

Solid Carbide "Speedy" Reamer

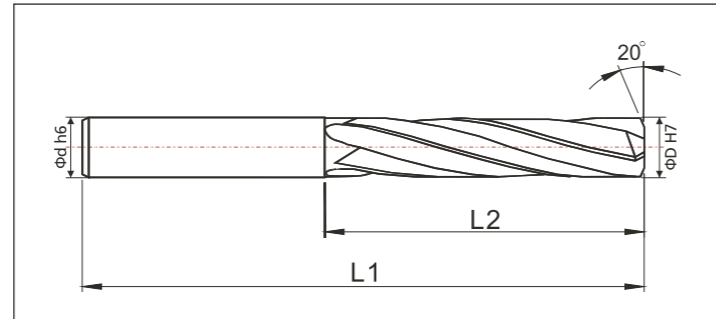


YSR(L)



YSBR Solid Broach Reamer (Order-made)

- ▶ 15° right helix spiral, 20° chamfer (standard) for high speed reaming
- ▶ Standard H7 tolerance, special point & tolerance or corner radius available on demand
- ▶ Speedy reaming $V_c = 40\sim 80\text{m/min.}$, $f = 0.1\text{mm/rev. per flute}$, TiN & TiAlN coated.
- ▶ Best combination if use with our standard YSD Solid carbide drill.



YSR Solid Carbide "Speedy" Reamer.

Code No.	D	d	L1	L2	Number of Flute
YSR 030 ~ 035	3.0 ~ 3.5	4.0	54	19	3
YSR 036 ~ 041	3.6 ~ 4.1				
YSR 042 ~ 051	4.2 ~ 5.1	5.0	61	31	
YSR 052 ~ 061	5.2 ~ 6.1	6.0	65	35	
YSR 062 ~ 071	6.2 ~ 7.1	7.0	73	41	
YSR 072 ~ 081	7.2 ~ 8.1	8.0	78	45	
YSR 082 ~ 091	8.2 ~ 9.1	9.0	82	48	
YSR 092 ~ 101	9.2 ~ 10.1	10.0	87	51	
YSR 102 ~ 111	10.2 ~ 11.1	11.0	93	53	
YSR 112 ~ 121	11.2 ~ 12.1	12.0	100	60	
YSR 122 ~ 131	12.2 ~ 13.1				
YSR 132 ~ 141	13.2 ~ 14.1	13.0	105	62	
YSR 142 ~ 151	14.2 ~ 15.1	14.0	108	64	
YSR 152 ~ 161	15.2 ~ 16.1	15.0	112	66	
YSR 162 ~ 171	16.2 ~ 17.1	16.0	116	68	
YSR 172 ~ 181	17.2 ~ 18.1	17.0	120	71	
YSR 182 ~ 191	18.2 ~ 19.1	18.0	124	73	
YSR 192 ~ 200	19.2 ~ 20.0	19.0	128	77	

YSRL Solid Carbide Speedy Reamer, Long series

Code No.	D	d	L1	L2	Number of Flute
YSRL 030 ~ 035	3.0 ~ 3.5	4.0	79	44	3
YSRL 036 ~ 041	3.6 ~ 4.1				
YSRL 042 ~ 051	4.2 ~ 5.1	5.0	82	49	
YSRL 052 ~ 061	5.2 ~ 6.1	6.0	84	52	
YSRL 062 ~ 071	6.2 ~ 7.1	7.0	89	57	
YSRL 072 ~ 081	7.2 ~ 8.1	8.0	96	62	
YSRL 082 ~ 091	8.2 ~ 9.1	9.0	103	66	
YSRL 092 ~ 101	9.2 ~ 10.1	10.0	108	71	
YSRL 102 ~ 111	10.2 ~ 11.1	11.0	118	78	
YSRL 112 ~ 121	11.2 ~ 12.1	12.0	135	88	
YSRL 122 ~ 131	12.2 ~ 13.1				
YSRL 132 ~ 141	13.2 ~ 14.1	13.0	145	94	
YSRL 142 ~ 151	14.2 ~ 15.1	14.0	150	97	
YSRL 152 ~ 161	15.2 ~ 16.1	15.0	157	109	
YSRL 162 ~ 171	16.2 ~ 17.1	16.0	162	114	
YSRL 172 ~ 181	17.2 ~ 18.1	17.0	167	119	
YSRL 182 ~ 191	18.2 ~ 19.1	18.0	172	124	
YSRL 192 ~ 200	19.2 ~ 20.0	19.0	177	129	

