

ARNO[®]

WERKZEUGE

We have a passion for precision.

SA SYSTEM

Part-off and grooving system for radial grooving

**ANNIVERSARY
OFFER 2012**

Best ever set price!*

1 holder + **10** inserts

- Excellent price – performance ratio
- High precision
- Easy to use
- Maximum productivity



*Valid until 31.12.2012

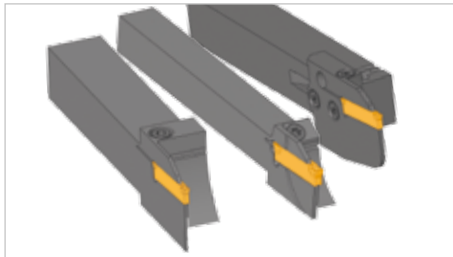
50
YEARS

50 YEARS OF ARNO[®]-WERKZEUGE

SA Part-off and grooving system

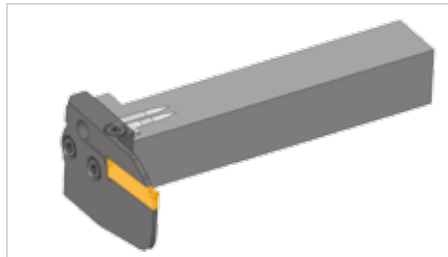
Introduction

Economical solution for radial grooving as well as parting off up to 105 mm diameter.



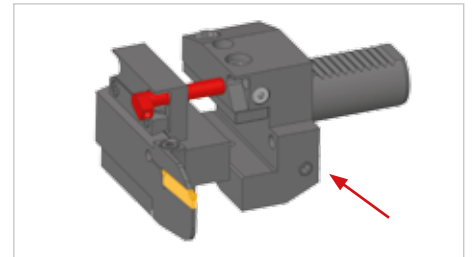
NC holder
Straight for radial grooving

► see „Grooving“ catalogue page 1.3



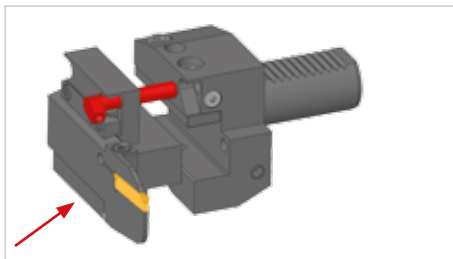
NC holder
Cranked for radial grooving

► see „Grooving“ catalogue page 1.4



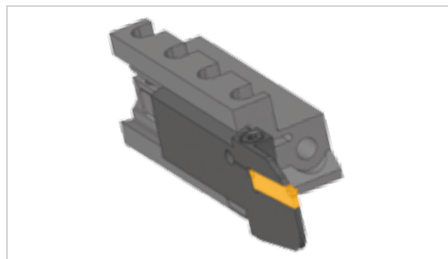
VDI holders
with coolant jet

► see „Grooving“ catalogue page 1.28 - 1.31



VDI holders
with coolant jet

► see „Grooving“ catalogue page 3.19



Part-off blocks
for blades

► see „Grooving“ catalogue page 3.12

Modular



Part-off holder
HVDS...-7

► see „Grooving“ catalogue page 3.7



Grooving holder
CAPTO straight

► see „Grooving“ catalogue page 1.18

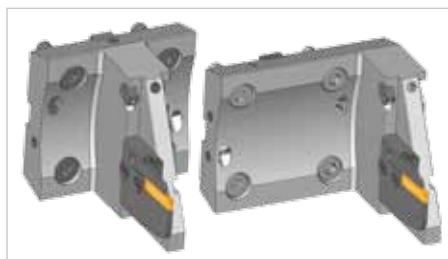
Grooving holder
UTS/KM

► see „Grooving“ catalogue page 1.7



Part-off holder
HVDS...-1

► see „Grooving“ catalogue page 3.6



Part-off holder
for Daewoo/Doosan or Mori Seiki

► see „Grooving“ catalogue page 3.8 - 3.11



Grooving holder
CAPTO cranked

► see „Grooving“ catalogue page 1.6

SA Part-off and grooving system

Introduction

Monoblock holder "SA" double sided inserts

Indexable inserts EB = 2 und 3 mm

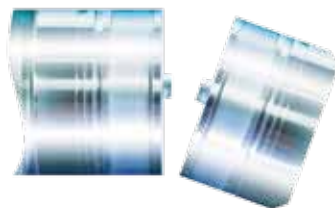


Tool holder
10 x 10 bis 32 x 25 mm

Grooving



Parting-Off



Introduction

Monoblock holder "SA" double sided inserts in sizes SA16, SA24 and SA35 with widths of 2 and 3 mm.

- Indexable inserts with EB = 2 and 3 mm
- Tool holder 10 x 10 bis 32 x 25 mm
- For Part-off and grooving

Features

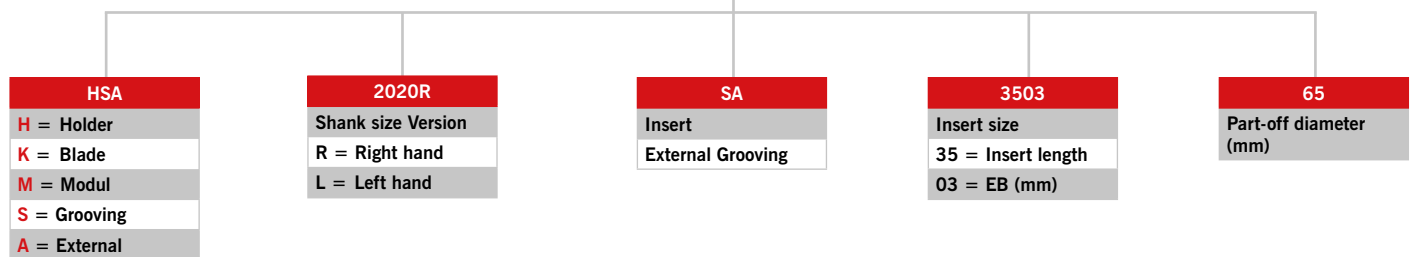
- Monoblock design.
 - ▶ **Reliable and user friendly – only one spare part.**
- Active insert clamping with fixed stop.
 - ▶ **Accurate insert positioning.**
 - ▶ **Pulling out the insert is not possible.**
- Double edged inserts.
 - ▶ **High productivity.**
- Directly pressed inserts with dedicated geometries.
 - ▶ **Cost efficient and optimum solution for reliable groove production.**

For further information please ask for our complete catalogue. Please contact us.

