

InoFlex

Compensating 4-jaw clamping device



The new InoFlex VT-S and VD 4-jaw compensating chucks enable optimal clamping of round, rectangular, and geometrically irregular workpieces or workpieces that are susceptible to deformation during turning operations.

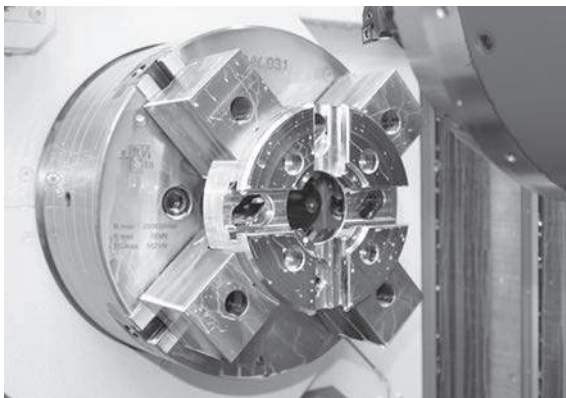
Thanks to the 4-jaw workholding technology, with which the jaw pairs enclose the center in a manner that provides compensation, the workpiece is always clamped centered – no matter how asymmetric it is. Compensation is achieved by connecting the sliding carriages located in the circle by means of levers.

This ensures substantially safer and more stable clamping than with conventional 3-jaw chucks or non-compensating concentric clamping vises. You can therefore switch between workpieces with different geometries and clamping diameters, without the need for additional clamping devices.

They are suitable for clamping of blanks and finished parts; they compensate in the case of blanks and provide for excellent repeatability in the case of finished parts.

Key advantages

- 4-sided clamping [2x2] with compensation of the opposing jaws
- Ideal for clamping workpieces that are susceptible to deformation
- For I.D. and O.D. clamping
- High repeatability and run-out accuracy



InoFlex in use

CHUCKS

InoFlex manual / power chuck

InoFlex chuck types

	InoFlex VD	InoFlex VT-S
		
Applications	Turning	Turning
Actuation	Manually actuated	Power-operated
Sizes	165, 215, 260, 315	165, 215, 260, 315
RPM n max.	3500	5000
Clamping range of all sizes [mm]	8 – 315	10 – 315
Advantages	■ Manual actuation – a clamping cylinder is not required ■ Sensitive clamping possible ■ 4-jaw or 2-jaw clamping possible ■ Clamping against fixed end-stop ■ Drilling area for front end-stop ■ Stationary implementation in the machining center	■ Large through-bore ■ Sensitive clamping possible ■ 4-jaw or 2-jaw clamping possible ■ Drilling area for front end-stop
Clamping elements	 Jaws	 Jaws
Adaptations	 InoZet pendulum bridge  InoTop hybrid chuck jaw	 InoZet pendulum bridge  InoTop hybrid chuck jaw

Applications

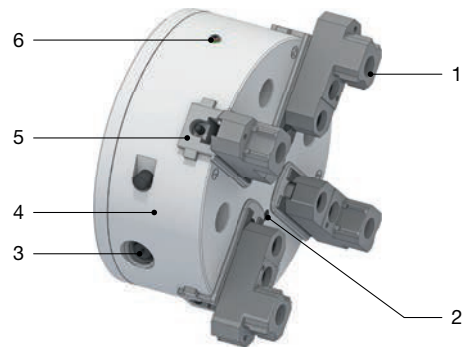
Technical suitability	Vise	3-jaw chuck	InoFlex
Clamping of asymmetrical workpieces	✗	✗	✓
Clamping of round workpieces	✗	✓	✓
Clamping of cubic workpieces	✓	✗	✓
Clamping workpieces that are susceptible to deformation	✗	✗	✓
I.D. clamping	✗	✓	✓
Centric compensating clamping	✗	✗	✓

✓ = suitable ✗ = unsuitable

InoFlex VD [manual chuck without capacity] in detail

Designation

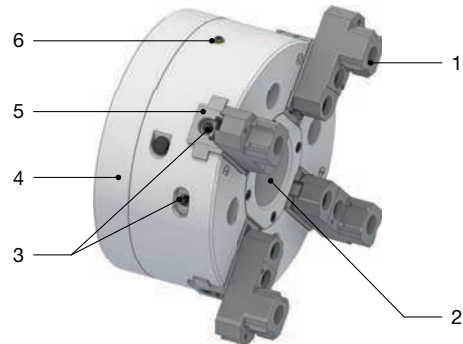
- 1 Adjustable top jaws with fine serration
- 2 Innovative lubricating system with grease nipple in the chuck body and for each jaw guide
- 3 Manual actuation via socket wrench
- 4 Stable base body
- 5 Base jaw with serration for use with different top jaws
- 6 Clamping reserve indicator [shows whether safe or unsafe clamping is present in the stroke range]



