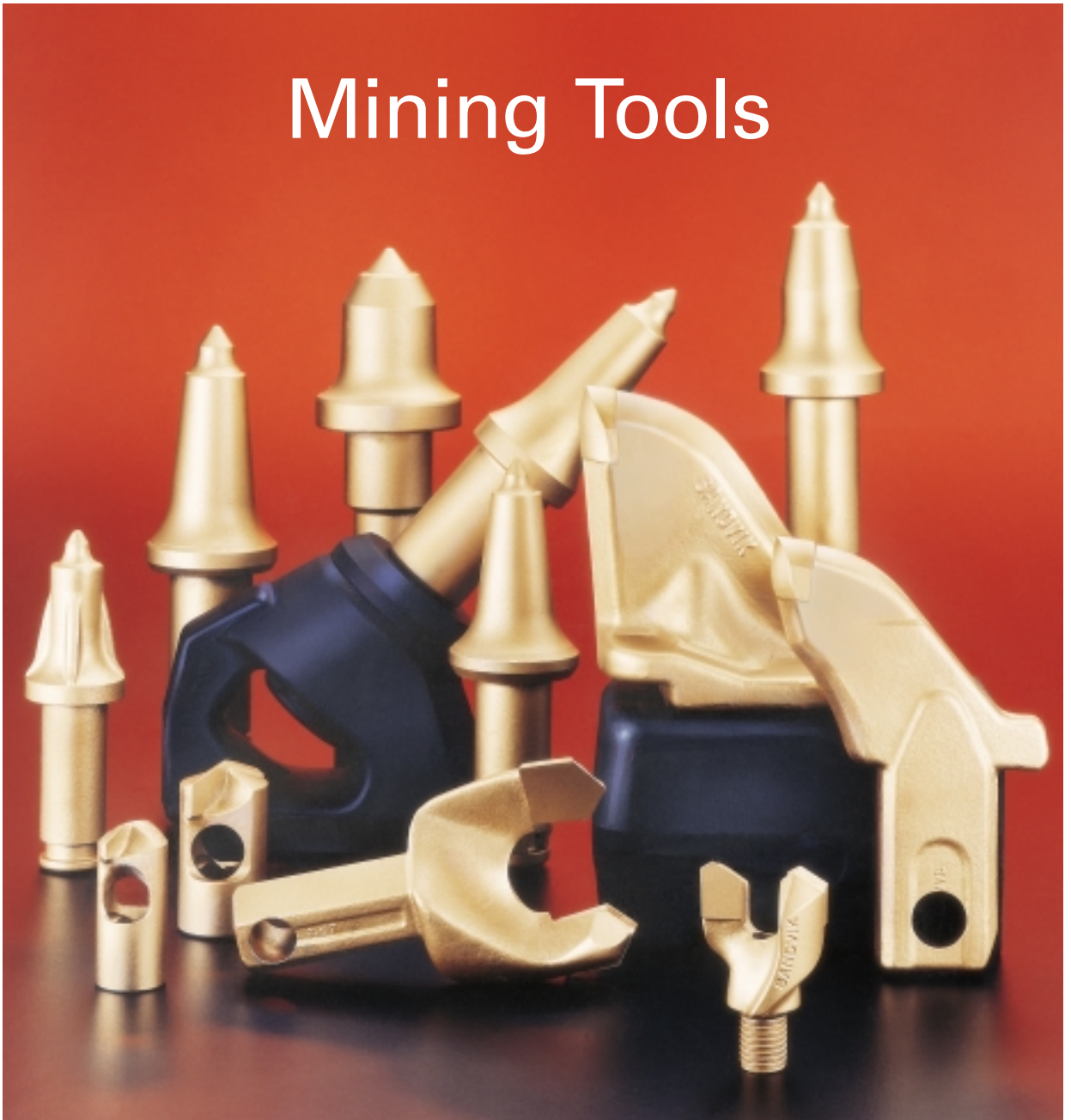


SANDVIK MGT

# Mining Tools



Sandvik Mineral and Ground Engineering Tools

## Product Catalogue



# SANDVIK MGT



**Sandvik Mineral and Ground Engineering Tools-MGT, is a division of Sandvik Mining and Construction.**

**The Sandvik-MGT division handles the marketing, production and product development of tools for soft rock applications in mining and construction.**

**Marketing and sales are carried out by our own sales companies on all major markets throughout the world.**

**The products are manufactured within our production units in the U.S., South Africa and Australia according to the highest quality standards. (US: ISO9001, South Africa: ISO9002, and Australia: ISO9002).**

**Sales and production are backed by extensive research and development resources in the parent company as well as in the major subsidiaries.**



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# Land Codes

Correspond to production unit that produces each tool.

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+27 11 955 3451

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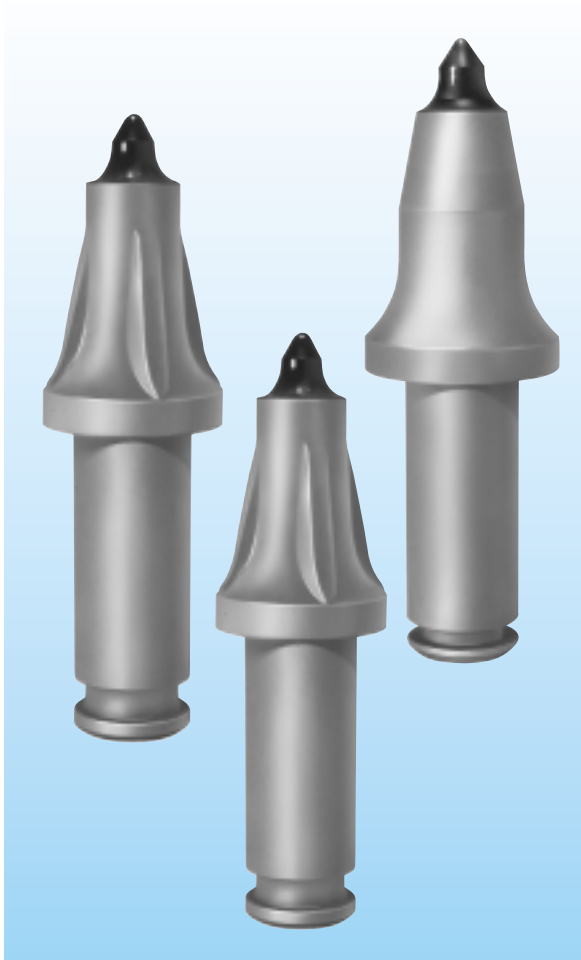
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+27 13 665 1075

Sales Fax:

+27 13 665 1802

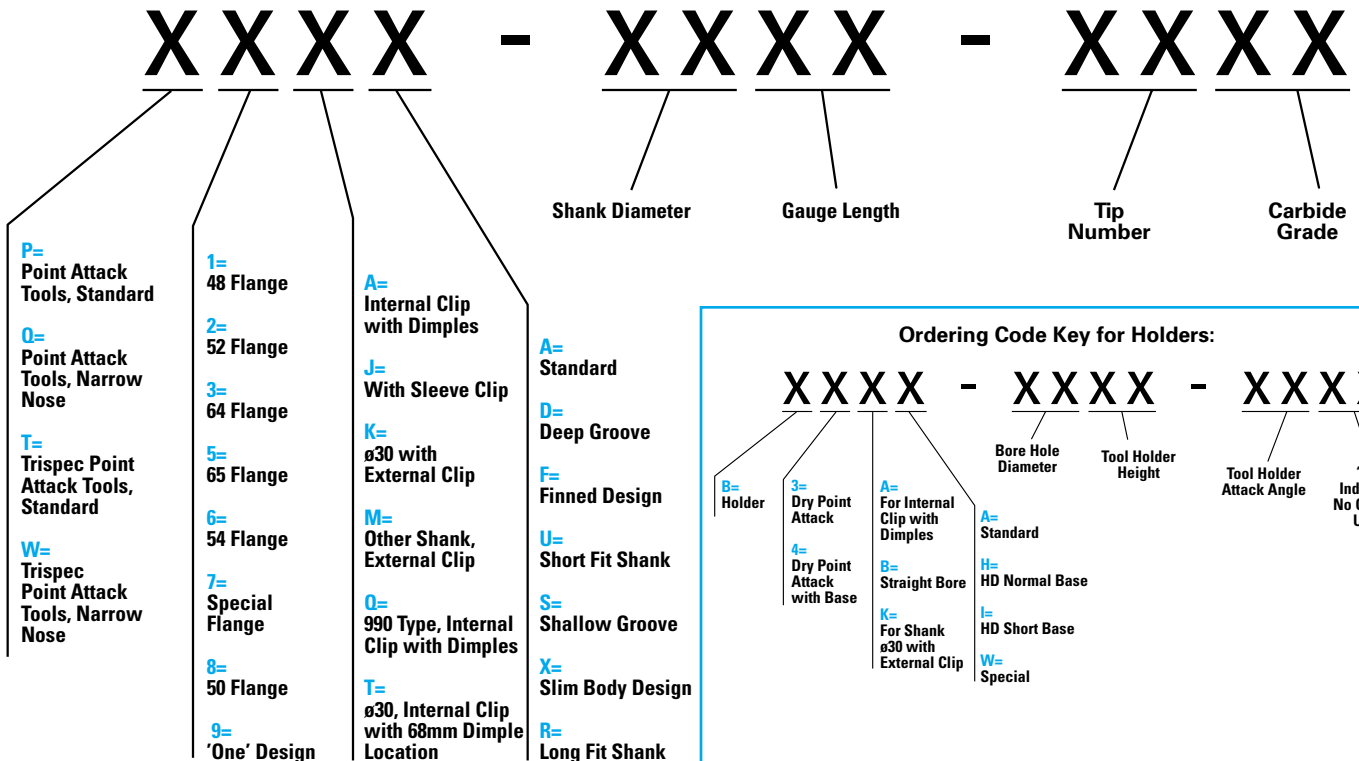
The locations above manufacture MGT products for worldwide use. Products might still be available and kept in stock at other Sandvik facilities in other countries. Please check with the Sandvik unit closest to you.



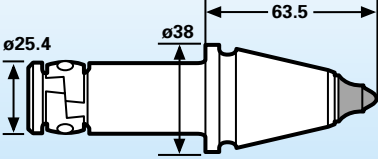




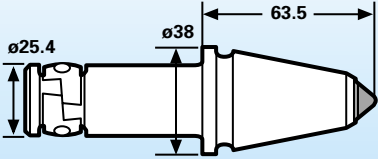




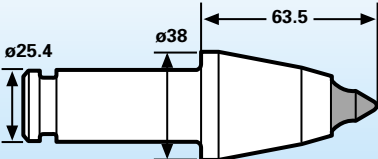


# Conical Tools

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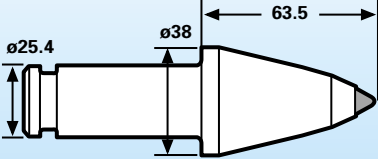




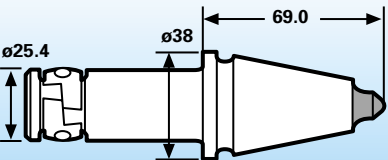


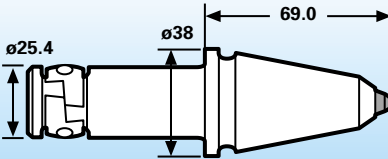


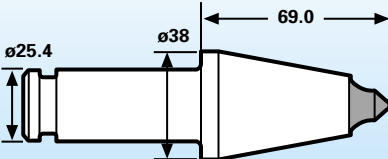



## Ordering Code Key for Conical Tools:



# 25mm Conical Tools

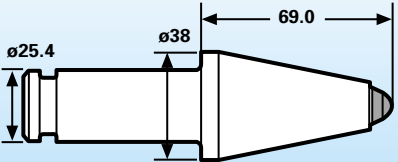



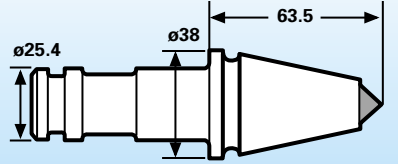



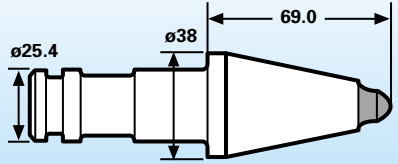



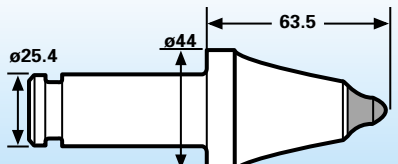


Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP12	Sharp 60° profile tip for increased penetration with 2.5mm tip radius. Good for abrasive conditions.	P9AA-2563-12XX	US
	 NP18	Sharp 60° profile tip for increased penetration. 1.0 mm tip radius for trona and potash.	P9AA-2563-18XX	US
	 NP24	General use cap works best in severe conditions.	P9AA-2563-24XX	US
	 NP26	Sharp profile tip for increased penetration. Good for abrasive conditions. 90° tip.	P9AA-2563-26XX	US
	 NP05	Sharp 68° nose. 8.3mm tip for increased penetration in light cutting conditions.	P9AA-2563-05XX	US
	 NP13	15.4mm tip for severe cutting conditions.	P9AA-2563-13XX	US
	 NP35	Standard 12.1mm tip for medium cutting conditions.	P9AA-2563-35XX	US
	 NP42	8.3mm double angled tip for light to medium cutting conditions.	P9AA-2563-42XX	US
	 NP18	Sharp profile tip for increased penetration. 1.0 mm tip radius for trona and potash.	P9MS-2563-18XX	US
	 NP24	General use cap works best in severe conditions.	P9MS-2563-24XX	US

# 25mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/ Land Code
	 NP05	Sharp 68° nose. 8.3mm tip for increased penetration in light cutting conditions.	P9MS-2563-05XX	US
	 NP13	15.4mm tip for severe cutting conditions.	P9MS-2563-13XX	US
	 NP35	Standard 12.1mm tip for medium cutting conditions.	P9MS-2563-35XX	US
	 NP42	8.3mm tip double angled tip for light to medium cutting conditions.	P9MS-2563-42XX	US
	 NP12	Sharp 60° profile tip for increased penetration. 1.0 mm tip radius for trona and potash.	P9AA-2569-12XX	US
	 NP24	General use cap works best in severe conditions.	P9AA-2569-24XX	US
	 NP35	Standard 12.1mm tip for medium cutting conditions.	P9AA-2569-35XX	US
	 NP42	8.3mm tip double angled tip for light to medium cutting conditions.	P9AA-2569-42XX	US
	 NP12	Sharp 60° profile tip for increased penetration. 1.0 mm tip radius for trona and potash.	P9MS-2569-12XX	US
	 NP18	Sharp 60° profile tip for increased penetration. 1.0mm tip radius for trona and potash.	P9MS-2569-18XX	US
	 NP24	General use cap works best in severe conditions.	P9MS-2569-24XX	US

