

Member IMC Group



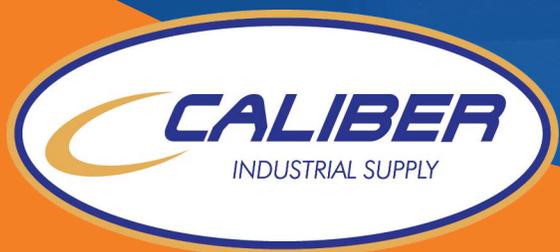
Power. Precision. Performance.

**Maximum
speed.
MAXIMUM
RESULTS.**



**NEW
POW•R•ARC
Ball-End Cutters**

DISTRIBUTED BY:



THIS IS THE GAME-CHANGER YOU'VE BEEN WAITING FOR.

POW-R-ARC ball-end cutters will save you amazing time and money with every 3D contour and chamfer!

Designed for 3D contouring and chamfering at the fastest possible speeds and feed rates, POW-R-ARC cuts and finishes in hardened metals up to 62 HRc. No need to stop and change tools for finishing. No need to even stock separate finishing tools.

IMCO's advanced geometries and free-cutting design cut smoothly through most materials, including hardened metals up to 62 HRc.

Increased flutes from the usual 4 to 6 or 8 flutes dramatically increases speeds and feeds possible and allows roughing and finishing with the same tool.

Flutes cut smoothly across dissimilar materials, so no handwork needed.

Unique design provides effective cutting flutes from the OD all the way to the tip of the tool; allows roughing and finishing with the same tool.

Made with solid carbide shaft for extended tool life.

Next-generation coating keeps cutting edges sharp longer, and greater lubricity ensures reliable chip clearance in most materials for higher speeds and feed rates.

Why POW•R•ARC?

Higher productivity – More parts per shift running at much higher speeds and feeds.

Eliminate downtime – Rough and finish with the same tool. No stopping to change tools.

Cut costs – Longer tool life; no need to stock dedicated finishing tools



Characteristics

Great results in machines with lower-max-speed spindles and high rpm machines; unique geometry evacuates chips, reducing chances of buildup, even at lower rpm.

- > Ideal for 5-axis machines – Additional effective cutting flutes go from the OD to the tip of the tool.
- > 50% to 100% longer tool life or more, compared with 4-flute tools
- > Available with 6 or 8 flutes and long necks for pockets and working around mold guide pins
- > Provides a great finish with a second pass without changing tools

Cutting Dissimilar Materials

In molds or workpieces with abutting materials having different characteristics, POW-R-ARC cuts through both materials smoothly, eliminating digs where materials meet. No time-consuming handwork needed to remove them.

Use POW-R-ARC tools to contour and chamfer in the following materials:



ALUMINUM



STAINLESS STEEL



LOW CARBON STEEL



SUPER ALLOYS:
Cobalt chrome, high nickel alloys, titanium

CASE STUDY 1

POW•R•ARC: Nearly 5x FASTER.

One mold maker was cutting both P20 steel and 4140 low alloy steel using a competitor's 4-flute tools, running at 88 ipm. That tool roughed for 8 hours before it became unusable. A second tool semi-roughed and finished for 16 hours (also a competitor's) before it was discarded too.

Then they tried a POW-R-ARC cutter, running at 450 ipm – nearly five times the speed – and completed roughing and finishing using the same tool. POW-R-ARC cut cycle time by half, from 24 hours (roughing to finishing) to 12 hours, and it more than doubled the tool life; it was still going strong after 32 hours. Just one POW-R-ARC tool did all the work and kept on going.

	4-Flute Mill	POW•R•ARC 8-Flute
ROUGHING		
Speed	88 ipm	450 ipm
Tool Life	16 hours	32+ hours
Cycle Time	24 hours	12 hours

CASE STUDY 2

IMCO Cutters Go Head-to-Head.



