

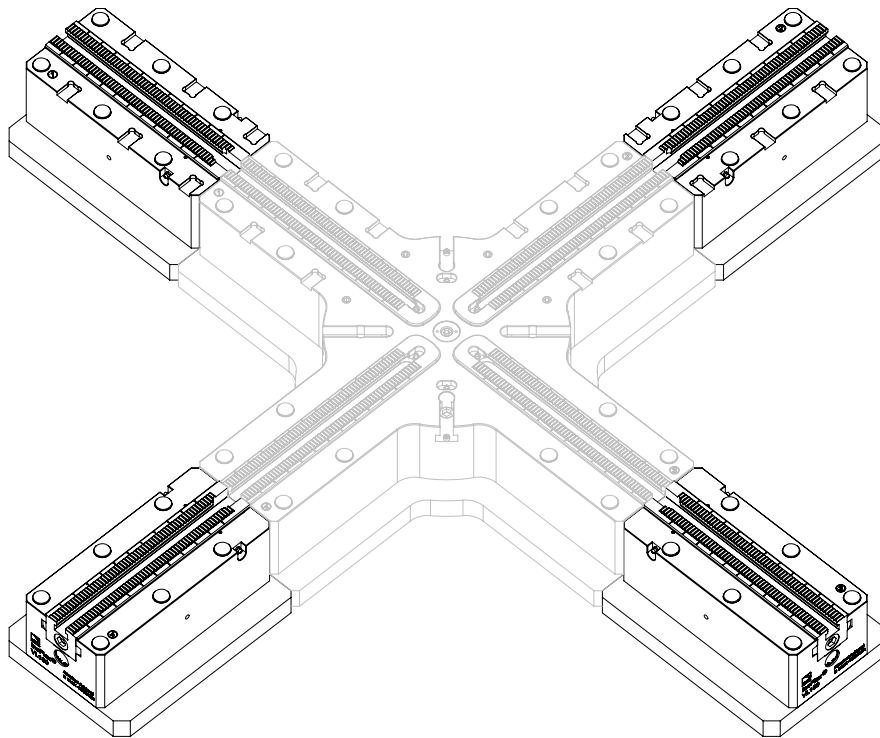
# HWR

## Assembly Instructions

### InoFlex®-Extension Kit VL140 – VL200

for InoFlex® VL100

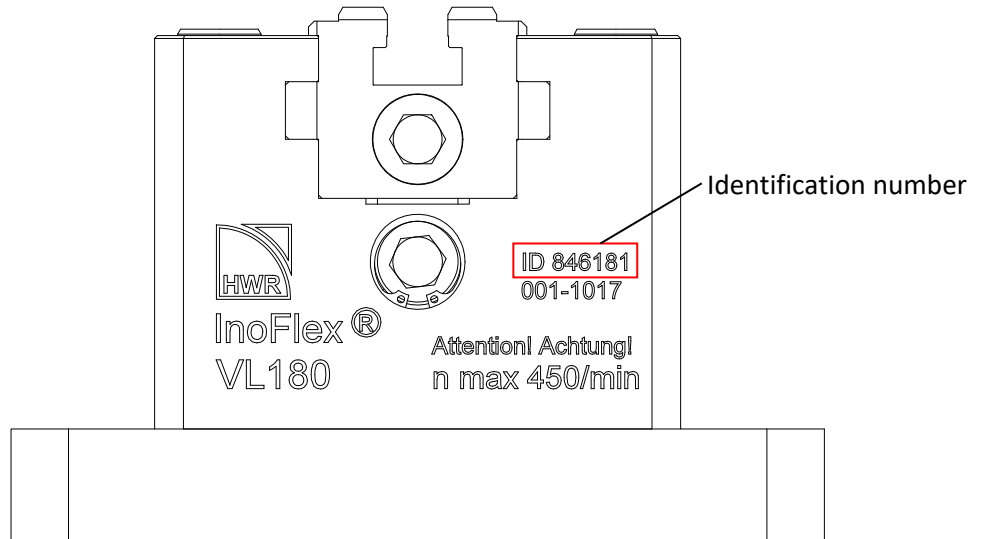
(weight reduced)



Translation of the Original Operating Manual (German)  
Keep for future reference!

Version: January 2024  
Edition: A

The following picture shows the extension with the embossed data.



### NOTICE

*If you have any questions for HWR Spanntechnik GmbH please hold ready the identification number. Errors and omissions in the documentation are excepted. Please inform HWR Spanntechnik GmbH of any errors in the documentation.*

### NOTICE

*These assembly instructions for the InoFlex® extension set VL140 - VL200 do not constitute an independent operating manual. This is only an extension of the operating instructions manual for the InoFlex® VL100, which was handed over to you together with the InoFlex® VL100.*

*Therefore, all notes and instructions in the operating instructions for the InoFlex® VL100 also apply to the VL140 - VL200 extension set*

### ⚠ WARNING

*Please be sure to observe the values for the max. speed signed on the base body extensions!*

*In case of deviating information on the max. speed, the max. spindle tightening torque or the max. total clamping force between the InoFlex® VL100, the extension pieces or, if applicable, the top jaws, the lowest specified value always applies!*

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## 1 EXCLUSIVE PURPOSE OF USE

The InoFlex® extension kit VL140 - VL200 is to be used exclusively in conjunction with an InoFlex® VL100 and is only intended for clamping components for mechanical machining in milling machines and milling turning centres.

