

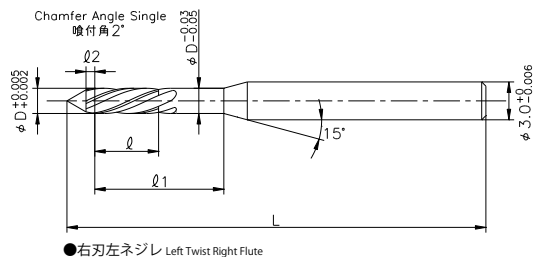
# KSHR-4

超硬スパイラルリーマ  
Tungsten Carbide 4 Flutes Spiral Reamer

- 小径穴仕上加工用φ0.5~φ2.03まで0.01とびにラインナップ  
Line-upped φ0.5~φ2.03 at pitch 0.01
- 左ネジレ右刃の貫通穴用リーマです  
Left-hand threaded, right-hand blade reamer for through holes



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○



●右刃左ネジレ Left Twist Right Flute

- 切削条件表はP260に記載  
Cutting conditions are recommended on page 260.

単位[寸法:mm/価格:円]  
Unit [size:mm/Retail Price:JPY]

品番 Code No.	刃径D Flute Diameter	刃長ℓ Flute Length	有効長ℓ1 Effective Length	全長L Total Length	柄径 Shank Diameter	喰付長ℓ2 Chamfer Length	標準価格 Retail Price
KSHR-4050	0.5	8	13	60	3	1.3	8,800
KSHR-4051	0.51	8	13	60	3	1.3	9,800
KSHR-4052	0.52	8	13	60	3	1.3	9,800
KSHR-4053	0.53	8	13	60	3	1.3	9,800
KSHR-4054	0.54	8	13	60	3	1.3	9,800
KSHR-4055	0.55	8	13	60	3	1.3	9,800
KSHR-4056	0.56	8	13	60	3	1.3	9,800
KSHR-4057	0.57	8	13	60	3	1.3	9,800
KSHR-4058	0.58	8	13	60	3	1.3	9,800
KSHR-4059	0.59	8	13	60	3	1.3	9,800
KSHR-4060	0.6	8	13	60	3	1.5	8,200
KSHR-4061	0.61	8	13	60	3	1.5	8,800
KSHR-4062	0.62	8	13	60	3	1.5	8,800
KSHR-4063	0.63	8	13	60	3	1.5	8,800
KSHR-4064	0.64	8	13	60	3	1.5	8,800
KSHR-4065	0.65	8	13	60	3	1.5	8,800
KSHR-4066	0.66	8	13	60	3	1.5	8,800
KSHR-4067	0.67	8	13	60	3	1.5	8,800
KSHR-4068	0.68	8	13	60	3	1.5	8,800
KSHR-4069	0.69	8	13	60	3	1.5	8,800
KSHR-4070	0.7	8	13	60	3	2	7,200
KSHR-4071	0.71	8	13	60	3	2	7,900
KSHR-4072	0.72	8	13	60	3	2	7,900
KSHR-4073	0.73	8	13	60	3	2	7,900
KSHR-4074	0.74	8	13	60	3	2	7,900
KSHR-4075	0.75	8	13	60	3	2	7,900
KSHR-4076	0.76	8	13	60	3	2	7,900
KSHR-4077	0.77	8	13	60	3	2	7,900
KSHR-4078	0.78	8	13	60	3	2	7,900
KSHR-4079	0.79	8	13	60	3	2	7,900

品番 Code No.	刃径D Flute Diameter	刃長ℓ Flute Length	有効長ℓ1 Effective Length	全長L Total Length	柄径 Shank Diameter	喰付長ℓ2 Chamfer Length	標準価格 Retail Price
KSHR-4080	0.8	8	16	60	3	2	6,900
KSHR-4081	0.81	8	16	60	3	2	7,200
KSHR-4082	0.82	8	16	60	3	2	7,200
KSHR-4083	0.83	8	16	60	3	2	7,200
KSHR-4084	0.84	8	16	60	3	2	7,200
KSHR-4085	0.85	8	16	60	3	2	7,200
KSHR-4086	0.86	8	16	60	3	2	7,200
KSHR-4087	0.87	8	16	60	3	2	7,200
KSHR-4088	0.88	8	16	60	3	2	7,200
KSHR-4089	0.89	8	16	60	3	2	7,200
KSHR-4090	0.9	8	16	60	3	2	6,500
KSHR-4091	0.91	8	16	60	3	2	6,900
KSHR-4092	0.92	8	16	60	3	2	6,900
KSHR-4093	0.93	8	16	60	3	2	6,900
KSHR-4094	0.94	8	16	60	3	2	6,900
KSHR-4095	0.95	8	16	60	3	2	6,900
KSHR-4096	0.96	8	16	60	3	2	6,900
KSHR-4097	0.97	8	16	60	3	2	6,900
KSHR-4098	0.98	8	16	60	3	2	6,900
KSHR-4099	0.99	8	16	60	3	2	6,900
KSHR-4100	1	8	16	60	3	2	5,900
KSHR-4101	1.01	10	16	60	3	2.5	6,500
KSHR-4102	1.02	10	16	60	3	2.5	6,500
KSHR-4103	1.03	10	16	60	3	2.5	6,500
KSHR-4104	1.04	10	16	60	3	2.5	6,500
KSHR-4105	1.05	10	16	60	3	2.5	6,500
KSHR-4106	1.06	10	16	60	3	2.5	6,500
KSHR-4107	1.07	10	16	60	3	2.5	6,500
KSHR-4108	1.08	10	16	60	3	2.5	6,500
KSHR-4109	1.09	10	16	60	3	2.5	6,500