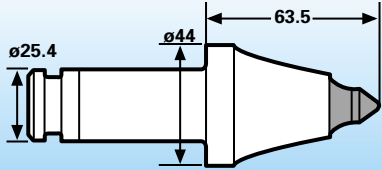

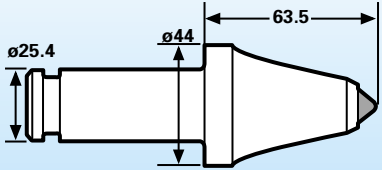




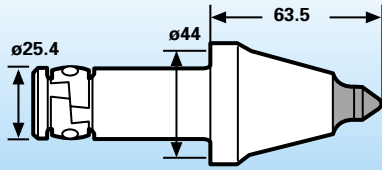


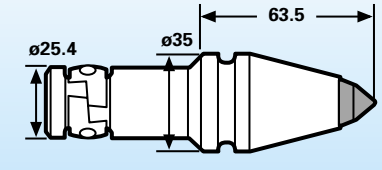




Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

# 25mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP03   NP35   NP42	Double angled tip for severe cutting conditions.  Standard 12.1mm tip for medium cutting conditions.  8.3mm double angled tip for light to medium cutting conditions.	P9MS-2569-03XX  P9MS-2569-35XX  P9MS-2569-42XX	US  US  US
 <p><i>External clip and internal sleeve for maximum retention</i></p>	 NP05   NP13   NP24	Sharp 68° nose. 8.3mm tip for increased penetration in light cutting conditions.  15.4mm tip for severe cutting conditions.  General use cap works best in severe conditions.	P9XJ-2563-05XX  P9XJ-2563-13XX  P9XJ-2563-24XX	US  US  US
 <p><i>External clip and internal sleeve for maximum retention</i></p>	 NP03   NP24   NP42	12.1mm double angled tip for severe conditions.  General use cap works best in severe conditions.  8.3mm tip double angled tip for light to medium cutting conditions.	P9XJ-2569-03XX  P9XJ-2569-24XX  P9XJ-2569-42XX	US  US  US
	 NP12   NP24	Sharp 60° profile tip for increased penetration. 1.0 mm tip radius for trona and potash.  General use cap works best in severe conditions.	P7MS-2563-12XX  P7MS-2563-24XX	US  US

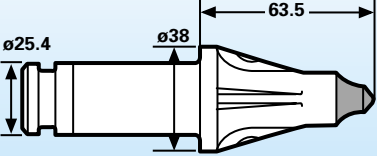




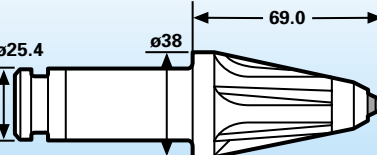



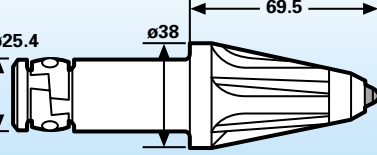



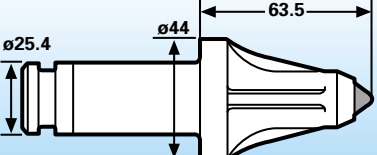



# 25mm Conical Tools

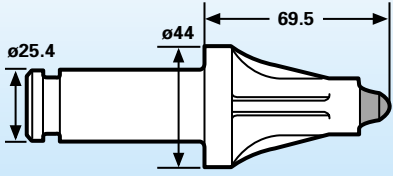




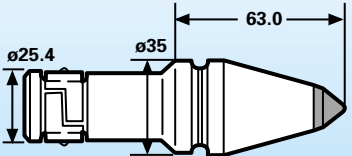




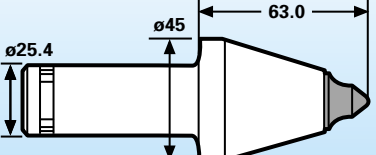



Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/ Land Code
	 NP43	Large cap for abrasive conditions and reduced risk of incendive sparking from tool body.	Q7MS-2564-43XX	US
	 NP03   NP13   NP35   NP42	12.1mm double angled tip for severe cutting conditions.  Sharp profile tip for increased penetration. 1.0 mm tip radius for trona and potash.  General use cap works best in severe conditions.  Sharp profile tip for increased penetration. Good for abrasive conditions. 90° tip.	Q7MS-2564-03XX  Q7MS-2564-13XX  Q7MS-2564-35XX  Q7MS-2564-42XX	US  US  US  US
	 NP35   NP43	Standard 12.1mm tip for medium cutting conditions.  Large cap for abrasive conditions and reduced risk of incendive sparking from tool body.	Q7AA-2563-35XX  Q7AA-2563-43XX	US  US
	 NP01   NP13   NP35   NP42	Standard 16.2mm cap for steel protection in medium to hard cutting conditions.  Same as NP12 with a 1.0 tip radius for trona and potash.  Standard 12.1mm tip for medium cutting conditions.  8.3mm double angled tip for light to medium cutting conditions.	P9QA-2563-01XX  P9QA-2563-13XX  P9QA-2563-35XX  P9QA-2563-42XX	US  US  US  US

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

# 25mm Conical Tools

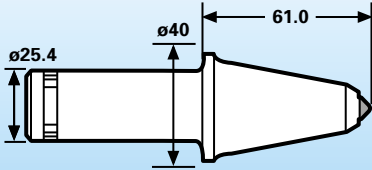


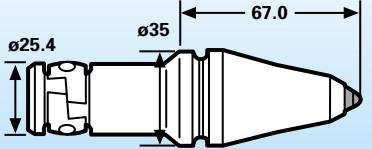

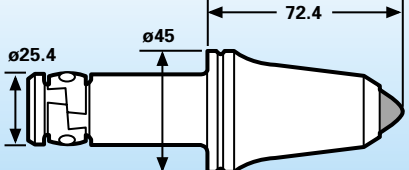


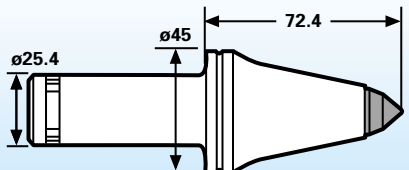


Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP12   NP24   NP26   NP42	<p>Sharp 60° profile tip for increased penetration with 2.5mm tip radius. Good for abrasive conditions.</p> <p>General use cap works best in severe conditions.</p> <p>Same as NP12 with 90° tip.</p> <p>8.3mm double angled tip for light to medium cutting conditions.</p>	<p>P9MF-2563-12XX</p> <p>P9MF-2563-24XX</p> <p>P9MF-2563-26XX</p> <p>P9MF-2563-42XX</p>	<p>US</p> <p>US</p> <p>US</p> <p>US</p>
	 NP12   NP24   NP42	<p>Sharp 60° profile tip for increased penetration with 2.5mm tip radius. Good for abrasive conditions.</p> <p>General use cap works best in severe conditions.</p> <p>8.3mm double angled tip for light to medium cutting conditions.</p>	<p>P9MF-2569-12XX</p> <p>P9MF-2569-24XX</p> <p>P9MF-2569-42XX</p>	<p>US</p> <p>US</p> <p>US</p>
	 NP12   NP24   NP42	<p>Sharp 60° profile tip for increased penetration with 2.5mm tip radius. Good for abrasive conditions.</p> <p>General use cap works best in severe conditions.</p> <p>8.3mm double angled tip for light to medium cutting conditions.</p>	<p>P9AF-2569-12XX</p> <p>P9AF-2569-24XX</p> <p>P9AF-2569-42XX</p>	<p>US</p> <p>US</p> <p>US</p>
	 NP35	<p>Standard 12.1mm tip for medium cutting conditions.</p>	<p>Q7MF-2563-35XX</p>	<p>US</p>

# 25mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP12	Sharp 60° profile tip for increased penetration with 2.5mm tip radius. Good for abrasive conditions.	Q7MF-2569-12XX	US
	 NP24	General use cap works best in severe conditions.	Q7MF-2569-24XX	US
	 NP35	Standard 12.1mm tip for medium cutting conditions.	Q7MF-2569-35XX	US
	 NP42	8.3mm double angled tip for light to medium cutting conditions.	Q7MF-2569-42XX	US
	 NP02	7.8mm insert for increased penetration in light cutting conditions.	P9QA-2563-02XX	AU
	 NP07	10mm insert for general use in medium cutting conditions.	P9QA-2563-07XX	AU
	 NP44	Similar to NP01, 16.2mm cap for steel body protection used in medium to hard cutting.	P9QA-2563-44XX	AU
	 NP46	Large 20mm based low energy cap for maximum body protection and cutting performance in all conditions.	P9QA-2563-46XX	AU
	 NP36	15mm cap for steel body protection used in medium cutting to protect steel.	Q7MS-2562-36XX	AU
	 NP44	Similar to NP01, 16.2mm cap for steel body protection used in medium to hard cutting.	Q7MS-2563-44XX Q7MS-2565-44XX	AU
	 NP46	Large 20mm based low energy cap for maximum body protection and cutting performance in all conditions.	Q7MS-2563-46XX Q7MS-2575-46XX	AU

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

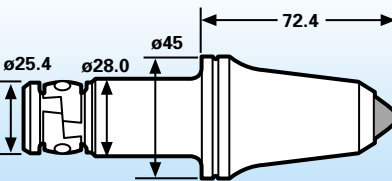

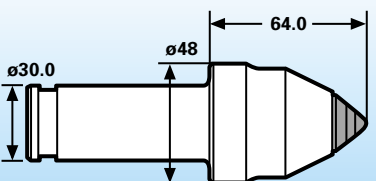


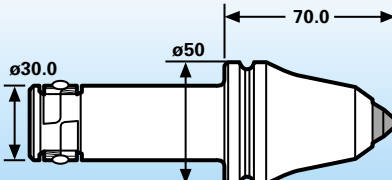

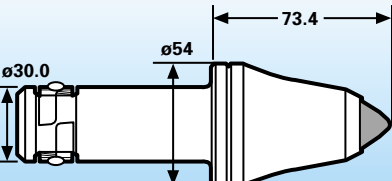

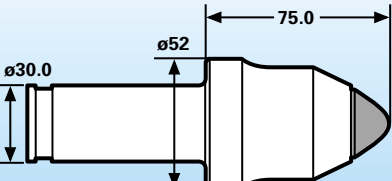



# 25mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP02   NP07	<p>7.8mm insert for increased penetration in light cutting conditions.</p> <p>10mm insert for general use in medium cutting conditions.</p>	<p>Q7MS-2561-02XX</p> <p>Q7MS-2561-07XX</p>	<p>AU</p> <p>AU</p>
	 NP33	<p>8.8mm double angle insert for light to medium cutting conditions.</p>	<p>Q9QA-2567-33XX</p>	<p>AU</p>
	 NP01   NP51	<p>Standard 16.2mm cap for steel protection in medium to hard cutting conditions.</p> <p>16mm insert for harder cutting conditions in hard coal and sandstone.</p>	<p>Q7AA-2572-01XX</p> <p>Q7AA-2572-51XX</p>	<p>SA</p> <p>SA</p>
	 NP01   NP51	<p>Standard 16.2mm cap for steel protection in medium to hard cutting conditions.</p> <p>16mm insert for harder cutting conditions in hard coal and sandstone.</p>	<p>Q7AA-2572-01XX</p> <p>Q7AA-2572-51XX</p>	<p>SA</p> <p>SA</p>

**10** Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

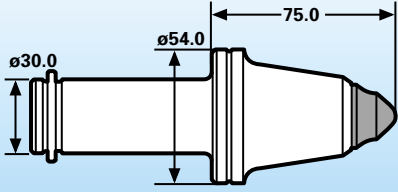

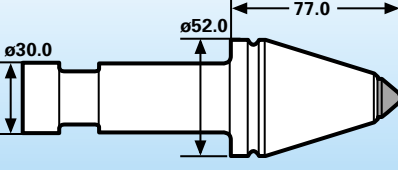

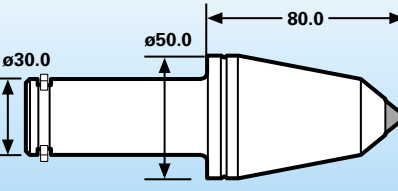

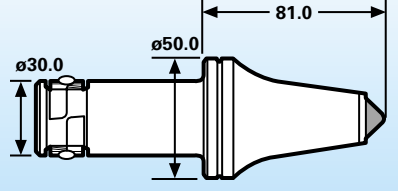




# 30mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>25mm x 28mm stepped shank— designed with large 5mm shoulder radius to be as strong as 30mm shank.</p>	 NP51	<p><b>25 x 28 stepped shank.</b></p> <p>16mm insert for harder cutting conditions in hard coal and sandstone.</p>	Q7BA-2872-51XX	SA
	 NP19   NP21	<p>22mm insert for severe hard rock conditions.</p> <p>18mm insert for medium to hard rock conditions.</p>	P1KS-3064-19XX  P1KS-3064-21XX	SA  SA
	 NP49	<p>15.5 mm insert for medium rock conditions, used for cutting higher amounts of rock in longwalls.</p>	Q8TA-3070-49XX	AU
	 NP53	<p>22mm insert for hard rock conditions.</p>	Q6AA-3073-53XX	SA
	 NP17   NP19   NP21	<p>25mm insert for most severe hard rock conditions where carbide fracture occurs.</p> <p>22mm insert for severe hard rock conditions.</p> <p>18mm insert for medium to hard rock conditions.</p>	P2KS-3075-17XX  P2KS-3075-19XX  P2KS-3075-21XX	SA  SA  SA

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

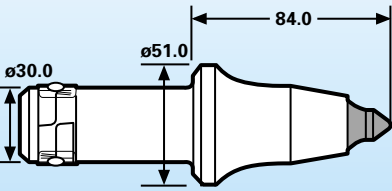




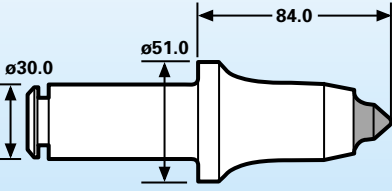





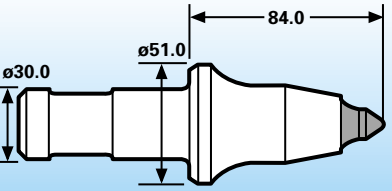

# 30mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP23	24mm heavy duty cap for medium to hard abrasive conditions where steel wear and ignitions are problems.	Q6KS-3075-23XX	AU
	 NP41	15.3mm long insert for medium to hard conditions.	Q2TG-3077-41XX	SA
	 NP32	12mm insert for medium cutting conditions.	P8KS-3080-32XX	AU
	 NP51   NP52	16mm insert for medium to harder cutting conditions in hard coal and sandstone.  18mm insert for medium to hard rock conditions.	Q8AA-3081-51XX  Q8AA-3081-52XX	SA  SA

