Grooving

> Inserts

GROOVING INSERTS

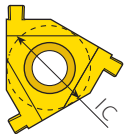
Vardex Ordering Code System

Grooving Insert

5	L	I	R	1.1	-	D472	-	1.3	VKP
1	2	3	4	5	6	7	6	8	9

1- Insert Size

5.0L - IC5.0L
2 - IC1/4"
3 - IC3/8"
4 - IC1/2"
5 - IC5/8"



2 - Insert Style

L

3 - Type of Insert

E - External
I - Internal

4 - RH / LH Insert

R - Right Hand Insert
L - Left Hand Insert

5 - Groove Std. Width

0.03 - 0.08 (inch)

6 - Profile Style

C - Full Profile

7 - Groove Standard

DIN 471 Partial
DIN 471
DIN 472 Partial
DIN 472
DIN 7993 Partial
DIN 7993
DIN 76 ST, DIN 76 SH
DIN 3770

8 - Groove Depth

0.013 - 0.079 (inch)

9 - Carbide Grade

VTX
VKP (for Mini)
VHX (for Mini)

Grooving Micro Insert - Double Ended

4.0	S	I	R	090	S	-	D472	-	1.1	VMX
1	2	3	4	5	6		7		8	9

1- Insert Dia.

3.0 - 3.0 mm
4.0 - 4.0 mm
6.0 - 6.0 mm
8.0 - 8.0 mm
10.0 - 10.0 mm

2 - Insert Style

S - Micro Insert

3 - Type of Insert

I - Internal

4 - RH / LH Insert

R - Right Hand Insert
L - Left Hand Insert

5 -Groove std. Width

0.027 - 0.078 (inch)
0.90 - 2.15 (mm)

6 - Insert Length

A - Axialy
S - Short
M - Medium
L - Long

7 - Groove Standard

DIN 471
DIN 472
CIRCLIP
DIN 7993
DIN 76SH, DIN 76ST
DIN 3770S, DIN 3770D
SNAP RING
CIRCLIP - Face Grooving

8 - Groove Depth

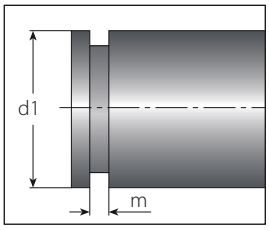
0.02 - 0.06 (inch)

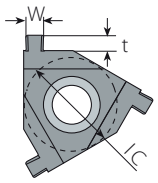
9 - Carbide Grade

VMX

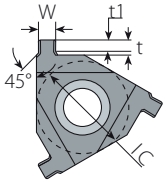
DIN 471 Retaining Ring Grooves for Shafts

External





Standard
(Partial Profile)



Standard
(Full Profile)

Standard (Partial Profile)

Insert Size	Ordering Code	Groove Std.	Dimensions inch		Anvil	Holder
IC	RH	m (H13)	W	t		
3/8"	3ER1.10-D471-1.30...	0.043	0.047	0.051	YE3M-1.5N	AL..-3
	3ER1.30-D471-1.50...	0.051	0.055	0.059		
	3ER1.60-D471-1.85...	0.063	0.067	0.071		
	3ER1.85-D471-2.00...	0.073	0.076	0.079		

Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.

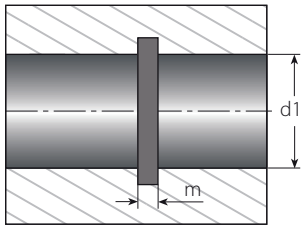
Standard (Full Profile)

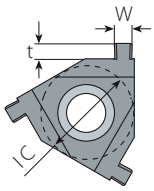
Insert Size	Ordering Code	Groove Std.		Dimensions inch			Anvil	Holder
IC	RH	m(H13)	d1	W	t1	t		
3/8"	3ER1.10C-D471-0.35...	0.043	0.59	0.047	0.013	0.014	YE3M-1.5N	AL..-3
	3ER1.10C-D471-0.40...	0.043	0.63-0.67	0.047	0.014	0.016		
	3ER1.30C-D471-0.50...	0.051	0.71-0.87	0.055	0.017	0.020		
	3ER1.30C-D471-0.55...	0.051	0.94-1.02	0.055	0.018	0.022		
	3ER1.60C-D471-0.70...	0.063	1.1-1.18	0.067	0.024	0.028		
	3ER1.60C-D471-0.85...	0.063	1.26-1.34	0.067	0.030	0.033		
	3ER1.60C-D471-1.00...	0.063	1.38	0.067	0.033	0.039		
	3ER1.85C-D471-1.00...	0.073	1.42-1.50	0.076	0.033	0.039		
	3ER1.85C-D471-1.25...	0.073	1.57-1.89	0.076	0.043	0.049		
	3ER2.15C-D471-1.50...	0.085	1.97-2.48	0.088	0.053	0.059		

Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.

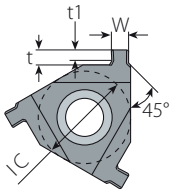
DIN 472 Retaining Ring Grooves for Bores

Internal

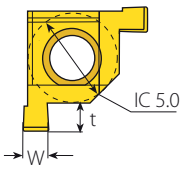




Standard
(Partial Profile)



Standard
(Full Profile)



Mini-L
(Partial Profile)

Standard (Partial Profile)

Insert Size	Ordering Code	Groove Std.	Dimensions inch		Anvil	Holder
IC		m (H13)	W	t		
3/8"	3IR1.10-D472-1.30...	0.043	0.047	0.051	YI3M-1.5N	AVR..-3
	3IR1.30-D472-1.50...	0.051	0.055	0.059		
	3IR1.60-D472-1.80...	0.063	0.067	0.071		
	3IR1.85-D472-2.00...	0.073	0.076	0.079		

Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.
For minimum bore diameters, refer to page 167.

Standard (Full Profile)

Insert Size	Ordering Code	Groove Std.	Dimensions inch				Anvil	Holder
IC		m (H13)	d1	W	t1	t		
3/8"	3IR1.10C-D472-0.50...	0.043	0.71 - 0.87	0.047	0.014	0.020	YI3M-1.5N	AVR..-3
	3IR1.30C-D472-0.60...	0.051	0.94 - 1.02	0.055	0.017	0.024		
	3IR1.30C-D472-0.70...	0.051	1.10 - 1.18	0.055	0.024	0.028		
	3IR1.30C-D472-0.85...	0.051	1.22 - 1.34	0.055	0.030	0.033		
	3IR1.60C-D472-0.85...	0.063	1.34	0.067	0.030	0.033		
	3IR1.60C-D472-1.00...	0.063	1.38 - 1.50	0.067	0.033	0.039		
	3IR1.85C-D472-1.25...	0.073	1.57 - 1.89	0.076	0.043	0.049		
	3IR2.15C-D472-1.50...	0.085	1.97 - 2.48	0.088	0.053	0.059		

Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.
For minimum bore diameters, refer to page 167.