Any other use beyond this is considered as improper use. The manufacturer is not liable for any resulting damage.

The chuck and extension kits must be used exclusively in compliance with VDI 3106, taking into account the operating instructions of the machine tool, taking into account the operating instructions of the InoFlex® VL100, as well as these assembly instructions.

## 2 TRANSPORT AND INSTALLATION

### 2.1 EXTENSION KIT – TRANSPORT WITH EYEBOLTS

Für den Transport müssen die im Lieferumfang enthaltenen Ringschrauben (DIN 580) verwendet werden.

#### **NOTICE**

*The eyebolts are marked with the permissible load capacity.*

#### **! DANGER**

*The InoFlex® VL100 must not be lifted with the mounted extension kit VL140 - VL200!*

### 2.2 ASSEMBLY OF THE EXTENSION KIT (EXAMPLE)

#### **NOTICE**

*This is an exemplary assembly case. The exact procedure may vary depending on the application. If necessary, observe the assembly instructions supplied by the manufacturer of the connection.*

#### **NOTICE**

*The extension kit can be mounted directly on the machine table of the machine tool.*

#### **NOTICE**

*Observe the maximum tightening torques for fastening screws (see Table 7-7 in the InoFlex® VL100 operating instructions).*

- Step 1** Check that the measures have been carried out before starting installation (see the InoFlex® VL100 operating instructions).
- Step 2** Mount the InoFlex® VL100 (1) on the machine table (2) in accordance with the corresponding operating instructions.

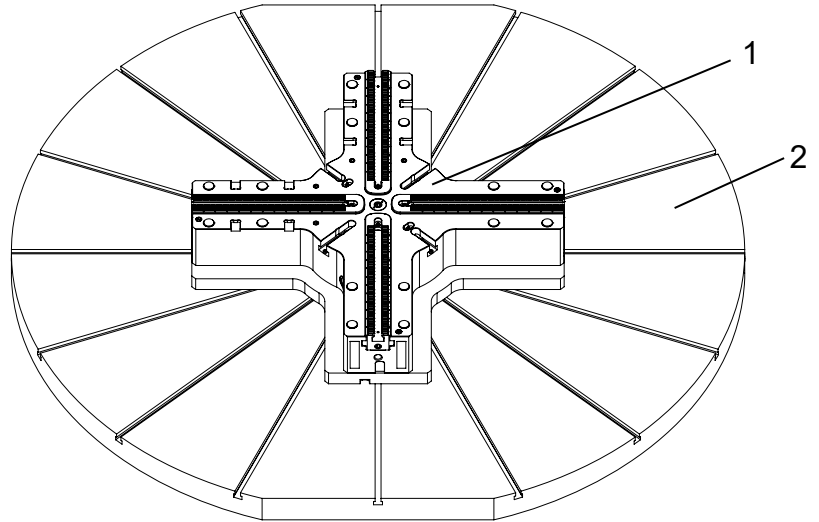


Fig. 2-1: Mounting of the InoFlex® VL100

- Step 3** First loosen the locking screw (3) and remove the base jaw extension (4). Then loosen and remove fastening screws (5) and lift the extension (6) from the base plate extension (7).

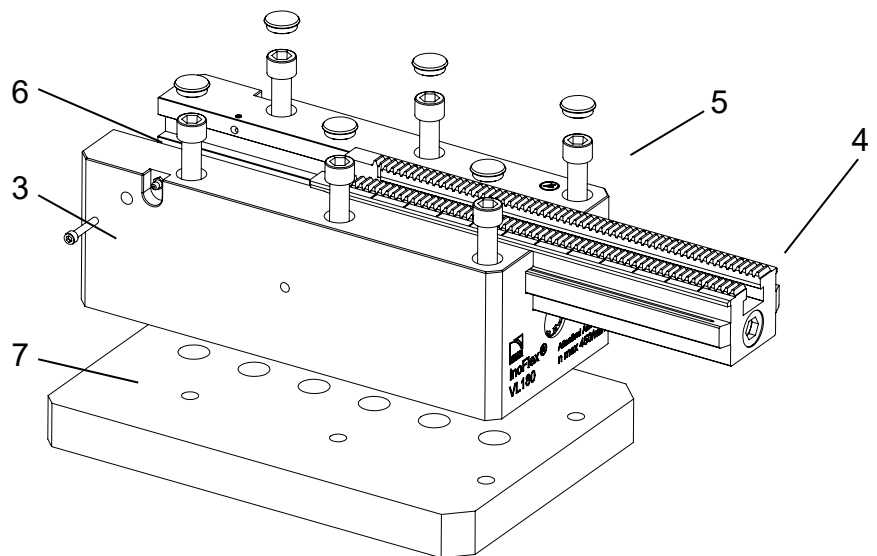


Fig. 2-2: Disassembly of the InoFlex® extensions

- Step 4** Remove the threaded pins (8) completely from the slots of the base jaws. Then loosen and remove the threaded pins (9) from the base jaws.

