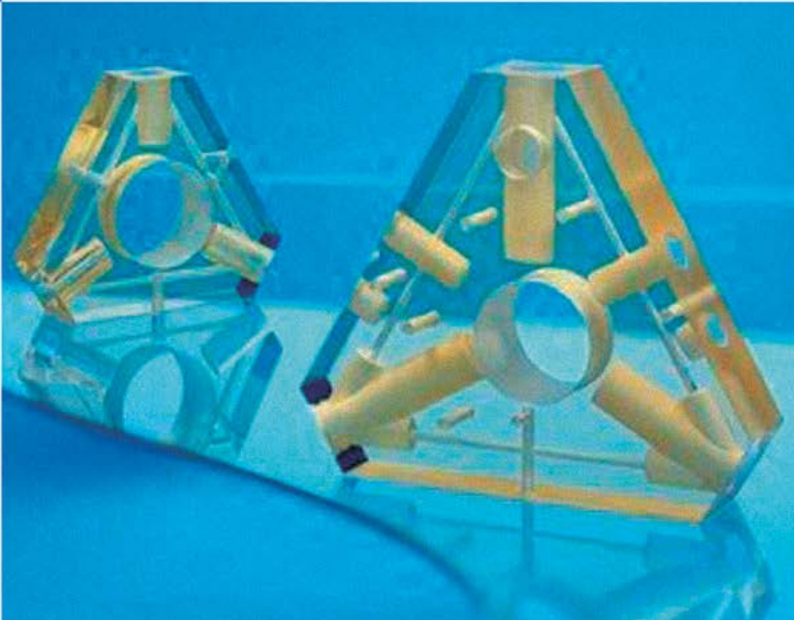
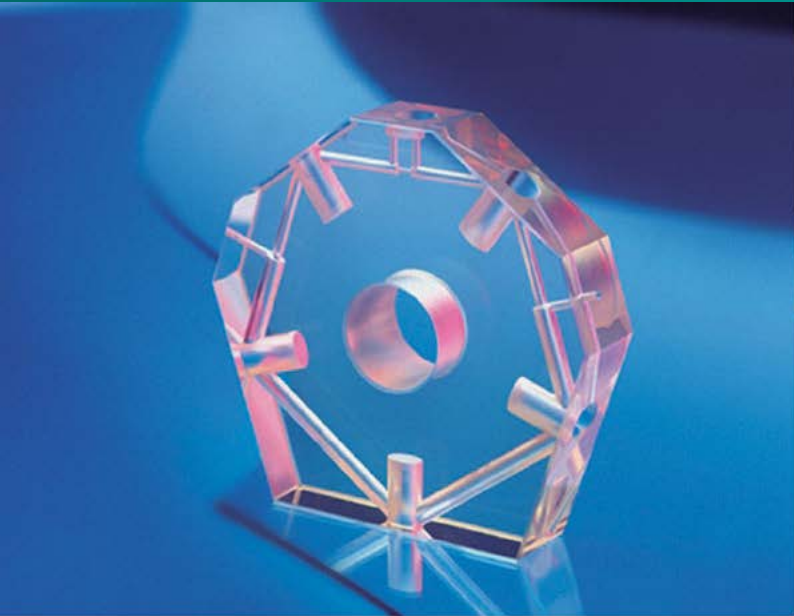




Advanced Diamond Products

Diamond micro core drills



Diamond Micro Core Drills

RANGE OF SIZES AVAILABLE FOR "MICRO" DRILLS

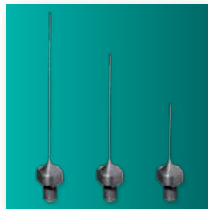
ID (inside diameter) of drill

.010" (0.254 mm) to
.420" (10.67 mm)

OD (outside diameter) of drill

.023" (0.56 mm) to
.500" (12.7 mm)

Our micro core drills are particularly suited for drilling glass, silicon and ceramic materials such as PZT for piezo applications.



You can specify any exact ID or OD that you require to a standard tolerance of ± 0.025 mm, or to tighter tolerance of ± 0.012 mm or ± 0.006 mm at an additional cost.

Very small diameter drills should be kept as short as possible in order to prevent "walking" when the drill touches the material you are drilling. Drill tube should be specified ~5mm longer than thickness of material to allow for drill wear.

