JOSCO

CUTTING CATALOGUE

JUNE 2025

CONTENTS

CARBIDE BURRS

TECHNICAL INFORMATION

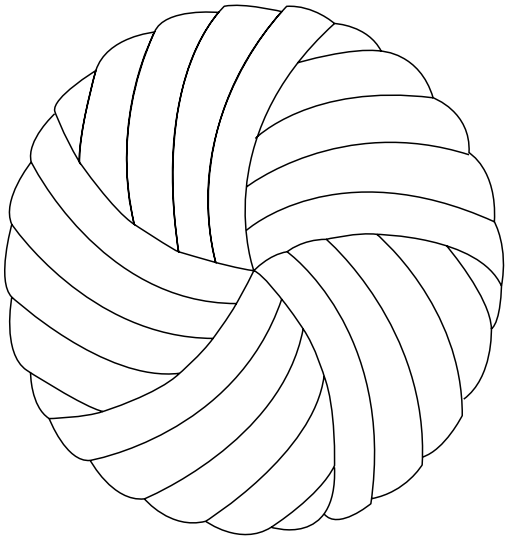
EVERY CARBIDE BURR IS BRAZE TESTED TO ENSURE OPTIMUM STRENGTH AND THE HIGHEST SAFETY STANDARDS.

All Josco Carbide Burrs are produced on computerised, numerically controlled fluting machines. They have a specially developed tooth design providing a fast, clean cut right to the tip of the tool, with a more even tooth loading over the whole contour of the cutting head. They achieve a high rate of stock removal combined with a smooth finish on metal, plastics and other materials.

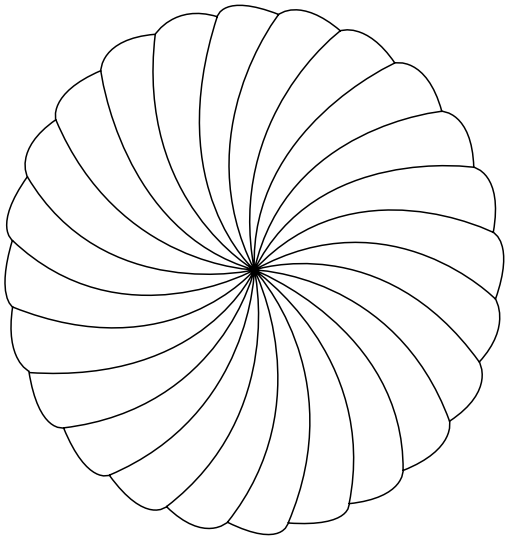
The pitch of tooth on a standard cut Burr will suffice for almost any operation on any material provided the running speeds are as those recommended. Pneumatic or high cycle electric grinding machines with a high standard of concentricity and torque will ensure the most effective service from a carbide burr.

Josco Carbide Burrs are ideally suited for freehand stock removal, weld preparation and the finishing of mnemonic alloy steel components. These applications are generally found in aircraft, shipbuilding and other specialised industries. Significant time and cost savings are achieved when dressing and fettling cast components in iron, steel and non-ferrous foundries.

ALL JOSCO RADIUS END CUTTING BURRS ARE PRODUCED WITH SKIP-FLUTE DESIGN, GIVING IMPROVED CUTTING ACTION AT THE TOOL END.



SKIP-FLUTE



TEETH-TO-CENTRE

CUTTING STYLES

Cut 'D' Diamond Cut is a universal cutting style offering smooth operation with a high cutting action, producing short chips and no clogging problems. Ideal on stainless steel, carbon steel, nickel alloys and other hard metals. This is the most popular burr because of its easy, smooth operation and a full range is carried in Australia.
Cut 'A' Aluminium Cut provides rapid stock removal on 'softer' materials and is ideal for use on aluminium, titanium, brass, and other aluminium alloys, soft non-ferrous metals, and thermoplastics. Produces easy chipflow and smooth operation. A full range is carried in Australia.