**12** Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

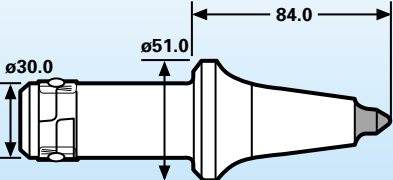



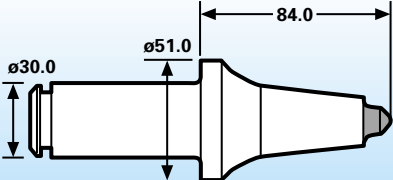


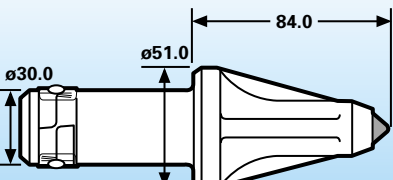


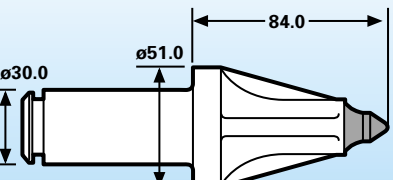





# 30mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP12	16mm cap for increased penetration in light cutting conditions—soft coal, trona and potash.	P8AA-3084-12XX	US
	 NP23	24mm heavy duty cap for medium to hard conditions where steel wear and ignitions are problems.	P8AA-3084-23XX	US
	 NP24	16mm cap for general use in medium conditions.	P8AA-3084-24XX	US
	 NP43	Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.	P8AA-3084-43XX	US
	 NP12	16mm cap for increased penetration in light cutting conditions—soft coal, trona and potash.	P8KD-3084-12XX	US
	 NP23	24mm heavy duty cap for medium to hard conditions where steel wear and ignitions are problems.	P8KD-3084-23XX	US
	 NP24	16mm cap for general use in medium conditions.	P8KD-3084-24XX	US
	 NP43	Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.	P8KD-3084-43XX	US
	 NP50	Large 20mm based low energy cap for steel body protection and optimized cutting performance in most conditions. This cap is optimized for carbide wear.	P8KD-3084-50XX	US
	 NP43	Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.	P8JA-3084-43XX	US

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

# 30mm Conical Tools

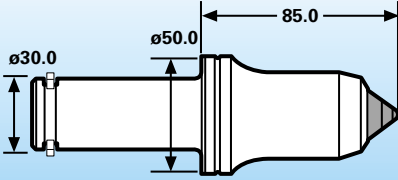

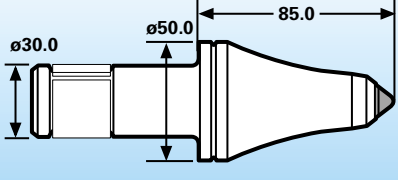

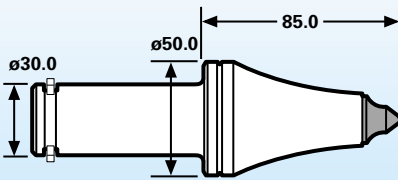




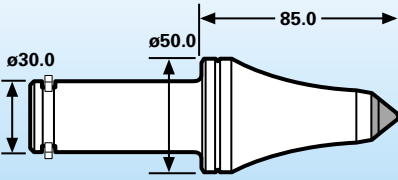

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p><i>Slender body design promotes increased penetration and reduced dust levels.</i></p>	 NP12  NP24  NP50	<p>16mm cap for increased penetration in light cutting conditions—soft coal, trona and potash.</p> <p>16mm cap for general use in medium conditions.</p> <p>Large 22mm based low energy cap for steel body protection and optimized cutting performance in most conditions. This cap is optimized for carbide wear and is patented.</p>	<p>Q8AX-3084-12XX</p> <p>Q8AX-3084-24XX</p> <p>Q8AX-3084-50XX</p>	<p>US</p> <p>US</p> <p>US</p>
 <p><i>Slender body design promotes increased penetration and reduced dust levels.</i></p>	 NP12  NP24	<p>16mm cap for increased penetration in light cutting conditions—soft coal, trona and potash.</p> <p>16mm cap for general use in medium conditions.</p>	<p>Q8KX-3084-12XX</p> <p>Q8KX-3084-24XX</p>	<p>US</p> <p>US</p>
	 NP35  NP43	<p>Standard 12.1mm tip for medium cutting conditions.</p> <p>Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.</p>	<p>Q8AF-3084-35XX</p> <p>Q8AF-3084-43XX</p>	<p>US</p> <p>US</p>
	 NP12  NP24  NP43	<p>16mm cap for increased penetration in light cutting conditions—soft coal, trona and potash.</p> <p>16mm cap for general use in medium conditions.</p> <p>Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.</p>	<p>Q8KF-3084-12XX</p> <p>Q8KF-3084-24XX</p> <p>Q8KF-3084-43XX</p>	<p>US</p> <p>US</p> <p>US</p>

**14** Note:  
For Carbide Tip Dimensions,  
see chart on page 45.



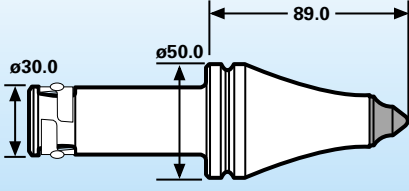



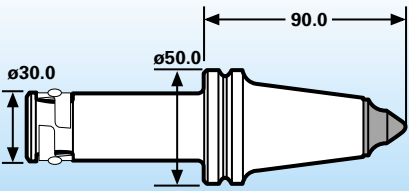

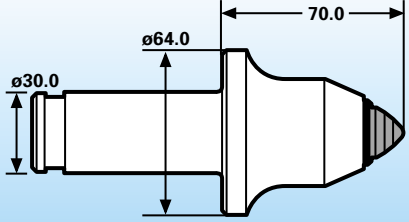

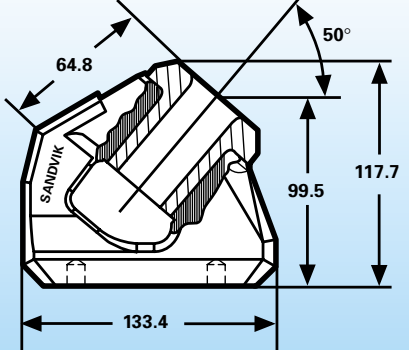


# 30mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP19	22mm double angled insert for hard cutting conditions.	P8KD-3085-19XX	AU
	 NP32	12mm insert for good penetration in light to medium cutting conditions.	Q8JX-3085-32XX	AU
	 NP44   NP45   NP46   NP49	Similar to NP01, 16.2mm cap for steel body protection used in light to medium cutting conditions.  Large 24mm based low energy cap for maximum body protection and cutting performance in harder conditions.  Large 20mm based low energy cap for good body protection and cutting performance in medium conditions.  15.5mm insert for medium to hard rock conditions.	Q8KD-3085-44XX  Q8KD-3085-45XX  Q8KD-3085-46XX  Q8KD-3085-49XX	AU  AU  AU  AU
	 NP32	12mm insert for good penetration in light to medium cutting conditions.	Q8KX-3085-32XX	AU

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

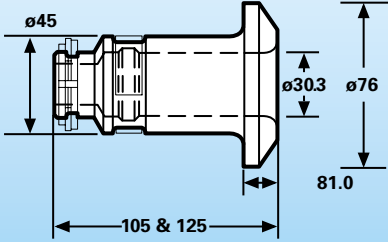
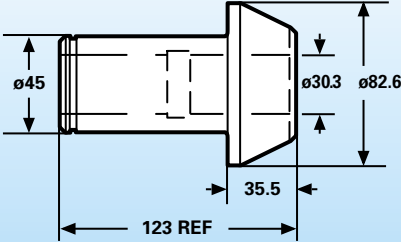
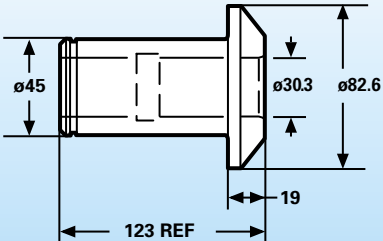
# 30mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>Long shank fit</p>	 NP32  NP46  NP49	<p>12mm insert for good penetration in light to medium cutting conditions.</p> <p>Large 20mm based low energy cap for good body protection and cutting performance in medium conditions.</p> <p>15.5mm insert for medium to hard rock conditions.</p>	<p>Q8TA-3089-32XX</p> <p>Q8TA-3089-46XX</p> <p>Q8TA-3089-49XX</p>	<p>AU</p> <p>AU</p> <p>AU</p>
	 NP45	<p>Large 24mm based low energy cap for maximum body protection and cutting performance in harder conditions.</p>	<p>Q8AA-3085-45XX</p> <p>Q8AA-3089-45XX</p> <p>Q8AA-3090-45XX</p>	<p>AU</p>
	 NP21	<p>18mm insert for medium to hard rock conditions patented ring resists steel wear around insert.</p>	<p>T3KS-3070-21XX</p>	<p>SA</p>
	<p>--</p>	<p>S30 block system design for continuous miners using 30mm tools. Has large base for maximum weld strength. Also has large window for easy clip removal. Available with non-rotating press fit sleeves using external retainer tools or rotating sleeves using internal band style retainer tools. Sleeves have carburized bores for maximum wear life.</p>	<p>B3GE-3000-5000 (Press fit, non-rotating)</p> <p>B3GF-3000-5000 (Rotating sleeve with external clip)</p> <p>C4BB-3016-4600 (Press fit sleeve)</p> <p>C4AA-3016-4600 (Rotating sleeve)</p>	<p>US</p>

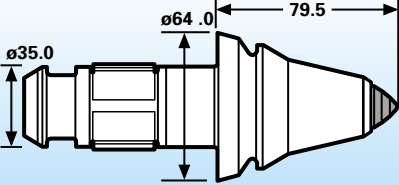


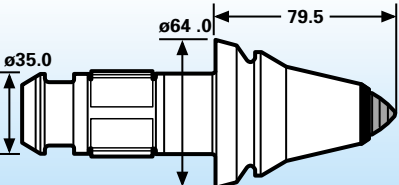

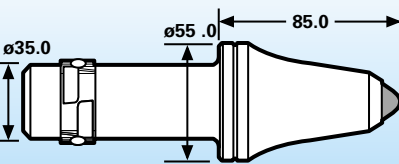


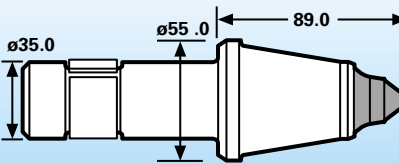

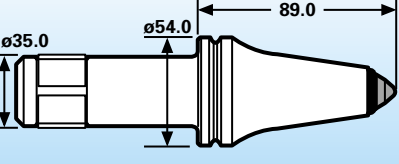

**16** Note:  
For Carbide Tip Dimensions,  
see chart on page 45.



# 30mm Conical Sleeves

Drawing Dimensions (mm)	Description and Features	Ordering Code	Stock/Land Code
	<p style="border: 1px solid black; padding: 5px; text-align: center;"><b>A large number of sleeve designs are offered by all units to suit the specific needs of each customer's tooling systems.</b></p> <p>Through hardened wear sleeves with anti-rotation "wedding band" side clip and "RR" clip rear retention. This sleeve fits Kennametal 178 block and our Q8TA-30 picks. Available in 15mm and 35mm gauge lengths.</p>	<p>C3PH-3015-4500 C3PH-3035-4500</p>	<p>AU</p>
	<p>Through hardened wear sleeve with circlip rear retention to suit ACS 2021 block and our Q8AA-30 picks, 35mm gauge length.</p>	<p>C3AA-3035-4900</p>	<p>AU</p>
	<p>Standard 30mm bore sleeve uses internal band tools.</p> <p>Rotating sleeve with external clip retaining sleeve. Also available with a 36mm gauge length @ 140 O.A.L.</p>	<p>C3AA-3019-4900 C3AA-3036-4900</p>	<p>AU AU</p>

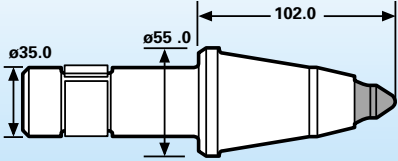


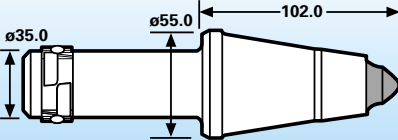

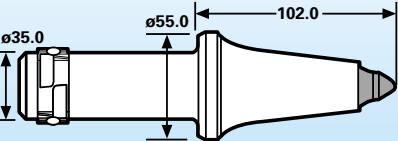



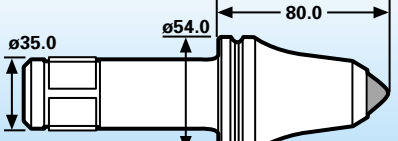

# 35mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>System 35 tool has patented labyrinth design for maximum shank support and improved rotation in severe cutting conditions.</p>	 NP19   NP21	22mm insert for severe hard rock conditions.  18mm insert for medium to hard rock conditions.	P9SA-3580-19XX  P9SA-3580-21XX	SA  SA
 <p>System 35 tool has patented labyrinth design for maximum shank support and improved rotation in severe cutting conditions.</p>	 NP21	18mm insert for medium to hard rock conditions. Patented carbide ring resists steel wear around insert.	T9SA-3580-21XX	SA
	 NP51   NP52	16mm insert for medium to harder cutting conditions in hard coal and sandstone.  18mm insert for medium to hard rock conditions.	Q7AA-3585-51XX  Q7AA-3585-52XX	SA  SA
	 NP56	Large 29mm based low energy cap for maximum body protection and cutting performance in hardest rock conditions.	Q7JA-3589-56XX	US
 <p>Trispec tool</p>	 NP49	15.5mm insert for medium to hard rock conditions. Patented carbide ring resists steel wear around insert.	Q6JA-3500-49XX	AU

**18** Note:  
For Carbide Tip Dimensions,  
see chart on page 45.



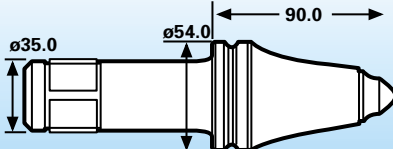

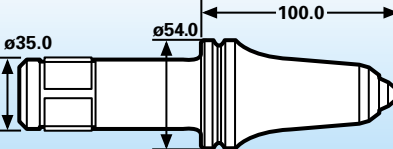


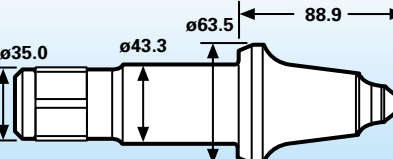


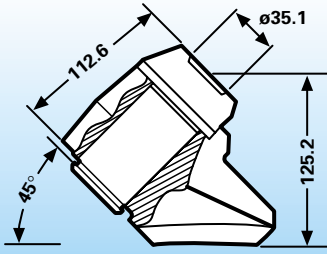
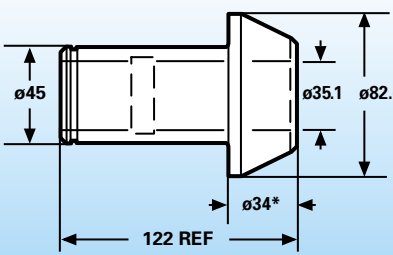
# 35mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP23   NP50	<p>24mm heavy duty cap for medium to hard abrasive conditions where steel wear and ignitions are problems.</p> <p>Large 22mm based low energy cap for steel body protection and optimized cutting performance in most conditions. This cap is optimized for carbide wear and is patented.</p>	<p>Q7JA-3502-23XX</p> <p>Q7JA-3502-50XX</p>	<p>US</p> <p>US</p>
	 NP23	<p>24mm heavy duty cap for medium to hard conditions where steel wear and ignitions are problems.</p>	<p>Q7AR-3502-23XX</p>	<p>US</p>
 <p><i>Slender body design promotes increased penetration and reduced dust levels.</i></p>	 NP23   NP43   NP50	<p>24mm heavy duty cap for medium to hard abrasive conditions where steel wear and ignitions are problems.</p> <p>Large 22mm based low energy cap for steel body protection and good cutting performance in most conditions.</p> <p>Large 22mm based low energy cap for steel body protection and optimized cutting performance in most conditions. This cap is optimized for carbide wear.</p>	<p>Q7AX-3502-23XX</p> <p>Q7AX-3502-43XX</p> <p>Q7AX-3502-50XX</p>	<p>US</p> <p>US</p> <p>US</p>
	 NP21	<p>18mm insert for medium to hard rock conditions, used for cutting higher amounts of rock in longwalls.</p>	<p>Q6JA-3580-21XX</p>	<p>AU</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.



