

GOLIATH

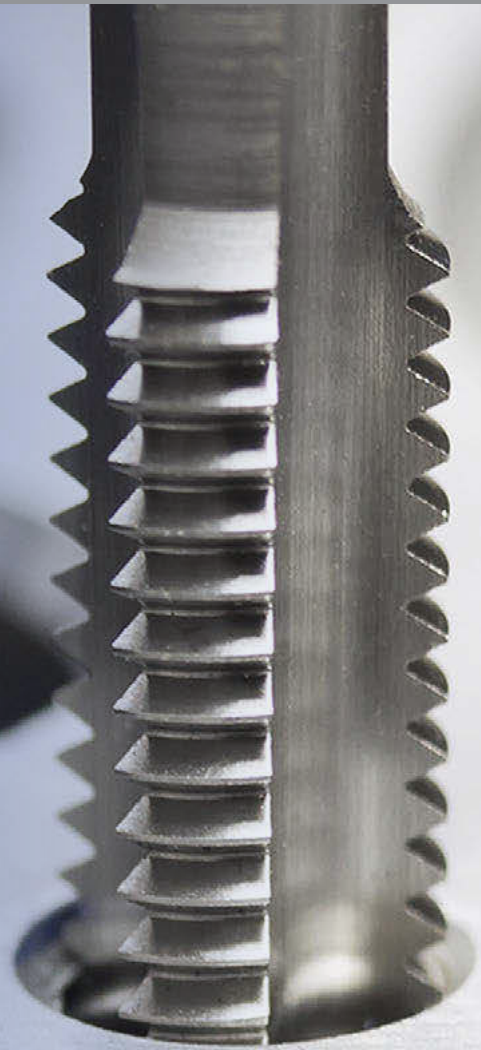
the threading specialists



BUYER'S GUIDE 10/2023



GOLIATH
the threading specialists



Goliath Threading Tools: A Legacy of Excellence

For over six decades, Goliath Threading Tools has been setting the gold standard for uncompromising quality in threading tools. Beginning in the UK Goliath quickly achieved global recognition, a testament to its commitment to excellence. In Australia, Goliath has earned a reputation as the go-to destination for all threading needs, providing a seamless and comprehensive solution.

In 2017 Goliath joined the Bordo family creating a combination that ensures that our valued customers continue to receive nothing less than world-class customer service and access to an extensive variety of premium products.



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METRIC COARSE

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
1.60	0.35	41.00	1.25	6H	3	ISO529	1	A29EA3	A29EB3	A29EC3	3	A29ED3
2.00	0.40	41.00	1.60	6H	3	ISO529	1	A30EA3	A30EB3	A30EC3	3	A30ED3
2.20	0.45	44.50	1.75	6H	3	ISO529	1	A31EA3	A31EB3	A31EC3	3	A31ED3
2.30	0.40	44.50	1.90	6H	3	ISO529	1	A311EA3	A311EB3	A311EC3	3	A311ED3
2.50	0.45	44.50	2.05	6H	3	ISO529	1	A32EA3	A32EB3	A32EC3	3	A32ED3
2.60	0.45	44.50	2.15	6H	3	ISO529	1	A32XA3	A32XB3	A32XC3	3	A32XED3
3.00	0.50	48.00	2.50	6H	3	ISO529	1	A33EA3	A33EB3	A33EC3	3	A33ED3
3.00	0.60	48.00	2.40	6H	3	ISO529	1	A33EA3	A33EB3	A33EC3	3	A33ED3
3.50	0.60	50.00	2.90	6H	3	ISO529	1	A34EA3	A34EB3	A34EC3	3	A34ED3
4.00	0.70	53.00	3.30	6H	3	ISO529	1	A35EA3	A35EB3	A35EC3	3	A35ED3
4.00	0.75	53.00	3.25	6H	3	ISO529	1	A35XA3	A35XB3	A35XC3	3	A35XED3
4.50	0.75	53.00	3.70	6H	3	ISO529	1	A36EA3	A36EB3	A36EC3	3	A36ED3
5.00	0.80	58.00	4.20	6H	3	ISO529	1	A37EA3	A37EB3	A37EC3	3	A37ED3
5.00	0.90	58.00	4.10	6H	3	ISO529	1	A37XA3	A37XB3	A37XC3	3	A37XED3
5.50	0.90	58.00	4.60	6H	3	ISO529	1	A37EA3	A37EB3	A37EC3	3	A37ED3
6.00	1.00	66.00	5.00	6H	3	ISO529	1	B38EA3	B38EB3	B38EC3	3	B38ED3
6.00	1.25	66.00	4.75	6H	3	ISO529	1	B38XA3	B38XB3	B38XC3	3	B38XED3
7.00	1.00	66.00	6.00	6H	4	ISO529	1	B39EA4	B39EB4	B39EC4	3	B39ED4
7.00	1.25	66.00	5.75	6H	4	ISO529	1	B39XA4	B39XB4	B39XC4	3	B39XED4
8.00	1.25	72.00	6.80	6H	4	ISO529	1	B40EA4	B40EB4	B40EC4	3	B40ED4
8.00	1.50	69.00	7.20	6H	4	ISO529	1	B40XA4	B40XB4	B40XC4	3	B40XED4
9.00	1.25	72.00	7.80	6H	4	ISO529	1	B41EA4	B41EB4	B41EC4	3	B41ED4
9.00	1.50	72.00	7.50	6H	4	ISO529	1	B41XA4	B41XB4	B41XC4	3	B41XED4
10.00	1.50	80.00	8.50	6H	4	ISO529	1	B42EA4	B42EB4	B42EC4	3	B42ED4
11.00	1.50	85.00	9.50	6H	4	ISO529	1	B43EA4	B43EB4	B43EC4	3	B43ED4
12.00	1.75	89.00	10.20	6H	4	ISO529	1	B44EA4	B44EB4	B44EC4	3	B44ED4
14.00	2.00	95.00	12.00	6H	4	ISO529	1	B45EA4	B45EB4	B45EC4	3	B45ED4
16.00	2.00	102.00	14.00	6H	4	ISO529	1	B46EA4	B46EB4	B46EC4	3	B46ED4
18.00	2.50	112.00	15.50	6H	4	ISO529	1	C47EA4	C47EB4	C47EC4	3	C47ED4
20.00	2.50	112.00	17.50	6H	4	ISO529	1	C48EA4	C48EB4	C48EC4	3	C48ED4
22.00	2.50	118.00	19.50	6H	4	ISO529	1	C49EA4	C49EB4	C49EC4	3	C49ED4
24.00	3.00	130.00	21.00	6H	4	ISO529	1	C50EA4	C50EB4	C50EC4	3	C50ED4
27.00	3.00	135.00	24.00	6H	4	ISO529	1	C51EA4	C51EB4	C51EC4	3	C51ED4
30.00	3.50	138.00	26.50	6H	4	ISO529	1	C52EA4	C52EB4	C52EC4	3	C52ED4
33.00	3.50	151.00	29.50	6H	4	ISO529	1	C53EA4	C53EB4	C53EC4	3	C53ED4
36.00	4.00	162.00	32.00	6H	4	ISO529	1	K54EA4	K54EB4	K54EC4	3	K54ED4
39.00	4.00	170.00	35.00	6H	6	ISO529	1	K55EA6	K55EB6	K55EC6	3	K55ED6
42.00	4.50	170.00	37.50	6H	6	ISO529	1	K56EA6	K56EB6	K56EC6	3	K56ED6
45.00	4.50	187.00	40.50	6H	6	ISO529	1	K57EA6	K57EB6	K57EC6	3	K57ED6
48.00	5.00	187.00	43.00	6H	6	ISO529	1	K58EA6	K58EB6	K58EC6	3	K58ED6
52.00	5.00	200.00	47.00	6H	6	ISO529	1	K59EA6	K59EB6	K59EC6	3	K59ED6
56.00	5.50	200.00	50.50	6H	6	ISO529	1	K60EA6	K60EB6	K60EC6	3	K60ED6

METRIC COARSE LEFT HAND

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
3.00	0.50	48.00	2.50	6H	3	ISO529	1	A33EA3L	A33EB3L	A33EC3L	3	A33ED3L
4.00	0.70	53.00	3.30	6H	3	ISO529	1	A35EA3L	A35EB3L	A35EC3L	3	A35ED3L
5.00	0.80	58.00	4.20	6H	3	ISO529	1	A37EA3L	A37EB3L	A37EC3L	3	A37ED3L
6.00	1.00	66.00	5.00	6H	3	ISO529	1	B38EA3L	B38EB3L	B38EC3L	3	B38ED3L
8.00	1.25	72.00	6.80	6H	4	ISO529	1	B40EA4L	B40EB4L	B40EC4L	3	B40ED4L
10.00	1.50	80.00	8.50	6H	4	ISO529	1	B42EA4L	B42EB4L	B42EC4L	3	B42ED4L
12.00	1.75	89.00	10.20	6H	4	ISO529	1	B44EA4L	B44EB4L	B44EC4L	3	B44ED4L
14.00	2.00	95.00	12.00	6H	4	ISO529	1	B45EA4L	B45EB4L	B45EC4L	3	B45ED4L
16.00	2.00	102.00	14.00	6H	4	ISO529	1	B46EA4L	B46EB4L	B46EC4L	3	B46ED4L
18.00	2.50	112.00	15.50	6H	4	ISO529	1	C47EA4L	C47EB4L	C47EC4L	3	C47ED4L
20.00	2.50	112.00	17.50	6H	4	ISO529	1	C48EA4L	C48EB4L	C48EC4L	3	C48ED4L
22.00	2.50	118.00	19.50	6H	4	ISO529	1	C49EA4L	C49EB4L	C49EC4L	3	C49ED4L
24.00	3.00	130.00	21.00	6H	4	ISO529	1	C50EA4L	C50EB4L	C50EC4L	3	C50ED4L


STRAIGHT FLUTE – SHORT MACHINE AND HAND TAPS
HSS

METRIC FINE


DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
2.00	0.45	41.00	1.55	6H	3	ISO529	1	A301EA3	A301EB3	A301EC3	3	A301ED3
3.00	0.35	48.00	2.65	6H	3	ISO529	1	A33XEA3	A33XEB3	A33XEC3	3	A33XED3
3.50	0.35	50.00	3.15	6H	3	ISO529	1	A34XEA3	A34XEB3	A34XEC3	3	A34XED3
3.50	0.50	50.00	3.00	6H	3	ISO529	1	A334XEA3	A334XEB3	A334XEC3	3	A334XED3
4.00	0.50	53.00	3.50	6H	3	ISO529	1	A35XEA3	A35XEB3	A35XEC3	3	A35XED3
4.50	0.50	53.00	4.00	6H	3	ISO529	1	A36XEA3	A36XEB3	A36XEC3	3	A36XED3
5.00	0.50	58.00	4.50	6H	3	ISO529	1	A37XEA3	A37XEB3	A37XEC3	3	A37XED3
5.00	0.75	58.00	4.25	6H	3	ISO529	1	A3337XEA3	A3337XEB3	A3337XEC3	3	A3337XED3
6.00	0.50	66.00	5.50	6H	3	ISO529	1	B3338XEA3	B3338XEB3	B3338XEC3	3	B3338XED3
6.00	0.75	66.00	5.20	6H	3	ISO529	1	B38XEA3	B38XEB3	B38XEC3	3	B38XED3
7.00	0.50	66.00	6.50	6H	4	ISO529	1	B3339XEA4	B3339XEB4	B3339XEC4	3	B3339XED4
7.00	0.75	66.00	6.20	6H	4	ISO529	1	B39XEA4	B39XEB4	B39XEC4	3	B39XED4
8.00	0.50	69.00	7.50	6H	4	ISO529	1	B4044XEA4	B4044XEB4	B4044XEC4	3	B4044XED4
8.00	0.75	69.00	7.25	6H	4	ISO529	1	B440XEA4	B440XEB4	B440XEC4	3	B440XED4
8.00	1.00	69.00	7.00	6H	4	ISO529	1	B40XEA4	B40XEB4	B40XEC4	3	B40XED4
9.00	0.75	69.00	8.25	6H	4	ISO529	1	B4144XEA4	B4144XEB4	B4144XEC4	3	B4144XED4
9.00	1.00	69.00	8.00	6H	4	ISO529	1	B441XEA4	B441XEB4	B441XEC4	3	B441XED4
10.00	0.50	76.00	8.80	6H	4	ISO529	1	B4244XEA4	B4244XEB4	B4244XEC4	3	B4244XED4
10.00	0.75	76.00	9.20	6H	4	ISO529	1	B442XEA4	B442XEB4	B442XEC4	3	B442XED4
10.00	1.00	76.00	9.00	6H	4	ISO529	1	B41XEA4	B41XEB4	B41XEC4	3	B41XED4
10.00	1.25	76.00	8.80	6H	4	ISO529	1	B42XEA4	B42XEB4	B42XEC4	3	B42XED4
11.00	0.75	82.00	10.25	6H	4	ISO529	1	B4344XEA4	B4344XEB4	B4344XEC4	3	B4344XED4
11.00	1.00	82.00	10.00	6H	4	ISO529	1	B433XEA4	B433XEB4	B433XEC4	3	B433XED4
11.00	1.25	82.00	9.75	6H	4	ISO529	1	B434XEA4	B434XEB4	B434XEC4	3	B434XED4
12.00	0.50	89.00	10.50	6H	4	ISO529	1	B44444XEA4	B44444XEB4	B44444XEC4	3	B44444XED4
12.00	0.75	84.00	11.25	6H	4	ISO529	1	B4444XEA4	B4444XEB4	B4444XEC4	3	B4444XED4
12.00	1.00	84.00	11.00	6H	4	ISO529	1	B444XEA4	B444XEB4	B444XEC4	3	B444XED4
12.00	1.25	84.00	10.80	6H	4	ISO529	1	B43XEA4	B43XEB4	B43XEC4	3	B43XED4
12.00	1.50	89.00	10.50	6H	4	ISO529	1	B443XEA4	B443XEB4	B443XEC4	3	B443XED4
14.00	1.00	90.00	13.00	6H	4	ISO529	1	B445XEA4	B445XEB4	B445XEC4	3	B445XED4
14.00	1.25	90.00	12.80	6H	4	ISO529	1	B44XEA4	B44XEB4	B44XEC4	3	B44XED4
14.00	1.50	95.00	12.50	6H	4	ISO529	1	B45XEA4	B45XEB4	B45XEC4	3	B45XED4
15.00	1.00	90.00	14.00	6H	4	ISO529	1	B46555XEA4	B46555XEB4	B46555XEC4	3	B46555XED4
15.00	1.25	90.00	13.75	6H	4	ISO529	1	B465XEA4	B465XEB4	B465XEC4	3	B465XED4
15.00	1.50	95.00	13.50	6H	4	ISO529	1	B4655XEA4	B4655XEB4	B4655XEC4	3	B4655XED4
16.00	1.00	95.00	15.00	6H	4	ISO529	1	B446XEA4	B446XEB4	B446XEC4	3	B446XED4
16.00	1.25	95.00	14.75	6H	4	ISO529	1	B4446XEA4	B4446XEB4	B4446XEC4	3	B4446XED4
16.00	1.50	102.00	14.50	6H	4	ISO529	1	B46XEA4	B46XEB4	B46XEC4	3	B46XED4
16.00	1.75	95.00	14.75	6H	4	ISO529	1	B44446XEA4	B44446XEB4	B44446XEC4	3	B44446XED4
18.00	1.00	104.00	17.00	6H	4	ISO529	1	C447XEA4	C447XEB4	C447XEC4	3	C447XED4
18.00	1.25	104.00	16.80	6H	4	ISO529	1	C44447XEA4	C44447XEB4	C44447XEC4	3	C44447XED4
18.00	1.50	104.00	16.50	6H	4	ISO529	1	C47XEA4	C47XEB4	C47XEC4	3	C47XED4
18.00	2.00	112.00	16.00	6H	4	ISO529	1	C4447XEA4	C4447XEB4	C4447XEC4	3	C4447XED4
20.00	1.00	104.00	19.00	6H	4	ISO529	1	C4448XEA4	C4448XEB4	C4448XEC4	3	C4448XED4
20.00	1.25	104.00	18.75	6H	4	ISO529	1	C44448XEA4	C44448XEB4	C44448XEC4	3	C44448XED4
20.00	1.50	104.00	18.50	6H	4	ISO529	1	C48XEA4	C48XEB4	C48XEC4	3	C48XED4
20.00	2.00	112.00	18.00	6H	4	ISO529	1	C448XEA4	C448XEB4	C448XEC4	3	C448XED4
22.00	1.00	113.00	21.00	6H	4	ISO529	1	C44449XEA4	C44449XEB4	C44449XEC4	3	C44449XED4
22.00	1.25	113.00	20.75	6H	4	ISO529	1	C4449XEA4	C4449XEB4	C4449XEC4	3	C4449XED4
22.00	1.50	113.00	20.50	6H	4	ISO529	1	C49XEA4	C49XEB4	C49XEC4	3	C49XED4
22.00	2.00	118.00	20.00	6H	4	ISO529	1	C449XEA4	C449XEB4	C449XEC4	3	C449XED4
24.00	1.00	120.00	23.00	6H	4	ISO529	1	C55550XEA4	C55550XEB4	C55550XEC4	3	C55550XED4
24.00	1.25	120.00	22.75	6H	4	ISO529	1	C5550XEA4	C5550XEB4	C5550XEC4	3	C5550XED4
24.00	1.50	120.00	22.50	6H	4	ISO529	1	C550XEA4	C550XEB4	C550XEC4	3	C550XED4
24.00	2.00	120.00	22.00	6H	4	ISO529	1	C50XEA4	C50XEB4	C50XEC4	3	C50XED4


HSS **STRAIGHT FLUTE – SHORT MACHINE AND HAND TAPS**

METRIC FINE

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
25.00	1.00	120.00	24.00	6H	4	ISO529	1	C5551XEA4	C5551XEB4	C5551XEC4	3	C5551XED4
25.00	1.50	120.00	23.50	6H	4	ISO529	1	C51XEA4	C51XEB4	C51XEC4	3	C51XED4
25.00	2.00	120.00	23.00	6H	4	ISO529	1	C55551XEA4	C55551XEB4	C55551XEC4	3	C55551XED4
26.00	1.50	120.00	24.50	6H	4	ISO529	1	C5551EA4	C5551EB4	C5551EC4	3	C5551ED4
27.00	1.50	127.00	25.50	6H	4	ISO529	1	C5552XEA4	C5552XEB4	C5552XEC4	3	C5552XED4
27.00	2.00	127.00	25.00	6H	4	ISO529	1	C52XEA4	C52XEB4	C52XEC4	3	C52XED4
28.00	1.50	127.00	26.50	6H	4	ISO529	1	C5553XEA4	C5553XEB4	C5553XEC4	3	C5553XED4
30.00	1.50	127.00	28.50	6H	6	ISO529	1	C53XEA6	C53XEB6	C53XEC6	3	C53XED6
30.00	2.00	127.00	28.00	6H	6	ISO529	1	C55XEA6	C55XEB6	C55XEC6	3	C55XED6
30.00	3.00	138.00	27.00	6H	4	ISO529	1	C555XEA4	C555XEB4	C555XEC4	3	C555XED4
32.00	1.50	137.00	30.50	6H	6	ISO529	1	C54XEA6	C54XEB6	C54XEC6	3	C54XED6
33.00	1.50	137.00	31.50	6H	6	ISO529	1	C533XEA6	C533XEB6	C533XEC6	3	C533XED6
33.00	2.00	137.00	31.00	6H	6	ISO529	1	C53333XEA6	C53333XEB6	C53333XEC6	3	C53333XED6
33.00	3.00	151.00	30.00	6H	6	ISO529	1	C535XEA6	C535XEB6	C535XEC6	3	C535XED6
36.00	1.50	144.00	34.50	6H	6	ISO529	1	K5444XEA6	K5444XEB6	K5444XEC6	3	K5444XED6
36.00	2.00	144.00	34.00	6H	6	ISO529	1	K544XEA6	K544XEB6	K544XEC6	3	K544XED6
36.00	3.00	162.00	33.00	6H	6	ISO529	1	K54XEA6	K54XEB6	K54XEC6	3	K54XED6
39.00	1.50	149.00	37.50	6H	6	ISO529	1	K554XEA6	K554XEB6	K554XEC6	3	K554XED6
39.00	2.00	149.00	37.00	6H	6	ISO529	1	K55XEA6	K55XEB6	K55XEC6	3	K55XED6
39.00	3.00	170.00	36.00	6H	6	ISO529	1	K555XEA6	K555XEB6	K555XEC6	3	K555XED6
40.00	1.50	165.00	38.50	6H	6	ISO529	1	K565XEA6	K565XEB6	K565XEC6	3	K565XED6
42.00	1.50	149.00	40.50	6H	6	ISO529	1	K5666XEA6	K5666XEB6	K5666XEC6	3	K5666XED6
42.00	3.00	170.00	39.00	6H	6	ISO529	1	K566XEA6	K566XEB6	K566XEC6	3	K566XED6
45.00	1.50	165.00	43.50	6H	6	ISO529	1	K577XEA6	K577XEB6	K577XEC6	3	K577XED6
45.00	3.00	187.00	42.00	6H	6	ISO529	1	K557XEA6	K557XEB6	K557XEC6	3	K557XED6
48.00	1.50	165.00	46.50	6H	6	ISO529	1	K5888XEA6	K5888XEB6	K5888XEC6	3	K5888XED6
50.00	1.50	165.00	48.50	6H	6	ISO529	1	K50X1.5T	K50X1.5I	K50X1.5B	3	K50X1.5S

METRIC FINE LEFT HAND

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
8.00	1.00	69.00	7.00	6H	4	ISO529	1	B40XEA4L	B40XEB4L	B40XEC4L	3	B40XED4L
10.00	1.00	76.00	9.00	6H	4	ISO529	1	B41XEA4L	B41XEB4L	B41XEC4L	3	B41XED4L
10.00	1.25	76.00	8.80	6H	4	ISO529	1	B42XEA4L	B42XEB4L	B42XEC4L	3	B42XED4L
12.00	1.00	84.00	11.00	6H	4	ISO529	1	B444XEA4L	B444XEB4L	B444XEC4L	3	B444XED4L
12.00	1.25	84.00	10.80	6H	4	ISO529	1	B43XEA4L	B43XEB4L	B43XEC4L	3	B43XED4L
12.00	1.50	89.00	10.50	6H	4	ISO529	1	B443XEA4L	B443XEB4L	B443XEC4L	3	B443XED4L
14.00	1.50	95.00	12.50	6H	4	ISO529	1	B45XEA4L	B45XEB4L	B45XEC4L	3	B45XED4L
16.00	1.50	102.00	14.50	6H	4	ISO529	1	B46XEA4L	B46XEB4L	B46XEC4L	3	B46XED4L
18.00	1.50	104.00	16.50	6H	4	ISO529	1	C47XEA4L	C47XEB4L	C47XEC4L	3	C47XED4L
20.00	1.50	104.00	18.50	6H	4	ISO529	1	C48XEA4L	C48XEB4L	C48XEC4L	3	C48XED4L
22.00	1.50	113.00	20.50	6H	4	ISO529	1	C49XEA4L	C49XEB4L	C49XEC4L	3	C49XED4L
24.00	1.50	120.00	22.50	6H	4	ISO529	1	C550XEA4L	C550XEB4L	C550XEC4L	3	C550XED4L



STRAIGHT FLUTE – SHORT MACHINE AND HAND TAPS

HSS

**BSW – BRITISH STANDARD WHITWORTH**

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
1/16	60	41.00	1.20	CL 2	3	ISO529	1	A05AA3	A05AB3	A05AC3	3	A05AD3
3/32	48	44.50	1.85	CL 2	3	ISO529	1	AK06AA3	AK06AB3	AK06AC3	3	AK06AD3
1/8	40	48.00	2.55	CL 2	3	ISO529	1	A07AA3	A07AB3	A07AC3	3	A07AD3
5/32	32	53.00	3.20	CL 2	3	ISO529	1	AK08AA3	AK08AB3	AK08AC3	3	AK08AD3
3/16	24	58.00	3.70	CL 2	3	ISO529	1	A09AA3	A09AB3	A09AC3	3	A09AD3
7/32	24	62.00	4.50	CL 2	3	ISO529	1	AK10AA3	AK10AB3	AK10AC3	3	AK10AD3
1/4	20	66.00	5.10	CL 2	3	ISO529	1	B11AA3	B11AB3	B11AC3	3	B11AD3
5/16	18	72.00	6.50	CL 2	4	ISO529	1	B12AA4	B12AB4	B12AC4	3	B12AD4
3/8	16	80.00	7.90	CL 2	4	ISO529	1	B13AA4	B13AB4	B13AC4	3	B13AD4
7/16	14	85.00	9.30	CL 2	4	ISO529	1	B14AA4	B14AB4	B14AC4	3	B14AD4
1/2	12	89.00	10.50	CL 2	4	ISO529	1	B15AA4	B15AB4	B15AC4	3	B15AD4
9/16	12	95.00	12.10	CL 2	4	ISO529	1	B16AA4	B16AB4	B16AC4	3	B16AD4
5/8	11	102.00	13.50	CL 2	4	ISO529	1	B17AA4	B17AB4	B17AC4	3	B17AD4
3/4	10	112.00	16.25	CL 2	4	ISO529	1	C18AA4	C18AB4	C18AC4	3	C18AD4
7/8	9	118.00	19.25	CL 2	4	ISO529	1	C19AA4	C19AB4	C19AC4	3	C19AD4
1	8	130.00	22.00	CL 2	4	ISO529	1	C20AA4	C20AB4	C20AC4	3	C20AD4
1.1/8	7	138.00	24.75	CL 2	4	ISO529	1	C21AA4	C21AB4	C21AC4	3	C21AD4
1.1/4	7	151.00	28.00	CL 2	4	ISO529	1	C22AA4	C22AB4	C22AC4	3	C22AD4
1.3/8	6	162.00	30.25	CL 2	4	ISO529	1	C122AA4	C122AB4	C122AC4	3	C122AD4
1.1/2	6	170.00	33.50	CL 2	4	ISO529	1	C23AA4	C23AB4	C23AC4	3	C23AD4
1.3/4	5	187.00	39.00	CL 2	6	ISO529	1	K24AA6	K24AB6	K24AC6	3	K24AD6
2	4.5	200.00	44.50	CL 2	6	ISO529	1	K25AA6	K25AB6	K25AC6	3	K25AD6

BSW – BRITISH STANDARD WHITWORTH LEFT HAND

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
1/8	40	48.00	2.55	CL 2	3	ISO529	1	A07AA3L	A07AB3L	A07AC3L	3	A07AD3L
5/32	32	53.00	3.20	CL 2	3	ISO529	1	AK08AA3L	AK08AB3L	AK08AC3L	3	AK08AD3L
3/16	24	58.00	3.70	CL 2	3	ISO529	1	A09AA3L	A09AB3L	A09AC3L	3	A09AD3L
1/4	20	66.00	5.10	CL 2	3	ISO529	1	B11AA3L	B11AB3L	B11AC3L	3	B11AD3L
5/16	18	72.00	6.50	CL 2	4	ISO529	1	B12AA4L	B12AB4L	B12AC4L	3	B12AD4L
3/8	16	80.00	7.90	CL 2	4	ISO529	1	B13AA4L	B13AB4L	B13AC4L	3	B13AD4L
7/16	14	85.00	9.30	CL 2	4	ISO529	1	B14AA4L	B14AB4L	B14AC4L	3	B14AD4L
1/2	12	89.00	10.50	CL 2	4	ISO529	1	B15AA4L	B15AB4L	B15AC4L	3	B15AD4L
9/16	12	95.00	12.10	CL 2	4	ISO529	1	B16AA4L	B16AB4L	B16AC4L	3	B16AD4L
5/8	11	102.00	13.50	CL 2	4	ISO529	1	B17AA4L	B17AB4L	B17AC4L	3	B17AD4L
3/4	10	112.00	16.25	CL 2	4	ISO529	1	C18AA4L	C18AB4L	C18AC4L	3	C18AD4L
7/8	9	118.00	19.25	CL 2	4	ISO529	1	C19AA4L	C19AB4L	C19AC4L	3	C19AD4L
1	8	130.00	22.00	CL 2	4	ISO529	1	C20AA4L	C20AB4L	C20AC4L	3	C20AD4L



BSF – BRITISH STANDARD FINE

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
3/16	32	58.00	4.00	CL 2	3	ISO529	1	A09BA3	A09BB3	A09BC3	3	A09BD3
7/32	28	62.00	4.60	CL 2	3	ISO529	1	AK10BA3	AK10BB3	AK10BC3	3	AK10BD3
1/4	26	66.00	5.30	CL 2	3	ISO529	1	B11BA3	B11BB3	B11BC3	3	B11BD3
5/16	22	72.00	6.80	CL 2	4	ISO529	1	B12BA4	B12BB4	B12BC4	3	B12BD4
3/8	20	80.00	8.30	CL 2	4	ISO529	1	B13BA4	B13BB4	B13BC4	3	B13BD4
7/16	18	85.00	9.70	CL 2	4	ISO529	1	B14BA4	B14BB4	B14BC4	3	B14BD4
1/2	16	89.00	11.10	CL 2	4	ISO529	1	B15BA4	B15BB4	B15BC4	3	B15BD4
9/16	16	95.00	12.70	CL 2	4	ISO529	1	B16BA4	B16BB4	B16BC4	3	B16BD4
5/8	14	102.00	14.00	CL 2	4	ISO529	1	B17BA4	B17BB4	B17BC4	3	B17BD4
3/4	12	112.00	16.75	CL 2	4	ISO529	1	C18BA4	C18BB4	C18BC4	3	C18BD4
7/8	11	118.00	19.75	CL 2	4	ISO529	1	C19BA4	C19BB4	C19BC4	3	C19BD4
1	10	130.00	22.75	CL 2	4	ISO529	1	C20BA4	C20BB4	C20BC4	3	C20BD4
1.1/8	9	138.00	25.50	CL 2	4	ISO529	1	C21BA4	C21BB4	C21BC4	3	C21BD4
1.1/4	9	151.00	28.50	CL 2	4	ISO529	1	C22BA4	C22BB4	C22BC4	3	C22BD4
1.3/8	8	162.00	31.50	CL 2	4	ISO529	1	C122BA4	C122BB4	C122BC4	3	C122BD4
1.1/2	8	170.00	34.50	CL 2	4	ISO529	1	C23BA4	C23BB4	C23BC4	3	C23BD4
1.3/4	7	187.00	41.00	CL 2	6	ISO529	1	K24BA6	K24BB6	K24BC6	3	K24BD6
2	7	200.00	47.00	CL 2	6	ISO529	1	K25BA6	K25BB6	K25BC6	3	K25BD6

BSF – BRITISH STANDARD FINE LEFT HAND

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/4	26	66.00	5.30	CL 2	3	ISO529	1	B11BA3L	B11BB3L	B11BC3L	3	B11BD3L
5/16	22	72.00	6.80	CL 2	4	ISO529	1	B12BA4L	B12BB4L	B12BC4L	3	B12BD4L
3/8	20	80.00	8.30	CL 2	4	ISO529	1	B13BA4L	B13BB4L	B13BC4L	3	B13BD4L
7/16	18	85.00	9.70	CL 2	4	ISO529	1	B14BA4L	B14BB4L	B14BC4L	3	B14BD4L
1/2	16	89.00	11.10	CL 2	4	ISO529	1	B15BA4L	B15BB4L	B15BC4L	3	B15BD4L
5/8	14	102.00	14.00	CL 2	4	ISO529	1	B17BA4L	B17BB4L	B17BC4L	3	B17BD4L
3/4	12	112.00	16.75	CL 2	4	ISO529	1	C18BA4L	C18BB4L	C18BC4L	3	C18BD4L
7/8	11	118.00	19.75	CL 2	4	ISO529	1	C19BA4L	C19BB4L	C19BC4L	3	C19BD4L
1	10	130.00	22.75	CL 2	4	ISO529	1	C20BA4L	C20BB4L	C20BC4L	3	C20BD4L