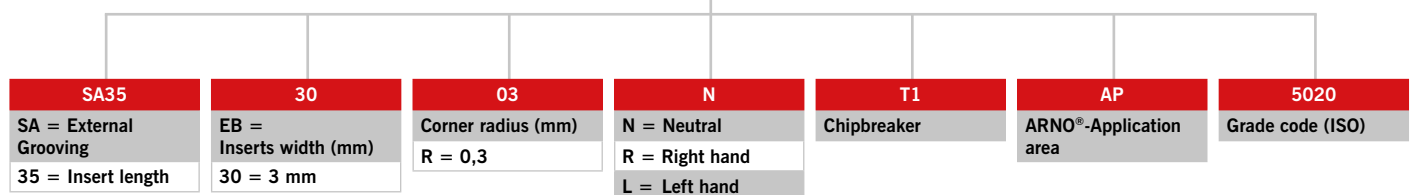
SA Part-off and grooving system

Introduction

Designation code – Holder



Designation code – Inserts



SA Part-off and grooving system

Tool holder

SET PRICE
€ 119⁰⁰
 1 holder and 10 inserts

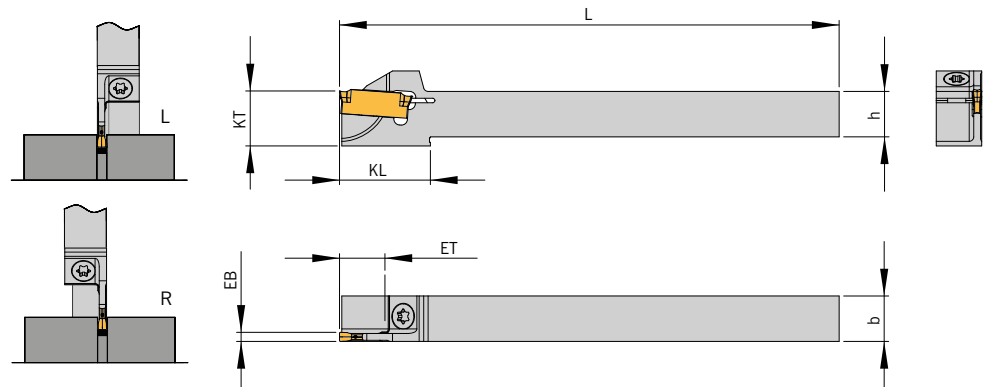
For sliding head auto lathes

Designation	EB	ET	D _{max}	D _R	h	b	L	KL	KT	Inserts
HSA 1010L-SA1602-20	2,0	10,0	20	32	10	10	110	20	12	SA 16-20...
HSA 1010R-SA1602-20	2,0	10,0	20	32	10	10	110	20	12	SA 16-20...
HSA 1212L-SA1602-20	2,0	10,0	20	32	12	12	110	-	-	SA 16-20...
HSA 1212R-SA1602-20	2,0	10,0	20	32	12	12	110	-	-	SA 16-20...
HSA 1616L-SA1602-20	2,0	10,0	20	32	16	16	110	-	-	SA 16-20...
HSA 1616R-SA1602-20	2,0	10,0	20	32	16	16	110	-	-	SA 16-20...
HSA 1212L-SA2402-20	2,0	10,0	20	32	12	12	110	-	-	SA 24-20...
HSA 1212R-SA2402-20	2,0	10,0	20	32	12	12	110	-	-	SA 24-20...
HSA 1212R-SA1603-26	3,0	13,0	20	32	12	12	110	-	-	SA 16-30...
HSA 1616L-SA1602-26	2,0	13,0	26	32	16	16	110	-	-	SA 16-20...
HSA 1616R-SA1602-26	2,0	13,0	26	32	16	16	110	-	-	SA 16-20...
HSA 1616L-SA1603-26	3,0	13,0	26	32	16	16	110	-	-	SA 16-30...
HSA 1616R-SA1603-26	3,0	13,0	26	32	16	16	110	-	-	SA 16-30...
HSA 1212L-SA2402-32	2,0	16,0	32	32	12	12	110	26	16	SA 24-20...
HSA 1212R-SA2402-32	2,0	16,0	32	32	12	12	110	26	16	SA 24-20...
HSA 1616L-SA2402-32	2,0	16,0	32	32	16	16	110	-	-	SA 24-20...
HSA 1616R-SA2402-32	2,0	16,0	32	32	16	16	110	-	-	SA 24-20...
HSA 1616L-SA2403-32	3,0	16,0	32	32	16	16	110	-	-	SA 24-30...
HSA 1616R-SA2403-32	3,0	16,0	32	32	16	16	110	-	-	SA 24-30...

D_{max} = Maximum diameter in solid
 D_R = Maximum diameter for tube material

All dimensions in mm.

INFO:
 Please see our cutting data recommendations and information on pages 14 – 15.



Right hand version shown.

