

ADVANTAGES

- Improved chip discharge
- Reduced processing time
- Extended tool life
- High-Precision



COOLANT THROUGH SPINDLES DRASTICALLY REDUCE CYCLE TIMES

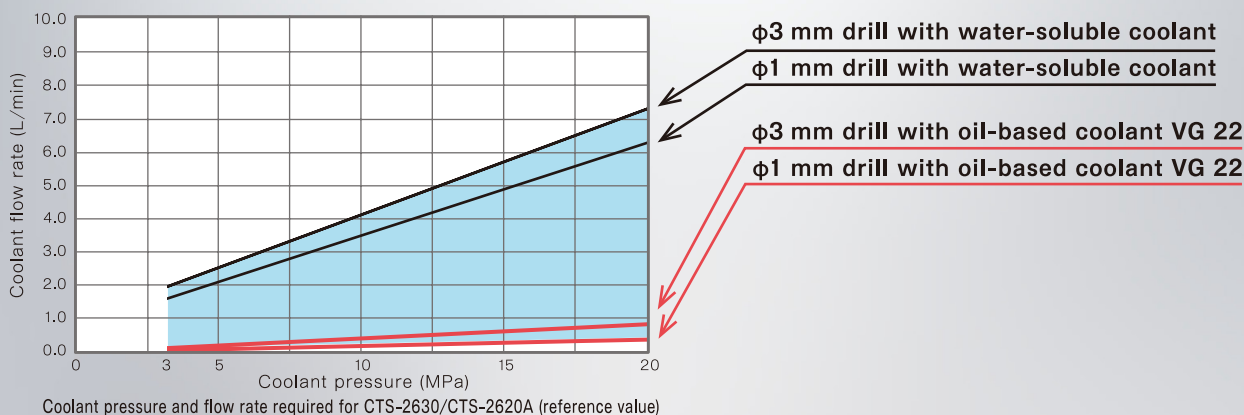
Problem Solved

High coolant pressure is required when using a small-diameter oil hole drill. However, there was no high-speed spindle capable of high-pressure coolant flow. Until now.

Result Achieved

By utilizing high-pressure coolant of 20 MPa, it is now possible to perform non-peck drilling with a diameter of 3.0 mm or less and L/D=20. In addition, the coolant can be discharged even with a minimum diameter of 0.5 mm, which was previously impossible!

Coolant Pressure vs. Flow Rate

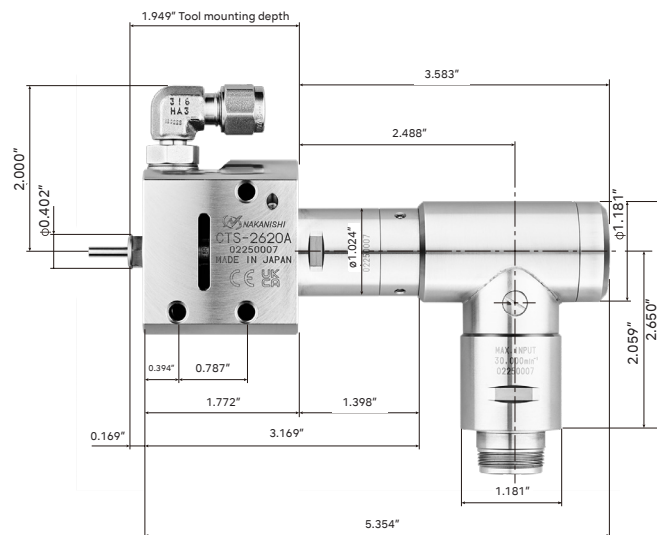
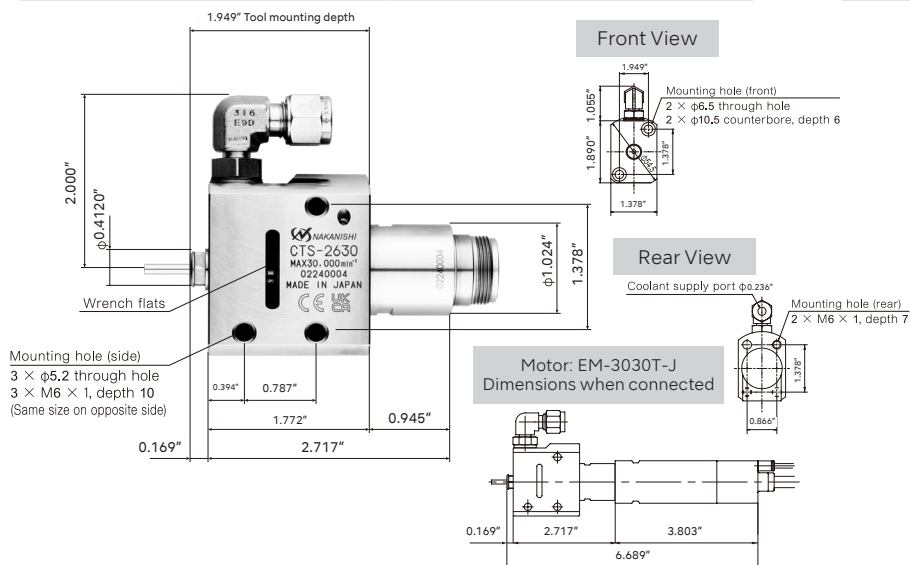