PG – PANZERROHR-GEWINDE

SIZE	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
PG7	20	89	11.7	DIN	4	DIN 40430	1	PG7T	PG7I	PG7B		
PG9	18	102	14.3	DIN	4	DIN 40430	1	PG9T	PG9I	PG9B		
PG11	18	112	17.7	DIN	4	DIN 40430	1	PG11T	PG11I	PG11B		
PG13.5	18	118	19.5	DIN	4	DIN 40430	1	PG13.5T	PG13.5I	PG13.5B		
PG16	18	130	21.6	DIN	4	DIN 40430	1	PG16T	PG16I	PG16B		
PG21	16	138	27.4	DIN	4	DIN 40430	1	PG21T	PG21I	PG21B		



UNC – UNIFIED NATIONAL COARSE



DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
NO. 1	64	41.00	1.55	2B	3	ISO529	1	AK02CA3	AK02CB3	AK02CC3	3	AK02CD3
NO. 2	56	44.50	1.85	2B	3	ISO529	1	AK03CA3	AK03CB3	AK03CC3	3	AK03CD3
NO. 3	48	44.50	2.10	2B	3	ISO529	1	AK04CA3	AK04CB3	AK04CC3	3	AK04CD3
NO. 4	40	48.00	2.35	2B	3	ISO529	1	A05CA3	A05CB3	A05CC3	3	A05CD3
NO. 5	40	48.00	2.65	2B	3	ISO529	1	A06CA3	A06CB3	A06CC3	3	A06CD3
NO. 6	32	50.00	2.85	2B	3	ISO529	1	A07CA3	A07CB3	A07CC3	3	A07CD3
NO. 8	32	53.00	3.50	2B	3	ISO529	1	A08CA3	A08CB3	A08CC3	3	A08CD3
NO. 10	24	58.00	3.90	2B	3	ISO529	1	A09CA3	A09CB3	A09CC3	3	A09CD3
3/16 UNS	24	58.00	3.70	2B	3	ISO529	1	B09CA3	B09CB3	B09CC3	3	B09CD3
NO. 12	24	62.00	4.50	2B	3	ISO529	1	A10CA3	A10CB3	A10CC3	3	A10CD3
1/4	20	66.00	5.10	2B	3	ISO529	1	B11CA3	B11CB3	B11CC3	3	B11CD3
5/16	18	72.00	6.60	2B	4	ISO529	1	B12CA4	B12CB4	B12CC4	3	B12CD4
3/8	16	80.00	8.00	2B	4	ISO529	1	B13CA4	B13CB4	B13CC4	3	B13CD4
7/16	14	85.00	9.40	2B	4	ISO529	1	B14CA4	B14CB4	B14CC4	3	B14CD4
1/2	13	89.00	10.80	2B	4	ISO529	1	B15CA4	B15CB4	B15CC4	3	B15CD4
9/16	12	95.00	12.20	2B	4	ISO529	1	B16CA4	B16CB4	B16CC4	3	B16CD4
5/8	11	102.00	13.50	2B	4	ISO529	1	B17CA4	B17CB4	B17CC4	3	B17CD4
3/4	10	112.00	16.50	2B	4	ISO529	1	C18CA4	C18CB4	C18CC4	3	C18CD4
7/8	9	118.00	19.50	2B	4	ISO529	1	C19CA4	C19CB4	C19CC4	3	C19CD4
1	8	130.00	22.25	2B	4	ISO529	1	C20CA4	C20CB4	C20CC4	3	C20CD4
1 1/8	7	138.00	25.00	2B	4	ISO529	1	C21CA4	C21CB4	C21CC4	3	C21CD4
1 1/4	7	151.00	28.00	2B	4	ISO529	1	C22CA4	C22CB4	C22CC4	3	C22CD4
1 3/8	6	162.00	30.75	2B	4	ISO529	1	C122CA4	C122CB4	C122CC4	3	C122CD4
1 1/2	6	170.00	34.00	2B	4	ISO529	1	C23CA4	C23CB4	C23CC4	3	C23CD4
1 3/4	5	187.00	39.50	2B	6	ISO529	1	K24CA6	K24CB6	K24CC6	3	K24CD6
2	4.5	200.00	45.00	2B	6	ISO529	1	K25CA6	K25CB6	K25CC6	3	K25CD6

UNC – UNIFIED NATIONAL COARSE LEFT HAND

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #	PACK QTY	SET PART #
1/4	20	66.00	5.10	2B	3	ISO529	1	B11CA3L	B11CB3L	B11CC3L	3	B11CD3L
5/16	18	72.00	6.60	2B	4	ISO529	1	B12CA4L	B12CB4L	B12CC4L	3	B12CD4L
3/8	16	80.00	8.00	2B	4	ISO529	1	B13CA4L	B13CB4L	B13CC4L	3	B13CD4L
7/16	14	85.00	9.40	2B	4	ISO529	1	B14CA4L	B14CB4L	B14CC4L	3	B14CD4L
1/2	13	89.00	10.80	2B	4	ISO529	1	B15CA4L	B15CB4L	B15CC4L	3	B15CD4L
9/16	12	95.00	12.20	2B	4	ISO529	1	B16CA4L	B16CB4L	B16CC4L	3	B16CD4L
5/8	11	102.00	13.50	2B	4	ISO529	1	B17CA4L	B17CB4L	B17CC4L	3	B17CD4L
3/4	10	112.00	16.50	2B	4	ISO529	1	C18CA4L	C18CB4L	C18CC4L	3	C18CD4L
7/8	9	118.00	19.50	2B	4	ISO529	1	C19CA4L	C19CB4L	C19CC4L	3	C19CD4L
1	8	130.00	22.25	2B	4	ISO529	1	C20CA4L	C20CB4L	C20CC4L	3	C20CD4L



UNF – UNIFIED NATIONAL FINE



DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
NO. 0	80	41.00	1.25	2B	3	ISO529	1	A01DA3	A01DB3	A01DC3	3	A01DD3
NO. 1	72	41.00	1.55	2B	3	ISO529	1	A02DA3	A02DB3	A02DC3	3	A02DD3
NO. 2	64	44.50	1.90	2B	3	ISO529	1	A03DA3	A03DB3	A03DC3	3	A03DD3
NO. 3	56	44.50	2.15	2B	3	ISO529	1	A04DA3	A04DB3	A04DC3	3	A04DD3
NO. 4	48	48.00	2.40	2B	3	ISO529	1	A05DA3	A05DB3	A05DC3	3	A05DD3
NO. 5	44	48.00	2.70	2B	3	ISO529	1	A06DA3	A06DB3	A06DC3	3	A06DD3
NO. 6	40	50.00	2.95	2B	3	ISO529	1	A07DA3	A07DB3	A07DC3	3	A07DD3
NO. 8	36	53.00	3.50	2B	3	ISO529	1	A08DA3	A08DB3	A08DC3	3	A08DD3
NO. 10	32	58.00	4.10	2B	3	ISO529	1	A09DA3	A09DB3	A09DC3	3	A09DD3
3/16 UNS	32	58.00	4.00	2B	3	ISO529	1	B09DA3	B09DB3	B09DC3	3	B09DD3
NO. 12	28	62.00	4.70	2B	3	ISO529	1	A10DA3	A10DB3	A10DC3	3	A10DD3
1/4	28	66.00	5.50	2B	3	ISO529	1	B11DA3	B11DB3	B11DC3	3	B11DD3
5/16	24	69.00	6.90	2B	4	ISO529	1	B12DA4	B12DB4	B12DC4	3	B12DD4
3/8	24	76.00	8.50	2B	4	ISO529	1	B13DA4	B13DB4	B13DC4	3	B13DD4
7/16	20	82.00	9.90	2B	4	ISO529	1	B14DA4	B14DB4	B14DC4	3	B14DD4
1/2	20	84.00	11.50	2B	4	ISO529	1	B15DA4	B15DB4	B15DC4	3	B15DD4
9/16	18	90.00	12.90	2B	4	ISO529	1	B16DA4	B16DB4	B16DC4	3	B16DD4
5/8	18	95.00	14.50	2B	4	ISO529	1	B17DA4	B17DB4	B17DC4	3	B17DD4
11/16	16	112.00	15.90	2B	4	ISO529	1	B117XDA4	B117XDB4	B117XDC4	3	B117XDD4
11/16	18	112.00	16.10	2B	4	ISO529	1	B17XXDA4	B17XXDB4	B17XXDC4	3	B17XXDD4
3/4	16	104.00	17.50	2B	4	ISO529	1	C18DA4	C18DB4	C18DC4	3	C18DD4
7/8	14	113.00	20.40	2B	4	ISO529	1	C19DA4	C19DB4	C19DC4	3	C19DD4
1	12	120.00	23.25	2B	4	ISO529	1	C20DA4	C20DB4	C20DC4	3	C20DD4
1 UNS	14	130.00	24.00	2B	4	ISO529	1	C220DA4	C220DB4	C220DC4	3	C220DD4
1.1/16	12	137.00	24.90	2B	4	ISO529	1	C21XDA4	C21XDB4	C21XDC4	3	C21XDD4
1.1/8	12	127.00	26.50	2B	4	ISO529	1	C21DA4	C21DB4	C21DC4	3	C21DD4
1.1/4	12	137.00	29.50	2B	4	ISO529	1	C22DA4	C22DB4	C22DC4	3	C22DD4
1.5/16	12	163.00	31.30	2B	4	ISO529	1	C22XDA4	C22XDB4	C22XDC4	3	C22XDD4
1.3/8	12	144.00	32.75	2B	4	ISO529	1	C122DA4	C122DB4	C122DC4	3	C122DD4
1.1/2	12	149.00	36.00	2B	4	ISO529	1	C23DA4	C23DB4	C23DC4	3	C23DD4
1.5/8	12	165.00	39.20	2B	6	ISO529	1	K123DA6	K123DB6	K123DC6	3	K123DD6
1.3/4	12	165.00	42.30	2B	6	ISO529	1	K24DA6	K24DB6	K24DC6	3	K24DD6
1.7/8	12	165.00	45.50	2B	6	ISO529	1	K124DA6	K124DB6	K124DC6	3	K124DD6
2	12	175.00	48.70	2B	6	ISO529	1	K25DA6	K25DB6	K25DC6	3	K25DD6

UNF – UNIFIED NATIONAL FINE LEFT HAND

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
NO. 10	32	58.00	4.10	2B	3	ISO529	1	A09DA3L	A09DB3L	A09DC3L	3	A09DD3L
1/4	28	66.00	5.50	2B	3	ISO529	1	B11DA3L	B11DB3L	B11DC3L	3	B11DD3L
5/16	24	69.00	6.90	2B	4	ISO529	1	B12DA4L	B12DB4L	B12DC4L	3	B12DD4L
3/8	24	76.00	8.50	2B	4	ISO529	1	B13DA4L	B13DB4L	B13DC4L	3	B13DD4L
7/16	20	82.00	9.90	2B	4	ISO529	1	B14DA4L	B14DB4L	B14DC4L	3	B14DD4L
1/2	20	84.00	11.50	2B	4	ISO529	1	B15DA4L	B15DB4L	B15DC4L	3	B15DD4L
9/16	18	90.00	12.90	2B	4	ISO529	1	B16DA4L	B16DB4L	B16DC4L	3	B16DD4L
5/8	18	95.00	14.50	2B	4	ISO529	1	B17DA4L	B17DB4L	B17DC4L	3	B17DD4L
11/16	18	112.00	16.10	2B	4	ISO529	1	B17XXDA4L	B17XXDB4L	B17XXDC4L	3	B17XXDD4L
3/4	16	104.00	17.50	2B	4	ISO529	1	C18DA4L	C18DB4L	C18DC4L	3	C18DD4L
7/8	14	113.00	20.40	2B	4	ISO529	1	C19DA4L	C19DB4L	C19DC4L	3	C19DD4L
1	12	120.00	23.25	2B	4	ISO529	1	C20DA4L	C20DB4L	C20DC4L	3	C20DD4L


STRAIGHT FLUTE – SHORT MACHINE AND HAND TAPS
HSS

UNEF – UNIFIED NATIONAL EXTRA FINE

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
N0.12	32	62.00	4.70	2B	3	ISO529	1	B10XDA3	B10XDB3	B10XDC3	3	B10XDD3
1/4	32	66.00	5.60	2B	3	ISO529	1	B11XDA3	B11XDB3	B11XDC3	3	B11XDD3
5/16	32	69.00	7.10	2B	4	ISO529	1	B12XDA4	B12XDB4	B12XDC4	3	B12XDD4
3/8	32	76.00	8.80	2B	4	ISO529	1	B13XDA4	B13XDB4	B13XDC4	3	B13XDD4
7/16	28	82.00	10.20	2B	4	ISO529	1	B14XDA4	B14XDB4	B14XDC4	3	B14XDD4
1/2	28	84.00	11.80	2B	4	ISO529	1	B15XDA4	B15XDB4	B15XDC4	3	B15XDD4
9/16	24	90.00	13.30	2B	4	ISO529	1	B16XDA4	B16XDB4	B16XDC4	3	B16XDD4
5/8	24	95.00	14.75	2B	4	ISO529	1	B17XDA4	B17XDB4	B17XDC4	3	B17XDD4
3/4	20	104.00	18.00	2B	4	ISO529	1	C18XDA4	C18XDB4	C18XDC4	3	C18XDD4
7/8	20	113.00	21.00	2B	4	ISO529	1	C19XDA4	C19XDB4	C19XDC4	3	C19XDD4
1	20	120.00	24.20	2B	4	ISO529	1	C20XDA4	C20XDB4	C20XDC4	3	C20XDD4


8-UN – CONSTANT PITCH

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1.1/8	8	138.00	25.50	2B	4	ISO529	1	C821CA4	C821CB4	C821CC4	3	C821CD4
1.1/4	8	153.00	28.50	2B	4	ISO529	1	C822CA4	C822CB4	C822CC4	3	C822CD4
1.3/8	8	165.00	31.75	2B	4	ISO529	1	C8122CA4	C8122CB4	C8122CC4	3	C8122CD4
1.1/2	8	170.00	35.00	2B	4	ISO529	1	C823CA4	C823CB4	C823CC4	3	C823CD4
1.5/8	8	170.00	38.00	2B	6	ISO529	1	K8123CA6	K8123CB6	K8123CC6	3	K8123CD6
1.3/4	8	190.00	41.50	2B	6	ISO529	1	K824CA6	K824CB6	K824CC6	3	K824CD6
1.7/8	8	190.00	44.50	2B	6	ISO529	1	K8124CA6	K8124CB6	K8124CC6	3	K8124CD6
2	8	220.00	47.50	2B	6	ISO529	1	K825CA6	K825CB6	K825CC6	3	K825CD6
2.1/4	8	225.00	54.00	2B	6	ISO529	1	K826CA6	K826CB6	K826CC6	3	K826CD6
2.1/2	8	240.00	60.50	2B	6	ISO529	1	K827CA6	K827CB6	K827CC6	3	K827CD6


BA – BRITISH ASSOCIATION

DIA. INCH	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
N0.0	1.00	66.00	5.10	CL 2	3	ISO529	1	A65FA3	A65FB3	A65FC3	3	A65FD3
N0.1	0.90	62.00	4.50	CL 2	3	ISO529	1	A66FA3	A66FB3	A66FC3	3	A66FD3
N0.2	0.81	58.00	4.00	CL 2	3	ISO529	1	A67FA3	A67FB3	A67FC3	3	A67FD3
N0.3	0.73	53.00	3.40	CL 2	3	ISO529	1	A68FA3	A68FB3	A68FC3	3	A68FD3
N0.4	0.66	50.00	3.00	CL 2	3	ISO529	1	A69FA3	A69FB3	A69FC3	3	A69FD3
N0.5	0.59	48.00	2.65	CL 2	3	ISO529	1	A70FA3	A70FB3	A70FC3	3	A70FD3
N0.6	0.53	44.50	2.30	CL 2	3	ISO529	1	A71FA3	A71FB3	A71FC3	3	A71FD3
N0.7	0.48	44.50	2.05	CL 2	3	ISO529	1	A72FA3	A72FB3	A72FC3	3	A72FD3
N0.8	0.43	44.50	1.80	CL 2	3	ISO529	1	A73FA3	A73FB3	A73FC3	3	A73FD3
N0.9	0.39	41.00	1.55	CL 2	3	ISO529	1	A74FA3	A74FB3	A74FC3	3	A74FD3
N0.10	0.35	41.00	1.40	CL 2	3	ISO529	1	A75FA3	A75FB3	A75FC3	3	A75FD3
N0.11	0.31	41.00	1.55	CL 2	3	ISO529	1	A775FA3	A775FB3	A775FC3	3	A775FD3
N0.12	0.28	40.00	1.05	CL 2	3	ISO529	1	A76FA3	A76FB3	A76FC3	3	A76FD3

**BSB – BRITISH STANDARD BRASS**

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/4	26	66.00	5.30	CL 2	3	BS949-1969	1	B201MA4	B201MB4	B201MC4	3	B201MD4
5/16	26	72.00	6.90	CL 2	4	BS949-1969	1	B202MA4	B202MB4	B202MC4	3	B202MD4
3/8	26	80.00	8.50	CL 2	4	BS949-1969	1	B203MA4	B203MB4	B203MC4	3	B203MD4
7/16	26	85.00	10.20	CL 2	4	BS949-1969	1	B204MA4	B204MB4	B204MC4	3	B204MD4
1/2	26	89.00	11.80	CL 2	4	BS949-1969	1	B205MA4	B205MB4	B205MC4	3	B205MD4
9/16	26	90.00	13.00	CL 2	4	BS949-1969	1	B206MA4	B206MB4	B206MC4	3	B206MD4
5/8	26	95.00	14.70	CL 2	4	BS949-1969	1	B207MA4	B207MB4	B207MC4	3	B207MD4
3/4	26	104.00	17.80	CL 2	4	BS949-1969	1	C208MA4	C208MB4	C208MC4	3	C208MD4
7/8	26	113.00	21.00	CL 2	4	BS949-1969	1	C209MA4	C209MB4	C209MC4	3	C209MD4
1	26	120.00	24.20	CL 2	4	BS949-1969	1	C210MA4	C210MB4	C210MC4	3	C210MD4

PIPE TAPS

Pipe Taps are supplied with PARALLEL threads or TAPER threads.

These taps are much shorter than a similar size of regular hand tap but the design features are the same. They are suitable for hand or machine use.

**PARALLEL PIPE TAPS**

Parallel pipe taps are used for parallel threading by hand or machine.

1. BSP "G" Series (manufactured to British Standards): Used when a pressure tight joint on the threads is not required (Note: a sealant must be used).
2. NPS (manufactured to American Standards): Used for free-fitting mechanical joints where thread sealing is not required.
3. NPSF (manufactured to American Standards): Dryseal internal straight pipe thread.

**TAPERED PIPE TAPS**

Tapered pipe taps are used for tapered threading by hand or machine.

1. BSPT "Rc" Series (manufactured to British Standards): Used when a pressure joint on threads is required (Note: a sealant must be used).
2. NPT (manufactured to American Standards): Used when a general purpose fit is required.
3. NPTF (manufactured to American Standards): Dryseal taper pipe thread.



BSPF G – BSP/BSPP PARALLEL

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/8	28	59.00	8.80	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	B81GA4	B81GB4	B81GC4	3	B81GD4
1/4	19	67.00	11.80	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	B82GA4	B82GB4	B82GC4	3	B82GD4
3/8	19	75.00	15.25	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C83GA4	C83GB4	C83GC4	3	C83GD4
1/2	14	87.00	19.00	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C84GA4	C84GB4	C84GC4	3	C84GD4
5/8	14	91.00	21.00	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C84AGA4	C84AGB4	C84AGC4	3	C84AGD4
3/4	14	96.00	24.50	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C85GA4	C85GB4	C85GC4	3	C85GD4
7/8	14	102.00	28.25	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C86GA4	C86GB4	C86GC4	3	C86GD4
1	11	109.00	30.75	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	C87GA6	C87GB6	C87GC6	3	C87GD6
1.1/4	11	119.00	39.50	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	K88GA6	K88GB6	K88GC6	3	K88GD6
1.1/2	11	125.00	45.50	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	K89GA6	K89GB6	K89GC6	3	K89GD6
1.3/4	11	132.00	51.00	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	K90GA6	K90GB6	K90GC6	3	K90GD6
2	11	140.00	57.00	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	K91GA6	K91GB6	K91GC6	3	K91GD6
2.1/4	11	142.00	62.70	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	K92GA6	K92GB6	K92GC6	3	K92GD6
2.1/2	11	153.00	72.10	TO SUIT	6	BS949: PART 3: ISO2284-1976	1	K93GA6	K93GB6	K93GC6	3	K93GD6
3	11	164.00	84.80	TO SUIT	8	BS949: PART 3: ISO2284-1976	1	K94GA8	K94GB8	K94GC8	3	K94GD8



BSPT Rc – TAPERED

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/8	28	59.00	8.00	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	B81XHA4	B81XHB4	B81XHC4	3	B81XHD4
1/4	19	67.00	11.20	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	B82XHA4	B82XHB4	B82XHC4	3	B82XHD4
3/8	19	75.00	14.75	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C83XHA4	C83XHB4	C83XHC4	3	C83XHD4
1/2	14	87.00	18.25	TO SUIT	4	BS949: PART 3: ISO2284-1976	1	C84XHA4	C84XHB4	C84XHC4	3	C84XHD4
3/4	14	96.00	23.75	TO SUIT	5	BS949: PART 3: ISO2284-1976	1	C85XHA5	C85XHB5	C85XHC5	3	C85XHD5
1	11	109.00	30.00	TO SUIT	5	BS949: PART 3: ISO2284-1976	1	C87XHA5	C87XHB5	C87XHC5	3	C87XHD5
1.1/4	11	119.00	38.50	TO SUIT	5	BS949: PART 3: ISO2284-1976	1	K88XHA5	K88XHB5	K88XHC5	3	K88XHD5
1.1/2	11	125.00	44.50	TO SUIT	7	BS949: PART 3: ISO2284-1976	1	K89XHA7	K89XHB7	K89XHC7	3	K89XHD7
2	11	140.00	56.00	TO SUIT	7	BS949: PART 3: ISO2284-1976	1	K91XHA7	K91XHB7	K91XHC7	3	K91XHD7



NPT – NATIONAL PIPE TAPERED

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/16	27	54.00	6.30	TO SUIT	4	BS949-1969	1	B80YJA4	B80YJB4	B80YJC4	3	B80YJD4
1/8	27	59.00	8.70	TO SUIT	4	BS949-1969	1	B81YJA4	B81YJB4	B81YJC4	3	B81YJD4
1/4	18	67.00	11.10	TO SUIT	4	BS949-1969	1	B82YJA4	B82YJB4	B82YJC4	3	B82YJD4
3/8	18	75.00	14.50	TO SUIT	4	BS949-1969	1	C83YJA4	C83YJB4	C83YJC4	3	C83YJD4
1/2	14	87.00	18.00	TO SUIT	4	BS949-1969	1	C84YJA4	C84YJB4	C84YJC4	3	C84YJD4
3/4	14	96.00	23.25	TO SUIT	5	BS949-1969	1	C85YJA5	C85YJB5	C85YJC5	3	C85YJD5
1	11½	109.00	29.00	TO SUIT	5	BS949-1969	1	C87YJA5	C87YJB5	C87YJC5	3	C87YJD5
1.1/4	11½	119.00	38.00	TO SUIT	5	BS949-1969	1	K88YJA5	K88YJB5	K88YJC5	3	K88YJD5
1.1/2	11½	125.00	44.00	TO SUIT	7	BS949-1969	1	K89YJA7	K89YJB7	K89YJC7	3	K89YJD7
2	11½	140.00	56.00	TO SUIT	7	BS949-1969	1	K91YJA7	K91YJB7	K91YJC7	3	K91YJD7
3	8	155.00	82.15	TO SUIT	7	BS949-1969	1	K94YJA7	K94YJB7	K94YJC7	3	K94YJD7



NPTF – DRYSEAL TAPER

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/16	27	54.00	6.30	TO SUIT	4	BS949-1969	1			B80ZKEC4		
1/8	27	59.00	8.40	TO SUIT	4	BS949-1969	1			B81ZKEC4		
1/4	18	67.00	11.00	TO SUIT	4	BS949-1969	1			B82ZKEC4		
3/8	18	75.00	14.50	TO SUIT	4	BS949-1969	1			C83ZKEC4		
1/2	14	87.00	17.50	TO SUIT	4	BS949-1969	1			C84ZKEC4		
3/4	14	96.00	23.25	TO SUIT	5	BS949-1969	1			C85ZKEC5		
1	11½	109.00	29.00	TO SUIT	5	BS949-1969	1			C87ZKEC5		
1.1/4	11½	119.00	38.00	TO SUIT	5	BS949-1969	1			K88ZKEC5		

TAPERED PIPE REAMERS – HSS

DIA. INCH	USE WITH THREAD FORM	PACK QTY	PART NUMBER
1/8	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR1/8
1/4	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR1/4
3/8	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR3/8
1/2	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR1/2
3/4	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR3/4
1	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR1
1.1/4	USE WHEN TAPPING TAPERED PIPE THREADS – BSPT, NPT AND NPTF	1	TPR1.1/4

The use of a tapered pipe reamer before tapping will prolong the life of the tap and also result in a higher quality finished thread.

Tapered pipe reamers should be used when tapping tapered pipe threads including BSPT, NPT and NPTF.




PIPE TAPS PARALLEL – MACHINE AND HAND TAPS
HSS

**NPS – NATIONAL PIPE STRAIGHT
(PARALLEL)**


DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/16	27	54.00	6.30	BS949-1969	4	BS949-1969	1		B80ZKAB4			
1/8	27	54.00	8.70	BS949-1969	4	BS949-1969	1	B81ZKAA4	B81ZKAB4	B81ZKAC4		
1/4	18	62.00	11.10	BS949-1969	4	BS949-1969	1	B82ZKAA4	B82ZKAB4	B82ZKAC4		
3/8	18	65.00	14.50	BS949-1969	4	BS949-1969	1	C83ZKAA4	C83ZKAB4	C83ZKAC4		
1/2	14	79.00	18.00	BS949-1969	4	BS949-1969	1	C84ZKAA4	C84ZKAB4	C84ZKAC4		
3/4	14	83.00	23.25	BS949-1969	4	BS949-1969	1	C85ZKAA4	C85ZKAB4	C85ZKAC4		
1	11½	95.00	29.00	BS949-1969	6	BS949-1969	1	C87ZKAA6	C87ZKAB6	C87ZKAC6		


NPSF – DRYSEAL


DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER. PART #	BOTT. PART #	PACK QTY	SET PART #
1/8	27	59.00	8.50	BS949-1969	4	BS949-1969	1	B81ZKCA4	B81ZKCB4	B81ZKCC4		
1/4	18	67.00	11.00	BS949-1969	4	BS949-1969	1	B82ZKCA4	B82ZKCB4	B82ZKCC4		
3/8	18	75.00	14.50	BS949-1969	4	BS949-1969	1	C83ZKCA4	C83ZKCB4	C83ZKCC4		
1/2	14	87.00	18.00	BS949-1969	4	BS949-1969	1	C84ZKCA4	C84ZKCB4	C84ZKCC4		
3/4	14	83.00	23.25	BS949-1969	4	BS949-1969	1	C85ZKCA4	C85ZKCB4	C85ZKCC4		
1	11½	95.00	29.00	BS949-1969	6	BS949-1969	1	C87ZKCA6	C87ZKCB6	C87ZKCC6		



METRIC 0.4MM OVERSIZE – GALVANISING

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STD	PACK QTY	TAPER PART #	INTER PART #	BOTT. PART #	PACK QTY	SET PART #
8.0 +0.4	1.25	72.00	7.20	6H	4	ISO529	1	B40EA4.4	B40EB4.4	B40EC4.4	3	B40ED4.4
10.0 +0.4	1.50	80.00	8.90	6H	4	ISO529	1	B42EA4.4	B42EB4.4	B42EC4.4	3	B42ED4.4
12.0 +0.4	1.75	89.00	10.60	6H	4	ISO529	1	B44EA4.4	B44EB4.4	B44EC4.4	3	B44ED4.4
16.0 +0.4	2.00	102.00	14.40	6H	4	ISO529	1	B46EA4.4	B46EB4.4	B46EC4.4	3	B46ED4.4
20.0 +0.4	2.50	112.00	17.90	6H	4	ISO529	1	C48EA4.4	C48EB4.4	C48EC4.4	3	C48ED4.4
24.0 +0.45	3.00	130.00	21.40	6H	4	ISO529	1	C50EA4.4	C50EB4.4	C50EC4.4	3	C50ED4.4



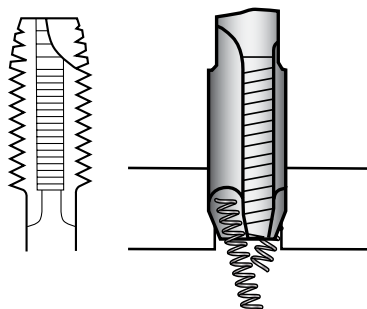
METRIC CONDUIT – CONSTANT PITCH

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT. PART #	PACK QTY	SET PART #
16.00	1.50	102.00	14.50	6H	4	ISO529	1	B46XEA4	B46XEB4	B46XEC4	3	B46XED4
20.00	1.50	104.00	18.50	6H	4	ISO529	1	C48XEA4	C48XEB4	C48XEC4	3	C48XED4
25.00	1.50	120.00	23.50	6H	4	ISO529	1	C51XEA4	C51XEB4	C51XEC4	3	C51XED4
32.00	1.50	137.00	30.50	6H	6	ISO529	1	C54XEA6	C54XEB6	C54XEC6	3	C54XED6
40.00	1.50	165.00	38.50	6H	6	ISO529	1	K565XEA6	K565XEB6	K565XEC6	3	K565XED6
50.00	1.50	165.00	48.50	6H	6	ISO529	1	K50X1.5T	K50X1.5I	K50X1.5B	3	K50X1.5S



METRIC COARSE – REDUCED SHANK LONG SERIES **HSS-Co5 COBALT**

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	SHANK MM	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT. PART #	PACK QTY	SET PART #
3.00	0.50	56.00	2.50	6H	3	2.20	DIN 376	1	A33EA3376	A33EB3376	A33EC3376	3	A33ED3376
4.00	0.70	63.00	3.30	6H	3	2.80	DIN 376	1	A35EA3376	A35EB3376	A35EC3376	3	A35ED3376
5.00	0.80	70.00	4.20	6H	3	3.50	DIN 376	1	A37EA3376	A37EB3376	A37EC3376	3	A37ED3376
6.00	1.00	80.00	5.00	6H	3	4.50	DIN 376	1	A38EA3376	A38EB3376	A38EC3376	3	A38ED3376
8.00	1.25	90.00	6.80	6H	4	6.00	DIN 376	1	B40EA4376	B40EB4376	B40EC4376	3	B40ED4376
10.00	1.50	100.00	8.50	6H	4	7.00	DIN 376	1	B42EA4376	B42EB4376	B42EC4376	3	B42ED4376
12.00	1.75	110.00	10.20	6H	4	9.00	DIN 376	1	B44EA4376	B44EB4376	B44EC4376	3	B44ED4376
14.00	2.00	110.00	12.00	6H	4	11.00	DIN 376	1	B45EA4376	B45EB4376	B45EC4376	3	B45ED4376
16.00	2.00	110.00	14.00	6H	4	12.00	DIN 376	1	B46EA4376	B46EB4376	B46EC4376	3	B46ED4376
18.00	2.50	125.00	15.50	6H	4	14.00	DIN 376	1	C47EA4376	C47EB4376	C47EC4376	3	C47ED4376
20.00	2.50	140.00	17.50	6H	4	16.00	DIN 376	1	C48EA4376	C48EB4376	C48EC4376	3	C48ED4376



Gun nose taps have straight flutes supplemented by angular cutting faces at the lead. The design of the cutting portion propels the swarf ahead of the tap leaving the flutes clear for the flow of coolant to the cutting teeth.

