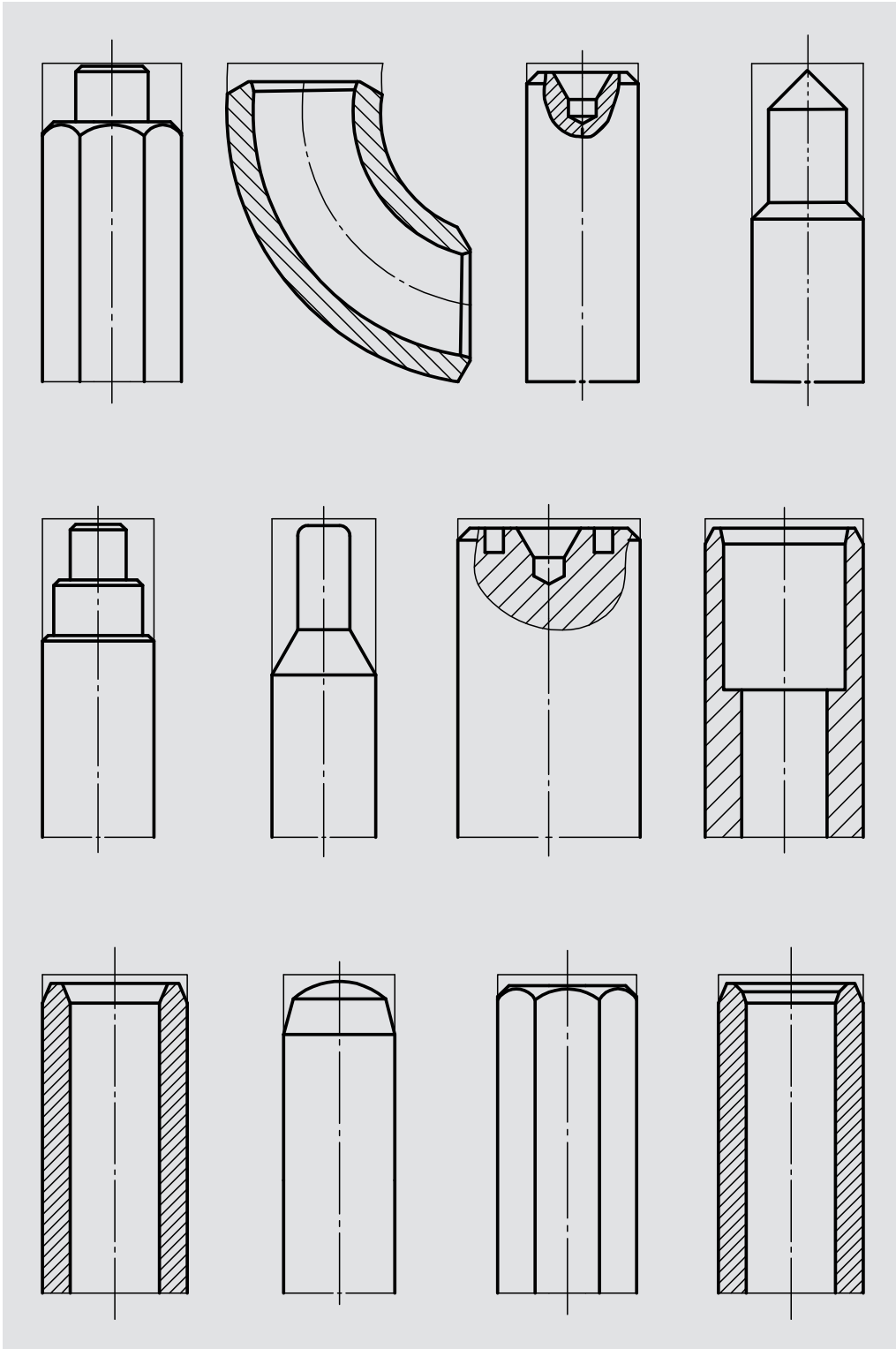


## ■ End finishing tools

# END FINISHING WITH LEISTRITZ TOOLS



**Facing**

**External chamfering**

**Internal chamfering**

**Longitudinal turning**

**Recessing**

**Profiling**

**Face grooving**

**Radius turning**

**Pointing**

**Centering**

**Convex face turning**

**Special solutions**

## THE TOOL SYSTEM

End finishing tools are technically a special type of milling tool that are normally used to manufacture turned parts. The tool rotates and the workpiece remains stationary. The various arranged cutting plate holders form a contour which is transferred to the workpiece by machining. The tools have been standardised by Leistritz.

### Customer benefits

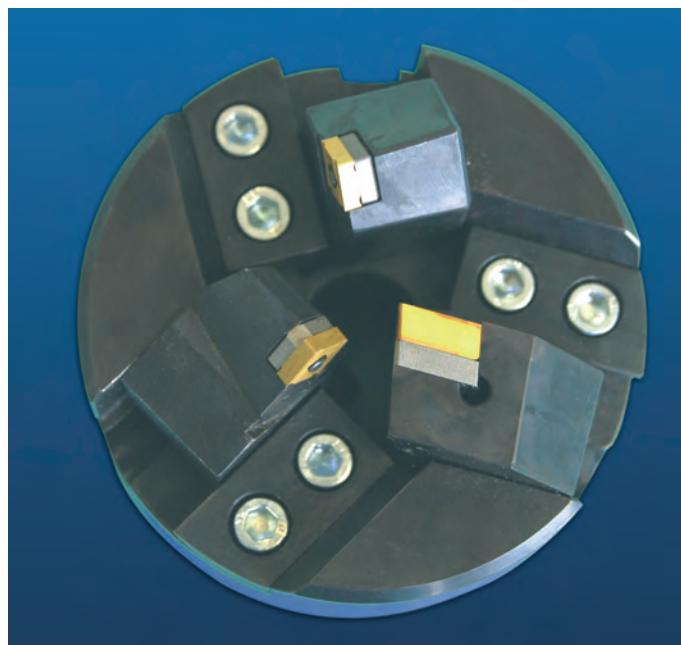
- Up to 5 cutting operations in one working cycle
- Flexible tooling with a modular system
- Most of the tool heads and cutting plate holders can be supplied ex stock
- A variety of workpiece diameters can be machined with the same tool as this is radially adjustable
- Tool can be adapted to all machine tools
- Simple adjustment of the tools
- Workpiece remains stationary and tool is rotating