The tools: The POW-R-FEED M924B (left, 3/4 in. dia., 4-flute ball end, 1 in. LOC) v. the POW-R-ARC A108 (right, 3/4 in. dia., 8-flute ball end, 1 in. LOC) Material: A2 at 60 HRc. Using the same stepover value, the new POW-R-ARC 8-flute tool provides a superior 3D contour cut 5x faster, with barely visible ridges (far right) and very little finish work.

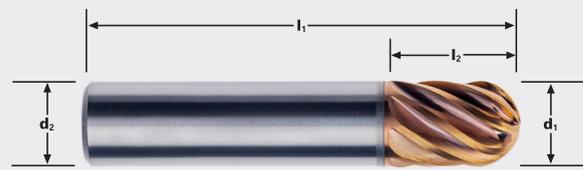
POW•R•FEED 4-Flute	POW•R•ARC 8-Flute
36.3 ipm at 2292 rpm	215 ipm at 9155 rpm

POW•R•ARC A108 | 8-Flute



POW-R-ARC 8-flute cutters deliver the fastest possible speeds and feed rates in most materials up to 62 HRc. Cut smoothly through dissimilar materials, often without finishing handwork. Get great results in machines with lower-max-speed spindles and high rpm machines; unique geometry reduces chances of chip buildup, even at lower rpm. Great for 5-axis machines too.

From roughing to finishing, even in hardened metals, advanced geometries and OD-to-tip flutes make work ultra-fast with no tool changes. Cutter diameters from 1/4 in. to 3/4 in. (6mm to 22mm) and flute lengths from 3/8 in. to 1-5/8 in. (8mm to 38mm).



in: $d1: +0.000 / -0.002$ $d2: -0.0001 / -0.0004$
mm: $d1: +0.000 / -0.050$ $d2: -0.0025 / -0.0100$

FRACTIONAL /in

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Order Code
1/4	1/4	3/8	2	8	9174376
		3/8	2-1/2	8	9174377
		3/4	2-1/2	8	9174378
3/8	3/8	1/2	2-1/2	8	9174392
		1/2	3	8	9174393
		1	2-1/2	8	9174394
1/2	1/2	5/8	2-1/2	8	9174416
		5/8	3	8	9174419
		1-1/4	3	8	9174418
5/8	5/8	3/4	3-1/2	8	9174431
		1-5/8	3-1/2	8	9174432
3/4	3/4	1	4	8	9174444
		1-5/8	4	8	9174445

METRIC /mm

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Order Code
6	6	8	57	8	9174828
		13	57	8	9174827
10	10	12	72	8	9174837
		22	72	8	9174836
12	12	16	83	8	9174848
		26	83	8	9174847
16	16	20	92	8	9174859
		32	92	8	9174858
20	20	25	104	8	9174871
		38	104	8	9174870

INCH



METRIC

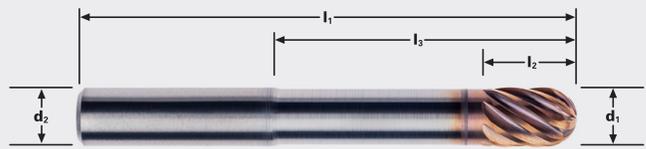
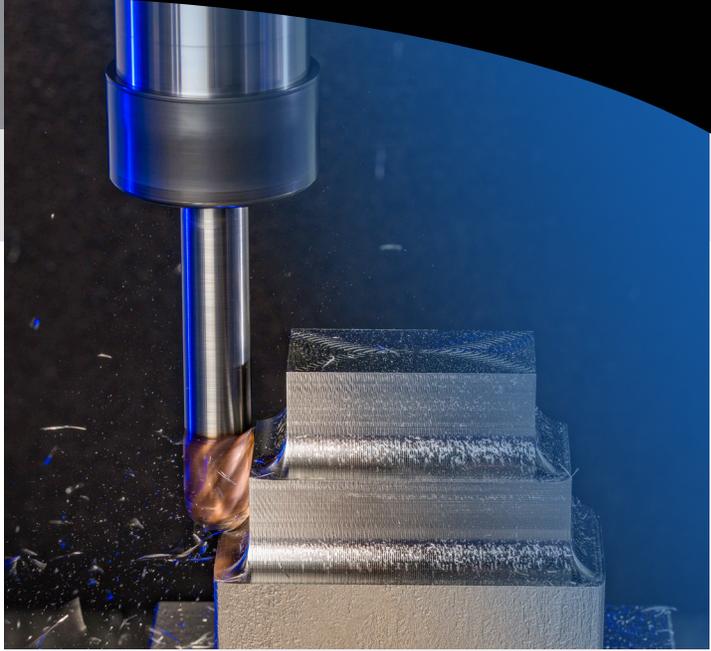


