



Your technology partner for cost-effective machining

FixReam 700

FixReam 700

Reconditioning enables the cost per part to be considerably reduced

The FixReam 700 was developed to increase economic efficiency through effective reconditioning. Thanks to an expansion screw, the multi-bladed reamer can be expanded in diameter before regrinding. As a result, all functional surfaces can be reground, both on the lead as well as on the tool diameter. This allows the reamer to be reused up to 9 times.

1 30% better roundness and cylindrical form

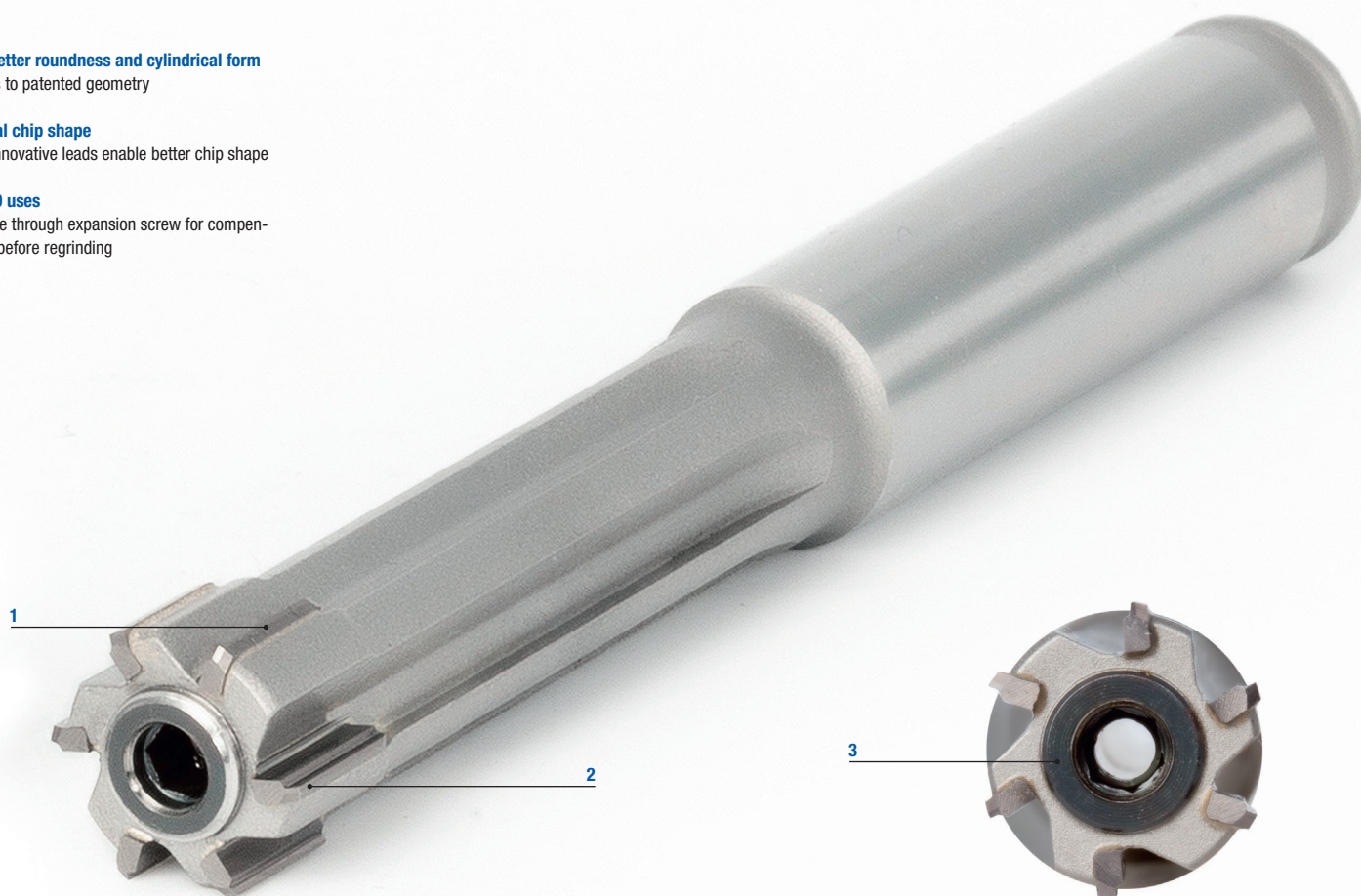
– Thanks to patented geometry

2 Optimal chip shape

– New, innovative leads enable better chip shape

3 Up to 9 uses

– Possible through expansion screw for compensation before regrinding



Features

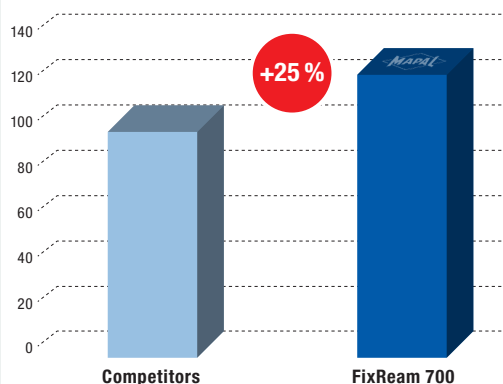
Configurable features:

- \emptyset area: 9.900 - 32.200 mm
- Bore diameter: Tolerance \geq IT6
- Tool diameter: Tolerance $\geq 3 \mu\text{m}$ in increments of 0.001 mm
- Further carbide-coated and cermet-coated variants to follow in Q2 2024

Dimensions:

- Available as a short and long design
- For through bores and blind bores
- Preferred series available from stock in H7: 10.000 - 32.000 mm

TOOL LIFE ACHIEVED [%]

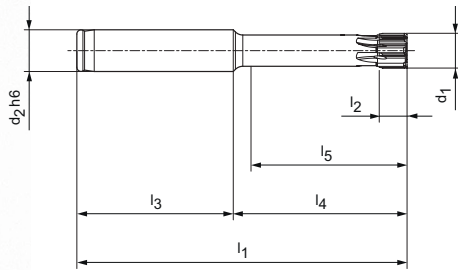


Workpiece material: 42CrMoS4

Machining length: 45.000 mm
 Nominal \emptyset : 12.000 mm
 n: 3448 rpm
 v_f : 3448 mm/min
 v_c : 130 m/min
 z: 6

FixReam 700

Expanding design, short, for through bore
B042200



Design:

Reamer diameter: 9.900 - 32.200 mm
Cutting direction: Right-hand cutting
Cutting material: Uncoated cermet

Application:

The expansion system is therefore only suitable for compensation prior to re-grinding and not for setting or re-adjusting the diameter.

Preferred series in H7

d ₁ H7	Dimensions						z	Specification	Order no.
	d ₂ h6	l ₁	l ₂	l ₃	l ₄	l ₅			
10,000	12	95	8	45	50	45	6	B042200010.00H7	31449002
12,000	12	95	8	45	50	45	6	B042200012.00H7	31449003
14,000	12	95	8	45	50	45	6	B042200014.00H7	31449004
16,000	16	100	12	50	50	45	6	B042200016.00H7	31449005
18,000	16	100	12	50	50	45	6	B042200018.00H7	31449006
20,000	20	120	12	60	60	55	6	B042200020.00H7	31449007
22,000	20	120	12	60	60	55	6	B042200022.00H7	31449008
24,000	20	120	12	60	60	55	6	B042200024.00H7	31449009
25,000	20	120	12	60	60	55	6	B042200025.00H7	31449030
28,000	25	135	12	60	75	70	6	B042200028.00H7	31449032
30,000	25	135	12	60	75	70	6	B042200030.00H7	31449033
32,000	25	135	12	60	75	70	6	B042200032.00H7	31449034

Configurable features

Bore diameter tolerance ≥ IT6:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered in tolerance ≥ IT6

Specification:
B0422000[Diameter][Tolerance]

G variants:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered from tolerances ≥ 3 μm (G variant, see cutting data)

G variant specification:
B0422000[Diameter][Tolerance]

Dimensions of configurable series IT6

d ₁	d ₂	l ₁	l ₂	l ₃	l ₄	l ₅	z
9,900 - 15,899	12	95	8	45	50	45	6
15,900 - 18,899	16	100	12	50	50	45	6
18,900 - 25,899	20	120	12	60	60	55	6
25,900 - 32,200	25	135	12	60	75	70	6

IT6 tolerance example:

B042200016.350H6

Bore diameter d₁ = 16.350 H6

G variant example:

B042200016.350-3μm

Special tool diameter d₁ = 16.350 -3 μm

Dimensions in mm.
For cutting data recommendation, see page 7.