Primarily designed for use in through holes, these taps can be used in blind holes provided that there is ample clearance beyond the threaded section to accommodate the swarf. The advantages of a gun nose tap are the shearing action of the angular cutting faces, which produces a fine finish on the threads and shallower flutes. This allows a stronger cross section throughout the tap.



METRIC COARSE HSS-Co5 COBALT – SPIRAL POINT

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
1.20	0.25	41.00	0.95	6H	3	ISO529	1	A27EE2SP
1.60	0.35	41.00	1.25	6H	3	ISO529	1	A29EE2SP
1.70	0.35	41.00	1.35	6H	3	ISO529	1	A229EE2SP
2.00	0.40	41.00	1.60	6H	3	ISO529	1	A30EE2SP
2.50	0.45	44.50	2.05	6H	3	ISO529	1	A32EE2SP
3.00	0.50	48.00	2.50	6H	3	ISO529	1	A33EE2SP
3.50	0.60	50.00	2.90	6H	3	ISO529	1	A34EE2SP
4.00	0.70	53.00	3.30	6H	3	ISO529	1	A35EE2SP
4.50	0.75	53.00	3.70	6H	3	ISO529	1	A36EE2SP
5.00	0.80	58.00	4.20	6H	3	ISO529	1	A37EE3SP
6.00	1.00	66.00	5.00	6H	3	ISO529	1	B38EE3SP
7.00	1.00	66.00	6.00	6H	3	ISO529	1	B39EE3SP
8.00	1.25	72.00	6.80	6H	3	ISO529	1	B40EE3SP
9.00	1.25	72.00	7.80	6H	3	ISO529	1	B41EE3SP
10.00	1.50	80.00	8.50	6H	3	ISO529	1	B42EE3SP
11.00	1.50	85.00	9.50	6H	3	ISO529	1	B43EE3SP
12.00	1.75	89.00	10.20	6H	3	ISO529	1	B44EE3SP
14.00	2.00	95.00	12.00	6H	3	ISO529	1	B45EE3SP
16.00	2.00	102.00	14.00	6H	3	ISO529	1	B46EE3SP
18.00	2.50	112.00	15.50	6H	3	ISO529	1	C47EE3SP
20.00	2.50	112.00	17.50	6H	3	ISO529	1	C48EE3SP
22.00	2.50	118.00	19.50	6H	3	ISO529	1	C49EE3SP
24.00	3.00	130.00	21.00	6H	3	ISO529	1	C50EE3SP
27.00	3.00	135.00	24.00	6H	3	ISO529	1	C51EE3SP
30.00	3.50	138.00	26.50	6H	3	ISO529	1	C52EE3SP
36.00	4.00	162.00	32.00	6H	3	ISO529	1	K54EE3SP

METRIC FINE HSS-Co5 COBALT – SPIRAL POINT

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
4.00	0.50	53.00	3.50	6H	3	ISO529	1	A35XEE2SP
5.00	0.50	58.00	4.50	6H	3	ISO529	1	A37XEE2SP
6.00	0.75	66.00	5.20	6H	3	ISO529	1	B38XEE2SP
8.00	1.00	69.00	7.00	6H	3	ISO529	1	B40XEE3SP
10.00	1.00	76.00	9.00	6H	3	ISO529	1	B41XEE3SP
10.00	1.25	76.00	8.80	6H	3	ISO529	1	B42XEE3SP
12.00	1.00	84.00	11.00	6H	3	ISO529	1	B444XEE3SP
12.00	1.25	84.00	10.75	6H	3	ISO529	1	B43XEE3SP
12.00	1.50	89.00	10.50	6H	3	ISO529	1	B443XEE3SP
14.00	1.25	90.00	12.80	6H	3	ISO529	1	B44XEE3SP
14.00	1.50	95.00	12.50	6H	3	ISO529	1	B45XEE3SP
16.00	1.50	102.00	14.50	6H	3	ISO529	1	B46XEE3SP
18.00	1.50	104.00	16.50	6H	3	ISO529	1	C47XEE3SP
20.00	1.50	104.00	18.50	6H	3	ISO529	1	C48XEE3SP
22.00	1.50	113.00	20.50	6H	3	ISO529	1	C49XEE3SP
24.00	1.50	120.00	22.50	6H	3	ISO529	1	C550XEE3SP




HSS-Co5
SPIRAL POINT GUN NOSE – MACHINE TAPS

BSW HSS-Co5 COBALT – SPIRAL POINT

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
1/8	40	48.00	2.55	CL 2	3	ISO529	1	A07AE2SP
5/32	32	53.00	3.20	CL 2	3	ISO529	1	AK08AE2SP
3/16	24	58.00	3.70	CL 2	3	ISO529	1	A09AE3SP
1/4	20	66.00	5.10	CL 2	3	ISO529	1	B11AE3SP
5/16	18	72.00	6.50	CL 2	3	ISO529	1	B12AE3SP
3/8	16	80.00	7.90	CL 2	3	ISO529	1	B13AE3SP
7/16	14	85.00	9.30	CL 2	3	ISO529	1	B14AE3SP
1/2	12	89.00	10.50	CL 2	3	ISO529	1	B15AE3SP
9/16	12	95.00	12.10	CL 2	3	ISO529	1	B16AE3SP
5/8	11	102.00	13.50	CL 2	3	ISO529	1	B17AE3SP
3/4	10	112.00	16.25	CL 2	3	ISO529	1	C18AE3SP
7/8	9	118.00	19.25	CL 2	3	ISO529	1	C19AE3SP
1	8	130.00	22.00	CL 2	3	ISO529	1	C20AE3SP
1.1/4	7	151.00	28.00	CL 2	3	ISO529	1	C22AE3SP
1.1/2	6	140.00	33.50	CL 2	3	ISO529	1	C23AE3SP

BSF HSS-Co5 COBALT – SPIRAL POINT

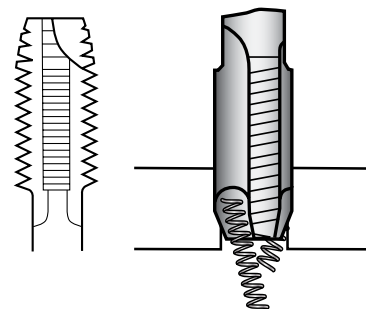
DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
3/16	32	58.00	4.00	CL 2	3	ISO529	1	A09BE2SP
1/4	26	66.00	4.60	CL 2	3	ISO529	1	B11BE2SP
5/16	22	72.00	6.80	CL 2	3	ISO529	1	B12BE3SP
3/8	20	80.00	8.30	CL 2	3	ISO529	1	B13BE3SP
7/16	18	85.00	9.70	CL 2	3	ISO529	1	B14BE3SP
1/2	16	89.00	11.10	CL 2	3	ISO529	1	B15BE3SP
9/16	16	95.00	12.70	CL 2	3	ISO529	1	B16BE3SP
5/8	14	102.00	14.00	CL 2	3	ISO529	1	B17BE3SP
3/4	12	112.00	16.75	CL 2	3	ISO529	1	C18BE3SP
7/8	11	118.00	19.75	CL 2	3	ISO529	1	C19BE3SP
1	10	130.00	22.75	CL 2	3	ISO529	1	C20BE3SP

BA HSS-Co5 COBALT – SPIRAL POINT

SIZE	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
N0.0	1.00	66.00	5.10	CL 2	2	ISO529	1	A65FE2SP
N0.1	0.90	62.00	4.50	CL 2	2	ISO529	1	A66FE2SP
N0.2	0.81	58.00	4.00	CL 2	2	ISO529	1	A67FE2SP
N0.3	0.73	53.00	3.40	CL 2	2	ISO529	1	A68FE2SP
N0.4	0.66	50.00	3.00	CL 2	2	ISO529	1	A69FE2SP
N0.5	0.59	48.00	2.65	CL 2	2	ISO529	1	A70FE2SP
N0.6	0.53	44.50	2.30	CL 2	2	ISO529	1	A71FE2SP
N0.7	0.48	44.50	2.05	CL 2	2	ISO529	1	A72FE2SP
N0.8	0.43	44.50	1.80	CL 2	2	ISO529	1	A73FE2SP

BSPF HSS-Co5 COBALT – SPIRAL POINT

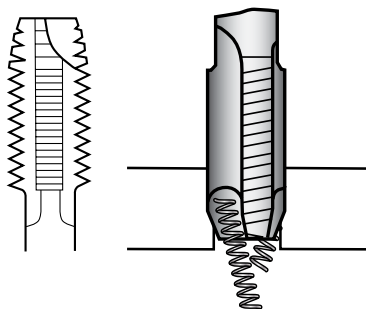
DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
1/8	28	54.00	8.80	Z3	3	BS949: PART 3: ISO2284-1976	1	B81GE3SP
1/4	19	62.00	11.80	Z3	3	BS949: PART 3: ISO2284-1976	1	B82GE3SP
3/8	19	65.00	15.25	Z3	3	BS949: PART 3: ISO2284-1976	1	C83GE3SP
1/2	14	79.00	19.00	Z3	3	BS949: PART 3: ISO2284-1976	1	C84GE3SP
3/4	14	83.00	24.50	Z3	3	BS949: PART 3: ISO2284-1976	1	C85GE3SP



Gun nose taps have straight flutes supplemented by angular cutting faces at the lead. The design of the cutting portion propels the swarf ahead of the tap leaving the flutes clear for the flow of coolant to the cutting teeth.

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UNC HSS-Co5 COBALT – SPIRAL POINT

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
NO.1	64	41.00	1.55	2B	2	ISO529	1	AK02CE2SP
NO.2	56	44.50	1.85	2B	2	ISO529	1	AK03CE2SP
NO.3	48	44.50	2.10	2B	2	ISO529	1	AK04CE2SP
NO.4	40	48.00	2.35	2B	3	ISO529	1	A05CE2SP
NO.5	40	48.00	2.65	2B	3	ISO529	1	A06CE2SP
NO.6	32	50.00	2.85	2B	3	ISO529	1	A07CE2SP
NO.8	32	53.00	3.50	2B	3	ISO529	1	A08CE2SP
NO.10	24	58.00	3.90	2B	3	ISO529	1	A09CE2SP
NO.12	24	62.00	4.50	2B	3	ISO529	1	A10CE2SP
1/4	20	66.00	5.10	2B	3	ISO529	1	B11CE3SP
5/16	18	72.00	6.60	2B	3	ISO529	1	B12CE3SP
3/8	16	80.00	8.00	2B	3	ISO529	1	B13CE3SP
7/16	14	85.00	9.40	2B	3	ISO529	1	B14CE3SP
1/2	13	89.00	10.80	2B	3	ISO529	1	B15CE3SP
9/16	12	95.00	12.20	2B	3	ISO529	1	B16CE3SP
5/8	11	102.00	13.50	2B	3	ISO529	1	B17CE3SP
3/4	10	112.00	16.50	2B	3	ISO529	1	C18CE3SP
7/8	9	118.00	19.50	2B	3	ISO529	1	C19CE3SP
1	8	130.00	22.25	2B	3	ISO529	1	C20CE3SP
1.1/8	7	138.00	25.00	2B	4	ISO529	1	C21CE3SP
1.1/4	7	151.00	28.00	2B	4	ISO529	1	C22CE3SP
1.1/2	6	170.00	34.00	2B	4	ISO529	1	C23CE3SP

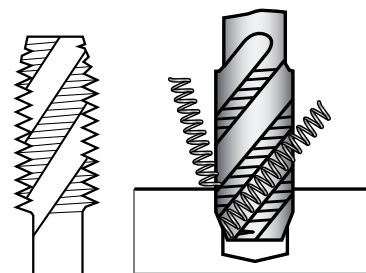
UNF HSS-Co5 COBALT – SPIRAL POINT

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
NO.2	64	44.50	1.90	2B	2	ISO529	1	A03DE2SP
NO.3	56	44.50	2.15	2B	2	ISO529	1	A04DE2SP
NO.4	48	48.00	2.40	2B	3	ISO529	1	A05DE2SP
NO.5	44	48.00	2.70	2B	3	ISO529	1	A06DE2SP
NO.6	40	50.00	2.95	2B	3	ISO529	1	A07DE2SP
NO.8	36	53.00	3.50	2B	3	ISO529	1	A08DE2SP
NO.10	32	58.00	4.10	2B	3	ISO529	1	A09DE2SP
NO.12	28	62.00	4.70	2B	3	ISO529	1	A10DE2SP
1/4	28	66.00	5.50	2B	3	ISO529	1	B11DE3SP
5/16	24	69.00	6.90	2B	3	ISO529	1	B12DE3SP
3/8	24	76.00	8.50	2B	3	ISO529	1	B13DE3SP
7/16	20	82.00	9.90	2B	3	ISO529	1	B14DE3SP
1/2	20	84.00	11.50	2B	3	ISO529	1	B15DE3SP
9/16	18	90.00	12.90	2B	3	ISO529	1	B16DE3SP
5/8	18	95.00	14.50	2B	3	ISO529	1	B17DE3SP
3/4	16	104.00	17.50	2B	3	ISO529	1	C18DE3SP
7/8	14	113.00	20.40	2B	3	ISO529	1	C19DE3SP
1	12	120.00	23.25	2B	3	ISO529	1	C20DE3SP
1 UNS	14	130.00	23.50	2B	3	ISO529	1	C220DE3SP




METRIC COARSE HSS-Co5 COBALT – SPIRAL FLUTE

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
2.00	0.40	41.00	1.60	6H	2	ISO529	1	A30EF2
2.50	0.45	44.50	2.05	6H	2	ISO529	1	A32EF2
3.00	0.50	48.00	2.50	6H	2	ISO529	1	A33EF2
3.50	0.60	50.00	2.90	6H	2	ISO529	1	A34EF2
4.00	0.70	53.00	3.30	6H	2	ISO529	1	A35EF2
5.00	0.80	58.00	4.20	6H	3	ISO529	1	A37EF3
6.00	1.00	66.00	5.00	6H	3	ISO529	1	B38EF3
7.00	1.00	66.00	6.00	6H	3	ISO529	1	B39EF3
8.00	1.25	72.00	6.80	6H	3	ISO529	1	B40EF3
9.00	1.25	72.00	7.80	6H	3	ISO529	1	B41EF3
10.00	1.50	80.00	8.50	6H	3	ISO529	1	B42EF3
11.00	1.50	85.00	9.50	6H	3	ISO529	1	B43EF3
12.00	1.75	89.00	10.20	6H	3	ISO529	1	B44EF3
14.00	2.00	95.00	12.00	6H	3	ISO529	1	B45EF3
16.00	2.00	102.00	14.00	6H	3	ISO529	1	B46EF3
18.00	2.50	112.00	15.50	6H	3	ISO529	1	C47EF3
20.00	2.50	112.00	17.50	6H	3	ISO529	1	C48EF3
22.00	2.50	118.00	19.50	6H	3	ISO529	1	C49EF3
24.00	3.00	130.00	21.00	6H	3	ISO529	1	C50EF3
27.00	3.00	135.00	24.00	6H	3	ISO529	1	C51EF3
30.00	3.50	138.00	26.50	6H	3	ISO529	1	C52EF3
36.00	4.00	162.00	32.00	6H	3	ISO529	1	K54EF3

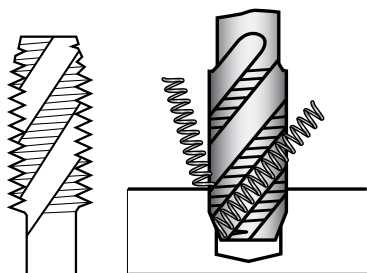


Spiral Flute taps are designed primarily for machine tapping of blind holes. They produce the best results in materials that produce long continuous chips. The right hand spiral forces the swarf out of the hole and prevents the chips from clogging at the bottom of the hole or in the flutes, which could cause tap breakage or spoiled threads.

METRIC FINE HSS-Co5 COBALT – SPIRAL FLUTE

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
4.00	0.50	53.00	3.50	6H	2	ISO529	1	A35XEF2
5.00	0.50	58.00	4.50	6H	3	ISO529	1	A37XEF3
6.00	0.75	66.00	5.20	6H	3	ISO529	1	B38XEF3
8.00	1.00	69.00	7.00	6H	3	ISO529	1	B40XEF3
10.00	1.00	76.00	9.00	6H	3	ISO529	1	B41XEF3
10.00	1.25	76.00	8.80	6H	3	ISO529	1	B42XEF3
12.00	1.25	84.00	10.80	6H	3	ISO529	1	B43XEF3
12.00	1.50	89.00	10.50	6H	3	ISO529	1	B443XEF3
14.00	1.25	90.00	12.80	6H	3	ISO529	1	B44XEF3
14.00	1.50	95.00	12.50	6H	3	ISO529	1	B45XEF3
16.00	1.50	102.00	14.50	6H	3	ISO529	1	B46XEF3
18.00	1.50	104.00	16.50	6H	3	ISO529	1	C47XEF3
20.00	1.50	104.00	18.50	6H	3	ISO529	1	C48XEF3
22.00	1.50	113.00	20.50	6H	3	ISO529	1	C49XEF3




BSW HSS-Co5 COBALT – SPIRAL FLUTE


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DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
1/8	40	48.00	2.55	CL 2	2	ISO529	1	A07AF2
5/32	32	53.00	3.20	CL 2	2	ISO529	1	AK08AF2
3/16	24	58.00	3.70	CL 2	3	ISO529	1	A09AF3
1/4	20	66.00	5.10	CL 2	3	ISO529	1	B11AF3
5/16	18	72.00	6.50	CL 2	3	ISO529	1	B12AF3
3/8	16	80.00	7.90	CL 2	3	ISO529	1	B13AF3
7/16	14	85.00	9.30	CL 2	3	ISO529	1	B14AF3
1/2	12	89.00	10.50	CL 2	3	ISO529	1	B15AF3
9/16	12	95.00	12.10	CL 2	3	ISO529	1	B16AF3
5/8	11	102.00	13.50	CL 2	3	ISO529	1	B17AF3
3/4	10	112.00	16.25	CL 2	3	ISO529	1	C18AF3
7/8	9	118.00	19.25	CL 2	3	ISO529	1	C19AF3
1	8	130.00	22.00	CL 2	3	ISO529	1	C20AF3

BSF HSS-Co5 COBALT – SPIRAL FLUTE

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
3/16	32	58.00	4.00	CL 2	2	BS949: PART 3: ISO2284-1976	1	A09BF2
1/4	26	66.00	5.30	CL 2	3	BS949: PART 3: ISO2284-1976	1	B11BF3
5/16	22	72.00	6.80	CL 2	3	BS949: PART 3: ISO2284-1976	1	B12BF3
3/8	20	80.00	8.30	CL 2	3	BS949: PART 3: ISO2284-1976	1	B13BF3
7/16	18	85.00	9.70	CL 2	3	BS949: PART 3: ISO2284-1976	1	B14BF3
1/2	16	89.00	11.10	CL 2	3	BS949: PART 3: ISO2284-1976	1	B15BF3
9/16	16	95.00	12.70	CL 2	3	BS949: PART 3: ISO2284-1976	1	B16BF3
5/8	14	102.00	14.00	CL 2	3	BS949: PART 3: ISO2284-1976	1	B17BF3
3/4	12	112.00	16.75	CL 2	3	BS949: PART 3: ISO2284-1976	1	C18BF3
7/8	11	118.00	19.75	CL 2	3	BS949: PART 3: ISO2284-1976	1	C19BF3
1	10	130.00	22.75	CL 2	3	BS949: PART 3: ISO2284-1976	1	C20BF3

BA HSS-Co5 COBALT – SPIRAL FLUTE

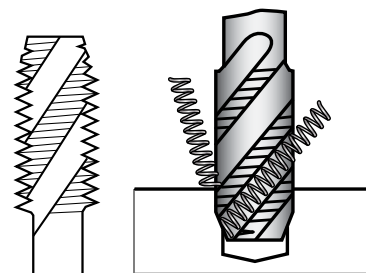
SIZE	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
NO.0	1.00	66.00	5.10	CL 2	3	ISO259	1	A65FF3
NO.1	0.90	62.00	4.50	CL 2	3	ISO259	1	A66FF3
NO.2	0.81	58.00	4.00	CL 2	3	ISO259	1	A67FF3
NO.3	0.73	53.00	3.40	CL 2	2	ISO259	1	A68FF3
NO.4	0.66	50.00	3.00	CL 2	2	ISO259	1	A69FF3
NO.5	0.59	48.00	2.65	CL 2	2	ISO259	1	A70FF3
NO.6	0.53	44.50	2.30	CL 2	2	ISO259	1	A71FF3
NO.8	0.43	44.50	1.80	CL 2	2	ISO259	1	A73FF3
NO.10	0.35	41.00	1.40	CL 2	2	ISO259	1	A75FF3




HSS-Co5
SPIRAL FLUTE – MACHINE TAPS

BSPF HSS-Co5 COBALT – SPIRAL FLUTE

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
1/8	28	54.00	8.80	Z3	3	BS949-1969	1	B81GF3
1/4	19	62.00	11.80	Z3	3	BS949-1969	1	B82GF3
3/8	19	65.00	15.25	Z3	3	BS949-1969	1	C83GF3
1/2	14	79.00	19.00	Z3	3	BS949-1969	1	C84GF3
3/4	14	83.00	24.50	Z3	3	BS949-1969	1	C85GF3


UNC HSS-Co5 COBALT – SPIRAL FLUTE

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
N0.4	40	48.00	2.35	2B	2	ISO529	1	A05CF2
N0.5	40	48.00	2.65	2B	2	ISO529	1	A06CF2
N0.6	32	50.00	2.85	2B	2	ISO529	1	A07CF2
N0.8	32	53.00	3.50	2B	2	ISO529	1	A08CF2
N0.10	24	58.00	3.90	2B	3	ISO529	1	A09CF3
1/4	20	66.00	5.10	2B	3	ISO529	1	B11CF3
5/16	18	72.00	6.60	2B	3	ISO529	1	B12CF3
3/8	16	80.00	8.00	2B	3	ISO529	1	B13CF3
7/16	14	85.00	9.40	2B	3	ISO529	1	B14CF3
1/2	13	89.00	10.80	2B	3	ISO529	1	B15CF3
9/16	12	95.00	12.20	2B	3	ISO529	1	B16CF3
5/8	11	102.00	13.50	2B	3	ISO529	1	B17CF3
3/4	10	112.00	16.50	2B	3	ISO529	1	C18CF3
7/8	9	118.00	19.50	2B	3	ISO529	1	C19CF3
1	8	130.00	22.25	2B	3	ISO529	1	C20CF3

Spiral Flute taps are designed primarily for machine tapping of blind holes. They produce the best results in materials that produce long continuous chips. The right hand spiral forces the swarf out of the hole and prevents the chips from clogging at the bottom of the hole or in the flutes, which could cause tap breakage or spoiled threads.

UNF HSS-Co5 COBALT – SPIRAL FLUTE

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER
N0.4	48	48.00	2.40	2B	2	ISO529	1	A05DF2
N0.5	44	48.00	2.70	2B	2	ISO529	1	A06DF2
N0.6	40	50.00	2.95	2B	2	ISO529	1	A07DF2
N0.8	36	53.00	3.50	2B	2	ISO529	1	A08DF2
N0.10	32	58.00	4.10	2B	3	ISO529	1	A09DF3
1/4	28	66.00	5.50	2B	3	ISO529	1	B11DF3
5/16	24	69.00	6.90	2B	3	ISO529	1	B12DF3
3/8	24	76.00	8.50	2B	3	ISO529	1	B13DF3
7/16	20	82.00	9.90	2B	3	ISO529	1	B14DF3
1/2	20	84.00	11.50	2B	3	ISO529	1	B15DF3
9/16	18	90.00	12.90	2B	3	ISO529	1	B16DF3
5/8	18	95.00	14.50	2B	3	ISO529	1	B17DF3
3/4	16	104.00	17.50	2B	3	ISO529	1	C18DF3
7/8	14	113.00	20.40	2B	3	ISO529	1	C19DF3
1	12	120.00	23.25	2B	3	ISO529	1	C20DF3




**METRIC COARSE – REDUCED SHANK SPIRAL POINT
LONG SERIES HSS-Co5 COBALT**

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	SHANK MM	STANDARD	PACK QTY	PART NUMBER
3.00	0.50	56.00	2.50	6H	3	2.20	DIN 376	1	A33EE3P376
4.00	0.70	63.00	3.30	6H	3	2.80	DIN 376	1	A35EE3P376
5.00	0.80	70.00	4.20	6H	3	3.50	DIN 376	1	A37EE3P376
6.00	1.00	80.00	5.00	6H	3	4.50	DIN 376	1	A38EE3P376
8.00	1.25	90.00	6.80	6H	3	6.00	DIN 376	1	B40EE3P376
10.00	1.50	100.00	8.50	6H	3	7.00	DIN 376	1	B42EE3P376
12.00	1.75	110.00	10.20	6H	3	9.00	DIN 376	1	B44EE3P376
14.00	2.00	110.00	12.00	6H	3	11.00	DIN 376	1	B45EE3P376
16.00	2.00	110.00	14.00	6H	3	12.00	DIN 376	1	B46EE3P376
18.00	2.50	125.00	15.50	6H	3	14.00	DIN 376	1	C47EE3P376
20.00	2.50	140.00	17.50	6H	3	16.00	DIN 376	1	C48EE3P376


**METRIC COARSE – REDUCED SHANK SPIRAL FLUTE
LONG SERIES HSS-Co5 COBALT**

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	SHANK MM	STANDARD	PACK QTY	PART NUMBER
3.00	0.50	56.00	2.50	6H	2	2.20	DIN 376	1	A33EF2376
4.00	0.70	63.00	3.30	6H	2	2.80	DIN 376	1	A35EF2376
5.00	0.80	70.00	4.20	6H	3	3.50	DIN 376	1	A37EF3376
6.00	1.00	80.00	5.00	6H	3	4.50	DIN 376	1	A38EF3376
8.00	1.25	90.00	6.80	6H	3	6.00	DIN 376	1	B40EF3376
10.00	1.50	100.00	8.50	6H	3	7.00	DIN 376	1	B42EF3376
12.00	1.75	110.00	10.20	6H	3	9.00	DIN 376	1	B44EF3376
14.00	2.00	110.00	12.00	6H	3	11.00	DIN 376	1	B45EF3376
16.00	2.00	110.00	14.00	6H	3	12.00	DIN 376	1	B46EF3376
18.00	2.50	125.00	15.50	6H	3	14.00	DIN 376	1	C47EF3376
20.00	2.50	140.00	17.50	6H	3	16.00	DIN 376	1	C48EF3376



HSS-Co5

SPIRAL POINT AND SPIRAL FLUTE – HIGH PERFORMANCE MACHINE TAPS



METRIC COARSE SPIRAL POINT & SPIRAL FLUTE HSS-Co5 TITANIUM NITRIDE (TiN) COATED

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER	PART NUMBER
3.00	0.50	48.00	2.50	6H	2	ISO529	1	TA33EE2SP	TA33EF2
4.00	0.70	54.00	3.30	6H	2	ISO529	1	TA35EE2SP	TA35EF2
5.00	0.80	58.00	4.20	6H	3	ISO529	1	TA37EE3SP	TA37EF3
6.00	1.00	66.00	5.00	6H	3	ISO529	1	TB38EE3SP	TB38EF3
8.00	1.25	72.00	6.80	6H	3	ISO529	1	TB40EE3SP	TB40EF3
10.00	1.50	80.00	8.50	6H	3	ISO529	1	TB42EE3SP	TB42EF3
12.00	1.75	89.00	10.20	6H	3	ISO529	1	TB44EE3SP	TB44EF3
16.00	2.00	102.00	14.00	6H	3	ISO529	1	TB46EE3SP	TB46EF3
20.00	2.50	112.00	17.50	6H	3	ISO529	1	TC48EE3SP	TC48EF3

TiN COATING Titanium Nitride Coating. Recommended for Plastics and is also acceptable on a wide range of steels. 50% Machining Speed Increase is achievable.



METRIC COARSE SPIRAL POINT & SPIRAL FLUTE HSS-Co5 MULTI-LAYER TITANIUM ALUMINIUM NITRIDE (TiAlN) COATED

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOLERANCE	FLUTES #	STANDARD	PACK QTY	PART NUMBER	PART NUMBER
3.00	0.50	48.00	2.50	6H	2	ISO529	1	TCA33EE2SP	TCA33EF2
4.00	0.70	53.00	3.30	6H	2	ISO529	1	TCA35EE2SP	TCA35EF2
5.00	0.80	58.00	4.20	6H	3	ISO529	1	TCA37EE3SP	TCA37EF3
6.00	1.00	66.00	5.00	6H	3	ISO529	1	TCB38EE3SP	TCB38EF3
8.00	1.25	72.00	6.80	6H	3	ISO529	1	TCB40EE3SP	TCB40EF3
10.00	1.50	80.00	8.50	6H	3	ISO529	1	TCB42EE3SP	TCB42EF3
12.00	1.75	89.00	10.20	6H	3	ISO529	1	TCB44EE3SP	TCB44EF3
16.00	2.00	102.00	14.00	6H	3	ISO529	1	TCB46EE3SP	TCB46EF3
20.00	2.50	112.00	17.50	6H	3	ISO529	1	TCC48EE3SP	TCC48EF3

Titanium Aluminium Nitride (TiAlN) is a thin film coating that was developed from Titanium Nitride. TiAlN offers higher temperature resistance than TiN, as well as slightly higher hardness and especially higher hot hardness (i.e. the hardness at high temperatures). It is primarily used in high temperature environments above the limits of TiN usage. This coating works by forming a thin surface layer of Alumina (Al₂O₃), or Aluminium Oxide ceramic. As the layer wears it continuously reforms.