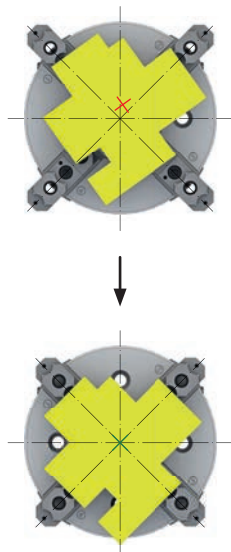
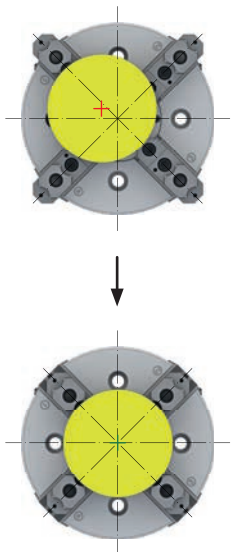
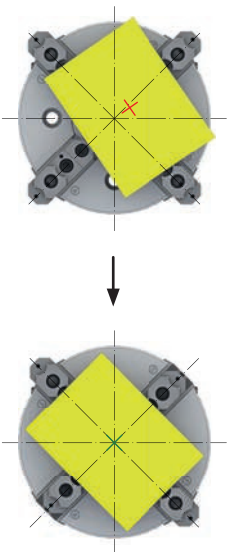
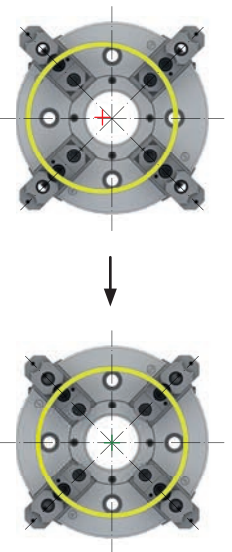
InoFlex VT-S [power chuck with capacity] in detail

Designation

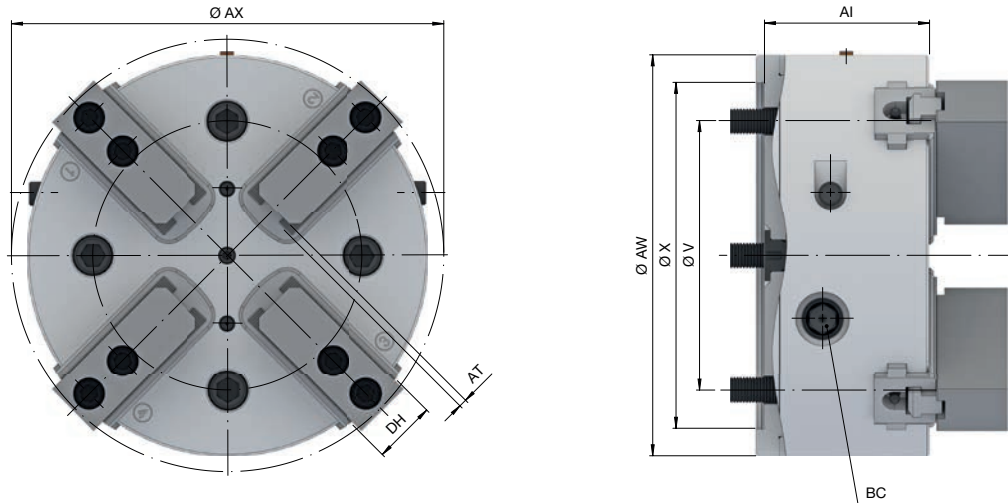
- 1 Adjustable top jaws with fine serration
- 2 Large capacity for bar material or chuck parts
- 3 Innovative lubricating system with grease nipple in the chuck body and for each jaw guide
- 4 Stable base body
- 5 Base jaw with serration for use with different top jaws
- 6 Clamping reserve indicator [shows whether safe or unsafe clamping is present in the stroke range]