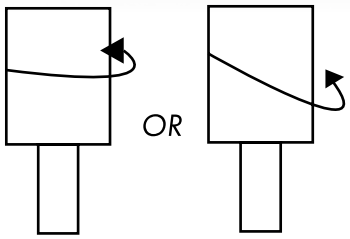
CARBIDE BURRS

OPERATING INSTRUCTIONS FOR THE BEST RESULTS

Keep running speeds high - this will minimise tooth loading and therefore minimise chipping and maximise tooth life.
A speed chart is listed on the next page. Burrs must be run in high speed die grinders. Pistol drills are far too slow and will cause the burr to chatter and chip.

Apply constant movement and light pressure in a clockwise direction. The burr should be in contact with the job moving right to left and free running on the return. Excessive pressure will cause impact damage or tooth loading. Light pressure will also prevent burr from overheating.

Only keep 30% of the circumference of the burr in contact with the job at any time. Over 30% can cause the burr to jam. Only one side of the burr must be in contact at the same time. If both sides of the burr contact the job at once (e.g. in a hole) the burr will immediately jam and chip. Burrs must not come into contact with hard materials when they are not running. Rolling around in a tool box without the plastic case will cause tooth damage. Dropping the burr onto concrete or a steel bench will cause them to chip.



Signs of Misuse

1. **If head has come off the shaft, it will generally be due to overheating, excessive pressure and/or no free running.**
   Signs of this are:
   - •Brazing has melted
   - •Tungsten head had changed colour to yellow/blue/black

2. **Burr has been jammed in a corner or a hole.**
   Signs of this are:
   - •Collet/jaw score marks on the shank
   - •Radial/helical chipping of the tooth

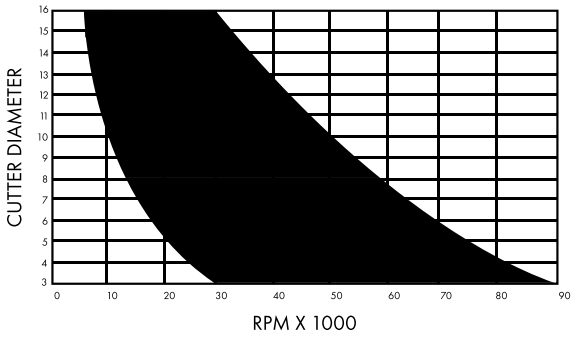
3. **Burr has a "chunk" of carbide chipped out, generally due to the burr being dropped (usually while still in the machine).**
   Signs of this are:
   - •No other damage to the burr
   - •Multiple minor CHipping on or near the end of the burr
   - •Concrete residue in teeth of burr

4. **Burr has been run slowly, i.e. in a pistol drill.**
   Signs of this are:
   - •Erratic chipping of burr
   - •Operator claims, '...it chipped as soon as I started using it.'

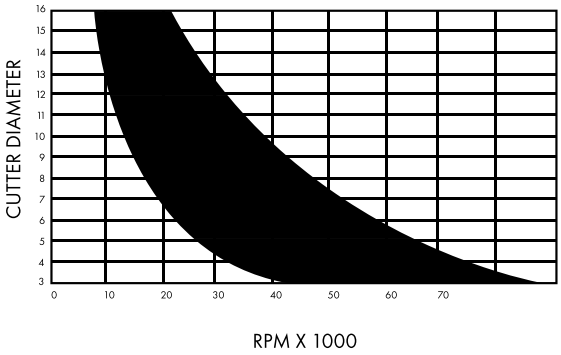
GUIDE TO RUNNING SPEEDS

Size of Burr Material	0.125" / 3mm	0.250" / 6mm	0.375" / 10mm	0.500" / 13mm	0.625" / 16mm
Aluminium, alloys, plastics (including hard, industrial), zinc base alloys, glass fibre	30,000 to 90,000	15,000 to 17,000	10,000 to 50,000	7,000 to 38,000	6,000 to 30,000
Brass, cast iron, copper, bronze	45,000 to 90,000	22,500 to 60,000	15,000 to 40,000	11,000 to 30,000	9,000 to 24,000
Unhardened steel	60,000 to 90,000	45,00 to 60,000	30,000 to 40,000	22,500 to 30,000	18,000 to 24,000
Ceramics, hardened alloy steels, mnemonic alloys, stainless steel, titanium	60,000 to 90,000	30,000 to 45,000	19,000 to 30,000	15,000 to 22,500	12,000 to 18,000