BSW – ROLL FORM

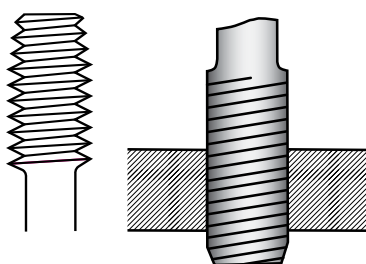
DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	STD.	PACK QTY	PART NUMBER
1/8	40	48.00	2.90	MED.	ISO529	1	B07AG
5/32	32	53.00	3.80	MED.	ISO529	1	BK08AG
3/16	24	58.00	4.20	MED.	ISO529	1	B09AG
1/4	20	66.00	5.70	MED.	ISO529	1	B11AG
5/16	18	72.00	7.20	MED.	ISO529	1	B12AG
3/8	16	80.00	8.70	MED.	ISO529	1	B13AG
1/2	12	89.00	11.60	MED.	ISO529	1	B15AG

BSF – ROLL FORM

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	STD.	PACK QTY	PART NUMBER
1/4	26	66.00	5.80	MED.	ISO529	1	B11BG
5/16	22	72.00	7.30	MED.	ISO529	1	B12BG
3/8	20	80.00	8.90	MED.	ISO529	1	B13BG
7/16	18	85.00	10.50	MED.	ISO529	1	B14BG

BA – ROLL FORM

SIZE	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	STD.	PACK QTY	PART NUMBER
N0.0	1.00	66.00	5.60	NORM.	ISO529	1	B65FG
N0.2	0.81	58.00	4.40	NORM.	ISO529	1	B67FG
N0.4	0.66	50.00	3.30	NORM.	ISO529	1	B69FG
N0.5	0.59	50.00	2.95	NORM.	ISO529	1	B70FG
N0.6	0.53	44.50	2.60	NORM.	ISO529	1	B71FG



In contrast to thread cutting taps, no chips are created when producing threads with fluteless (roll form / thread flow) taps. The thread is formed by the tap in the ductile material creating threads that have a smoother surface and greater tensile strength under dynamic stress than cut threads. It is essential to use a high quality lubricating fluid when using fluteless taps.

Materials with a minimum elongation of 5% and a tensile strength no greater than 1,000 N/mm² are suitable for thread forming.

IMPORTANT: Fluteless Taps use different tapping drill sizes than standard taps. Refer to tapping drill charts on page 60.

METRIC – ROLL FORM

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	STD.	PACK QTY	PART NUMBER
2.00	0.40	41.00	1.80	6H	ISO529	1	B30EG
2.50	0.45	44.50	2.30	6H	ISO529	1	B32EG
3.00	0.50	48.00	2.80	6H	ISO529	1	B33EG
3.50	0.60	50.00	3.20	6H	ISO529	1	B34EG
4.00	0.70	53.00	3.70	6H	ISO529	1	B35EG
5.00	0.80	58.00	4.60	6H	ISO529	1	B37EG
6.00	1.00	66.00	5.60	6H	ISO529	1	B38EG
8.00	1.00	69.00	7.50	6H	ISO529	1	B40XEG
8.00	1.25	72.00	7.40	6H	ISO529	1	B40EG
10.00	1.00	76.00	9.50	6H	ISO529	1	B41XEG
10.00	1.25	76.00	9.40	6H	ISO529	1	B42XEG
10.00	1.50	80.00	9.30	6H	ISO529	1	B42EG
12.00	1.25	84.00	11.40	6H	ISO529	1	B43XEG
12.00	1.50	89.00	11.25	6H	ISO529	1	B443XEG
12.00	1.75	89.00	11.10	6H	ISO529	1	B44EG

UNC – ROLL FORM

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	STD.	PACK QTY	PART NUMBER
N0.4	40	48.00	2.55	2B	ISO529	1	B05CG
N0.5	40	48.00	2.85	2B	ISO529	1	B06CG
N0.6	32	50.00	3.20	2B	ISO529	1	B07CG
N0.8	32	53.00	3.80	2B	ISO529	1	B08CG
N0.10	24	58.00	4.30	2B	ISO529	1	B09CG
1/4	20	66.00	5.80	2B	ISO529	1	B11CG
5/16	18	72.00	7.30	2B	ISO529	1	B12CG
3/8	16	80.00	8.80	2B	ISO529	1	B13CG
7/16	14	85.00	10.30	2B	ISO529	1	B14CG
1/2	13	89.00	11.70	2B	ISO529	1	B15CG

UNF – ROLL FORM

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	STD.	PACK QTY	PART NUMBER
N0.4	48	48.00	2.60	2B	ISO529	1	B05DG
N0.5	44	48.00	2.91	2B	ISO529	1	B06DG
N0.6	40	50.00	3.20	2B	ISO529	1	B07DG
N0.8	36	53.00	3.80	2B	ISO529	1	B08DG
N0.10	32	58.00	4.50	2B	ISO529	1	B09DG
1/4	28	66.00	5.90	2B	ISO529	1	B11DG
5/16	24	72.00	7.50	2B	ISO529	1	B12DG
3/8	24	80.00	9.00	2B	ISO529	1	B13DG
7/16	20	85.00	10.50	2B	ISO529	1	B14DG
1/2	20	89.00	12.10	2B	ISO529	1	B15DG

**METRIC COARSE – LONG REACH (MACHINE NUT)**

DIA. MM	PITCH MM	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	THREAD LENGTH MM	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #
3.00	0.50	89.00	2.50	CL2	3	19.00	BS949	1	L33EH3	L33EJ3	L33EK3
4.00	0.70	102.00	3.30	CL2	3	25.00	BS949	1	L35EH3	L35EJ3	L35EK3
5.00	0.80	108.00	4.20	CL2	3	32.00	BS949	1	L37EH3	L37EJ3	L37EK3
6.00	1.00	127.00	5.00	CL2	3	41.00	BS949	1	L38EH3	L38EJ3	L38EK3
8.00	1.25	140.00	6.80	CL2	3	46.00	BS949	1	L40EH3	L40EJ3	L40EK3
10.00	1.50	152.00	8.50	CL2	3	51.00	BS949	1	L42EH3	L42EJ3	L42EK3
12.00	1.75	178.00	10.20	CL2	3	63.00	BS949	1	L44EH3	L44EJ3	L44EK3
14.00	2.00	190.00	12.00	CL2	3	70.00	BS949	1	L45EH3	L45EJ3	L45EK3
16.00	2.00	203.00	14.00	CL2	3	76.00	BS949	1	L46EH3	L46EJ3	L46EK3
18.00	2.50	216.00	15.50	CL2	3	76.00	BS949	1	L47EH3	L47EJ3	L47EK3
20.00	2.50	229.00	17.50	CL2	3	83.00	BS949	1	L48EH3	L48EJ3	L48EK3
22.00	2.50	254.00	19.50	CL2	3	92.00	BS949	1	L49EH3	L49EJ3	L49EK3
24.00	3.00	254.00	21.00	CL2	3	92.00	BS949	1	L50EH3	L50EJ3	L50EK3

BSW – LONG REACH (MACHINE NUT)

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	THREAD LENGTH MM	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #
1/8	40	89.00	2.55	CL2	3	19.00	BS949	1	L07AH3	L07AJ3	L07AK3
3/16	24	108.00	3.70	CL2	3	32.00	BS949	1	L09AH3	L09AJ3	L09AK3
1/4	20	127.00	5.10	CL2	3	41.00	BS949	1	L11AH3	L11AJ3	L11AK3
5/16	18	140.00	6.50	CL2	3	46.00	BS949	1	L12AH3	L12AJ3	L12AK3
3/8	16	152.00	7.90	CL2	3	51.00	BS949	1	L13AH3	L13AJ3	L13AK3
7/16	14	165.00	9.30	CL2	3	60.00	BS949	1	L14AH3	L14AJ3	L14AK3
1/2	12	178.00	10.50	CL2	3	63.00	BS949	1	L15AH3	L15AJ3	L15AK3
9/16	12	190.00	12.10	CL2	3	70.00	BS949	1	L16AH3	L16AJ3	L16AK3
5/8	11	203.00	13.50	CL2	3	76.00	BS949	1	L17AH3	L17AJ3	L17AK3
3/4	10	229.00	16.25	CL2	3	83.00	BS949	1	L18AH3	L18AJ3	L18AK3
7/8	9	254.00	19.25	CL2	3	92.00	BS949	1	L19AH3	L19AJ3	L19AK3
1	8	279.00	22.00	CL2	3	102.00	BS949	1	L20AH3	L20AJ3	L20AK3

BSF – LONG REACH (MACHINE NUT)

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	THREAD LENGTH MM	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #
3/16	32	108.00	4.00	CL2	3	32.00	BS949	1	L09BH3	L09BJ3	L09BK3
1/4	26	127.00	5.30	CL2	3	41.00	BS949	1	L11BH3	L11BJ3	L11BK3
5/16	22	140.00	6.80	CL2	3	46.00	BS949	1	L12BH3	L12BJ3	L12BK3
3/8	20	152.00	8.30	CL2	3	51.00	BS949	1	L13BH3	L13BJ3	L13BK3
7/16	18	165.00	9.70	CL2	3	60.00	BS949	1	L14BH3	L14BJ3	L14BK3
1/2	16	178.00	11.10	CL2	3	63.00	BS949	1	L15BH3	L15BJ3	L15BK3
3/4	12	229.00	16.75	CL2	3	83.00	BS949	1	L18BH3	L18BJ3	L18BK3



UNC – LONG REACH (MACHINE NUT)

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	THREAD LENGTH MM	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #
N0.8	32	95.00	3.50	CL2	3	25.00	BS949	1	L08CH3	L08CJ3	L08CK3
N0.10	24	108.00	3.90	CL2	3	32.00	BS949	1	L09CH3	L09CJ3	L09CK3
1/4	20	127.00	5.10	CL2	3	41.00	BS949	1	L11CH3	L11CJ3	L11CK3
5/16	18	140.00	6.60	CL2	3	46.00	BS949	1	L12CH3	L12CJ3	L12CK3
3/8	16	152.00	8.00	CL2	3	51.00	BS949	1	L13CH3	L13CJ3	L13CK3
7/16	14	165.00	9.40	CL2	3	60.00	BS949	1	L14CH3	L14CJ3	L14CK3
1/2	13	178.00	10.80	CL2	3	63.00	BS949	1	L15CH3	L15CJ3	L15CK3
9/16	12	190.00	12.20	CL2	3	70.00	BS949	1	L16CH3	L16CJ3	L16CK3
5/8	11	203.00	13.50	CL2	3	76.00	BS949	1	L17CH3	L17CJ3	L17CK3
3/4	10	229.00	16.50	CL2	3	83.00	BS949	1	L18CH3	L18CJ3	L18CK3
7/8	9	254.00	19.50	CL2	3	92.00	BS949	1	L19CH3	L19CJ3	L19CK3
1	8	279.00	22.25	CL2	3	102.00	BS949	1	L20CH3	L20CJ3	L20CK3

UNF – LONG REACH (MACHINE NUT)

DIA. INCH	TPI	OAL MM	DRILL MM	PITCH TOL.	FLUTES #	THREAD LENGTH MM	STANDARD	PACK QTY	TAPER PART #	INTER PART #	BOTT PART #
N0.10	32	108.00	4.10	CL2	3	32.00	BS949	1	L09DH3	L09DJ3	L09DK3
1/4	28	127.00	5.50	CL2	3	32.00	BS949	1	L11DH3	L11DJ3	L11DK3
5/16	24	140.00	6.90	CL2	3	35.00	BS949	1	L12DH3	L12DJ3	L12DK3
3/8	24	152.00	8.50	CL2	3	38.00	BS949	1	L13DH3	L13DJ3	L13DK3
7/16	20	165.00	9.90	CL2	3	44.00	BS949	1	L14DH3	L14DJ3	L14DK3
1/2	20	178.00	11.50	CL2	3	48.00	BS949	1	L15DH3	L15DJ3	L15DK3
5/8	18	203.00	14.50	CL2	3	57.00	BS949	1	L17DH3	L17DJ3	L17DK3
3/4	16	229.00	17.50	CL2	3	63.00	BS949	1	L18DH3	L18DJ3	L18DK3
7/8	14	254.00	20.40	CL2	3	70.00	BS949	1	L19DH3	L19DJ3	L19DK3
1	12	279.00	23.25	CL2	3	76.00	BS949	1	L20DH3	L20DJ3	L20DK3



METRIC COARSE COMBINATION TAP & DRILL – HSS

DIA. MM	PITCH MM	OAL MM	FLUTES #	END	PACK QTY	TAPER PART #
4.00	0.70	55.00	2	SQUARE	1	M4COMB
5.00	0.80	55.00	2	SQUARE	1	M5COMB
6.00	1.00	62.00	2	SQUARE	1	M6COMB
8.00	1.25	67.00	2	SQUARE	1	M8COMB
10.00	1.50	75.00	2	SQUARE	1	M10COMB
12.00	1.75	85.00	2	SQUARE	1	M12COMB



TAP EXTRACTORS FOR 3 AND 4 FLUTE TAPS



TAP EXTRACTORS

DIAMETER MM	DIAMETER INCH	PACK QTY	3 FLUTE PART #	4 FLUTE PART #
3.0	NO. 4	1	TE3	
3.2	NO. 5	1	TE3.2	
3.5	NO. 6	1	TE3.5	
4.0	NO. 8	1	TE4	
5.0	NO. 10	1	TE5	
5.5	NO. 12	1	TE5.5	
6.0	1/4	1	TE6	TE6-4FLT
8.0	5/16	1	TE8-3FLT	TE8
9.0 / 10.0	3/8	1	TE10-3FLT	TE10
11.0	7/16	1		TE11
12.0	1/2	1	TE12-3FLT	TE12
14.0	9/16	1		TE14
16.0	5/8	1	TE16-3FLT	TE16
20.0	3/4	1	TE20-3FLT	TE20
22.0	7/8	1		TE22
24.0 / 25.0	1	1	TE24-3FLT	TE24

TAP EXTRACTOR SETS – 6 PIECE

INCLUDED SIZES MM	SET PART #
5.0, 6.0, 8.0, 10.0, 11.0 & 12.0	TESET-1
6.0, 8.0, 10.0, 11.0, 12.0 & 16.0	TESET-2



TAP EXTRACTOR – SPARE PARTS

TAP EXTRACTOR PART #	PACK QTY	COLLAR PART #	FINGER SET PART #	SLEEVE PART #
TE3	1	TE3C	TE3F	TE3S
TE3.2	1		TE3.2F	
TE3.5	1		TE3.5F	
TE4	1	TE4C	TE4F	TE4S
TE5	1	TE5C	TE5F	TE5S
TE5.5	1		TE5.5F	
TE6	1	TE6C	TE6F	TE6S
TE8	1	TE8C	TE8F	TE8S
TE8+3FLT	1		TE8F3	
TE10	1	TE10C	TE10F	TE10S
TE10+3FLT	1		TE10F3	
TE11	1		TE11F	
TE11+3FLT	1		TE11F3	
TE12	1	TE12C	TE12F	TE12S
TE14	1		TE14F	
TE16	1		TE16F	
TE20	1		TE20F	
TE24	1		TE24F	



METRIC COARSE – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	2.1/4" O.D.	3" O.D.
DIA. MM	PITCH MM	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1.20	0.25	1	F29XXEA					
1.40	0.30	1	F29XXEA					
1.60	0.35	1	F29EA					
1.70	0.35	1	F299EA					
2.00	0.40	1	F30EA	F30EB				
2.20	0.45	1	F31EA	F31EB				
2.30	0.40	1	F331EA	F331EB				
2.50	0.45	1	F32EA	F32EB				
2.60	0.45	1	F332EA					
3.00	0.50	1	F33EA	F33EB				
3.50	0.60	1	F34EA					
4.00	0.70	1	F35EA	F35EB				
4.50	0.75	1	F36EA	F36EB				
5.00	0.80	1	F37EA	F37EB				
6.00	1.00	1	F38EA	F38EB	F38ED			
7.00	1.00	1	F39EA	F39EB				
8.00	1.25	1		F40EB	F40ED			
9.00	1.25	1		F41EB				
10.00	1.50	1		F42EB	F42ED			
11.00	1.50	1		F43EB	F43ED			
12.00	1.75	1		F44EB	F44ED	F44EE		
14.00	2.00	1			F45ED	F45EE		
16.00	2.00	1			F46ED	F46EE		
18.00	2.50	1			F47ED	F47EE		
20.00	2.50	1			F48ED	F48EE		
22.00	2.50	1				F49EE		
24.00	3.00	1				F50EE		
27.00	3.00	1				F51EE	F51EF	F51EG
30.00	3.50	1				F52EE		F52EG
33.00	3.50	1						F53EG
36.00	4.00	1						F54EG
39.00	4.00	1						F55EG
42.00	4.50	1						F56EG
45.00	4.50	1						F57EG
48.00	5.00	1						F58EG

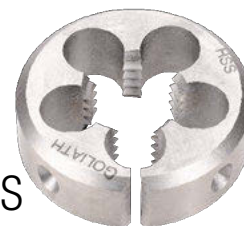
METRIC COARSE LEFT HAND – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.
DIA. MM	PITCH MM	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
3.00	0.50	1	F33EAL	F33EBL		
4.00	0.70	1	F35EAL	F35EBL		
5.00	0.80	1	F37EAL	F37EBL		
6.00	1.00	1	F38EAL	F38EBL		
8.00	1.25	1		F40EBL		
9.00	1.25	1		F41EBL		
10.00	1.50	1		F42EBL		
12.00	1.75	1		F44EBL	F44EDL	
14.00	2.00	1			F45EDL	
16.00	2.00	1			F46EDL	
18.00	2.50	1				F47EEL
20.00	2.50	1			F48EDL	F48EEL
24.00	3.00	1				F50EEL
27.00	2.00	1				F52XEEL
27.00	3.00	1				F51EEL



METRIC FINE – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1 1/2" O.D.	2" O.D.	3" O.D.
DIA. MM	PITCH MM	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
3.00	0.35	1	F33XEA				
3.50	0.35	1	F34XEA				
4.00	0.50	1	F35XEA	F35XEB			
4.50	0.50	1	F36XEA				
5.00	0.50	1	F37XEA	F37XEB			
6.00	0.50	1		F38XXEB			
6.00	0.75	1	F38XEA	F38XEB			
6.00	1.25	1		F38XXXEB			
7.00	0.75	1	F39XEA	F39XEB			
8.00	0.75	1		F440XEB			
8.00	1.00	1		F40XEB			
9.00	0.75	1		F4144XEB			
9.00	1.00	1		F441XEB	F441XED		
9.00	1.50	1		F9X1.5			
10.00	0.75	1		F442XEB			
10.00	1.00	1		F41XEB	F41XED		
10.00	1.25	1		F42XEB	F42XED		
11.00	1.00	1			F433XED		
11.00	1.25	1		F434XEB			
12.00	0.50	1		F12X0.5			
12.00	0.75	1		F12X0.75			
12.00	1.00	1			F444XED		
12.00	1.25	1		F43XEB	F43XED		
12.00	1.50	1		F443XEB	F443XED		
14.00	1.00	1			F445XED		
14.00	1.25	1			F44XED		
14.00	1.50	1			F45XED		
15.00	1.00	1			F4655XED		
15.00	1.50	1			F46555XED		
16.00	1.00	1			F446XED		
16.00	1.50	1			F46XED		
17.00	1.00	1			F17X1		
17.00	1.50	1			F17X1.5		
18.00	1.00	1			F447XED		
18.00	1.25	1			F44447XED		
18.00	1.50	1			F47XED		
18.00	2.00	1			F4447XED		
20.00	1.00	1			F4448XED		
20.00	1.25	1			F44448XED		
20.00	1.50	1			F48XED	F48XEE	F48XEG
20.00	2.00	1			F448XED		
22.00	1.00	1				F4449XEE	
22.00	1.50	1				F49XEE	
22.00	2.00	1				F449XEE	
24.00	1.50	1				F550XEE	
24.00	2.00	1				F50XEE	
25.00	1.50	1				F51XEE	F51XEG
26.00	1.50	1				F5551XEE	
27.00	2.00	1				F52XEE	F52XEG
28.00	1.50	1				F5553XEE	
30.00	1.50	1				F53XEE	F53XEG
30.00	2.00	1				F55XEE	F55XEG
32.00	1.50	1					F54XEG
40.00	1.50	1					F565XEG


METRIC FINE LEFT HAND – CIRCULAR SPLIT BUTTON DIES

DIA. MM	PITCH MM	PACK QTY	13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.
			PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
10.00	1.00	1		F41XEBL		
10.00	1.25	1		F42XEBL		
12.00	1.00	1		F444XEBL		
12.00	1.25	1		F43XEBL		
12.00	1.50	1		F443XEBL		
14.00	1.00	1			F445XEDL	
14.00	1.25	1			F44XEDL	
14.00	1.50	1			F45XEDL	
16.00	1.00	1			F446XEDL	
16.00	1.50	1			F46XEDL	
18.00	1.50	1			F47XEDL	
18.00	2.00	1				F4447XEEL
20.00	1.50	1			F48XEDL	
20.00	2.00	1			F448XEDL	

BSW – CIRCULAR SPLIT BUTTON DIES

DIA. INCH	TPI	PACK QTY	13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	3" O.D.
			PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/16	60	1	F05AA				
3/32	48	1	F06AA				
1/8	40	1	F07AA				
5/32	32	1	F08AA				
3/16	24	1	F09AA				
7/32	24	1	F10AA				
1/4	20	1	F11AA	F11AB			
5/16	18	1		F12AB			
3/8	16	1		F13AB	F13AD		
7/16	14	1		F14AB	F14AD		
1/2	12	1		F15AB	F15AD	F15AE	
9/16	12	1			F16AD	F16AE	
5/8	11	1			F17AD	F17AE	
3/4	10	1			F18AD	F18AE	
7/8	9	1				F19AE	
1	8	1				F20AE	
1.1/8	7	1					F21AG
1.1/4	7	1					F22AG
1.3/8	6	1					F122AG
1.1/2	6	1					F23AG

BSW LEFT HAND – CIRCULAR SPLIT BUTTON DIES

DIA. INCH	TPI	PACK QTY	13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.
			PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/4	20	1		F11ABL		
5/16	18	1		F12ABL		
3/8	16	1		F13ABL		
7/16	14	1			F14ADL	
1/2	12	1			F15ADL	
9/16	12	1			F16ADL	
5/8	11	1			F17ADL	F17AEL
3/4	10	1				F18AEL
7/8	9	1				F19AEL
1	8	1				F20AEL



BSF – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
3/16	32	1	F09BA				
1/4	26	1		F11BB			
5/16	22	1		F12BB			
3/8	20	1		F13BB	F13BD		
7/16	18	1		F14BB	F14BD		
1/2	16	1		F15BB	F15BD	F15BE	
9/16	16	1			F16BD	F16BE	
5/8	14	1			F17BD	F17BE	
3/4	12	1			F18BD	F18BE	
7/8	11	1				F19BE	
1	10	1				F20BE	
1.1/8	9	1					F21BG
1.1/4	9	1					F22BG
1.1/2	8	1					F23BG

BSF LEFT HAND – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER
1/4	26	1		F11BBL	
5/16	22	1		F12BBL	
3/8	20	1		F13BBL	
1/2	16	1			F15BDL
5/8	14	1			F17BDL

BSB (BRASS) – CIRCULAR SPLIT BUTTON DIES

			1" O.D.	1.5/16" O.D.	1.1/2" O.D.	2" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/4	26	1	F201MB			
5/16	26	1	F202MB			
3/8	26	1	F203MB			
7/16	26	1		F204MC		
1/2	26	1			F205MD	
5/8	26	1			F207MD	
3/4	26	1			F208MD	
1	26	1				F210ME

BA – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.
SIZE	PITCH MM	PACK QTY	PART NUMBER	PART NUMBER
NO. 0	1.00	1	F65FA	F65FB
NO. 1	0.90	1	F66FA	F66FB
NO. 2	0.81	1	F67FA	F67FB
NO. 3	0.73	1	F68FA	
NO. 4	0.66	1	F69FA	
NO. 5	0.59	1	F70FA	
NO. 6	0.53	1	F71FA	
NO. 7	0.48	1	F72FA	
NO. 8	0.43	1	F73FA	
NO. 9	0.39	1	F74FA	
NO. 10	0.35	1	F75FA	

BS CYCLE (EQUIVALENT 60° UN) – CIRCULAR SPLIT BUTTON DIES

			1" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER
1/4	26	1	F11BSC
5/16	26	1	F12BSC
3/8	26	1	F13BSC
7/16	26	1	F14BSC
1/2	26	1	F15BSC



UNC – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
NO. 1	64	1	F02CA					
NO. 2	56	1	F03CA					
NO. 3	48	1	F04CA					
NO. 4	40	1	F05CA					
NO. 5	40	1	F06CA					
NO. 6	32	1	F07CA					
NO. 8	32	1	F08CA	F08CB				
NO. 10	24	1	F09CA	F09CB				
NO. 12	24	1	F10CA	F10CB				
1/4	20	1	F11CA	F11CB	F11CD			
5/16	18	1		F12CB	F12CD			
3/8	16	1		F13CB	F13CD			
7/16	14	1		F14CB	F14CD			
1/2	13	1		F15CB	F15CD	F15CE		
9/16	12	1			F16CD	F16CE		
5/8	11	1			F17CD	F17CE		
3/4	10	1			F18CD	F18CE		
7/8	9	1				F19CE		
1	8	1				F20CE		
1.1/8	7	1						F21CG
1.1/4	7	1						F22CG
1.3/8	6	1						F122CG
1.1/2	6	1						F23CG
1.3/4	5	1						F24CG
2	4.1/2	1						F25CG

UNC LEFT HAND – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
NO. 6	32	1	F07CAL				
NO. 8	32	1	F08CAL				
NO. 10	24	1		F09CBL			
1/4	20	1		F11CBL			
5/16	18	1		F12CBL			
3/8	16	1		F13CBL	F13CDL		
7/16	14	1			F14CDL		
1/2	13	1			F15CDL		
9/16	12	1			F16CDL		
5/8	11	1			F17CDL	F17CEL	
3/4	10	1			F18CDL	F18CEL	
7/8	9	1				F19CEL	
1	8	1				F20CEL	
1.1/8	7	1					F21CFL
1.1/4	7	1					F22CFL



UNF – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
NO. 0	80	1	F01DA					
NO. 1	72	1	F02DA					
NO. 2	64	1	F03DA					
NO. 3	56	1	F04DA					
NO. 4	48	1	F05DA					
NO. 5	44	1	F06DA					
NO. 6	40	1	F07DA					
NO. 8	36	1	F08DA					
NO. 10	32	1	F09DA	F09DB				
NO. 12	28	1	F10DA	F10DB				
1/4	28	1	F11DA	F11DB	F11DD			
5/16	24	1		F12DB	F12DD			
3/8	24	1		F13DB	F13DD			
7/16	20	1		F14DB	F14DD			
1/2	20	1		F15DB	F15DD	F15DE		
9/16	18	1			F16DD	F16DE		
5/8	18	1			F17DD	F17DE		
11/16	16	1			F17XDD			
11/16	18	1			F17XDD			
3/4	16	1			F18DD	F18DE		
7/8	14	1				F19DE		
1	12	1				F20DE		
1 UNS	14	1				F220DE		
1.1/8	12	1						F21DG
1.1/4	12	1						F22DG
1.3/8	12	1						F122DG
1.1/2	12	1						F23DG
1.5/8	12	1						F123DG
1.3/4	12	1						F24DG
1.7/8	12	1						F124DG
2	12	1						F25DG

UNF LEFT HAND – CIRCULAR SPLIT BUTTON DIES

			13/16" O.D.	1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
NO. 10	32	1		F10DBL			
1/4	28	1		F11DBL			
5/16	24	1		F12DBL			
3/8	24	1		F13DBL	F13DDL		
7/16	20	1			F14DDL		
1/2	20	1			F15DDL		
9/16	18	1			F16DDL		
5/8	18	1			F17DDL		
3/4	16	1			F18DDL	F18DEL	
7/8	14	1				F19DEL	
1	12	1				F20DEL	
1 UNS	14	1				F220DEL	
1.1/8	12	1					F21DFL
1.1/4	12	1					F22DFL



UNEF – CIRCULAR SPLIT BUTTON DIES

			1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
12G	32	1	F10XDB				
1/4	32	1	F11XDB				
5/16	32	1	F12XDB				
3/8	32	1	F13XDB				
7/16	28	1		F14XDD			
1/2	28	1		F15XDD			
9/16	24	1		F16XDD			
5/8	24	1		F17XDD			
3/4	20	1		F18XDD			
7/8	20	1			F19XDE		
1	20	1			F20XDE		

8-UN – CIRCULAR SPLIT BUTTON DIES

			1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1.1/8	8	1				F821CG	
1.1/4	8	1				F822CG	
1.3/8	8	1				F8122CG	
1.1/2	8	1				F823CG	
1.5/8	8	1					F8123CG
1.3/4	8	1					F824CG
1.7/8	8	1					F8124CG
2	8	1					F825CG

NPS – CIRCULAR SPLIT BUTTON DIES

			1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/16	27	1	F80ZKB				
1/8	27	1		F81ZKD			
1/4	18	1		F82ZKD			
3/8	18	1		F83ZKD			
1/2	14	1			F84ZKE		
3/4	14	1			F85ZKE		
1	11.5	1			F87ZKE		

BSP (BSPF & BSPP) – CIRCULAR SPLIT BUTTON DIES

			1" O.D.	1.1/2" O.D.	2" O.D.	2.1/2" O.D.	3" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/8	28	1	F81GB	F81GD	F81GE		
1/4	19	1		F82GD	F82GE		
3/8	19	1		F83GD	F83GE		
1/2	14	1		F84GD	F84GE		
5/8	14	1			F84AGE		
3/4	14	1			F85GE		
7/8	14	1					F86GG
1	11	1			F87GE		F87GG
1.1/4	11	1					F88GG
1.1/2	11	1					F89GG



NPT – CIRCULAR SOLID BUTTON DIES

			1" O.D.	1 1/2" O.D.	2" O.D.	3" O.D.	4" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/16	27	1	F80YJB				
1/8	27	1	F81YJB	F81YJD			
1/4	18	1		F82YJD	F82YJE		
3/8	18	1		F83YJD	F83YJE		
1/2	14	1			F84YJE		
3/4	14	1			F85YJE		
1	11 1/2	1			F87YJE	F87YJG	
1 1/4	11 1/2	1				F88YJG	
1 1/2	11 1/2	1				F89YJG	F89YJH
2	11 1/2	1					F91YJG

BSPT – CIRCULAR SOLID BUTTON DIES

			1" O.D.	1 1/2" O.D.	2" O.D.	3" O.D.	4" O.D.
DIA. INCH	TPI	PACK QTY	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1/8	28	1	F81XHB	F81XHD			
1/4	19	1		F82XHD	F82XHE		
3/8	19	1		F83XHD	F83XHE		
1/2	14	1			F84XHE		
3/4	14	1			F85XHE		
1	11	1			F87XHE	F87XHG	
1 1/4	11	1				F88XHG	
1 1/2	11	1				F89XHG	

DIE STOCKS

See page 41 for the complete range of Goliath Standard and Premium Range button die stocks.





Button die to die nut adaptor set.

Contains adaptors to suit 1", 1-1/2" and 2" circular button dies.