超硬リーマ

Carbide Reamer

# KSHR-4

品番 Code No.	刃径D Flute Diameter	刃長ℓ Flute Length	有効長ℓ1 Effective Length	全長L Total Length	柄径 Shank Diameter	喰付長ℓ2 Chamfer Length	標準価格 Retail Price
KSHR-4110	1.1	10	16	60	3	2.5	5,900
KSHR-4111	1.11	10	16	60	3	2.5	6,500
KSHR-4112	1.12	10	16	60	3	2.5	6,500
KSHR-4113	1.13	10	16	60	3	2.5	6,500
KSHR-4114	1.14	10	16	60	3	2.5	6,500
KSHR-4115	1.15	10	16	60	3	2.5	6,500
KSHR-4116	1.16	10	16	60	3	2.5	6,500
KSHR-4117	1.17	10	16	60	3	2.5	6,500
KSHR-4118	1.18	10	16	60	3	2.5	6,500
KSHR-4119	1.19	10	16	60	3	2.5	6,500
KSHR-4120	1.2	10	16	60	3	2.5	5,900
KSHR-4121	1.21	10	16	60	3	2.5	6,500
KSHR-4122	1.22	10	16	60	3	2.5	6,500
KSHR-4123	1.23	10	16	60	3	2.5	6,500
KSHR-4124	1.24	10	16	60	3	2.5	6,500
KSHR-4125	1.25	10	16	60	3	2.5	6,500
KSHR-4126	1.26	10	16	60	3	2.5	6,500
KSHR-4127	1.27	10	16	60	3	2.5	6,500
KSHR-4128	1.28	10	16	60	3	2.5	6,500
KSHR-4129	1.29	10	16	60	3	2.5	6,500
KSHR-4130	1.3	10	16	60	3	2.5	5,900
KSHR-4131	1.31	10	16	60	3	2.5	6,500
KSHR-4132	1.32	10	16	60	3	2.5	6,500
KSHR-4133	1.33	10	16	60	3	2.5	6,500
KSHR-4134	1.34	10	16	60	3	2.5	6,500
KSHR-4135	1.35	10	16	60	3	2.5	6,500
KSHR-4136	1.36	10	16	60	3	2.5	6,500
KSHR-4137	1.37	10	16	60	3	2.5	6,500
KSHR-4138	1.38	10	16	60	3	2.5	6,500
KSHR-4139	1.39	10	16	60	3	2.5	6,500
KSHR-4140	1.4	10	16	60	3	2.5	5,900
KSHR-4141	1.41	10	16	60	3	2.5	6,500
KSHR-4142	1.42	10	16	60	3	2.5	6,500
KSHR-4143	1.43	10	16	60	3	2.5	6,500
KSHR-4144	1.44	10	16	60	3	2.5	6,500
KSHR-4145	1.45	10	16	60	3	2.5	6,500
KSHR-4146	1.46	10	16	60	3	2.5	6,500
KSHR-4147	1.47	10	16	60	3	2.5	6,500
KSHR-4148	1.48	10	16	60	3	2.5	6,500
KSHR-4149	1.49	10	16	60	3	2.5	6,500
KSHR-4150	1.5	10	16	60	3	2.5	5,600
KSHR-4151	1.51	10	16	60	3	2.5	6,100
KSHR-4152	1.52	10	16	60	3	2.5	6,100
KSHR-4153	1.53	10	16	60	3	2.5	6,100
KSHR-4154	1.54	10	16	60	3	2.5	6,100
KSHR-4155	1.55	10	16	60	3	2.5	6,100
KSHR-4156	1.56	10	16	60	3	2.5	6,100
KSHR-4157	1.57	10	16	60	3	2.5	6,100