Mini-L (Partial Profile)

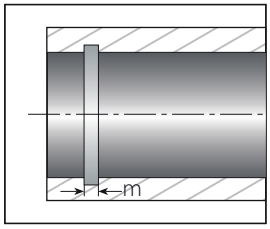
MINIPRO

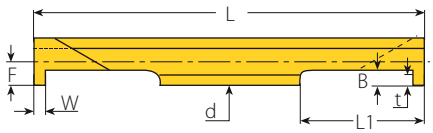
Insert Size	Ordering Code	Groove Std.	Dimensions inch		Min. Bore dia. (inch)	Holder
IC		m (H13)	W	t		
5.0L	5LIR0.9-D472-0.7...	0.035	0.039	0.028	0.315	.NVR...-5L
	5LIR1.1-D472-1.0...	0.043	0.047	0.039		
	5LIR1.3-D472-1.5...	0.051	0.055	0.051		

DIN 472 Retaining Ring Grooves for Bores

MINIPRO

Internal





RH-Double Ended

Micro - Double Ended

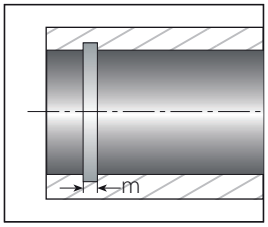
Insert dia.	Ordering Code	Groove Std.		Dimensions inch					Min. Bore dia.	Holder
d (mm)	RH	m (H13)	W	L1	L	B	t	F	inch	
3.0	3.0SIR0.90S-D472-0.5...	0.035	0.039	0.36	1.42	0.031	0.02	0.055	0.126	SMC..-3.0
	3.0SIR0.90M-D472-0.5...	0.035	0.039	0.64	1.97					
	3.0SIR1.10S-D472-0.5...	0.043	0.047	0.36	1.42					
	3.0SIR1.10M-D472-0.5...	0.043	0.047	0.64	1.97					
4.0	4.0SIR0.90S-D472-1.1...	0.035	0.039	0.36	1.42	0.055	0.043	0.075	0.161	SMC..-4.0
	4.0SIR0.90M-D472-1.1...	0.035	0.039	0.64	1.97					
	4.0SIR0.90L-D472-1.1...	0.035	0.039	0.84	2.36					
	4.0SIR1.10S-D472-1.1...	0.043	0.047	0.36	1.42					
	4.0SIR1.10M-D472-1.1...	0.043	0.047	0.64	1.97					
	4.0SIR1.10L-D472-1.1...	0.043	0.047	0.84	2.36					
	4.0SIR1.30S-D472-1.1...	0.051	0.055	0.36	1.42					
	4.0SIR1.30M-D472-1.1...	0.051	0.055	0.64	1.97					
	4.0SIR1.30L-D472-1.1...	0.051	0.055	0.84	2.36					
	4.0SIR1.60S-D472-1.1...	0.063	0.067	0.36	1.42					
	4.0SIR1.60M-D472-1.1...	0.063	0.067	0.64	1.97					
	4.0SIR1.60L-D472-1.1...	0.063	0.067	0.84	2.36					
6.0	6.0SIR0.90S-D472-1.5...	0.035	0.039	0.36	1.42	0.071	0.059	0.114	0.24	SMC..-6.0
	6.0SIR0.90M-D472-1.5...	0.035	0.039	0.64	1.97					
	6.0SIR0.90L-D472-1.5...	0.035	0.039	0.84	2.36					
	6.0SIR1.10S-D472-1.5...	0.043	0.047	0.36	1.42					
	6.0SIR1.10M-D472-1.5...	0.043	0.047	0.64	1.97					
	6.0SIR1.10L-D472-1.5...	0.043	0.047	0.84	2.36					
	6.0SIR1.30S-D472-1.5...	0.051	0.055	0.36	1.42					
	6.0SIR1.30M-D472-1.5...	0.051	0.055	0.64	1.97					
	6.0SIR1.30L-D472-1.5...	0.051	0.055	0.84	2.36					
	6.0SIR1.60S-D472-1.5...	0.063	0.067	0.36	1.42					
	6.0SIR1.60M-D472-1.5...	0.063	0.067	0.64	1.97					
	6.0SIR1.60L-D472-1.5...	0.063	0.067	0.84	2.36					
	6.0SIR1.85S-D472-1.5...	0.073	0.076	0.36	1.42					
	6.0SIR1.85M-D472-1.5...	0.073	0.076	0.64	1.97					
	6.0SIR1.85L-D472-1.5...	0.073	0.076	0.84	2.36					
	6.0SIR2.15S-D472-1.5...	0.085	0.088	0.36	1.42					
	6.0SIR2.15M-D472-1.5...	0.085	0.088	0.64	1.97					
	6.0SIR2.15L-D472-1.5...	0.085	0.088	0.84	2.36					

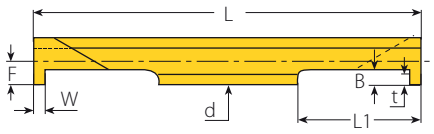
continued on next page ▶

DIN 472 Retaining Ring Grooves for Bores (con't)

MINIPRO

Internal





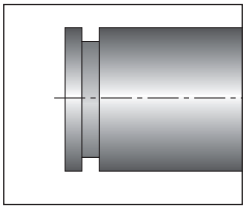
RH-Double Ended

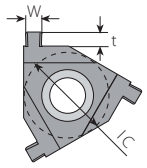
Micro - Double Ended (con't)

Insert dia.	Ordering Code	Groove Std.	Dimensions inch					Min. Bore dia.	Holder
d (mm)	RH	m (H13)	W	L1	L	B	t	F	inch	
8.0	8.0SIR1.10M-D472-2.0...	0.043	0.047	0.79	2.76	0.098	0.079	0.154	0.331	SMC..-8.0
	8.0SIR1.30M-D472-2.0...	0.051	0.055	0.79	2.76	0.098	0.079			
	8.0SIR1.60M-D472-2.5...	0.063	0.067	0.79	2.76	0.118	0.098			
	8.0SIR1.85M-D472-2.5...	0.073	0.076	0.79	2.76	0.118	0.098			
	8.0SIR2.15M-D472-3.0...	0.085	0.088	0.79	2.76	0.138	0.118			
	8.0SIR2.65M-D472-3.5...	0.104	0.108	0.79	2.76	0.157	0.138			
	8.0SIR3.15M-D472-3.5...	0.124	0.129	0.79	2.76	0.157	0.138			
10.0	10.0SIR1.30M-D472-3.5...	0.051	0.055	0.98	3.15	0.157	0.138	0.193	0.409	SMC..-10.0
	10.0SIR1.60M-D472-3.5...	0.063	0.067	0.98	3.15					
	10.0SIR1.85M-D472-3.5...	0.073	0.076	0.98	3.15					
	10.0SIR2.15M-D472-3.5...	0.085	0.088	0.98	3.15					
	10.0SIR2.65M-D472-3.5...	0.104	0.108	0.98	3.15					
	10.0SIR3.15M-D472-3.5...	0.124	0.129	0.98	3.15					
	10.0SIR4.15M-D472-3.5...	0.163	0.169	0.98	3.15					
	10.0SIR5.15M-D472-3.5...	0.203	0.208	0.98	3.15					

CIRCLIP Inch Standard

External





Standard
(Partial Profile)

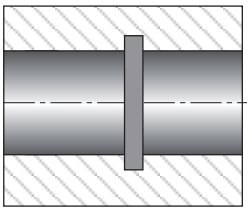
Standard (Partial Profile)

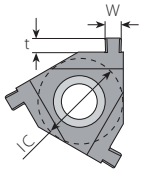
Insert Size	Ordering Code	Dimensions Inch		Anvil	Holder
IC		W	t		
3/8"	3ER.031-CIRC-.05	0.031	0.05	YE3M-1.5N	AL..-3
	3ER.041-CIRC-.07	0.041	0.07		
	3ER.047-CIRC-.07	0.047	0.08		
	3ER.058-CIRC-.08	0.058	0.08		
	3ER.062-CIRC-.08	0.062	0.08		
	3ER.072-CIRC-.08	0.072	0.08		
	3ER.078-CIRC-.08	0.078	0.08		

Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.