Spare parts

Holder	Screw	Key
HSA 1010...-SA16...	AS0022	KS8000
HSA 1212...-SA16...	AS0022	KS8000
HSA 1616...-SA16...	AS0022	KS8000
HSA 1616...-SA24...	AS0022	KS8000

SA Part-off and grooving system

Tool Holder

SET PRICE
€ 135⁰⁰
 1 holder and 10 inserts

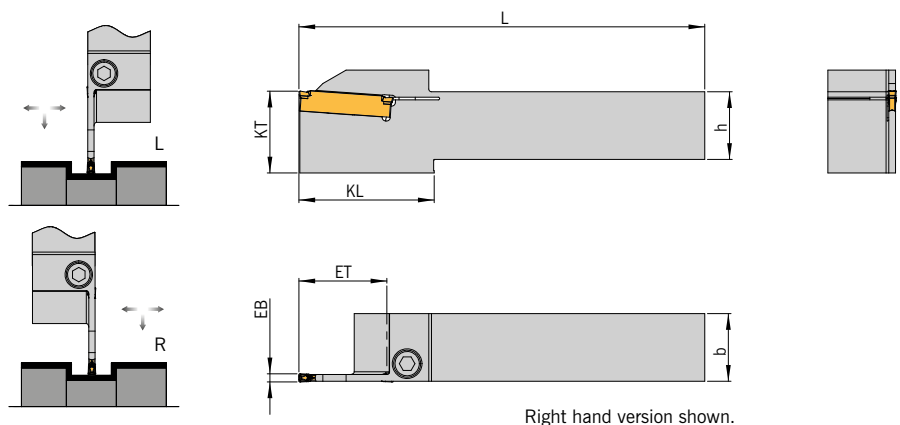
Monoblock

Designation	EB	ET	D _{max}	D _R	h	b	L	KL	KT	Inserts
HSA 1616L-SA2402-44	2,0	22,0	44	61	16	16	125	40	20	SA 24-20...
HSA 1616R-SA2402-44	2,0	22,0	44	61	16	16	125	40	20	SA 24-20...
HSA 1616L-SA2403-44	3,0	22,0	44	61	16	16	125	40	20	SA 24-30...
HSA 1616R-SA2403-44	3,0	22,0	44	61	16	16	125	40	20	SA 24-30...
HSA 2020L-SA2402-44	2,0	22,0	44	61	20	20	125	40	20	SA 24-20...
HSA 2020R-SA2402-44	2,0	22,0	44	61	20	20	125	40	20	SA 24-20...
HSA 2020L-SA2403-44	3,0	22,0	44	61	20	20	125	40	20	SA 24-30...
HSA 2020R-SA2403-44	3,0	22,0	44	61	20	20	125	40	20	SA 24-30...
HSA 2020L-SA3502-52	2,0	26,0	52	68	20	20	150	44	30	SA 35-20...
HSA 2020R-SA3502-52	2,0	26,0	52	68	20	20	150	44	30	SA 35-20...
HSA 2020L-SA3503-52	3,0	26,0	52	68	20	20	150	44	30	SA 35-30...
HSA 2020R-SA3503-52	3,0	26,0	52	68	20	20	150	44	30	SA 35-30...
HSA 2020L-SA3502-65	2,0	32,5	65	80	20	20	150	50	30	SA 35-20...
HSA 2020R-SA3502-65	2,0	32,5	65	80	20	20	150	50	30	SA 35-20...
HSA 2020L-SA3503-65	3,0	32,5	65	80	20	20	150	50	30	SA 35-30...
HSA 2020R-SA3503-65	3,0	32,5	65	80	20	20	150	50	30	SA 35-30...
HSA 2525L-SA2402-44	2,0	22,0	44	61	25	25	150	40	25	SA 24-20...
HSA 2525R-SA2402-44	2,0	22,0	44	61	25	25	150	40	25	SA 24-20...
HSA 2525L-SA2403-44	3,0	22,0	44	61	25	25	150	40	25	SA 24-30...
HSA 2525R-SA2403-44	3,0	22,0	44	61	25	25	150	40	25	SA 24-30...
HSA 2525L-SA3502-52	2,0	26,0	52	68	25	25	150	44	30	SA 35-20...
HSA 2525R-SA3502-52	2,0	26,0	52	68	25	25	150	44	30	SA 35-20...
HSA 2525L-SA3503-52	3,0	26,0	52	68	25	25	150	44	30	SA 35-30...
HSA 2525R-SA3503-52	3,0	26,0	52	68	25	25	150	44	30	SA 35-30...
HSA 2525L-SA3502-65	2,0	32,5	65	80	25	25	150	50	30	SA 35-20...
HSA 2525R-SA3502-65	2,0	32,5	65	80	25	25	150	50	30	SA 35-20...
HSA 2525L-SA3503-65	3,0	32,5	65	80	25	25	150	50	30	SA 35-30...
HSA 2525R-SA3503-65	3,0	32,5	65	80	25	25	150	50	30	SA 35-30...
HSA 3225L-SA2403-44	3,0	22,0	44	61	32	25	170	40	32	SA 24-30...
HSA 3225R-SA2403-44	3,0	22,0	44	61	32	25	170	40	32	SA 24-30...
HSA 3225L-SA3503-65	3,0	32,5	65	80	32	25	170	50	32	SA 35-30...
HSA 3225R-SA3503-65	3,0	32,5	65	80	32	25	170	50	32	SA 35-30...

D_{max} = Maximum diameter in solid
 D_R = Maximum diameter for tube material

All dimensions in mm.

INFO:
 Please see our cutting data recommendations and information on pages 14 – 15.



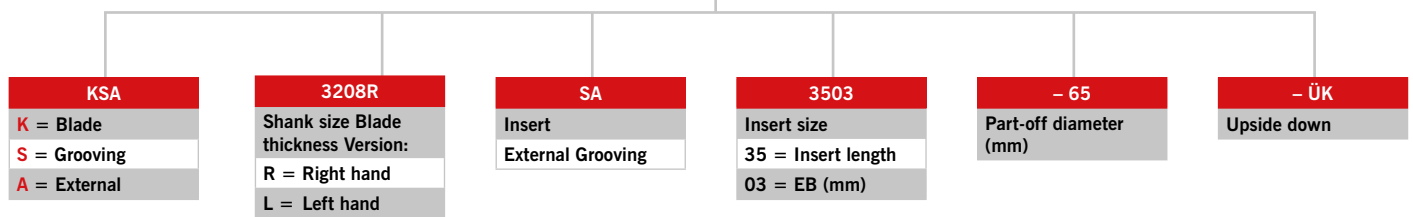
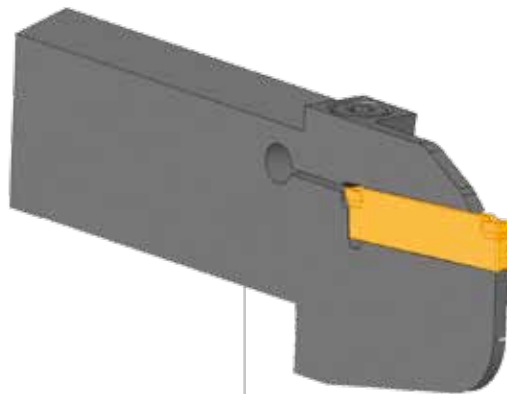
Spare parts