### Applications

- Machining tubing, shafts and housings
- Turning outside diameter and pointing of bars
- Turning outside diameter of plugs
- Facing and centering in preparation for turning between centers

### Our service

Leistritz offers many years of experience in design and application engineering and can assemble the optimum tool for your needs from our stock program. These can be supplemented by custom-made components as required. Some examples can be found on pages 11 to 14.

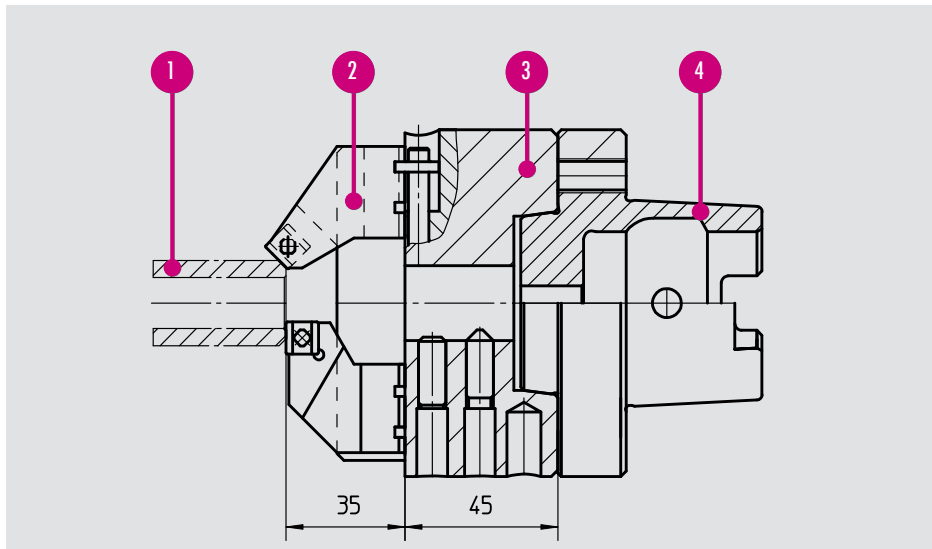


### Users

- Pipe fitting manufacturers
- Long piping production
- Automotive industry
- Fittings makers
- Steel makers

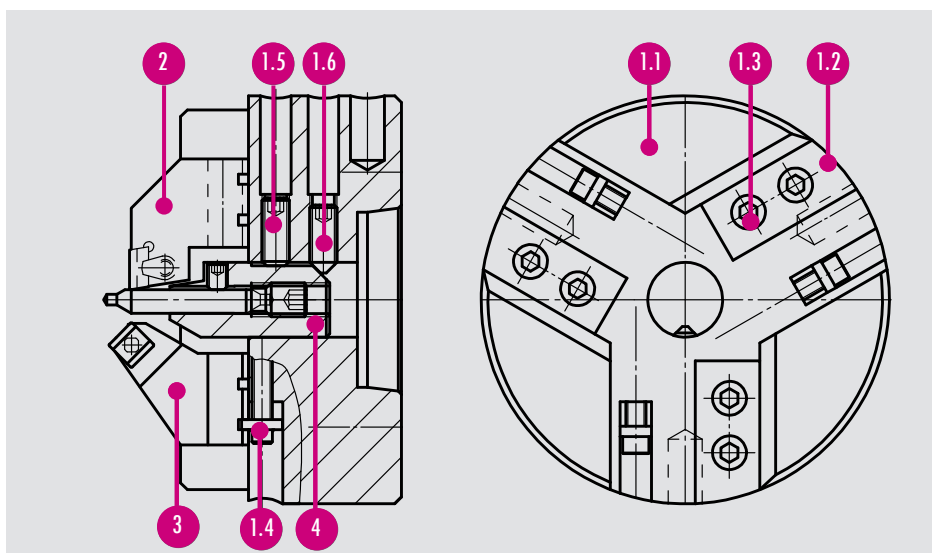
**Test us! We'll find the solution!**

## Overview



- 1 Work piece
- 2 Cutting plate holder
- 3 Tool head
- 4 Adapter

## Design of the tool



- 1 Tool head (complete)
- 1.1 Basic body
- 1.2 Clamping plate
- 1.3 Cylinder screw
- 1.4 Adjusting screw
- 1.5 Set screw (clamping)
- 1.6 Set screw (adjustment)
- 2 Holder for facing operation
- 3 External chamfer holder
- 4 Clamping sleeve

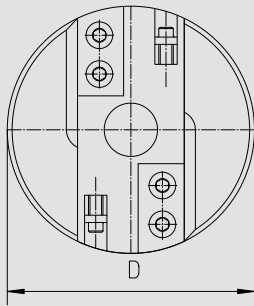
## Tool head selection

Tool-Ø	Tool Ø-range
45 (Mini)	0-20
65 (Mini)	0-40
102	0-50
120	0-70
140	0-90

Cutting plate holders on the tool head are radially adjustable and a variety of workpiece diameters can be machined with the same holder. Holders can also be exchanged between the various tool heads, letting you remain flexible for future machining jobs.

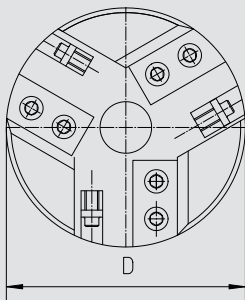
The adjustment range depends on the tool head diameter. The following pages show the corresponding adjustment ranges to simplify your choice.