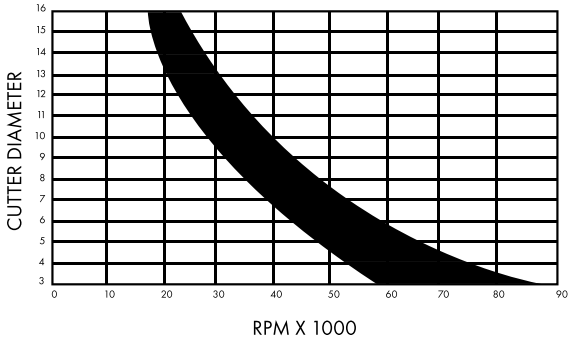
Soft materials, aluminium, plastics, zinc base alloys and glass fibres



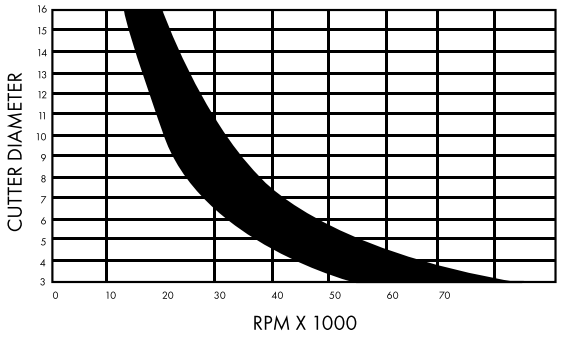
Brass, cast iron, copper, bronze



Unhardened steel



Ceramics, hardened steel, nimonic alloys, stainless steel and titanium



GENERAL NOTES ON USE

- It may be necessary to adjust the rates shown to achieve optimum performance in a particular application.
- Running below the optimum speed will encourage chipping.
- Hard materials use slower speeds.
- Using tools and collets that have become worn will also encourage chipping.
- Smaller burrs use a faster speed.
- Do not sink the burr for more than one third of its periphery.
- Apply constant movement and light pressure when in use.
- Running too fast will result in worn teeth.

Note: Maximum speed for all long series (150mm) burrs is 18,000 RPM

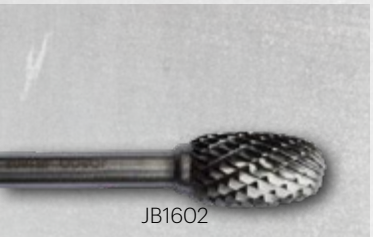
1.1 CARBIDE BURRS

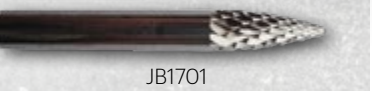
DOUBLE-CUT (D-CUT) BURRS

Ideal for cutting stainless and carbon steel, or other hard metals. Great for metal removal, deburring and weld cleaning. All single packs of Carbide Burrs are supplied sandwich packed.

Ideal for cutting stainless and carbon steel or other hard metals. TiAlN coating keeps the burr teeth sharp for a longer period of time. They are great for metal removal, deburring and weld cleaning as well.

HEAD SHAPE	PART NO.	HEAD DIA.	HEAD LENGTH	SHANK DIA.	O/A LENGTH	INNER QTY	OUTER QTY
Cylinder (No End Cut) • Contour finishing • Right-angled corners	**JB1001**	6mm	16mm	1/4"	50mm	2	10
	JB1002	10mm	20mm	1/4"	65mm	2	10
	JB1003	12mm	20mm	1/4"	65mm	2	10
	JB1004	12mm	25mm	1/4"	70mm	2	10
Cylinder (with End Cut) • Contour finishing	**JB1201**	10mm	20mm	1/4"	65mm	2	10
Ball Nosed Cylinder • Contour finishing • Right-angled corners	**JB1401**	6mm	16mm	1/4"	50mm	2	10
	JB1402	8mm	19mm	1/4"	65mm	2	10
	JB1403	10mm	20mm	1/4"	65mm	2	10
	JB1403XL	10mm	20mm	1/4"	150mm	2	10
	JB1404	12mm	20mm	1/4"	65mm	2	10
	JB1405	12mm	25mm	1/4"	70mm	2	10
TiAlN Coated Ball Nosed Cylinder • Contour finishing • Right-angled corners	**JB1403T**	10mm	20mm	1/4"	65mm	2	10
	JB1404T	12mm	20mm	1/4"	65mm	2	10
Extra Length Ball Nosed Cylinder • Contour finishing • Right-angled corners	**JB1403XL**	10mm	20mm	1/4"	150mm	2	10
	JB2501	12mm	25mm	1/4"	150mm	2	10
Cone (14° included Angle) • Ideal for beveling, counter-boring and chamfering • For getting into small, angled areas of your work piece • Deburring gear teeth, heat exchanger fan blades, inside bevel edges and internal pipe edges	**JB1301**	10mm	20mm	1/4"	65mm	2	10
	JB1302	12mm	22mm	1/4"	70mm	2	10
Ball Nosed Cone (14° included Angle) • Good for rounded edges and surface finishing in • hard to reach areas • Great for tight and narrow angles, plus contours	**JB1501**	10mm	27mm	1/4"	75mm	2	10
	JB1502	12mm	30mm	1/4"	75mm	2	10