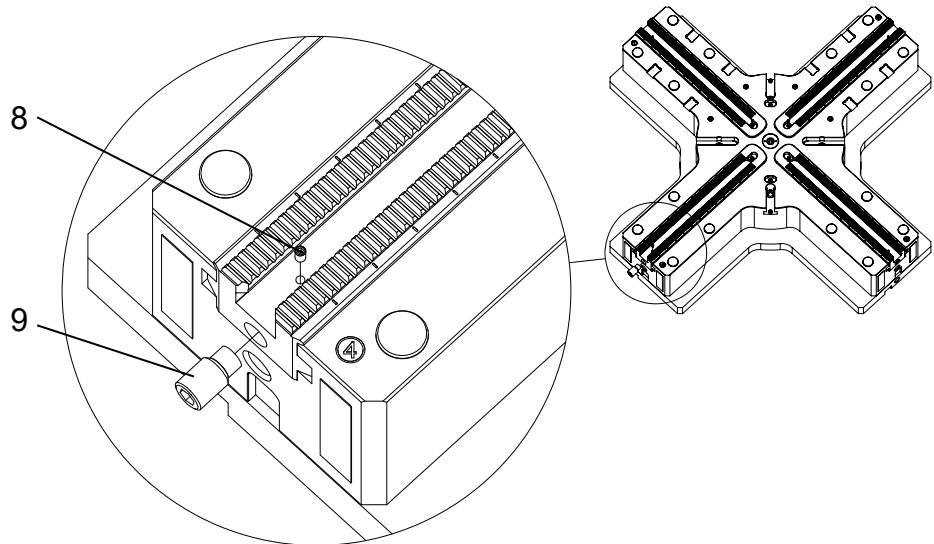


Fig. 2-3: Removing the threaded pins of the InoFlex® VL100

- Step 5** Align the base plate extensions (7) to the base plate of the VL100 (10). The keyway nut (11) mounted in the extensions (7) must engage in the corresponding groove of the base plate (10). Then screw the base plate extensions (7) to the machine table (2)

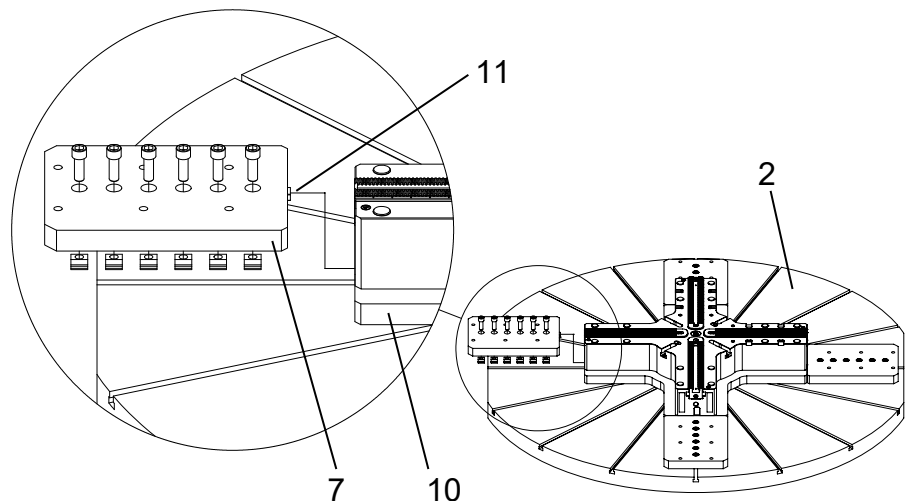


Fig. 2-4: Mounting of the base body extensions

- Step 6** Now align the base body extensions (6) with the base body of the VL100 (12). The fitting block (13) mounted in the extensions must engage in the corresponding groove of the base body (12). Please note the signed jaw numbers on the extensions.
- Screw the extensions (6) and the base body (12) together using the fastening screws (14) and then insert the retaining rings (15) into the countersunk holes.

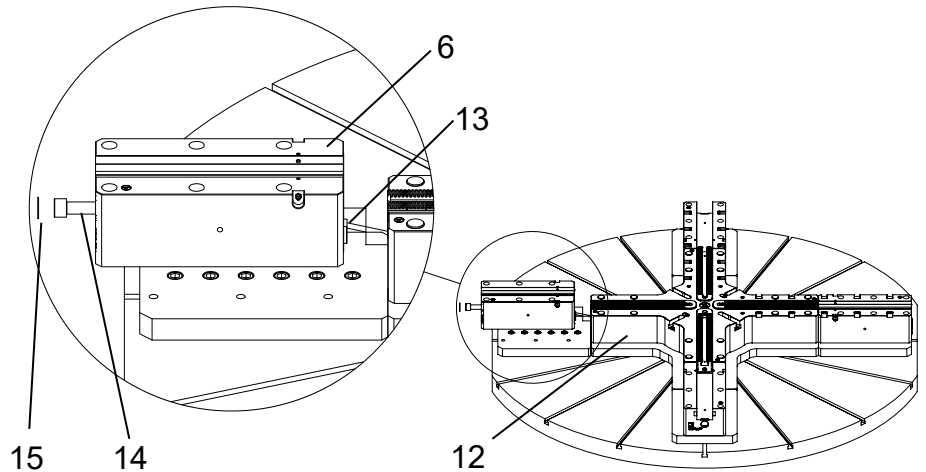


Fig. 2-5: Mounting of the base body extensions

- Step 7** Lock the fastening screws (14) from step 6 with the threaded pins (16). Then screw the base body extensions (6) and the base plate extensions (7) together using the cylinder head screws (5). The countersunk holes of the cylinder head screws (5) must be closed with the caps (17).