### For 2 clamping holders



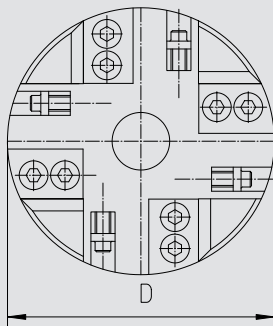
ORDER NUMBER	Work piece Ø	Tool Ø D	Clamping plate	Adjusting screw
<b>EK 102-1002</b>	0-50	102	Y 9802	Y 9801
<b>EK 120-1002</b>	0-70	120	Y 10014	Y 10142
<b>EK 140-1002</b>	0-90	140	Y 10047	Y 10142

### For 3 clamping holders



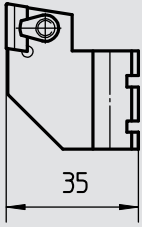
ORDER NUMBER	Work piece Ø	Tool Ø D	Clamping plate	Adjusting screw
<b>EK 102-1003</b>	0-50	102	Y 9802	Y 9801
<b>EK 120-1003</b>	0-70	120	Y 10014	Y 10142
<b>EK 140-1003</b>	0-90	140	Y 10047	Y 10142

### For 4 clamping holders



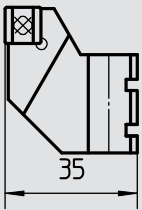
ORDER NUMBER	Work piece Ø	Tool Ø D	Clamping plate	Adjusting screw
<b>EK 102-1004</b>	0-50	102	Y 9967	Y 9801
<b>EK 120-1004</b>	0-70	120	Y 9890	Y 10142
<b>EK 140-1004</b>	0-90	140	Y 10047	Y 10142

### Holder for facing operation



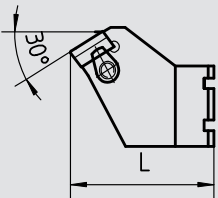
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EP 2112-9190	0-40	0-55	0-75	35	Y 2105	Y 2101	U 2112 R
EP 2112-9290	20-50	20-70	20-90	35	Y 2105	Y 2101	U 2112 R
EP 2115-9190	0-45	0-60	0-80	35	Y 2102	Y 2101	U 2115 R
EP 2115-9290	20-55	20-75	20-95	35	Y 2102	Y 2101	U 2115 R

### Holder for facing operation



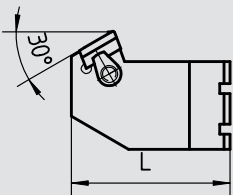
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Eccentric pin	Spare parts	
	ø 102	ø 120	ø 140			Carbide base	
EP 0809-9190	0-40	0-55	0-75	35	Y 0602		U 0809
EP 0809-9290	20-50	20-70	20-90	35	Y 0602		U 0809

### Holder for external chamfering 30°



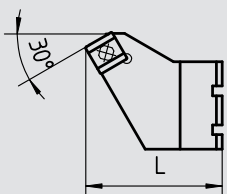
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EA 2112-8130	8-35	11-53	11-73	44.7	Y 2105	Y 2101	U 2112 L
EA 2112-8230	15-44	22-61	22-82	44.7	Y 2105	Y 2101	U 2112 L

### Holder for external chamfering 30°



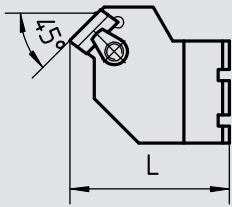
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EA 2112-9130	10-30	10-48	10-68	47	Y 2105	Y 2101	U 2112 R
EA 2112-9230	30-40	30-60	30-80	47	Y 2105	Y 2101	U 2112 R

### Holder for external chamfering 30°



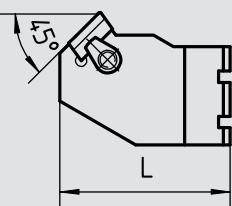
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Eccentric pin	Spare parts	
	ø 102	ø 120	ø 140			Carbide base	
EA 0809-8130	10-25	15-45	15-65	42.1	Y 0602		U 0809
EA 0809-8230	25-40	30-60	30-80	42.1	Y 0602		U 0809
EA 0809-8330	35-50	40-70	40-90	42.1	Y 0602		U 0809

## Holder for external chamfering 45°



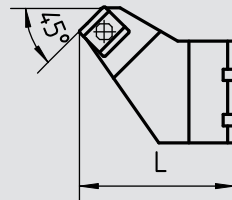
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EA 2112-8145	10-30	10-48	10-68	42.2	Y 2105	Y 2101	U 2112 L
EA 2112-8245	30-50	30-78	30-88	42.2	Y 2105	Y 2101	U 2112 L

## Holder for external chamfering 45°



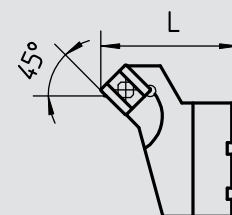
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EA 2112-9145	10-30	10-48	10-68	45	Y 2105	Y 2101	U 2112 R
EA 2112-9245	30-40	30-60	30-80	45	Y 2105	Y 2101	U 2112 R

## Holder for external chamfering 45°



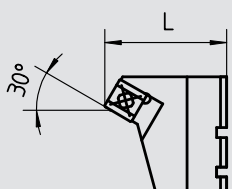
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Eccentric pin	Carbide base
	ø 102	ø 120	ø 140			
EA 0809-8145	10-25	10-40	10-60	41	Y 0602	U 0809
EA 0809-8245	25-40	30-45	30-75	41	Y 0602	U 0809
EA 0809-8345	40-50	40-70	40-90	41	Y 0602	U 0809

