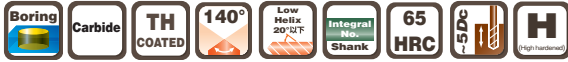




ดอกสว่าน สำหรับเหล็กชุบแข็ง Epoch Hard Drills EHSE ϕ .-TH



TH-Coated



Ø2 ~ Ø3	:	0 ~ -0.014
Ø3.1 ~ Ø6	:	0 ~ -0.018
Ø6.5 ~ Ø10	:	0 ~ -0.022
Ø10.3 ~ Ø16	:	0 ~ -0.027



0 ~ -0.001

(mm)

Order Code	Stock	Size (mm)			
		Dc Drill dia.	ℓ Flute length	L Overall length	Ds Shank dia.
EHSE2.0-TH	●	2.0	15	50	3
EHSE2.1-TH	●	2.1	15	50	3
EHSE2.2-TH	●	2.2	16	50	3
EHSE2.3-TH	●	2.3	16	50	3
EHSE2.4-TH	●	2.4	17	50	3
EHSE2.5-TH	●	2.5	17	55	3
EHSE2.6-TH	●	2.6	17	55	3
EHSE2.7-TH	●	2.7	19	55	3
EHSE2.8-TH	●	2.8	19	55	3
EHSE2.9-TH	●	2.9	19	55	3
EHSE3.0-TH	●	3.0	21	60	3
EHSE3.1-TH	●	3.1	24	60	4
EHSE3.2-TH	●	3.2	24	60	4
EHSE3.3-TH	●	3.3	24	60	4
EHSE3.4-TH	●	3.4	24	60	4
EHSE3.5-TH	●	3.5	24	60	4
EHSE3.6-TH	●	3.6	27	60	4
EHSE3.7-TH	●	3.7	27	60	4
EHSE3.8-TH	●	3.8	27	60	4
EHSE3.9-TH	●	3.9	27	60	4
EHSE4.0-TH	●	4.0	27	60	4
EHSE4.1-TH	●	4.1	29	63	5
EHSE4.2-TH	●	4.2	29	63	5
EHSE4.3-TH	●	4.3	29	63	5
EHSE4.4-TH	●	4.4	29	63	5
EHSE4.5-TH	●	4.5	29	63	5
EHSE4.6-TH	●	4.6	32	68	5
EHSE4.7-TH	●	4.7	32	68	5
EHSE4.8-TH	●	4.8	32	68	5
EHSE4.9-TH	●	4.9	32	68	5
EHSE5.0-TH	●	5.0	32	68	5
EHSE5.1-TH	●	5.1	34	72	6
EHSE5.2-TH	●	5.2	34	72	6
EHSE5.3-TH	●	5.3	34	72	6
EHSE5.4-TH	●	5.4	34	72	6
EHSE5.5-TH	●	5.5	34	72	6
EHSE5.6-TH	●	5.6	36	74	6
EHSE5.7-TH	●	5.7	36	74	6
EHSE5.8-TH	●	5.8	36	74	6
EHSE6.0-TH	●	6.0	41	81	6