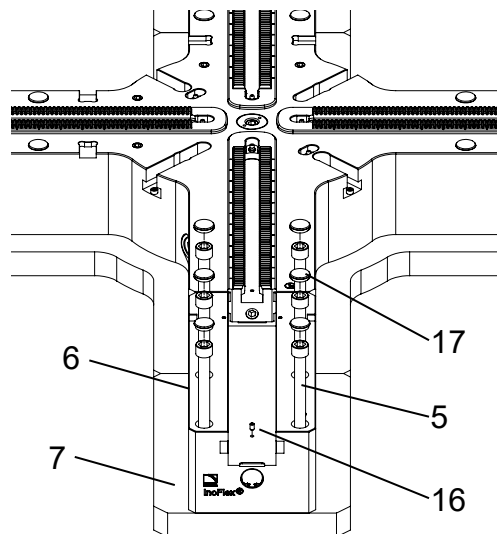


Fig. 2-6: Mounting of the InoFlex® VL100

**Step 8** Insert the base jaw extensions (4) into the guidings of the base body extensions (6). Screw the base jaw extensions (4) to the base jaws (19) using the fastening screw (18). A snorkelling disc (23) must be used in each case. Make sure to observe the alignment of the snorkelling disc (23) as shown in the illustration.

Lock the fastening screws (18) with the threaded pins (20).

Lock the base jaw extensions (4) with the locking screws (21).

Screw in the locking screw (22) completely.