Access POW•R•ARC speed and feed information by scanning these QR codes:

POW•R•ARC A108N | 8-Flute



These longer-neck 8-flute cutters give you easier access to deeper pockets and around mold guide pins. You get not only the fastest possible speeds and feed rates; you also get smooth, continuous cutting around what used to be barriers, making handwork a thing of the past. Cutter diameters 1/4 in. to 3/4 in. (6mm to 20mm) and 1 in. to 4-1/2 in. (18mm to 120mm) LBS.



in: d1: +0.000 / -0.002 d2: -0.0001 / -0.0004
mm: d1: +0.000 / -0.050 d2: -0.0025 / -0.0100

FRACTIONAL /in

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Reach LBS l3	Order Code
1/4	1/4	3/8	2-1/2	8	3/4	9174379
		3/8	3	8	1	9174380
		3/8	3	8	1-1/2	9174381
		3/8	4	8	1-1/8	9174382
		3/8	4	8	2-1/4	9174383
3/8	3/8	1/2	3	8	1-1/8	9174395
		1/2	3-1/2	8	1-1/2	9174396
		1/2	4	8	2-1/4	9174397
		1/2	6	8	3-1/8	9174398
1/2	1/2	5/8	3	8	1-1/4	9174420
		5/8	3-1/2	8	1-1/2	9174421
		5/8	4	8	2-1/4	9174422
		5/8	5	8	2-1/2	9174423
		5/8	5	8	3-1/4	9174424
		5/8	6	8	4-1/4	9174425
5/8	5/8	3/4	4	8	1-7/8	9174433
		3/4	5	8	3-1/8	9174435
		3/4	6	8	3-3/4	9174436
3/4	3/4	1	4	8	1-7/8	9174446
		1	4-1/2	8	2-1/4	9174447
		1	5	8	3	9174448
		1	6	8	3-3/4	9174449
		1	7	8	4-1/2	9174450

METRIC /mm

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Reach LBS l3	Order Code
6	6	8	63	8	18	9174829
		8	63	8	24	9174830
		8	75	8	36	9173939
		8	75	8	36	9173939
10	10	12	72	8	30	9174838
		12	88	8	40	9174839
		12	100	8	60	9174840
12	12	16	83	8	36	9174849
		16	93	8	48	9174850
		16	100	8	60	9173938
		16	125	8	72	9174851
16	16	20	100	8	48	9174860
		20	110	8	64	9174861
		20	125	8	80	9174862
		20	150	8	96	9174863
		20	150	8	96	9174863
20	20	25	115	8	60	9174872
		25	135	8	80	9174873
		25	150	8	100	9174874

