

# FORWARDT



POWER CHUCKS  
LS / LSC



This catalogue describes the key components of a power chucking system featuring the FORKARDT power chucks LS/LSC.

Should you require further information beyond the data contained in this catalogue, please refer to the publications:

#### **Chuck Jaws**

#### **Rotating Actuating Cylinders**

closed-centre hydraulic cylinders OKRJ  
open-centre hydraulic cylinders OKHJ

#### **Controllers**

#### **Gripping Force Meters**

SKM 1200 / 1500

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• For more information visit:

[www.forkardt.com](http://www.forkardt.com)

*As we are constantly striving to improve our products, the dimensions and specifications in this catalogue cannot always represent the latest state of the art; they are therefore given as an indication only and are not binding..*

# 3 Jaw Power Chucks LS und LSC

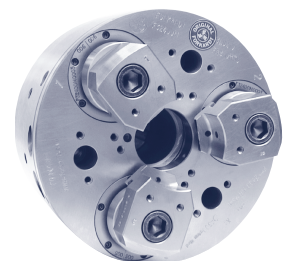
Self-centering (LS) or compensating (LSC) clamping

## Technical Features:

- 3-jaws-chuck for self-centering or compensating clamping
- Hermetically sealed against swarfingness, dust and coolant liquids
- Integrated lubrication
- Clamping with pull down effect
- 3 jaws, self-centering clamping with pull back function against defined locator on the chuck
- Exchangeable with chucks of earlier series type LX und LXC
- Centrifugal force compensation of the jaws
- Applicable for turning operations for roughing- and finishing operation
- 2, 4 and 6 - jaw configurations on request

## Advantages at a glance

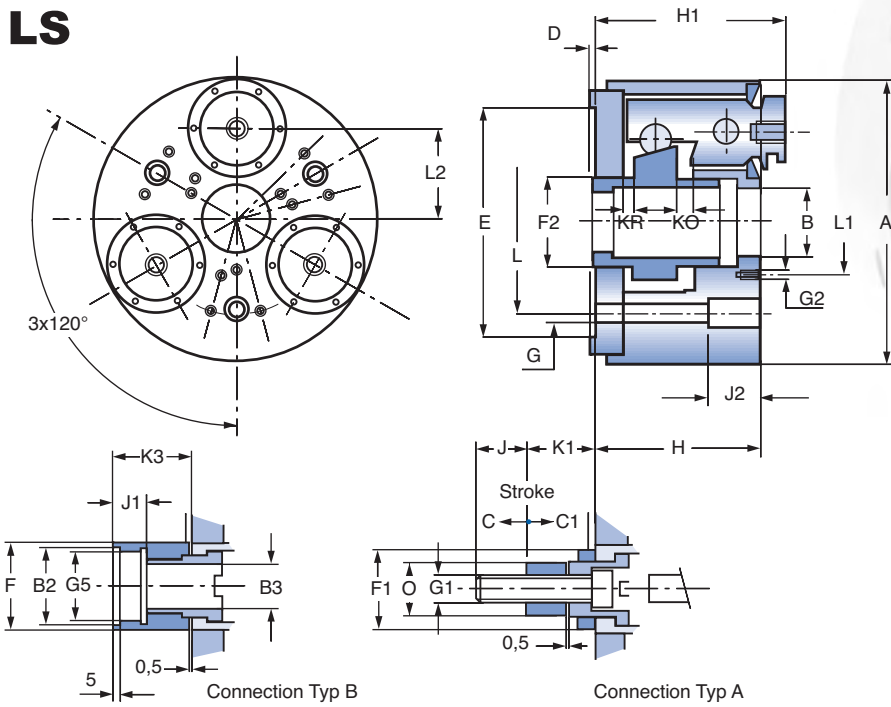
- Extreme capacity and concentric accuracy
- Maintenance free chuck
- High turning speeds and gripping force though compact design of chucks
- Long stroke
- Top jaws are exchangeable from one chuck to another without extra adjusting