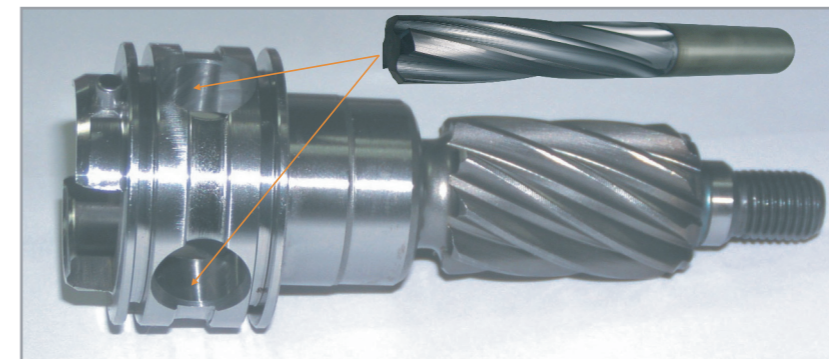
Machining case of YSR

- ▶ Company : "M" Automotive
- ▶ Applied Carbide Speedy Reamer : YSR120-R0.6
- ▶ Kind of machine : Machining center, Vertical spindle
- ▶ Work-piece : SCM420H, EPS Pinion shaft, HRC27~31 (See reamed work-piece photo)
- ▶ Cutting speed : 1200rpm, $V_c = 45\text{m/min.}$, $f = 0.2\text{mm/rev.}$
- ▶ Pre-drilling : $\Phi 11.8\text{mm}$, cut-off : 0.1mm (one side)
- ▶ Coolant : External soluble oil

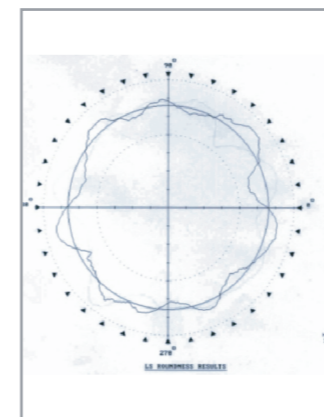
Resulted in great performance

- ▶ Roundness : $O = 1.80\mu\text{m}$,
- ▶ Roughness : $R_a = 0.14\mu\text{m}$
- ▶ Cycle time 650% increase

Photo illustrates the reamed actual work-piece, EPS Pinion shaft.

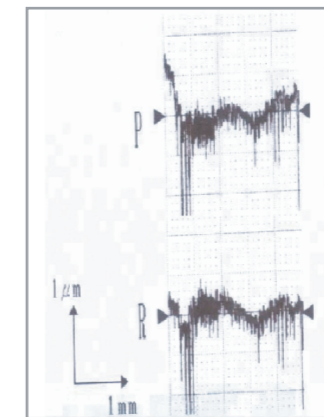


Roundness measures



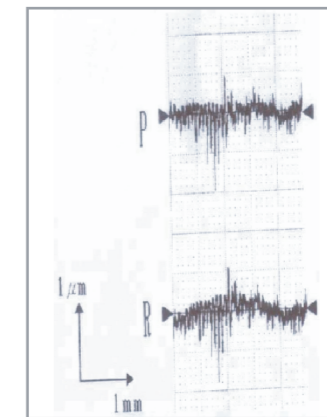
Measuring : External
 $O = 1.80\mu\text{m}$

Roughness for hole mouth



P: Polarity
R : Round measure
 $R_a = 0.14\mu\text{m}$
 $R_{max} = 3.18\mu\text{m}$
 $R_z = 1.58\mu\text{m}$

Roughness for hole end



P: Polarity
R : Round measure
 $R_a = 0.10\mu\text{m}$
 $R_{max} = 1.46\mu\text{m}$
 $R_z = 0.94\mu\text{m}$

❖ YSR Speedy reamer ran at faster cycle time, higher speed & feed, longer tool life along with greater roundness and roughness.

Note

All the dimension is similar to YSD drills.
Recommended pre-drilling size -0.2mm.