CIRCLIP Inch Standard

Internal





Standard
(Partial Profile)

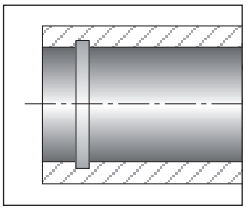
Standard (Partial Profile)

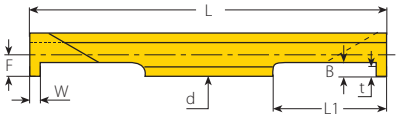
Insert Size	Ordering Code	Dimensions Inch		Anvil	Holder
IC		W	t		
3/8"	3IR.031-CIRC-.05	0.031	0.05	YI3M-1.5N	AVR..-3*
	3IR.041-CIRC-.07	0.041	0.07		
	3IR.047-CIRC-.07	0.047	0.07		
	3IR.058-CIRC-.08	0.058	0.08		
	3IR.062-CIRC-.08	0.062	0.08		
	3IR.072-CIRC-.08	0.072	0.08		
	3IR.078-CIRC-.08	0.078	0.08		

Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.

* For minimum bore diameters, refer to page 161.

Internal





RH-Double Ended

Micro (Partial Profile)

Insert dia.		Dimensions Inch							Min. Bore dia.
d mm	RH-Double Ended	W	L1	L	B	t	F	Holder	
3.0	3.0SIR.027S-CIRC-.02...	0.027	0.354	1.42	0.035	0.023	0.055	SMC0...-3.0	0.126
	3.0SIR.027M-CIRC-.02...	0.027	0.63	1.97					
	3.0SIR.031S-CIRC-.02...	0.031	0.354	1.42					
	3.0SIR.031M-CIRC-.02...	0.031	0.63	1.97					
	3.0SIR.041S-CIRC-.02...	0.041	0.354	1.42					
	3.0SIR.041M-CIRC-.02...	0.041	0.63	1.97					
	3.0SIR.046S-CIRC-.04...	0.046	0.354	1.42	0.055	0.043			
	3.0SIR.046M-CIRC-.04...	0.046	0.63	1.97					
4.0	4.0SIR.027S-CIRC-.04...	0.027	0.354	1.42	0.055	0.043	0.074	SMC0...-4.0	0.165
	4.0SIR.027M-CIRC-.04...	0.027	0.63	1.97					
	4.0SIR.027L-CIRC-.04...	0.027	0.827	2.36					
	4.0SIR.031S-CIRC-.04...	0.031	0.354	1.42					
	4.0SIR.031M-CIRC-.04...	0.031	0.63	1.97					
	4.0SIR.031L-CIRC-.04...	0.031	0.827	2.36					
	4.0SIR.041S-CIRC-.04...	0.041	0.354	1.42					
	4.0SIR.041M-CIRC-.04...	0.041	0.63	1.97					
	4.0SIR.041L-CIRC-.04...	0.041	0.827	2.36					
	4.0SIR.047S-CIRC-.04...	0.046	0.354	1.42					
	4.0SIR.047M-CIRC-.04...	0.046	0.63	1.97					
	4.0SIR.047L-CIRC-.04...	0.046	0.827	2.36					
	4.0SIR.058S-CIRC-.04...	0.058	0.354	1.42					
	4.0SIR.058M-CIRC-.04...	0.058	0.63	1.97					
	4.0SIR.058L-CIRC-.04...	0.058	0.827	2.36					
	4.0SIR.062S-CIRC-.06...	0.062	0.354	1.42	0.071	0.059			
	4.0SIR.062M-CIRC-.06...	0.062	0.63	1.97					
	4.0SIR.062L-CIRC-.06...	0.062	0.827	2.36					
	4.0SIR.078S-CIRC-.06...	0.078	0.354	1.42					
	4.0SIR.078M-CIRC-.06...	0.078	0.63	1.97					
	4.0SIR.078L-CIRC-.06...	0.078	0.827	2.36					

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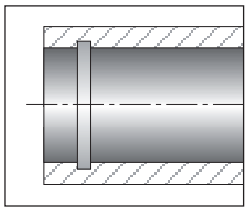
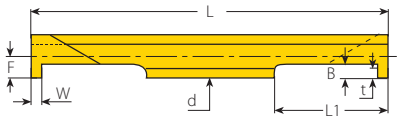
Internal





RH-Double Ended

Micro (Partial Profile) con't

Insert dia.	Dimensions Inch								Min. Bore dia.
d mm	RH-Double Ended	W	L1	L	B	t	F	Holder	
6.0	6.0SIR.046S-CIRC-.06...	0.046	0.354	1.42	0.071	0.059	0.114	SMC0...-6.0	0.244
	6.0SIR.046M-CIRC-.06...	0.046	0.63	1.97					
	6.0SIR.046L-CIRC-.06...	0.046	0.827	2.36					
	6.0SIR.058S-CIRC-.06...	0.058	0.354	1.42					
	6.0SIR.058M-CIRC-.06...	0.058	0.63	1.97					
	6.0SIR.058L-CIRC-.06...	0.058	0.827	2.36					
	6.0SIR.062S-CIRC-.06...	0.062	0.354	1.42					
	6.0SIR.062M-CIRC-.06...	0.062	0.63	1.97					
	6.0SIR.062L-CIRC-.06...	0.062	0.827	2.36					
	6.0SIR.072S-CIRC-.06...	0.072	0.354	1.42					
	6.0SIR.072M-CIRC-.06...	0.072	0.63	1.97					
	6.0SIR.072L-CIRC-.06...	0.072	0.827	2.36					
	6.0SIR.078S-CIRC-.06...	0.078	0.354	1.42					
	6.0SIR.078M-CIRC-.06...	0.078	0.63	1.97					
	6.0SIR.078L-CIRC-.06...	0.078	0.827	2.36					
	6.0SIR.088S-CIRC-.06...	0.088	0.354	1.42					
	6.0SIR.088M-CIRC-.06...	0.088	0.63	1.97					
	6.0SIR.088L-CIRC-.06...	0.088	0.827	2.36					
	6.0SIR.094S-CIRC-.07...	0.094	0.354	1.42					
	6.0SIR.094M-CIRC-.07...	0.094	0.63	1.97					
	6.0SIR.094L-CIRC-.07...	0.094	0.827	2.36	0.079	0.069			
	6.0SIR.097S-CIRC-.07...	0.097	0.354	1.42					
	6.0SIR.097M-CIRC-.07...	0.097	0.63	1.97					
	6.0SIR.097L-CIRC-.07...	0.097	0.827	2.36					
	6.0SIR.105S-CIRC-.07...	0.105	0.354	1.42					
	6.0SIR.105M-CIRC-.07...	0.105	0.63	1.97					
	6.0SIR.105L-CIRC-.07..	0.105	0.827	2.36					