# 35mm Conical Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP23	24mm heavy duty cap for medium to hard conditions where steel wear and ignitions are problems.	Q6JA-3590-23XX	AU
	 NP23   NP49	24mm heavy duty cap for medium to hard conditions where steel wear and ignitions are problems.  15.5mm insert for medium to hard rock conditions.	Q6JA-3500-23XX  Q6JA-3500-49XX	AU  AU
 <p data-bbox="154 1113 487 1186"><i>Shank specially designed for powerful longwall shears in severe cutting conditions to resist shank breakage.</i></p>	 NP23   NP56	24mm heavy duty cap for medium to hard conditions where steel wear and ignitions are problems. Comes in 102 mm gage length.  Large 29mm based low energy cap for maximum body protection and cutting performance in hardest rock conditions.	Q3XA-4302-23XX  Q3XA-4389-56XX	US  US
	--	35mm non-rotating sleeve/block system. For use with tools having internal band or sleeve retainers. Notched sleeve/block design prevents sleeve rotation in block bore. Block bore induction hardened to improve block life. Can be rotating also.	B3GE-3525-4500 (Non-press fit, non rotating)  C3AA-3534-4900 (Mating sleeve, pictured in drawing)	US  US
	-- -- --	Standard 35mm bore sleeve uses internal band tools.  Rotating sleeve with external clip retaining sleeve.  * Also available with 20mm and 45mm gauge length.	C3AA-3520-4900  C3AA-3534-4900  C3AA-3545-4900	US

**20** Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

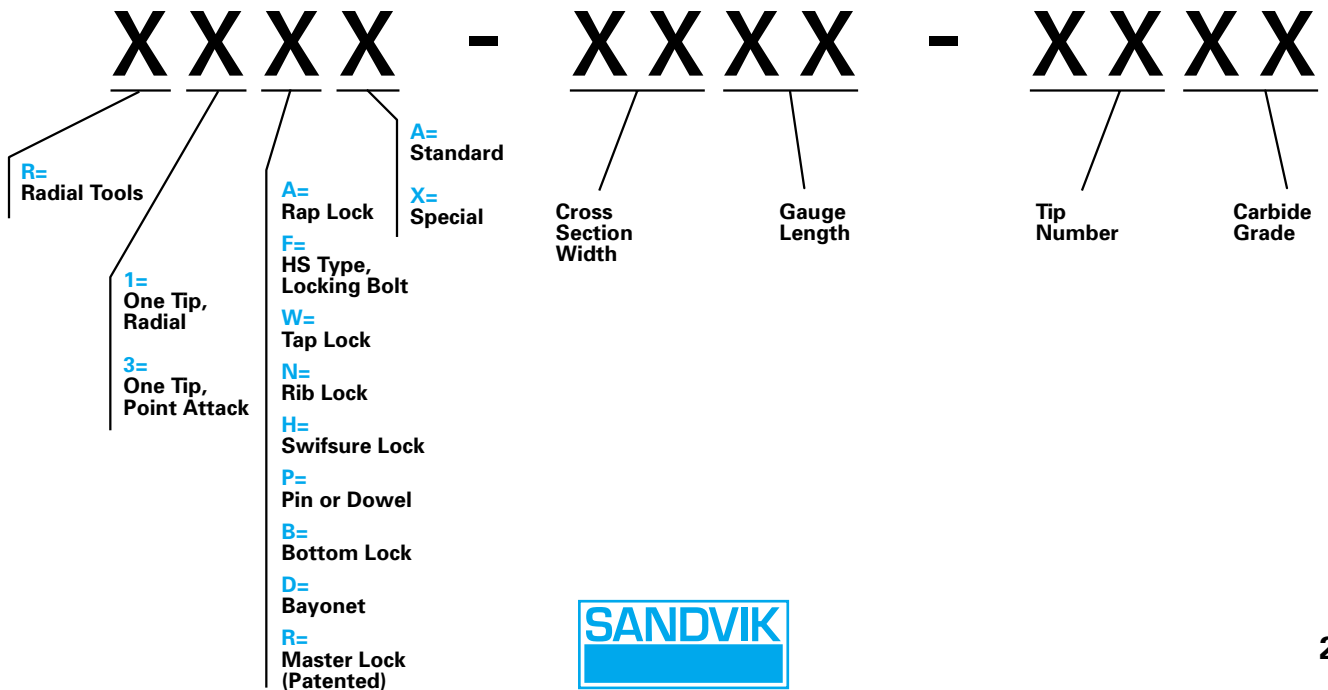




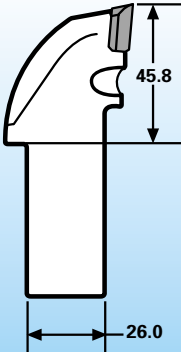

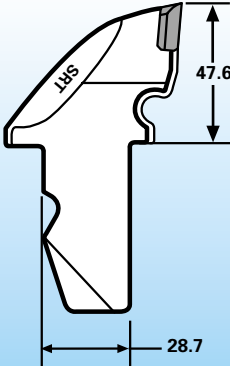

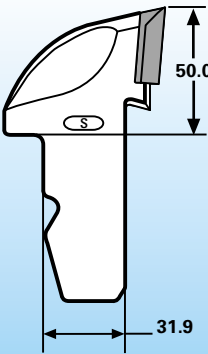
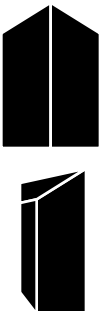
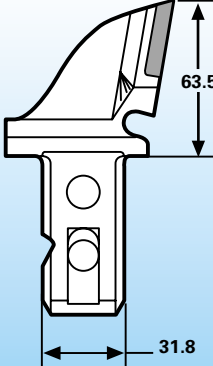

# Radial Tools

Pages.....21-25

## Ordering Code Key for Radial Tools:



# Radial Tools

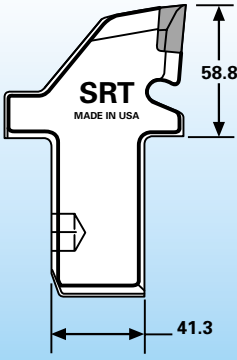
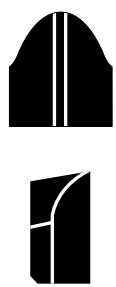
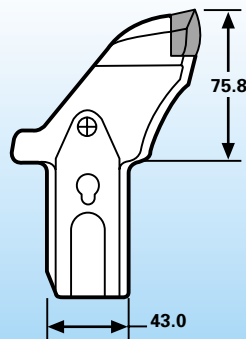
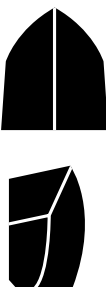
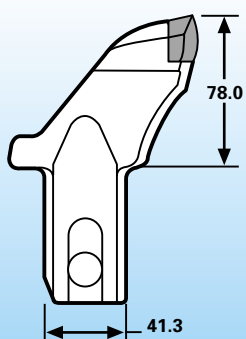
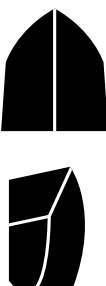
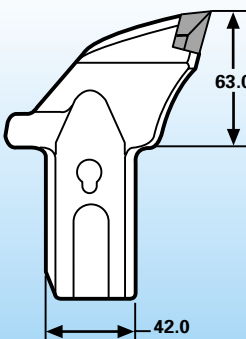
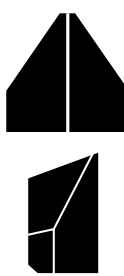
Drawing Dimensions (mm)	Carbide Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NR38	12.7 x 26.0 shank. Rake angle +5°. General purpose undercutter.	R1FA-1345-38XX	US
	 NR38	16.0 x 28.7 shank. Rake angle +5°. Rap lock retention system. General purpose undercutter.	R1AA-1647-38XX	US
	 NR09	19.4 x 31.9 shank. Rake angle +5°. Rap lock retention system. General purpose undercutter.	R1AA-1950-09XX	US
	 NR41	19.1 x 31.8 shank. Rake angle +10°. Dual pin retention system. General purpose radial.	R1HD-1963-41XX	US

**22** Note:  
For Carbide Tip Dimensions,  
see chart on page 46.



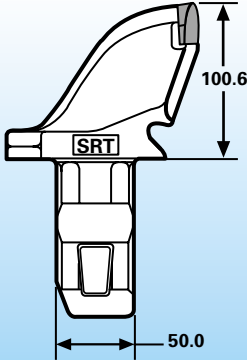
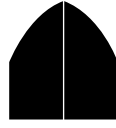

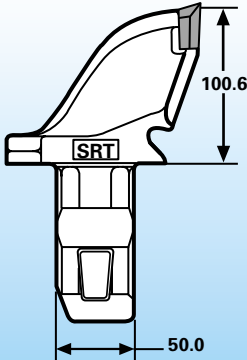


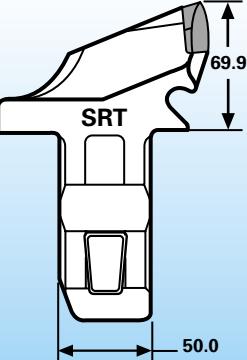
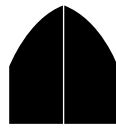

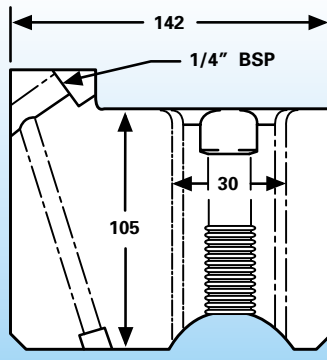


# Radial Tools

Drawing Dimensions (mm)	Carbide Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 <p data-bbox="625 556 690 598">NR47</p>	<p data-bbox="860 336 1079 535">25.6 x 41.3 shank. Rake angle +5°. Button retention system. Radial used in trona and potash.</p>	<p data-bbox="1144 336 1331 367">R1BA-2558-47XX</p>	<p data-bbox="1412 336 1453 367">US</p>
	 <p data-bbox="625 976 690 1018">NR04</p>	<p data-bbox="860 735 1047 966">25.8 x 41.3 shank. Rake angle 0°. Pin and rubber retention system. General purpose radial.</p>	<p data-bbox="1144 735 1331 766">R1DA-2575-04XX</p>	<p data-bbox="1412 735 1453 766">US</p>
	 <p data-bbox="625 1396 690 1438">NR04</p>	<p data-bbox="860 1134 1047 1323">25.8 x 41.3 shank. Rake angle 0°. Pin retention system. General purpose radial.</p>	<p data-bbox="1144 1134 1331 1165">R1PF-2575-04XX</p>	<p data-bbox="1412 1134 1453 1165">US</p>
	 <p data-bbox="625 1827 690 1869">NR18</p>	<p data-bbox="860 1543 1047 1774">25.5 X 42 shank. Rake angle +15°. Pin and rubber retention system. Used in potash mining.</p>	<p data-bbox="1144 1543 1331 1575">R1DA-2563-18XX</p>	<p data-bbox="1412 1543 1453 1575">US</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.

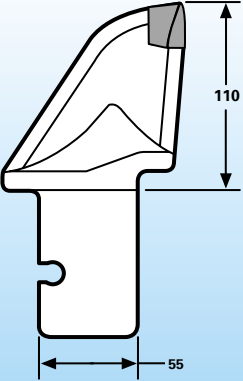
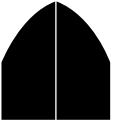
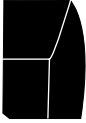
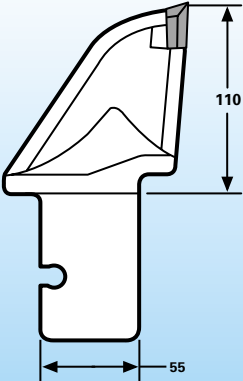


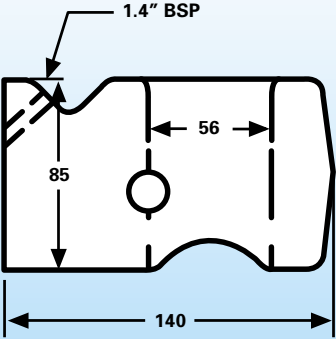
# Radial Tools

Drawing Dimensions (mm)	Carbide Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	  NR22	30.0 x 50.0 shank. Rake angle -5°. Rock. Rib-lock retention system. Radial longwall bit.	R1NA-3000-22XX	US
	  NR25	30.0 x 50.0 shank. Rake angle -5°. Coal. Rib-lock retention system. Radial longwall bit.	R1NA-3000-25XX	US
	  NR22	30.0 x 50.0 shank. Rake angle -5°. Coal. Rib-lock retention system. Radial used on continuous miners.	R1NA-3070-22XX	US
	--	30.0 x 50.0 holder for R1NA bits. Carburized for maximum life. Built in spray for tip cooling. 85 mmwide/Rib-lock retention for longwall and continuous miners.	B5NA-3005-90XX	US

**24** Note:  
For Carbide Tip Dimensions,  
see chart on page 46.

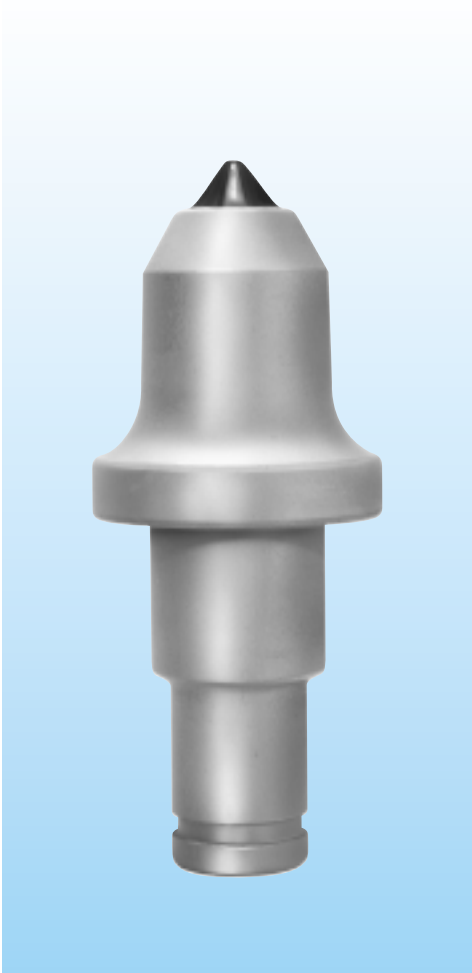


# Radial Tools

Drawing Dimensions (mm)	Carbide Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	  NR20	35 x 55 shank. Rake angle +5°. Rubber and steel pin retention system. High performance longwall radial for hard cutting conditions. Patented flared/radial design.	R1RP-3510-20XX	US
	  NR25	35 x 55 shank. Rake angle +5°. Rubber/steel pin retention system. High performance longwall radial for coal cutting. Patented flared/radial design.	R1RP-3510-25XX	US
	--	36 x 56 holder for "R1RP" bits. Carburized for maximum life. Built in spray for tip cooling. 80mm width.	B5RK-3585-90XX	US

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.