FixReam 700

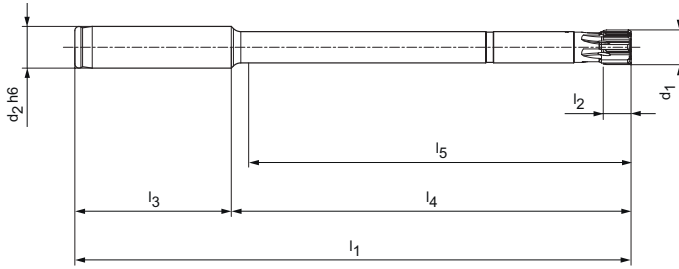
Expanding design, long, for through bore
B042700

Design:

Reamer diameter: 9.900 - 32.200 mm
Cutting direction: Right-hand cutting
Cutting material: Uncoated cermet

Application:

The expansion system is therefore only suitable for compensation prior to re-grinding and not for setting or re-adjusting the diameter.



Preferred series in H7

d ₁ H7	Dimensions						z	Specification	Order no.
	d ₂ h6	l ₁	l ₂	l ₃	l ₄	l ₅			
10,000	12	160	8	45	115	110	6	B042700010.00H7	31449035
12,000	12	160	8	45	115	110	6	B042700012.00H7	31449036
14,000	12	160	8	45	115	110	6	B042700014.00H7	31449037
16,000	16	180	12	50	130	125	6	B042700016.00H7	31449038
18,000	16	180	12	50	130	125	6	B042700018.00H7	31449039
20,000	20	200	12	60	140	135	6	B042700020.00H7	31449040
22,000	20	200	12	60	140	135	6	B042700022.00H7	31449041
24,000	20	200	12	60	140	135	6	B042700024.00H7	31449042
25,000	20	200	12	60	140	135	6	B042700025.00H7	31449043
28,000	25	210	12	60	150	145	6	B042700028.00H7	31449045
30,000	25	210	12	60	150	145	6	B042700030.00H7	31449046
32,000	25	210	12	60	150	145	6	B042700032.00H7	31449047

Configurable features

Bore diameter tolerance ≥ IT6:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered in tolerance ≥ IT6

Specification:
B0427000[Diameter][Tolerance]

G variants:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered from tolerances ≥ 3 μm (G variant, see cutting data)

G variant specification:
B0427000[Diameter][Tolerance]

Dimensions of configurable series IT6

d ₁	d ₂	l ₁	l ₂	l ₃	l ₄	l ₅	z
9,900 - 15,899	12	160	8	45	115	110	6
15,900 - 18,899	16	180	12	50	130	125	6
18,900 - 25,899	20	200	12	60	140	135	6
25,900 - 32,200	25	210	12	60	150	145	6

IT6 tolerance example:

B042700016.350H6

Bore diameter d₁ = 16.350 H6

G variant example:

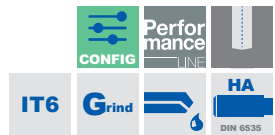
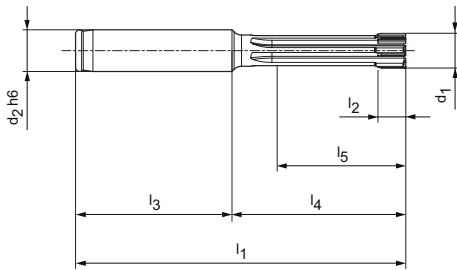
B042700016.350-3μm

Special tool diameter d₁ = 16.350 -3 μm

Dimensions in mm.
For cutting data recommendation, see page 7.

FixReam 700

Expanding design, short, for blind bore
B042201



Design:

Reamer diameter: 9.900 - 32.200 mm
Cutting direction: Right-hand cutting
Cutting material: Uncoated cermet

Application:

The expansion system is therefore only suitable for compensation prior to re-grinding and not for setting or re-adjusting the diameter.

