

**MINIMILL**

Nut- und Formzirkularfräsen

groove milling by circular interpolation

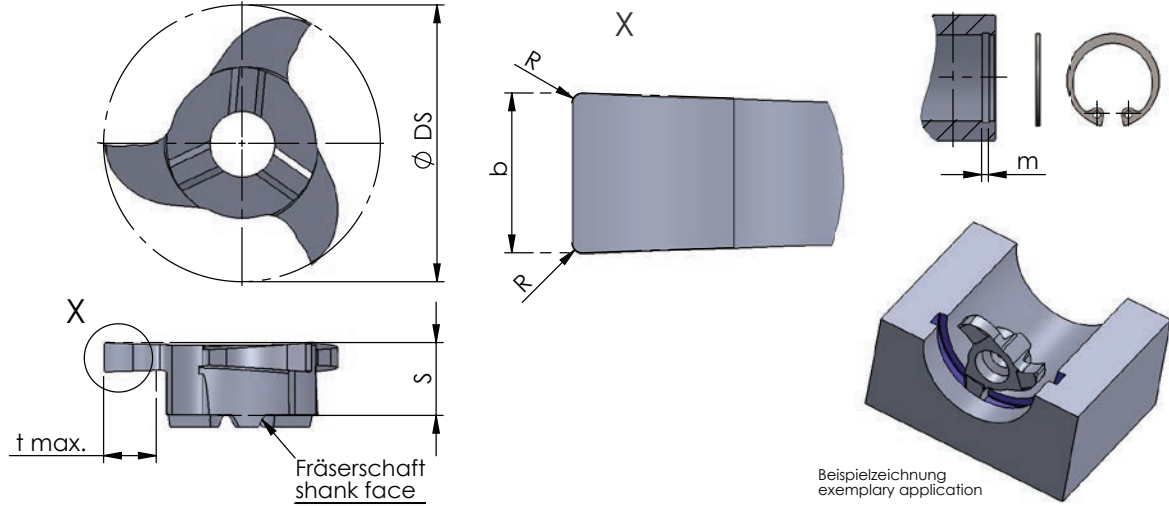
**Typ Z22**

Sicherungsringe DIN 471 / 472  
und Nutfräsen allgemein

D min. 22 mm  
t max. ≤ 4.5

for circlip grooves DIN 471 / 472  
and groove milling general use

D min. 22 mm  
t max. ≤ 4.5



Abmessungen in mm

dimensions in mm

Bestellnummer part number	D min.	Nut-Maß m groove dim. m DIN 471 / DIN 472	s	R	Ø DS	b +0.02 (* b -0.02)	b (inch)	t max.	Zähnezahl number of teeth	K10F	AL41F	P18C	für Fräterschaft for milling shank	
Z22.0070.00	22	0.7	5.6	-	21.7	0.74*		1.5	3	●			ZH22...	
Z22.0079.00	22	-	5.6	-	21.7	0.79	0.031"	1.5	3	●				
Z22.0080.00	22	0.8	5.6	-	21.7	0.84*		1.7	3	●				
Z22.0090.00	22	0.9	5.6	-	21.7	0.94*		1.9	3	●				
Z22.0099.00	22	-	5.6	-	21.7	0.99	0.039"	2.0	3	●				
Z22.0100.00	22	1.0	5.6	-	21.7	1.04*		2.1	3	●				
Z22.0100.01	22	-	5.6	0.10	21.7	1.00		4.5	3	●				
Z22.0110.00	22	1.1	5.7	-	21.7	1.21*		2.5	3	●				
Z22.0117.00	22	-	5.7	-	21.7	1.17	0.046"	2.5	3	●				
Z22.0130.00	22	1.3	5.7	0.10	21.7	1.41*		4.5	3	●				
Z22.0142.01	22	-	5.7	0.10	21.7	1.42	0.056"	4.5	3	●				
Z22.0150.02	22	-	5.7	0.20	21.7	1.50		4.5	3	●				
Z22.0160.00	22	1.6	5.7	0.10	21.7	1.71*		4.5	3	●				
Z22.0185.02	22	1.85	5.7	0.15	21.7	1.96*		4.5	3	●				
↳ ...														

Weitere HM Sorten können Sie in der Sortenübersicht im Kapitel "Technische Hinweise" und der Preisliste finden.

