ATC chains

High storage capacity in the tightest of spaces

WIPPERMANN ATC chains have been developed as tool storage and organizing devices for NC/CNC machining centres as well as for storage chains used to construct e.g. reamers or milling tools. The chains are manufactured individually to customers' requirements. The two standard types No. 320 and No. 340 are the basic chains, which can be customised for most applications with tool holding attachments such as SK, HSK and Capto®*.

For small tool attachment systems and other applications ATC chains can be individually developed based on standard roller chains or on a combination of roller chains and double pitch chains respectively.

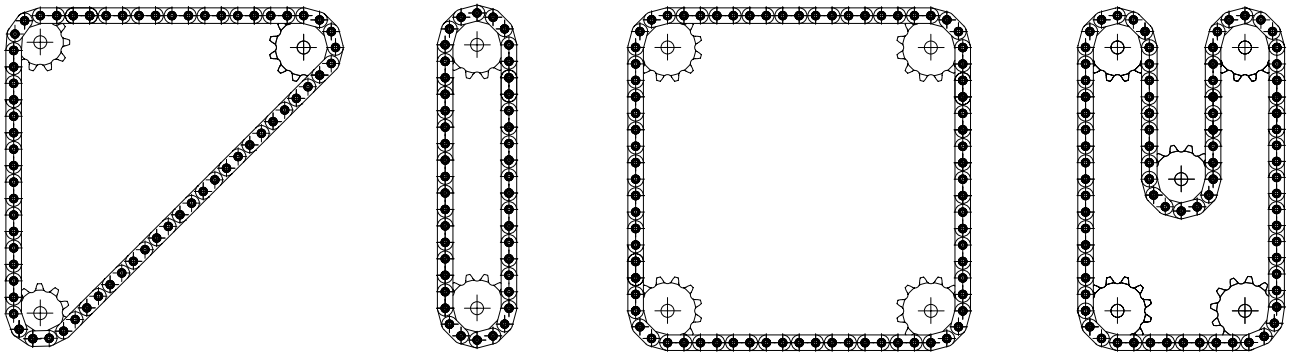
The chains are designed for holding tools and are used when constructions with e.g. discs are insufficient. Depending on the respective construction (e.g. in case of a meander-shaped design) the chain has a storage capacity of more than 100 tools in one system. ATC chains thus allow for higher storage capacity under the same limited spatial conditions.

Design advantages

- The holding devices in the taper area are fitted with swell-resistant, low-wear plastic inserts ensuring a smooth mounting of the conical surface.
- The axial fixtures have been developed in a way that various dimensions are possible in one chain, e.g. DIN, ISO, ANSI as well as BT. Merely the ball holders must be exchanged respectively.
- By means of several position threads tool orientation may be selected (90° or 75°). Depending on the customers' requirements the axial force can be 100N - 500N.

* registered trademark of Sandvik Coromant

Application examples



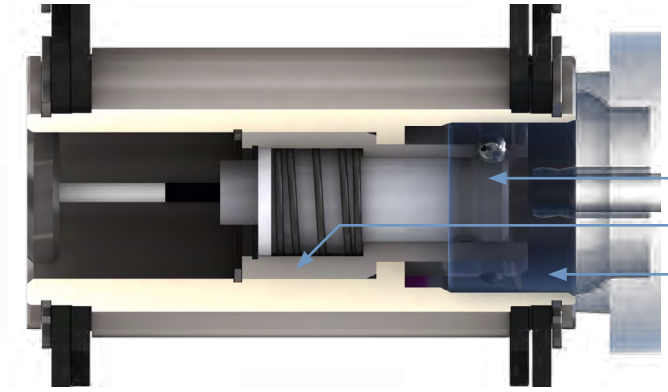
Tool securing

The simplest axial securing of tool holding attachments is achieved by means of ball locking devices with pre-stressed springs. With SK attachments the ball holders can be exchanged in the chain depending on the clamping spigot e.g. when changing from DIN to ANSI spigots.

However, this kind of axial securing is only advisable for standing or hanging arrangements with lightweight tools. Depending on customers' requests pulling forces can be adjusted between 100N and 500N according to the respective system.

It is recommended to secure the tool holding attachments with locking pins, which are unlocked by means of pneumatic or hydraulic cylinders from the rear.