INCH



METRIC



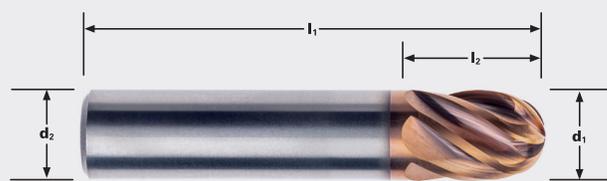
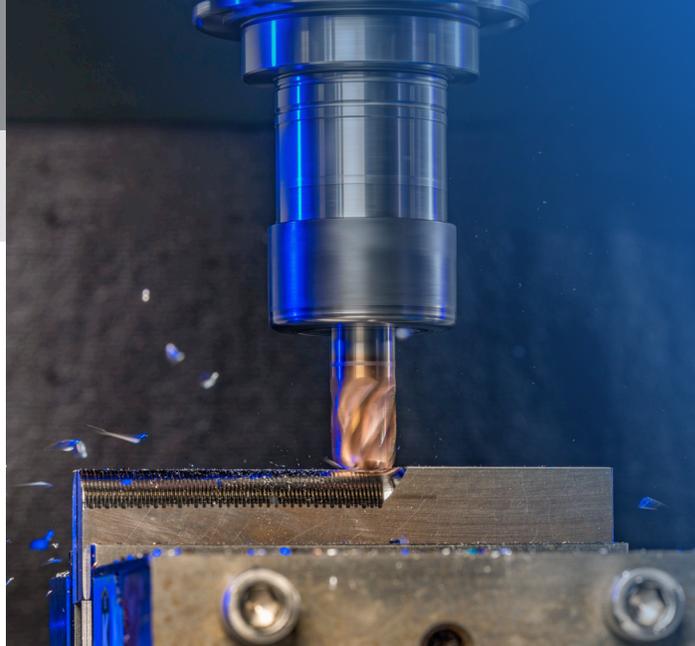
Access POW•R•ARC speed and feed information by scanning these QR codes:

POW•R•ARC A106 | 6-Flute



POW-R-ARC 6-flute cutters give you great results faster in machines with lower-max-speed spindles and high rpm machines. You get faster speeds and feed rates (compared with 4-flute tools) in most materials, up to 62 HRC. Cut smoothly through dissimilar materials, often without finishing handwork.

Get great roughing and finishing, no matter what your machines' rpm capabilities; unique geometry reduces chances of chip buildup even at lower rpms. Cutter diameters 1/4 in. to 3/4 in. (6mm to 20mm) and flute lengths 3/8 in. to 1-5/8 in. (8mm to 38mm).



in: d1: +0.000 / -0.002 d2: -0.0001 / -0.0004
mm: d1: +0.000 / -0.050 d2: -0.0025 / -0.0100

FRACTIONAL /in

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Order Code
1/4	1/4	3/8	2	6	9174317
		3/8	2-1/2	6	9174369
		3/4	2-1/2	6	9174370
3/8	3/8	1/2	2-1/2	6	9174384
		1/2	3	6	9174385
		1	2-1/2	6	9174386
1/2	1/2	5/8	2-1/2	6	9174399
		5/8	3	6	9174403
		1-1/4	3	6	9174409
5/8	5/8	3/4	3-1/2	6	9174426
		1-5/8	3-1/2	6	9174427
3/4	3/4	1	4	6	9174437
		1-5/8	4	6	9174438

METRIC /mm

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Order Code
6	6	8	57	6	9174823
		13	57	6	9174819
10	10	12	72	6	9174832
		22	72	6	9174831
12	12	16	83	6	9174842
		26	83	6	9174841
16	16	20	92	6	9174853
		32	92	6	9174852
20	20	25	104	6	9174865
		38	104	6	9174864

INCH



METRIC

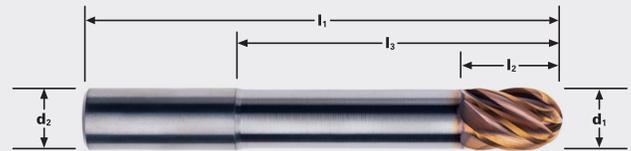
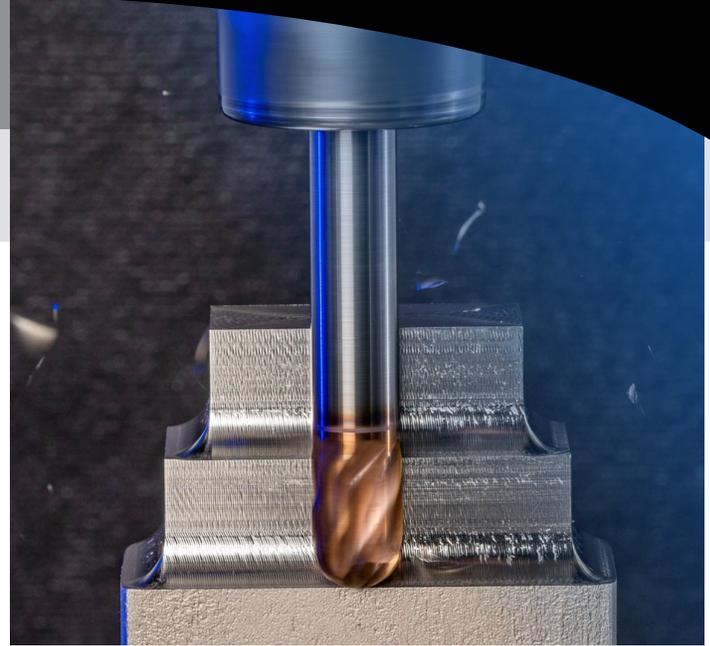