Bestellbeispiel:  
für Sorte AL41F:  
Z22.0110.00/AL41F

More carbide grades you can find in the grades summary in the chapter "technical instructions" and in the price list.

order-example:  
grade AL41F:  
Z22.0110.00/AL41F

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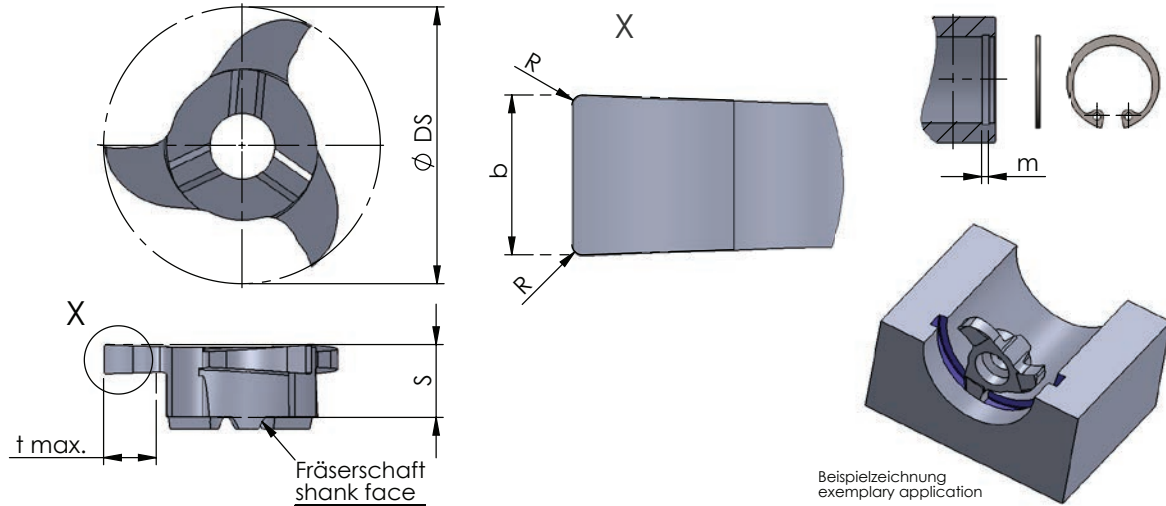
# Typ Z22

Sicherungsringe DIN 471 / 472 und Nutfräsen allgemein

D min. 22 mm  
t max. ≤ 4.5

for circlip grooves DIN 471 / 472 and groove milling general use

D min. 22 mm  
t max. ≤ 4.5



Abmessungen in mm

dimensions in mm

Bestellnummer part number	D min.	Nut-Maß m groove dim. m DIN 471 / DIN 472	S	R	Ø DS	b +0.02 (* b -0.02)	b (inch)	t max.	Zähnezahl number of teeth	Material			für Fräseschaft for milling shank
										K10F	AL41F	P18C	
...													
Z22.0198.02	22	-	5.7	0.20	21.7	1.98	0.078"	4.5	3	●			ZH22...
Z22.0200.02	22	-	5.7	0.20	21.7	2.00		4.5	3	●			
Z22.0215.02	22	2.15	5.7	0.15	21.7	2.26*		4.5	3	●			
Z22.0238.02	22	-	5.7	0.20	21.7	2.39	0.094"	4.5	3	●			
Z22.0250.02	22	-	5.7	0.20	21.7	2.50		4.5	3	●			
Z22.0265.02	22	2.65	5.7	0.15	21.7	2.76*		4.5	3	●			
Z22.0300.02	22	-	5.7	0.20	21.7	3.00		4.5	3	●			
Z22.0315.02	22	3.15	5.7	0.15	21.7	3.26*		4.5	3	●			
Z22.0350.02	22	-	5.7	0.20	21.7	3.50		4.5	3	●			
Z22.0400.02	22	-	5.7	0.20	21.7	4.00		4.5	3	●			
Z22.0415.02	22	4.15	5.7	0.15	21.7	4.26*		4.5	3	●			
Z22.0475.02	22	-	5.7	0.20	21.7	4.75	0.187"	4.5	3	●			
Z22.0515.02	22	5.15	5.7	0.15	21.7	5.26*		4.5	3	●			

Weitere HM Sorten können Sie in der Sortenübersicht im Kapitel "Technische Hinweise" und der Preisliste finden.