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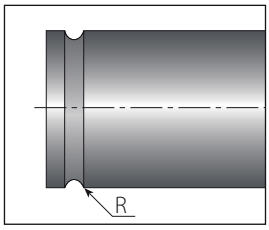
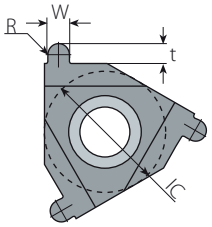
DIN 7993 Snap Ring Grooves

External





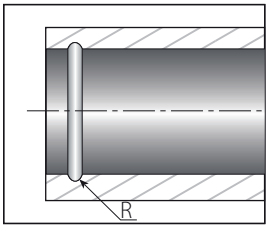
Standard
(Partial Profile)

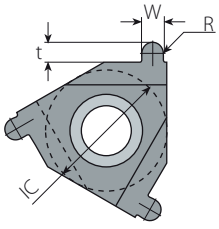
Standard (Partial Profile for Shafts)

Insert Size	Ordering Code	Dimensions inch			Anvil	Holder
IC	RH	R	W	t		
3/8"	3ER0.40-D7993-0.60...	0.015	0.031	0.024	YE3M-1.5N	AL..-3
	3ER0.60-D7993-0.80...	0.023	0.047	0.031		
	3ER0.90-D7993-1.10...	0.035	0.071	0.043		
	3ER1.00-D7993-1.20...	0.039	0.079	0.047		

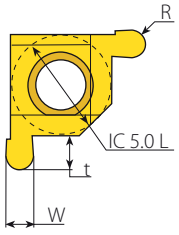
Range of profiles also available on IC 1/4", 1/2" and 5/8", inserts on request.

Internal





Standard
(Partial Profile)



Mini-L
(Partial Profile)

Standard (Partial Profile for Bores)

Insert Size	Ordering Code	Dimensions inch			Anvil	Holder
IC	RH	R	W	t		
3/8"	3IR0.60-D7993-0.80...	0.023	0.047	0.031	YI3M-1.5N	AVR..-3
	3IR0.90-D7993-1.10...	0.035	0.071	0.043		
	3IR1.00-D7993-1.20...	0.039	0.079	0.047		

Range of profiles also available on IC 1/4", 1/2" and 5/8" inserts on request.
For minimum bore diameters, refer to page 167.

Mini-L (Partial Profile for Bores)

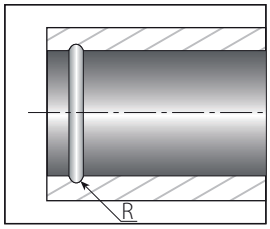
MINIPRO

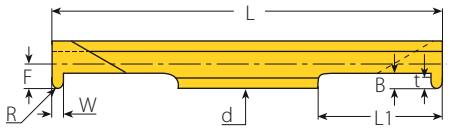
Insert Size	Ordering Code	Dimensions inch			Min. Bore dia.	Holder
IC	RH	R	W	t	inch	
5.0L	5LIR0.4-D7993-0.8...	0.016	0.031	0.031	0.315	.NVR...-5L
	5LIR0.6-D7993-1.0...	0.024	0.047	0.039		

DIN 7993 Snap Ring Grooves

MINIPRO

Internal





RH-Double Ended

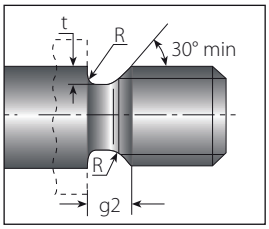
Micro (Partial Profile) - Double Ended

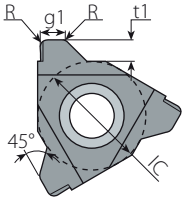
Insert Dia.	Ordering Code	Groove Std.	Dimensions inch						Min. Bore dia.	Holder
d (mm)	RH	R	W	L1	L	B	t	F	inch	
3.0	3.0SIR0.4S-D7993-0.6...	0.016	0.031	0.36	1.42	0.031	0.024	0.055	0.126	SMC..-3.0
	3.0SIR0.4M-D7993-0.6...	0.016	0.031	0.64	1.97					
4.0	4.0SIR0.4S-D7993-0.6...	0.016	0.031	0.36	1.42	0.035	0.024	0.075	0.161	SMC..-4.0
	4.0SIR0.4M-D7993-0.6...	0.016	0.031	0.64	1.97					
	4.0SIR0.4L-D7993-0.8...	0.016	0.031	0.84	2.36	0.043	0.031			
	4.0SIR0.6S-D7993-0.8...	0.024	0.047	0.36	1.42					
	4.0SIR0.6M-D7993-0.8...	0.024	0.047	0.64	1.97					
	4.0SIR0.6L-D7993-0.8...	0.024	0.047	0.84	2.36					
	4.0SIR0.9S-D7993-1.1...	0.035	0.071	0.36	1.42	0.055	0.043			
	4.0SIR0.9M-D7993-1.1...	0.035	0.071	0.64	1.97					
	4.0SIR0.9L-D7993-1.1...	0.035	0.071	0.84	2.36					
6.0	6.0SIR0.9S-D7993-1.1...	0.035	0.071	0.36	1.42	0.055	0.043	0.114	0.24	SMC..-6.0
	6.0SIR0.9M-D7993-1.1...	0.035	0.071	0.64	1.97					
	6.0SIR0.9L-D7993-1.1...	0.035	0.071	0.84	2.36					
	6.0SIR1.0S-D7993-1.2...	0.039	0.079	0.36	1.42	0.059	0.047			
	6.0SIR1.0M-D7993-1.2...	0.039	0.079	0.64	1.97					
	6.0SIR1.0L-D7993-1.2...	0.039	0.079	0.84	2.36					
	6.0SIR1.1S-D7993-1.3...	0.043	0.087	0.36	1.42	0.063	0.051			
	6.0SIR1.1M-D7993-1.3...	0.043	0.087	0.64	1.97					
	6.0SIR1.1L-D7993-1.3...	0.043	0.087	0.84	2.36					
8.0	8.0SIR0.9M-D7993-2.0...	0.035	0.071	0.79	2.76	0.098	0.079	0.154	0.331	SMC..-8.0
	8.0SIR1.1M-D7993-2.0...	0.043	0.087	0.79	2.76					
	8.0SIR1.4M-D7993-2.0...	0.055	0.110	0.79	2.76					
10.0	10.0SIR1.4M-D7993-2.9...	0.055	0.110	0.99	3.15	0.134	0.114	0.193	0.409	SMC..-10.0
	10.0SIR1.8M-D7993-2.9...	0.071	0.142	0.99	3.15					

DIN 76 Thread Undercuts

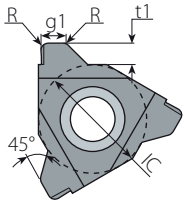
(For ISO Metric Threads in Accordance with DIN 13)

External





Normal - Type A



Short - Type B

Standard (Normal - Type A)