JB1602


JB1701


JB1801


JB1903


JB1903T


JB2002

HEAD SHAPE	PART NO.	HEAD DIA.	HEAD LENGTH	SHANK DIA.	O/A LENGTH	INNER QTY	OUTER QTY
Oval • Great for smoothing out undercut areas • Less prone to undercutting compared to other round burrs • Ideal for adding curves to a surface • Round nose is good for gently eating away under objects	**JB1601**	10mm	16mm	1/4"	60mm	2	10
	JB1602	12mm	22mm	1/4"	67mm	2	10
Tree (Pointed End) • For rounding off edges and making concave cuts • Use the pointed end for cutting in hard to reach areas and small angled contours	**JB1701**	6mm	16mm	1/4"	50mm	2	10
	JB1702	10mm	20mm	1/4"	65mm	2	10
Ball • Create concave cuts • Shape or hollow out areas in your work piece	**JB1801**	10mm	9mm	1/4"	53mm	2	10
	JB1802	12mm	11mm	1/4"	55mm	2	10
Ball Nosed Tree • Used for rounding off edges • Make concave cuts	**JB1901**	6mm	16mm	1/4"	50mm	2	10
	JB1902	10mm	20mm	1/4"	65mm	2	10
	JB1903	12mm	25mm	1/4"	70mm	2	10
TiAlN Coated Ball Nosed Tree • Used for rounding off edges • Make concave cuts	**JB1903T**	12mm	25mm	1/4"	70mm	2	10
Flame • Designed for deburring and finishing elliptical surfaces in steel dies, forgings, castings and metal patterns	**JB2001**	8mm	19mm	1/4"	55mm	2	10
	JB2002	12mm	32mm	1/4"	77mm	2	10

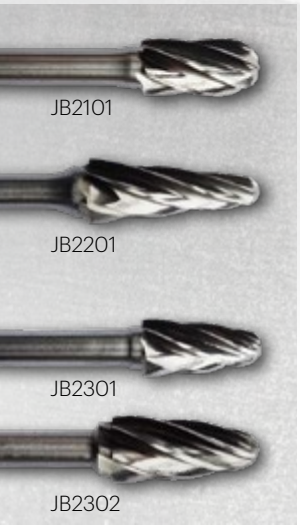
Speed Chart: D-Cut Burrs

MATERIAL	6MM DIAMETER	8MM DIAMETER	10MM DIAMETER	12MM DIAMETER
Steel	13,000 - 32,000	10,000 - 24,000	8,000 - 19,000	7,000 - 16,000
Stainless Steel	13,000 - 19,000	10,000 - 14,000	8,000 - 11,000	7,000 - 9,000
Brass/Copper/Bronze	13,000 - 19,000	10,000 - 14,000	8,000 - 11,000	7,000 - 9,000
Cast Iron	24,000 - 32,000	10,000 - 24,000	14,000 - 19,000	12,000 - 16,000

1.2 CARBIDE BURRS

ALUMINIUM CUT BURRS

Ideal for cutting aluminium and aluminium alloys, plastics and hard rubber.
They are great for aluminium stock removal. **DO NOT USE** on steel or hard metals because chipping will occur.