Holder	Screw
HSA 1616... bis 3225...-SA24... Dmin. 44	DIN 912 - M5X16 - 12.9
HSA 2020... bis 3225...-SA35... Dmin. 52 und 65	DIN 912 - M6X20 - 12.9

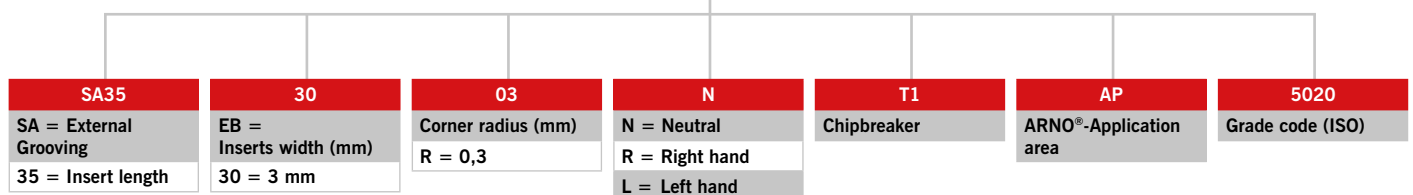
SA Part-off and grooving system

Introduction

Designation code – Blades



Designation code – Inserts



SA Part-off and grooving system

Part-off blades

Part-off block

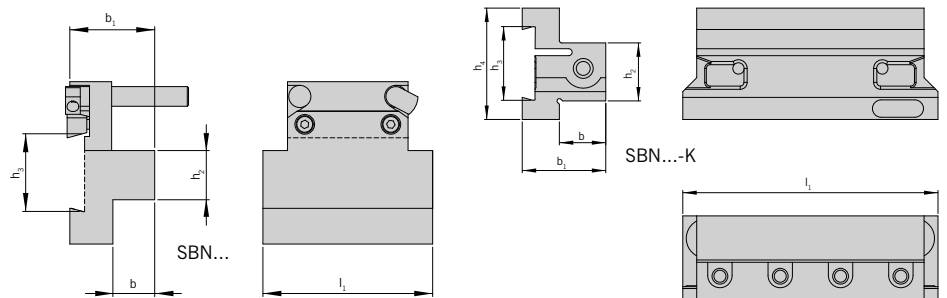
Designation	h_2	b	h_3	l_1	b_1	h_4	Blade
SBN 2020-26 K	20	20,0	26	90	33,0	39	KSA 26...
SBN 2520-32 K	25	20,0	32	110	36,0	48	KSA 32...
SBN 3229-32 K	32	29,0	32	120	44,5	48	KSA 32...
SBN-16-26*	16	13,0	26	54	30,5	55	KSA 26...
SBN-20-26*	20	17,0	26	69	64,5	66	KSA 26...
SBN-25-26*	25	21,0	26	84	41,5	76	KSA 26...
SBN-16-32*	16	13,0	32	54	30,5	61	KSA 32...
SBN-20-32*	20	17,0	32	69	34,5	66	KSA 32...
SBN-25-32*	25	21,0	32	84	41,5	76	KSA 32...
SBN-32-32*	32	23,5	32	99	44,0	80	KSA 32...

* = Block with coolant jet.

INFO: For a larger selection of blocks and all the spares please see our „Grooving“ catalogue chapter 3.

All dimensions in mm.

INFO: Please see our cutting data recommendations and information on pages 14 – 15.



Blades

Designation	EB	ET	D_{max}	D_R	h_3	L	b_2	KL	KT	Inserts
KSA 260895L-SA1602-20	2,0	10,0	20	-	26	95	8	-	-	SA 16-20...
KSA 260895R-SA1602-20	2,0	10,0	20	-	26	95	8	-	-	SA 16-20...
KSA 260895L-SA2402-32	2,0	16,0	32	-	26	95	8	-	-	SA 24-20...
KSA 260895R-SA2402-32	2,0	16,0	32	-	26	95	8	-	-	SA 24-20...
KSA 260895R-SA2403-44	3,0	22,0	44	-	26	95	8	-	-	SA 24-30...
KSA 2608L-SA2402-32	2,0	16,0	32	-	26	110	8	-	-	SA 24-20...
KSA 2608R-SA2402-32	2,0	16,0	32	-	26	110	8	-	-	SA 24-20...
KSA 2608L-SA2402-32-ÜK	2,0	16,0	32	-	26	110	8	-	-	SA 24-20...
KSA 2608R-SA2402-32-ÜK	2,0	16,0	32	-	26	110	8	-	-	SA 24-20...
KSA 2608L-SA2402-44	2,0	22,0	44	-	26	110	8	-	-	SA 24-20...
KSA 2608R-SA2402-44	2,0	22,0	44	-	26	110	8	-	-	SA 24-20...
KSA 2608L-SA2402-44-ÜK	2,0	22,0	44	-	26	110	8	-	-	SA 24-20...
KSA 2608R-SA2402-44-ÜK	2,0	22,0	44	-	26	110	8	-	-	SA 24-20...
KSA 2608L-SA3502-65	2,0	32,5	65	-	26	110	8	45	29	SA 35-20...
KSA 2608R-SA3502-65	2,0	32,5	65	-	26	110	8	45	29	SA 35-20...
KSA 2608L-SA3502-65-ÜK	2,0	32,5	65	-	26	110	8	45	29	SA 35-20...
KSA 2608R-SA3502-65-ÜK	2,0	32,5	65	-	26	110	8	45	29	SA 35-20...
KSA 2608L-SA3503-65	3,0	32,5	65	80	26	110	8	45	29	SA 35-30...
KSA 2608R-SA3503-65	3,0	32,5	65	80	26	110	8	45	29	SA 35-30...