Order Code	Stock	Size (mm)			
		Dc Drill dia.	ℓ Flute length	L Overall length	Ds Shank dia.
EHSE6.5-TH	●	6.5	41	81	7
EHSE6.8-TH	●	6.8	43	83	7
EHSE6.9-TH	●	6.9	43	83	7
EHSE7.0-TH	●	7.0	43	83	7
EHSE7.5-TH	●	7.5	45	87	8
EHSE7.8-TH	●	7.8	48	90	8
EHSE8.0-TH	●	8.0	48	90	8
EHSE8.5-TH	●	8.5	53	96	9
EHSE8.6-TH	●	8.6	55	98	9
EHSE8.7-TH	●	8.7	55	98	9
EHSE8.8-TH	●	8.8	55	98	9
EHSE9.0-TH	●	9.0	55	98	9
EHSE9.5-TH	●	9.5	58	102	10
EHSE9.8-TH	●	9.8	60	105	10
EHSE10.0-TH	●	10.0	60	105	10
EHSE10.3-TH	●	10.3	66	112	11
EHSE10.4-TH	●	10.4	66	112	11
EHSE10.5-TH	●	10.5	66	112	11
EHSE10.8-TH	●	10.8	68	114	11
EHSE11.0-TH	●	11.0	68	114	11
EHSE11.5-TH	●	11.5	71	118	12
EHSE11.8-TH	●	11.8	73	121	12
EHSE12.0-TH	●	12.0	73	121	12
EHSE12.1-TH	●	12.1	76	135	13
EHSE12.2-TH	●	12.2	76	135	13
EHSE12.5-TH	●	12.5	76	135	13
EHSE12.6-TH	●	12.6	78	137	13
EHSE13.0-TH	●	13.0	78	137	13
EHSE13.5-TH		13.5	84	144	14
EHSE14.0-TH		14.0	86	147	14
EHSE14.1-TH	●	14.1	89	151	15
EHSE14.2-TH		14.2	89	151	15
EHSE14.5-TH		14.5	89	151	15
EHSE14.6-TH	●	14.6	91	153	15
EHSE15.0-TH		15.0	91	153	15
EHSE15.5-TH		15.5	94	157	16
EHSE15.6-TH	●	15.6	96	160	16
EHSE16.0-TH		16.0	96	160	16
EHSE16.1-TH	●	16.1	102	167	17
EHSE5.9-TH	●	5.9	36	74	6

● : Stocked Items of new products. No Mark : Manufactured upon request only.

DRILLS

ดอกสว่าน

Straight Shank

ดอกสว่านแกนตรง



MOLDINO
The Edge To Innovation

Recommended cutting conditions

EHSE-TH

Recommended Cutting Conditions for Wet (Dilution of less than 20times)

Work material (hardness)	Cutting speed m/min	Cutting condition	Tool Dia. (mm)							
			Ø2	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16
Hot working Tool Steel SKD61 SKT (50~55HRC)	15~20~30	Revolution Speed (min ⁻¹)	3,180	1,600	1,050	800	640	530	450	400
		Feed Rate (mm/min)	64	64	64	64	64	64	64	64
		Feed per Rev (mm/rev)	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16
Cold working Tool Steel SKD11 SKT (55~60HRC)	10~15~20	Revolution Speed (min ⁻¹)	2,390	1,200	800	600	480	400	340	300
		Feed Rate (mm/min)	48	48	48	48	43	40	37	36
		Feed per Rev (mm/rev)	0.02	0.04	0.06	0.08	0.09	0.10	0.11	0.12
High Speed Steel SKH (60~65HRC)	8~10~12	Revolution Speed (min ⁻¹)	1,590	800	530	400	320	270	230	200
		Feed Rate (mm/min)	20	20	20	20	20	20	20	20
		Feed per Rev (mm/rev)	0.012	0.025	0.04	0.05	0.06	0.07	0.08	0.1

Selection of cutting condition

- Use the appropriate coolant for the work material and machining shape.
- There Recommended Cutting Conditions indicate only the rule of a thumb for the cutting conditions. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
- The above conditions apply to hole-depth of 3 time the diameter or less.
- Cutting performance may vary according to the material being cut and its hardness.
- Mount the drill on a collet without any flaws. Adjust the drill run out to 0.02 mm or less.
- Use a machine with high rigidity.
- Supply a sufficient amount of cutting fluid (Water-soluble, dilution of 20 times or less) to machining points.
- Sufficient cutting fluid is not supplied in the case of a turning machine or other machine used in a longitudinal direction. Use values of 70% or less of those in the above chart.
- The drill can start drilling with high performance and accuracy. It is not recommended to conduct positioning using a center drill or a starting drill because it may cause chipping. When conducting positioning, set the feeding length to one third of the value above.
- Epoch Wonder Drill is recommended for machining works of a hardness less than 45 HRC.
- When using oil-based cutting agent, use conditions below the lower limit of the cutting speed range. In addition, be careful of smoke or fire due to cutting chips or heating of tool.