## Holder for internal chamfer 45°



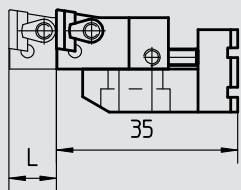
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Eccentric pin	Carbide base
	ø 102	ø 120	ø 140			
EI 0809-6145	10-25	15-45	15-65	36.4	Y 0606	Y 9962
EI 0809-6245	25-40	30-60	30-80	36.4	Y 0606	Y 9962
EI 0809-6345	35-50	40-70	40-90	36.4	Y 0606	Y 9962

## Holder for internal chamfer 30°



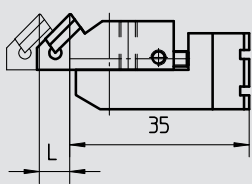
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Eccentric pin	Carbide base
	ø 102	ø 120	ø 140			
EI 0809-6130	15-30	15-45	15-67	37.8	Y 0606	Y 9962
EI 0809-6230	25-45	30-65	30-85	37.8	Y 0606	Y 9962

### Adjustable long. turning holder 90°



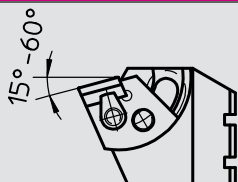
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EÜ 2112-1090	10-30	15-50	15-60	35-45	Y 2105	Y 2101	U 2112 R
EÜ 2112-2090	10-30	15-50	15-60	45-55	Y 2105	Y 2101	U 2112 R
EÜ 2112-3090	10-30	15-50	15-60	55-65	Y 2105	Y 2101	U 2112 R

### Adjustable long. turning holder 45°



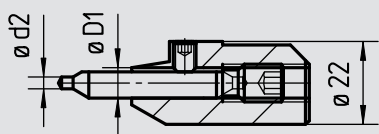
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EÜ 2112-1045	10-30	15-50	15-60	46-56	Y 2105	Y 2101	U 2112 R
EÜ 2112-2045	10-30	15-50	15-60	56-66	Y 2105	Y 2101	U 2112 R
EÜ 2112-3045	10-30	15-50	15-60	66-76	Y 2105	Y 2101	U 2112 R

### Adjustable holder for chamfering 15°-60°



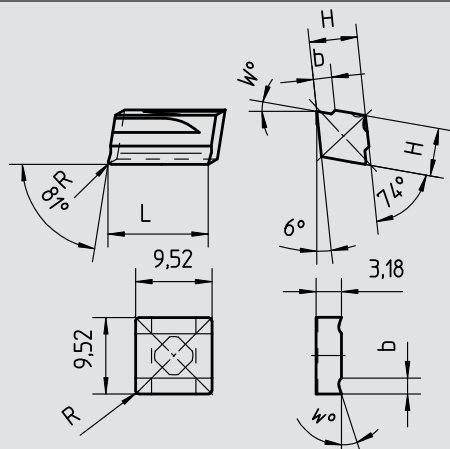
ORDER NUMBER	ø Adjustment range Tool head diameter			Holder-length	Clamp-element	Spare parts	
	ø 102	ø 120	ø 140			Double thread pin	Carbide base
EV 2112-1560	12-32	22-52	22-72	15-60	Y 2105	Y 2106	---

### Clamping sleeves and center drills



Clamping sleeve		Stopper	Center drill	
Order number	ø-D1	Order number	Order number DIN 333 Form A	ø d2
ES 0040-160	4	Y 9502	EZ 333-0160	1.6
ES 0050-200	5	Y 9503	EZ 333-0200	2.0
ES 0063-250	6.3	Y 9504	EZ 333-0250	2.5
ES 0080-315	8	Y 9505	EZ 333-0315	3.15
ES 0100-400	10	Y 10027	EZ 333-0400	4.0
ES 0125-500	12.5	Y 10720	EZ 333-0500	5.0
ES 0160-630	16	Y 10573	EZ 333-0630	6.3

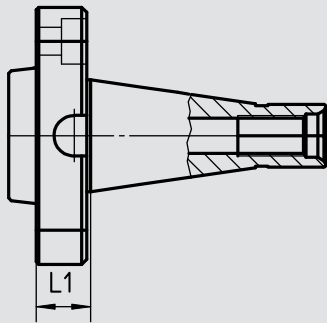
### Indexable inserts



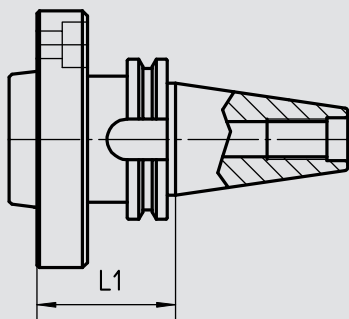
ORDER NUMBER	L	H	r	b	w
W 2112-0418 3121 R/LY	12	5.5	0.4	1.8	10°
W 2112-0422 3121 R/LY	12	5.5	0.4	2.2	10°
W 2112-0426 3121 R/LY	12	5.5	0.4	2.6	10°
W 2112-0830 3121 R/LY	12	5.5	0.8	3.0	10°
W 2112-0426 1721 R/LY	12	5.5	0.4	2.6	18°
W 2115-0426 3121 R/LY	15	6.5	0.4	2.6	10°
W 2115-0830 3121 R/LY	15	6.5	0.8	3.0	10°
W 2115-0426 1721 R/LY	15	6.5	0.4	2.6	18°
W 2115-0830 1721 R/LY	15	6.5	0.8	3.0	18°
W 0809-0000 3026 N			0.4	2.4	18
W 0809-0000 3027 N			0.4	1.8	18
W 0809-0000 3126 N			0.4	2.4	18



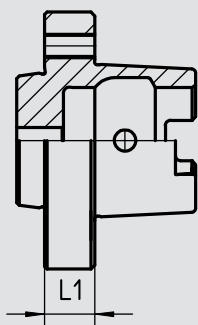
## STANDARD ADAPTER



ORDER NUMBER	Size	L 1
EZF 030-2080	SK 30	21,6
EZF 040-2080	SK 40	21,6
EZF 050-2080	SK 50	33,2



ORDER NUMBER	Size	L 1
EY 10287	SK 40	55



ORDER NUMBER	Size	L 1
EZF 063-69893-C*	HSK 63	20
EZF 080-69893-C*	HSK 80	20

\*Tool head has to be adjusted

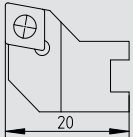
*We can adapt to any type of machine – further adapters on request!*