Insert Size	Ordering Code	Pitch	Dimensions inch					Anvil	Holder
IC	RH	(mm)	R	g1	g2	t	t1		
3/8″	3ER0.50-D76ST-0.40...	0.50	0.008	0.043	0.059	0.016	0.098	YE3M-1.5N	AL..-3
	3ER0.60-D76ST-0.50...	0.60	0.015	0.051	0.071	0.020	0.094		
	3ER0.70-D76ST-0.55...	0.70	0.015	0.061	0.083	0.022	0.087		
	3ER0.80-D76ST-0.65...	0.80	0.015	0.069	0.094	0.026	0.083		
	3ER1.00-D76ST-0.80...	1.00	0.023	0.087	0.118	0.031	0.075		
5/8″	5ER1.25-D76ST-1.00...	1.25	0.023	0.110	0.150	0.039	0.142	YE5M-1.5N	AL..-5
	5ER1.50-D76ST-1.15...	1.50	0.031	0.132	0.177	0.045	0.130		
	5ER1.75-D76ST-1.30...	1.75	0.039	0.157	0.209	0.051	0.118		
	5ER2.00-D76ST-1.50...	2.00	0.039	0.177	0.236	0.059	0.106		

Standard (Short - Type B)

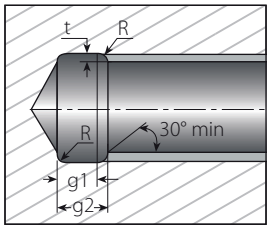
Insert Size	Ordering Code	Pitch	Dimensions inch					Anvil	Holder
IC	RH	(mm)	R	g1	g2	t	t1		
3/8″	3ER1.00-D76SH-0.80...	1.00	0.023	0.047	0.079	0.031	0.098	YE3M-1.5N	AL..-3
	3ER1.25-D76SH-1.00...	1.25	0.023	0.059	0.098	0.039	0.091		
	3ER1.50-D76SH-1.15...	1.50	0.031	0.073	0.118	0.045	0.083		
	3ER1.75-D76SH-1.30...	1.75	0.039	0.087	0.138	0.051	0.075		
5/8″	5ER2.00-D76SH-1.50...	2.00	0.039	0.098	0.157	0.059	0.150	YE5M-1.5N	AL..-5
	5ER2.50-D76SH-1.80...	2.50	0.047	0.126	0.197	0.071	0.138		
	5ER3.00-D76SH-2.20...	3.00	0.063	0.150	0.236	0.087	0.122		

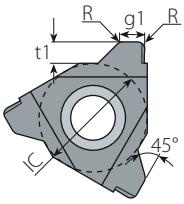
Range of profiles also available on IC 1/4″ and 1/2″ inserts on request.

DIN 76 Thread Undercuts

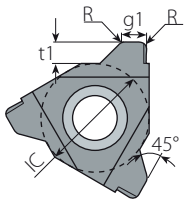
(For ISO Metric Threads in Accordance with DIN 13)

Internal





Normal - Type C



Short - TypeD

Standard (Normal - Type C)

Insert Size	Ordering Code	Pitch	Dimensions inch					Anvil	Holder
IC	RH	(mm)	R	g1	g2	t	t1		
3/8"	3IR0.50-D76ST-0.40...	0.50	0.008	0.043	0.059	0.016	0.098	Y13M-1.5N	AL..-3
	3IR0.60-D76ST-0.50...	0.60	0.015	0.051	0.071	0.020	0.094		
	3IR0.70-D76ST-0.55...	0.70	0.015	0.061	0.083	0.022	0.087		
	3IR0.80-D76ST-0.65...	0.80	0.015	0.069	0.094	0.026	0.083		
	3IR1.00-D76ST-0.80...	1.00	0.023	0.087	0.118	0.031	0.075		

Range of profiles also available on IC 1/4", 1/2" and 5/8" inserts on request.
For minimum bore diameters, refer to page 167.

Standard (Short - Type D)

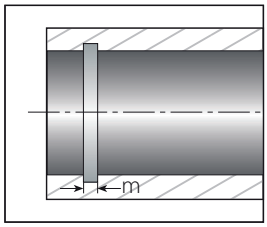
Insert Size	Ordering Code	Pitch	Dimensions inch					Anvil	Holder
IC	RH	(mm)	R	g1	g2	t	t1		
3/8"	3IR1.00-D76SH-0.80...	1.00	0.023	0.047	0.079	0.031	0.098	Y13M-1.5N	AL..-3
	3IR1.25-D76SH-1.00...	1.25	0.023	0.059	0.098	0.039	0.091		
	3IR1.50-D76SH-1.15...	1.50	0.031	0.073	0.118	0.045	0.083		
	3IR1.75-D76SH-1.30...	1.75	0.039	0.087	0.138	0.051	0.075		

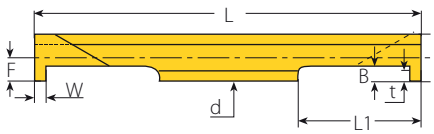
Range of profiles also available on IC 1/4", 1/2" and 5/8" inserts on request.
For minimum bore diameters, refer to page 167.

DIN 3770 - Grooves

MINIPRO

Internal



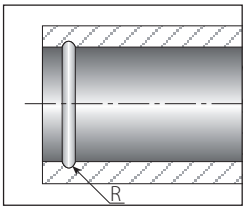


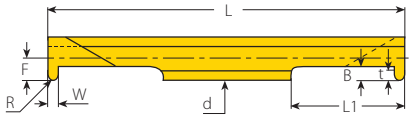
RH-Double Ended

Micro - Double Ended

Insert dia.	Ordering Code	Groove Std.	Dimensions inch					Min. Bore dia.	Holder
d (mm)	RH	m (H13)	W	L1	L	B	t	F	inch	
6.0	6.0SIR1.6S-D3770S-1.5...	0.063	0.078	0.36	1.42	0.071	0.059	0.114	0.24	SMC..-6.0
	6.0SIR1.6M-D3770S-1.5...	0.063	0.078	0.64	1.97					
	6.0SIR1.6L-D3770S-1.5...	0.063	0.078	0.84	2.36					
	6.0SIR2.0S-D3770D-1.8...	0.079	0.094	0.36	1.42	0.079	0.071	0.114		
	6.0SIR2.0M-D3770D-1.8...	0.079	0.094	0.64	1.97					
	6.0SIR2.0L-D3770D-1.8...	0.079	0.094	0.84	2.36					

Internal



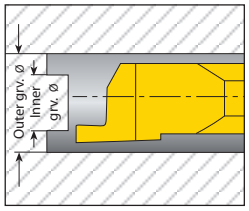


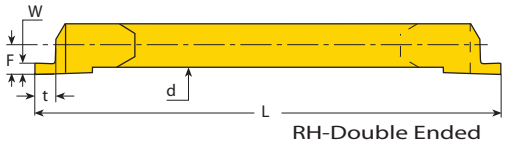
RH-Double Ended

Micro (Partial Profile)