Stainless steel hypodermic tubing is used for the very small drills. If both the ID and OD need to be called out, please inquire to see if required sizes are possible.

Drills can be mounted onto an adapter of your choice, with length of drill tube per your requirements. It is also strongly recommended that coolant is used through the center of the drill. It is sometimes possible to flood cool, but this does not effectively remove the swarf and does not cool as well so it hastens tool wear.

Water swivels

Drills can also be provided without adapter in whatever length required, or they can be mounted onto adapters such as:

- 1/4", 3/8", or 1/2" straight adapter X whatever length required (typically 1")
- Branson
- Belgian
- 3/8"-24 female
- 5/8"-18 female
- 7/8"-14
- Habit

Slots and counterbores are available if requested.



To improve coolant flow and swarf removal, we can provide ID waterways (opposing flats) on the ID of the drill at an additional charge.

Double core drills can also be provided. Solid drills and ball end or cone end drills can be quoted as required.

If drilling a flat bottomed hole, we can provide a disintegrating drill that has a keystone coolant passage that is offset from center, which removes the core as you drill but still allows for coolant flow. Larger sized drills are available up to 170mm diameter - please inquire.

For more information on standard products or custom designs, do not hesitate to contact us.

All of our swivels are made of stainless or brass and have glass filled teflon seals. They will not rust, and if properly cared for will last for many years. Large water swivels are available in the following configurations:

3/8"-24 model has a 3/8"-24 male thread on the end, and accepts drills that are mounted on 3/8"-24 female adapters. Opposite end has a 5/8" diameter shaft to fit into collet.

5/8"-18 model has a 5/8"-18 male thread as well as a 3/8"-24 female thread on the end, and accepts drills that are either mounted on 5/8"-18 female adapters or on "Branson" 3/8"-24 male adapters. Opposite end has a 7/8" diameter shaft to fit into collet.

Maximum coolant pressure: 200 PSI

Maximum RPM: 5000

Maximum temp: 212 F (100 C)

Miniature water swivels are available with either 3/8"-24 male or female adapter, to accept either a drill mounted on 3/8"-24 female adapter or mounted on a Branson adapter.

Miniature swivels have a 1/2" diameter shaft to fit into collet, and overall length is under 3" (OAL less than 1-3/4" under collet when mounted in collet).



*3/8"-24 water swivel adapter
with 5/8" shaft*

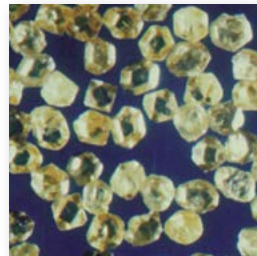
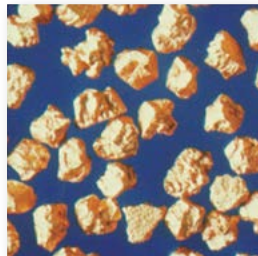
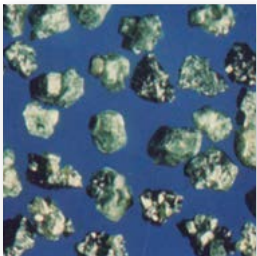


*3/8"-24 mini water swivel &
Branson mini water swivel 1/2"
shank to fit in collet*

Comparison table for grit systems

μm	DIN 848	FEPA-Standard	US-MESH	μm
1250	D 1100			1190
1000	D 900	D 1182	16/18	1000
800	D 700	D 1001	18/20	850
630	D 550	D 852	20/25	710
500	D 450	D 711	25/30	600
400	D 350	D 602	30/35	500
315	D 280	D 501	35/40	425
250	D 220	D 426	40/45	355
200	D 180	D 356	45/50	300
160	D 140	D301	50/60	250
125	D 110	D 252	60/70	212
100	D 90	D 213	70/80	180
80	D 65	D 181	80/100	150
63	D 55	D 151	100/120	125
50	D 45	D 126	120/140	106
40	D 35	D 107	140/170	90
32	D 25	D 91	170/200	75
25		D 76	200/230	63
		D 64	230/270	53
		D 54	270/325	45
		D 46	325/400	38
		D 35		32
		D 30	500/600	25
		D 25		20
		D 15		10

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*Drills can also be supplied in gritsizes D3-D5-D7-D10