# MINI- END FINISHING TOOL

Pos.-No.	Name	ORDER NUMBER
1.1-1.5	Tool head	<b>EK 045-1002</b>
1.1	Basic body	<b>Y 11444</b>
1.2	Adjusting screw	<b>Y 11436</b>
1.3	Clamping plate	<b>Y 11445</b>
1.4	Screw	<b>7760361</b>
1.5	Set screw	<b>7760323</b>

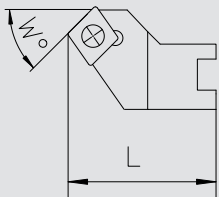
Pos.-No.	Name	ORDER NUMBER
1.1-1.5	Tool head	<b>EK 065-1003</b>
1.1	Basic body	<b>Y 11443</b>
1.2	Adjusting screw	<b>Y 11436</b>
1.3	Clamping plate	<b>Y 11446</b>
1.4	Screw	<b>7760361</b>
1.5	Set screw	<b>7760323</b>

## Holder for facing operation



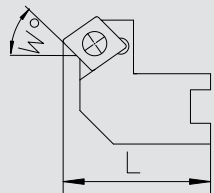
ORDER NUMBER	Ø - Adjustment range		Holder length	Torxscrew
	Tool head diameter Ø 45	Tool head diameter Ø 65		
<b>EP CCMT-0602 9190</b>	0-20	0-40	20	7762156

## Holder for external chamfer



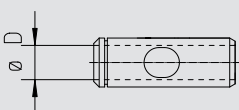
ORDER NUMBER	Cham. angle	Max. Cham. width	Ø - Adjustment range		Holder length	Torx screw
			Tool head diameter Ø 45	Tool head diameter Ø 65		
<b>EA CCMT-0602 8145</b>	45°	3	2-10	2-30	23,8	7762156
<b>EA CCMT-0602 8245</b>	45°	3	10-15	10-35	23,8	7762156
<b>EA CCMT-0602 8345</b>	45°	3	15-20	16-41	23,8	7762156
<b>EA CCMT-0602 8130</b>	30°	3	2-11	2-30	24,6	7762156
<b>EA CCMT-0602 8230</b>	30°	3	10-17	10-37	24,6	7762156
<b>EA CCMT-0602 8330</b>	30°	3	17-23	17-43	24,6	7762156

## Holder for internal chamfer



ORDER NUMBER	Cham. angle	Max. Cham. width	Ø - Adjustment range		Holder length	Torx screw
			Tool head diameter Ø 45	Tool head diameter Ø 65		
<b>EI CCMT-0602 6145</b>	45°	2	7-15	7-33	22	7762156
<b>EI CCMT-0602 6245</b>	45°	2	15-23	13-40	22	7762156

## Clamping sleeve



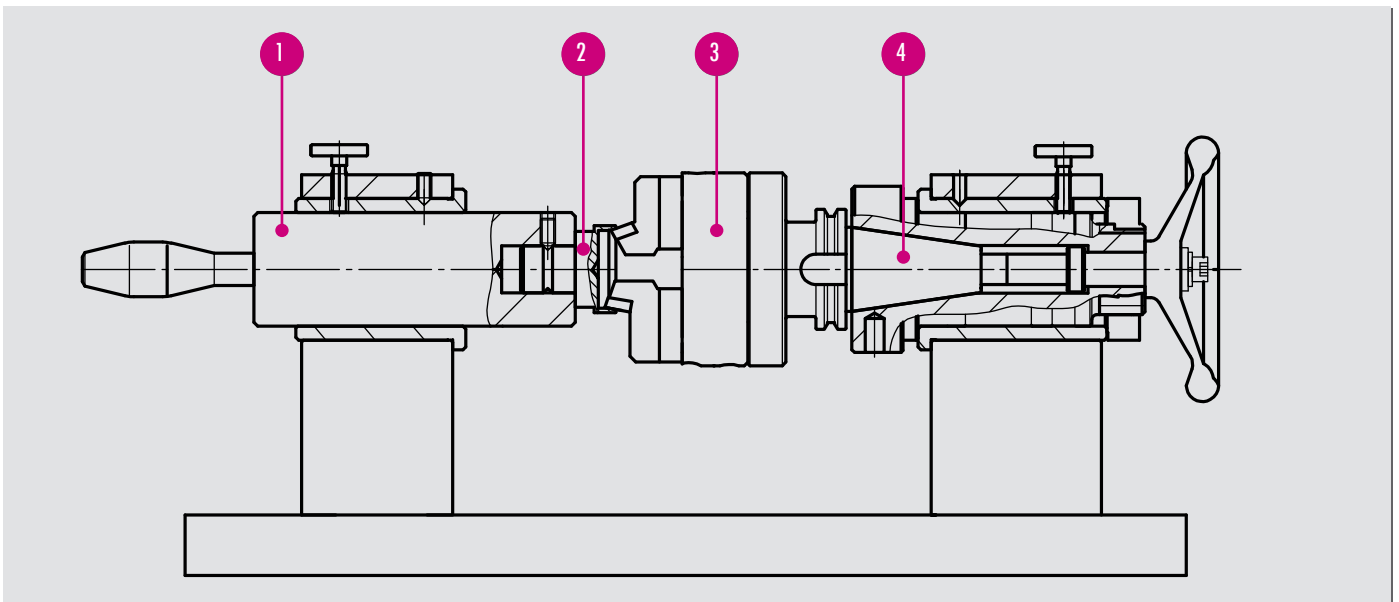
ORDER NUMBER	Ø-D	Order no. Stopper
<b>ES1 0063-250</b>	6,3	Y 11448
<b>ES1 0050-200</b>	5	Y 11448
<b>ES1 0040-160</b>	4	Y 11447