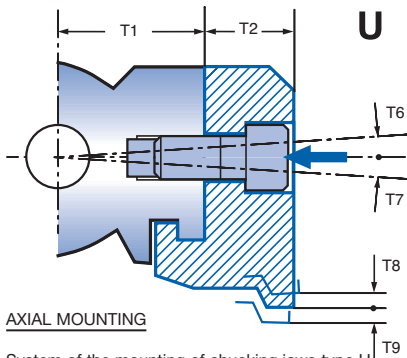
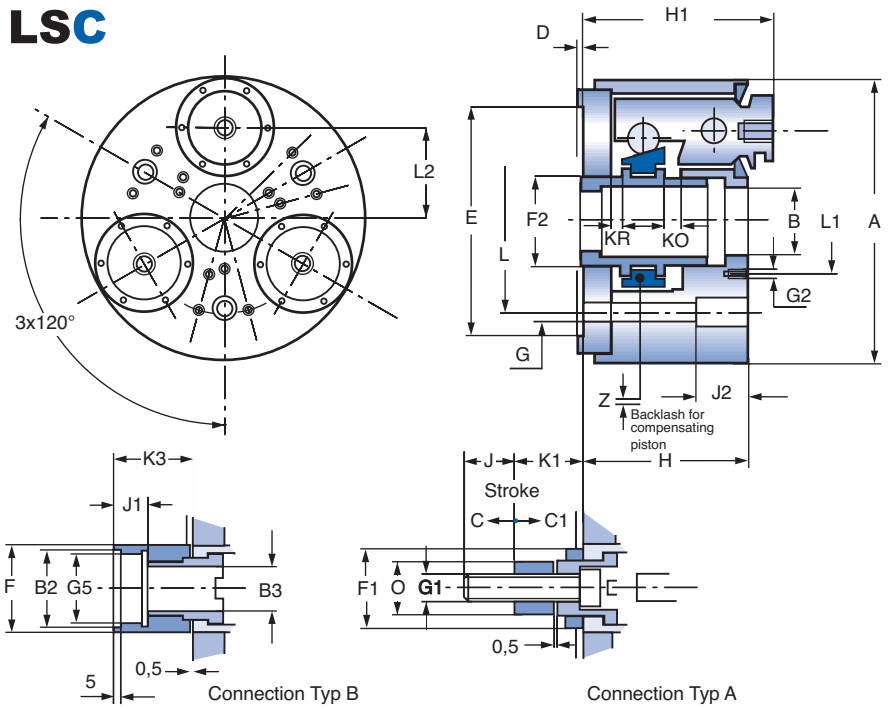


# 3 Jaw Power Chucks LS and LSC

## LS

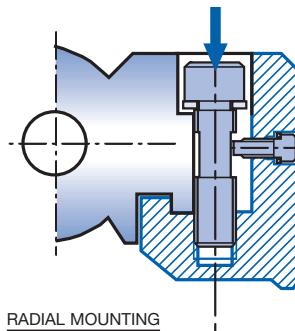


## LSC



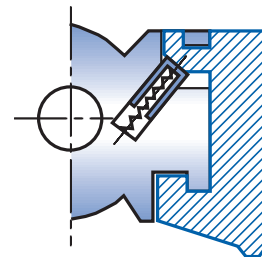
AXIAL MOUNTING

System of the mounting of chucking jaws type U  
1 bolt each chucking jaw



RADIAL MOUNTING

System of the mounting of chucking jaws type MIRV  
1 fixed bolt each chucking jaw being stuck