Insert Dia.		Groove Std.	Dimensions mm							Min. Bore dia.
d mm	RH-Double Ended	R	W	L1	L	B	t	F	Holder	
3.0	3.0SIR.015S-SNAP-.02...	0.015	0.03	0.354	1.42	0.035	0.024	0.055	SMC0...-3.0	0.126
	3.0SIR.015M-SNAP-.02...	0.015	0.03	0.63	1.97					
4.0	4.0SIR.015S-SNAP-.02...	0.015	0.03	0.354	1.42	0.035	0.024	0.075	SMC0...-4.0	0.161
	4.0SIR.015M-SNAP-.02...	0.015	0.03	0.63	1.97					
	4.0SIR.015L-SNAP-.02...	0.015	0.03	0.827	2.36					
	4.0SIR.023S-SNAP-.03...	0.023	0.047	0.354	1.42	0.047	0.035			
	4.0SIR.023M-SNAP-.03...	0.023	0.047	0.63	1.97					
	4.0SIR.023L-SNAP-.03...	0.023	0.047	0.827	2.36					
	4.0SIR.031S-SNAP-.05...	0.031	0.062	0.354	1.42	0.059	0.047			
	4.0SIR.031M-SNAP-.05...	0.031	0.062	0.63	1.97					
	4.0SIR.031L-SNAP-.05...	0.031	0.062	0.827	2.36					
6.0	6.0SIR.031S-SNAP-.05...	0.031	0.062	0.354	1.42	0.063	0.051	0.114	SMC0...-6.0	0.24
	6.0SIR.031M-SNAP-.05...	0.031	0.062	0.63	1.97					
	6.0SIR.031L-SNAP-.05...	0.031	0.062	0.827	2.36					
	6.0SIR.036S-SNAP-.05...	0.036	0.072	0.354	1.42					
	6.0SIR.036M-SNAP-.05...	0.036	0.072	0.63	1.97					
	6.0SIR.036L-SNAP-.05...	0.036	0.072	0.827	2.36					
	6.0SIR.039S-SNAP-.05...	0.039	0.078	0.354	1.42					
	6.0SIR.039M-SNAP-.05...	0.039	0.078	0.63	1.97					
	6.0SIR.039L-SNAP-.05...	0.039	0.078	0.827	2.36					
	6.0SIR.047S-SNAP-.05...	0.047	0.094	0.354	1.42					
	6.0SIR.047M-SNAP-.05...	0.047	0.094	0.63	1.97					
	6.0SIR.047L-SNAP-.05...	0.047	0.094	0.827	2.36					
	6.0SIR.062S-SNAP-.07...	0.062	0.125	0.354	1.42	0.079	0.067			
	6.0SIR.062M-SNAP-.07...	0.062	0.125	0.63	1.97					
	6.0SIR.062L-SNAP-.07...	0.062	0.125	0.827	2.36					

Internal

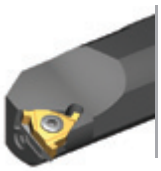
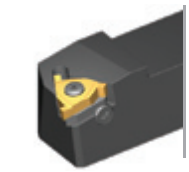
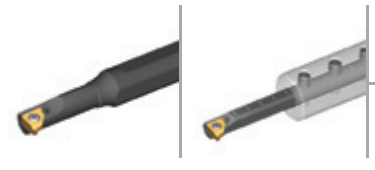




Micro (Partial Profile)

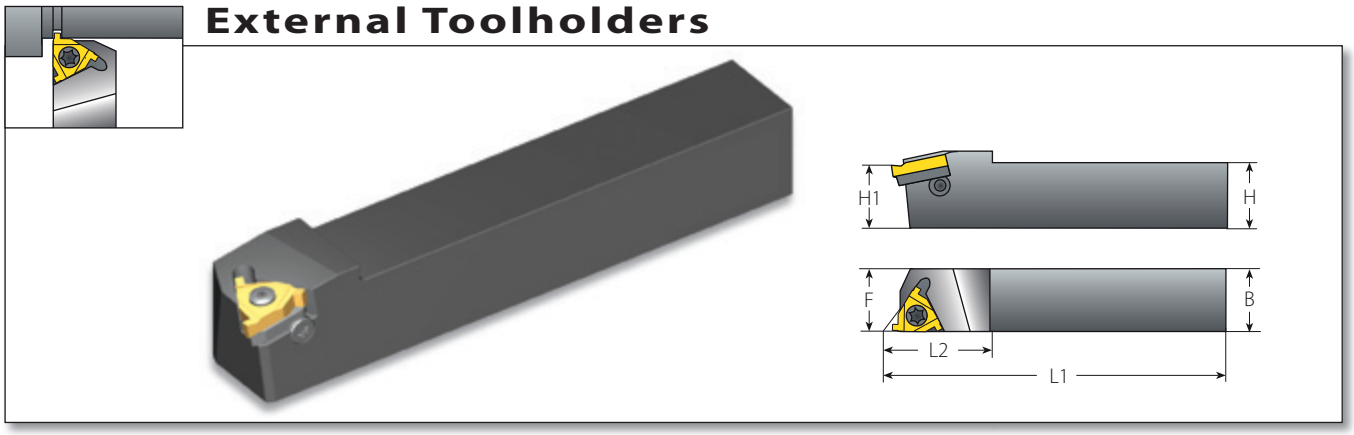
Insert Dia.		Dimensions mm					Inner Groove	Outer Groove
d mm	RH-Double Ended	W	t	L	F	Sleeve	Ø	Ø
4.0	4.0SIR.031A-CIRC-.055...	0.031	0.043	1.969	0.076	SMC...-4.0	0.138	0.198
	4.0SIR.041A-CIRC-.063...	0.041	0.051				0.130	0.212
	4.0SIR.047A-CIRC-.071...	0.047	0.059				0.122	0.216
	4.0SIR.058A-CIRC-.082...	0.058	0.075				0.110	0.226
	4.0SIR.062A-CIRC-.086...	0.062	0.083				0.106	0.230
6.0	6.0SIR.031A-CIRC-.055...	0.031	0.043	1.969	0.126	SMC...-6.0	0.216	0.276
	6.0SIR.041A-CIRC-.063...	0.041	0.051				0.209	0.291
	6.0SIR.047A-CIRC-.071...	0.047	0.059				0.200	0.294
	6.0SIR.058A-CIRC-.082...	0.058	0.075				0.189	0.305
	6.0SIR.062A-CIRC-.086...	0.062	0.083				0.185	0.309
	6.0SIR.072A-CIRC-.094...	0.072	0.087				0.177	0.321
	6.0SIR.078A-CIRC-.088...	0.078	0.087				0.169	0.325
	6.0SIR.088A-CIRC-.110...	0.088	0.088				0.161	0.337

Grooving

> Toolholders

External Toolholders

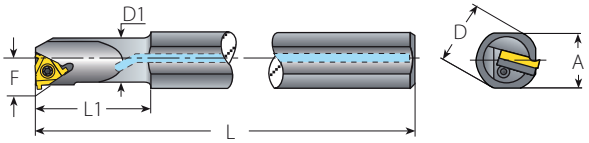


Standard

Insert Size	Ordering Code	EDP No.	Dimensions inch				Spare Parts			
										*
IC	RH		H=H1=B	F	L1	L2	Insert Screw	Anvil Screw	Torx Key	Anvil RH
1/4"	NL031-2	66214	0.31	0.43	5.37	0.69	SN2T	-	K2T	-
3/8"	AL3/8-3	66091	0.37	0.63	2.45	0.76	SA3T	SY3T	K3T	YE3M-1.5N
	AL050-3	66000	0.50	0.63	3.27	0.87				
	AL0625-3	66005	0.63	0.63	5.00	1.02				
	AL075-3	66007	0.75	0.75	5.00	1.02				
	AL100-3	66016	1.00	1.00	6.00	1.20				
	AL125-3	66036	1.25	1.25	7.00	1.18				
1/2"	AL100-4	66024	1.00	1.00	6.00	1.42	SA4T	SY4T	K4T	YE4M-1.5N
	AL125-4	66042	1.25	1.25	7.00	1.42				
	AL150-4	66066	1.50	1.50	8.00	1.42				
5/8"	AL100-5	66034	1.00	1.25	6.00	1.57	SA5T	SY5T	K5T	YE5M-1.5N
	AL125-5	66051	1.25	1.25	7.00	1.57				
	AL150-5	66073	1.50	1.50	8.00	1.57				
	AL200-5	66085	2.00	2.00	10.00	1.57				

* The toolholders are supplied with standard anvils. For Grooving, please use the anvils indicated in the table above.