## Indexable insert

**CCMT 0602 04**

## ADJUSTING DEVICE

*The adjusting device makes it possible to pre-set tools outside the machine.*



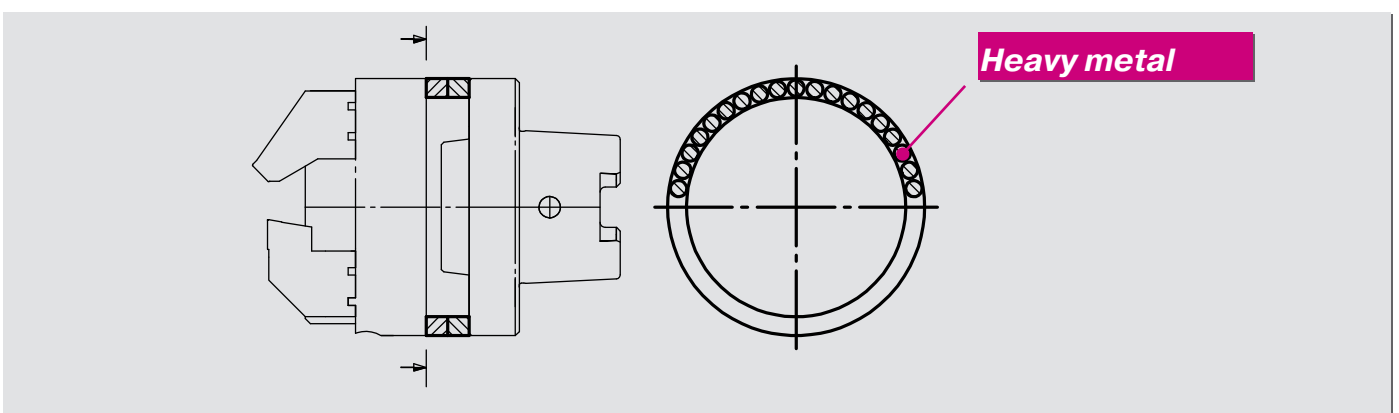
- 1 Spindle
- 2 Master piece
- 3 End finishing tool
- 4 Adapter

- Save time by pre-setting the next tool during machining
- Prevents crashes during setting routines
- All holders can be pre-set mechanically as opposed to visually, because when transmitted light is used, the holders mutually block the view.

## BALANCING RING PAIR

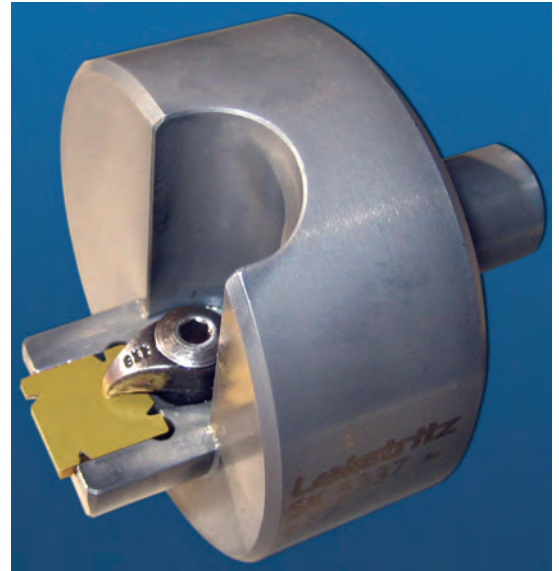
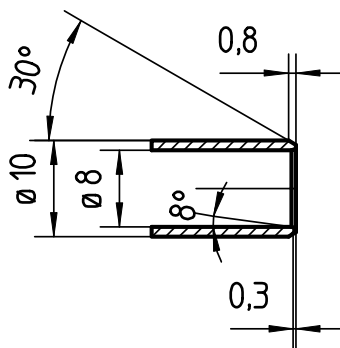
The imbalance caused by adjustments of an end finishing tool poses no problems for a very stable machine. However, the effects of the imbalance become increasingly noticeable when the machine is of a weaker design or when an absolutely precise plane surface is required.

After adjusting the toolholders to the work piece, the tool head can be balanced by turning the balancing rings. A stationary or portable balancing device shows the needed angle between the two balancing rings.



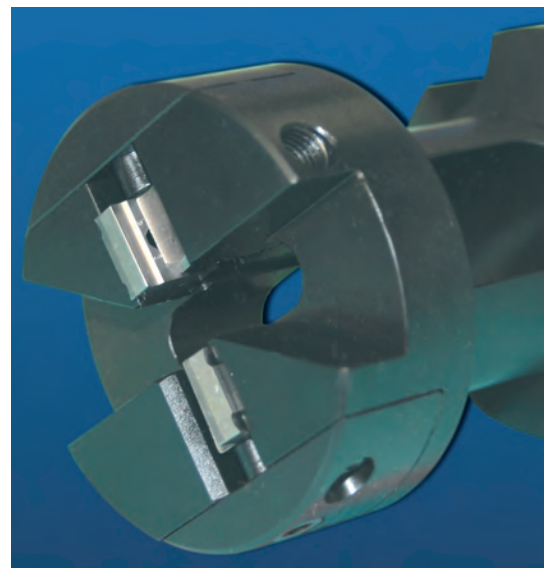
## TUBE CHAMFERING HEAD

- Each cutting edge on this tool can replace at least 3 conventional cutters (facing, internal chamfering, external chamfering)
- Dimensions can be altered by changing the indexable insert with the same carrier tool.
- Indexable insert with 4 cutting edges to match your workpiece
- Simple and precise plate exchange with a high degree of repeating accuracy
- Radiuses and special forms available on request
- Internal pipe diameters from  $\varnothing 4$
- Wall thicknesses 0.5 – 5 mm
- No pre-setting necessary