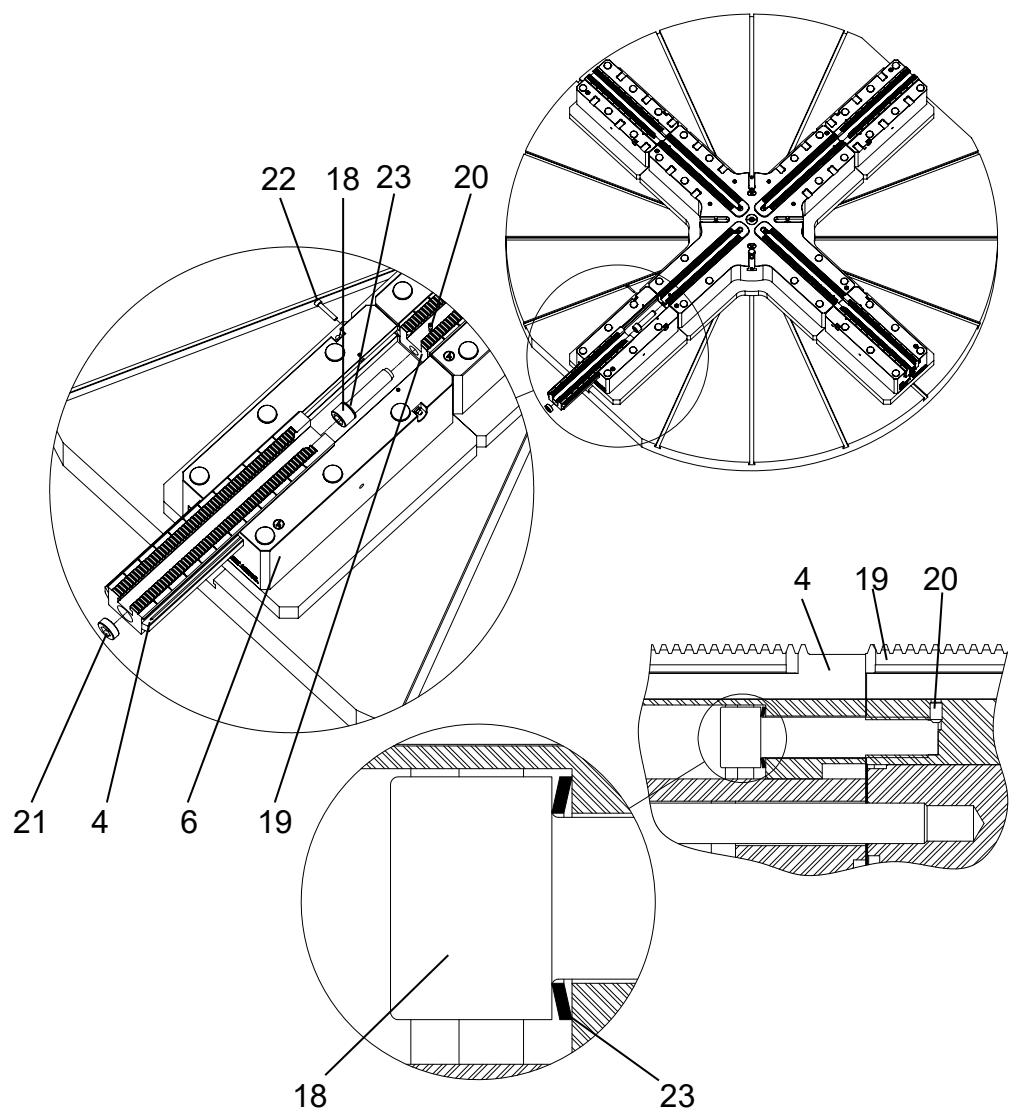


Fig. 2-7: Mounting of the base jaw extensions



## 2.3 MOUNTING OF THE TOP JAWS / GRIPPER JAWS

Mount the top jaws / gripper jaws according to the InoFlex® VL100 operating manual.

**⚠ WARNING**

*Top jaws must always be mounted only on the base jaw of the InoFlex® VL100 or on the base jaw extension! Overlapping mounting is not possible (see Fig. 2-7)!*

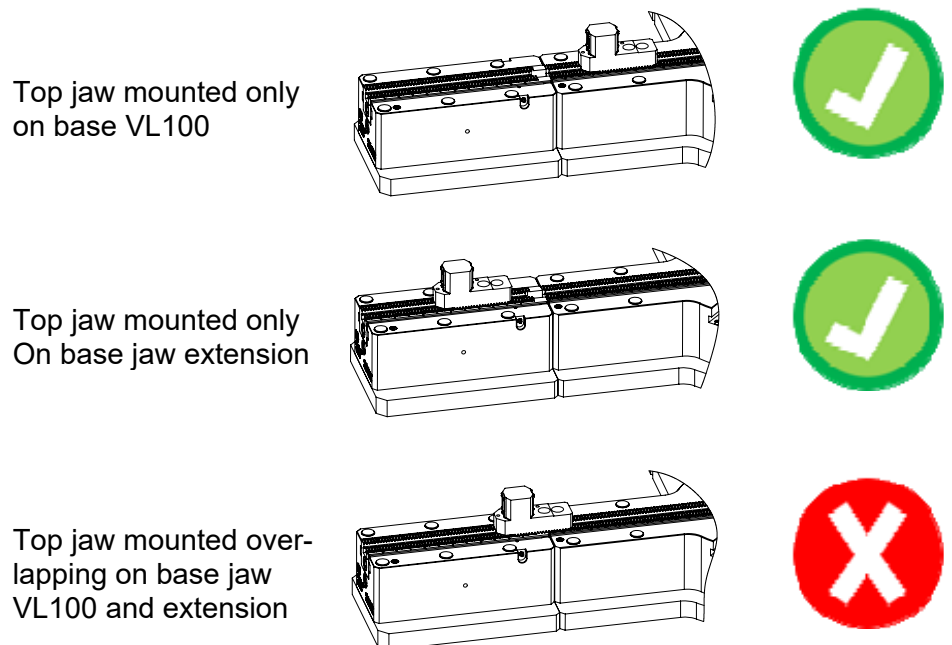


Fig. 2-7: Mounting of the top jaws / gripper jaws

## 2.4 USE OF STATIONARY JAWS

Stationary jaws can be used on the extension kit VL140 – VL200 according to the operating manual of the InoFlex® VL100.

The values for the max. spindle tightening torque as well as for the max. clamping forces correspond to those of the InoFlex® VL100 for the extension kits.

## 3 OPERATION

### 3.1 STROKE CONTROL

When the workpiece is clamped, the rear edge of the base jaw extension must be between the outer and inner area shown in Fig. 3-1. This eliminates the possibility that the base jaw abuts before the workpiece is securely clamped.

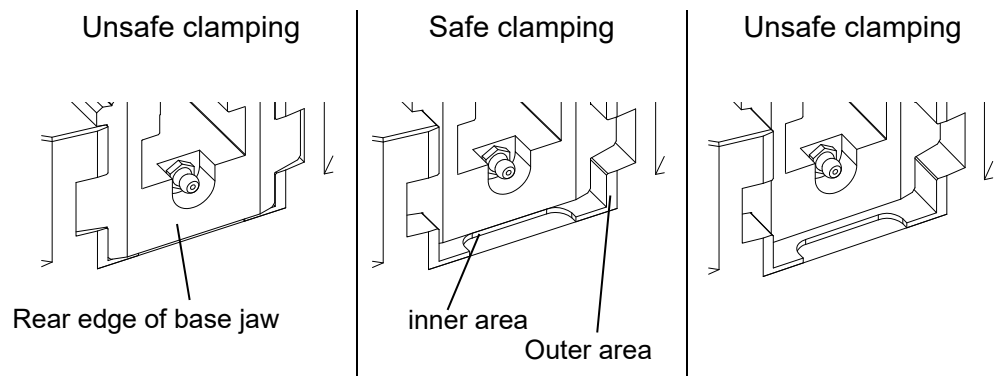


Fig. 3-1: Stroke control (exemplary presentation)

## 4 MAINTENANCE

### 4.1 GENERAL

The extension kit VL140 - VL200 must be checked and maintained in accordance with the InoFlex® VL100 operating manual.

