jaws, 5 mm thickness <sup>1)</sup>	20		mm
Gripping travel of pneumatically operated side	10.5		mm
Gripping of the specimen	The specimen must be gripped with at least 2/3 of the jaw height.		
Dimensions			
Height	95		mm
Installation height	110		mm
Width	242		mm
Depth	60		mm
Depth with connection unit	86		mm
Connection, hole	Ø 20		mm
Weight per specimen grip, approx.	1.5		kg
Ambient temperature	+10 ... +35		°C
Scope of delivery	1		piece(s)

1) The opening width is the result of using jaws with 5 mm jaw thickness.

#### Accessories required

#### Jaws (1 x required)

Item No.	Version	Hardness	Clamping surface		Jaw thickness (dimension x)	Specimen thickness	Ambient temperature	Scope of delivery
			Height [mm]	Width [mm]	[mm]	[mm]	[°C]	[piece(s)]
3003408	Non-slip coating with V-notch	65 Shore A	30	32	9	Ø 12 ... 35	-15 ... +40	1 pair = 2
3003407	Non-slip coating with V-notch	65 Shore A	30	32	5.5	Ø 5 ... 12	-15 ... +40	1 pair = 2

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#### Spacers (1x required)

Description	ArticleNumber
Spacers, height 20 mm, for increasing the free space between jaw and grip body. Scope of delivery 2 pieces. 2 pieces required per grip. <sup>1)</sup>	<b>316559</b>

1) For convenient operation

#### Pneumatic control unit (1x required)

The pneumatic control units can be used with testXpert III V1.7 (from 14.12.2022) and testControl II V8.62.

Description	ArticleNumber
Pneumatic control unit <b>or</b>	<b>1108557</b>
Pneumatic control unit with clamping pressure preselection via testXpert III testing software	<b>1108559</b>

#### Pneumatic hoses (1x required)

Description	ArticleNumber
Set of pneumatic hoses for connecting a pair of pneumatic grips; including hose guiding for strain relief	<b>1112640</b>

Type	Needle puncture test fixture	
Item No.	<b>022358<sup>1)</sup></b>	
Test load $F_{max}$	200	N
Specimen dimensions		
Specimen width	20	mm
Specimen thickness	Up to 1	mm
Specimen gripping and puncture opening	Ø 10	mm
Test angle, lockable with a pin	30°, 45°, 60° and 90°	
Connection, stud	Ø 20	mm
Ambient temperature	+10 ... +35	°C

1) A safety guard or safety device is required for this.