* Does not include the block

SET PRICE*
€ 154⁰⁰
 1 Part-off blade and 10 inserts

More blades and information
 on the next page

SA Part-off and grooving system

Part-off blades

SET PRICE*
€ 154⁰⁰
 1 Part-off blade and 10 inserts

Blades

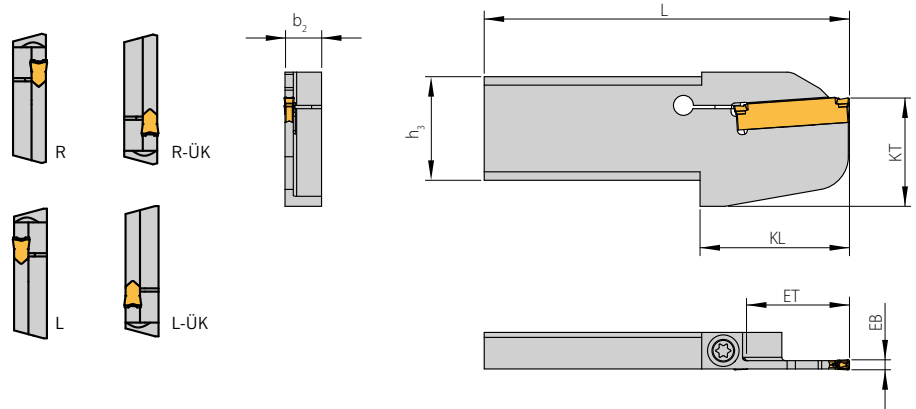
Designation	EB	ET	D _{max}	D _R	h ₃	L	b ₂	KL	KT	Inserts
KSA 2608L-SA3503-65-ÜK	3,0	32,5	65	80	26	110	8	45	29	SA 35-30...
KSA 2608R-SA3503-65-ÜK	3,0	32,5	65	80	26	110	8	45	29	SA 35-30...
KSA 2611L-SA3503-65	3,0	32,5	65	80	26	110	11	45	29	SA 35-30...
KSA 2611R-SA3503-65	3,0	32,5	65	80	26	110	11	45	29	SA 35-30...
KSA 2611L-SA3503-65-ÜK	3,0	32,5	65	80	26	110	11	45	29	SA 35-30...
KSA 2611R-SA3503-65-ÜK	3,0	32,5	65	80	26	110	11	45	29	SA 35-30...
KSA 320895L-SA2402-44	2,0	22,0	44	-	32	95	8	-	-	SA 24-20...
KSA 320895R-SA2402-44	2,0	22,0	44	-	32	95	8	-	-	SA 24-20...
KSA 320895L-SA2402-44-ÜK	2,0	22,0	44	-	32	95	8	-	-	SA 24-20...
KSA 320895R-SA2402-44-ÜK	2,0	22,0	44	-	32	95	8	-	-	SA 24-20...
KSA 320895L-SA2403-44	3,0	22,0	44	-	32	95	8	-	-	SA 24-30...
KSA 320895R-SA2403-44	3,0	22,0	44	-	32	95	8	-	-	SA 24-30...
KSA 320895L-SA2403-44-ÜK	3,0	22,0	44	-	32	95	8	-	-	SA 24-30...
KSA 320895R-SA2403-44-ÜK	3,0	22,0	44	-	32	95	8	-	-	SA 24-30...
KSA 3208L-SA2402-44	2,0	22,0	44	-	32	110	8	-	-	SA 24-20...
KSA 3208R-SA2402-44	2,0	22,0	44	-	32	110	8	-	-	SA 24-20...
KSA 3208L-SA2402-44-ÜK	2,0	22,0	44	-	32	110	8	-	-	SA 24-20...
KSA 3208R-SA2402-44-ÜK	2,0	22,0	44	-	32	110	8	-	-	SA 24-20...
KSA 3208L-SA3502-65	2,0	32,5	65	-	32	110	8	45	32,5	SA 35-20...
KSA 3208R-SA3502-65	2,0	32,5	65	-	32	110	8	45	32,5	SA 35-20...
KSA 3208L-SA3502-65-ÜK	2,0	32,5	65	-	32	110	8	45	32,5	SA 35-20...
KSA 3208R-SA3502-65-ÜK	2,0	32,5	65	-	32	110	8	45	32,5	SA 35-20...
KSA 3208L-SA3503-65	3,0	32,5	65	80	32	110	8	45	32,5	SA 35-30...
KSA 3208R-SA3503-65	3,0	32,5	65	80	32	110	8	45	32,5	SA 35-30...
KSA 3208L-SA3503-65-ÜK	3,0	32,5	65	80	32	110	8	45	32,5	SA 35-30...
KSA 3208R-SA3503-65-ÜK	3,0	32,5	65	80	32	110	8	45	32,5	SA 35-30...
KSA 3211L-SA3503-65	3,0	32,5	65	80	32	110	11	45	32,5	SA 35-30...
KSA 3211R-SA3503-65	3,0	32,5	65	80	32	110	11	45	32,5	SA 35-30...
KSA 3211L-SA3503-65-ÜK	3,0	32,5	65	80	32	110	11	45	32,5	SA 35-30...
KSA 3211R-SA3503-65-ÜK	3,0	32,5	65	80	32	110	11	45	32,5	SA 35-30...

D_{max} = Maximum diameter in solid
 D_R = Maximum diameter for tube material

All dimensions in mm.

* Does not include the block

INFO:
 Please see our cutting data recommendations and information on pages 14–15.



Left hand version shown.