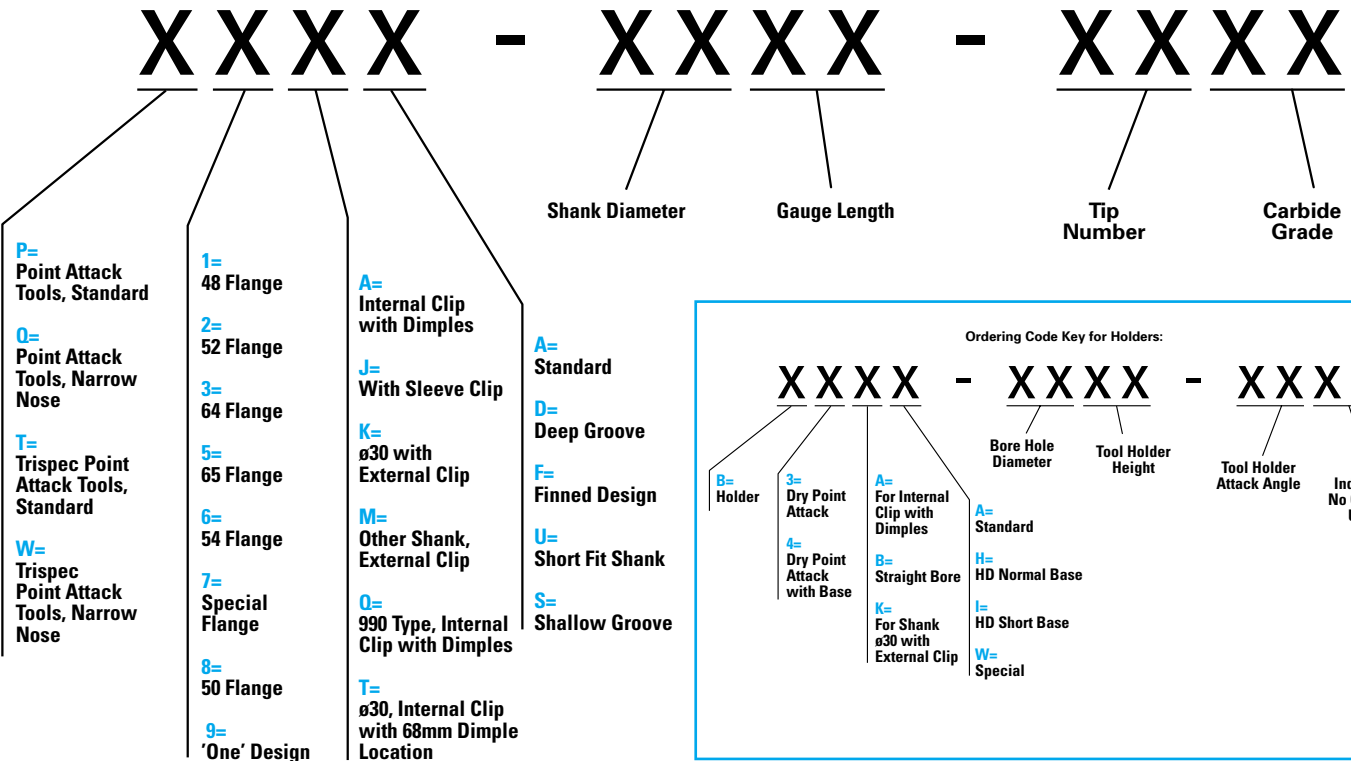




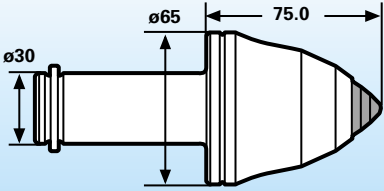

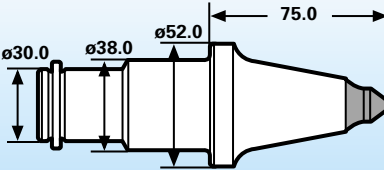

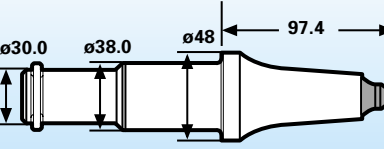

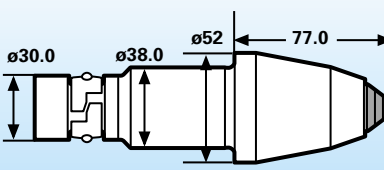


# Roadheading & Crushers

Pages.....26-30

## Ordering Code Key for Roadheading & Crushers:

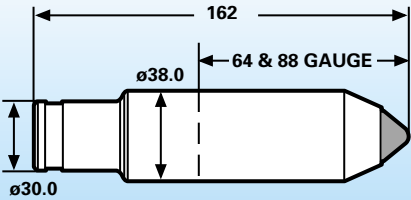

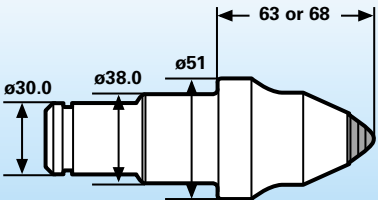



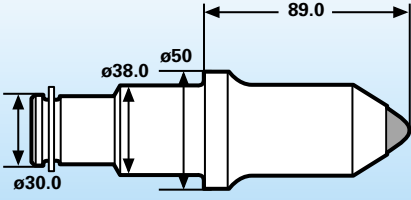

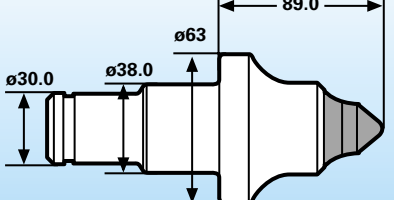





# Roadheading & Crushers

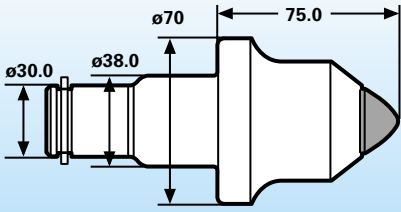

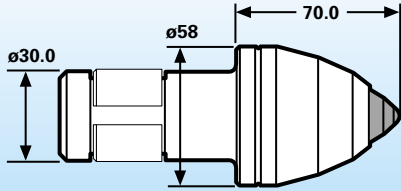

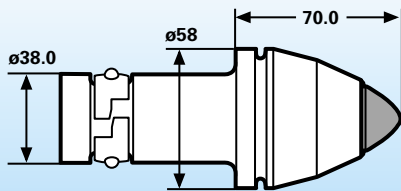


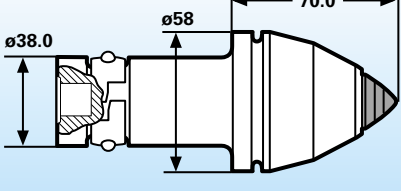


Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>Technical drawing of NP19 tip showing dimensions: diameter 30, diameter 65, and length 75.0.</p> <p><i>For use on a 5200 road header.</i></p>	 <p>NP19</p>	<p>22mm insert for severe hard rock conditions.</p>	<p>P5KS-3075-19XX</p>	<p>AU</p>
 <p>Technical drawing of NP43 tip showing dimensions: diameter 30.0, diameter 38.0, diameter 52.0, and length 75.0.</p> <p><i>Used on Voest Alpine Miners in salt and potash.</i></p>	 <p>NP43</p>	<p>Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.</p>	<p>Q2DS-3877-43XX</p>	<p>SA</p>
 <p>Technical drawing of NP43 tip showing dimensions: diameter 30.0, diameter 38.0, diameter 48, and length 97.4.</p> <p><i>Used on Voest Alpine Miners in salt and potash.</i></p>	 <p>NP43</p>	<p>Large 20mm based low energy cap for steel body protection and good cutting performance in most conditions.</p>	<p>Q1EC-3897-43XX Q1EC-3876-43XX</p>	<p>US US</p>
 <p>Technical drawing showing NP19 and NP21 tips. NP19 dimensions: diameter 30.0, diameter 38.0, diameter 52, length 77.0. NP21 dimensions: diameter 30.0, diameter 38.0, diameter 52, length 77.0.</p>	 <p>NP19</p>  <p>NP21</p>	<p>22mm insert for severe hard rock conditions.</p> <p>18mm insert for medium to hard rock conditions.</p>	<p>Q2VA-3877-19XX Q2VA-3877-21XX</p>	<p>SA SA</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

# Roadheading & Crushers

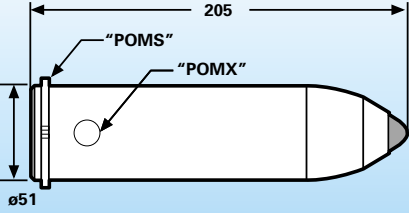


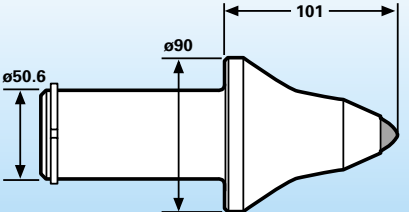

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP15	<p>20mm carbide insert with 75° tip angle.</p> <p>Large carbide provides extended tool life.</p>	<p>PODS-3888-16XX</p> <p>PODS-3864-16XX</p>	<p>US</p> <p>US</p>
	 NP08  NP21  NP23	<p>Standard ø18mm insert for road heading.</p> <p>Extra long ø18mm insert for longer bit life.</p> <p>Heavy duty cap allows maximum tool life in abrasive conditions where steel body wear is a problem.</p>	<p>P8DS-3863-08XX</p> <p>P8DS-3868-21XX</p> <p>P8DS-3863-23XX</p>	<p>US</p> <p>US</p> <p>US</p>
	 NP21	<p>18mm insert for medium to hard rock conditions.</p> <p>18mm insert for medium to hard rock conditions. "P3DS" indicates ø63mm collar dimension.</p>	<p>P8DS-3889-21XX</p> <p>P3DS-3888-21XX</p>	<p>AU</p> <p>US</p>
	 NP21  NP23  NP56	<p>Extra long ø18mm insert for longer bit life. Also available in 76 and 88mm gauge lengths.</p> <p>Heavy duty cap allows longer tool life in abrasive conditions where steel body wear is a problem.</p> <p>Extra heavy duty cap allows longer tool life in abrasive conditions where steel body wear is a problem.</p>	<p>P3DS-3868-21XX</p> <p>Q3DS-3863-23XX</p> <p>P3DS-3870-56XX</p>	<p>US</p> <p>US</p> <p>US</p>

# Roadheading & Crushers

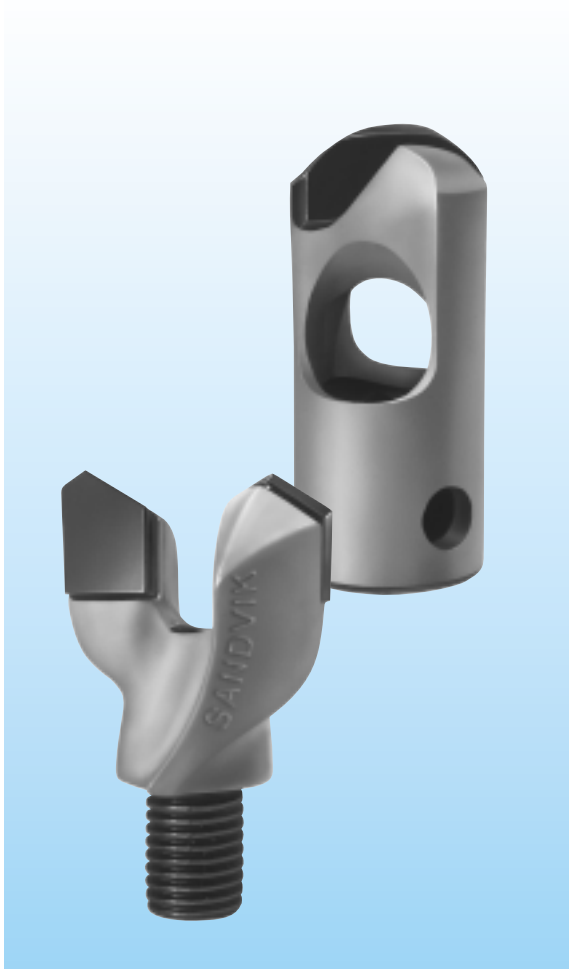
Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p><i>Large body and carbide used on surface miners.</i></p>	 NP17	25mm insert for most severe hard rock conditions.	P4XS-3877-17XX	SA
 <p><i>Large 38mm shank used on AM105 Voest Alpine miners.</i></p>	 NP19	22mm insert for severe hard rock conditions.	P7JU-3870-19XX	AU
 <p><i>Large 38mm shank used on AM105 Voest Alpine miners.</i></p>	 NP17   NP19	25mm insert for most severe hard rock conditions.  22mm insert for severe hard rock conditions.	Q7AG-3870-17XX  Q7AG-3870-19XX	SA  SA
 <p><i>Large 38mm shank used on AM105 Voest Alpine miners. Has carbide end plug to actuate Voest Alpine sprays.</i></p>	 NP17   NP19	25mm insert for most severe hard rock conditions.  22mm insert for severe hard rock conditions.	Q7AW-3870-17XX  Q7AW-3870-19XX	SA  SA

Note:  
For Carbide Tip Dimensions,  
see chart on page 45.