DESCRIPTION	PART NUMBER
BUTTON DIE TO DIE NUT ADAPTOR SET - 3 PIECE	F-FH1152



METRIC COARSE

– HEXAGONAL DIE NUTS

DIA. MM	PITCH MM	PACK QTY	PART NUMBER
3.00	0.50	1	FH33EJ
4.00	0.70	1	FH35EJ
5.00	0.80	1	FH37EJ
6.00	1.00	1	FH38EJ
7.00	1.00	1	FH39EJ
8.00	1.25	1	FH40EJ
9.00	1.25	1	FH41EJ
10.00	1.50	1	FH42EJ
11.00	1.50	1	FH43EJ
12.00	1.75	1	FH44EJ
14.00	2.00	1	FH45EJ
16.00	2.00	1	FH46EJ
18.00	2.50	1	FH47EJ
20.00	2.50	1	FH48EJ
22.00	2.50	1	FH49EJ
24.00	3.00	1	FH50EJ
27.00	3.00	1	FH51EJ
30.00	3.50	1	FH52EJ
33.00	3.50	1	FH53EJ
36.00	4.00	1	FH54EJ
39.00	4.00	1	FH55EJ
42.00	4.50	1	FH56EJ
45.00	4.50	1	FH57EJ
48.00	5.00	1	FH58EJ

METRIC FINE

– HEXAGONAL DIE NUTS

DIA. MM	PITCH MM	PACK QTY	PART NUMBER
3.00	0.35	1	FH33XEJ
4.00	0.50	1	FH34XEJ
4.50	0.50	1	FH35XEJ
5.00	0.50	1	FH37XEJ
6.00	0.75	1	FH38XEJ
7.00	0.75	1	FH39XEJ
8.00	0.75	1	FH40XEJ
8.00	1.00	1	FH40XEJ
10.00	1.00	1	FH41XEJ
10.00	1.25	1	FH42XEJ
12.00	1.00	1	FH44XEJ
12.00	1.25	1	FH43XEJ
12.00	1.50	1	FH44XEJ
14.00	1.00	1	FH4455XEJ
14.00	1.25	1	FH45XEJ
14.00	1.50	1	FH445XEJ
16.00	1.00	1	FH446XEJ
16.00	1.50	1	FH46XEJ
18.00	1.00	1	FH447XEJ
18.00	1.50	1	FH47XEJ
20.00	1.00	1	FH4448XEJ
20.00	1.50	1	FH48XEJ
20.00	2.00	1	FH448XEJ
22.00	1.50	1	FH49XEJ
24.00	1.50	1	FH50XEJ
24.00	2.00	1	FH50XEJ
25.00	1.50	1	FH51XEJ
30.00	1.50	1	FH53XEJ
30.00	2.00	1	FH55XEJ
30.00	3.00	1	FH555XEJ
32.00	1.50	1	FH54XEJ
40.00	1.50	1	FH565XEJ

METRIC COARSE LEFT HAND

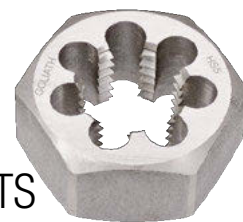
– HEXAGONAL DIE NUTS

DIA. MM	PITCH MM	PACK QTY	PART NUMBER
4.00	0.70	1	FH35EJL
5.00	0.80	1	FH37EJL
6.00	1.00	1	FH38EJL
8.00	1.25	1	FH40EJL
10.00	1.50	1	FH42EJL
12.00	1.75	1	FH44EJL
16.00	2.00	1	FH46EJL
20.00	2.50	1	FH48EJL
24.00	3.00	1	FH50EJL

METRIC 0.3MM OVERSIZE

– GALVANISING

DIA. MM	PITCH MM	PACK QTY	PART NUMBER
10 + 0.3MM	1.50	1	FH42EJ.3
12 + 0.3MM	1.75	1	FH44EJ.3
16 + 0.3MM	2.00	1	FH46EJ.3
20 + 0.3MM	2.50	1	FH48EJ.3
24 + 0.3MM	3.00	1	FH50EJ.3
30 + 0.3MM	3.50	1	FH52EJ.3



BSW – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
1/8	40	1	FH07AJ
3/16	24	1	FH09AJ
7/32	24	1	FH10AJ
1/4	20	1	FH11AJ
5/16	18	1	FH12AJ
3/8	16	1	FH13AJ
7/16	14	1	FH14AJ
1/2	12	1	FH15AJ
9/16	12	1	FH16AJ
5/8	11	1	FH17AJ
3/4	10	1	FH18AJ
7/8	9	1	FH19AJ
1	8	1	FH20AJ
1.1/8	7	1	FH21AJ
1.1/4	7	1	FH22AJ
1.3/8	6	1	FH22AJ
1.1/2	6	1	FH23AJ
1.3/4	5	1	FH24AJ
2	4.5	1	FH25AJ

BSF – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
3/16	32	1	FH09BJ
1/4	26	1	FH11BJ
5/16	22	1	FH12BJ
3/8	20	1	FH13BJ
7/16	18	1	FH14BJ
1/2	16	1	FH15BJ
9/16	16	1	FH16BJ
5/8	14	1	FH17BJ
3/4	12	1	FH18BJ
7/8	11	1	FH19BJ
1	10	1	FH20BJ
1.1/8	9	1	FH21BJ
1.1/4	9	1	FH22BJ
1.1/2	8	1	FH23BJ

8-UN – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
1.1/8	8	1	FH821CJ
1.1/4	8	1	FH822CJ
1.3/8	8	1	FH8122CJ
1.1/2	8	1	FH823CJ
1.5/8	8	1	FH8123CJ
1.3/4	8	1	FH824CJ
1.7/8	8	1	FH8124CJ
2	8	1	FH825CJ

UNC – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
NO.4	40	1	FH05CJ
NO.6	32	1	FH07CJ
NO.8	32	1	FH08CJ
NO.10	24	1	FH09CJ
NO.12	24	1	FH10CJ
1/4	20	1	FH11CJ
5/16	18	1	FH12CJ
3/8	16	1	FH13CJ
7/16	14	1	FH14CJ
1/2	13	1	FH15CJ
9/16	12	1	FH16CJ
5/8	11	1	FH17CJ
3/4	10	1	FH18CJ
7/8	9	1	FH19CJ
1	8	1	FH20CJ
1.1/8	7	1	FH21CJ
1.1/4	7	1	FH22CJ
1.3/8	6	1	FH122CJ
1.1/2	6	1	FH23CJ
1.3/4	5	1	FH24CJ
2	4.5	1	FH25CJ

UNF – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
NO.10	32	1	FH09DJ
1/4	28	1	FH11DJ
5/16	24	1	FH12DJ
3/8	24	1	FH13DJ
7/16	20	1	FH14DJ
1/2	20	1	FH15DJ
9/16	18	1	FH16DJ
5/8	18	1	FH17DJ
3/4	16	1	FH18DJ
7/8	14	1	FH19DJ
1	12	1	FH20DJ
1 UNS	14	1	FH220DJ
1.1/8	12	1	FH21DJ
1.1/4	12	1	FH22DJ
1.3/8	12	1	FH122DJ
1.1/2	12	1	FH23DJ
1.3/4	12	1	FH24DJ
2	12	1	FH25DJ

UNF LEFT HAND – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
5/16	24	1	FH12DJL
3/8	24	1	FH13DJL
1/2	20	1	FH15DJL
5/8	18	1	FH17DJL
3/4	16	1	FH18DJL



BSPF – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
1/8	28	1	FH81GJ
1/4	19	1	FH82GJ
3/8	19	1	FH83GJ
1/2	14	1	FH84GJ
5/8	14	1	FH84AGJ
3/4	14	1	FH85GJ
1	11	1	FH87GJ
1.1/4	11	1	FH88GJ
1.1/2	11	1	FH89GJ
2	11	1	FH91GJ

BSPT – HEXAGONAL DIE NUTS



DIA. INCH	TPI	PACK QTY	PART NUMBER
1/8	28	1	FH81XHJ
1/4	19	1	FH82XHJ
3/8	19	1	FH83XHJ
1/2	14	1	FH84XHJ
3/4	14	1	FH85XHJ
1	11	1	FH87XHJ
1.1/4	11	1	FH88XHJ
1.1/2	11	1	FH89XHJ
2	11	1	FH91XHJ

NPT – HEXAGONAL DIE NUTS

DIA. INCH	TPI	PACK QTY	PART NUMBER
1/8	27	1	FH81YJJ
1/4	18	1	FH82YJJ
3/8	18	1	FH83YJJ
1/2	14	1	FH84YJJ
3/4	14	1	FH85YJJ
1	11 1/2	1	FH87YJJ
1.1/4	11 1/2	1	FH88YJJ
1.1/2	11 1/2	1	FH89YJJ
2	11 1/2	1	FH91YJJ



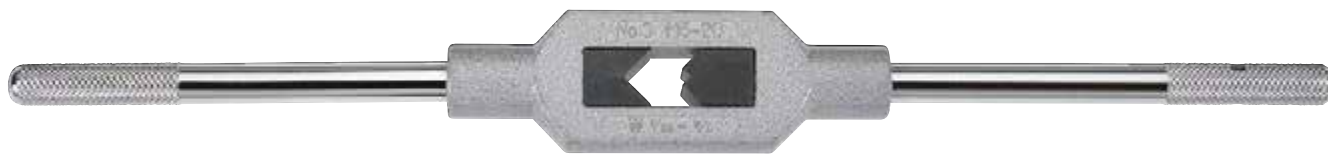
FILON THREAD FILES – INTERNAL & EXTERNAL THREADS

THREAD FORM	THREAD ANGLE	PITCHES / TPI	PACK QTY	PART NUMBER
METRIC	60°	0.8, 1.0, 1.25, 1.5, 1.75, 2.0, 2.5 & 3.0MM	1	FILEMET
UN (UNC/UNF)	60°	11, 12, 13, 14, 16, 18, 20 & 24 TPI	1	FILEUN
WHITWORTH (BSW)	55°	10, 11, 12, 14, 16, 18, 20 & 24 TPI	1	FILEBSW
GAS (BSP)	55°	28, 19, 14 & 11 TPI	1	FILEGAS

FILON THREAD FILE SET – 4 PIECE

		CONTENTS	SET QTY	PART NUMBER
4 PIECE SET	–	1 EACH OF: FILEMET, FILEUN, FILEBSW AND FILEGAS	4	FILEPACK




ADJUSTABLE BAR & RATCHET BAR TAP WRENCHES

ADJUSTABLE BAR TAP WRENCHES

GOLIATH WRENCH #	EQUIVALENT NUMBER	SIZE RANGE EXCLUDING PIPE TAPS	PIPE TAP SIZE RANGE	OAL MM	PACK QTY	PART NUMBER
0	00	M1 - M6 1/16 - 1/4	—	130	1	UGOL00
1	0	M1 - M8 1/16 - 5/16	1/8	175	1	UGOL01
1.5	-	M1 - M12 1/16 - 1/2	1/8	175	1	UGOL1.5
2	5	M4 - M12 5/32 - 9/16	1/8 - 1/4	275	1	UGOL02
3	6	M5 - M20 7/32 - 3/4	1/8 - 3/8	375	1	UGOL03
4	7	M7 - M27 5/16 - 1	1/8 - 5/8	460	1	UGOL04
5	-	M13 - M36 1/2 - 1.3/8	1/4 - 1	770	1	UGOL05
6	8	M18 - M45 3/4 - 1.3/4	1/4 - 1.1/4	875	1	UGOL06
7	-	M25 - M60 1 - 2.1/2	5/8 - 2	990	1	UGOL07


ADJUSTABLE BAR TAP WRENCHES – PREMIUM RANGE

GOLIATH WRENCH #	EQUIVALENT NUMBER	SIZE RANGE EXCLUDING PIPE TAPS	PIPE TAP SIZE RANGE	OAL MM	PACK QTY	PART NUMBER
0	00	M1 - M6 1/16 - 1/4	—	135	1	TW0GOL
1	0	M3 - M8 1/8 - 5/16	1/8	185	1	TW1GOL
2	5	M4 - M12 3/16 - 1/2	1/8 - 1/4	285	1	TW2GOL
3	6	M5 - M20 1/4 - 3/4	1/8 - 3/8	375	1	TW3GOL
4	7	M9 - M27 3/8 - 1.1/16	1/8 - 1/2	520	1	TW4GOL
5	-	M13 - M33 1/2 - 1.5/16	1/8 - 3/4	620	1	TW5GOL


BAR TAP WRENCH – RATCHET

SIZE INCH	SIZE RANGE EXCLUDING PIPE TAPS	OAL MM	PACK QTY	PART NUMBER
1/2	M5 - M12 7/32 - 1/2	310	1	TWR01GOL

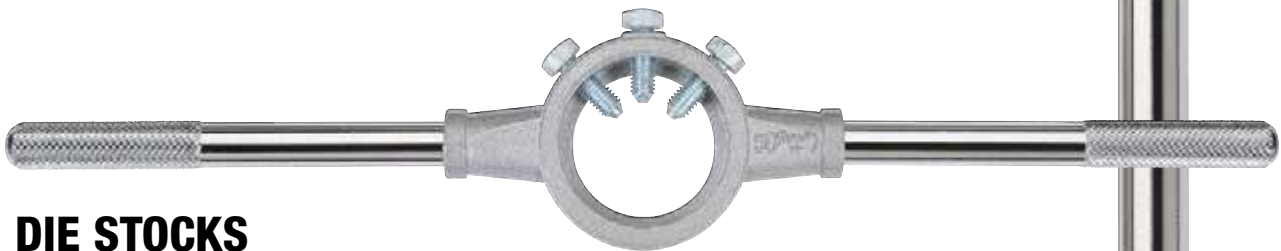
T-HANDLE TAP WRENCHES

SIZE INCH	SIZE RANGE EXCLUDING PIPE TAPS	OAL MM	PACK QTY	PART NUMBER
1/4	M1.6 - M6 1/16 - 1/4	105	1	UGOL02F
1/2	M6 - M12 1/4 - 1/2	105	1	UGOL03F




T-HANDLE & T-HANDLE RATCHET TAPS WRENCHES, AND DIE STOCKS
T-HANDLE TAP WRENCHES – RATCHET

SIZE INCH	SIZE RANGE EXCLUDING PIPE TAPS	OAL MM	PACK QTY	PART NUMBER
1/4	M3 - M8 1/8 - 5/16	85	1	UGOL01R
1/4	M3 - M8 1/8 - 5/16	245	1	UGOL10R
1/2	M6 - M12 7/32 - 1/2	110	1	UGOL02R
1/2	M6 - M12 7/32 - 1/2	295	1	UGOL20R


DIE STOCKS

SUITS BUTTON DIE O.D. INCH	PACK QTY	PART NUMBER
13/16	1	UGOL10
1	1	UGOL11
1.5/16	1	UGOL12
1.1/2	1	UGOL13
2	1	UGOL14
2.1/4	1	UGOL15
2.1/2	1	UGOL14.5
3	1	UGOL16
4	1	UGOL17


DIE STOCKS – PREMIUM RANGE

SUITS BUTTON DIE O.D. INCH	PACK QTY	PART NUMBER
1	1	DS1GOL
1.1/2	1	DS112GOL
2	1	DS2GOL



HAND TAP / MACHINE TAP / TAP & DRILL SETS

THREAD FORM	# OF TAPS	TAP LEAD/S	TAP MATERIAL	TAPS INCLUDED	DRILLS INCLUDED	PART NUMBER
METRIC	7	INTER	HSS	M3, M4, M5, M6, M8, M10, M12	–	ETM312I
METRIC	21	T, I, B	HSS	M3, M4, M5, M6, M8, M10, M12	–	ETDS01
UNC	7	INTER	HSS	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	–	ETC612I
UNC	21	T, I, B	HSS	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	–	ETDS02
UNF	7	INTER	HSS	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	–	ETF612I
UNF	21	T, I, B	HSS	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	–	ETDS03
BSW	7	INTER	HSS	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	–	ETW1812I
BSW	21	T, I, B	HSS	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	–	ETDS04
BSF	18	T, I, B	HSS	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	–	ETDS05
METRIC	7	TAPER	HSS	M3, M4, M5, M6, M8, M10, M12	2.5, 3.3, 4.2, 5, 6.8, 8.5, 10.2	EMDSX10T
METRIC	7	INTER	HSS	M3, M4, M5, M6, M8, M10, M12	2.5, 3.3, 4.2, 5, 6.8, 8.5, 10.2	EMDSX10I
METRIC	7	BOTT	HSS	M3, M4, M5, M6, M8, M10, M12	2.5, 3.3, 4.2, 5, 6.8, 8.5, 10.2	EMDSX10B
METRIC	21	T, I, B	HSS	M3, M4, M5, M6, M8, M10, M12	2.5, 3.3, 4.2, 5, 6.8, 8.5, 10.2	EMDS10
UNC	7	INTER	HSS	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	2.9, 3.5, 3.9, 5.1, 6.6, 8, 10.8	ECDSX10I
UNF	7	INTER	HSS	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	3, 3.5, 4.1, 5.5, 6.9, 8.5, 11.5	EFDSX10I
BSW	7	INTER	HSS	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	2.6, 3.2, 3.7, 5.1, 6.5, 7.9, 10.5	EWDSX10I



SPIRAL POINT MACHINE TAP / TAP & DRILL SETS

THREAD FORM	# OF TAPS	TAP LEAD/S	TAP MATERIAL	TAPS INCLUDED	DRILLS INCLUDED	PART NUMBER
METRIC	7	S/POINT	HSS-Co5	M3, M4, M5, M6, M8, M10, M12	–	ETM312SP
UNC	7	S/POINT	HSS-Co5	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	–	ETC312SP
UNF	7	S/POINT	HSS-Co5	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	–	ETF612SP
BSW	7	S/POINT	HSS-Co5	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	–	ETW1812SP
METRIC	7	S/POINT	HSS-Co5	M3, M4, M5, M6, M8, M10, M12	2.5, 3.3, 4.2, 5, 6.8, 8.5, 10.2	EMDSX10SP
UNC	7	S/POINT	HSS-Co5	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	2.9, 3.5, 3.9, 5.1, 6.6, 8, 10.8	ECDSX10SP
UNF	7	S/POINT	HSS-Co5	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	3, 3.5, 4.1, 5.5, 6.9, 8.5, 11.5	EFDSX10SP
BSW	7	S/POINT	HSS-Co5	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	2.6, 3.2, 3.7, 5.1, 6.5, 7.9, 10.5	EWDSX10SP



SPIRAL FLUTE MACHINE TAP / TAP & DRILL SETS

THREAD FORM	# OF TAPS	TAP LEAD/S	TAP MATERIAL	TAPS INCLUDED	DRILLS INCLUDED	PART NUMBER
METRIC	7	S/FLUTE	HSS-Co5	M3, M4, M5, M6, M8, M10, M12	–	ETM312SF
UNC	7	S/FLUTE	HSS-Co5	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	–	ETC612SF
UNF	7	S/FLUTE	HSS-Co5	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	–	ETF612SF
BSW	7	S/FLUTE	HSS-Co5	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	–	ETW1812SF
METRIC	7	S/FLUTE	HSS-Co5	M3, M4, M5, M6, M8, M10, M12	2.5, 3.3, 4.2, 5, 6.8, 8.5, 10.2	EMDSX10SF
UNC	7	S/FLUTE	HSS-Co5	6-32, 8-32, 10-24, 1/4, 5/16, 3/8, 1/2	2.9, 3.5, 3.9, 5.1, 6.6, 8, 10.8	ECDSX10SF
UNF	7	S/FLUTE	HSS-Co5	6-40, 8-36, 10-32, 1/4, 5/16, 3/8, 1/2	3, 3.5, 4.1, 5.5, 6.9, 8.5, 11.5	EFDSX10SF
BSW	7	S/FLUTE	HSS-Co5	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2	2.6, 3.2, 3.7, 5.1, 6.5, 7.9, 10.5	EWDSX10SF



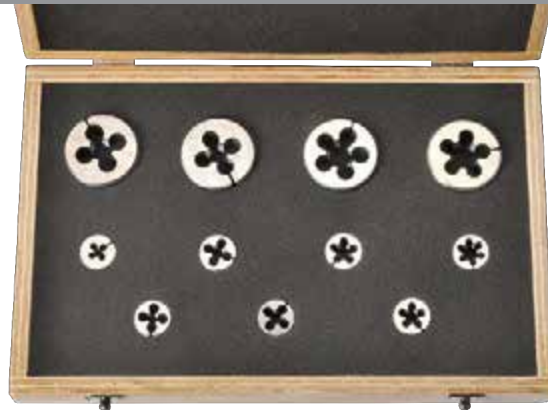
HAND TAP BOX SETS – HSS

THREAD FORM	RANGE	# OF TAPS	TAP LEAD/S	TAPS INCLUDED	WRENCHES INCLUDED	PART NUMBER
BSW	BSW 1/4 – 3/4	21	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	ET1434W
BSW	BSW 1/4 – 1	27	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	ET141W
BSW	BSW 1.1/8 – 2	12	T, B	1.1/8, 1.1/4, 1.3/8, 1.1/2, 1.3/4, 2	–	ET1182W
BSF	BSF 1/4 – 3/4	21	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	ET1434B
BSF	BSF 1/4 – 1	27	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	ET141B
UNC	UNC 1/4 – 3/4	21	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	ET1434C
UNC	UNC 1/4 – 1	27	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	ET141C
UNC	UNC 1/4 – 1.1/2	22	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1.1/4, 1.1/2	–	ET14112C
UNC	UNC 1.1/8 – 2	12	T, B	1.1/8, 1.1/4, 1.3/8, 1.1/2, 1.3/4, 2	–	ET1182C
UNF	UNF 1/4 – 3/4	21	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	ET1434F
UNF	UNF 1/4 – 1	27	T, I, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	ET141F
UNF	UNF 1/4 – 1.1/2	22	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1.1/4, 1.1/2	–	ET14112F
UNF	UNF 1.1/8 – 2	12	T, B	1.1/8, 1.1/4, 1.3/8, 1.1/2, 1.3/4, 2	–	ET1182F
METRIC	MC 6 – 20	30	T, I, B	M6, M7, M8, M9, M10, M12, M14, M16, M18, M20	#2, #3	ET620C
METRIC	MC 6 – 24	27	T, I, B	M6, M8, M10, M12, M14, M16, M20, M22, M24	#2, #4	ET624C
METRIC	MC 6 – 30	33	T, I, B	M6, M8, M10, M12, M14, M16, M20, M22, M24, M27, M30	#2, #5	ET630C
METRIC	MF 6 – 20	27	T, I, B	M6X0.75, M8X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	#2, #3	ET620F
METRIC	MC/MF 6 – 24	40	T, B	M6, M8, M10, M12, M14, M16, M20, M22, M24, M6X0.75, M8X1.0, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M20X1.5, M22X1.5, M24X2.0	#2, #4	ET624CF
METRIC	MC/MF 10 – 20	28	T, B	M10, M12, M14, M16, M18, M20, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	#2, #3	ET10120F
COMBO	UNC & UNF 1/4 – 1/2	30	T, I, B	UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2	#2	ET1412CF
COMBO	UNC & UNF 1/4 – 3/4	42	T, I, B	UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	ET1434CF
COMBO	UNC & UNF 1/4 – 1	54	T, I, B	UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	ET141CF
COMBO	MC 6 – 12, MF 10 – 12 UNC & UNF 1/4 – 1/2	54	T, I, B	M6, M8, M10, M12, M10X1.0, M10X1.25, M12X1.25, M12X1.5, UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2	#2	ET1412MCF
COMBO	MC 6 – 20 UNC & UNF 1/4 – 3/4	42	T, B	M6, M8, M10, M12, M14, M16, M20, UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	ET1434MCF
COMBO	MC 6 – 24, UNC & UNF 1/4 – 1	54	T, B	M6, M8, M10, M12, M14, M16, M20, M22, M24, UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	ET141MCF
COMBO	THE ULTIMATE COMBO MC, MF, UNC, UNF, BSP, BSPT, NPT	62	T, B	M6, M8, M10, M12, M14, M16, M10X1.0, M10X1.25, M12X1.25, M12X1.5, UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, NPT, BSPT & BSP(F) 1/8, 1/4, 3/8	#2, #3	ETULTIM
BSPF	BSPF 1/8 – 3/4	15	T, I, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	ET1834BSP
BSPF	BSPF 1/8 – 1	18	T, I, B	1/8, 1/4, 3/8, 1/2, 3/4, 1	#2, #5	ET181BSP
BSPF	BSPF 1/8 – 1.1/2	16	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1.1/4, 1.1/2	–	ET18112BSP
BSPT	BSPT 1/8 – 3/4	10	T, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	ET1834BSPT
BSPT	BSPT 1/8 – 1	12	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1	#2, #5	ET181BSPT
BSPT	BSPT 1/8 – 1.1/2	16	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1.1/4, 1.1/2	–	ET18112BSPT
NPT	NPT 1/8 – 3/4	10	T, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	ET1834NPT
NPT	NPT 1/8 – 1	12	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1	#2, #5	ET181NPT
NPT	NPT 1/8 – 1.1/2	16	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1.1/4, 1.1/2	–	ET18112NPT
BSPF, BSPT & NPT	BSPF, BSPT & NPT 1/8 – 3/4	20	T, B (BSPF) B (BSPT, NPT)	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	ET1834PTN
BSPF, BSPT & NPT	BSPF, BSPT & NPT 1/8 – 1	24	T, B (BSPF) B (BSPT, NPT)	1/8, 1/4, 3/8, 1/2, 3/4, 1	#2, #5	ET181PTN



HSS

CIRCULAR SPLIT BUTTON DIE BOX SETS



BUTTON DIE BOX SETS – HSS

THREAD FORM	RANGE	# OF DIES	BUTTON DIES INCLUDED	DIE STOCKS INCLUDED	PART NUMBER
BSW	BSW 1/4 – 3/4	7	1" OD 1/4, 5/16, 3/8, 7/16 1.1/2" OD 1/2, 5/8, 3/4	–	ED1434W
BSW	BSW 1/4 – 1	9	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1	–	ED141W
BSW	BSW 1/4 – 1.1/2	11	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1 3" OD 1.1/4, 1.1/2	–	ED14112W
BSF	BSF 1/4 – 3/4	7	1" OD 1/4, 5/16, 3/8, 7/16 1.1/2" OD 1/2, 5/8, 3/4	–	ED1434B
BSF	BSF 1/4 – 1	9	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 2" OD 5/8, 3/4, 7/8, 1	–	ED141B
UNC	UNC NO. 10 – 1/2	6	1" OD No.10 X 24, 1/4, 5/16, 3/8, 7/16, 1/2 (PLASTIC BOX)	–	EBDHPUNC
UNC	UNC 1/4 – 3/4	7	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4	–	ED1434C
UNC	UNC 1/4 – 1	9	1" OD 1/4, 5/16, 3/8, 7/16 1.1/2" OD 1/2, 5/8, 3/4 2" OD 7/8, 1	–	ED141C
UNC	UNC 1/4 – 1.1/2	11	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1 3" OD 1.1/4, 1.1/2	–	ED14112C
UNF	UNF NO. 10 – 1/2	6	1" OD No.10 X 32, 1/4, 5/16, 3/8, 7/16, 1/2 (PLASTIC BOX)	–	EBDHPUNF
UNF	UNF 1/4 – 3/4	7	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4	–	ED1434F
UNF	UNF 1/4 – 1	9	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1	–	ED141F
UNF	UNF 1/4 – 1 1/2	11	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1 3" OD 1.1/4, 1.1/2	–	ED14112F
METRIC	MC 3 – 10	6	1" OD M3, M4, M5, M6, M8, M10 (PLASTIC BOX)	–	EBDHP310C
METRIC	MC 4 – 12	6	1" OD M4, M5, M6, M8, M10, M12 (PLASTIC BOX)	–	EBDHP412C
METRIC	MC 6 – 20	10	1" OD M6, M7, M8, M9, M10, M12 1.1/2" OD M14, M16, M18, M20	–	ED620C
METRIC	MC 6 – 24	9	1" OD M6, M8, M10, M12 1.1/2" OD M14, M16, M20 2" OD M22, M24	–	ED624C
METRIC	MC 6 – 30	11	1" OD M6, M8, M10, M12 1.1/2" OD M14, M16, M20 2" OD M22, M24, M27, M30	–	ED630C
METRIC	MF 3 – 10	6	13/16" OD M3X0.35 1" OD M4X0.5, M5X0.5, M6X0.75, M8X1.0, M10X1.25 (PLASTIC BOX)	–	EBDHP310F
METRIC	MF 6 – 20	9	1" OD M6X0.75, M8X1.0, M10X1.25 1.1/2" OD M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	–	ED620F
METRIC	MC/MF 6 – 24	20	1" OD M6, M6X0.75, M8, M8X1.0, M10, M10X1.0, M10X1.25 1.1/2" OD M12, M12X1.25, M12X1.5, M14, M14X1.5, M16, M16X1.5 M20, M20X1.5 2" OD M22, M22X1.5, M24, M24X2.0	–	ED624CF
METRIC	MC/MF 10 – 20	14	1" OD M10, M10X1.0, M10X1.25 1.1/2" OD M12, M12X1.25, M12X1.5, M14, M14X1.5, M16, M16X1.5, M18, M18X1.5, M20, M20X1.5	–	ED10120F
COMBO	UNC & UNF 1/4 – 3/4	14	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4	–	ED1434CF
COMBO	UNC & UNF 1/4 – 1	18	1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1	–	ED141CF
COMBO	MC 6 – 12, MF 10 – 12, UNC & UNF 1/4 – 1/2	16	1" OD M6, M8, M10, M10X1.25 1.1/2" OD M12, M12X1.5, 1" OD 1/4, 5/16, 3/8, 7/16 1.1/2" OD 1/2	–	ED1412MCF
COMBO	MC 6 – 20, UNC & UNF 1/4 – 3/4	21	1" OD M6, M8, M10, M12 1.1/2" OD M14, M16, M20 1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4	–	ED1434MCF
COMBO	MC 6 – 24, UNC & UNF 1/4 – 1	27	1" OD M6, M8, M10, M12 1.1/2" OD M14, M16, M20 2" OD M22, M24 1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8, 3/4 2" OD 7/8, 1	–	ED141MCF
COMBO	THE ULTIMATE COMBO MC, MF, UNC, UNF, BSP, NPT	31	MC/MF 1" OD M6, M8, M10, M10X1.0, M10X1.25 MC/MF 1.1/2" OD M12, M12X1.25, M12X1.5, M14, M16 UNC & UNF 1" OD 1/4, 5/16, 3/8, 7/16, 1/2 1.1/2" OD 5/8 NPT, BSPT & BSP(F) 1" OD 1/8 1.1/2" OD 1/4, 3/8	–	EDULTIM
BSPF	BSPF 1/8 – 1	6	1" OD 1/8 1.1/2" OD 1/4, 3/8 2" OD 1/2, 3/4, 1	–	ED181BSP
BSPF	BSPF 1/8 – 1.1/2	8	1" OD 1/8 1.1/2" OD 1/4, 3/8, 1/2 2" OD 3/4, 1 3" OD 1.1/4, 1.1/2	–	ED18112BSP
BSPT	BSPT 1/8 – 1	6	1" OD 1/8 1.1/2" OD 1/4, 3/8 2" OD 1/2, 3/4, 1	–	ED181BSPT
BSPT	BSPT 1/8 – 1.1/2	8	1" OD 1/8 1.1/2" OD 1/4, 3/8 2" OD 1/2, 3/4, 1 3" OD 1.1/4, 1.1/2	–	ED18112BSPT
NPT	NPT 1/8 – 1	6	1.1/2" OD 1/8, 1/4 2" OD 3/8, 1/2, 3/4 3" OD 1	–	ED181NPT
NPT	NPT 1/8 – 1.1/2	8	1" OD 1/8 1.1/2" OD 1/4, 3/8 2" OD 1/2, 3/4, 1 3" OD 1.1/4, 1.1/2	–	ED18112NPT
BSPF, BSPT & NPT	BSPF, BSPT & NPT 1/8 – 3/4	15	1" OD 1/8 1.1/2" OD 1/4, 3/8 2" OD 1/2, 3/4	–	ED1834PTN
BSPF, BSPT & NPT	BSPF, BSPT & NPT 1/8 – 1	18	1" OD 1/8 1.1/2" OD 1/4, 3/8 2" OD 1/2, 3/4, 1	–	ED181PTN