Bestellbeispiel:  
für Sorte AL41F:  
Z22.0515.02/AL41F

More carbide grades you can find in the grades summary in the chapter "technical instructions" and in the price list.

order-example:  
grade AL41F:  
Z22.0515.02/AL41F

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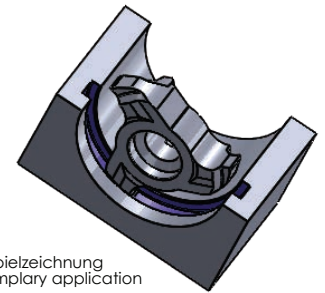
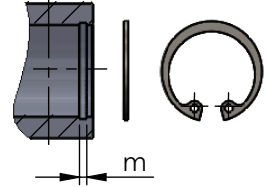
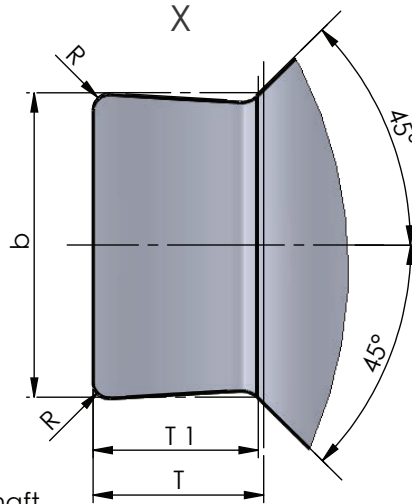
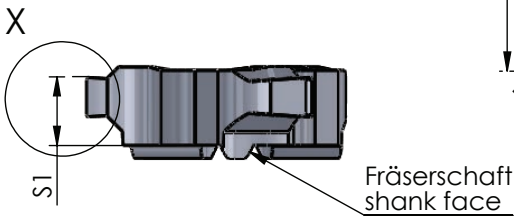
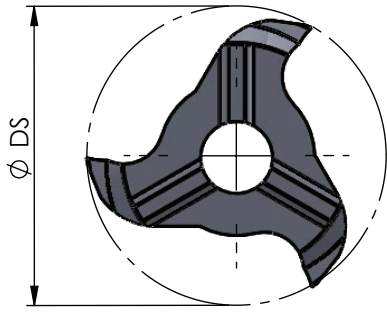
## Typ Z22

Sicherungsringe, DIN 471 / 472 mit Nutaußenkantenfasung

D min. 22 mm

for circlip grooves DIN 471 / 472 with chamfer

D min. 22 mm



Beispielzeichnung  
exemplary application

Abmessungen in mm

dimensions in mm

Bestellnummer part number	D min.	Nut-Maß m groove dim. m DIN 471 / DIN 472	S1	R	Ø DS	b -0.02	T1 -0.04 Formtiefe depth of form	T	Zähnezahl number of teeth	K10F AL41F P18C	für Fräaserschaft for milling shank
Z22.1105.30	22	1.1	5.0	-	21.7	1.21	0.49	0.50	3	●	ZH22... ZH28...
Z22.1307.30	22	1.3	5.2	-	21.7	1.41	0.67	0.70	3	●	
Z22.1308.30	22	1.3	5.2	-	21.7	1.41	0.83	0.85	3	●	
Z22.1609.35	22	1.6	5.0	-	21.7	1.71	0.83	0.85	3	●	
Z22.1610.35	22	1.6	5.0	-	21.7	1.71	0.95	1.00	3	●	
Z22.1812.35	22	1.85	5.2	0.15	21.7	1.96	1.23	1.25	3	●	
Z22.2215.35	22	2.15	5.3	0.15	21.7	2.26	1.47	1.50	3	●	
Z22.2616.45	22	2.65	5.0	0.15	21.7	2.76	1.47	1.50	3	●	
Z22.2617.45	22	2.65	5.0	0.15	21.7	2.76	1.72	1.75	3	●	
Z22.3118.45	22	3.15	5.3	0.2	21.7	3.26	1.72	1.75	3	●	
Z22.4120.55	22	4.15	5.3	0.2	21.7	4.26	1.97	2.00	3	●	
Z22.4125.55	22	4.15	5.3	0.2	21.7	4.26	2.47	2.50	3	●	

Weitere HM Sorten können Sie in der Sortenübersicht im Kapitel "Technische Hinweise" und der Preisliste finden.

Bestellbeispiel:  
für Sorte AL41F:  
Z22.4125.55/AL41F

More carbide grades you can find in the grades summary in the chapter "technical instructions" and in the price list.

order-example:  
grade AL41F:  
Z22.4125.55/AL41F