Preferred series in H7

d ₁ H7	Dimensions						z	Specification	Order no.
	d ₂ h6	l ₁	l ₂	l ₃	l ₄	l ₅			
10,000	12	95	8	45	50	38	6	B042201Ø10.00H7	31449048
12,000	12	95	8	45	50	39	6	B042201Ø12.00H7	31449049
14,000	12	95	8	45	50	39	6	B042201Ø14.00H7	31449050
16,000	16	100	12	50	50	38	6	B042201Ø16.00H7	31449051
18,000	16	100	12	50	50	39	6	B042201Ø18.00H7	31449052
20,000	20	120	12	60	60	45	6	B042201Ø20.00H7	31449053
22,000	20	120	12	60	60	45	6	B042201Ø22.00H7	31449054
24,000	20	120	12	60	60	45	6	B042201Ø24.00H7	31449055
25,000	20	120	12	60	60	45	6	B042201Ø25.00H7	31449056
28,000	25	135	12	60	75	60	6	B042201Ø28.00H7	31449058
30,000	25	135	12	60	75	60	6	B042201Ø30.00H7	31449059
32,000	25	135	12	60	75	60	6	B042201Ø32.00H7	31449060

Configurable features

Bore diameter tolerance ≥ IT6:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered in tolerance ≥ IT6

Specification:
B042201Ø[**Diameter**][**Tolerance**]

G variants:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered from tolerances ≥ 3 µm (G variant, see cutting data)

G variant specification:
B042201Ø[**Diameter**][**Tolerance**]

Dimensions of configurable series IT6

d ₁	d ₂	l ₁	l ₂	l ₃	l ₄	l ₅	z
9,900 - 15,899	12	95	8	45	50	38	6
15,899 - 18,899	16	100	12	50	50	38	6
18,900 - 25,899	20	120	12	60	60	45	6
25,900 - 32,200	25	135	12	60	75	60	6

IT6 tolerance example:

B042201Ø**16.350**H6

Bore diameter d₁ = 16.350 H6

G variant example:

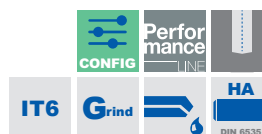
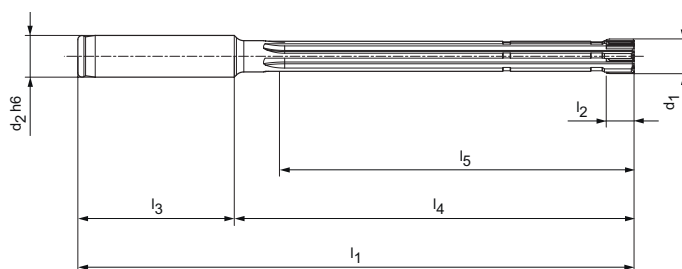
B042201Ø**16.350**-3µm

Special tool diameter d₁ = 16.350 -3 µm

Dimensions in mm.
For cutting data recommendation, see page 7.

FixReam 700

Expanding design, long, for blind bore
B042701



Design:

Reamer diameter: 9.900 - 32.200 mm
Cutting direction: Right-hand cutting
Cutting material: Uncoated cermet

Application:

The expansion system is therefore only suitable for compensation prior to re-grinding and not for setting or re-adjusting the diameter.

Preferred series in H7

d ₁ H7	Dimensions						z	Specification	Order no.
	d ₂ h6	l ₁	l ₂	l ₃	l ₄	l ₅			
10,000	12	160	8	45	115	100	6	B042701Ø10.00H7	31449061
12,000	12	160	8	45	115	100	6	B042701Ø12.00H7	31449062
14,000	12	160	8	45	115	100	6	B042701Ø14.00H7	31449063
16,000	16	180	12	50	130	114	6	B042701Ø16.00H7	31449064
18,000	16	180	12	50	130	115	6	B042701Ø18.00H7	31449065
20,000	20	200	12	60	140	120	6	B042701Ø20.00H7	31449066
22,000	20	200	12	60	140	120	6	B042701Ø22.00H7	31449067
24,000	20	200	12	60	140	120	6	B042701Ø24.00H7	31449068
25,000	20	200	12	60	140	120	6	B042701Ø25.00H7	31449069
28,000	25	210	12	60	150	130	6	B042701Ø28.00H7	31449071
30,000	25	210	12	60	150	130	6	B042701Ø30.00H7	31449072
32,000	25	210	12	60	150	130	6	B042701Ø32.00H7	31449073