System of the mounting of chucking jaws type MIRC

Manipulation of the chucking jaws without tools

# Dimensions / Performance data 3 LS / LSC

Type				LS 110	LS 140	LS 180	LS 210	LS 260	LS 320	LS 400
<b>Dimensions</b>										
Outer diameter	A		mm	110	140	180	210	260	320	400
Bore	B	H 6	mm	26	33	43	50	65	115	155
Mounting recess	B 2	H 7	mm	-	-	49	60	75	82	82
Through hole	B 3	+ 0.2	mm	-	-	28	35	50	55	55
Clamping range, max. diameter				77	97	128	147	187	253	341
Stroke	C		mm	5	5	6	8	10	12	12
Stroke	C 1		mm	6	6	8	12.5	15.5	20.5	20.5
Mounting recess length	D		mm	5	5	5	5	5	6	6
Flange mounting	E	+ 0.01	mm	100	120	140	170	220	220	300
	F		mm	-	-	54.5	64.5	79.5	94.5	91.5
	F 1		mm	30	40	50	56	75	85	90
	F 2		mm	34	42	55	65	80	125	140
ø for Mounting bolts	G	3 x 120°	mm	11 / M10	11 / M10	11 / M10	13 / M12	17 / M16	17 / M16	25 / M24
	G 1		mm	M 12	M14	M 16	M 20	M 22	M 24	M 24
	G 2	3 x 120°	mm	M5	M5	M 6	M 6	M 8	M 10	M 10
	G 5		mm	-	-	M 48 x 2	M 56 X 2	M 75 X 2	M 80 X 2	M 100 X 2
Chuck width	H	± 0.05	mm	63	80	103	120	150	184	184
	H 1		mm	74	93	121	140	173	215	215
	J		mm			40.5	40	51.5	55	55
	J 1		mm	-	-	21.5	25	30	40	40
	J 2		mm	13	13	13	36	36	55	55
Clamping stroke	K0	Opening	mm	5	5.5	8	12	15	17	17
	KR	Reserve	mm	3.5	4.5	6	8	10	12	12
	K 1		mm	34	38	42	50.5	54.5	60.5	60.5
	K 3		mm	-	-	47.5	56.5	65	88	88
Recommended spindle size			mm	3" / 4"	4" / 5"	5" / 6"	5" / 6"	6" / 8"	8" / 11"	8" / 11"
Mounting pitch circle	L		mm	82.6	104.8	104.8	133.4	171.4	171.4	235
	L 1	3 x 120°	mm	40	50	65	75	93	143	154
	L 2		mm	35	44	57	67	85	115	155
Adaptor plate for spindle 3"				ZWF 100-K3						
Ident-No.				-						
Adaptor plate for spindle 4"					ZWF 120-K4					
Ident-No.					169058000					
Adaptor plate for spindle 5"					ZWS 120-K5	ZWS 140-K5	ZWF 170-K5			
Ident-No.					168895K05	074035000	074056000			
Adaptor plate for spindle 6"						FI 140-K6	FZW S170-K6	ZXF 220-K6	ZWF 220-K6	
Ident-No.						F31652A0102	R091140006	165568H08	1074060000	
Adaptor plate for spindle 8"							FZWF 170-K8	ZWS 220-K8	ZWS 220-K8	ZW S220-K8
Ident-No.							F31936A0103	1074038000	1074038000	1074065000
Adaptor plate for spindle 11"									ZWF 300-K11	
Ident-No.										1074040000
Connection type A without transmission				F32467 K0100	F32466 K0100	F32462 K0100	F32460 K0100	F32461 K0100	F32468 K0100	F32468 K0100
Connection type B with transmission				-	-	F32465 K0100	F32462 K0100	F32463 K0100	F32469 K0100	F32469 K0100
<b>Jaw opening stroke and chucking reserve</b>				<b>LS 110</b>	<b>LS 140</b>	<b>LS 180</b>	<b>LS 210</b>	<b>LS 260</b>	<b>LS 320</b>	<b>LS 400</b>
Dimension from lever axis to jaw contact surface	T1		mm	27	30	35	44	48	67	67
Jaw length	T2		mm	20	25	32	36	44	60	60
Max. angle of the lever	T6	Opening	mm	2°	2° 40'	2° 51'	2° 52'	3° 30'	4° 25'	4° 25'
	T7	Reserve	mm	1° 51'	2°	2° 06'	2° 17'	2° 26'	2° 55'	2° 55'
Max. jaw stroke	T8	Opening	mm	1.8	2.5	3.2	4	5.6	10	10
	T9	Reserve	mm	1.5	1.8	2.3	3	3.9	6.3	6.3
<b>Performance data type LS - self-centering jaws</b>				<b>LS 110</b>	<b>LS 140</b>	<b>LS 180</b>	<b>LS 210</b>	<b>LS 260</b>	<b>LS 320</b>	<b>LS 400</b>
Ident-No.				F32407M0000	F32447M0000	F32440M0000	F32400M0000	F32444M0000	F32427M0000	F32414M0000
Max. speed - LS	Nmax		tr/min	8000	7500	6500	5500	4500	4000	3200
Max. actuating force	Fmax		daN	1000	1500	2000	2800	4000	5000	5000
Max. gripping force	Fsmax		daN	2200	3300	4800	7800	11200	14000	14000
Weight	P		kg	9	12	16	25	42	78	120
Moment of inertia	M		daN/m2	0.03	0.05	0.08	0.15	0.38	0.85	1.8
<b>Performance data type LSC-compensating jaws</b>				<b>-</b>	<b>-</b>	<b>LSC 180</b>	<b>LSC 210</b>	<b>LSC 260</b>	<b>LSC 320</b>	<b>LSC 400</b>
Ident-No.				-	-	F32450M0000	F32410M0000	F32454M0000	F32435M0000	F32419M0000
Max. speed - LSC	Nmax		tr/min	-	-	6500	5500	4500	4000	3200
Max. actuating force	Fmax		daN	-	-	2000	2800	4000	5000	5000
Max. gripping force	Fsmax		daN	-	-	4800	7800	11200	14000	14000
Weight	P		kg	-	-	15	24	41	76	120
Moment of inertia	M		daN/m2	-	-	0.08	0.14	0.36	0.82	1.5
Radial compensation of the jaws (in the radius)	Z		mm			1	1.5	2	3	3