Access POW•R•ARC speed and feed information by scanning these QR codes:

POW•R•ARC A106N | 6-Flute



Complete more parts per shift at higher speeds and feed rates and get easier access to deep pockets and around mold guide pins. Longer-neck cutters give you the extra reach that eliminates barriers and secondary handwork. Unique geometries and high-strength solid carbide keep these tools balanced and running much longer. Available in cutter diameters 1/4 in. to 3/4 in. (6mm to 20mm) and 1 in. to 4-1/2 in. (18mm to 120mm) LBS.



in: d1: +0.000 / -0.002 d2: -0.0001 / -0.0004
mm: d1: +0.000 / -0.050 d2: -0.0025 / -0.0100

FRACTIONAL /in

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Reach LBS l3	Order Code
1/4	1/4	3/8	2-1/2	6	3/4	9174371
		3/8	3	6	1	9174372
		3/8	3	6	1-1/2	9174373
		3/8	4	6	1-1/8	9174374
		3/8	4	6	2-1/4	9174375
3/8	3/8	1/2	3	6	1-1/8	9174387
		1/2	3-1/2	6	1-1/2	9174388
		1/2	4	6	2-1/4	9174389
1/2	1/2	1/2	6	6	3-1/8	9174390
		5/8	3	6	1-1/4	9174410
		5/8	3-1/2	6	1-1/2	9174411
1/2	1/2	5/8	4	6	2-1/4	9174412
		5/8	5	6	2-1/2	9174413
		5/8	5	6	3-1/4	9174414
		5/8	6	6	4-1/4	9174415
		5/8	6	6	4-1/4	9174415
5/8	5/8	3/4	4	6	1-7/8	9174428
		3/4	5	6	3-1/8	9174429
		3/4	6	6	3-3/4	9174430
3/4	3/4	1	4	6	1-7/8	9174439
		1	4-1/2	6	2-1/4	9174440
		1	5	6	3	9174441
		1	6	6	3-3/4	9174442
		1	7	6	4-1/2	9174443

METRIC/mm

Cutter Diameter d1	Shank Diameter d2	Length of Cut l2	Overall Length l1	No. of Flutes	Reach LBS l3	Order Code
6	6	8	63	6	18	9174824
		8	63	6	24	9174825
		8	75	6	36	9174826
10	10	12	72	6	30	9174833
		12	88	6	40	9174834
12	12	12	100	6	60	9174835
		16	83	6	36	9174843
		16	93	6	48	9174844
16	16	16	100	6	60	9174845
		16	125	6	72	9174846
		20	100	6	48	9174854
		20	110	6	64	9174855
20	20	20	125	6	80	9174856
		20	150	6	96	9174857
		25	115	6	60	9174866
		25	135	6	80	9174867
		25	150	6	100	9174868

INCH



METRIC



Access POW•R•ARC speed and feed information by scanning these QR codes:



NEW POW•R•ARC Ball-End Cutters

**How fast is fast?
You're about to find out.**

Visit imcousa.com/video-gallery to see POW-R-ARC cutters at work. Order your POW-R-ARC ball-end cutters today and see what IMCO ingenuity can do for you.



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