

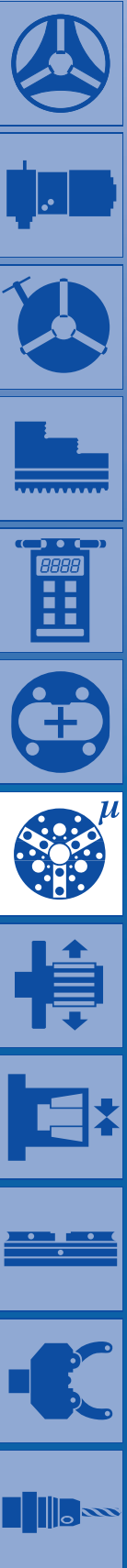
FORKARDT

INTERNATIONAL



μm
precise

High-Precision Power Chucks
for Hard-Turning and Finishing Operations
3 KCHS



High-Precision Power Chucks for Hard-Turning and finishing Operations

The lathes and turning centers available today are increasingly being used for the production for very exacting, high-precision work pieces. With precision requirements of 0,01mm (.0004"), new chucking techniques must be capable of transmitting, within microns, the spindle precision of the machine to the work piece.

FORKARDT offers this micron precision capability within its present line of 3 KCHS power chucks. The unique design of this chuck is based on the proven FORKARDT wedge-hook principle and incorporates a high strength aluminum alloy chuck body. This chucking technique takes advantage of our advanced engineering capabilities and offers a more reliable and user friendly operation.

Increased production and precision is obtained by this new standard of chucking, and specifically, because of its completely sealed, built in oil lubrication system, it creates a wear resistant environment and allows for a maintenance free operation. This means lasting quality during long term production machining.



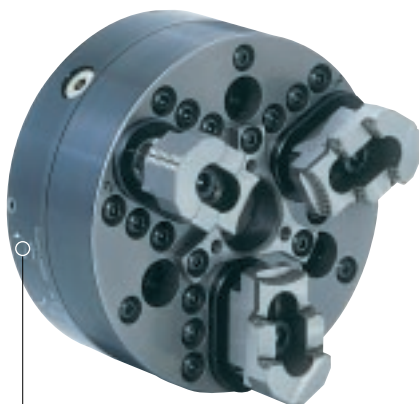
High production turning operations with micron precision

This is accomplished with the 3 KCHS power chucks used for machining hard and soft materials. The latest advancements in cutting tools permit the finish machining of even the hardest of materials which provides enhanced flexibility during the machining process.



Start-Stop dynamics is easy on the spindle

The lightweight technique of this chuck, successfully pioneered by FORKARDT yields a previously unobtainable small inertial mass. The small inertial mass of the 3 KCHS product line will provide lasting accuracies as it becomes an extension of the machine accuracy, resulting in more accurate manufacturing.



• **3 KCHS 110-12 / Z3**
shown with hard top jaws
for external clamping



• **3 KCHS 130-22 / Z4**
shown with hard top jaws
for internal clamping



• **Changing jaws without the need for reworking the clamping areas will lead to major gains in your production**

The hardened and ground serrations assure a jaw change repeatability of 0,005 mm (.0002"), eliminating the need for the time consuming rework of clamping areas.



• **Vibration problems encountered during hard turning operations can be controlled using this chuck**

The design features of this chuck emphasize vibration damping properties. Many successful applications confirm the excellent suitability of this application for very demanding production processes.



• **Clamping repeatability of less than 0,0025 mm (.0001")**

Lasting accuracy and wear free operation are accomplished because of the chucks completely sealed oil bath system.



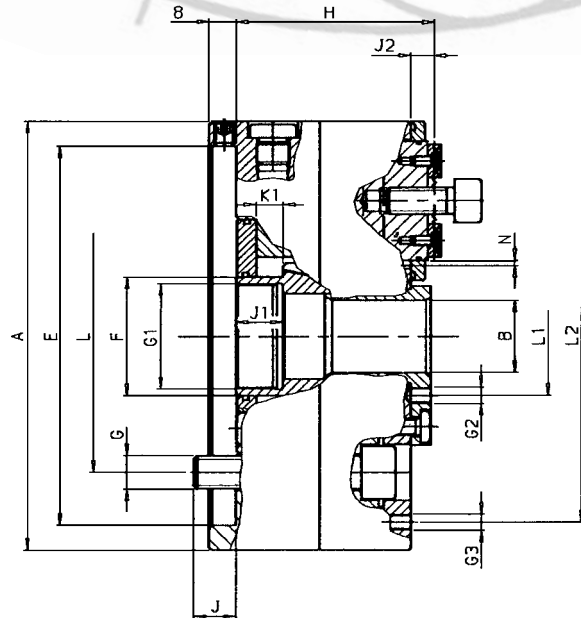
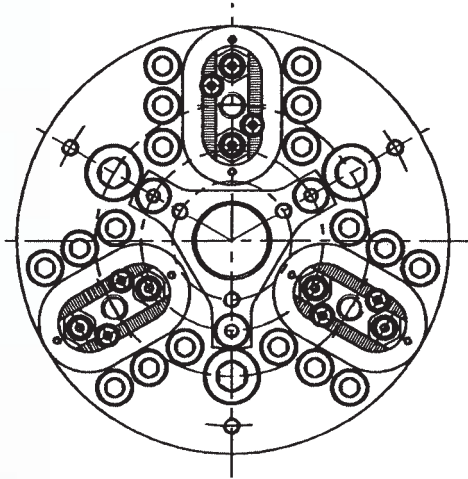
• **3 KCHS 160-30 / Z5**
shown with segment jaws
(aluminum)