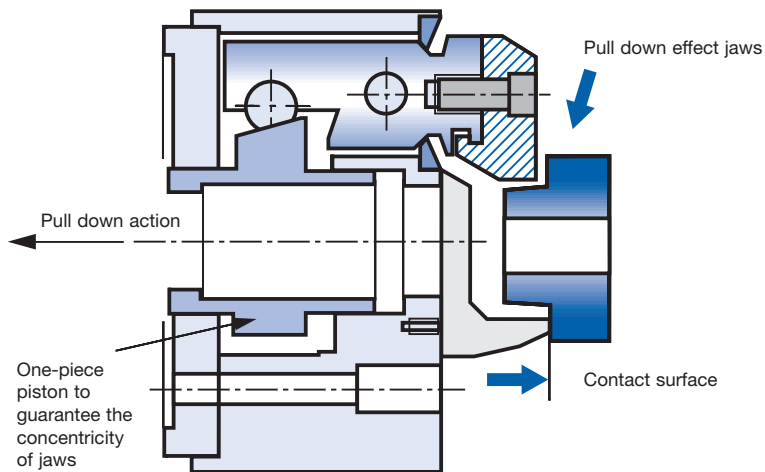
# Special designs LS and LSC

Sealed chuck, maintenance free, self-centering or compensating clamping

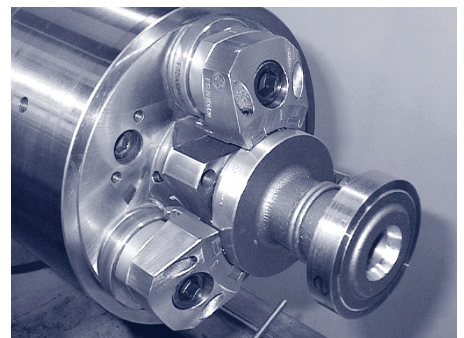
## 2 or 3 concentric jaws - type LS

- Hermetically sealed design of the chuck against swarfingness and coolant liquids
- Permanent lubrication, maintenance free
- High chucking force
- Pull down effect jaws
- Long clamping stroke of the jaws
- Axial contact of the workpieces on the chuck surface
- Through hole in the chuck for the workpiece introduction (LSC)
- Compensating clamping (with automatic interlock) by axial actuated floating piston (LSC)