DIE NUT BOX SETS – HSS

THREAD FORM	RANGE	# OF DIES	DIE NUTS INCLUDED	PART NUMBER
BSW	BSW 3/16 – 1/2	6	3/16, 1/4, 5/16, 3/8, 7/16, 1/2 (PLASTIC BOX)	EDNHPBSW
BSW	BSW 1/4 – 3/4	7	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	EDN1434W
BSW	BSW 1/4 – 1	9	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	EDN141W
BSW	BSW 1/4 – 1.1/2	11	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1.1/4, 1.1/2	EDN14112W
BSF	BSF 1/4 – 3/4	7	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	EDN1434B
BSF	BSF 1/4 – 1	9	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	EDN141B
UNC	UNC NO. 10 – 1/2	6	NO. 10 X 24, 1/4, 5/16, 3/8, 7/16, 1/2 (PLASTIC BOX)	EDNHPUNC
UNC	UNC 1/4 – 3/4	7	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	EDN1434C
UNC	UNC 1/4 – 1	9	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	EDN141C
UNC	UNC 1/4 – 1.1/2	11	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1.1/4, 1.1/2	EDN14112C
UNF	UNF NO. 10 – 1/2	6	NO. 10 X 32, 1/4, 5/16, 3/8, 7/16, 1/2 (PLASTIC BOX)	EDNHPUNF
UNF	UNF 1/4 – 3/4	7	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	EDN1434F
UNF	UNF 1/4 – 1	9	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	EDN141F
UNF	UNF 1/4 – 1.1/2	11	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1.1/4, 1.1/2	EDN14112F
METRIC	MC 3 – 10	6	M3, M4, M5, M6, M8, M10 (PLASTIC BOX)	EDNHP310C
METRIC	MC 4 – 12	6	M4, M5, M6, M8, M10, M12 (PLASTIC BOX)	EDNHP412C
METRIC	MC 6 – 20	10	M6, M7, M8, M9, M10, M12, M14, M16, M18, M20	EDN620C
METRIC	MC 6 – 24	9	M6, M8, M10, M12, M14, M16, M20, M22, M24	EDN624C
METRIC	MC 6 – 30	11	M6, M8, M10, M12, M14, M16, M20, M22, M24, M27, M30	EDN630C
METRIC	MF 3 – 10	6	M3X0.35, M4X0.5, M5X0.5, M6X0.75, M8X1.0, M10X1.25 (PLASTIC BOX)	EDNHP310F
METRIC	MF 4 – 12	6	M4X0.5, M5X0.5, M6X0.75, M8X1.0, M10X1.25, M12X1.5 (PLASTIC BOX)	EDNHP412F
METRIC	MF 6 – 20	10	M6X0.75, M8X1.0, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	EDN620F
METRIC	MC/MF 6 – 24	20	M6, M8, M10, M12, M14, M16, M20, M22, M24, M6X0.75, M8X1.0, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M20X1.5, M22X1.5, M24X2.0	EDN624CF
METRIC	MC/MF 10 – 20	14	M10, M12, M14, M16, M18, M20, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	EDN1020CF
COMBO	UNC & UNF 1/4 – 3/4	14	UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	EDN1434CF
COMBO	UNC & UNF 1/4 – 1	18	UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	EDN141CF
COMBO	MC 6 – 12, MF 10 – 12, UNC & UNF 1/4 – 1/2	16	MC/MF M6, M8, M10, M12, M10X1.25, M12X1.5M UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2	EDN1412MCF
COMBO	MC 6 – 20, UNC & UNF 1/4 – 3/4	21	M6, M8, M10, M12, M14, M16, M20, UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	EDN1434MCF
COMBO	MC 6 – 24, UNC & UNF 1/4 – 1	27	M6, M8, M10, M12, M14, M16, M20, M22, M24, UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	EDN141MCF
COMBO	THE ULTIMATE COMBO MC, MF, UNC, UNF, BSP, NPT	31	MC/MF M6, M8, M10, M12, M14, M16, M10X1.0, M10X1.25, M12X1.25, M12X1.5 UNC & UNF 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 NPT, BSPT & BSP(F) 1/8, 1/4, 3/8	EDNULTIM
BSPF	BSPF 1/8 – 1	6	1/8, 1/4, 3/8, 1/2, 3/4, 1	EDN181BSP
BSPF	BSPF 1/8 – 1.1/2	8	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1.1/4, 1.1/2	EDN18112BSP
BSPT	BSPT 1/8 – 1	6	1/8, 1/4, 3/8, 1/2, 3/4, 1	EDN181BSPT
BSPT	BSPT 1/8 – 1.1/2	8	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1.1/4, 1.1/2	EDN18112BSPT
NPT	NPT 1/8 – 1	6	1/8, 1/4, 3/8, 1/2, 3/4, 1	EDN181NPT
NPT	NPT 1/8 – 1.1/2	8	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1.1/4, 1.1/2	EDN18112NPT
BSPF, BSPT & NPT	BSPF, BSPT & NPT 1/8 – 3/4	15	1/8, 1/4, 3/8, 1/2, 3/4	EDN1834P
BSPF, BSPT & NPT	BSPF, BSPT & NPT 1/8 – 1	18	1/8, 1/4, 3/8, 1/2, 3/4, 1	EDN181P



HSS

HAND TAP & CIRCULAR BUTTON DIE BOX SETS



TAP & BUTTON DIE BOX SETS – HSS

THREAD FORM	RANGE	TAP LEAD/S	TAPS AND BUTTON DIES INCLUDED	WRENCHES INCLUDED	DIE STOCKS INCLUDED	PART NUMBER
BSW	BSW 1/4 – 1/2	T, B	1/4, 5/16, 3/8, 7/16, 1/2	#2	1	ETDS28
BSW	BSW 1/4 – 3/4	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	1, 1.1/2	ETDS32
BSW	BSW 1/4 – 1	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	1, 1.1/2, 2	ETDS36
BSF	BSF 1/4 – 1/2	T, B	1/4, 5/16, 3/8, 7/16, 1/2	#2	1	ETDS29
BSF	BSF 1/4 – 3/4	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	1, 1.1/2	ETDS33
BSF	BSF 1/4 – 1	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	1, 1.1/2, 2	ETDS37
UNC	UNC 2-56 – 10-24	T, B	2-56, 3-48, 4-40, 5-44, 6-32, 8-32, 10-24	#1	13/16	ETDSGUNC
UNC	UNC 1/4 – 1/2	T, B	1/4, 5/16, 3/8, 7/16, 1/2	#2	1	ETDS30
UNC	UNC 1/4 – 3/4	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	1, 1.1/2	ETDS34
UNC	UNC 1/4 – 1	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	1, 1.1/2, 2	ETDS38
UNF	UNF 2-64 – 10-32	T, B	2-64, 3-56, 4-48, 5-44, 6-40, 8-36, 10-32	#1	13/16	ETDSGUNF
UNF	UNF 1/4 – 1/2	T, B	1/4, 5/16, 3/8, 7/16, 1/2	#2	1	ETDS31
UNF	UNF 1/4 – 3/4	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	1, 1.1/2	ETDS35
UNF	UNF 1/4 – 1	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	1, 1.1/2, 2	ETDS39
METRIC	MC 2 – 6	T, B	M2, M2.5, M3, M3.5, M4, M5, M6	#1	13/16	ETDS40
METRIC	MC 3 – 10	T, B	M3, M4, M5, M6, M8, M10 (PLASTIC BOX)	#1.5	1	EPDS310
METRIC	MC 6 – 12	T, B	M6, M7, M8, M9, M10, M11, M12	#2	1, 1 1/2	ETDS41
METRIC	MC 6 – 20	T, B	M6, M7, M8, M9, M10, M12, M14, M16, M18, M20	#2, #4	1, 1.1/2, 2	ETDS42
METRIC	MC 6 – 24	T, B	M6, M8, M10, M12, M14, M16, M20, M22, M24	#2, #4	1, 1.1/2, 2	ETDS44
METRIC	MC 6 – 30	T, B	M6, M8, M10, M12, M14, M16, M20, M22, M24, M27, M30	#2, #5	1, 1.1/2, 2	ETDS630C
METRIC	MF 3 – 7	T, B	M3X0.35, M3.5X0.35, M4X0.5, M4.5X0.5, M5X0.5, M6X0.75, M7X0.75	#1	13/16	ETDS37F
METRIC	MF 6 – 14	T, B	M6X0.75, M8X1.0, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5	#2	1, 1 1/2	ETDS614F
METRIC	MF 6 – 20	T, B	M6X0.75, M8X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	#2, #4	1, 1.1/2	ETDS620F
METRIC	MC/MF 6 – 24	T, B	M6, M8, M10, M12, M14, M16, M20, M22, M24, M6X0.75, M8X1.0, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M20X1.5, M22X1.5, M24X2.0	#2, #4	1, 1.1/2, 2	ETDS614CF
METRIC	MC/MF 10 – 20	T, B	M10, M12, M14, M16, M18, M20, M10X1.0, M10X1.25, M12X1.25, M12X1.5, M14X1.5, M16X1.5, M18X1.5, M20X1.5	#2, #3	1, 1.1/2	ETDS1020CF
COMBO	UNC & UNF 1/4 – 1/2	T, B	1/4, 5/16, 3/8, 7/16, 1/2	#2	1	ETDS1412CF
COMBO	UNC & UNF 1/4 – 3/4	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	1, 1.1/2	ETDS1434CF
COMBO	UNC & UNF 1/4 – 1	T, B	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	1, 1.1/2, 2	ETDS141CF
COMBO	MC/MF 6 – 12, UNC & UNF 1/4 – 1/2	T, B	M6, M8, M10, M12, M10X1.25, M12X1.5, 1/4, 5/16, 3/8, 7/16, 1/2	#2	1	ETDS1412MCF
COMBO	MC 6 – 20, UNC & UNF 1/4 – 3/4	T, B	M6, M8, M10, M12, M14, M16, M20, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	#2, #3	1, 1.1/2	ETDS1434MCF
COMBO	MC 6 – 24, UNC & UNF 1/4 – 1	T, B	M6, M8, M10, M12, M14, M16, M20, M22, M24 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1	#2, #4	1, 1.1/2, 2	ETDS141MCF
COMBO	THE ULTIMATE COMBO MC, MF, UNC, UNF, BSPF, NPT	T, B	M6, M8, M10, M12, M16, M10X1.0, M10X1.25, M12X1.25, M12X1.5, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 UNC & UNF, 1/8, 1/4 3/8 NPT, BSPT & BSP(F)	#2, #4	1, 1.1/2	ETDSULT


HAND TAP & CIRCULAR BUTTON DIE BOX SETS
HSS

TAP & BUTTON DIE BOX SETS – HSS

THREAD FORM	RANGE	TAP LEAD/S	TAPS AND BUTTON DIES INCLUDED	WRENCHES INCLUDED	DIE STOCKS INCLUDED	PART NUMBER
BSPF	BSPF 1/8 – 1/2	T, B	1/8, 1/4, 3/8, 1/2	#2, #3	1.1/2, 2	ETDS51
BSPF	BSPF 1/8 – 3/4	T, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	1.1/2, 2	ETDS52
BSPF	BSPF 1/8 – 1	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1	#3, #5	1.1/2, 2, 3	ETDS53
BSPT	BSPT 1/8 – 1/2	T, B	1/8, 1/4, 3/8, 1/2	#2, #3	1.1/2, 2	ETDS1812BSPT
BSPT	BSPT 1/8 – 3/4	T, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	1.1/2, 2	ETDS1834BSPT
BSPT	BSPT 1/8 – 1	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1	#3, #5	1.1/2, 2, 3	ETDS181BSPT
NPT	NPT 1/8 - 1/2	T, B	1/8, 1/4, 3/8, 1/2	#2, #3	1.1/2, 2	ETDS1812NPT
NPT	NPT 1/8 - 3/4	T, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	1.1/2, 2	ETDS1834NPT
NPT	NPT 1/8 - 1	T, B	1/8, 1/4, 3/8, 1/2, 3/4, 1	#3, #5	1.1/2, 2, 3	ETDS181NPT
NPS	NPS 1/8 - 1/2	T, B	1/8, 1/4, 3/8, 1/2	#2, #3	1.1/2, 2	ETDS1812NPS
NPS	NPS 1/8 - 3/4	T, B	1/8, 1/4, 3/8, 1/2, 3/4	#2, #5	1.1/2, 2	ETDS1834NPS
BA	BA 0 - 6	T, B	0, 1, 2, 3, 4, 5, 6	#1	13/16	ETDS25
BA	BA 0 - 8	T, B	0, 1, 2, 3, 4, 5, 6, 7, 8	#1	13/16	ETDS26
BA	BA 0 - 10	T, B	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	#1	13/16	ETDS27


HAND TAPS, WRENCHES, THREAD FILES AND CUTTING FLUIDS
MERCHANDISER – DISPLAY

	PART NUMBER
GOLIATH MERCHANDISER	GOL-D1WS

QTY EACH	DESCRIPTION	PART NUMBER
2	TAP HSS 3.0 X 0.5 SET	A33ED3
2	TAP HSS 4.0 X 0.7 SET	A35ED3
2	TAP HSS 5.0 X 0.8 SET	A37ED3
2	TAP HSS 6.0 X 1.0 SET	B38ED3
2	TAP HSS 8.0 X 1.25 SET	B40ED4
1	TAP HSS 8.0 X 1.0 SET	B40XED4
1	TAP HSS 10.0 X 1.0 SET	B41XED4
2	TAP HSS 10.0 X 1.5 SET	B42ED4
1	TAP HSS 10.0 X 1.25 SET	B42XED4
1	TAP HSS 12.0 X 1.25 SET	B43XED4
1	TAP HSS 12.0 X 1.5 SET	B443XED4
2	TAP HSS 12.0 X 1.75 SET	B44ED4
1	TAP HSS 14.0 X 2.0 SET	B45ED4
1	TAP HSS 14.0 X 1.5 SET	B45XED4
1	TAP HSS 16.0 X 2.0 SET	B46ED4
1	TAP HSS 16.0 X 1.5 SET	B46XED4
1	TAP HSS 20.0 X 2.5 SET	C48ED4
1	TAP HSS 20.0 X 1.5 SET	C48XED4
1	TAP HSS 24.0 X 3.0 SET	C50ED4
1	TAP HSS NO 10 UNC SET	A09CD3
2	TAP HSS 1/4 UNC SET	B11CD3
2	TAP HSS 5/16 UNC SET	B12CD4
2	TAP HSS 3/8 UNC SET	B13CD4
2	TAP HSS 7/16 UNC SET	B14CD4
2	TAP HSS 1/2 UNC SET	B15CD4
1	TAP HSS 5/8 UNC SET	B17CD4
1	TAP HSS 3/4 UNC SET	C18CD4
1	TAP HSS NO 10 UNF SET	A09DD3
2	TAP HSS 1/4 UNF SET	B11DD3
2	TAP HSS 5/16 UNF SET	B12DD4
2	TAP HSS 3/8 UNF SET	B13DD4
1	TAP HSS 7/16 UNF SET	B14DD4
2	TAP HSS 1/2 UNF SET	B15DD4
1	TAP HSS 5/8 UNF SET	B17DD4
1	TAP HSS 3/4 UNF SET	C18DD4
1	TAP HSS 1/2 BSW SET	B15AD4
1	TAP HSS 1/8 BSPF SET	B81GD4
1	TAP HSS 1/4 BSPF SET	B82GD4
1	TAP HSS 3/8 BSPF SET	C83GD4
1	M3 - M12 HSS TAP&DRILL BOXED SET	EMDS10
1	M3 - M12 INTER SINGLE TAP&DRILL	EMDSX10I
3	ALL-METAL CUTTING FLUID 473ML BOTTLE RAPID TAP	CFRT1PT
10	ALL-METAL CUTTING FLUID 118ML BOTTLE RAPID TAP	CFRT40Z
5	STICK-WAX 15 OUNCE 443ML	CFSK15OZ
5	1L SOLUABLE HP CUTTING OIL SEMI SYNTHETIC	CFWS1L
3	ALL-METAL CUTTING PASTE 236ML JAR RAPID TAP	CPRT8OZ
1	THREADFILE INTERNAL & EXTERNAL METRIC	FILEMET
1	THREADFILE INTERNAL & EXTERNAL UNC & UNF	FILEUN
1	TAP WRENCH PREMIUM M1 - M61/16 - 1/4 NO 0	TW0GOL
1	TAP WRENCH PREMIUM M3 - M81/8 - 5/16 NO 1	TW1GOL
1	TAP WRENCH PREMIUM M4 - M123/16 - 1/2NO 2	TW2GOL
1	TAP WRENCH PREMIUM M5 - M201/4 - 3/4 NO 3	TW3GOL
1	TAP WRENCH PREMIUM M9 - M273/8 - 1.1/16 NO 4	TW4GOL
1	1/2 RATCHET BAR TAP WRENCH M5 - M127/32 - 1/2	TWR01GOL
1	NO 1 RATCHET M3 - M81/8 - 5/16	UGOL01R
1	1/4" T TYPE TAP WRENCH M1.6 - M61/16 - 1/4"	UGOL02F
1	NO 2 RATCHET M6 - M127/32 - 1/2	UGOL02R
1	1/2" T TYPE TAP WRENCH M6 - M121/4 - 1/2"	UGOL03F





TAP WRENCHES, DIE STOCKS AND THREAD FILES



MERCHANDISER – DISPLAY

	PART NUMBER
GOLIATH MERCHANDISER	GOL-D5

QTY EACH	DESCRIPTION	PART NUMBER
1	TAP WRENCH PREMIUM M1 - M6, 1/16 - 1/4", NO 0	TW0GOL
1	TAP WRENCH PREMIUM M3 - M8, 1/8 - 5/16", NO 1	TW1GOL
1	TAP WRENCH PREMIUM M4 - M12, 3/16 - 1/2", NO 2	TW2GOL
1	TAP WRENCH PREMIUM M5 - M20, 1/4 - 3/4", NO 3	TW3GOL
1	TAP WRENCH PREMIUM M9 - M27, 3/8 - 1.1/16", NO 4	TW4GOL
1	PREMIUM DIE STOCK TO SUIT 1" BUTTON DIES	DS1GOL
1	PREMIUM DIE STOCK TO SUIT 1-1/2" BUTTON DIES	DS112GOL
1	PREMIUM DIE STOCK TO SUIT 2" BUTTON DIES	DS2GOL
1	1/4" T TYPE TAP WRENCH M1.6 - M6, 1/16 - 1/4"	UGOL02F
1	1/2" T TYPE TAP WRENCH M6 - M12, 1/4 - 1/2"	UGOL03F
1	NO 1 RATCHET M3 - M8, 1/8 - 5/16"	UGOL01R
1	NO 2 RATCHET M6 - M12, 7/32 - 1/2"	UGOL02R
1	NO 1 RATCHET M3 - M8, 1/8 - 5/16" – 245MM LONG	UGOL10R
1	NO 2 RATCHET M6 - M12, 7/32 - 1/2" – 295MM LONG	UGOL20R
1	1/2" RATCHET BAR TAP WRENCH M5 - M12, 7/32 - 1/2"	TWR01GOL
1	THREADFILE INTERNAL & EXTERNAL METRIC	FILEMET
1	THREADFILE INTERNAL & EXTERNAL UNC & UNF	FILEUN



HAND & MACHINE TAPS

MERCHANDISER – BULK

GOLIATH D2 DRAW SYSTEM			PART #		
GOLIATH D2 DRAW SYSTEM			GOL-D2		
QTY EACH	DESCRIPTION	PART NUMBER	QTY EACH	DESCRIPTION	PART NUMBER
1	M3 X 0.5 TAPER	A33EA3	1	1/2 X 13 UNC TAPER	B15CA4
1	M3 X 0.5 INTER	A33EB3	1	1/2 X 13 UNC INTER	B15CB4
1	M3 X 0.5 BOTTOM	A33EC3	1	1/2 X 13 UNC BOTTOM	B15CC4
1	M4 X 0.7 TAPER	A35EA3	1	1/8 X 28 BSPF TAPER	B81GA4
1	M4 X 0.7 INTER	A35EB3	1	1/8 X 28 BSPF INTER	B81GB4
1	M4 X 0.7 BOTTOM	A35EC3	1	1/8 X 28 BSPF BOTTOM	B81GC4
1	M5 X 0.8 TAPER	A37EA3	1	1/4 X 19 BSPF TAPER	B82GA4
1	M5 X 0.8 INTER	A37EB3	1	1/4 X 19 BSPF INTER	B82GB4
1	M5 X 0.8 BOTTOM	A37EC3	1	1/4 X 19 BSPF BOTTOM	B82GC4
1	M6 X 1.0 TAPER	B38EA3	1	NO. 10 X 32 UNF TAPER	A09DA3
1	M6 X 1.0 INTER	B38EB3	1	NO. 10 X 32 UNF INTER	A09DB3
1	M6 X 1.0 BOTTOM	B38EC3	1	NO. 10 X 32 UNF BOTTOM	A09DC3
1	M8 X 1.25 TAPER	B40EA4	1	1/4 X 28 UNF TAPER	B11DA3
1	M8 X 1.25 INTER	B40EB4	1	1/4 X 28 UNF INTER	B11DB3
1	M8 X 1.25 BOTTOM	B40EC4	1	1/4 X 28 UNF BOTTOM	B11DC3
1	M10 X 1.5 TAPER	B42EA4	1	5/16 X 24 UNF TAPER	B12DA4
1	M10 X 1.5 INTER	B42EB4	1	5/16 X 24 UNF INTER	B12DB4
1	M10 X 1.5 BOTTOM	B42EC4	1	5/16 X 24 UNF BOTTOM	B12DC4
1	M12 X 1.75 TAPER	B44EA4	1	3/8 X 24 UNF TAPER	B13DA4
1	M12 X 1.75 INTER	B44EB4	1	3/8 X 24 UNF INTER	B13DB4
1	M12 X 1.75 BOTTOM	B44EC4	1	3/8 X 24 UNF BOTTOM	B13DC4
1	M14 X 2.0 TAPER	B45EA4	1	7/16 X 20 UNF TAPER	B14DA4
1	M14 X 2.0 INTER	B45EB4	1	7/16 X 20 UNF INTER	B14DB4
1	M14 X 2.0 BOTTOM	B45EC4	1	7/16 X 20 UNF BOTTOM	B14DC4
1	M16 X 2.0 TAPER	B46EA4	1	1/2 X 20 UNF TAPER	B15DA4
1	M16 X 2.0 INTER	B46EB4	1	1/2 X 20 UNF INTER	B15DB4
1	M16 X 2.0 BOTTOM	B46EC4	1	1/2 X 20 UNF BOTTOM	B15DC4
1	M20 X 2.5 TAPER	C48EA4	1	M10 X 1.25 TAPER	B42XEA4
1	M20 X 2.5 INTER	C48EB4	1	M10 X 1.25 INTER	B42XEB4
1	M20 X 2.5 BOTTOM	C48EC4	1	M10 X 1.25 BOTTOM	B42XEC4
1	NO. 10 X 24 UNC TAPER	A09CA3	1	M12 X 1.25 TAPER	B43XEA4
1	NO. 10 X 24 UNC INTER	A09CB3	1	M12 X 1.25 INTER	B43XEB4
1	NO. 10 X 24 UNC BOTTOM	A09CC3	1	M12 X 1.25 BOTTOM	B43XEC4
1	1/4 X 20 UNC TAPER	B11CA3	1	M14 X 1.5 TAPER	B45XEA4
1	1/4 X 20 UNC INTER	B11CB3	1	M14 X 1.5 INTER	B45XEB4
1	1/4 X 20 UNC BOTTOM	B11CC3	1	M14 X 1.5 BOTTOM	B45XEC4
1	5/16 X 18 UNC TAPER	B12CA4	1	M16 X 1.5 TAPER	B46XEA4
1	5/16 X 18 UNC INTER	B12CB4	1	M16 X 1.5 INTER	B46XEB4
1	5/16 X 18 UNC BOTTOM	B12CC4	1	M16 X 1.5 BOTTOM	B46XEC4
1	3/8 X 16 UNC TAPER	B13CA4	1	1/8 X 28 BSPT BOTTOM	B81XHC4
1	3/8 X 16 UNC INTER	B13CB4	1	1/4 X 19 BSPT BOTTOM	B82XHC4
1	3/8 X 16 UNC BOTTOM	B13CC4			
1	7/16 X 14 UNC TAPER	B14CA4			
1	7/16 X 14 UNC INTER	B14CB4			
1	7/16 X 14 UNC BOTTOM	B14CC4			





MERCHANDISER – BULK

GOLIATH D3 DRAW SYSTEM			PART #		
GOL-D3			GOL-D3		
QTY EACH	DESCRIPTION	PART NUMBER	QTY EACH	DESCRIPTION	PART NUMBER
1	M3 X 0.5 TAPER	A33EA3	1	3/8 X 19 BSPF TAPER	C83GA4
1	M3 X 0.5 INTER	A33EB3	1	3/8 X 19 BSPF INTER	C83GB4
1	M3 X 0.5 BOTTOM	A33EC3	1	3/8 X 19 BSPF BOTTOM	C83GC4
1	M4 X 0.7 TAPER	A35EA3	1	1/2 X 14 BSPF TAPER	C84GA4
1	M4 X 0.7 INTER	A35EB3	1	1/2 X 14 BSPF INTER	C84GB4
1	M4 X 0.7 BOTTOM	A35EC3	1	1/2 X 14 BSPF BOTTOM	C84GC4
1	M5 X 0.8 TAPER	A37EA3	1	3/4 X 14 BSPF INTER	C85GB4
1	M5 X 0.8 INTER	A37EB3	1	1 X 11 BSPF INTER	C87GB6
1	M5 X 0.8 BOTTOM	A37EC3	1	M5 X 0.8 SP/PT (GUN)	A37EE3SP
1	M6 X 1.0 TAPER	B38EA3	1	M6 X 1.0 SP/PT (GUN)	B38EE3SP
1	M6 X 1.0 INTER	B38EB3	1	M8 X 1.25 SP/PT (GUN)	B40EE3SP
1	M6 X 1.0 BOTTOM	B38EC3	1	M10 X 1.5 SP/PT (GUN)	B42EE3SP
1	M8 X 1.25 TAPER	B40EA4	1	1/8 X 27 NPT BOTTOM	B81YJC4
1	M8 X 1.25 INTER	B40EB4	1	1/4 X 18 NPT BOTTOM	B82YJC4
1	M8 X 1.25 BOTTOM	B40EC4	1	3/8 X 18 NPT BOTTOM	C83YJC4
1	M10 X 1.5 TAPER	B42EA4	1	1/2 X 14 NPT BOTTOM	C84YJC4
1	M10 X 1.5 INTER	B42EB4	1	NO. 10 X 32 UNF TAPER	A09DA3
1	M10 X 1.5 BOTTOM	B42EC4	1	NO. 10 X 32 UNF INTER	A09DB3
1	M12 X 1.75 TAPER	B44EA4	1	NO. 10 X 32 UNF BOTTOM	A09DC3
1	M12 X 1.75 INTER	B44EB4	1	1/4 X 28 UNF TAPER	B11DA3
1	M12 X 1.75 BOTTOM	B44EC4	1	1/4 X 28 UNF INTER	B11DB3
1	M14 X 2.0 TAPER	B45EA4	1	1/4 X 28 UNF BOTTOM	B11DC3
1	M14 X 2.0 INTER	B45EB4	1	5/16 X 24 UNF TAPER	B12DA4
1	M14 X 2.0 BOTTOM	B45EC4	1	5/16 X 24 UNF INTER	B12DB4
1	M16 X 2.0 TAPER	B46EA4	1	5/16 X 24 UNF BOTTOM	B12DC4
1	M16 X 2.0 INTER	B46EB4	1	3/8 X 24 UNF TAPER	B13DA4
1	M16 X 2.0 BOTTOM	B46EC4	1	3/8 X 24 UNF INTER	B13DB4
1	M20 X 2.5 TAPER	C48EA4	1	3/8 X 24 UNF BOTTOM	B13DC4
1	M20 X 2.5 INTER	C48EB4	1	7/16 X 20 UNF TAPER	B14DA4
1	M20 X 2.5 BOTTOM	C48EC4	1	7/16 X 20 UNF INTER	B14DB4
1	NO. 10 X 24 UNC TAPER	A09CA3	1	7/16 X 20 UNF BOTTOM	B14DC4
1	NO. 10 X 24 UNC INTER	A09CB3	1	1/2 X 20 UNF TAPER	B15DA4
1	NO. 10 X 24 UNC BOTTOM	A09CC3	1	1/2 X 20 UNF INTER	B15DB4
1	1/4 X 20 UNC TAPER	B11CA3	1	1/2 X 20 UNF BOTTOM	B15DC4
1	1/4 X 20 UNC INTER	B11CB3	1	9/16 X 18 UNF INTER	B16DB4
1	1/4 X 20 UNC BOTTOM	B11CC3	1	5/8 X 18 UNF TAPER	B17DA4
1	5/16 X 18 UNC TAPER	B12CA4	1	5/8 X 18 UNF INTER	B17DB4
1	5/16 X 18 UNC INTER	B12CB4	1	5/8 X 18 UNF BOTTOM	B17DC4
1	5/16 X 18 UNC BOTTOM	B12CC4	1	3/4 X 16 UNF TAPER	C18DA4
1	3/8 X 16 UNC TAPER	B13CA4	1	3/4 X 16 UNF INTER	C18DB4
1	3/8 X 16 UNC INTER	B13CB4	1	3/4 X 16 UNF BOTTOM	C18DC4
1	3/8 X 16 UNC BOTTOM	B13CC4	1	7/8 X 14 UNF INTER	C19DB4
1	7/16 X 14 UNC TAPER	B14CA4	1	1 X 12 UNF INTER	C20DB4
1	7/16 X 14 UNC INTER	B14CB4	1	1/2 X 13 BSW INTER	B15AB4
1	7/16 X 14 UNC BOTTOM	B14CC4	1	M10 X 1.25 TAPER	B42XEA4
1	1/2 X 13 UNC TAPER	B15CA4	1	M10 X 1.25 INTER	B42XEB4
1	1/2 X 13 UNC INTER	B15CB4	1	M10 X 1.25 BOTTOM	B42XEC4
1	1/2 X 13 UNC BOTTOM	B15CC4	1	M12 X 1.25 TAPER	B43XEA4
1	9/16 X 12 UNC INTER	B16CB4	1	M12 X 1.25 INTER	B43XEB4
1	5/8 X 11 UNC TAPER	B17CA4	1	M12 X 1.25 BOTTOM	B43XEC4
1	5/8 X 11 UNC INTER	B17CB4	1	M14 X 1.5 TAPER	B45XEA4
1	5/8 X 11 UNC BOTTOM	B17CC4	1	M14 X 1.5 INTER	B45XEB4
1	3/4 X 10 UNC TAPER	C18CA4	1	M14 X 1.5 BOTTOM	B45XEC4
1	3/4 X 10 UNC INTER	C18CB4	1	M16 X 1.5 TAPER	B46XEA4
1	3/4 X 10 UNC BOTTOM	C18CC4	1	M16 X 1.5 INTER	B46XEB4
1	7/8 X 9 UNC INTER	C19CB4	1	M16 X 1.5 BOTTOM	B46XEC4
1	1 X 8 UNC INTER	C20CB4	1	1/8 X 28 BSPT BOTTOM	B81XHC4
1	1/8 X 28 BSPF TAPER	B81GA4	1	1/4 X 19 BSPT BOTTOM	B82XHC4
1	1/8 X 28 BSPF INTER	B81GB4	1	3/8 X 19 BSPT BOTTOM	C83XHC4
1	1/8 X 28 BSPF BOTTOM	B81GC4			
1	1/4 X 19 BSPF TAPER	B82GA4			
1	1/4 X 19 BSPF INTER	B82GB4			
1	1/4 X 19 BSPF BOTTOM	B82GC4			