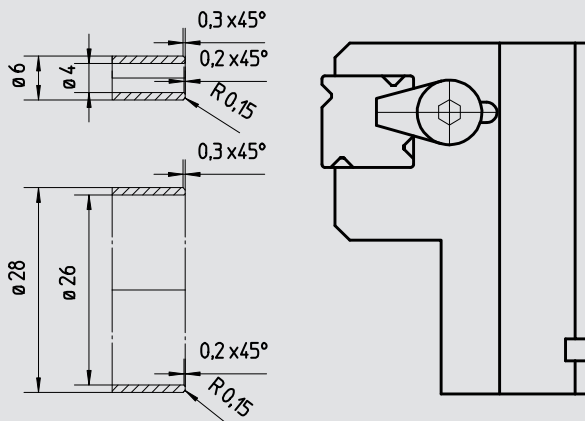
## PARING TOOL

- Rational diameter reduction by up to 4 indexable inserts
- High concentricity through individually adjustable plates
- Stable tool design



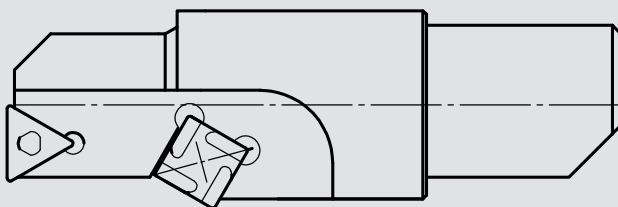
## SPECIAL TOOLS

### Indexable profiled insert



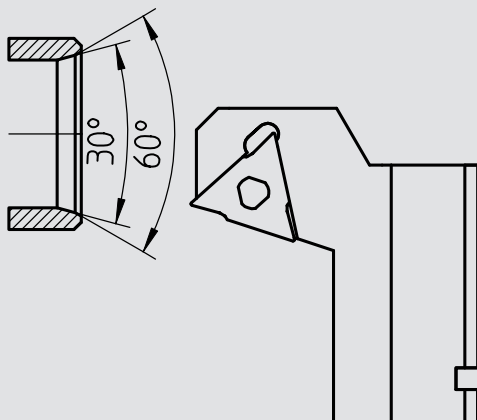
This tried and tested insert from the tube chamfering head with its four equal cutting edges can also be used on an adjustable holder and a tool head from stock. This makes it possible to machine related items with the same contour and various pipe diameters economically.

### Boring bar



A **boring bar** can also be clamped in the center bore of the end finishing tool in stead of a clamping sleeve for drills, for additional boring routines.

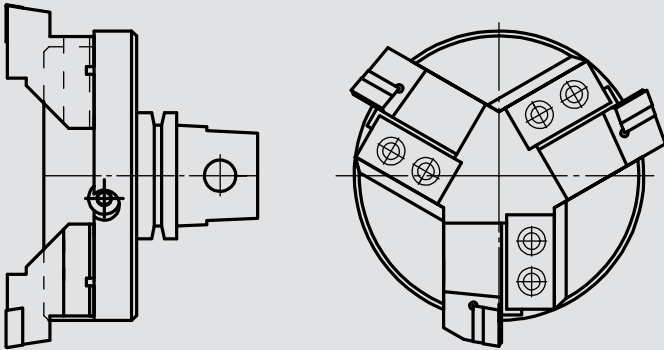
### Multiple internal chamfering



Indexable profiled inserts have proven their worth in the machining of:

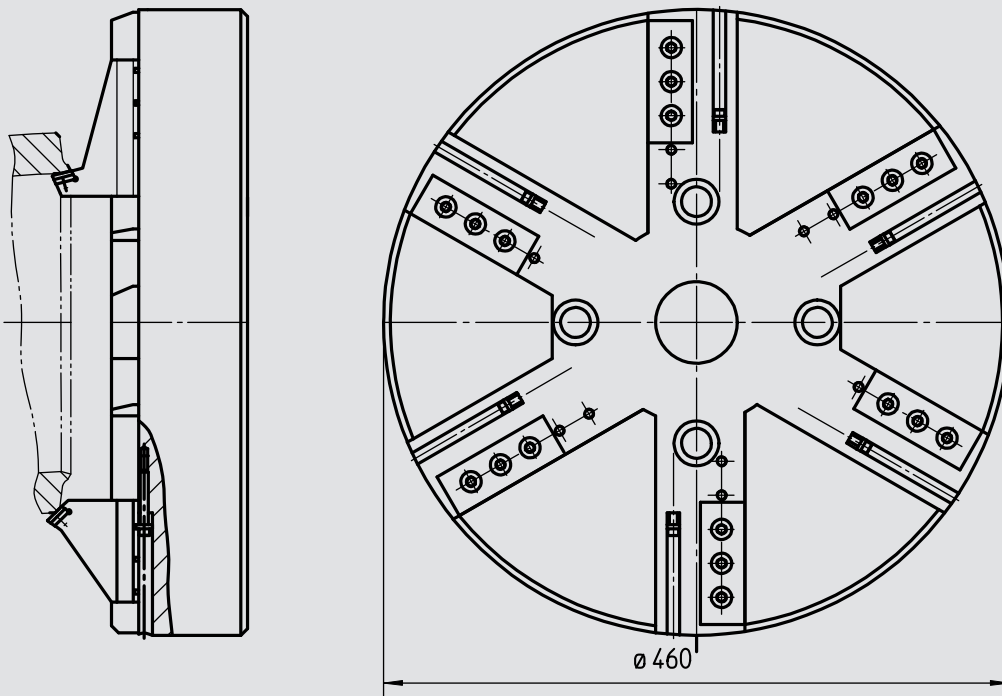
- double or **multiple internal chamfers**
- Internal chamfers with a **radius transition** to the end face

### Fly Cutter



An end finishing tool can also be used as a **radially adjustable milling cutter**. The holders are designed so that the indexable inserts point outwards. The tool can also be used as a **fly cutter** to produce a multiple edge on work pieces if the tool and workpiece speeds are synchronized.