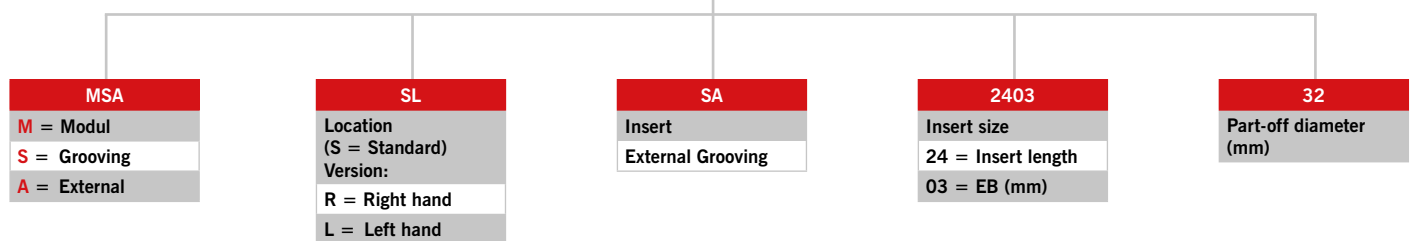
Spare parts

Blade	Screw	Key
KSA ...08R/L-SA35...	AS0045	T5220-IP
KSA ...11R/L-SA35...	SA5T	T5220-IP

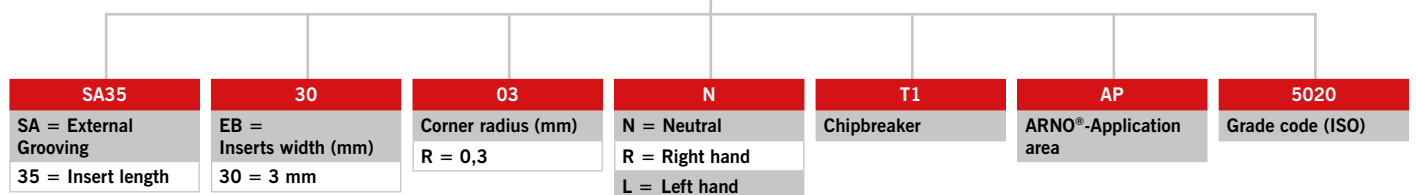
SA Part-off and grooving system

Introduction

Designation code – NC-Modules



Designation code – Inserts



SA Part-off and grooving system

NC-Modules

SET PRICE
€ 119⁰⁰
 1 Module and 10 inserts

Module

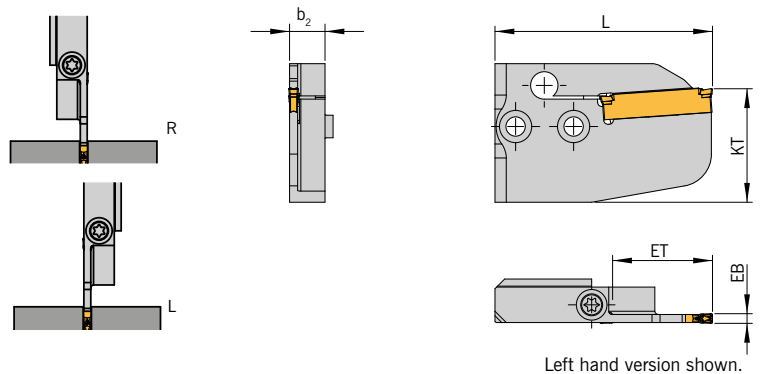
Designation	EB	ET	D _{max}	D _R	b ₂	L	KT	Inserts
MSA-SL-SA2402-32	2,0	16,0	32	48	11	52,0	35	SA 24-20...
MSA-SR-SA2402-32	2,0	16,0	32	48	11	52,0	35	SA 24-20...
MSA-SL-SA2403-32	3,0	16,0	32	48	11	52,0	35	SA 24-30...
MSA-SR-SA2403-32	3,0	16,0	32	48	11	52,0	35	SA 24-30...
MSA-SL-SA2402-44	2,0	22,0	44	61	11	57,0	35	SA 24-20...
MSA-SR-SA2402-44	2,0	22,0	44	61	11	57,0	35	SA 24-20...
MSA-SL-SA2403-44	3,0	22,0	44	61	11	57,0	35	SA 24-30...
MSA-SR-SA2403-44	3,0	22,0	44	61	11	57,0	35	SA 24-30...
MSA-SL-SA3502-52	2,0	26,0	52	68	11	67,5	35	SA 35-20...
MSA-SR-SA3502-52	2,0	26,0	52	68	11	67,5	35	SA 35-20...
MSA-SL-SA3503-52	3,0	26,0	52	68	11	67,5	35	SA 35-30...
MSA-SR-SA3503-52	3,0	26,0	52	68	11	67,5	35	SA 35-30...
MSA-SL-SA3502-65	2,0	32,5	65	80	11	67,5	35	SA 35-20...
MSA-SR-SA3502-65	2,0	32,5	65	80	11	67,5	35	SA 35-20...
MSA-SL-SA3503-65	3,0	32,5	65	80	11	67,5	35	SA 35-30...
MSA-SR-SA3503-65	3,0	32,5	65	80	11	67,5	35	SA 35-30...
MSA-SL-SA3503-105	3,0	52,5	105	-	11	87,5	35	SA 35-30...

D_{max} = Maximum diameter in solid
 D_R = Maximum diameter for tube material

The modules suit all the NC-holders in the standard (grey) design where an NC-module can be located, for more information please see „Grooving“ catalogue chapters 1 and 3.

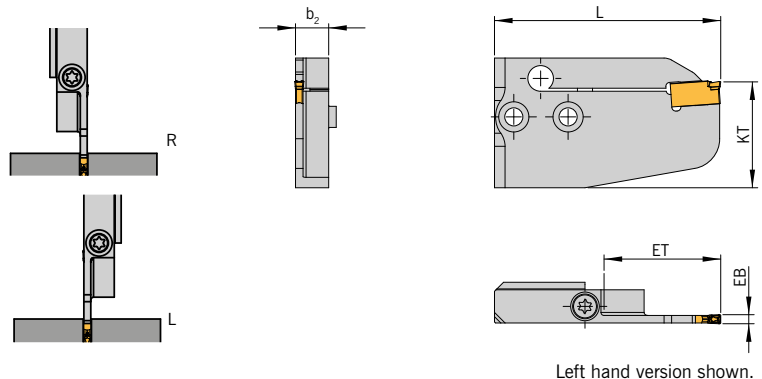
All dimensions in mm.