Configurable features



Bore diameter tolerance ≥ IT6:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered in tolerance ≥ IT6

Specification:

B042701Ø[Diameter][Tolerance]

G variants:

- Diameter freely selectable in increments of 0.001 mm
- Can be ordered from tolerances ≥ 3 μm (G variant, see cutting data)

G variant specification:

B042701Ø[Diameter][Tolerance]

Dimensions of configurable series IT6

d ₁	d ₂	l ₁	l ₂	l ₃	l ₄	l ₅	z
9,900 - 15,899	12	160	8	45	115	100	6
15,900 - 18,990	16	180	12	50	130	113	6
18,900 - 25,899	20	200	12	60	140	120	6
25,900 - 32,200	25	210	12	60	150	130	6

IT6 tolerance example:

B042701Ø16.350H6

Bore diameter d₁ = 16.350 H6

G variant example:

B042701Ø16.350-3μm

Special tool diameter d₁ = 16.350 -3 μm

Dimensions in mm.

For cutting data recommendation, see page 7.

Cutting data recommendation for FixReam 700

Feed and cutting speed

B042200 | B042700 | B042201 | B042701

BMG*	Workpiece material		Strength/ Hardness [N/mm ²] [HRC]	Cutting speed v _c [m/min]	Feed f _z [mm/rev] with tool diameter	
				Internal cooling	z 6 9.900 - 32.200	
P	P1	P1.1	Structural, machining, case hardened and tempering steels, unalloyed	< 700	120	0.150
		P1.2	Structural, machining, case hardened and tempering steels, unalloyed	< 1,200	120	0.150
	P2	P2.1	Nitriding, hardening and tempering steels, alloyed	< 900	110	0.150
		P2.2	Nitriding, hardening and tempering steels, alloyed	< 1,400	110	0.120
	P3	P3.1	Tool, bearing, spring and high-speed steels**	< 800	110	0.150
		P3.2	Tool, bearing, spring and high-speed steels**	< 1,000	120	0.150
P3.3		Tool, bearing, spring and high-speed steels**	< 1,500	120	0.150	
K	K1	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	120	0.200
		K2.1	Cast iron with spheroidal graphite, GJS	< 500	120	0.180
	K2	K2.2	Cast iron with spheroidal graphite, GJS	≤ 800		
		K2.3	Cast iron with spheroidal graphite, GJS	> 800		

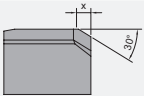
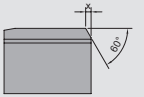
Tolerances for the G variant/fixed variant FXRXX

Cutting material	Diameter range
	Uncoated

G variant

The G variant indicates the tool diameter of the reamer with our manufacturing tolerances. The manufacturing tolerances depend on the cutting material (see permissible smallest tolerances for the G variant).

Lead geometry and rake angles

Geometry	Lead geometry			
	Name	Ø area	Lead length x	Geometry
	B042200 B042700	9.900 - 11,700 mm	0.80 mm	30°
		11.701 - 32,200 mm	1.00 mm	
	B042201 B042701	9.900 - 32,000 mm	0.25 mm	60°

* BECK Machining Groups

** If the alloy parts Cr, Mo, Ni, V, W in total > 8%, then select the next highest BECK machining group.

The specified cutting data are guide values.

The optimum data for the respective machining task should be determined during the test or machining.

Your Specialist for
Multi-bladed Reamers and Counterboring Tools

Drill-Reamers

High Performance Reamers
with internal coolant supply in a monobloc design
and modular system

Machine Reamers without internal coolant supply
in accordance with DIN or similar to DIN

Hand Reamers and Taper Reamers

Core Drills

Countersinks / Counterbores / Deburring Tools