HEAD SHAPE	PART NO.	HEAD DIA.	HEAD LENGTH	SHANK DIA.	O/A LENGTH	INNER QTY	OUTER QTY
Ball Nosed Cylinder • Contour finishing • Right-angled corners	**JB2101**	10mm	20mm	1/4"	65mm	2	10
Ball Nosed Cone (14° included Angle) • Good for rounded edges and surface finishing in hard to reach areas • Great for tight and narrow angles, plus contours	**JB2201**	12mm	30mm	1/4"	75mm	2	10
Ball Nosed Tree • Used for rounding off edges • Make concave cuts	**JB2301**	10mm	16mm	1/4"	65mm	2	10
	JB2302	12mm	25mm	1/4"	70mm	2	10

SPEED CHART: ALUMINIUM CUT

MATERIAL	10MM DIAMETER	12MM DIAMETER
Aluminium/Aluminium Alloys	24,000 - 35,000	20,000 - 30,000
Plastics/Hard Rubber	16,000 - 35,000	13,000 - 30,000

JBS4

JBS6

4 PIECE STARTER KIT

Four D-Cut Carbide Burrs in a range of shapes suitable for cutting stainless and carbon steel, and other hard metals. Ideal for the removal of metal, deburring and weld cleaning. Protected and securely packed in a lockable case

PART NO.	INCLUSIONS	INNER QTY	OUTER QTY	PACK TYPE
JBS4	As Below	4	24	Box

HEAD SHAPE	HEAD DIA.	HEAD LENGTH	SHANK DIA.	OVERALL LENGTH	CUT
Cone x 1	10mm	20mm	1/4"	65mm	D-Cut
Ball Nosed Cylinder x 1	6mm	16mm	1/4"	50mm	D-Cut
Oval x 1	10mm	16mm	1/4"	60mm	D-Cut
Ball Nosed Tree	6mm	16mm	1/4"	50mm	D-Cut

6 PIECE STARTER KIT

Five D-Cut Carbide Burrs in a range of shapes suitable for cutting stainless and carbon steel, plus other hard metals. Ideal for metal removal, deburring and weld cleaning.
One Aluminium Cut Carbide Burr suitable for cutting aluminium and aluminium alloys, plastics and hard rubber. It is ideal for aluminium stock removal. Protected and securely packed in a lockable case

PART NO.	INCLUSIONS	INNER QTY	OUTER QTY	PACK TYPE
JBS6	As Below	4	24	Box

HEAD SHAPE	HEAD DIA.	HEAD LENGTH	SHANK DIA.	OVERALL LENGTH	CUT
Ball Nosed Cylinder x 1	10mm	20mm	1/4"	65mm	D-Cut
Ball Nosed Cone x 1	10mm	27mm	1/4"	75mm	D-Cut
Oval x 1	10mm	16mm	1/4"	60mm	D-Cut
Ball Nosed Tree x 1	6mm	16mm	1/4"	65mm	D-Cut
Cylinder x 1	6mm	16mm	1/4"	50mm	D-Cut
Ball Nosed Cylinder x 1	10mm	20mm	1/4"	65mm	A-Cut

HOLE SAWS

TECHNICAL INFORMATION

Josco Hole Saws feature variable pitch cutting edges with special tooth designs for best cutting results. Manufactured in Germany from strong M42 grade B1-metal (9% Molybdenum, 8% Cobalt) with a 32mm cutting depth, Josco Hole saws have the strength to do what competitive hole saws can't.

HINTS & TIPS

- The pilot drill must extend beyond the edge of the hole saw teeth by 3mm (1/8")
- Always secure the material to be cut to ensure the turning action of the hole saw does not cause the workplace to spin or slip
- Can be used in drill presses, lathes, portable electric drills with corresponding speeds and adequate power output
- Start the hole saw square to the work piece with steady feed pressure.
  Unbalanced tooth engagement will result in erratic hole saw action and tooth strippage
- Care should be taken to ensure the proper direction of rotation
- Select proper speed for material from operating speed chart
- Use a high quality cutting oil to assist chip clearance and blade lubrication with metals (except cast iron).
  Petroleum cutting oil will ensure smoother operation and longer service life with aluminium
- When working at the upper ranges of the hole saws capacity they should be worked in and out to help clear chips
- Occasionally check the mandrel's drive pins to prevent them from vibrating out of the hole saws drive pin holes
- Apply even pressure (if possible at right angles to the workpiece) to prevent damage to teeth
- Avoid overheating the hole saw
- Always wear eye protection and appropriate protective clothing