# Roadheading & Crushers

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 NP21   NP13	<p>18mm carbide insert used on special crushing tool with snap ring/circlip retainer.</p> <p>15.5mm carbide insert used on special crushing tool with spring loaded pin retainer.</p>	<p>POMS-5105-21XX</p> <p>POMX-5105-13XX</p>	<p>AU</p> <p>US</p>
	 NP21	<p>18mm carbide insert used on special crushing tool with snap ring/circlip retainer.</p>	<p>Q9MX-5101-21XX</p>	<p>AU</p>

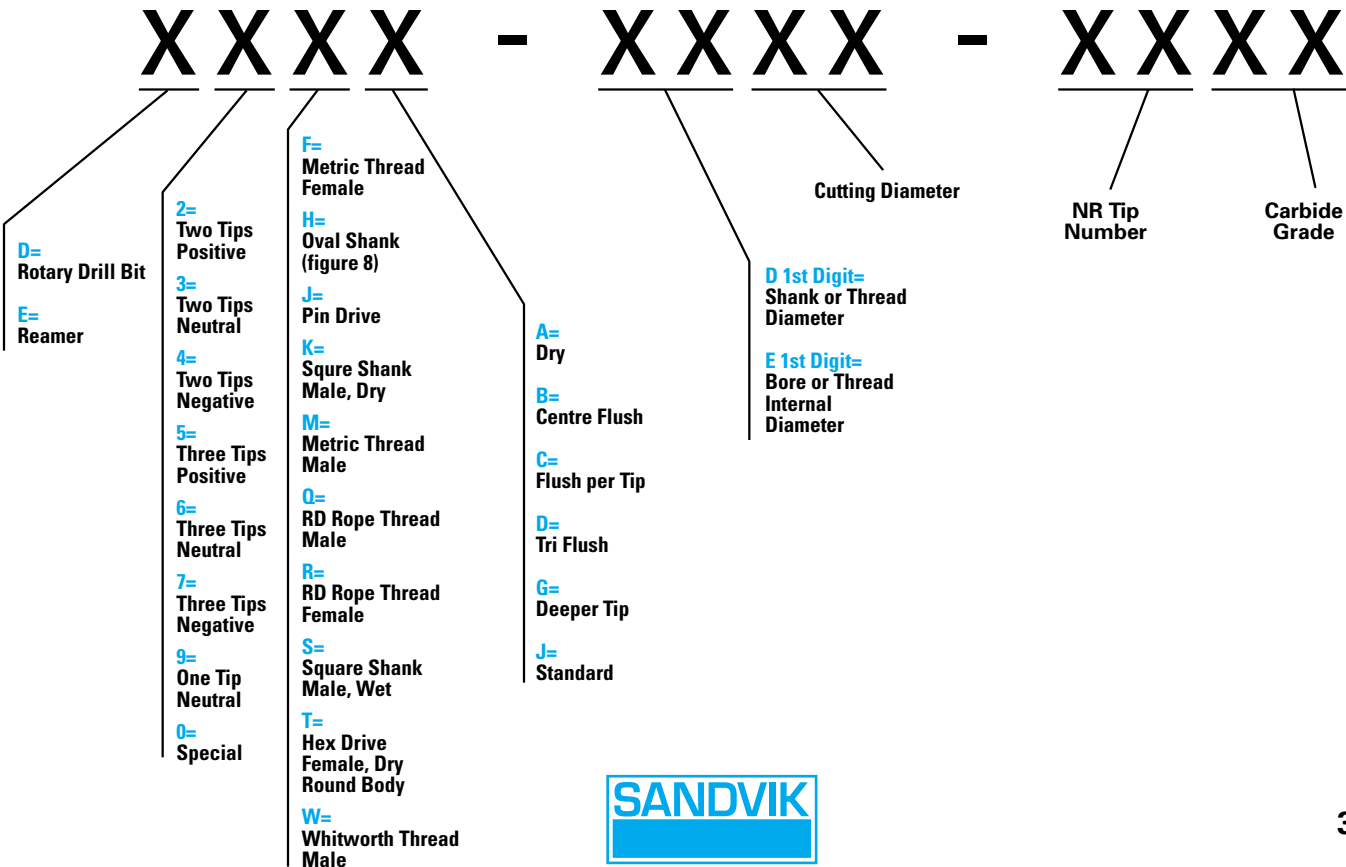




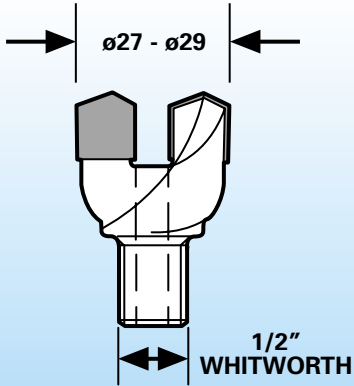

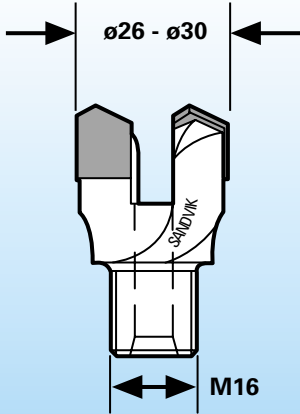

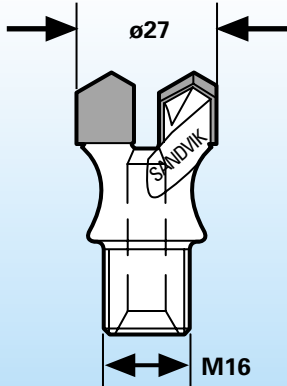

# Rotary Tools

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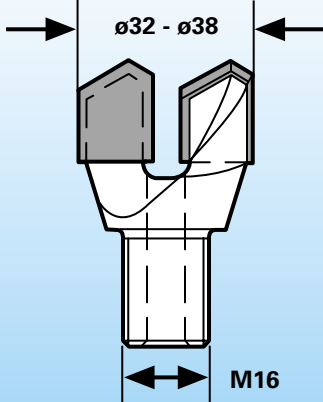
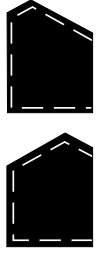
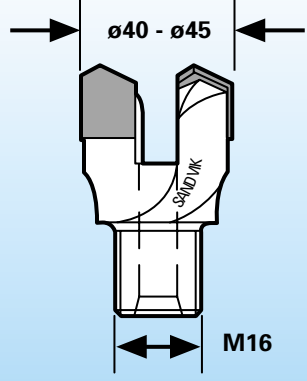

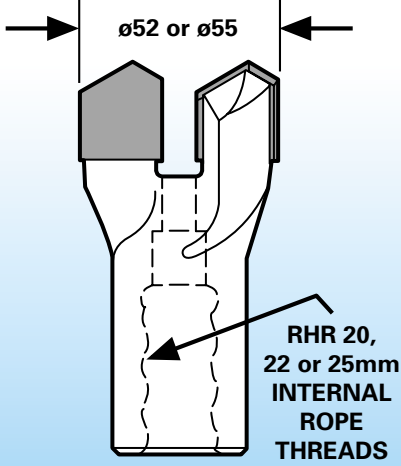
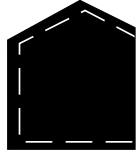
### Ordering Code Key for Rotary Tools:



# Rotary Tools

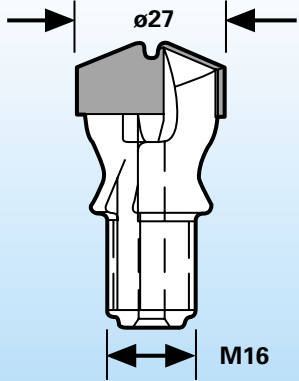

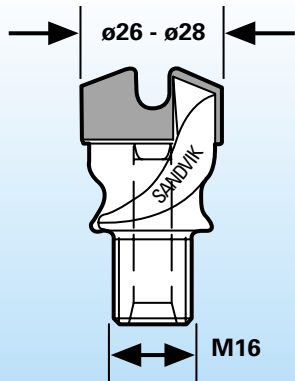

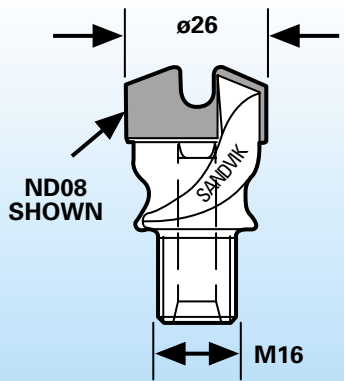


Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p><i>Two pronged bit with negative rake male whitworth threads.</i></p>	 <p>ND27</p>	<p>ø27mm</p> <p>ø28mm</p> <p>ø29mm</p>	<p>D4WB-1327-27XX</p> <p>D4WB-1328-27XX</p> <p>D4MB-1329-27XX</p>	<p>AU</p> <p>AU</p> <p>AU</p>
 <p><i>Two pronged bit with 2.5° negative rake male M16 threads.</i></p>	 <p>ND26</p>	<p>ø26mm</p> <p>ø27mm</p> <p>ø28mm</p> <p>ø29mm</p> <p>ø30mm</p>	<p>D4MB-1626-26XX</p> <p>D4MB-1627-26XX</p> <p>D4MB-1628-26XX</p> <p>D4MB-1629-26XX</p> <p>D4MB-1630-26XX</p>	<p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p>
 <p><i>Two pronged bit with 7° positive rake male M16 threads.</i></p> <p><i>Good for softer conditions and faster drilling.</i></p>	 <p>ND97</p>	<p>ø27mm</p>	<p>D2MB-1627-97XX</p>	<p>AU</p>

# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
	 <p>ND09</p>	<p>ø32mm</p> <p>ø35mm</p> <p>ø38mm</p> <p>ø35mm</p> <p>ø38mm</p>	<p>D4MB-1632-09XX</p> <p>D4MB-1635-09XX</p> <p>D4MB-1638-09XX</p> <p>D2MB-1635-09XX</p> <p>D2MB-1638-09XX</p>	<p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p>
 <p><i>Two pronged bit with 3° negative rake angle male M16 threads.</i></p>	 <p>ND91</p>	<p>ø40mm</p> <p>ø41mm</p> <p>ø42mm</p> <p>ø43mm</p> <p>ø45mm</p>	<p>D4MB-1640-91XX</p> <p>D4MB-1641-91XX</p> <p>D4MB-1642-91XX</p> <p>D4MB-1643-91XX</p> <p>D4MB-1645-91XX</p>	<p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p>
 <p><i>Two winged bit with 3° negative rake angle.</i></p>	 <p>ND32</p>	<p>ø52mm / RHR20F threads</p> <p>ø55mm / RHR20F threads</p> <p>ø52mm / RHR22F threads</p> <p>ø55mm / RHR22F threads</p> <p>ø52mm / RHR25F threads</p>	<p>D4RB-2052-32XX</p> <p>D4RB-2055-32XX</p> <p>D4RB-2252-32XX</p> <p>D4RB-2255-32XX</p> <p>D4RB-2552-32XX</p>	<p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.

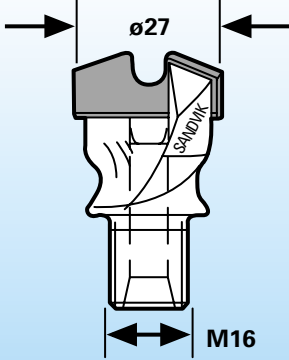

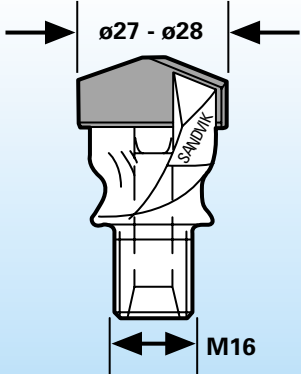

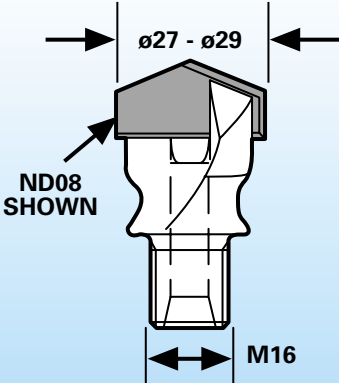

# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>Male M16 threaded roof bit with drop center carbide. High strength shank shows good resistance to wear and impact.</p>	 <p>ND11</p>	<p>ø27mm</p>	<p>D9MD-1627-11XX</p>	<p>AU</p>
 <p>Male M16 threaded roof bit with drop center carbide. Carbide design allows for faster drilling, generally stronger than a two winged bit.</p>	 <p>ND28</p>	<p>ø26mm ø28mm</p>	<p>D9MB-1626-28XX D9MB-1628-28XX</p>	<p>AU AU</p>
 <p>Male M16 threaded roof bit with drop center carbide. Carbide design allows for faster drilling generally stronger than a two winged bit.</p>	 <p>ND08</p>  <p>ND11</p>	<p>ø27mm</p> <p>ø27mm, same as ND08 but 2.2mm taller.</p>	<p>D9MB-1627-08XX D9MB-1627-11XX</p>	<p>AU AU</p>

**34** Note:  
For Carbide Tip Dimensions,  
see chart on page 46.



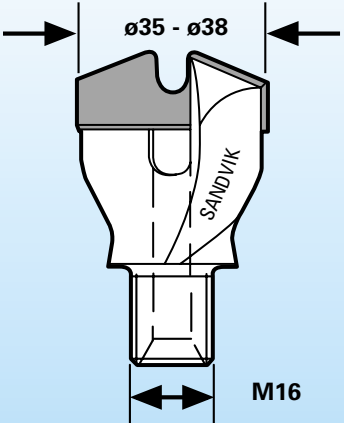

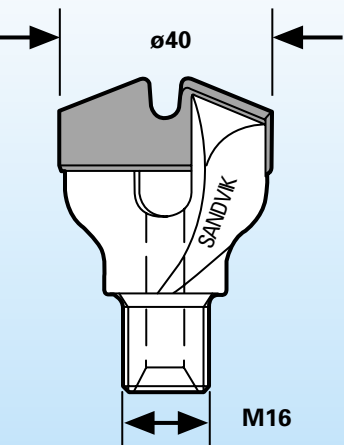

# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>Male M16 threaded roof bit with drop center carbide.</p> <p>Carbide design allows for faster drilling generally stronger than a two winged bit.</p>	 <p>ND10</p>	<p>ø27mm</p>	<p>D9MB-1627-10XX</p>	<p>AU</p>
 <p>Male M16 threaded roof bit with apexed carbide.</p> <p>High strength shank shows good resistance to wear and impact. Center flushing hole.</p>	 <p>ND98</p> <p>ND35</p>	<p>ø27mm</p> <p>ø28mm</p> <p>ø28mm 22.5° cutting angle and larger 8mm flushing hole</p>	<p>D9MB-1627-98XX</p> <p>D9MB-1628-98XX</p> <p>D9MB-1628-35XX</p>	<p>AU</p> <p>AU</p> <p>AU</p>
 <p>Male M16 threaded roof bit with apexed carbide.</p> <p>High strength shank shows good resistance to wear and impact.</p>	 <p>ND29</p>	<p>ø27mm</p> <p>ø28mm</p> <p>ø29mm</p>	<p>D9MB-1627-29XX</p> <p>D9MB-1628-29XX</p> <p>D9MB-1629-29XX</p>	<p>AU</p> <p>AU</p> <p>AU</p>

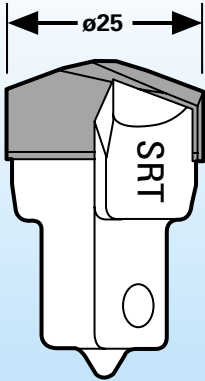



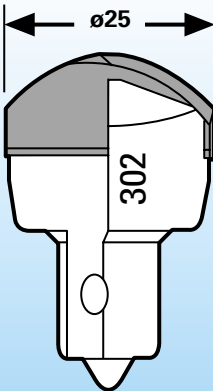


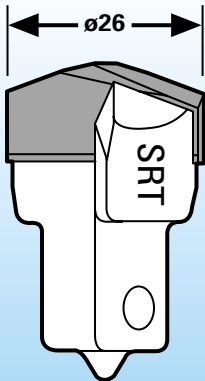

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.



# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>Male M16 threaded roof bit with drop center carbide. Large body with center flushing hole and modified spade.</p>	 <p>ND28</p>	<p>ø35mm ø38mm</p>	<p>D9MB-1635-28XX D9MB-1638-28XX</p>	<p>AU AU</p>
 <p>Male M16 threaded roof bit. Large body with center flushing hole and modified spade pictured.</p>	 <p>ND30 ND74</p>	<p>ø40mm drop center carbide ø40mm standard apexed carbide</p>	<p>D9MB-1640-30XX 9MB-1640-74XX</p>	<p>AU AU</p>

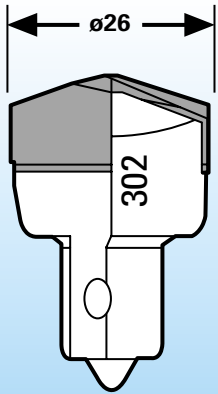

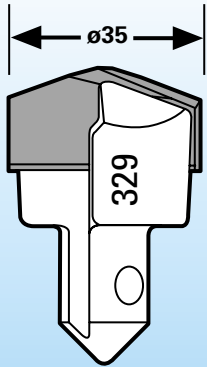


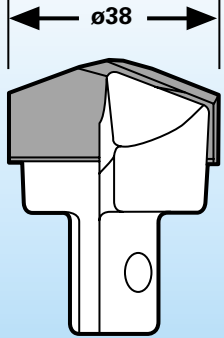

# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>12mm square drive for dry drilling.</p>	 <p>ND15</p>  <p>ND18</p>  <p>ND71</p>	<p>ø25mm for all conditions. (tip is 4.6mm thick)</p> <p>ø25mm for hard abrasive roof. (tip is 5.6mm thick)</p> <p>ø25mm for hard conditions. Continuous curve carbide is very tough and fracture resistant.</p>	<p>D9SJ-1225-15XX</p> <p>D9SJ-1225-18XX</p> <p>D9SJ-1225-71XX</p>	<p>US</p> <p>US</p> <p>US</p>
 <p>10mm x 12mm oval drive for wet drilling used in all conditions.</p>	 <p>ND15</p>  <p>ND71</p>	<p>ø25mm</p> <p>ø25mm Continuous curve carbide is very tough and fracture resistant.</p>	<p>D9HJ-1325-15XX</p> <p>D9HJ-1325-71XX</p>	<p>US</p> <p>US</p>
 <p>12mm square drive for dry drilling.</p>	 <p>ND16</p>	<p>ø26mm Used in all conditions.</p>	<p>D9SJ-1226-16XX</p>	<p>US</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.



# Rotary Tools

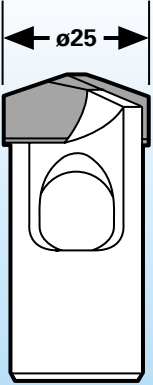

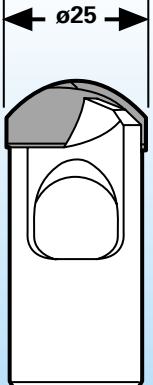

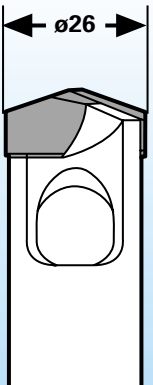

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p>10mm x 12mm oval drive for wet drilling.</p>	 <p>ND16</p>	<p>ø26mm used in all conditions.</p>	<p>D9HJ-1326-16XX</p>	<p>US</p>
 <p>12mm square drive for wet drilling.</p>	 <p>ND83</p>  <p>ND85</p>	<p>ø35mm used in hard conditions. Continuous curve carbide is very tough and fracture resistant.</p> <p>ø35mm used in all conditions.</p>	<p>D9SJ-2235-85XX</p> <p>D9SJ-2235-83XX</p>	<p>US</p> <p>US</p>
 <p>12mm square drive for wet drilling.</p>	 <p>ND94</p>	<p>ø38mm used in all conditions.</p>	<p>D9SJ-1238-94XX</p>	<p>US</p>

**38** Note:  
For Carbide Tip Dimensions,  
see chart on page 46.



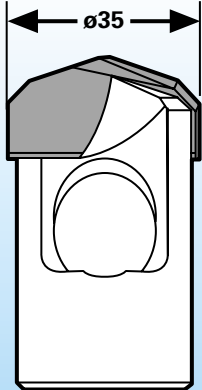

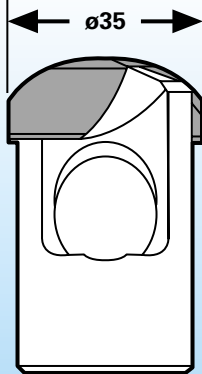

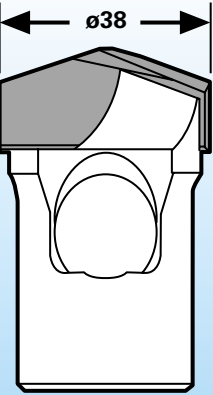



# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
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 <p data-bbox="264 1211 399 1291">Vacuum system Dry cutting Hex Drive</p>	 <p data-bbox="612 1087 670 1115">ND71</p>	<p data-bbox="769 900 1078 1115">Patented bit design for hard top conditions. 16mm (5/8") internal hex with large dust port allows high penetration rates. Continuous curve carbide is very tough and fracture resistant.</p>	<p data-bbox="1175 1087 1354 1115">D9TJ-1625-71XX</p>	<p data-bbox="1455 1087 1487 1115">US</p>
 <p data-bbox="264 1793 399 1873">Vacuum system Dry cutting Hex Drive</p>	 <p data-bbox="607 1675 672 1703">ND16</p>	<p data-bbox="737 1482 1086 1591">Standard bit for most conditions. 16mm (5/8") internal hex with LARGE dust port allows high penetration rates.</p> <p data-bbox="737 1619 1086 1728">Standard bit for most conditions. 16mm (5/8") internal hex with STANDARD dust port works best in laminated top.</p>	<p data-bbox="1175 1562 1354 1589">D9TJ-1626-16XX</p> <p data-bbox="1175 1698 1354 1726">D9TG-1626-16XX</p>	<p data-bbox="1455 1562 1487 1589">US</p> <p data-bbox="1455 1698 1487 1726">US</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.

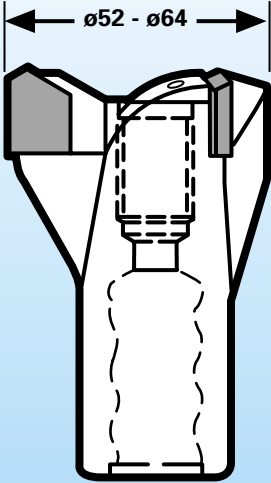

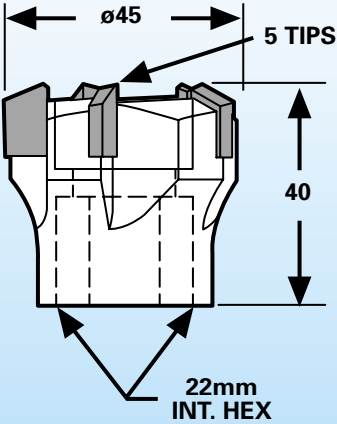



# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p><i>Vacuum system Dry cutting Hex Drive</i></p>	 <p>ND85</p>	<p>Standard design for incinsistent top conditions. 22mm (7/8") internal hex.</p>	<p>D9TG-2235-85XX</p>	<p>US</p>
 <p><i>Vacuum system Dry cutting Hex Drive</i></p>	 <p>ND83</p>	<p>Patented bit design for hard top conditions. 22mm (7/8") internal hex. Continuous curve carbide is very tough and fracture resistant.</p>	<p>D9TJ-2235-83XX</p>	<p>US</p>
 <p><i>Vacuum system Dry cutting Hex Drive</i></p>	 <p>ND94</p>	<p>Standard design for all conditions. 22mm (7/8") internal hex.</p>	<p>D9TJ-2238-94XX</p>	<p>US</p>

**40** Note:  
For Carbide Tip Dimensions,  
see chart on page 46.



# Rotary Tools

Drawing Dimensions (mm)	Tip Geometry	Description and Features	Ordering Code	Stock/Land Code
 <p><i>5° positive rake and three flushing holes. Three winged reamer bit.</i></p>	 <p>ND09</p>	<p>ø64mm RHR20F threads</p> <p>ø52mm RHR22F threads</p> <p>ø64mm RHR22F threads</p> <p>ø52mm RHR25F threads</p> <p>ø55mm RHR25F threads</p>	<p>E5RC-2064-09XX</p> <p>E5RC-2252-09XX</p> <p>E5RC-2264-09XX</p> <p>E5RC-2552-09XX</p> <p>E5RC-2555-09XX</p>	<p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p> <p>AU</p>
 <p><i>All sizes have neutral rake and central flushing. Five winged reamer bit with 22mm female hex.</i></p>	 <p>ND81</p>  <p>ND78</p>  <p>ND09</p>	<p>ø40mm</p> <p>ø45mm</p> <p>ø55mm</p>	<p>EOTA-2240-81XX</p> <p>EOTA-2245-78XX</p> <p>EOTA-2255-09XX</p>	<p>AU</p> <p>AU</p> <p>AU</p>

Note:  
For Carbide Tip Dimensions,  
see chart on page 46.

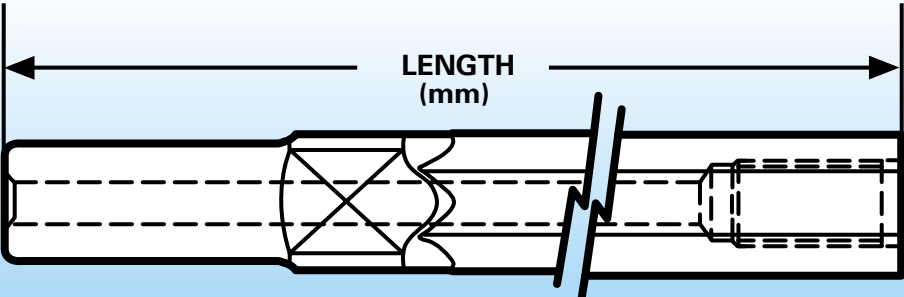
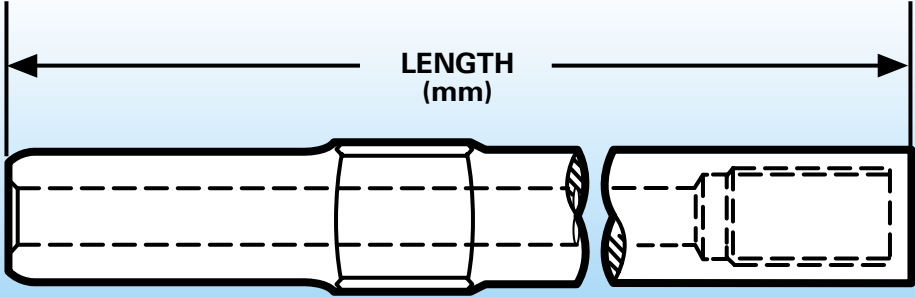
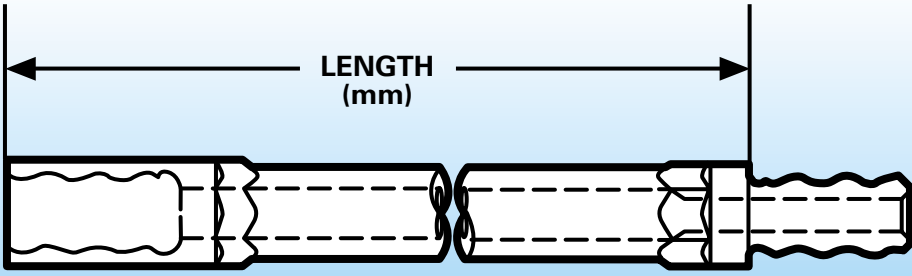