There are two grease nipples on each of the four base body extensions, which must be lubricated according to the InoFlex® operating manual.

### 4.2 DISASSEMBLY / CLEANING / RE-ASSEMBLY OF THE EXTENSION KIT

#### Disassembly and cleaning

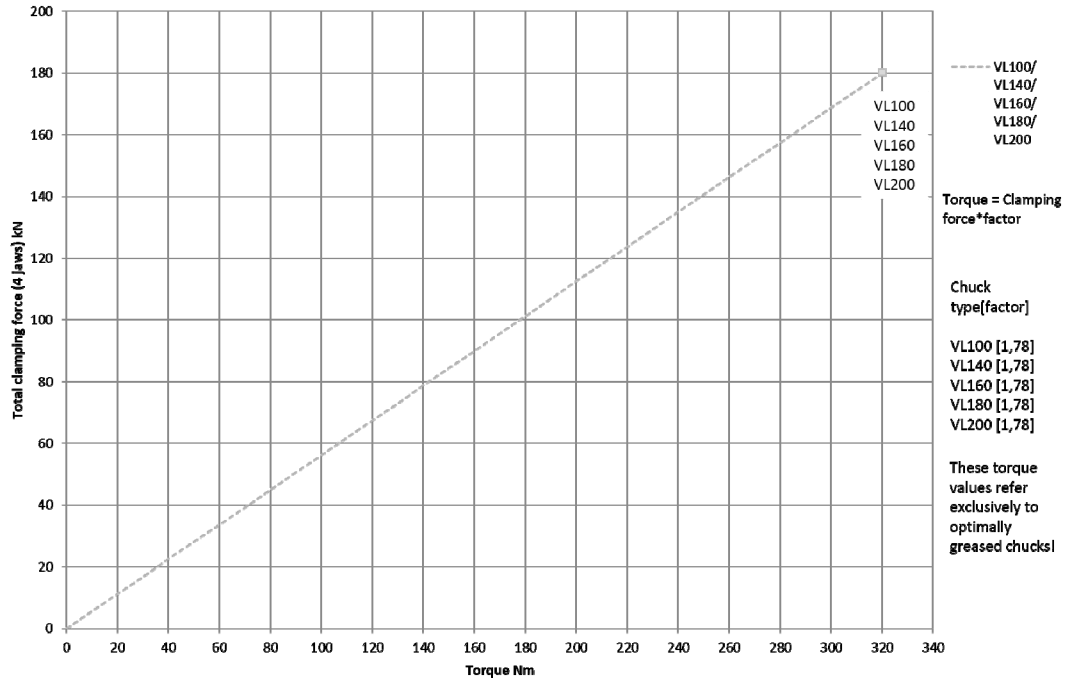
- Step 1** Disassemble the extension kit in reverse order for assembly in chapter 2.2.
- Step 2** Clean all components of the extension kit. If necessary use cold cleaner.
- Step 3** Check all components. Defective parts must be replaced. In case of doubt contact the manufacturer.

#### Re-assembly

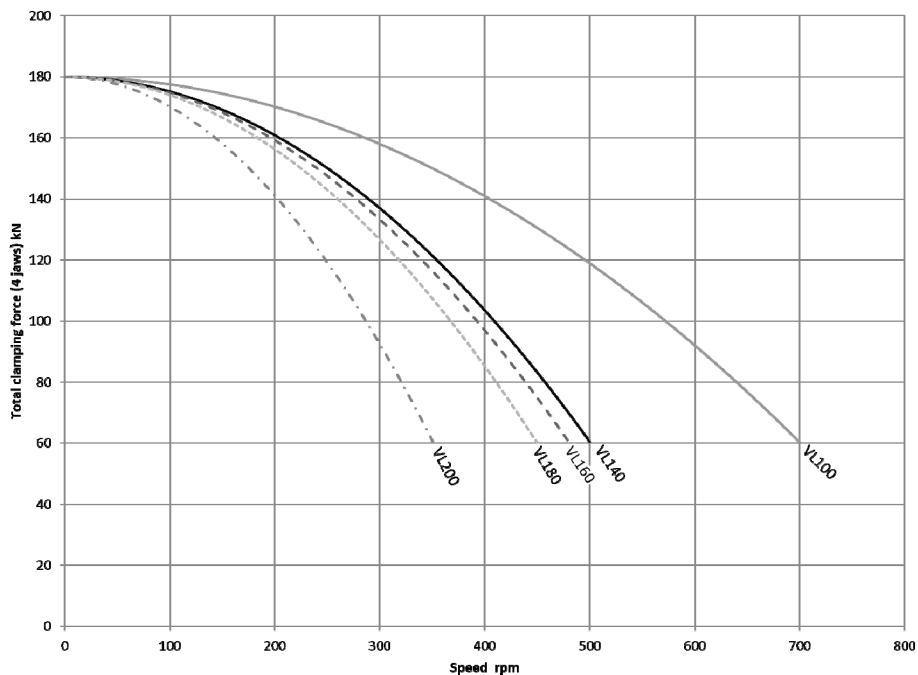
Re-assemble the extension kit according to chapter 2.2.