品番 Code No.	刃径D Flute Diameter	刃長ℓ Flute Length	有効長ℓ1 Effective Length	全長L Total Length	柄径 Shank Diameter	喰付長ℓ2 Chamfer Length	標準価格 Retail Price
KSHR-4158	1.58	10	16	60	3	2.5	6,100
KSHR-4159	1.59	10	16	60	3	2.5	6,100
KSHR-4160	1.6	10	16	60	3	3	5,600
KSHR-4161	1.61	10	16	60	3	3	6,100
KSHR-4162	1.62	10	16	60	3	3	6,100
KSHR-4163	1.63	10	16	60	3	3	6,100
KSHR-4164	1.64	10	16	60	3	3	6,100
KSHR-4165	1.65	10	16	60	3	3	6,100
KSHR-4166	1.66	10	16	60	3	3	6,100
KSHR-4167	1.67	10	16	60	3	3	6,100
KSHR-4168	1.68	10	16	60	3	3	6,100
KSHR-4169	1.69	10	16	60	3	3	6,100
KSHR-4170	1.7	10	16	60	3	3	5,600
KSHR-4171	1.71	10	16	60	3	3	6,100
KSHR-4172	1.72	10	16	60	3	3	6,100
KSHR-4173	1.73	10	16	60	3	3	6,100
KSHR-4174	1.74	10	16	60	3	3	6,100
KSHR-4175	1.75	10	16	60	3	3	6,100
KSHR-4176	1.76	10	16	60	3	3	6,100
KSHR-4177	1.77	10	16	60	3	3	6,100
KSHR-4178	1.78	10	16	60	3	3	6,100
KSHR-4179	1.79	10	16	60	3	3	6,100
KSHR-4180	1.8	10	16	60	3	3	5,600
KSHR-4181	1.81	10	16	60	3	3	6,100
KSHR-4182	1.82	10	16	60	3	3	6,100
KSHR-4183	1.83	10	16	60	3	3	6,100
KSHR-4184	1.84	10	16	60	3	3	6,100
KSHR-4185	1.85	10	16	60	3	3	6,100
KSHR-4186	1.86	10	16	60	3	3	6,100
KSHR-4187	1.87	10	16	60	3	3	6,100
KSHR-4188	1.88	10	16	60	3	3	6,100
KSHR-4189	1.89	10	16	60	3	3	6,100
KSHR-4190	1.9	10	16	60	3	3	5,600
KSHR-4191	1.91	10	16	60	3	3	6,100
KSHR-4192	1.92	10	16	60	3	3	6,100
KSHR-4193	1.93	10	16	60	3	3	6,100
KSHR-4194	1.94	10	16	60	3	3	6,100
KSHR-4195	1.95	10	16	60	3	3	6,100
KSHR-4196	1.96	10	16	60	3	3	6,100
KSHR-4197	1.97	10	16	60	3	3	6,100
KSHR-4198	1.98	10	16	60	3	3	6,100
KSHR-4199	1.99	10	16	60	3	3	6,100
KSHR-4200	2	10	16	60	3	3	5,200
KSHR-4201	2.01	12	18	60	3	3	6,100
KSHR-4202	2.02	12	18	60	3	3	6,100
KSHR-4203	2.03	12	18	60	3	3	6,100

# KSHR-4

## 切削条件参考

### Referential Cutting Conditions

被削材 Workpiece	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	リーマ代 Reamer Stock Removal mm	推奨切削油 Recommendable Cutting Oil
炭素工具鋼 Carbon Tool Steel	5~15	0.05~0.15	0.05~0.1	不水溶性 Non-Water Soluable
鑄鉄 Cast Iron	10~25	0.05~0.15	0.05~0.1	不水溶性 Non-Water Soluable
合金鋼 Alloy Steel	5~20	0.05~0.15	0.05~0.1	不水溶性 Non-Water Soluable
プリハードン鋼 Pre-Harden Steel	3~10	0.05以下	0.05~0.1	不水溶性 Non-Water Soluable
ステンレス Stainless Steel	5~15	0.05~0.1	0.05~0.1	不水溶性 Non-Water Soluable
銅・銅合金 Copper and Copper Alloy	15~30	0.05~0.1	0.1	不水溶性 Non-Water Soluable
チタン合金 Titanium Alloy	3~10	0.05以下	0.05~0.1	水溶性 Water Soluable
アルミ合金 Aluminum Alloy	20~40	0.05	0.1 ~0.2	不水溶性 Non-Water Soluable
樹脂 Resin	15~20	0.1 ~0.15	0.1 ~0.2	不水溶性 Non-Water Soluable
備考 Remarks	・使用する機械により条件を調整して下さい。・ Adjust Conditions according to Using Machine			