### XXL end finishing tool



An extra large **XXL end finishing tool** can be provided for particularly large work pieces. This also has space for more than 4 radially adjustable cutting plate holders on the basic body.

**FAX INQUIRY · +49 911/4306 300 · FAX INQUIRY · +49 911/4306 300**

**Inquiry for an end finishing tool**

**To:**

LEISTRITZ PRODUKTIONSTECHNIK GMBH  
 Dept.: VKW – Carbide Tools  
 Markgrafenstrasse 29-39  
 D-90459 Nuremberg - Germany

**Sender:**

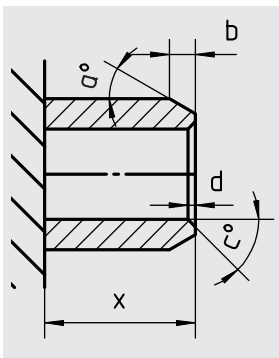
Company: \_\_\_\_\_  
 Contact Person: \_\_\_\_\_  
 Street: \_\_\_\_\_  
 ZIP-Code: \_\_\_\_\_  
 Town: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

**Tool:**

Tool diameter max.: \_\_\_\_\_ mm  
 Tool length max.: \_\_\_\_\_ mm  
 Tool holder: \_\_\_\_\_  
 (e.g.: DIN 2080-SK)

**Work piece:**

Work piece drawing enclosed Yes  No   
 Material: \_\_\_\_\_



**Processing required:**

- Facing
- External chamfer: → Angle a: \_\_\_\_\_ ° Length b: \_\_\_\_\_ mm
- Internal chamfer: → Angle c: \_\_\_\_\_ ° Length d: \_\_\_\_\_ mm
- Long. turning: → Diameter: \_\_\_\_\_ mm Length: \_\_\_\_\_ mm
- Centering → DIN 332 Form: \_\_\_\_\_ d: \_\_\_\_\_ mm
- Unclamping length → X: mind.: \_\_\_\_\_ mm

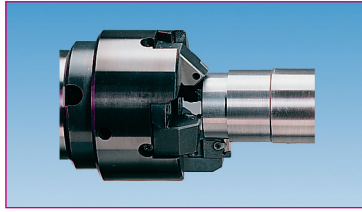
**Machine:**

Type: \_\_\_\_\_  
 Driving power: \_\_\_\_\_ KW

**Number of items:**

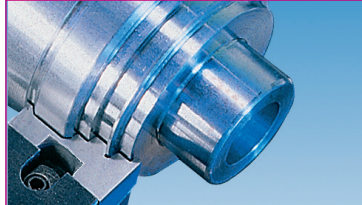
Tool heads: \_\_\_\_\_ units  
 Holders: \_\_\_\_\_ units  
 Indexable inserts: \_\_\_\_\_ units  
 Desired delivery date: \_\_\_\_\_

## Product Range



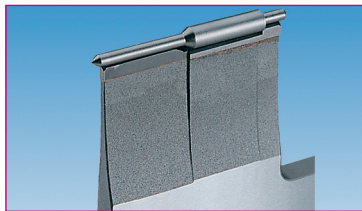
### End Finishing Tools

- Up to 5 Working Operations In Only one Working Cycle
- Modular Construction System
- Large Variety of Stock Articles
- Facing, Chamfering, Longitudinal Turning, Boring, Centering, Convex Turning of Face



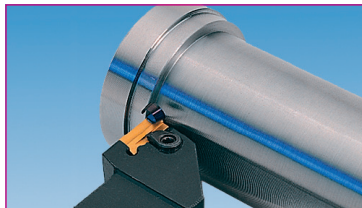
### Flat Form Tools

- Structural Dimensions Various Types from Stock
- Flatform Change Insert
  - non Profiled
  - Profiled According to Customer's Specification
- For all Single- and Multi-Spindle Automatics
- Grinded Insert Seat
- Turning Tools
- Cutoff Tools



### Supporting Bars

- For all Centerless Circular Grinding Machines
- Grooving Rails
- Dressing Templates
- Thread Roll Supports
- Support Rails for Throughfeed Grinding
- Prism Rails
- Guide Plates
- Special Cutters
- Paper Cutter

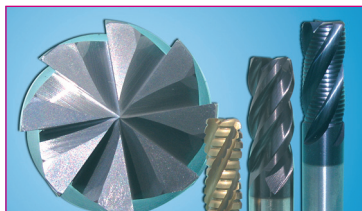


### Turning Tools

- Turning Chisel/ Boring Bars
- Thread Turning Tools
- Copy-Turning Tools
- Special Turning Tools acc. to Customer's Specification

### Cutoff Tools

- Grooving
- Parting



### Carbide Drills and Milling Cutters

- Drills
- Profile Cutter
- Flat Drill
- Finishing Cutter
- Ball End Mill
- Roughing Cutter
- Stepped Tools / Countersink
  - Coated /Uncoated
  - Carbide or HSS



### Leistritz-Profil-Center

- We Design Flatform Tools with Profiled Indexable Cutting Inserts
- Highest Precision and Quality
- Fast and Economic
- E-Mail: [profil-center@leistritz.com](mailto:profil-center@leistritz.com)

**Nuremberg plant:**  
**LEISTRITZ PRODUKTIONSTECHNIK GMBH**  
Markgrafenstraße 29-39 · D-90459 Nuremberg  
Phone: +49 9 11 / 43 06 - 350  
Fax: +49 9 11 / 43 06 - 300  
E-Mail: [profil-center@leistritz.com](mailto:profil-center@leistritz.com)  
■ [www.leistritz.com](http://www.leistritz.com)



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D-92714 Pleystein