Centric compensating clamping possibilities

Workpiece type	Asymmetric	Round	Cubic	Susceptible to deformation
Workpiece example	 Flame cutout 200 x 200 mm	 Saw cut Ø 150 mm	 Rectangular 150 x 200 mm	 Ring Ø 210 mm
Advantages	Simple centric clamping through jaw adjustment	Compensation of the roundness error on the raw material	Simple centric clamping through jaw adjustment	- Uniform clamping force distribution on four jaws - Precision compensation
Clamping situation				

InoFlex VD manual chuck. Technical data



Size		165	215	260	315
Variant		VD			
Run-out ≤ [mm]		0,020			
Max. clamping force [kN]		70	85	100	125
Max. actuating torque [Nm]	BC	70	120	160	200
RPM n max. [1/min.]		3500	3000	2700	2200
Stroke per jaw [mm]	AT	4,3	5,2		6,1
Compensating stroke for each jaw [mm]		2,5	3,5		4
Length without jaws [mm]	AI	76	85	105	130
Jaw width [mm]	DH	31	36	40	
Bolt hole circle	V	LK Ø 104,8 [4 x M10]		LK Ø 171,4 [4 x M16]	
Outer Ø [mm]	AW	165	210	255	315
Swing Ø	AX	185	230	275	330
Interface	X	Ø 140	Ø 170	Ø 220	
Weight [kg]		12	22	39	75
In stock		✓	✓	✓	✓
Material no.		10001155	10001156	10001157	10001158

The run-out is related to the already machined top jaws.



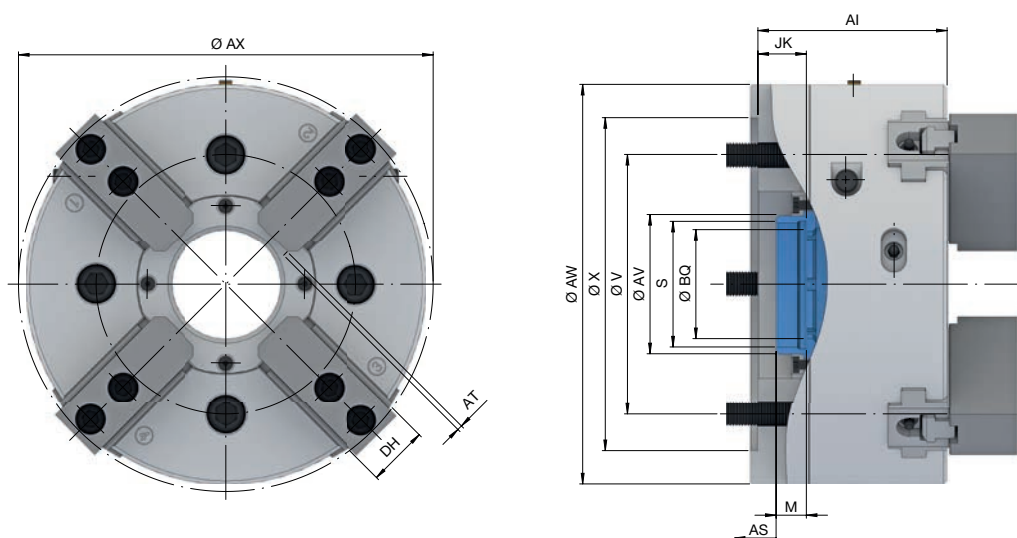
Scope of delivery

- Chuck without spindle flange
- Top jaws, soft
- T-slot nuts
- Grease cartridge
- Fit-on wrench socket for actuation tool

CHUCKS

InoFlex manual / power chuck

InoFlex VT-S power chuck. Technical data



Size		165	215	260	315
Variant		VT-S			
Run-out ≤ [mm]		0,020			
Max. clamping force [kN]		52	100	125	150
Max. axial drawtube force [pull / push] [kN]		20	40	50	60
RPM n max. [1/min.]		5000	3900	3500	3000
Stroke per jaw [mm]	AT	3,4	4,3	5	5,5
Compensating stroke for each jaw [mm]		2,3	3,3	4,0	4,4
Ø Capacity [mm]	BQ	46	52	72	91
Length without jaws [mm]	AI	88	109,2	125	134
Jaw width [mm]	DH	32	34	42	46
Connecting thread inside	S	M56 x 1,5	M60 x 2	M85 x 2	M100 x 2
Piston stroke [mm]	AS	15	19	22	24
Bolt hole circle	V	LK Ø 104,8 [4 x M10]	LK Ø 133,4 [4 x M12]	LK Ø 171,4 [4 x M16]	LK Ø 235 [4 x M22]
Outer Ø [mm]	AW	168	218	264	315
Inner Ø [mm]	AV		67	92	112
Swing Ø	AX	178	222	274	326
Interface	X	Ø 140	Ø 170	Ø 220	Ø 300
Depth of thread [mm]	M	18	20		24
Thread position in unclamped position [mm]	JK	33	36	32	40
Weight [kg]		12	26	42	64
In stock		✓	✓	✓	✓
Material no.		10015194	10015199	10015201	10015202

The run-out is based on soft, bored top jaws.