## 5 TECHNICAL DATA

### 5.1 CLAMPING FORCE / TORQUE DIAGRAM



### 5.2 CLAMPING FORCE / SPEED DIAGRAM



### 5.3 TECHNICAL DATA

Type		VL140	VL160	VL180	VL200
Ident-No.		846141	846161	846181	846199
Base chuck	--	VL100	VL100	VL100	VL100
Diameter	mm	1400	1600	1800	2000
Radial jaw stroke per jaw	mm	11,3	11,3	11,3	11,3
Compensation per jaw	mm	9,3	9,3	9,3	9,3
max. tightening torque	Nm	320	320	320	320
max. clamping force	kN	180	180	180	180
max. speed *	1/min	500	480	450	350
Weight extension kit	kg	212	300	394	485
Moment of inertia	kg·m <sup>2</sup>	77,1	129	199	283
max. workpiece weight **	kg	600	600	600	600
Standard t-nut	--	GP13	GP13	GP13	GP13
Standard jaws	--	Please see our chuck data sheet in our jaws finder under <a href="http://www.hwr.de/en/products/chuck-jaws/#c270">http://www.hwr.de/en/products/chuck-jaws/#c270</a>			
Table 5-1: Technical Data					

\* Balance quality according to DIN ISO 1940-1: G 6,3 (ungreased)

\*\* for exceeding workpiece weights a support on the chuck body has to be utilised



