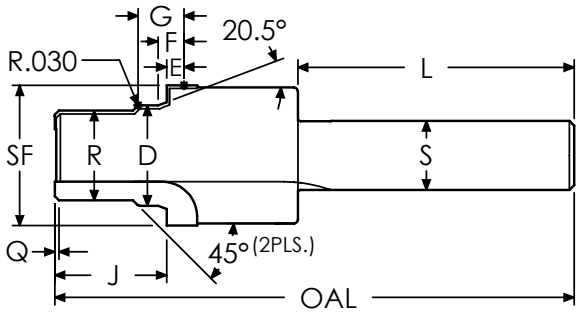
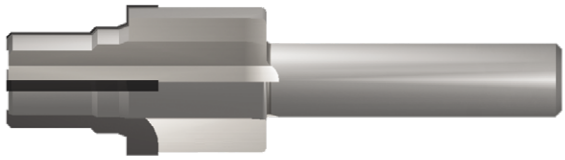
RPT (AS1300) (PS10035) - ROSAN CAVITY PORT TOOL
CARBIDE TIPPED



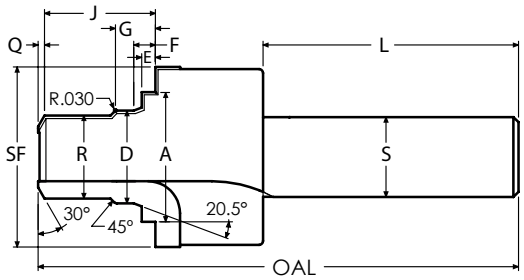


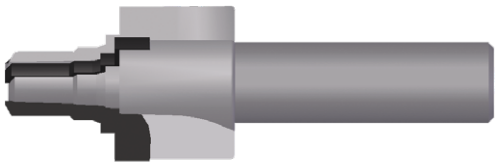
- Polished flute face for optimum performance
- Bodies made with heat-treated alloy steel
- Meets requirements of PS10035, AS1300, AS4201, and 6M152
- Precision ground for maximum concentricity
- ALTiN+ coating extends tool life

D	E	F	G	J	R	SF	L	S	OAL	FLUTES	TUBE	THREAD	ORDER #		EDP #	
													UNCOATED	ALTiN+	UNCOATED	ALTiN+
													Solid Carbide			
0.255	0.093	0.1555	0.2985	0.610	0.184	0.382	2.00	0.500	3.50	3	0.125	0.2160-28 UNJF-3B	RPT-2	RPT-2A	402910	402966
0.287	0.093	0.1555	0.2985	0.670	0.218	0.449	2.00	0.500	4.00	3	0.188	0.2500-28 UNJF-3B	RPT-3	RPT-3A	402919	402969
0.340	0.093	0.1555	0.2985	0.700	0.275	0.496	2.00	0.500	4.00	3	0.250	0.3125-24 UNJF-3B	RPT-4	RPT-4A	402922	402972
													Carbide Tipped			
0.402	0.093	0.1555	0.2985	0.725	0.337	0.602	2.00	0.500	3.48	3	0.312	0.3750-24 UNJF-3B	RPT-5	RPT-5A	402925	402975
0.465	0.108	0.1705	0.3135	0.785	0.392	0.676	2.00	0.500	3.53	4	0.375	0.4375-20 UNJF-3B	RPT-6	RPT-6A	402928	402978
0.583	0.108	0.1705	0.3135	0.850	0.511	0.785	2.00	0.500	3.85	4	0.500	0.5625-18 UNJF-3B	RPT-8	RPT-8A	402931	402981
0.726	0.108	0.1705	0.3135	0.810	0.650	1.016	2.00	0.500	3.81	4	0.625	0.6875-24 UNJEF-3B	RPT-10	RPT-10A	402901	402951
0.900	0.108	0.1705	0.3455	0.950	0.767	1.140	2.00	0.750	4.20	4	0.750	0.8125-20 UNJEF-3B	RPT-12	RPT-12A	402904	402954
1.163	0.108	0.1705	0.3455	1.015	1.073	1.428	2.00	0.750	4.26	4	1.000	1.1250-18 UNJEF-3B	RPT-16	RPT-16A	402907	402957
1.388	0.135	0.1975	0.3775	1.020	1.261	1.751	2.00	0.750	4.52	4	1.250	1.3125-18 UNJEF-3B	RPT-20	RPT-20A	402913	402960
1.665	0.135	0.1975	0.3775	1.205	1.574	2.002	0.750	2.00	4.52	4	1.500	1.6250-18 UNJEF-3B	RPT-24	RPT-24A	402916	402963

Thread mills are available. See pages 7-18.