INFO:
 Please note our recommendations on page 14 – 15.



Designation	EB	ET	D _{max}	D _R	b ₂	L	KT	Insert
MSA-SL-SA1703-80	3,0	40,0	80	80	11	75,0	35	SA 17-30...
MSA-SR-SA1703-80	3,0	40,0	80	80	11	75,0	35	SA 17-30...

All dimensions in mm.



Spare parts

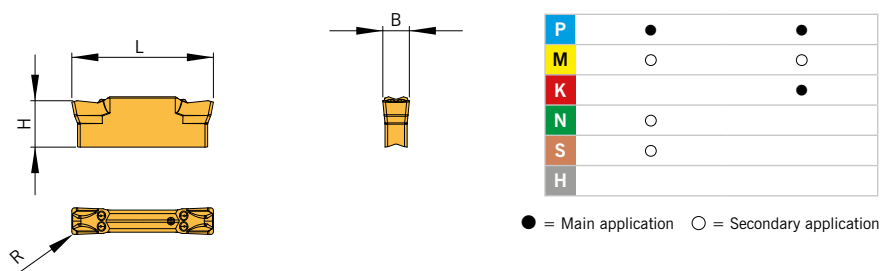
Holder	Screw	Key
MSA SR/L...	SA5T	T5220-IP

SA Part-off and grooving system

Indexable inserts

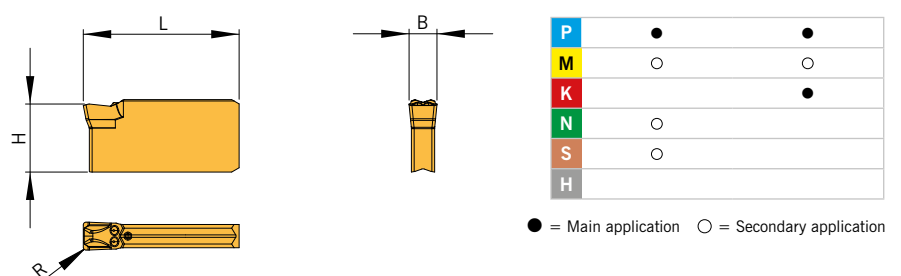
Version SA16...

Designation	B ± 0,04	L	R	H	PVD-coated		CVD-coated	
					AP5020	AP2220	AP5020	AP2220
SA16-2002N-F1	2,0	16	0,2	5,5	●	●	●	●
SA16-2002N-T1	2,0	16	0,2	5,5	●	●	●	●
SA16-3003L-M1	3,0	16	0,3	5,5	●	●	●	●
SA16-3003L-T1	3,0	16	0,3	5,5	●	●	●	●
SA16-3003N-M1	3,0	16	0,3	5,5	●	●	●	●
SA16-3003N-T1	3,0	16	0,3	5,5	●	●	●	●
SA16-3003R-M1	3,0	16	0,3	5,5	●	●	●	●
SA16-3003R-T1	3,0	16	0,3	5,5	●	●	●	●



Version SA17...

Designation	B ± 0,04	L	R	H	PVD-coated		CVD-coated	
					AP5020	AP2220	AP5020	AP2220
SA17-3003N-M1	3,0	16,75	0,3	7,5	●	●	●	●
SA17-3003N-T1	3,0	16,75	0,3	7,5	●			

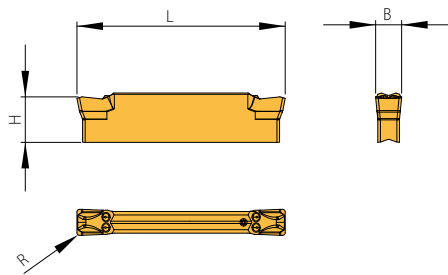


SA Part-off and grooving system

Indexable inserts

Version SA24...

Designation	B ± 0,04	L	R	H	PVD-coated		CVD-coated	
					AP5020	AP2220	AP5020	AP2220
SA24-2002N-F1	2,0	24	0,2	5,5	●	●	●	●
SA24-2002N-M1	2,0	24	0,2	5,5	●	○	○	○
SA24-2002N-S1	2,0	24	0,2	5,5	●	○	○	○
SA24-2002N-T1	2,0	24	0,2	5,5	●	○	○	○
SA24-3003L-M1	3,0	24	0,3	5,5	●	○	○	○
SA24-3003L-T1	3,0	24	0,3	5,5	●	○	○	○
SA24-3003N-M1	3,0	24	0,3	5,5	●	○	○	○
SA24-3003N-T1	3,0	24	0,3	5,5	●	○	○	○
SA24-3003R-M1	3,0	24	0,3	5,5	●	○	○	○
SA24-3003R-T1	3,0	24	0,3	5,5	●	○	○	○

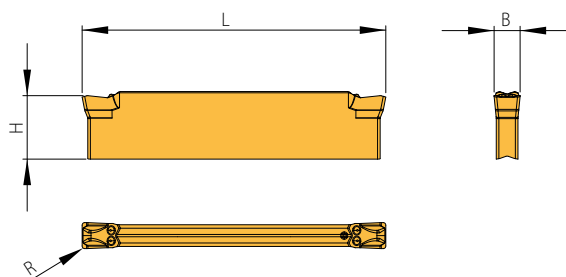


P	●	●
M	○	○
K		●
N	○	
S	○	
H		

● = Main application ○ = Secondary application

Version SA35...

Designation	B ± 0,04	L	R	H	PVD-coated		CVD-coated	
					AP5020	AP2220	AP5020	AP2220
SA35-2002N-F1	2,0	35	0,2	7,5	●	●	●	●
SA35-2002N-M1	2,0	35	0,2	7,5	●	○	○	○
SA35-2002N-T1	2,0	35	0,2	7,5	●	○	○	○
SA35-3003L-M1	3,0	35	0,3	7,5	●	○	○	○
SA35-3003L-T1	3,0	35	0,3	7,5	●	○	○	○
SA35-3003N-M1	3,0	35	0,3	7,5	●	○	○	○
SA35-3003N-T1	3,0	35	0,3	7,5	●	○	○	○
SA35-3003R-M1	3,0	35	0,3	7,5	●	○	○	○
SA35-3003R-T1	3,0	35	0,3	7,5	●	○	○	○



P	●	●
M	○	○
K		●
N	○	
S	○	
H		

● = Main application ○ = Secondary application

All dimensions in mm.