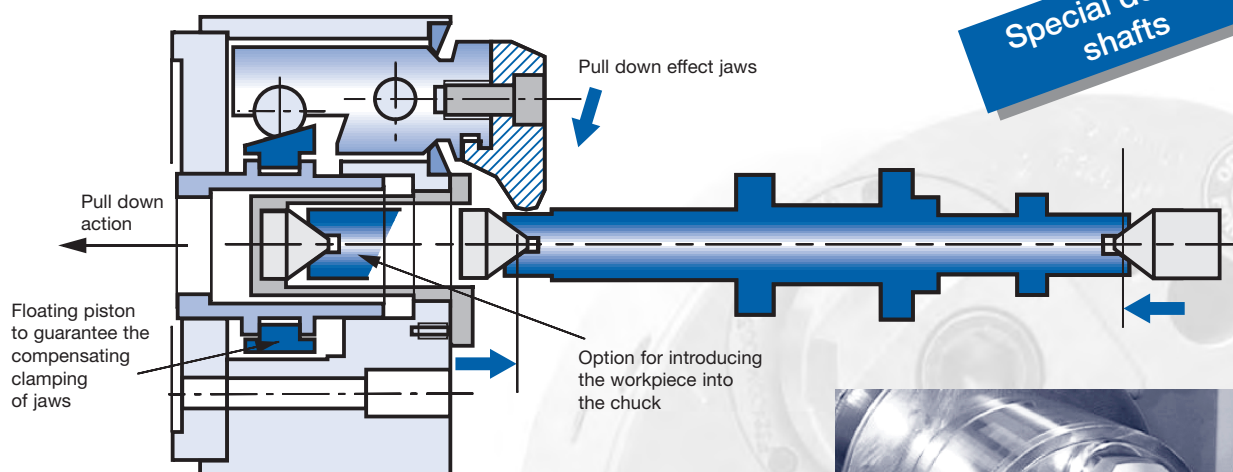
External clamping with actuating force component in the direction of the chuck