2.1 HOLESAWS


COS16V


COS30V

COS51V

COS60V

4–6 TPI VARIABLE PITCH HOLE SAWS (REQUIRE ARBOR)

M42 Grade B1-metal (9% Molybdenum, 8% Cobalt), 32mm cutting depth
All Holesaws are supplied boxed

Part No.	Diameter Inches	mm	Arbors	Recommended Materials and Speeds (RPM) Mild Steel	Tool/Stainless Steel	Cast Iron	Brass	Aluminium
COS14V	9/16	14	H1 H3 H3A	580	300	400	790	900
COS16V	5/8	16	H1 H3 H3A	550	275	365	730	825
COS17V	11/16	17	H1 H3 H3A	500	250	330	665	750
COS19V	3/4	19	H1 H3 H3A	460	230	300	600	690
COS20V	0.79	20	H1 H3 H3A	440	220	290	580	660
COS21V	13/16	21	H1 H3 H3A	425	210	280	560	630
COS22V	7/8	22	H1 H3 H3A	405	200	265	530	600
COS23V	0.91	23	H1 H3 H3A	390	190	255	510	575
COS24V	15/16	24	H1 H3 H3A	370	180	245	490	550
COS25V	1	25	H1 H3 H3A	350	175	235	470	525
COS27V	1 1/16	27	H1 H3 H3A	325	160	215	435	480
COS29V	1 1/8	29	H1 H3 H3A	300	150	200	400	450
COS30V	1 3/16	30	H1 H3 H3A	285	145	190	380	425
COS32V	1 1/4	32	H4 H4A	275	140	180	360	410
COS33V	1 5/16	33	H4 H4A	260	130	170	340	390
COS35V	1 3/8	35	H4 H4A	250	125	165	330	375
COS37V	1 7/16	37	H4 H4A	240	120	160	3315	360
COS38V	1 1/2	38	H4 H4A	230	115	150	300	345
COS40V	1 9/16	40	H4 H4A	220	110	146	290	330
COS41V	1 5/8	41	H4 H4A	210	105	140	280	315
COS43V	1 11/16	43	H4 H4A	205	100	135	270	305
COS44V	1 3/4	44	H4 H4A	195	95	130	260	295
COS46V	1 13/16	46	H4 H4A	190	95	125	250	285
COS48V	1 7/8	48	H4 H4A	180	90	120	240	270
COS50V	1 15/16	50	H4 H4A	170	85	175	230	255
COS51V	2	51	H4 H4A	170	85	115	230	255
COS52V	2 1/16	52	H4 H4A	165	80	110	220	245
COS54V	2 1/8	54	H4 H4A	160	85	115	230	256
COS57V	2 1/4	57	H4 H4A	150	75	100	200	225
COS59V	2 5/16	59	H4 H4A	145	75	109	195	225