HSK 100

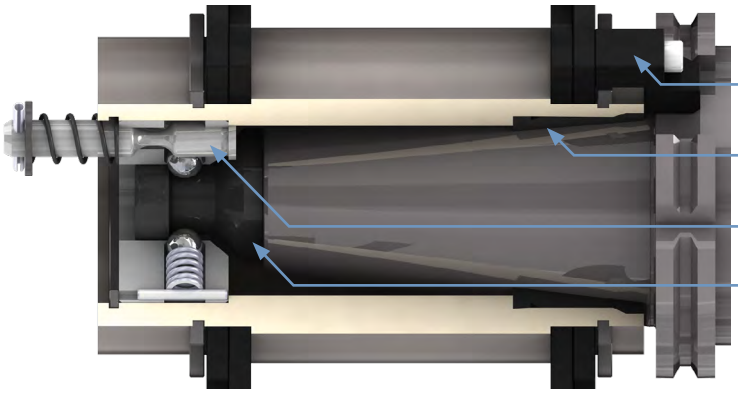


Ball bushing

Locking pin with ball locking device

Tool holding device directly mounted without plastic bushing

SK 50



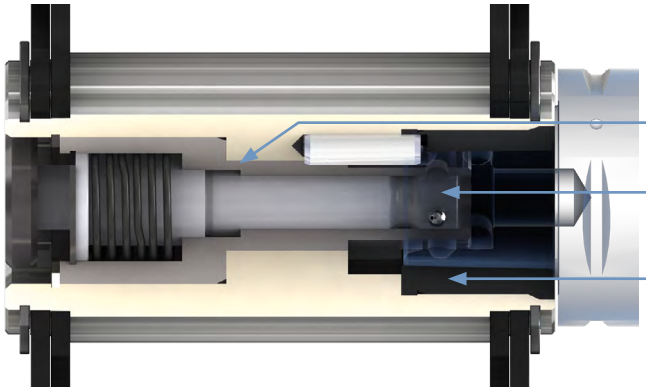
Tool positioner

Swell-resistant, low-wear plastic insert

Locking pin with ball locking device

Pulling taper

Capto®*-C8



Ball bushing

Locking pin with ball locking device

Swell-resistant, low-wear plastic insert

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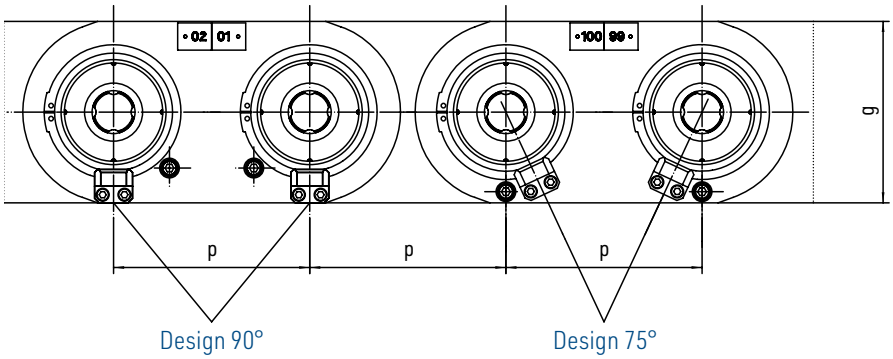
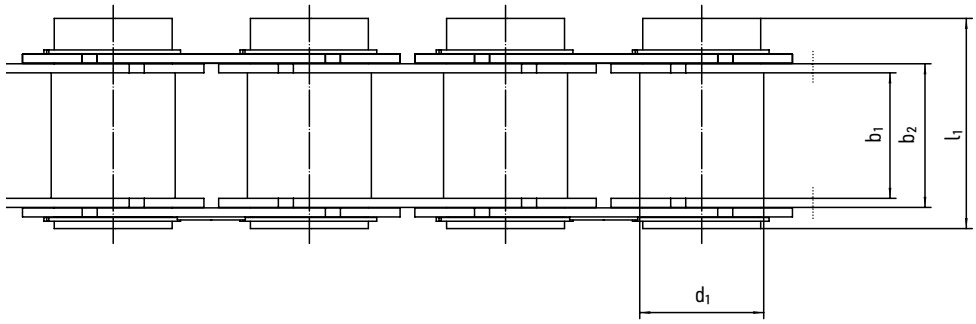
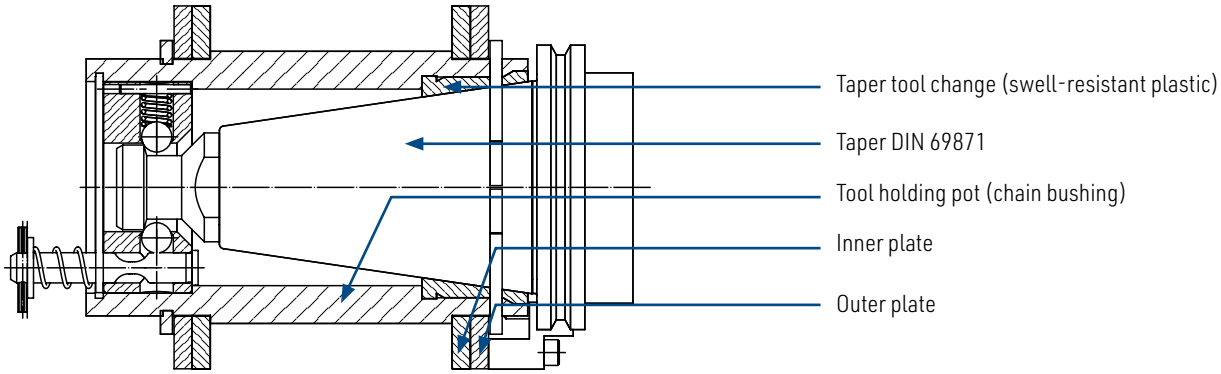