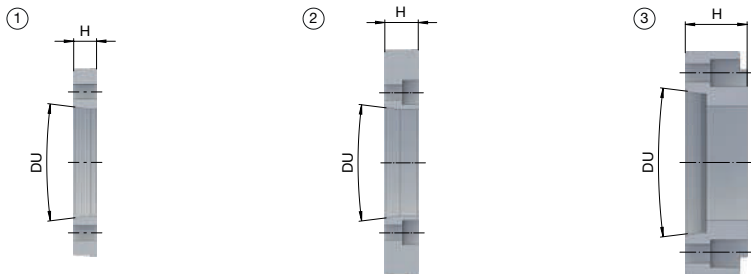
The InoFlex VT-S replaces the InoFlex VT with better technology. This offers a higher repeatability [≤ 0.006 mm] and easier in-house machining of the soft top jaws.



Scope of delivery

- Chuck without spindle flange
- Top jaws, soft
- T-slot nuts
- Grease cartridge
- Assembly wrench for revolving threaded ring

Flanges for InoFlex short taper. Technical data

							
Size	Suitable for	Spindle nose DU	Designation	Flange type	Length [mm] H	In stock	Material no.
165	VD / VT-S	A2-5	VZ165	1	17	✓	10014728
		A2-6	VZ166	3	46	✓	10014729
		A2-8	VZ168		35	✓	10014730
215	VD / VT-S	A2-5	VZ265	2	25	✓	10014736
		A2-6	VZ266	1	17	✓	10014737
		A2-8	VZ268	3	44	✓	10014738
260/315	VD [size 260/315] / VT-S [size 260]	A2-6	VZ366	2	28	✓	10014744
		A2-8	VZ368	1	19	✓	10014745
		A2-11	VZ3611	3	47	✓	10014746
315	VT-S	A2-8	VZ468	2	30	✓	10014751
		A2-11	VZ4611	1		✓	10014752

Machine spindle standard DIN DIN 55026 / ISO 702-1.

Flanges for InoFlex short taper with bayonet. Technical data

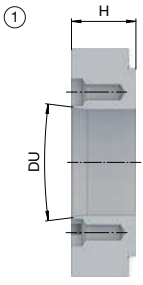
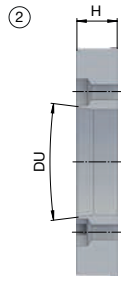
							
Size	Suitable for	Spindle nose DU	Designation	Flange type	Length [mm] H	In stock	Material no.
165	VD / VT-S	A2-5	VZ175	1	17	✓	10014731
		A2-6	VZ176	2	46	✓	10014732
		A2-8	VZ178		34	✓	10014733
215	VD / VT-S	A2-5	VZ275	1	19	✓	10014739
		A2-6	VZ276			✓	10014740
		A2-8	VZ278	2	40	✓	10014741
260/315	VD [size 260/315] / VT-S [size 260]	A2-6	VZ376	1	28	✓	10014747
		A2-8	VZ378			✓	10014748
315	VT-S	A2-8	VZ478	1	36	✓	10014753
		A2-11	VZ4711			✓	10014754

Machine spindle standard DIN 55027 / ISO 702-3.

CHUCKS

InoFlex manual / power chuck

Flanges for InoFlex short taper with camlock. Technical data

①  ② 							
Size	Suitable for	Spindle nose DU	Designation	Flange type	Length [mm] H	In stock	Material no.
165	VD / VT-S	A2-5	VZ195	2	48	✓	10014734
		A2-6	VZ196		52,5	✓	10014735
215	VD / VT-S	A2-5	VZ295	1	30	✓	10014742
		A2-6	VZ296	2	55	✓	10014743
260/315	VD [size 260/315] / VT-S [size 260]	A2-6	VZ396	1	34	✓	10014749
		A2-8	VZ398		56	✓	10014750
315	VT-S	A2-8	VZ498	1	38	✓	10014755
		A2-11	VZ4911		52	✓	10014756

Machine spindle standard DIN DIN 55029 / ISO 702-2.