

# CoroDrill® 462 and 862

Solid carbide and polycrystalline diamond (PCD) micro drills

## Miniature drills designed for precision

New CoroDrill® 462 with -XM geometry and 862 with -GM geometry are high-performance micro drills that offer increased productivity compared to the existing assortment, namely CoroDrill® R840 and 862.

Available in solid carbide and polycrystalline diamond (PCD), these miniature drills are ideal for precision machining in industries dealing with small parts.

Featuring a wide range of cutting diameters and lengths, these micro drills cover all workpiece materials including ISO P, M, K, N, S, O and H.



## Features and benefits

- Tools are centre-thinned to reduce cutting forces
- The new veined polycrystalline diamond micro drills offer extended tool life in demanding applications
- Through-coolant option available for carbide drills for diameter 1.00 mm (0.039 inch) and above up to 16×D
- Large standard-stocked assortment available with quick delivery time helps customer minimize inventory; non-stocked intermediate sizes are available with short lead times

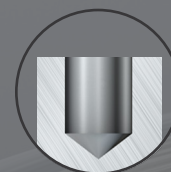
## Application

- Micro drills can be applied in several industries including medical, general engineering, electronics, watch-making, automotive, oil & gas and aerospace
- Typical applications: hydraulic valve, watch case, medical devices and surgical instruments, electrical connectors, electronics, mould-making, pre-sintered carbide blanks, green ceramics etc.

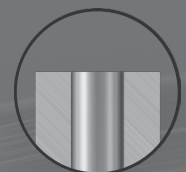
## CoroDrill® 462 with -XM geometry Overview and application

### For small-diameter precision holes

- Diameter range 0.030–3.00 mm (0.001–0.118 inch)
- Drill depth: 6 × diameter
- External coolant
- Hole tolerance: ISO standard JS7 (+/- 6 microns)
- Shank diameter: 3.00 mm (0.118 inch)



Blind holes



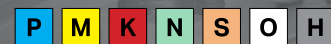
Conventional drilling



Versatile



Customized

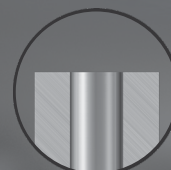


ISO application area

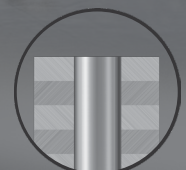
## CoroDrill® 862 with -GM geometry Overview and application

### For small-diameter precision holes

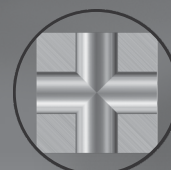
- Diameter range 0.30–3.00 mm (0.012–0.118 inch)
- Drill depth: 9 ×, 12 ×, 16 × diameter
- Internal coolant for diameter 1 mm (0.039 inch) and above
- Hole tolerance: ISO standard JS7\* (+/- 6 microns)
- Shank diameter: 3.00 mm (0.118 inch)



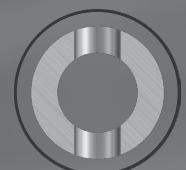
Conventional drilling



Stack drilling



Cross holes



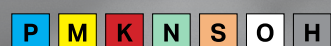
Convex/concave surfaces



Optimized



Customized



ISO application area

\*9xD solid carbide tools range have hole tolerance H7

## Assortment

### CoroDrill® 462 solid carbide drill with -XM geometry (standard stocked)

Drill type	Length/diameter ratio	No. of standard article	Diameter range	Coolant	Shank
Type 1	6 × Dc Bright	298 Stocked 25	0.030–3.00 mm (0.001–0.118 inch)	External coolant	3 mm (0.118 inch)
Type 1	6 × Dc Coated TiAlN	281 Stocked 30	0.20–3.00 mm (0.008–0.118 inch)	External coolant	3 mm (0.118 inch)

### CoroDrill® 862 solid carbide drills with -GM geometry (standard stocked)

Drill type	Length/diameter ratio	No. of standard article	Diameter range	Coolant	Shank
Type 1	9 × Dc coated	55	0.30–3.00 mm (0.012–0.118 inch)	External coolant	3 mm (0.118 inch)
Type 1	9 × Dc coated	37	1.00–3.00 mm (0.039–0.118 inch)	Internal coolant	3 mm (0.118 inch)
Type 1	12 × Dc coated	37	1.00–3.00 mm (0.039–0.118 inch)	Internal coolant	3 mm (0.118 inch)
Type 1	16 × Dc coated	21	1.00–3.00 mm (0.039–0.118 inch)	Internal coolant	3 mm (0.118 inch)
Type 2	2 × Dc pilot	55	Match 12 & 16 × D	External coolant	4 mm (0.157 inch)

### CoroDrill® 862 PCD drill with -GM geometry (non-stocked standard)

*Tailor Made*

Drill type	Length/diameter ratio	No. of standard article	Diameter range	Coolant	Shank
Type 1	5–12 × Dc	66	1.20–3.00 mm (0.047–0.118 inch)	External coolant	3 mm (0.118 inch)
Type 3	5–12 × Dc	30	0.30–1.20 mm (0.012–0.047 inch)	External coolant	3 mm (0.118 inch)

Registered web users can also customise and order their tools online.

# Performance cases

**+100%**

Tool life  
increase vs  
competition

**+50%**

Tool life  
increase vs  
old drill

**Component:** Test component  
**Material:** M1.0.Z.AQ (ISO M 316L)  
**Operation:** Blind hole  
**Machine:** DMG Mori-Seiki MILLTAP 700

	Competitor	Sandvik Coromant (previous generation drill)	Sandvik Coromant (new drill)
Tool	Major micro drill competitor	862.1-0250-030A1-GM GC34	862.1-2500-300A1-GM X2BL
$D_c$ mm (inch)	2.5 (0.098)	2.5 (0.098)	2.5 (0.098)
$v_c$ , m/min (ft/min)	40 (131)	40 (131)	40 (131)
$f_z$ , mm/z (inch/z)	0.04 (0.002)	0.04 (0.002)	0.04 (0.002)
Tool life, No. of holes	630	840	1260
Result			- 2× tool life vs competition - 1.5× vs previous generation drill

**Component:** Test component  
**Material:** Mat: 1.4034, Mat: 3.1765, Mat: Haynes 282  
**Operation:** Blind hole  
**Machine:** DMG Mori-Seiki MILLTAP 700

	1.4034 (M1.0.Z.AQ)	3.1765 (S4.2.Z.AN)	Haynes 282 (S2.0.Z.AG)
Tool	862.1-1000-090A0-GM X2BL 9×D	862.1-1000-090A0-GM X2BL 9×D	862.1-1000-090A0-GM X2BL 9×D
$D_c$ mm (inch)	1.00 (0.039)	1.00 (0.039)	1.00 (0.039)
$v_c$ , m/min (ft/min)	40 (131)	40 (131)	40 (131)
$f_z$ , mm/z (inch/z)	0.025 (0.001)	0.025 (0.001)	0.025 (0.001)
Depth of hole (inch)	9 (0.354)	9 (0.354)	9 (0.354)
Strategy	Pecking	Pecking	Pecking
S1	1×D	1×D	1×D
Sx	0.5×D	0.5×D	0.5×D
Tool life, No. of holes	150	180	120

For more information, contact your local Sandvik Coromant representative or visit [www.sandvik.coromant.com](http://www.sandvik.coromant.com)

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