Design 90° Design 75°





Chain		Pitch	Inner width	Inner link width	Bushing Ø	Plate height	Width over bushing	Projection over connecting link	Taper design DIN 69871	Pulling taper				Bearing area	Breaking load	Weight per tool holding attachment
		p min.	b_1 min.	b_2 max.	d_1 max.	g max.	l_1 max.	k max.		ISO 7388	DIN 69872	MAST BT	ANSI Norm 45°	g	F_B min.	
No.	Ind.	mm	mm	mm	mm	mm	mm	mm						cm^2	N	kg
320	[28]	95	60,00	69,00	60,00	82,00	103,00	21,6	SK 40		X	X	X	4,74	90 000	2,0
340	[28]	120	80,00	93,00	90,00	120,00	146,00	25,0	SK 50	X	X	X	X	9,60	190 000	5,3

[28] larger pitch available on request

Can also be supplied for tool holding attachments HSK, HSZ and HSEZ!

Customer Information

Customer number _____ Company _____

Contact person ☐ Ms. ☐ Mr. _____

Street _____

Postcode/zip code _____ City _____

Telephone _____ Telefax _____

Product Information

Tool holding attachments Type SK _____ according to ☐ DIN ☐ EN ☐ ISO _____

Type HSK _____ according to ☐ DIN ☐ EN ☐ ISO _____

Type Capto®* _____ Type _____

Others _____

Pulling taper according to ☐ ISO 7388 ☐ DIN 69872 ☐ Mast-BT ☐ ANSI 45

Chain pitch _____ mm Traversing speed _____ m/s

Chain type 320 nominal pitch Pmin. = 95mm; Chain type 340 nominal pitch Pmin. = 120 mm up to 175 mm (other pitches and sizes on request)

Max. tool weight _____ kg Max. tool diameter _____ mm

Max. tool length _____ mm Max- moment of tilt _____ Nm

Tool axis arrangement (in tool holder) ☐ horizontal ☐ vertical ☐ standing ☐ hanging

Tool holder arrangement ☐ horizontal ☐ vertical

Number of tool pots _____ pcs Distance with empty pots T = _____ x P

For tools with larger diameters (e.g. milling heads) it is advantageous to choose a shorter chain pitch and only use every second or third tool pot since this will increase the smoothness of the chain drive.

☐ Pick-up position of gripper on sprocket Z1

☐ straight section

☐ Position number

☐ Mechanical tool locking

Retention force of tool securing _____ N

Angular position of tools in chain

e.g. in case of Z1-12 the demounting angle is 15° _____

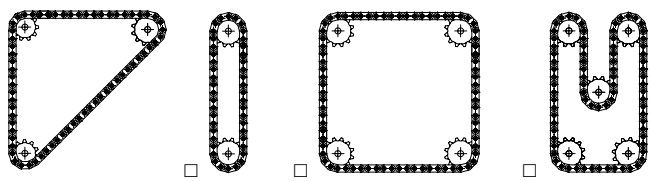
in case of demounting on straight section it is 90° _____

Locking with spring force _____ N

Information on sprockets

	Teeth	Bore Ø	Groove according to DIN 6885
Drive pinion Z1			
Deflection Z2			
Deflection Z3			
Deflection Z4			
Deflection Z5			

ATC chain arrangement



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Additional information

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