• **3 KCHS 200-40 / Z6**
shown with soft top jaws

Key Data

Chuck-type	Performance Data						Dimensions and Ident.-No.							Cylinder			
	Max. actuating force F max.	Max. gripping force F spmax.	Regular spindle speed N max. (DIN 6386)	Max. spindle speed N max.	Weight	Polar moment of inertia	Outer diameter	Bore	Chuck mounting style	Serration DIN 6353	Identification-No.	Jaw width	Draw tube thread	Chuck width H	Closed-center hydraulic cylinder	Open-center hydraulic cylinder	Open-center pneumatic cylinder
	daN	daN	1/min.	1/min.	kg	kgm ²	mm	mm	S			mm	mm	mm	Type	Type	Type
3 KCHS 110	800	2000	7200	8000	2,0	0,003	110	12	Z3	7	25694	15	M20x1	59	OKRS 75	OKHJ 108-42	PZLHM 180
3 KCHS 130	1000	2500	5600	6300	3,1	0,007	130	22	Z4	8	25664	18	M32x1	59	OKRS 75	OKHJ 108-42	PZLHM 180
3 KCHS 160	1250	3000	4500	5000	5,1	0,016	160	30	Z5	8	25665	20	M40x1,5	67	OKRS 75	OKHJ 108-42	PZLHM 200
3 KCHS 200	1350	3500	3600	4000	7,8	0,038	198	40	Z6	8	25666	24	M50x1,5	69	OKRS 75	OKHJ 108-42	PZLHM 200

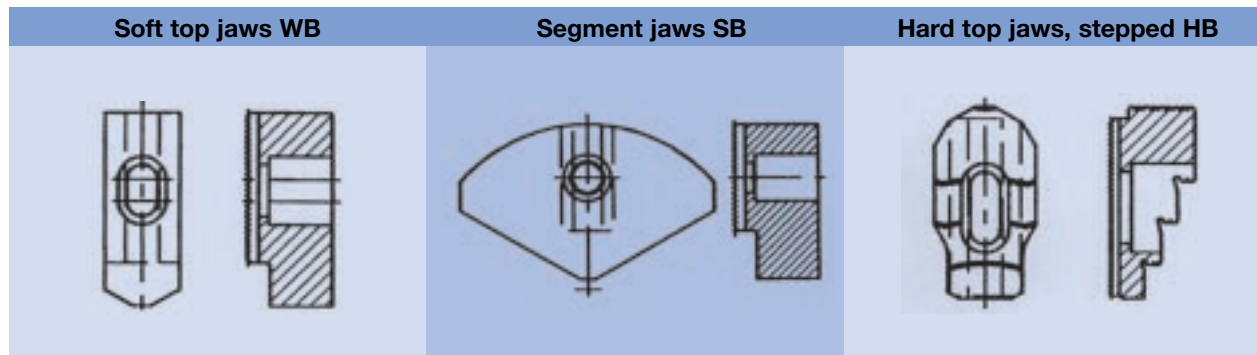


Chuck-type	Chuck size	Chuck width	Mounting style	Mounting recess	Mounting bolts	Pitch circle diam.	Actuator stroke	Jaw stroke	Distance to body	Draw tube thread	Thread length	Thread depth	Actuator diam.	Bore	Pitch circle diam. for end locators		Threads for end locators	
	A	H		F	G	L	K1	N	J2	G1	J1	J	F	B	L1	L2	G2	G3
3 KCHS 110	110	59	Z3	95 H6	M10	70,6	6	1,25	7	M20x1	14	12,5	23	12	26	-	M4	-
3 KCHS 130	130	59	Z4	115 H6	M10	82,6	8	1,5	7	M32x1	14	12,5	36	22	36	-	M5	-
3 KCHS 160	160	67	Z5	140 H6	M10	104,8	10	2,5	7	M40x1,5	16	14,5	46	30	50	132	M5	M5
3 KCHS 200	198	69	Z6	170 H6	M12	133,4	10	2,5	7	M50x1,5	18	18,5	56	40	60	176	M5	M6

Accessories for KCHS

Matching jaws for chuck 3 KCHS

Jaw type	Description	Application
WBCK	Soft top jaws (Ck 45)	- machined to customer specifications - induction hardened
WBAL	Soft top jaws (Ck 45)	- for high spindle speed applications
WBCK Bar	Soft top jaws (Ck 45)	- without mounting holes, machined as required
WBAL Bar	Soft top jaws (Aluminum)	- for high spindle speed applications - without mounting holes, machined as required
SBAL	Segment jaws (Aluminum)	- machined to customer specifications - for unstable, thin workpieces
HB	Hard top jaws, stepped With cobble stone pattern	- for internal and external clamping - wide chucking range - increased transmittable torque



More detailed data on separate data sheet

Accessories for chuck 3 KCHS

Pre tension disks for external clamping			Chuck type	Pre tension rings for internal clamping		
Type	Id.-No.	Type		Id.-No.		
	KCHS-VSA 110	300522	3 KCHS 110	KCHS-VSI 110	300479	
	KCHS-VSA 130	300523	3 KCHS 130	KCHS-VSI 130	300478	
	KCHS-VSA 160	300524	3 KCHS 160	KCHS-VSI 160	25709	
	KCHS-VSA 200	300525	3 KCHS 200	KCHS-VSI 200	25710	

• Workholding and toolholding solutions are our business



• For more information, visit our website at:

www.forkardt.com

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