ADRS-SV/ADR-SV/ADRSL-SV/ADRL-SV

Work Materials	Carbon steels 1010, 1018, 1035, 1045, 1065		Alloy Steels 4140, 4340		Prehardened Steels Tool Steels Die Steels 30~38HRC		Stainless Steels Austenitic 304, 316		Stainless Steels Martensitic Ferritic 420, 440, 430	
Drill Diameter (mm)	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
Ø0.02~ 0.09	10,000→ 20,000	0.00004~ 0.00006	10,000→ 20,000	0.00004~ 0.00006	10,000→ 20,000	0.00004	10,000→ 15,000	0.00004~ 0.00006	10,000→ 20,000	0.00004~ 0.00008
Ø0.10~ 0.29	25,000~ 20,000	0.00008~ 0.0004	20,000~ 15,000	0.00006~ 0.00028	17,000~ 13,000	0.00004~ 0.00016	15,000~ 7,500	0.00002~ 0.00004	20,000~ 13,000	0.00002~ 0.00004
Ø0.30~ 0.49	20,000~ 18,000	0.0004~ 0.0008	15,000	0.00028~ 0.0004	13,000~ 10,000	0.00012~ 0.0002	10,000~ 8,000	0.00008~ 0.0004	13,000~ 9,500	0.00008~ 0.0004
Ø0.50~ 0.99	18,000~ 15,000	0.0008~ 0.0016	15,000~ 9,500	0.0004~ 0.0008	10,000~ 7,000	0.0002~ 0.0004	8,000~ 6,000	0.0006~ 0.0008	9,500~ 7,000	0.0006~ 0.0008
Ø1.00~ 1.99	15,000~ 9,500	0.0012~ 0.0024	9,500~ 6,000	0.0008~ 0.002	7,000~ 4,000	0.0004~ 0.0012	6,000~ 4,000	0.0008~ 0.0016	7,000~ 4,000	0.0008~ 0.0016
Ø2.00~ 3.00	9,500~ 6,300	0.0028~ 0.004	6,000~ 4,800	0.002~ 0.0032	4,000~ 3,000	0.0008~ 0.0016	4,000~ 3,700	0.0012~ 0.002	4,000~ 3,000	0.0012~ 0.002

Work Materials	Aluminum Alloys 6061, 7075		Copper Alloys	
Drill Diameter (mm)	Speed RPM	Feed IPR	Speed RPM	Feed IPR
Ø0.02~ 0.09	10,000→ 30,000	0.0004~ 0.0002	10,000→ 20,000	0.00004~ 0.00012
Ø0.10~ 0.29	30,000~ 25,000	0.0002~ 0.0008	20,000~ 17,000	0.00008~ 0.00032
Ø0.30~ 0.49	25,500~ 20,000	0.0008~ 0.0016	17,000~ 15,000	0.00032~ 0.0006
Ø0.50~ 0.99	20,000~ 18,000	0.0016~ 0.0024	15,000~ 13,000	0.0006~ 0.0016
Ø1.00~ 1.99	18,000~ 10,000	0.0024~ 0.005	13,000~ 7,500	0.0016~ 0.0032
Ø2.00~ 3.00	10,000~ 7,000	0.005~ 0.008	7,500~ 6,500	0.0032~ 0.006

Drill Diameter	Pecking Distance
Ø0.02~Ø0.49	10% of drill diameter
Ø0.50~Ø1.00	20% of drill diameter
Above Ø1.00	*25-50% of drill diameter

*Start at 25% and increase if needed, to

Remarks:

1) Guide-holes are necessary when drilling under Ø1.0mm (0.0394"). Guide-hole prevents chippings and tool breakage during initial drilling.
2) Runout (with drill in spindle) should be less than 0.003mm (0.00012").
3) If your machine cannot meet the recommended rotation speed, please use the higher speed and adjust the feed rate appropriately.
4) For drills under Ø0.5mm (0.0197"), set machine/spindle at the most stable speed rather than following the recommended conditions shown in table.
5) For drills under Ø0.1mm (0.0039"), it is recommended to start with the lowest rotation speed indicated on the table.
   Reference: 10,000→20,000 should be started from 10,000.