# Drill Steel

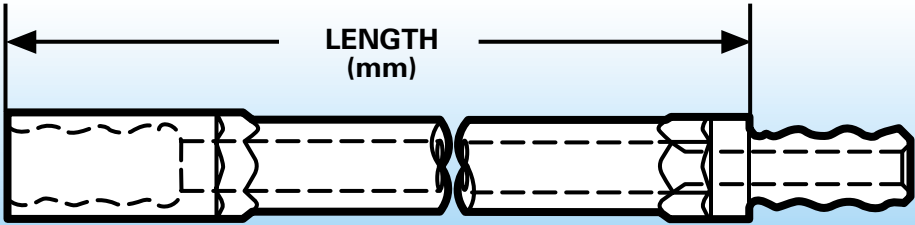
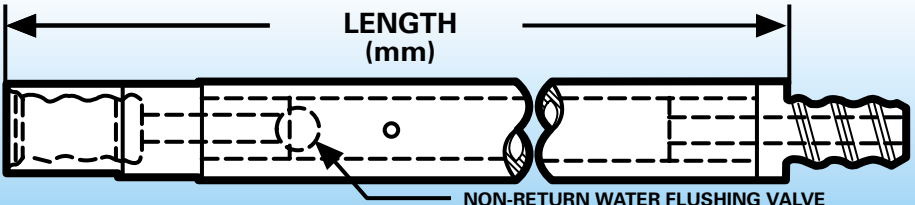
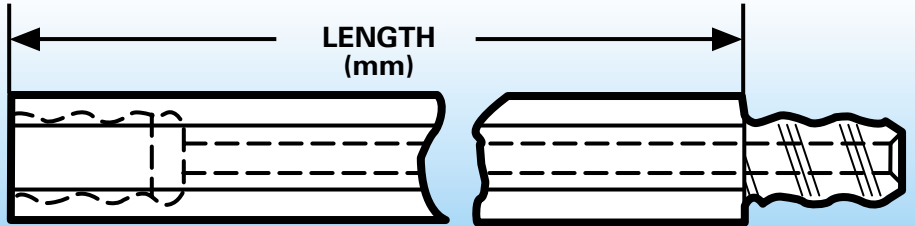
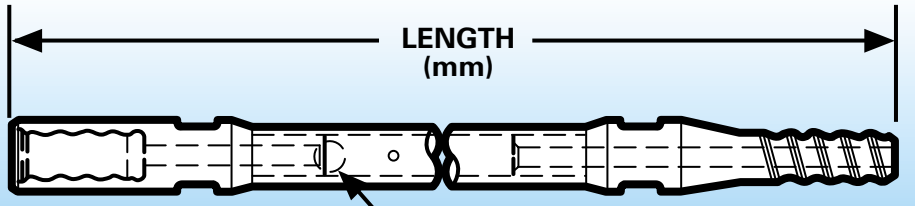
Pages.....42-44

**Sandvik has a complete line of center vacuum drill steel for U.S. manufactured roof bits. Contact U.S. production unit for details.**

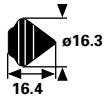
# Drill Steel

Description and Features	Ordering Code	Stock/ Land Code
		
<p><b>22 Hex Drill Steel</b>            These rods are manufactured from premium quality Swedish alloy hollow drill steel. Typical drive end is 25mm square drive and typical bit end is M16 female (as pictured). Other drive ends are available to suit the common roof drilling rigs currently in operation. Bit ends such as 1/2" BSW female and 13mm hex female are also available.</p>	22/7/LENGTH/6 (pictured)	AU
		
<p><b>22 Round Drill Steel</b>            New generation drilling rods manufactured from heat treated chrome moly seamless tubing. Has a larger flushing hole and smaller rotating diameter to give increased clearance during drilling. Typical drive end is 25mm square drive and typical bit end is M16 female (as pictured). A limited number of other drive ends are available.</p>	22R/7/LENGTH/6 (pictured)	AU
		
<p><b>RR 20MF Extension Drill Rod</b>            New generation extension drilling rods manufactured from heat treated chrome moly seamless tubing. System encompasses drive adaptor, MF rods (pictured), inline reamer and reamer adaptor (optional) and bit adaptor (optional). Typical hole size 47 to 55mm without the use of a bit adaptor and down to 27mm with the use of a bit adaptor.</p>	RR20MF/LENGTH (pictured)	AU

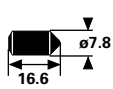
# Drill Steel

Description and Features	Ordering Code	Stock/Land Code
 <p style="text-align: center;">← LENGTH (mm) →</p>		
<p><b>RR 18 DD Extension Drill Rod</b>            Patented direct drive drilling method. No need to uncouple joints to add rods to the drill string. Manufactured from heat treated chrome moly seamless tubing. System encompasses chuck adaptor (optional) MF-DD rods (pictured), inline reamer (optional) and bit adaptor. Typical hole size 27 to 45mm.</p>	RR18DD/LENGTH (pictured)	AU
 <p style="text-align: center;">← LENGTH (mm) →</p> <p style="text-align: center;">NON-RETURN WATER FLUSHING VALVE</p>		
<p><b>RR 22 DD Extension Drill Rod</b>            Patented direct drive drilling method. No need to uncouple joints to add rods to the drill string. System encompasses chuck adaptor (optional) and MF-DD rods (pictured). Typical hole size 47 to 64mm.</p>	RR22DD/LENGTH (pictured)	AU
 <p style="text-align: center;">← LENGTH (mm) →</p>		
<p><b>HR 18 MF Extension Drill Rod</b>            These rods are manufactured from premium quality Swedish alloy hollow drill steel. The system encompasses a drive adaptor, MF rods (pictured), an in-line reamer (optional) and bit adaptor. Typical hole size 28 to 38mm.</p>	HR18MF/LENGTH (pictured)	AU
 <p style="text-align: center;">← LENGTH (mm) →</p> <p style="text-align: center;">NON-RETURN WATER FLUSHING VALVE</p>		
<p><b>RR 22 MF Extension Drill Rod</b>            System encompasses drive adaptor, MF rods (pictured) and bit adaptor (optional). The typical hole size is 47 to 64mm without the use of a bit adaptor and down to 38mm with the use of a bit adaptor.</p>	RR22MF/LENGTH (pictured)	AU

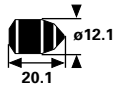
# Continuous Mining Cemented Carbide Tip Chart



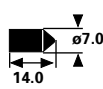
NP 01



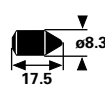
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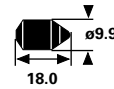
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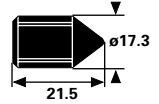
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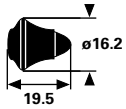
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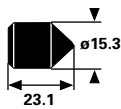
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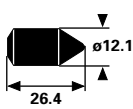
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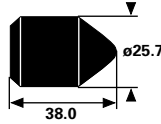
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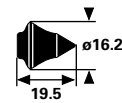
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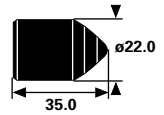
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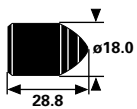
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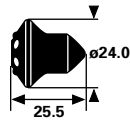
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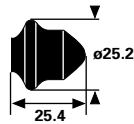
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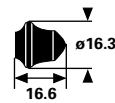
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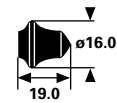
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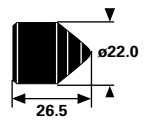
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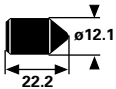
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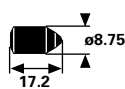
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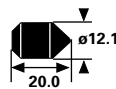
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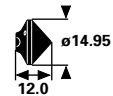
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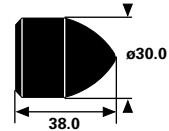
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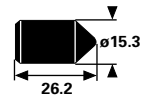
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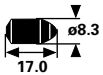
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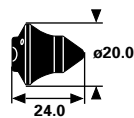
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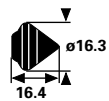
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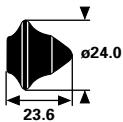
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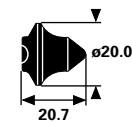
NP 43



NP 44



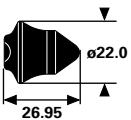
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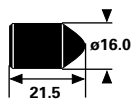
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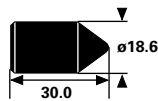
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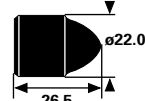
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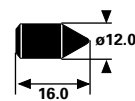
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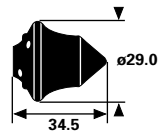
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NP 53

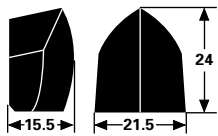


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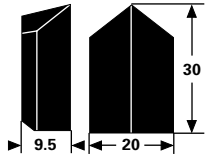


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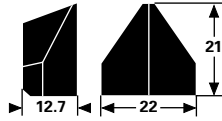
# Cemented Carbide Tip Chart Radial and Rotary Drilling



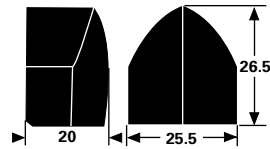
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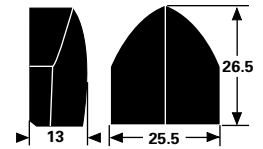
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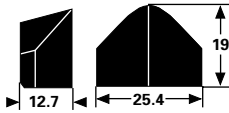
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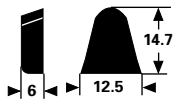
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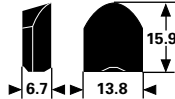
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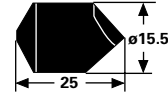
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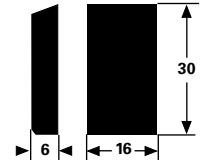
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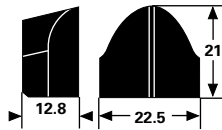
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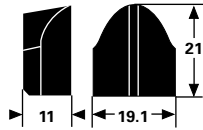
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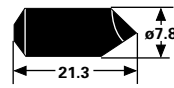
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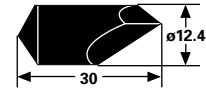
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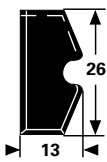
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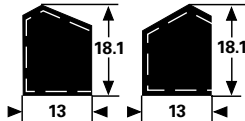
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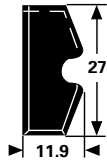
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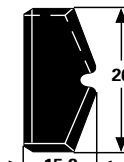
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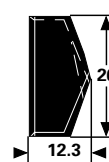
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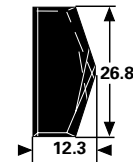
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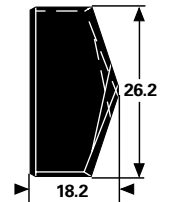
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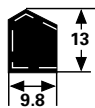
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ND 16



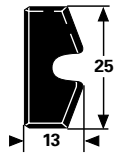
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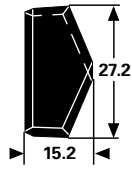
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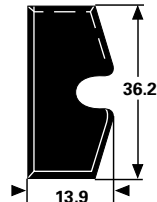
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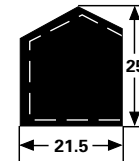
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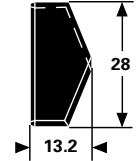
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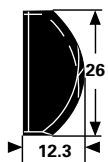
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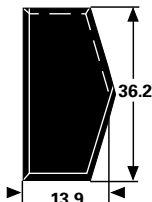
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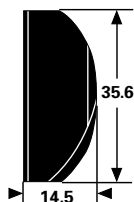
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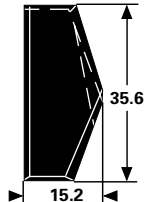
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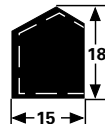
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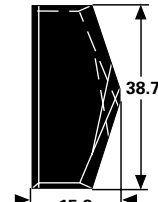
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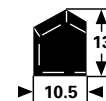
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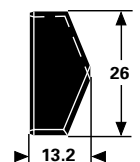
ND 91



ND 94



ND 97



ND 98







# SANDVIK CEMENTED CARBIDE

**Sandvik Mining and Construction is the world leading supplier of machines and tool systems for all rock, surface and mineral excavation applications. The Sandvik-MGT tool division is developing new hard material alloys in the R&D Centre in Stockholm, Sweden and the new tools (which you can find in this catalogue) are designed and tested in the Sandvik-MGT facilities in Australia, South Africa and U.S.A. Sandvik-MGT delivers millions of tools annually for anything from small roadplaning, ice scraping and roof drilling bits in all types of coal and soft minerals, up to the biggest tunnelling, trenching and surface mining tools.**

The demand on the tool performance, especially on the cemented carbide tip material and its resistance against wear and fracturing, becomes more and more critical as we progress into harder rock and mineral formations. Larger continuous cutting machines are being used to replace drill and blast in many tunnelling and construction projects. The continuous process offers lower costs per ton of excavated material but also assures maximum worker safety and has a clear positive effect on the environment.

An extensive research project with Voest Alpine/Eimco and Sandvik-MGT has resulted in a new generation of carbide grades and new larger, stronger, more stable and efficient road headers.

## **New Cemented Carbide Alloys! The S-Grades!**

**760 S Rock Cut  
736 S Road Cut  
732 Mine Cut**

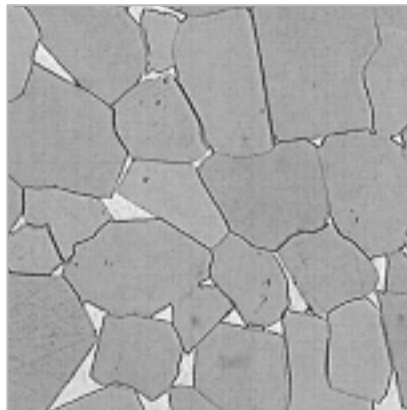
This new generation of patented carbide grades are manufactured via a new process technique with complete new raw materials, which has made it possible for the first time ever to create new extra coarse, super tough alloys with perfectly uniform grain structure. The creation of this carbide with significantly stronger carbide matrix and a perfect grain size configuration, has contributed to the superior toughness

and high temperature wear resistance experienced in a great number of operations and tests and all grades are now available in a couple of our special and standard tools. The tool steels have been further improved to match the performance of the new grades.

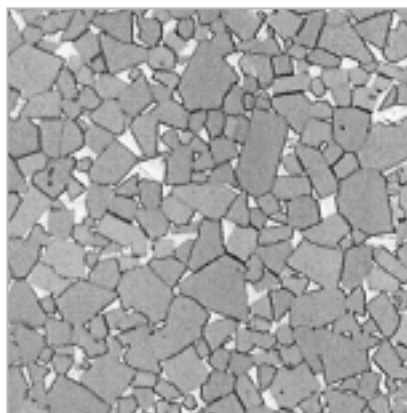
**760-The grade has been proven to be 1.5-3 times better than anything else on the market in hard to brutal tunnelling, trenching and coal mining applications. A low cobalt, super coarse carbide.**

**736-This grade has proven to be up to 2 times better than all market standards in road planing and concrete cutting. A medium coarse, low cobalt grade with perfect grain configuration.**

## **New Carbide and Tool Geometries. Low Energy Cap Tools.**



**760 STRUCTURE (1200 X)**



**736 S STRUCTURE (1200 X)**

Many new versions of the Sandvik patented "low energy" or cap type tools have been introduced for not only road planing and smaller mining tools, but also for big trenching, roadheading and longwall applications. The geometries have been calculated in CAD programs and simulated with FEM-measurement technique, and have seen extensive rig and field testing. All forces and torques on the tools have been measured, confirming the cutting simulations thus leading to further optimization of tool life and lowering the machine loads and reducing incensive sparks and dust.

The Sandvik-MGT range of standard grades are cost effective in all general surface and underground applications and meets or exceeds the performance of the competitive brands available on the market.

SMC has again intensified the R&D efforts in the field of new alloys and super hard materials (CBN and diamonds); being respected for being your most innovative tool producer in the world.



**SANDVIK MGT**  
**Sandvik Mineral and Ground Engineering Tools**