RFPT - ROSAN CAVITY PORT TOOL
CARBIDE TIPPED





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A	D	R	SF	E	F	G	J	Q	L	S	OAL	FLUTES	TUBE	THREAD	ORDER #		EDP #	
															UNCOATED	ALTiN+	UNCOATED	ALTiN+
															Solid Carbide			
0.382	0.255	0.184	0.590	0.093	0.1555	0.2985	0.602	0.015	2.00	0.500	3.38	3	0.125	0.2160-28 UNJF-3B	RFPT-02	RFPT-02A	403001	403051
0.449	0.287	0.218	0.728	0.093	0.1555	0.2985	0.663	0.015	2.00	0.500	3.38	3	0.188	0.2500-28 UNJF-3B	RFPT-03	RFPT-03A	403004	403054
															Carbide Tipped			
0.496	0.340	0.275	0.797	0.093	0.1555	0.2985	0.678	0.025	2.00	0.500	3.50	3	0.250	0.3125-24 UNJF-3B	RFPT-04	RFPT-04A	403007	403057
0.602	0.402	0.337	0.924	0.093	0.1555	0.2985	0.708	0.708	2.00	0.500	3.50	3	0.312	0.375-24 UNJF-3B	RFPT-05	RFPT-05A	403010	403060
0.676	0.465	0.392	0.995	0.108	0.1705	0.3135	0.734	0.050	2.00	0.500	3.50	3	0.375	0.4375-20 UNJF-3B	RFPT-06	RFPT-06A	403013	403063
0.785	0.583	0.511	1.211	0.108	0.1705	0.3135	0.798	0.050	2.00	0.500	3.50	3	0.500	0.5625-18 UNJF-3B	RFPT-08	RFPT-08A	403016	403066
1.016	0.726	0.650	1.355	0.108	0.1705	0.3135	0.828	0.060	2.00	0.750	3.85	4	0.625	0.6875-24 UNJEF-3B	RFPT-10	RFPT-10A	403019	403069
1.140	0.900	0.767	1.643	0.108	0.1705	0.3455	0.898	0.080	2.00	0.750	4.00	4	0.750	0.8125-20 UNJEF-3B	RFPT-12	RFPT-12A	403022	403072
1.312	1.031	0.892	1.780	0.108	0.1705	0.3455	0.935	0.090	2.25	1.000	4.25	4	0.875	0.9375-20 UNJEF-3B	RFPT-14	RFPT-14A	403025	403075
1.428	1.163	1.073	1.930	0.108	0.1705	0.3455	1.008	0.100	2.25	1.000	4.50	4	1.000	1.1250-18 UNJEF-3B	RFPT-16	RFPT-16A	403028	403078
1.751	1.388	1.261	2.298	0.135	0.1975	0.3775	1.040	0.120	2.25	1.000	4.50	4	1.250	1.3125-18 UNJEF-3B	RFPT-20	RFPT-20A	403031	403081
2.002	1.665	1.574	2.591	0.135	0.1975	0.3775	1.131	0.120	2.25	1.000	4.50	4	1.500	1.6250-18 UNJEF-3B	RFPT-24	RFPT-24A	403034	403084
2.518	2.203	2.064	3.500	0.135	0.2385	0.4185	1.338	0.120	2.50	1.250	5.00	4	2.000	2.1250-16 UNJ-3B	RFPT-32	RFPT-32A	403037	403087

Thread mills are available. See pages 7-18.

PORT & CAVITY TECHNICAL INFORMATION

MATERIAL	HB/Rc	SPEED (SFM)		CUTTING CONDITIONS	
		UNCOATED	ALTiN+	INFEED PER FLUTE REAM	INFEED PER FLUTE SPOT FACE
CAST IRON	130 HB	75-210	200-450	.001-.0025	.0008-.0020
CARBON STEEL	18 Rc	125-190	190-400	.001-.0030	.001-.0020
ALLOY STEEL	20 Rc	70-135	130-350	.001-.0030	.0008-.0020
TOOL STEEL	25 Rc	75-100	100-220	.001-.0025	.0005-.0020
300 STAINLESS STEEL	150 HB	90-100	100-230	.001-.0020	.0007-.0015
400 STAINLESS STEEL	195 HB	90-135	135-300	.001-.0020	.0005-.0015
HIGH TEMP ALLOY (NICKEL & COBALT BASE)	20 Rc	30-125	100-150	.0008-.0015	.0005-.0010
TITANIUM	25 Rc	50-100	100-140	.001-.0020	.0005-.0010
HEAT TREATED ALLOYS (38-45Rc)	40 Rc	50-75	75-130	.0008-.0015	.0005-.0010
ALUMINUM	100 HB	850-1000	800-1500	.002-.0040	.0010-.0030
BRASS, ZINC	80 HB	750-950	800-1200	.002-.0040	.0010-.0030

SFM = Surface Feet per Minute
RPM = SFM x 3.82 divided by tool diameter

Starting parameters only. Setup and machine rigidity may affect performance.

PROBLEM	CAUSE	SOLUTION
RAPID FLANK WEAR	CUTTING CONDITIONS	Check for excessive speed and feed - see chart.
	TOOL	Select a coated tool.
	PROGRAM	Remove dwell from program at end of cut.
BUILT-UP EDGE	TOOL	Select a coated tool. The coating will resist built-up edges.
	HEAT	Use coolant through port tool. If coolant is not available, use shop air and a coated tool.
SURFACE TORN	TOOL	Use a coated tool. On most carbon steels, an uncoated tool will not produce an acceptable finish.
CHATTER	TOOL	Hone cutting edge of spot face. Use Coated Tool. Increase chip load.
LIGHT CHATTER	PROGRAM	Increase speed by 15-20%. A faster speed reduces forces. A dwell typically will not remove chatter.
POOR TOOL LIFE	AMOUNT OF STOCK	Rough port to 0.97 inch of finish size.
	PART	Make sure prior operation did not work harden the material.

SAMPLE PROGRAM FOR MAXIMUM PRODUCTIVITY

N51 (Sample Port Tool Program: MS33649-4RA (ALTiN+) cutting Carbon Steel

T51 M06	**Select Tool**
S2916 M03	**SFM = 300 ; RPM = 300 x 3.82 / Reamer Diameter**
G00 G90 G54 X0. Y0.	**RPM = 300 X 3.82 / 0.393**
G43 H51 Z0.1 M08	**RPM = 2916**
G01 Z-0.6 F23.3	**Feed Rate = RPM x 0.002 x 4 (Number of Flutes)**
S1290 M03	**RPM = 300 x 3.82 / 0.888 (Spot Face Diameter)**
G04 P1.	**Dwell to slow down spindle**
G01 Z-.73 F10.3	**Feed rate = RPM x 0.002 x 4 (Number of Flutes)**
G00 Z5. M09	