Internal Toolholders



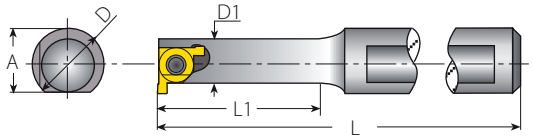
Standard

Insert Size	Ordering Code	EDP No.	Dimensions inch						Min. Bore dia.	Spare Parts			
IC	RH		A	L	L1	D	D1	F	inch	Insert Screw	Anvil Screw	Torx Key	Anvil RH
1/4″	NVRC0375-2	66234	0.67	7.00	1.00	0.75	0.37	0.28	0.50	SN2T	-	K2T	-
	NVRC050-2	66236	0.67	7.00	1.25	0.75	0.50	0.37	0.65				
3/8″	NVRC050-3	66238	0.67	7.00	1.25	0.75	0.50	0.40	0.67	SN3T	-	K3T	-
	NVRC0625-3	66240	0.67	7.00	1.50	0.75	0.62	0.46	0.80				
	NVRC0625D-3	66242	0.58	6.00	1.25	0.62	0.62	0.46	0.80				
	AVRC075-3	66098	0.67	7.00	1.50	0.75	0.75	0.51	0.90	SA3T	SY3T	K3T	YI3M-1.5N
	AVRC100-3	66100	1.12	10.00	2.50	1.25	1.00	0.65	1.20				
	AVRC100D-3	66104	0.90	8.00	1.75	1.00	1.00	0.65	1.20				
	AVRC125-3	66108	1.12	10.00	2.50	1.25	1.25	0.77	1.45				
	AVRC150-3	66114	1.34	12.00	2.50	1.50	1.50	0.90	1.65				
1/2″	NVRC075-4	66244	0.67	7.00	2.00	0.75	0.75	0.59	1.00	SN4T	-	K4T	-
	AVRC100-4	66102	1.12	10.00	2.50	1.25	1.00	0.71	1.25	SA4T	SY4T	K4T	YI4M-1.5N
	AVRC100D-4	66106	0.88	8.00	1.75	1.00	1.00	0.71	1.25				
	AVRC125-4	66110	1.12	10.00	2.50	1.25	1.25	0.85	1.50				
	AVRC150-4	66116	1.34	12.00	2.50	1.50	1.50	0.98	1.75				
5/8″	AVRC125-5	66112	1.12	10.00	2.50	1.25	1.25	0.88	1.55	SN5T	SY5T	K5T	YI5M-1.5N
	AVRC150-5	66118	1.34	12.00	2.50	1.50	1.50	1.00	1.80	SA5T	SY5T	K5T	YI5M-1.5N
	AVRC200-5	66120	1.80	14.00	3.00	2.00	2.00	1.25	2.30				
	AVRC250-5	66123	2.26	16.00	3.00	2.50	2.50	1.50	2.80				

* The toolholders are supplied with standard anvils. For Grooving, please use the anvils indicated in the table above.

Internal Toolholders

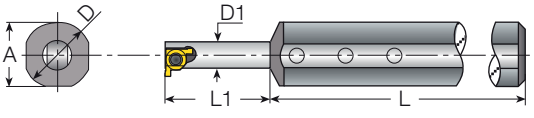
MINIPRO



Mini-L

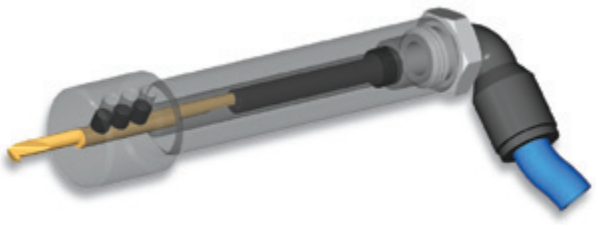
Insert Size	Ordering Code	EDP No.	Dimensions inch					Anti-Vibration System	Spare Parts	
IC	RH		A	L	L1	D	D1		Insert Screw	Torx Key
5.0L	SNVR 0375U-5L	67336	0.36	3.19	0.63	0.37	0.24	No	SN5LT	K5LT
	BNVR 0375S-5L	67306	0.36	3.43	0.87	0.37	0.24	Carbide Implanted		
	BNVR 0375M-5L	67302	0.36	3.82	1.22	0.37	0.24	Carbide Implanted		
	BNVR 0375L-5L	67300	0.36	4.29	1.69	0.37	0.24	Carbide Implanted		
5.0L	SNVR 050U-5L	67340	0.49	3.19	0.63	0.50	0.24	No		
	BNVR 050S-5L	67315	0.49	3.43	0.87	0.50	0.24	Carbide Implanted		
	BNVR 050M-5L	67311	0.49	3.82	1.22	0.50	0.24	Carbide Implanted		
	BNVR 050L-5L	67309	0.49	4.29	1.69	0.50	0.24	Carbide Implanted		

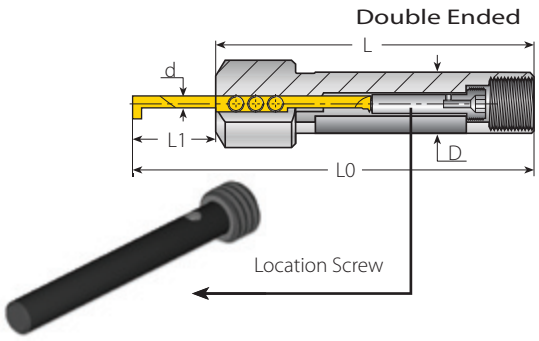
MINIPRO



Mini-L - Adjustable

Insert Size	Ordering Code	EDP No.		EDP No.	Dimensions inch				Spare Parts			
IC	Sleeve		Holder RH		A	L	L1	D	D1	Insert Screw	Torx Key for Insert Screw	Holder Screw x 3	Key for Holder Screw
5.0L	SV0625-6.2	67343	BNVR6.2T-5L	67324	.584	4	0.315-1.73	.625	.244	SN5LT	K5LT	S4.0	K2.0