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




Model: CTS-2630

Code No.: 7908

Model: CTS-2620A



Combination Example

Collet nut	Collet	Motor Spindle	Motor Cord	Controller	Air Line Kit
					
CHN-CTA $\phi 3.0$, $\phi 3.175$, $\phi 4.0$ mm	CHA Group High Precision type AA	CTS-2630 CTS-2620A	EMCD-3000J- 3M/4M/6M/8M	E3000 CONTROLLER	AL-C1204 *Supply cooling air

Drilling Data

Comparison between conventional drilling and coolant through drilling

Drilling Method	Work Material	Tool Diameter (in)	Hole Depth (in)	L/D	Cutting Speed (SFM)	Rotational Speed (rpm)	Feed Rate (in/rev)	Feed Speed (in/min)	Coolant	Peck Drilling Cycle	Processing Time (sec)
Conventional (Automatic lathe rotation tool)	ELCH2	0.276	0.748 Through hole	10	131	6,400	0.0012	7.6	External	Front: 0.1378 in x 2 times Back: 0.1575 in x 3 times	13.0
Coolant Through (CTS-2630)	ELCH2	0.276	0.787 Through hole	10	617	30,000	0.0016	47.2	Internal	No Pecking	1.0

Comparison of coolant through drilling on other work materials. Common conditions: no pecking, coolant pressure 20 MPa, coolant viscosity VG 7

Work Material	Tool Diameter (in)	Hole Depth (in)	L/D	Cutting Speed (SFM)	Rotational Speed (rpm)	Feed Rate (in/rev)	Feed Speed (in/min)	Processing Time (sec)
A6061 Aluminum	0.0394	0.7874 Through hole	20	308	30,000	0.0027	82.68	0.6
	0.0591		13	462	30,000	0.0023	70.87	0.7
	0.0787		10	617	30,000	0.0015	47.24	1.0
C2801 Brass	0.0394	0.7874 Through hole	20	308	30,000	0.0012	35.43	1.3
	0.0591		13	462	30,000	0.0008	27.56	1.7
	0.0787		10	617	30,000	0.0008	27.56	1.7
S80C/SCM440 Carbon steel / Alloy steel	0.0394	0.7874 Through hole	20	308	30,000	0.0012	35.43	1.3
	0.0591		13	387	25,000	0.0012	33.46	1.4
	0.0787		10	390	19,000	0.0012	22.44	2.1
SUS304 Stainless	0.0394	0.7874 Through hole	20	197	19,000	0.0008	13.78	3.4
	0.0591		13	246	16,000	0.0012	15.75	3.0
	0.0787		10	308	15,000	0.0012	15.75	3.0