COS70V

COS86V

COS102V

COS114V

Part No.	Diameter Inches	mm	Arbors	Recommended Materials and Speeds (RPM) Mild Steel	Tool/Stainless Steel	Cast Iron	Brass	Aluminium
COS60V	2 3/8	60	H4 H4A	140	70	95	190	220
COS64V	2 1/2	64	H4 H4A	135	65	90	180	205
COS65V	2 9/16	65	H4 H4A	130	65	85	175	200
COS67V	2 5/8	67	H4 H4A	130	65	85	170	195
COS68V	2 11/16	68	H4 H4A	130	65	85	170	195
COS70V	2 3/4	70	H4 H4A	125	60	80	160	185
COS73V	2 7/8	73	H4 H4A	120	60	80	160	180
COS76V	3	76	H4 H4A	115	55	75	150	170
COS79V	3 1/8	79	H4 H4A	110	55	70	140	165
COS83V	3 1/4	83	H4 H4A	105	50	70	140	155
COS86V	3 3/8	86	H4 H4A	100	50	65	130	150
COS89V	3 1/2	89	H4 H4A	95	45	65	130	146
COS92V	3 5/8	92	H4 H4A	95	45	60	120	140
COS95V	3 3/4	95	H4 H4A	90	45	60	120	135
COS98V	3 7/8	98	H4 H4A	90	45	60	120	135
COS102V	4	102	H4 H4A	85	40	55	110	130
COS105V	4 1/8	105	H4 H4A	80	40	55	110	120
COS108V	4 1/4	108	H4 H4A	80	40	55	110	120
COS111V	4 3/8	111	H4 H4A	80	40	50	100	120
COS114V	4 1/2	114	H4 H4A	75	35	50	100	105
COS121V	4 3/4	121	H4 H4A	70	35	45	90	95
COS127V	5	127	H4 H4A	65	30	40	85	90
COS140V	5 1/2	140	H4 H4A	60	30	35	80	85
COS146V	5 3/4	146	H4 H4A	55	25	35	75	85
COS152V	6	152	H4 H4A	55	25	35	75	85
COS160V	6 5/16	160	H4 H4A	50	25	30	70	80
COS168V	6 5/8	168	H4 H4A	50	25	30	70	80
COS177V	6 15/16	177	H4 H4A	50	25	30	70	80
COS200V	7 1/2	200	H4 H4A	40	25	20	65	75
COS210V	8 1/4	210	H4 H4A	40	25	20	60	70

2.2 ARBORS, MANDRELS & ACCESSORIES

ARBORS & MANDRELS

Arbors and Mandrels are used for cutting mild steel, tool steel, stainless steel, cast iron, brass, aluminium, plastic, timber, fibreglass and many more.
These heavy duty arbors adapt Josco Hole Saws to any power drill used by professionals.

Part No.	Description		Size
H1	Arbor (Economy)	Suits Saws 14 - 30mm	6.35mm Round
H3	Mandrel (Hex Shank)	Suits Saws 14 - 30mm	11mm Hex
H3/AH12	H3 Mandrel (Hex Shank with AH12 Adaptor)	Suits Saws 14 - 210mm	11mm Hex
H3A	Mandrel (Hex Shank)	Suits Saws 14 - 30mm	9.52mm Hex
H4	Mandrel (Quick Change)	Suits Saws 32 - 210mm	11mm Hex
H4A	Mandrel (Quick Change)	Suits Saws 32 - 210mm	9.52mm Hex

ACCESSORIES

Extensions and Replacement Drill Bits.

Part No.	Description	Size
EXT330	Extension (Suits Mandrels with 11mm Hex Shank)	330mm
BR85	HSS Replacement Drill Bit (Suits H3 and H4A Mandrels)	85mm
BR105	HSS Replacement Drill Bit (Suits H1, H3A and H4 Mandrels)	105mm

J301011

J301012

BI-METAL KITS

Josco Holesaws feature variable pitch cutting edges with special tooth designs for the best cutting results. Manufactured in Germany with high quality components incl. precision cut Japanese steel blades.

With a 38mm cutting depth, Josco Holesaws have the strength to deliver the best cutting results with the longest life.

Part No.	Description	Inclusions
J301011	Holesaw Bimetal Electrician 9pc Sert	1 x COS16V (16mm) 1 x COS20V (20mm) 1 x COS25V (25mm) 1 xCOS32V (32mm) 1 x COS40V (40mm) 1 x COS50V (50mm) 1 x COS64V (64mm) 1 x H3 Mandrel 1 x H4 Mandrel IP67 Rated Case
J301012	Holesaw Bimetal Journeyman 11pc Set	1 x COS19V (19mm) 1 x COS22V (22mm) 1 x COS29V (29mm) 1 xCOS32V (32mm) 1 x COS35V (35mm) 1 x COS44V (44mm) 1 x COS51V (51mm) 1 x COS68V (68mm) 1 x COS76V(76mm) 1 x H3 Mandrel 1 x H4 Mandrel IP67 Rated Case

FOR GENERAL ENQUIRIES AND MORE INFORMATION ON JOSCO PRODUCTS, PLEASE CONTACT US AT:

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