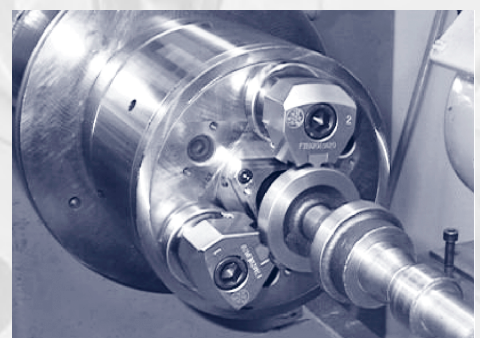
Special design: gear wheels



## 2 or 3 compensating jaws - type LSC



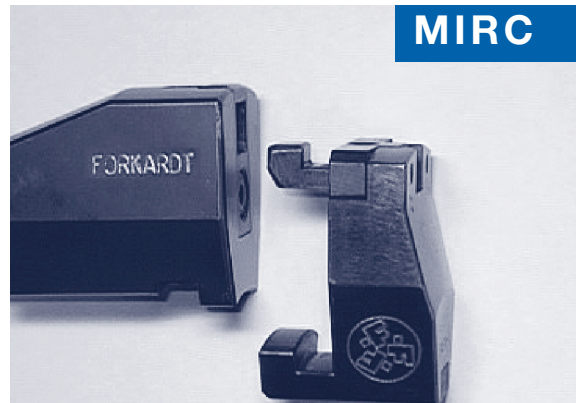
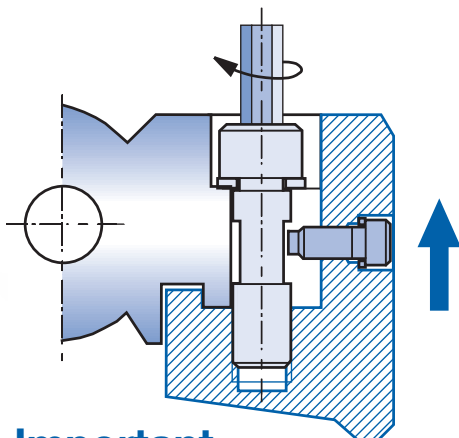
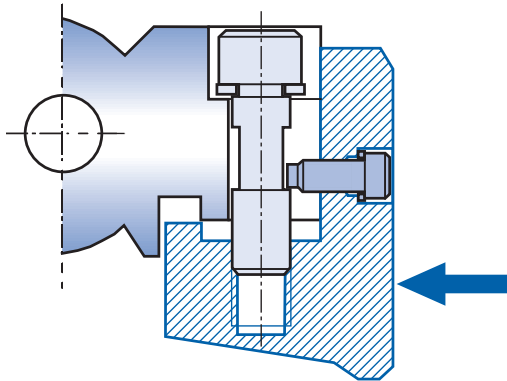
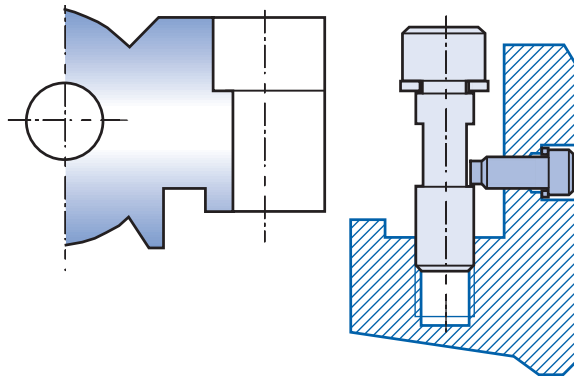
Special design: shafts



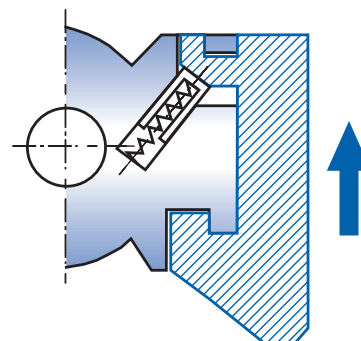
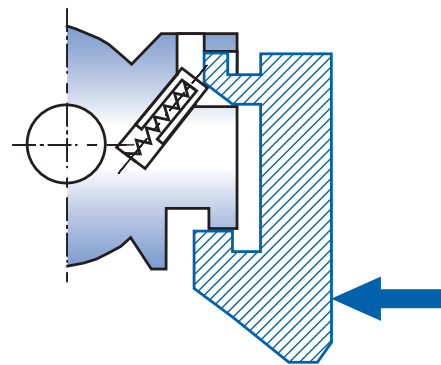
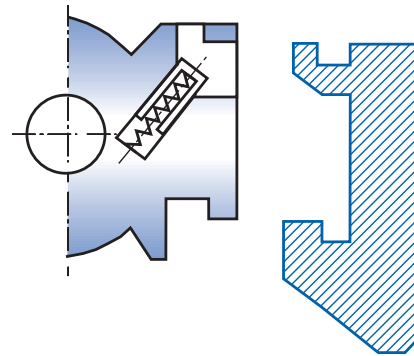
# Quick Change Jaw System MIRV und MIRC