**WARNING**

*In case of differing data the data signed on the chuck is of relevance!*



**WARNING**

*Max. clamping diameter = chuck diameter*

## 5.4 MOUNTING DIMENSIONS

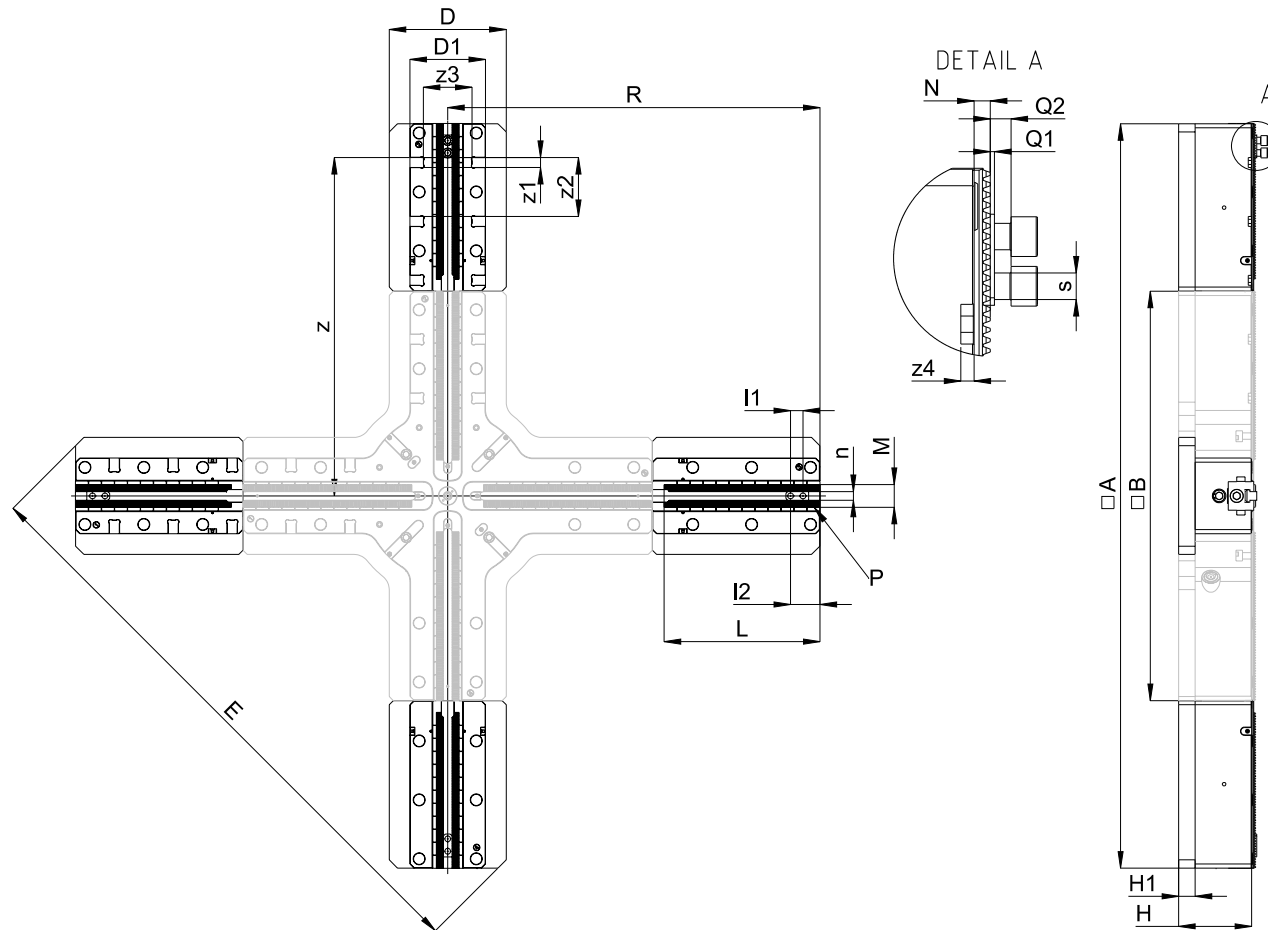


Fig. 5-1: Mounting dimensions  
(Subject to technical change)

Type		VL140	VL160	VL180	VL200	
	<b>A</b>	mm	1400	1600	1800	2000
	<b>B</b>	mm	990	990	990	990
	<b>D</b>	mm	283	283	283	283
	<b>D1</b>	mm	183	183	183	183
	<b>E</b>	mm	1162	1304	1445	1586
	<b>H</b>	mm	176,5	176,5	176,5	176,5
	<b>H1</b>	mm	40	40	40	40
	<b>L</b>	mm	177	277	377	477
	<b>M</b>	mm	55	55	55	55
	<b>N</b>	mm	9,8	9,8	9,8	9,8
	<b>P</b>	mm	Modul 2	Modul 2	Modul 2	Modul 2
	<b>Q1</b>	mm	2,5	2,5	2,5	2,5
	<b>Q2</b>	mm	10	10	10	10
Chuck open	<b>R</b>	mm	700,5	800,5	900,5	1000,5
	<b>I1</b>	mm	30	30	30	30
min. / max.	<b>I2</b>	mm	40 / 157	40 / 257	40 / 357	40 / 457
	<b>n</b> H8	mm	21	21	21	21
	<b>s</b>		M16 x 35	M16 x 35	M16 x 35	M16 x 35
	<b>z</b>	mm	533,25	675,75	818,25	818,25
	<b>z1</b> G7	mm	24	24	24	24
	<b>z2</b>	mm	--	142,5	142,5 (2x)	142,5 (2x)
	<b>z3</b>	mm	118	118	118	118
	<b>z4</b>	mm	8	8	8	8

Table 5-2: Mounting dimensions

## 6 SPARE PARTS

### 6.1 SPARE PARTS LISTE EXTENSION KIT INOFLEX® VL140 – VL200

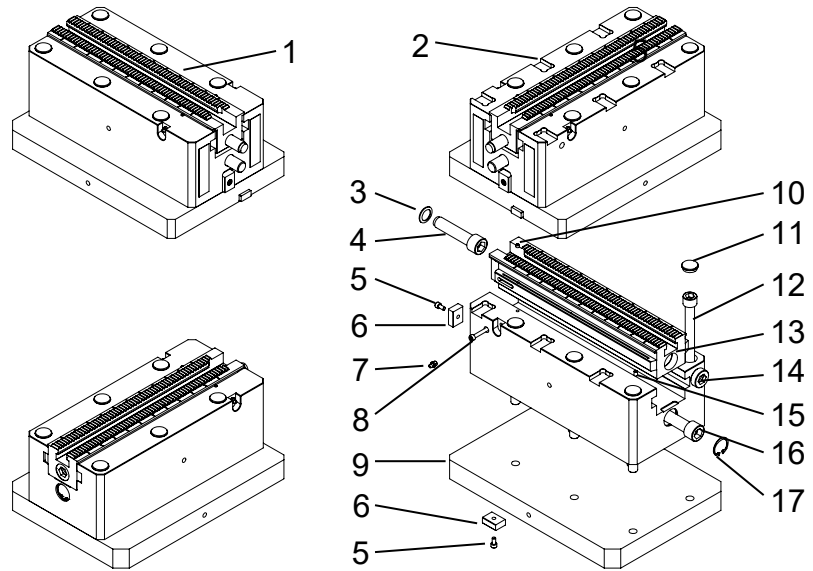


Fig. 6-1 Spare parts InoFlex® extension kit VL140 - 200

Pos.	Denomination	Quantity			
		VL140	VL160	VL180	VL200
1	Base body extension 3 / 4	2	2	2	2
2	Base body extension 1 / 2	2	2	2	2
3	Snorkeling disc	4	4	4	4
4	Draw bolt	4	4	4	4
5	Cylinder head screw	2	2	2	2
6	Slot nut	2	2	2	2
7	Grease nipple	2	2	2	2
8	Cylinder head screw	4	4	4	4
8	Base plate extension	4	4	4	4
9	Threaded pin	4	4	4	4
10	Cap	16	16	24	24
11	Cylinder head screw	16	16	24	24
12	Base jaw extension	4	4	4	4
13	Locking screw	4	4	4	4
14	Threaded pin	4	4	4	4
15	Cylinder head screw	4	4	4	4
16	Locking ring	4	4	4	4

Table 6-1: Spare parts list extension kit InoFlex® VL140 – VL200