HAND & MACHINE TAPS

MERCHANDISER – BULK

GOLIATH D4 DRAW SYSTEM			PART #		
GOLIATH D4 DRAW SYSTEM			GOL-D4		
QTY EACH	DESCRIPTION	PART NUMBER	QTY EACH	DESCRIPTION	PART NUMBER
1	M3 X 0.5 TAPER	A33EA3	1	M6 X 1.0 SPIRAL FLUTE	B38EF3
1	M3 X 0.5 INTER	A33EB3	1	M8 X 1.25 SPIRAL FLUTE	B40EF3
1	M3 X 0.5 BOTTOM	A33EC3	1	M10 X 1.5 SPIRAL FLUTE	B42EF3
1	M4 X 0.7 TAPER	A35EA3	1	1/8 X 27 NPT BOTTOM	B81YJC4
1	M4 X 0.7 INTER	A35EB3	1	1/4 X 18 NPT BOTTOM	B82YJC4
1	M4 X 0.7 BOTTOM	A35EC3	1	3/8 X 18 NPT BOTTOM	C83YJC4
1	M5 X 0.8 TAPER	A37EA3	1	1/2 X 14 NPT BOTTOM	C84YJC4
1	M5 X 0.8 INTER	A37EB3	1	3/4 X 14 NPT BOTTOM	C85YJC5
1	M5 X 0.8 BOTTOM	A37EC3	1	NO. 10 X 32 UNF TAPER	A09DA3
1	M6 X 1.0 TAPER	B38EA3	1	NO. 10 X 32 UNF INTER	A09DB3
1	M6 X 1.0 INTER	B38EB3	1	NO. 10 X 32 UNF BOTTOM	A09DC3
1	M6 X 1.0 BOTTOM	B38EC3	1	1/4 X 28 UNF TAPER	B11DA3
1	M8 X 1.25 TAPER	B40EA4	1	1/4 X 28 UNF INTER	B11DB3
1	M8 X 1.25 INTER	B40EB4	1	1/4 X 28 UNF BOTTOM	B11DC3
1	M8 X 1.25 BOTTOM	B40EC4	1	5/16 X 24 UNF TAPER	B12DA4
1	M10 X 1.5 TAPER	B42EA4	1	5/16 X 24 UNF INTER	B12DB4
1	M10 X 1.5 INTER	B42EB4	1	5/16 X 24 UNF BOTTOM	B12DC4
1	M10 X 1.5 BOTTOM	B42EC4	1	3/8 X 24 UNF TAPER	B13DA4
1	M12 X 1.75 TAPER	B44EA4	1	3/8 X 24 UNF INTER	B13DB4
1	M12 X 1.75 INTER	B44EB4	1	3/8 X 24 UNF BOTTOM	B13DC4
1	M12 X 1.75 BOTTOM	B44EC4	1	7/16 X 20 UNF TAPER	B14DA4
1	M14 X 2.0 TAPER	B45EA4	1	7/16 X 20 UNF INTER	B14DB4
1	M14 X 2.0 INTER	B45EB4	1	7/16 X 20 UNF BOTTOM	B14DC4
1	M14 X 2.0 BOTTOM	B45EC4	1	1/2 X 20 UNF TAPER	B15DA4
1	M16 X 2.0 TAPER	B46EA4	1	1/2 X 20 UNF INTER	B15DB4
1	M16 X 2.0 INTER	B46EB4	1	1/2 X 20 UNF BOTTOM	B15DC4
1	M16 X 2.0 BOTTOM	B46EC4	1	9/16 X 18 UNF INTER	B16DB4
1	M18 X 2.5 INTER	C47EB4	1	5/8 X 18 UNF TAPER	B17DA4
1	M20 X 2.5 TAPER	C48EA4	1	5/8 X 18 UNF INTER	B17DB4
1	M20 X 2.5 INTER	C48EB4	1	5/8 X 18 UNF BOTTOM	B17DC4
1	M20 X 2.5 BOTTOM	C48EC4	1	3/4 X 16 UNF TAPER	C18DA4
1	NO. 10 X 24 UNC TAPER	A09CA3	1	3/4 X 16 UNF INTER	C18DB4
1	NO. 10 X 24 UNC INTER	A09CB3	1	3/4 X 16 UNF BOTTOM	C18DC4
1	NO. 10 X 24 UNC BOTTOM	A09CC3	1	7/8 X 14 UNF INTER	C19DB4
1	1/4 X 20 UNC TAPER	B11CA3	1	1 X 12 UNF INTER	C20DB4
1	1/4 X 20 UNC INTER	B11CB3	1	1/2 X 13 BSW TAPER	B15AA4
1	1/4 X 20 UNC BOTTOM	B11CC3	1	1/2 X 13 BSW INTER	B15AB4
1	5/16 X 18 UNC TAPER	B12CA4	1	1/2 X 13 BSW BOTTOM	B15AC4
1	5/16 X 18 UNC INTER	B12CB4	1	M10 X 1.0 TAPER	B41XEA4
1	5/16 X 18 UNC BOTTOM	B12CC4	1	M10 X 1.0 INTER	B41XEB4
1	3/8 X 16 UNC TAPER	B13CA4	1	M10 X 1.0 BOTTOM	B41XEC4
1	3/8 X 16 UNC INTER	B13CB4	1	M10 X 1.25 TAPER	B42XEA4
1	3/8 X 16 UNC BOTTOM	B13CC4	1	M10 X 1.25 INTER	B42XEB4
1	7/16 X 14 UNC TAPER	B14CA4	1	M10 X 1.25 BOTTOM	B42XEC4
1	7/16 X 14 UNC INTER	B14CB4	1	M12 X 1.25 TAPER	B43XEA4
1	7/16 X 14 UNC BOTTOM	B14CC4	1	M12 X 1.25 INTER	B43XEB4
1	1/2 X 13 UNC TAPER	B15CA4	1	M12 X 1.25 BOTTOM	B43XEC4
1	1/2 X 13 UNC INTER	B15CB4	1	M12 X 1.5 TAPER	B44XEA4
1	1/2 X 13 UNC BOTTOM	B15CC4	1	M12 X 1.5 INTER	B44XEB4
1	9/16 X 12 UNC INTER	B16CB4	1	M12 X 1.5 BOTTOM	B44XEC4
1	5/8 X 11 UNC TAPER	B17CA4	1	M14 X 1.25 TAPER	B44XEA4
1	5/8 X 11 UNC INTER	B17CB4	1	M14 X 1.25 INTER	B44XEB4
1	5/8 X 11 UNC BOTTOM	B17CC4	1	M14 X 1.25 BOTTOM	B44XEC4
1	3/4 X 10 UNC TAPER	C18CA4	1	M14 X 1.5 TAPER	B45XEA4
1	3/4 X 10 UNC INTER	C18CB4	1	M14 X 1.5 INTER	B45XEB4
1	3/4 X 10 UNC BOTTOM	C18CC4	1	M14 X 1.5 BOTTOM	B45XEC4
1	7/8 X 9 UNC INTER	C19CB4	1	M16 X 1.5 TAPER	B46XEA4
1	1 X 8 UNC INTER	C20CB4	1	M16 X 1.5 INTER	B46XEB4
1	1/8 X 28 BSPF TAPER	B81GA4	1	M16 X 1.5 BOTTOM	B46XEC4
1	1/8 X 28 BSPF INTER	B81GB4	1	M20 X 1.5 INTER	C48XEB4
1	1/8 X 28 BSPF BOTTOM	B81GC4	1	NO. 10 X 24 UNC S/POINT	A09CE2SP
1	1/4 X 19 BSPF TAPER	B82GA4	1	1/4 X 20 UNC S/POINT	B11CE3SP
1	1/4 X 19 BSPF INTER	B82GB4	1	5/16 X 18 UNC S/POINT	B12CE3SP
1	1/4 X 19 BSPF BOTTOM	B82GC4	1	3/8 X 16 UNC S/POINT	B13CE3SP
1	3/8 X 19 BSPF TAPER	C83GA4	1	7/16 X 14 UNC S/POINT	B14CE3SP
1	3/8 X 19 BSPF INTER	C83GB4	1	1/2 X 13 UNC S/POINT	B15CE3SP
1	3/8 X 19 BSPF BOTTOM	C83GC4	1	5/8 X 11 UNC S/POINT	B17CE3SP
1	1/2 X 14 BSPF TAPER	C84GA4	1	3/4 X 10 UNC S/POINT	C18CE3SP
1	1/2 X 14 BSPF INTER	C84GB4	1	NO. 10 X 24 UNC S/FLUTE	A09CF3
1	1/2 X 14 BSPF BOTTOM	C84GC4	1	1/4 X 20 UNC S/FLUTE	B11CF3
1	3/4 X 14 BSPF INTER	C85GB4	1	5/16 X 18 UNC S/FLUTE	B12CF3
1	1 X 11 BSPF INTER	C87GB6	1	3/8 X 16 UNC S/FLUTE	B13CF3
1	M3 X 0.5 SP/PT (GUN)	A33EE2SP	1	7/16 X 14 UNC S/FLUTE	B14CF3
1	M4 X 0.7 SP/PT (GUN)	A35EE2SP	1	1/2 X 13 UNC S/FLUTE	B15CF3
1	M5 X 0.8 SP/PT (GUN)	A37EE3SP	1	5/8 X 11 UNC S/FLUTE	B17CF3
1	M6 X 1.0 SP/PT (GUN)	B38EE3SP	1	3/4 X 10 UNC S/FLUTE	C18CF3
1	M8 X 1.25 SP/PT (GUN)	B40EE3SP	1	1/8 X 28 BSPT BOTTOM	B81XHC4
1	M10 X 1.5 SP/PT (GUN)	B42EE3SP	1	1/4 X 19 BSPT BOTTOM	B82XHC4
1	M3 X 0.5 SPIRAL FLUTE	A33EF2	1	3/8 X 19 BSPT BOTTOM	C83XHC4
1	M4 X 0.7 SPIRAL FLUTE	A35EF2	1	1/2 X 14 BSPT BOTTOM	C84XHC4
1	M5 X 0.8 SPIRAL FLUTE	A37EF3	1	3/4 X 14 BSPT BOTTOM	C85XHC5





BUTTON DIES AND DIE NUTS

MERCHANDISER – BULK

GOLIATH D6 DRAW SYSTEM			PART #		
GOLIATH D6 DRAW SYSTEM			GOL-D6		
QTY EACH	DESCRIPTION	PART NUMBER	QTY EACH	DESCRIPTION	PART NUMBER
	BUTTON DIES			DIE NUTS	
1	3 X 0.5 MC 1" HSS BUTTON DIE	F33EB	1	4 X 0.7MM MC HSS DIE NUT	FH35EJ
1	4 X 0.7 MC 1" HSS BUTTON DIE	F35EB	1	5 X 0.8MM MC HSS DIE NUT	FH37EJ
1	5 X 0.8 MC 1" HSS BUTTON DIE	F37EB	1	6 X 1MM MC HSS DIE NUT	FH38EJ
1	6 X 1 MC 1" HSS BUTTON DIE	F38EB	1	8 X 1.25MM MC HSS DIE NUT	FH40EJ
1	8 X 1.25 MC 1" HSS BUTTON DIE	F40EB	1	10 X 1.5MM MC HSS DIE NUT	FH42EJ
1	10 X 1.5 MC 1" HSS BUTTON DIE	F42EB	1	12 X 1.75MM MC HSS DIE NUT	FH44EJ
1	12 X 1.75 MC 1" HSS BUTTON DIE	F44EB	1	14 X 2MM MC HSS DIE NUT	FH45EJ
1	14 X 2 MC 1.1/2" HSS BUTTON DIE	F45ED	1	16 X 2MM MC HSS DIE NUT	FH46EJ
1	16 X 2 MC 1.1/2" HSS BUTTON DIE	F46ED	1	18 X 2.5MM MC HSS DIE NUT	FH47EJ
1	18 X 2.5 MC 2" HSS BUTTON DIE	F47EE	1	20 X 2.5MM MC HSS DIE NUT	FH48EJ
1	20 X 2.5 MC 2" HSS BUTTON DIE	F48EE	1	8 X 1MM MF HSS DIE NUT	FH40XEJ
1	8 X 1 MF 1" HSS BUTTON DIE	F40XEB	1	10 X 1MM MF HSS DIE NUT	FH41XEJ
1	10 X 1 MF 1" HSS BUTTON DIE	F41XEB	1	10 X 1.25MM MF HSS DIE NUT	FH42XEJ
1	10 X 1.25 MF 1" HSS BUTTON DIE	F42XEB	1	12 X 1.25MM MF HSS DIE NUT	FH43XEJ
1	12 X 1.25 MF 1" HSS BUTTON DIE	F43XEB	1	12 X 1.5MM MF HSS DIE NUT	FH44XEJ
1	12 X 1.5 MF 1" HSS BUTTON DIE	F443XEB	1	14 X 1.5MM MF HSS DIE NUT	FH445XEJ
1	14 X 1.25 MF 1.1/2" HSS BUTTON DIE	F44XED	1	16 X 1.5MM MF HSS DIE NUT	FH46XEJ
1	14 X 1.5 MF 1.1/2" HSS BUTTON DIE	F45XED	1	25 X 1.5MM MF HSS DIE NUT	FH51XEJ
1	16 X 1.5 MF 1.1/2" HSS BUTTON DIE	F46XED	1	1/4" X 20 UNC HSS DIE NUT	FH11CJ
1	25 X 1.5 MF 2" HSS BUTTON DIE	F51XEE	1	5/16" X 18 UNC HSS DIE NUT	FH12CJ
1	NO 8 X 32 UNC 1" HSS BUTTON DIE	F08CB	1	3/8" X 16 UNC HSS DIE NUT	FH13CJ
1	NO 10 X 24 UNC 1" HSS BUTTON DIE	F09CB	1	7/16" X 14 UNC HSS DIE NUT	FH14CJ
1	NO 12 X 24 UNC 1" HSS BUTTON DIE	F10CB	1	1/2" X 13 UNC HSS DIE NUT	FH15CJ
1	1/4 X 20 UNC 1" HSS BUTTON DIE	F11CB	1	9/16" X 12 UNC HSS DIE NUT	FH16CJ
1	5/16 X 18 UNC 1" HSS BUTTON DIE	F12CB	1	5/8" X 11 UNC HSS DIE NUT	FH17CJ
1	3/8" X 16 UNC 1" HSS BUTTON DIE	F13CB	1	3/4" X 10 UNC HSS DIE NUT	FH18CJ
1	7/16" X 14 UNC 1" HSS BUTTON DIE	F14CB	1	7/8" X 9 UNC HSS DIE NUT	FH19CJ
1	1/2" X 13 UNC 1" HSS BUTTON DIE	F15CB	1	1" X 8 UNC HSS DIE NUT	FH20CJ
1	9/16" X 12 UNC 1.1/2" HSS BUTTON DIE	F16CD	1	1/4" X 28 UNF HSS DIE NUT	FH11DJ
1	5/8" X 11 UNC 1.1/2" HSS BUTTON DIE	F17CD	1	5/16" X 24 UNF HSS DIE NUT	FH12DJ
1	3/4" X 10 UNC 2" HSS BUTTON DIE	F18CE	1	3/8" X 24 UNF HSS DIE NUT	FH13DJ
1	7/8" X 9 UNC 2" HSS BUTTON DIE	F19CE	1	7/16" X 20 UNF HSS DIE NUT	FH14DJ
1	1" X 8 UNC 2" HSS BUTTON DIE	F20CE	1	1/2" X 20 UNF HSS DIE NUT	FH15DJ
1	NO 8 X 36 UNF 13/16" HSS BUTTON DIE	F08DA	1	9/16" X 18 UNF HSS DIE NUT	FH16DJ
1	NO 10 X 32 UNF 1" HSS BUTTON DIE	F09DB	1	5/8" X 18 UNF HSS DIE NUT	FH17DJ
1	NO 12 X 28 UNF 1" HSS BUTTON DIE	F10DB	1	3/4" X 16 UNF HSS DIE NUT	FH18DJ
1	1/4" X 28 UNF 1" HSS BUTTON DIE	F11DB	1	7/8" X 14 UNF HSS DIE NUT	FH19DJ
1	5/16" X 24 UNF 1" HSS BUTTON DIE	F12DB	1	1" X 12 UNF HSS DIE NUT	FH20DJ
1	3/8" X 24 UNF 1" HSS BUTTON DIE	F13DB	1	1/8" X 28 BSPT HSS DIE NUT	FH81XHJ
1	7/16" X 20 UNF 1" HSS BUTTON DIE	F14DB	1	1/4" X 19 BSPT HSS DIE NUT	FH82XHJ
1	1/2" X 20 UNF 1" HSS BUTTON DIE	F15DB	1	3/8" X 19 BSPT HSS DIE NUT	FH83XHJ
1	9/16" X 18 UNF 2" HSS BUTTON DIE	F16DE	1	1/2" X 14 BSPT HSS DIE NUT	FH84XHJ
1	5/8" X 18 UNF 2" HSS BUTTON DIE	F17DE	1	3/4" X 14 BSPT HSS DIE NUT	FH85XHJ
1	3/4" X 14 BSP 2" HSS BUTTON DIE	F85GE	1	1" X 11 BSPT HSS DIE NUT	FH87XHJ
1	1" X 11 BSP 2" HSS BUTTON DIE	F87GE			
1	1/8" X 28 BSPT 1.1/2" HSS BUTTON DIE	F81XHD			
1	1/4" X 19 BSPT 2" HSS BUTTON DIE	F82XHE			
1	3/8" X 19 BSPT 2" HSS BUTTON DIE	F83XHE			
1	1/2" X 14 BSPT 2" HSS BUTTON DIE	F84XHE			
1	3/4" X 14 BSPT 2" HSS BUTTON DIE	F85XHE			
1	1/8 X 27 NPT 1.1/2" HSS BUTTON DIE	F81YJD			
1	1/4" X 18 NPT 2" HSS BUTTON DIE	F82YJE			
1	3/8" X 18 NPT 2" HSS BUTTON DIE	F83YJE			
1	1/2" X 14 NPT 2" HSS BUTTON DIE	F84YJE			
1	3/4" X 14 NPT 2" HSS BUTTON DIE	F85YJE			




METRIC AND FRACTIONAL KEY STEEL

METRIC – SQUARE

SIZE MM	LENGTH INCH	MATERIAL	PACK QTY	PART NUMBER
3.0	12	ZINC COATED STEEL	1	KSMS3
4.0	12	ZINC COATED STEEL	1	KSMS4
4.0	12	304 STAINLESS STEEL	1	KSMS4SS
5.0	12	ZINC COATED STEEL	1	KSMS5
5.0	12	304 STAINLESS STEEL	1	KSMS5SS
6.0	12	ZINC COATED STEEL	1	KSMS6
6.0	12	304 STAINLESS STEEL	1	KSMS6SS
7.0	12	ZINC COATED STEEL	1	KSMS7
8.0	12	ZINC COATED STEEL	1	KSMS8
8.0	12	304 STAINLESS STEEL	1	KSMS8SS
10.0	12	ZINC COATED STEEL	1	KSMS10
10.0	12	304 STAINLESS STEEL	1	KSMS10SS
12.0	12	ZINC COATED STEEL	1	KSMS12
12.0	12	304 STAINLESS STEEL	1	KSMS12SS
14.0	12	ZINC COATED STEEL	1	KSMS14
16.0	12	ZINC COATED STEEL	1	KSMS16
18.0	12	ZINC COATED STEEL	1	KSMS18
20.0	12	ZINC COATED STEEL	1	KSMS20

METRIC – RECTANGULAR

SIZE MM	LENGTH INCH	MATERIAL	PACK QTY	PART NUMBER
8.0 X 7.0	12	ZINC COATED STEEL	1	KSMR8X7
8.0 X 7.0	12	304 STAINLESS STEEL	1	KSMR8X7SS
10.0 X 8.0	12	ZINC COATED STEEL	1	KSMR10X8
10.0 X 8.0	12	304 STAINLESS STEEL	1	KSMR10X8SS
12.0 X 8.0	12	ZINC COATED STEEL	1	KSMR12X8
12.0 X 8.0	12	304 STAINLESS STEEL	1	KSMR12X8SS
14.0 X 9.0	12	ZINC COATED STEEL	1	KSMR14X9
14.0 X 9.0	12	304 STAINLESS STEEL	1	KSMR14X9SS
16.0 X 10.0	12	ZINC COATED STEEL	1	KSMR16X10
18.0 X 11.0	12	ZINC COATED STEEL	1	KSMR18X11
20.0 X 12.0	12	ZINC COATED STEEL	1	KSMR20X12

FRACTIONAL – SQUARE

SIZE INCH	LENGTH INCH	MATERIAL	PACK QTY	PART NUMBER
1/8	12	ZINC COATED STEEL	1	KSIS18
3/16	12	ZINC COATED STEEL	1	KSIS316
1/4	12	ZINC COATED STEEL	1	KSIS14
1/4	12	304 STAINLESS STEEL	1	KSIS14SS
5/16	12	ZINC COATED STEEL	1	KSIS516
5/16	12	304 STAINLESS STEEL	1	KSIS516SS
3/8	12	ZINC COATED STEEL	1	KSIS38
3/8	12	304 STAINLESS STEEL	1	KSIS38SS
7/16	12	ZINC COATED STEEL	1	KSIS716
1/2	12	ZINC COATED STEEL	1	KSIS12
1/2	12	304 STAINLESS STEEL	1	KSIS12SS
5/8	12	ZINC COATED STEEL	1	KSIS58
3/4	12	ZINC COATED STEEL	1	KSIS34
1	12	ZINC COATED STEEL	1	KSIS1

FRACTIONAL – RECTANGULAR

SIZE INCH	LENGTH INCH	MATERIAL	PACK QTY	PART NUMBER
5/16 X 3/8	12	ZINC COATED STEEL	1	KSIR516X38
3/8 X 1/4	12	ZINC COATED STEEL	1	KSIR38X14
1/2 X 3/8	12	ZINC COATED STEEL	1	KSIR12X38



GOLIATH SEMI-SYNTHETIC SOLUBLE CUTTING FLUID (HIGH PERFORMANCE)

WATER SOLUBLE, LONG LIFE

PACKAGING	PACK SIZE METRIC	PACK SIZE IMPERIAL	BOX QTY	PACK QTY	PART NUMBER
BOTTLE	1 LITRE	—	12	6	CFWS1L
BOTTLE	5 LITRE	—	4	2	CFWS5L
DRUM	20 LITRE	—	1	1	CFWS20L



RELTON RAPID TAP ALL METAL CUTTING FLUID

RELTON USA ALL-METAL CUTTING FLUID
EXTENDS TOOL LIFE

PACKAGING	PACK SIZE METRIC	PACK SIZE IMPERIAL	BOX QTY	PACK QTY	PART NUMBER
BOTTLE	118ML	4 OUNCE	24	1	CFRT4OZ
BOTTLE	473ML	1 PINT	12	1	CFRT1PT
BOTTLE	3.785 LITRE	1 GALLON	4	1	CFRT1G
DRUM	18.90 LITRE	5 GALLON	1	1	CFRT5G



RELTON RAPID TAP ALL METAL CUTTING PASTE

PACKAGING	PACK SIZE METRIC	PACK SIZE IMPERIAL	BOX QTY	PACK QTY	PART NUMBER
TUB	236ML	8 OUNCE	24	1	CPRT8OZ

RELTON A-9 ALUMINIUM CUTTING FLUID

RELTON USA ALUMINIUM CUTTING FLUID
EXTENDS TOOL LIFE

PACKAGING	PACK SIZE METRIC	PACK SIZE IMPERIAL	BOX QTY	PACK QTY	PART NUMBER
BOTTLE	118ML	4 OUNCE	24	1	CFA94OZ
BOTTLE	473ML	1 PINT	12	1	CFA91PT
BOTTLE	3.785 LITRE	1 GALLON	4	1	CFA91G



RELTON STICK-KUT

WAX LUBRICANT FOR GRINDING WHEELS,
SANDING BELTS AND SAW BLADES

PACKAGING	PACK SIZE METRIC	PACK SIZE IMPERIAL	BOX QTY	PACK QTY	PART NUMBER
CARDBOARD TUBE	—	15 OUNCE	12	1	CFSK15OZ





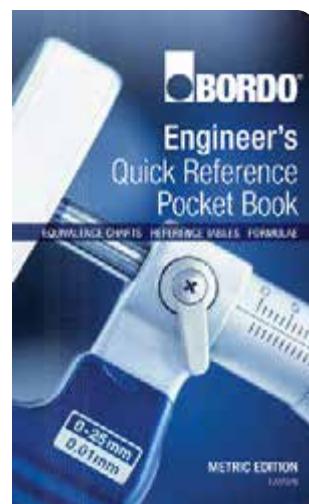
GROUP GPIT

THREAD PITCH GAUGES – INTERNAL & EXTERNAL THREADS

THREAD FORM	THREAD ANGLE	PITCHES / TPI	PACK QTY	PART NUMBER
UN (UNC/UNF)	60°	UN PITCH GAUGE 4-84TPI	1	UNPIT
WHITWORTH (BSW)	55°	WHITWORTH PITCH GAUGE 4-62TPI	1	BSWPIT
METRIC	60°	METRIC PITCH GAUGE 0.25-6.0MM	1	METPIT
METRIC & UN	60°	COMBINATION METRIC & UN PITCH GAUGE 4-42TPI, 0.25-6.0MM	1	METUNPIT

BORDO ENGINEER'S QUICK REFERENCE POCKET BOOK

DESCRIPTION	BOX QTY	PART NUMBER
BORDO ENGINEER'S QUICK REFERENCE POCKET BOOK	10	9910-EPBM-V1



GROUP BOOK

TANGENTIAL THREAD CUTTING CHASERS – RESHARPENABLE

PITCH MM	SIZE INCH	SET	PACK QTY	PART NUMBER
1.75	1.3/64" X 4	4 PIECE SET	1	PTANG1.75MM
2.00	1.3/64" X 4	4 PIECE SET	1	PTANG2MM
2.50	1.3/64" X 4	4 PIECE SET	1	PTANG2.5MM
3.00	1.3/64" X 4	4 PIECE SET	1	PTANG3MM
3.50	1.3/64" X 4	4 PIECE SET	1	PTANG3.5MM
3.50	1.1/2" X 4	4 PIECE SET	1	PTANG3.5MMB
4.00	1.3/64" X 4	4 PIECE SET	1	PTANG4MMC
5.50	1.1/2" X 5	4 PIECE SET	1	PTANG5.5MM



GROUP GCHA

COVENTRY CHASERS

Are available in all common thread forms including: Metric Coarse and Metric Fine, BSW, BSF, UNC, UNF, BA, BSB, NPS, BSP, BSPT and NPT.