SA Part-off and grooving system

Application recommendations

Grade designation

AP5020

PVD coated carbide grade

Fine-grain carbide + TiAlN

A universal grade for low to medium cutting speed. Main application areas are steel and stainless steel, but also suitable for part-off and grooving of high temperature alloys and non ferrous materials.

AP2220

CVD coated carbide grade

Fine-grain carbide + multilayer carbide

Grade with excellent combination of wear resistance and cutting edge stability. Main application area is alloy steel and cast materials. But under stable conditions also suitable for stainless steel at medium to high cutting speeds.

Chipbreakers

F1



T1



S1



M1



Very soft cutting geometry

- For low to medium strength materials with low built-up edge tendency

Very good swarf control and formation

- For steel and stainless steel
- Universal geometry machining, for thin-walled components

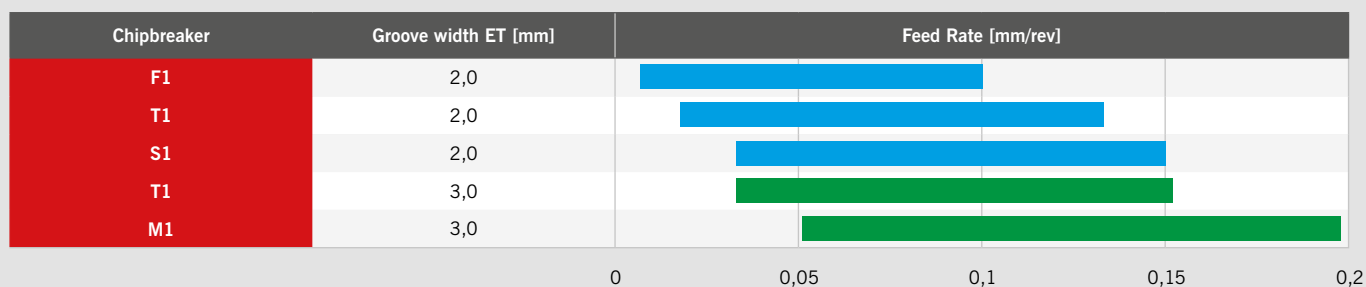
Soft cutting geometry

- Especially for stainless steel
- Problem solver for steel machining

Geometry with small negative chamfer

- For medium to high strength materials
- Suitable for all steels (stainless and cast)
- First choice where cutting conditions are solid

Application recommendations



SA Part-off and grooving system

Application recommendations

Recommended Cutting data

ISO	Material	VDI 3323 Gruppe	Brinell-Härte HB	Cutting speed V _c [m/min]		
				AP5020	AP2220	
P	Unalloyed steel and cast steel	< 0,15% C / hardened and tempered	125	125	120-220	130-250
		0,15 - 0,45 % C / hardened and tempered	150-250	150-250	80-150	110-180
		> 0,45 % C / hardened and tempered	300	300	60-140	70-150
	Low alloyed steel and cast steel	annealed	180	180	80-170	120-190
		hardened and tempered	250-300	250-300	60-130	110-150
		hardened and tempered	350	350	60-120	70-130
		High alloyed steel, high alloyed tool Steel and cast steel	annealed	200	200	80-140
Stainless steel	hardened and tempered	350	350	50-120	70-130	
	ferritic, annealed	200	200	60-170	110-200	
	Cast steel	martensitic, hardened and tempered	325	325	50-100	60-130
M	Stainless steel	ferritic, martensitic annealed	200	200	60-180	100-200
		austenitic, chilled	180	180	50-150	80-170
		Duplex, chilled	230	230	50-100	60-120
		martensitic/austenitic, chilled	330	330	50-90	120-150
K	Cast iron	pearlitic/ferritic	180	180		100-160
		pearlitic/martensitic	260	260		130-200
	Cast iron with nodular graphite	ferritic	160	160		100-160
		pearlitic	-	-		120-220
	Malleable cast iron	ferritic	130	130		90-180
N	Aluminium alloys. long chipping	not heat treatable	60	60	100-500	
		heat treatable, heat treated	100	100	100-300	
	Casted aluminium alloys	≤ 12% Si, heat treated	80	80	100-500	
		≤ 12% Si, heat treatable, heat treated	90	90	100-300	
		≤ 12% Si, not heat treatable	130	130	100-200	
	Copper and copper alloys, (Brass / Bronze)	Lead alloys, Pb > 1%	-	-	100-500	
		Brass, Bronze	-	-	100-500	
		Aluminium bronze	90	90	100-300	
		Copper and elektrolyte copper	100	100	100-300	
	Non ferrous materials	Duroplastic	100	100	80-180	
Re-inforced plastics		-	-	60-150		
Hard rubber		-	-	100-220		
S	High temperature resistant alloys	Fe-alloyed, annealed	200	200	20-50	
		Fe-alloyed, heat treated	280	280	20-40	
		Ni- or Co-alloyed, annealed	250	250	15-25	
		Ni- or Co-alloyed 30-58 HRC, casting	-	-	10-20	
		Ni- or Co-alloyed 1500-2200 Nmm ² , heat treated	-	-	10-20	
	Titanium alloys Alpha- and Beta-alloys	Pure titan	R _m 440	R _m 440	50-120	
	heat treated	R _m 1050	R _m 1050	30-50		
H	Hardened steel	hardened and tempered	55 HRC	55 HRC		
		hardened and tempered	60 HRC	60 HRC		
	Hard cast iron	casting	400	400		
Hardened cast iron	hardened and tempered	55 HRC	55 HRC			

The data given is only approximate values. It can be necessary to adjust this data to the individual machining operation.

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