Fixation by using a mounting bolt



Automatic mounting without bolts

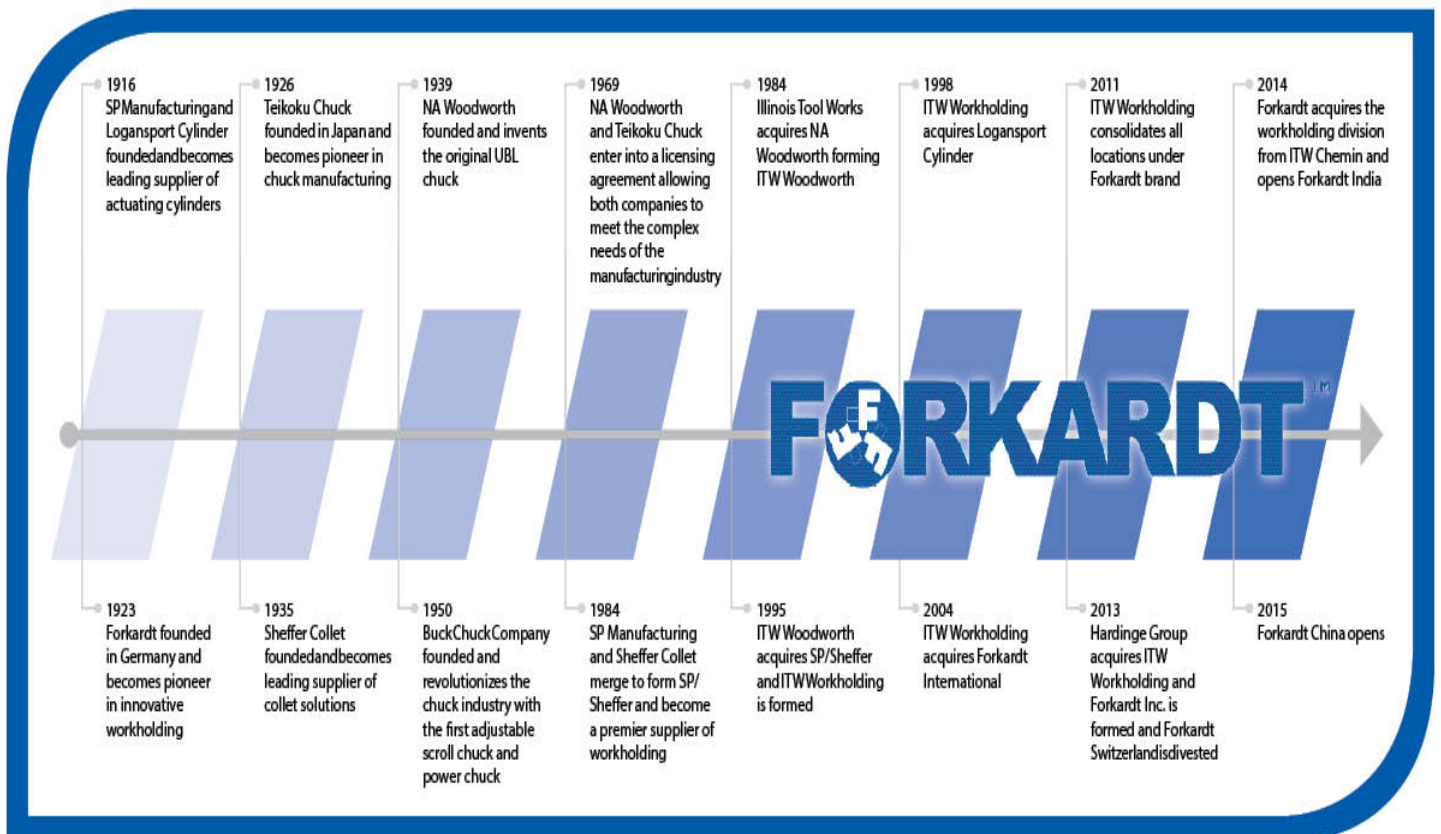


## Important:

- Jaw change with the guarantee of constant accuracy
- Change of special jaws between various chuck types of the same jaw system is possible without loss of precision.



## OUR HISTORY



Innovative Technology by **FORKARDT**

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