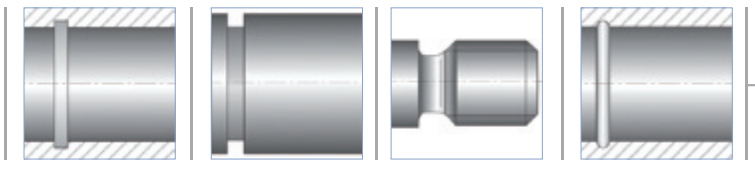
Micro - Double Ended

Spare Parts

Micro Insert Dia.	Shank Dia.	Ordering Code	EDP No.	Dimensions inch			Location Screw*			Clamping Screw x 3	
d [mm]	D			L	L1	L0	Screw	M	Key	Screw	Key
3	0.50	SMC050-3.0	41075	3.15	0.35- Short	3.50	4GISM8X28	1.10	K4.0	M4X0.7X4.0	K2.0
					0.63- Medium	3.78	4GISM8X21	0.83			
	0.63	SMC0625-3.0	40210	3.74	0.35- Short	4.09	4GISM8X49	1.93			
	0.75	SMC075-3.0	41080		0.63- Medium	4.37	4GISM8X42	1.65			
4	0.50	SMC050-4.0	41092	3.15	0.35- Short	3.50	4GISM8X28	1.10			
					0.63- Medium	3.78	4GISM8X21	0.83			
					0.83- Long	3.98	4GISM8X16	0.63			
	0.63	SMC0625-4.0	40212	3.74	0.35- Short	4.09	4GISM8X49	1.93			
	0.75	SMC075-4.0	41081		0.63- Medium	4.37	4GISM8X42	1.65			
					0.83- Long	4.57	4GISM8X37	1.46			
6	0.50	SMC050-6.0	41517	3.15	0.35- Short	3.5	4GISM8X28	1.10			
					0.63- Medium	3.78	4GISM8X21	0.83			
					0.83- Long	3.98	4GISM8X16	0.63			
	0.63	SMC0625-6.0	40214	3.74	0.35- Short	4.09	4GISM8X49	1.93			
					0.63- Medium	4.37	4GISM8X42	1.65			
	0.75	SMC075-6.0	41082		0.83- Long	4.57	4GISM8X37	1.46			

* Every toolholder package contains the full range of location screws needed.

Grooving



> Technical Data

Recommended Grades, Cutting Speeds Vc [ft/min] and Feed f [inch/rev]

Material Group	Vardex No.	Material		Hardness Brinell HB	Vc [ft/min] Coated				Feed f [inch/rev]	
					VTX (Laydown)	VMX (Micro)	VKP (Mini)	VHX (Mini)	Laydown & Mini	Micro
P Steel	1	Unalloyed steel	Low carbon (C=0.1-0.25%)	125	459 - 656	164 - 393	459 - 656	66 - 164	0.0118	0.0012
	2		Medium carbon (C=0.25-0.55%)	150	393 - 590	131 - 328	393 - 590	49 - 131	0.0059	0.0008
	3		High Carbon (C=0.55-0.85%)	170	361 - 590	98 - 262	361 - 590	49 - 98	0.002	0.0004
	4	Low alloy steel (alloying elements ≤ 5%)	Non hardened	180	328 - 508	164 - 229	328 - 508	66 - 148	0.0098	0.0008
	5		Hardened	275	295 - 475	131 - 197	295 - 475	33 - 82	0.0039	0.0004
	6		Hardened	350	262 - 443	98 - 164	262 - 443	33 - 82	0.002	0.0004
	7	High alloy steel (alloying elements >5%)	Annealed	200	229 - 377	98 - 164	213 - 377		0.0079	0.0008
	8		Hardened	325	164 - 328	82 - 131	164 - 328		0.002	0.0004
	9	Cast steel	Low alloy (alloying elements <5%)	200	98 - 164	98 - 164	98 - 164	82 - 164	0.0079	0.0008
	10		High alloy (alloying elements >5%)	225	66 - 131	82 - 131	82 - 131	66 - 131	0.002	0.0008
M Stainless Steel	11	Stainless steel Feritic	Non hardened	200	229 - 393	197 - 328	262 - 393		0.0079	0.0004
	12		Hardened	330	197 - 311	131 - 197	180 - 311		0.002	0.0004
	13	Stainless steel Austenitic	Austenitic	180	229 - 328	164 - 295	197 - 328		0.0079	0.0004
	14		Super Austenitic	200	131 - 295	131 - 197	164 - 295		0.002	0.0004
	15	Stainless steel Cast feritic	Non hardened	200	262 - 361	131 - 197	197 - 262		0.0079	0.0008
	16		Hardened	330	213 - 361	98 - 164	148 - 213		0.002	0.0004
	17	Cast austenitic	Austenitic	200	279 - 328	131 - 197	164 - 229		0.0079	0.0008
	18		Hardened	330	197 - 328	98 - 164	131 - 197		0.002	0.0004
K Cast Iron	28	Malleable Cast iron	Ferritic (short chips)	130	229 - 393	164 - 229	197 - 262		0.0079	0.0008
	29		Pearlitic (long chips)	230	229 - 393	164 - 229	197 - 262		0.0059	0.0004
	30	Grey cast iron	Low tensile strength	180	229 - 393	164 - 229	197 - 262		0.0079	0.0008
	31		High tensile strength	260	197 - 328	131 - 197	131 - 229		0.0039	0.0059
	32	Nodular SG iron	Feritic	160	164 - 262	164 - 229	197 - 262		0.0079	0.0008
	33		Pearlitic	260	197 - 295	197 - 262	229 - 295		0.0039	0.0004
N(K) Non-Ferrous Metals	34	Aluminium alloys Wrought	Non aging	60	328 - 787	328 - 983	262 - 787	98 - 197	0.0157	0.0012
	35		Aged	100	262 - 557	328 - 492	328 - 557	82 - 164	0.0039	0.0012
	36	Aluminium alloys	Cast	75	328 - 492	328 - 492	328 - 492	82 - 164	0.0098	0.0012
	37		Cast & aged	90	262 - 393	197 - 328	197 - 328	66 - 131	0.0059	0.0012
	38	Aluminium alloys	Cast Si 13-22%	130	328 - 492	328 - 492	328 - 492	49 - 98	0.0059	0.0008
	39	Copper and copper alloys	Brass	90	262 - 656	197 - 328	262 - 656	49 - 115	0.0079	0.0012
	40		Bronze and non leaded copper	100	262 - 656	197 - 328	262 - 656	49 - 115	0.0059	0.0012
S(M) Heat Resistant Material	19	High temperature alloys	Annealed (Iron based)	200	148 - 197	82 - 148	82 - 148		0.0079	0.0004
	20		Aged (Iron based)	280	115 - 164	66 - 98	66 - 98		0.002	0.0004
	21		Annealed (Nickel or Cobalt based)	250	66 - 98	49 - 66	49 - 66		0.002	0.0004
	22		Aged (Nickel or Cobalt based)	350	49 - 82	33 - 49	33 - 49		0.002	0.0004
	23	Titanium alloys	Pure 99.5 Ti	400Rm	459 - 557	197 - 328	197 - 328		0.0039	0.0008
	24		α+β alloys	1050Rm	164 - 229	131 - 164	131 - 164		0.002	0.0008
H(K) Hardned Material	25	Extra hard steel	Hardened & tempered	45-50HRc	148 - 197	66 - 131	66 - 131		0.0008	0.0004
	26			51-55HRc	131 - 164	66 - 115	66 - 115		0.0008	0.0004

Grades and Their Application

Grade	Application Type	Sample	Grade	Application Type	Sample
VTX	General use carbide grade. A tough sub-micron substrate with TiAlN coating. Provides good fracture toughness and excellent wear resistance.		**VKP**	General use carbide grade for Mini inserts. TiN coated MINIPRO	
VMX	General use carbide grade for Micro inserts. TiN coated MINIPRO		**VHX**	General use HSS grade for Mini inserts. For Machining at low cutting speed. TiN coated MINIPRO