For the complete range please call, or visit www.goliath.com.au





SCREW PLUG AND SCREW RING GAUGES



			PLUG GAUGE	RING GAUGE	
			GO – NO GO	GO	NO GO
DIAMETER MM	PITCH MM	QTY	PART NUMBER	PART NUMBER	PART NUMBER
METRIC COARSE					
2	0.40	1	3020-2.00P	3020-2.00R	3020-2.00R-NG
2.5	0.45	1	3020-2.50P	3020-2.50R	3020-2.50R-NG
3	0.50	1	3020-3.00P	3020-3.00R	3020-3.00R-NG
3.5	0.60	1	3020-3.50P	3020-3.50R	3020-3.50R-NG
4	0.70	1	3020-4.00P	3020-4.00R	3020-4.00R-NG
4.5	0.75	1	3020-4.50P	3020-4.50R	3020-4.50R-NG
5	0.80	1	3020-5.00P	3020-5.00R	3020-5.00R-NG
6	1.00	1	3020-6.00P	3020-6.00R	3020-6.00R-NG
7	1.00	1	3020-7.00P	3020-7.00R	3020-7.00R-NG
8	1.25	1	3020-8.00P	3020-8.00R	3020-8.00R-NG
9	1.25	1	3020-9.00P	3020-9.00R	3020-9.00R-NG
10	1.50	1	3020-10.00P	3020-10.00R	3020-10.00R-NG
12	1.75	1	3020-12.00P	3020-12.00R	3020-12.00R-NG
14	2.00	1	3020-14.00P	3020-14.00R	3020-14.00R-NG
16	2.00	1	3020-16.00P	3020-16.00R	3020-16.00R-NG
18	2.50	1	3020-18.00P	3020-18.00R	3020-18.00R-NG
20	2.50	1	3020-20.00P	3020-20.00R	3020-20.00R-NG
22	2.50	1	3020-22.00P	3020-22.00R	3020-22.00R-NG
24	3.00	1	3020-24.00P	3020-24.00R	3020-24.00R-NG
30	3.50	1	3020-30.00P	3020-30.00R	3020-30.00R-NG
33	3.50	1	3020-33.00P	3020-33.00R	3020-33.00R-NG
36	4.00	1	3020-36.00P	3020-36.00R	3020-36.00R-NG
METRIC FINE					
8	1.00	1	3021-8.00P	3021-8.00R	3021-8.00R-NG
10	1.00	1	3022-10.00P	3022-10.00R	3022-10.00R-NG
10	1.25	1	3021-10.00P	3021-10.00R	3021-10.00R-NG
12	1.25	1	3022-12.00P	3022-12.00R	3022-12.00R-NG
12	1.50	1	3021-12.00P	3021-12.00R	3021-12.00R-NG
14	1.25	1	3022-14.00P	3022-14.00R	3022-14.00R-NG
14	1.50	1	3021-14.00P	3021-14.00R	3021-14.00R-NG
16	1.50	1	3023-16.00P	3023-16.00R	3023-16.00R-NG
18	1.50	1	3022-18.00P	3022-18.00R	3022-18.00R-NG
20	1.50	1	3023-20.00P	3023-20.00R	3023-20.00R-NG
22	1.50	1	3021-22.00P	3021-22.00R	3021-22.00R-NG
24	2.00	1	3021-24.00P	3021-24.00R	3021-24.00R-NG



**Calibration
certificates
included.
Lead times
apply on all
gauges.**

DIAMETER INCH	TPI	QTY	PART NUMBER	PART NUMBER	PART NUMBER
BSW - BRITISH STANDARD WHITWORTH					
1/8	40	1	3028-1/8P	3028-1/8R	3028-1/8R-NG
5/32	32	1	3028-5/32P	3028-5/32R	3028-5/32R-NG
3/16	24	1	3028-3/16P	3028-3/16R	3028-3/16R-NG
1/4	20	1	3028-1/4P	3028-1/4R	3028-1/4R-NG
5/16	18	1	3028-5/16P	3028-5/16R	3028-5/16R-NG
3/8	16	1	3028-3/8P	3028-3/8R	3028-3/8R-NG
7/16	14	1	3028-7/16P	3028-7/16R	3028-7/16R-NG
1/2	12	1	3028-1/2P	3028-1/2R	3028-1/2R-NG
9/16	12	1	3028-9/16P	3028-9/16R	3028-9/16R-NG
5/8	11	1	3028-5/8P	3028-5/8R	3028-5/8R-NG
3/4	10	1	3028-3/4P	3028-3/4R	3028-3/4R-NG
7/8	9	1	3028-7/8P	3028-7/8R	3028-7/8R-NG
1	8	1	3028-1P	3028-1R	3028-1R-NG
1.1/8	7	1	3028-1.1/8P	3028-1.1/8R	3028-1.1/8R-NG
1.1/4	7	1	3028-1.1/4P	3028-1.1/4R	3028-1.1/4R-NG
1.1/2	6	1	3028-1.1/2P	3028-1.1/2R	3028-1.1/2R-NG
1.3/4	5	1	3028-1.3/4P	3028-1.3/4R	3028-1.3/4R-NG


SCREW PLUG AND SCREW RING GAUGES


			PLUG GAUGE	RING GAUGE	
			GO – NO GO	GO	NO GO
DIAMETER INCH	TPI	QTY	PART NUMBER	PART NUMBER	PART NUMBER
BSF – BRITISH STANDARD FINE					
3/16	32	1	3030-3/16P	3030-3/16R	3030-3/16R-NG
1/4	26	1	3030-1/4P	3030-1/4R	3030-1/4R-NG
5/16	22	1	3030-5/16P	3030-5/16R	3030-5/16R-NG
3/8	20	1	3030-3/8P	3030-3/8R	3030-3/8R-NG
7/16	18	1	3030-7/16P	3030-7/16R	3030-7/16R-NG
1/2	16	1	3030-1/2P	3030-1/2R	3030-1/2R-NG
5/8	14	1	3030-5/8P	3030-5/8R	3030-5/8R-NG
3/4	12	1	3030-3/4P	3030-3/4R	3030-3/4R-NG
7/8	11	1	3030-7/8P	3030-7/8R	3030-7/8R-NG
1	10	1	3030-1P	3030-1R	3030-1R-NG
UNC – UNIFIED NATIONAL COARSE					
5G	40	1	3032-5GP	3032-5GR	3032-5GR-NG
6G	32	1	3032-6GP	3032-6GR	3032-6GR-NG
8G	32	1	3032-8GP	3032-8GR	3032-8GR-NG
10G	24	1	3032-10GP	3032-10GR	3032-10GR-NG
12G	24	1	3032-12GP	3032-12GR	3032-12GR-NG
1/4	20	1	3032-1/4P	3032-1/4R	3032-1/4R-NG
5/16	18	1	3032-5/16P	3032-5/16R	3032-5/16R-NG
3/8	16	1	3032-3/8P	3032-3/8R	3032-3/8R-NG
7/16	14	1	3032-7/16P	3032-7/16R	3032-7/16R-NG
1/2	13	1	3032-1/2P	3032-1/2R	3032-1/2R-NG
9/16	12	1	3032-9/16P	3032-9/16R	3032-9/16R-NG
5/8	11	1	3032-5/8P	3032-5/8R	3032-5/8R-NG
3/4	10	1	3032-3/4P	3032-3/4R	3032-3/4R-NG
7/8	9	1	3032-7/8P	3032-7/8R	3032-7/8R-NG
1	8	1	3032-1P	3032-1R	3032-1R-NG
1.1/8	7	1	3032-1.1/8P	3032-1.1/8R	3032-1.1/8R-NG
1.1/4	7	1	3032-1.1/4P	3032-1.1/4R	3032-1.1/4R-NG
1.1/2	6	1	3032-1.1/2P	3032-1.1/2R	3032-1.1/2R-NG
UNF – UNIFIED NATIONAL FINE					
4G	48	1	3034-4GP	3034-4GR	3034-4GR-NG
5G	44	1	3034-5GP	3034-5GR	3034-5GR-NG
6G	40	1	3034-6GP	3034-6GR	3034-6GR-NG
8G	36	1	3034-8GP	3034-8GR	3034-8GR-NG
10G	32	1	3034-10GP	3034-10GR	3034-10GR-NG
12G	28	1	3034-12GP	3034-12GR	3034-12GR-NG
1/4	28	1	3034-1/4P	3034-1/4R	3034-1/4R-NG
5/16	24	1	3034-5/16P	3034-5/16R	3034-5/16R-NG
3/8	24	1	3034-3/8P	3034-3/8R	3034-3/8R-NG
7/16	20	1	3034-7/16P	3034-7/16R	3034-7/16R-NG
1/2	20	1	3034-1/2P	3034-1/2R	3034-1/2R-NG
9/16	18	1	3034-9/16P	3034-9/16R	3034-9/16R-NG
5/8	18	1	3034-5/8P	3034-5/8R	3034-5/8R-NG
3/4	16	1	3034-3/4P	3034-3/4R	3034-3/4R-NG
7/8	14	1	3034-7/8P	3034-7/8R	3034-7/8R-NG
1	12	1	3034-1P	3034-1R	3034-1R-NG
1.1/8	12	1	3034-1.1/8P	3034-1.1/8R	3034-1.1/8R-NG
1.1/4	12	1	3034-1.1/4P	3034-1.1/4R	3034-1.1/4R-NG
1.1/2	12	1	3034-1.1/2P	3034-1.1/2R	3034-1.1/2R-NG



**Calibration
certificates
included.
Lead times
apply on
all gauges.**



SCREW PLUG AND SCREW RING GAUGES



			PLUG GAUGE	RING GAUGE	
			GO - NO GO	GO	NO GO
DIAMETER INCH	TPI	QTY	PART NUMBER	PART NUMBER	PART NUMBER
BSPF – BSP/BSPP PARALLEL THREADS					
1/8	28	1	3046-1/8P	3046-1/8R	3046-1/8R-NG
1/4	19	1	3046-1/4P	3046-1/4R	3046-1/4R-NG
3/8	19	1	3046-3/8P	3046-3/8R	3046-3/8R-NG
1/2	14	1	3046-1/2P	3046-3/8R	3046-1/2R-NG
5/8	14	1	3046-5/8P	3046-1/2R	3046-5/8R-NG
3/4	14	1	3046-3/4P	3046-5/8R	3046-3/4R-NG
7/8	14	1	3046-7/8P	3046-3/4R	3046-7/8R-NG
1	11	1	3046-1P	3046-7/8R	3046-1R-NG
1 1/4	11	1	3046-1.1/4P	3046-1R	3046-1.1/4R-NG
1 1/2	11	1	3046-1.1/2P	3046-1.1/4R	3046-1.1/2R-NG
BSPT – Rc TAPERED THREADS					
1/8	28	1	3048-1/8P	3048-1/8R	3048-1/8R-NG
1/4	19	1	3048-1/4P	3048-1/4R	3048-1/4R-NG
3/8	19	1	3048-3/8P	3048-3/8R	3048-3/8R-NG
1/2	14	1	3048-1/2P	3048-1/2R	3048-1/2R-NG
3/4	14	1	3048-3/4P	3048-3/4R	3048-3/4R-NG
1	11	1	3048-1P	3048-1R	3048-1R-NG
1 1/4	11	1	3048-1.1/4P	3048-1.1/4R	3048-1.1/4R-NG
1 1/2	11	1	3048-1.1/2P	3048-1.1/2R	3048-1.1/2R-NG
2	11	1	3048-2P	3048-2R	3048-2R-NG
NPT – NATIONAL PIPE TAPERED					
1/8	27	1	3052-1/8P	3052-1/8R	3052-1/8R-NG
1/4	18	1	3052-1/4P	3052-1/4R	3052-1/4R-NG
3/8	18	1	3052-3/8P	3052-3/8R	3052-3/8R-NG
1/2	14	1	3052-1/2P	3052-1/2R	3052-1/2R-NG
3/4	14	1	3052-3/4P	3052-3/4R	3052-3/4R-NG
1	11.5	1	3052-1P	3052-1R	3052-1R-NG
1 1/4	11.5	1	3052-1.1/4P	3052-1.1/4R	3052-1.1/4R-NG
BSB – BRITISH STANDARD BRASS					
1/4	26	1	3060-1/4P	3060-1/4R	3060-1/4R-NG
5/16	26	1	3060-5/16P	3060-5/16R	3060-5/16R-NG
3/8	26	1	3060-3/8P	3060-3/8R	3060-3/8R-NG
7/16	26	1	3060-7/16P	3060-7/16R	3060-7/16R-NG
1/2	26	1	3060-1/2P	3060-1/2R	3060-1/2R-NG



**Calibration
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BA #	PITCH MM	QTY	PART NUMBER	PART NUMBER	PART NUMBER
BA – BRITISH ASSOCIATION					
10	0.35	1	3044-10P	3044-10R	3044-10R-NG
9	0.39	1	3044-9P	3044-9R	3044-9R-NG
8	0.43	1	3044-8P	3044-8R	3044-8R-NG
7	0.48	1	3044-7P	3044-7R	3044-7R-NG
6	0.53	1	3044-6P	3044-6R	3044-6R-NG
5	0.59	1	3044-5P	3044-5R	3044-5R-NG
4	0.66	1	3044-4P	3044-4R	3044-4R-NG
3	0.73	1	3044-3P	3044-3R	3044-3R-NG
2	0.81	1	3044-2P	3044-2R	3044-2R-NG
1	0.90	1	3044-1P	3044-1R	3044-1R-NG
0	1.00	1	3044-0P	3044-0R	3044-0R-NG


TAPPING AND CLEARANCE DRILL CHARTS FOR THREAD CUTTING TAPS


BA BRITISH ASSOCIATION							
BA #	pitch	basic depth of thread	basic major dia.	basic effective dia.	basic minor dia.	tapping drill	clearance drill
	inch	inch	inch	inch	inch	mm	mm
0	0.0394	0.0236	0.2362	0.2126	0.1890	5.10	6.10
1	0.0354	0.0213	0.2087	0.1874	0.1661	4.50	5.40
2	0.0319	0.0191	0.1850	0.1659	0.1468	4.00	4.80
3	0.0287	0.0172	0.1614	0.1441	0.1268	3.40	4.20
4	0.0260	0.0156	0.1417	0.1262	0.1106	3.00	3.70
5	0.0232	0.0139	0.1260	0.1120	0.0980	2.65	3.30
6	0.0209	0.0125	0.1102	0.0976	0.0850	2.30	2.90
7	0.0189	0.0113	0.0984	0.0870	0.0756	2.05	2.60
8	0.0169	0.0102	0.0866	0.0764	0.0661	1.80	2.25
9	0.0154	0.0092	0.0748	0.0656	0.0563	1.55	1.95
10	0.0138	0.0083	0.0669	0.0587	0.0504	1.40	1.75
11	0.0122	0.0073	0.0591	0.0518	0.0445	1.20	1.60
12	0.0110	0.0066	0.0512	0.0445	0.0378	1.05	1.40
13	0.0098	0.0059	0.0472	0.0413	0.0354	0.98	1.30
14	0.0091	0.0054	0.0394	0.0339	0.0283	0.80	1.10
15	0.0083	0.0050	0.0354	0.0305	0.0256	0.70	0.98
16	0.0075	0.0045	0.0311	0.0266	0.0220	0.60	0.88

BSW BRITISH STANDARD WHITWORTH							
BSW nom. dia.	pitch	basic depth of thread	basic major dia.	basic effective dia.	basic minor dia.	tapping drill	clearance drill
inch	tpi	inch	inch	inch	inch	mm	mm
1/16	60	0.0107	0.6250	0.0518	0.0411	1.20	1.65
3/32	48	0.0133	0.0938	0.0805	0.0672	1.85	2.50
1/8	40	0.0160	0.0125	0.1090	0.0930	2.55	3.30
5/32	32	0.0200	0.1562	0.1362	0.1162	3.20	4.10
3/16	24	0.0267	0.1875	0.1608	0.1341	3.70	4.90
7/32	24	0.0267	0.2188	0.1921	0.1654	4.50	5.70
1/4	20	0.0320	0.2500	0.2180	0.1860	5.10	6.50
5/16	18	0.0356	0.3125	0.2769	0.2413	6.50	8.10
3/8	16	0.0400	0.3750	0.3350	0.2950	7.90	9.70
7/16	14	0.0457	0.4375	0.3918	0.3461	9.30	11.30
1/2	12	0.0534	0.5000	0.4466	0.3932	10.50	13.00
9/16	12	0.0534	0.5625	0.5091	0.4557	12.10	14.50
5/8	11	0.0582	0.6250	0.5668	0.5086	13.50	16.25
11/16	11	0.0582	0.6875	0.6293	0.5711	15.00	17.75
3/4	10	0.0640	0.7500	0.6860	0.6220	16.25	19.25
13/16	10	0.0640	0.8125	0.7485	0.6845	18.00	21.00
7/8	9	0.0711	0.8750	0.8039	0.7328	19.25	22.50
15/16	9	0.0711	0.9375	0.8664	0.7953	20.75	24.00
1	8	0.0800	1.0000	0.9200	0.8400	22.00	25.75
1-1/8	7	0.0915	1.1250	1.0335	0.9420	24.75	29.00
1-1/4	7	0.0915	1.2500	1.1585	1.0670	28.00	32.00
1-3/8	6	0.1067	1.3750	1.2683	1.1616	30.25	35.50
1-1/2	6	0.1067	1.5000	1.3933	1.2866	33.50	38.50
1-5/8	5	0.1281	1.6250	1.4969	1.3688	35.50	41.50
1-3/4	5	0.1281	1.7500	1.6219	1.4938	39.00	45.00
1-7/8	4-1/2	0.1423	1.8750	1.7327	1.5904	41.50	48.00
2	4-1/2	0.1423	2.0000	1.8577	1.7154	44.50	51.00
2-1/4	4	0.1601	2.2500	2.0899	1.9298	51.00	58.00
2-1/2	4	0.1601	2.5000	2.3399	2.1798	57.00	64.00

BSF BRITISH STANDARD FINE							
BSF nom. dia.	pitch	basic depth of thread	basic major dia.	basic effective dia.	basic minor dia.	tapping drill	clearance drill
inch	tpi	inch	inch	inch	inch	mm	mm
3/16	32	0.0200	0.1875	0.1675	0.1475	4.00	4.90
7/32	28	0.0229	0.2188	0.1959	0.1730	4.60	5.70
1/4	26	0.0246	0.2500	0.2254	0.2008	5.30	6.50
5/16	22	0.0291	0.3125	0.2834	0.2543	6.80	8.10
3/8	20	0.0320	0.3750	0.3430	0.3110	8.30	9.70
7/16	18	0.0356	0.4375	0.4019	0.3663	9.70	11.30
1/2	16	0.0400	0.5000	0.4600	0.4200	11.10	13.00
9/16	16	0.0400	0.5625	0.5225	0.4825	12.70	14.50
5/8	14	0.0457	0.6250	0.5793	0.5336	14.00	16.25
11/16	14	0.0457	0.6875	0.6418	0.5961	15.50	17.75
3/4	12	0.0534	0.7500	0.6966	0.6432	16.75	19.25
7/8	11	0.0582	0.8750	0.8168	0.7586	19.75	22.50
1	10	0.0640	1.0000	0.9360	0.8720	22.75	25.75
1-1/8	9	0.0711	1.1250	1.0539	0.9828	25.50	29.00
1-1/4	9	0.0711	1.2500	1.1789	1.1078	28.50	32.00
1-3/8	8	0.0800	1.3750	1.2950	1.2150	31.50	35.50
1-1/2	8	0.0800	1.5000	1.4200	1.3400	34.50	38.50
1-3/4	7	0.0915	1.7500	1.6585	1.5670	41.00	45.00
2	7	0.0915	2.0000	1.9085	1.8170	47.00	52.00
2-1/4	6	0.1067	2.2500	2.1433	2.0366	53.00	58.00
2-1/2	6	0.1067	2.5000	2.3933	2.2866	58.00	64.00



TAPPING AND CLEARANCE DRILL CHARTS FOR THREAD CUTTING TAPS

BSPF BRITISH STANDARD PIPE G-SERIES

BSPF nom. dia.	pitch	basic depth of thread	basic major dia.	basic effective dia.	basic minor dia.	tapping drill
inch	tpi	inch	inch	inch	inch	mm
1/16	28	0.0229	0.3040	0.2812	0.2583	6.80
1/8	28	0.0229	0.3830	0.3601	0.3372	8.80
1/4	19	0.0337	0.5180	0.4843	0.4506	11.80
3/8	19	0.0337	0.6560	0.6223	0.5886	15.25
1/2	14	0.0457	0.8250	0.7793	0.7336	19.00
5/8	14	0.0457	0.9020	0.8563	0.8106	21.00
3/4	14	0.0457	1.0410	0.9953	0.9496	24.50
7/8	14	0.0457	1.1890	1.1433	1.0976	28.25
1	11	0.0582	1.3090	1.2508	1.1926	30.75
1-1/16	11	0.0582	1.6500	1.5918	1.5336	39.50
1-1/2	11	0.0582	1.8820	1.8238	1.7656	45.50
1-3/4	11	0.0582	2.1160	2.0578	1.9996	51.00
2	11	0.0582	2.3470	2.2888	2.2306	57.00
2-1/4	11	0.0582	2.5870	2.5288	2.4706	62.70
2-1/2	11	0.0582	2.9600	2.9018	2.8436	72.10
2-3/4	11	0.0582	3.2100	3.1518	3.0936	78.50
3	11	0.0582	3.4600	3.4018	3.3436	84.80
3-1/2	11	0.0582	3.9500	3.8918	3.8336	97.30
4	11	0.0582	4.4500	4.3918	4.3336	110.00
5	11	0.0582	5.4500	5.3918	5.3336	135.40
6	11	0.0582	6.4500	6.3918	6.3336	160.80

BSPT BRITISH STANDARD PIPE TAPER Rc-SERIES

BSPT nom. dia.	pitch	basic depth of thread	basic major dia.	basic effective dia.	basic minor dia.	gauge length	useful thread	tapping drill
inch	tpi	inch	inch	inch	inch	inch	inch	mm
1/16	28	0.0229	0.3040	0.2812	0.2583	0.1563	0.2545	6.40
1/8	28	0.0229	0.3830	0.3601	0.3372	0.1563	0.2545	8.40
1/4	19	0.0337	0.5180	0.4843	0.4506	0.2367	0.3814	11.20
3/8	19	0.0337	0.6560	0.6223	0.5886	0.2500	0.3947	14.75
1/2	14	0.0457	0.8250	0.7793	0.7336	0.3214	0.5178	18.25
3/4	14	0.0457	1.0410	0.9953	0.9496	0.3750	0.5714	23.75
1	11	0.0582	1.3090	1.2508	1.1926	0.4091	0.6591	30.00
1-1/4	11	0.0582	1.6500	1.5918	1.5336	0.5000	0.7500	38.50
1-1/2	11	0.0582	1.8820	1.8238	1.7656	0.5000	0.7500	44.50
2	11	0.0582	2.3470	2.2888	2.2306	0.6250	0.9204	56.00
2-1/2	11	0.0582	2.9600	2.9018	2.8436	0.6875	1.0511	71.00

METRIC COARSE

MC nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
mm	mm	mm	mm	mm	mm	mm	mm
1.00	0.25	1.00	0.838	0.693	0.729	0.75	1.05
1.10	0.25	1.10	0.938	0.793	0.829	0.85	1.15
1.20	0.25	1.20	1.038	0.893	0.929	0.95	1.25
1.40	0.30	1.40	1.205	1.032	1.075	1.10	1.45
1.60	0.35	1.60	1.373	1.170	1.221	1.25	1.65
1.80	0.35	1.80	1.573	1.370	1.421	1.45	1.85
2.00	0.40	2.00	1.740	1.509	1.567	1.60	2.05
2.20	0.45	2.20	1.908	1.648	1.713	1.75	2.25
2.50	0.45	2.50	2.208	1.948	2.013	2.05	2.60
3.00	0.50	3.00	2.675	2.387	2.459	2.50	3.10
3.50	0.60	3.50	3.110	2.764	2.850	2.90	3.60
4.00	0.70	4.00	3.545	3.141	3.242	3.30	4.10
4.50	0.75	4.50	4.013	3.580	3.688	3.70	4.60
5.00	0.80	5.00	4.480	4.019	4.134	4.20	5.10
6.00	1.00	6.00	5.350	4.773	4.917	5.00	6.10
7.00	1.00	7.00	6.350	5.773	5.917	5.00	7.20
8.00	1.25	8.00	7.188	6.466	6.647	6.80	8.20
9.00	1.25	9.00	8.188	7.466	7.647	7.80	9.20
10.00	1.50	10.00	9.026	8.160	8.376	8.50	10.20
11.00	1.50	11.00	10.026	9.160	9.376	9.50	11.20
12.00	1.75	12.00	10.863	9.853	10.106	10.20	12.20
14.00	2.00	14.00	12.701	11.546	11.835	12.00	14.25
16.00	2.00	16.00	14.701	13.546	13.835	14.00	16.25
18.00	2.50	18.00	16.376	14.933	15.294	15.50	18.25
20.00	2.50	20.00	18.376	16.933	17.294	17.50	20.25
22.00	2.50	22.00	20.376	18.933	19.294	19.50	22.25
24.00	3.00	24.00	22.051	20.319	20.752	21.00	24.25
27.00	3.00	27.00	25.051	23.319	23.752	24.00	27.25
30.00	3.50	30.00	27.727	25.706	26.211	26.50	30.50
33.00	3.50	33.00	30.727	28.706	29.211	29.50	33.50
36.00	4.00	36.00	33.402	31.093	31.670	32.00	36.50
39.00	4.00	39.00	36.402	34.093	34.670	35.00	39.50
42.00	4.50	42.00	39.077	36.479	37.129	37.50	42.50
45.00	4.50	45.00	42.077	39.479	40.129	40.50	45.50
48.00	5.00	48.00	44.752	41.866	42.587	43.00	48.50
52.00	5.00	52.00	48.752	45.866	46.587	47.00	53.00
56.00	5.50	56.00	52.428	49.252	50.046	50.50	57.00





TAPPING DRILL CHARTS FOR FLUTE TAPS

**METRIC FINE**

MF nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
mm	mm	mm	mm	mm	mm	mm	mm
3.00	0.35	3.00	2.773	2.570	2.621	2.65	3.10
4.00	0.50	4.00	3.675	3.387	3.459	3.50	4.10
5.00	0.50	5.00	4.675	4.387	4.459	4.50	5.10
6.00	0.75	6.00	5.513	5.080	5.188	5.20	6.10
7.00	0.75	7.00	6.513	6.080	6.188	6.20	7.20
8.00	1.00	8.00	7.350	6.773	6.917	7.00	8.20
10.00	1.25	10.00	9.188	8.466	8.647	8.80	10.20
12.00	1.25	12.00	11.188	10.466	10.647	10.80	12.20
14.00	1.50	14.00	13.026	12.160	12.376	12.50	14.25
16.00	1.50	16.00	15.026	14.160	14.376	14.50	16.25
18.00	1.50	18.00	17.026	16.160	16.376	16.50	18.25
20.00	1.50	20.00	19.026	18.160	18.376	18.50	20.25
22.00	1.50	22.00	21.026	20.160	20.376	20.50	22.25
24.00	2.00	24.00	22.701	21.546	21.835	22.00	24.25
27.00	2.00	27.00	25.701	24.506	24.835	25.00	27.25
30.00	2.00	30.00	28.701	27.546	27.835	28.00	30.50

METRIC CONDUIT

Conduit nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
mm	mm	mm	mm	mm	mm	mm	mm
16.00	1.50	16.00	15.026	14.160	14.376	14.50	16.25
20.00	1.50	20.00	19.026	18.160	18.376	18.50	20.25
25.00	1.50	25.00	24.026	23.160	23.376	23.50	25.25
32.00	1.50	32.00	31.026	30.160	30.376	30.50	32.50
40.00	1.50	40.00	39.026	38.160	38.376	38.50	40.50
50.00	1.50	50.00	49.026	48.160	48.376	48.50	50.50

METRIC SPECIAL

MS nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
mm	mm	mm	mm	mm	mm	mm	mm
1.70	0.35	1.70	1.473	1.270	1.321	1.35	1.80
2.00	0.45	2.00	1.708	1.448	1.513	1.55	2.10
2.30	0.40	2.30	2.040	1.809	1.867	1.90	2.40
2.60	0.45	2.60	2.308	2.048	2.113	2.15	2.70
3.00	0.60	3.00	2.610	2.264	2.350	2.40	3.10
4.00	0.75	4.00	3.513	3.308	3.188	3.20	4.10
5.00	0.90	5.00	4.415	3.896	4.026	4.10	5.10
5.50	0.90	5.50	4.915	4.396	4.526	4.60	5.60
8.00	0.75	8.00	7.513	7.080	7.188	7.20	8.20
9.00	1.00	9.00	8.350	7.773	7.917	8.00	9.20
10.00	0.75	10.00	9.513	9.080	9.188	9.20	10.20
10.00	1.00	10.00	9.350	8.773	8.917	9.00	10.20
12.00	1.00	12.00	11.350	10.773	10.917	11.00	12.20
12.00	1.50	12.00	11.026	10.160	10.376	10.50	12.20
14.00	1.25	14.00	13.188	12.466	12.647	12.80	14.25
16.00	1.00	16.00	15.350	14.773	14.917	15.00	16.25
20.00	1.00	20.00	19.350	18.773	18.917	19.00	20.25
20.00	2.00	20.00	18.701	17.546	17.835	18.00	20.25
24.00	1.00	24.00	23.350	22.773	22.917	23.00	24.25
24.00	1.50	24.00	23.026	22.160	22.376	22.50	24.25
25.00	1.50	25.00	24.026	23.160	23.376	23.50	25.25
32.00	1.50	32.00	31.026	30.160	30.376	30.50	32.50

METRIC SPARK PLUG

SP nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
mm	mm	mm	mm	mm	mm	mm	mm
10.00	1.00	10.00	9.350	8.773	8.917	9.00	10.20
12.00	1.25	12.00	11.188	10.466	10.647	10.80	12.20
14.00	1.25	14.00	13.188	12.466	12.647	12.80	14.25
18.00	1.50	18.00	17.026	16.160	16.376	16.50	18.25

NPT NATIONAL PIPE TAPERED

NPT nominal dia.	pitch	basic depth of thread	outside dia. of pipe	eff. dia at small end ext. thread	eff. dia at large end ext. thread	gauge length	useful thread	tapping drill
inch	tpi	inch	inch	inch	inch	inch	inch	mm
1/16	27	0.0296	0.3125	0.2712	0.2812	0.1598	0.2611	6.30
1/8	27	0.0296	0.4050	0.3635	0.3736	0.1613	0.2639	8.70
1/4	18	0.0444	0.5400	0.4774	0.4916	0.2275	0.4018	11.10
3/8	18	0.0444	0.6750	0.6120	0.6270	0.2398	0.4078	14.50
1/2	14	0.0571	0.8400	0.7584	0.7784	0.3199	0.5337	18.00
3/4	14	0.0571	1.0500	0.9677	0.9889	0.3391	0.5457	23.25
1	11-1/2	0.0696	1.3150	1.2136	1.2386	0.3997	0.6828	29.00
1-1/4	11-1/2	0.0696	1.6600	1.5571	1.5834	0.4197	0.7068	38.00
1-1/2	11-1/2	0.0696	1.9000	1.7961	1.8223	0.4197	0.7235	44.00
2	11-1/2	0.0696	2.3750	2.2690	2.2963	0.4354	0.7565	56.00
2-1/2	8	0.1000	2.8750	2.7195	2.7622	0.6825	1.1375	67.00





TAPPING AND CLEARANCE DRILL CHARTS FOR THREAD CUTTING TAPS

UNC UNIFIED NATIONAL COARSE

UNC nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
inch	tpi	inch	inch	inch	inch	mm	mm
1G	64	0.0730	0.0629	0.0538	0.0561	1.55	1.95
2G	56	0.0860	0.0744	0.0641	0.0667	1.85	2.30
3G	48	0.0990	0.0855	0.0734	0.0764	2.10	2.65
4G	40	0.1120	0.0958	0.0813	0.0849	2.35	2.95
5G	40	0.1250	0.1088	0.0943	0.0979	2.65	3.30
6G	32	0.1380	0.1177	0.0997	0.1042	2.85	3.60
8G	32	0.1640	0.1437	0.1257	0.1302	3.50	4.30
10G	24	0.1900	0.1629	0.1389	0.1449	3.90	4.90
12G	24	0.2160	0.1889	0.1649	0.1709	4.50	5.60
1/4	20	0.2500	0.2175	0.1887	0.1959	5.10	6.50
5/16	18	0.3125	0.2764	0.2443	0.2524	6.60	8.10
3/8	16	0.3750	0.3344	0.2983	0.3073	8.00	9.70
7/16	14	0.4375	0.3911	0.3499	0.3602	9.40	11.30
1/2	13	0.5000	0.4500	0.4056	0.4167	10.80	13.00
9/16	12	0.5625	0.5084	0.4603	0.4723	12.20	14.50
5/8	11	0.6250	0.5660	0.5135	0.5266	13.50	16.25
3/4	10	0.7500	0.6850	0.6273	0.6417	16.50	19.25
7/8	9	0.8750	0.8028	0.7387	0.7547	19.50	22.50
1	8	1.0000	0.9188	0.8466	0.8647	22.25	25.75
1-1/8	7	1.1250	1.0322	0.9497	0.9704	25.00	29.00
1-1/4	7	1.2500	1.1572	1.0747	1.0954	28.00	32.00
1-3/8	6	1.3750	1.2667	1.1705	1.1946	30.75	35.50
1-1/2	6	1.5000	1.3917	1.2955	1.3196	34.00	38.50
1-3/4	5	1.7500	1.6201	1.5046	1.5335	39.50	45.00
2	4-1/2	2.0000	1.8557	1.7274	1.7594	45.00	51.00
2-1/4	4-1/2	2.2500	2.1057	1.9774	2.0094	52.00	58.00

UNF UNIFIED NATIONAL FINE

UNF nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
inch	tpi	inch	inch	inch	inch	mm	mm
0G	80	0.0600	0.0519	0.0447	0.0465	1.25	1.60
1G	72	0.0730	0.0640	0.0560	0.0580	1.55	1.95
2G	64	0.0860	0.0759	0.0668	0.0691	1.90	2.30
3G	56	0.0990	0.0874	0.0771	0.0797	2.15	2.65
4G	48	0.1120	0.0985	0.0864	0.0894	2.40	2.95
5G	44	0.1250	1.1102	0.0971	0.1004	2.70	3.30
6G	40	0.1380	0.1218	0.1073	0.1109	2.95	3.60
8G	36	0.1640	0.1460	0.1299	0.1339	3.50	4.30
10G	32	0.1900	0.1697	0.1517	0.1562	4.10	4.90
12G	28	0.2160	0.1928	0.1722	0.1773	4.70	5.60
1/4	28	0.2500	0.2268	0.2062	0.2113	5.50	6.50
5/16	24	0.3125	0.2854	0.2614	0.2674	6.90	8.10
3/8	24	0.3750	0.3479	0.3239	0.3299	8.50	9.70
7/16	20	0.4375	0.4050	0.3762	0.3834	9.90	11.30
1/2	20	0.5000	0.4675	0.4387	0.4459	11.50	13.00
9/16	18	0.5625	0.5264	0.4943	0.5024	12.90	14.50
5/8	18	0.6250	0.5889	0.5568	0.5649	14.50	16.25
3/4	16	0.7500	0.7094	0.6733	0.6823	17.50	19.25
7/8	14	0.8750	0.8286	0.7874	0.7977	20.40	22.50
1	12	1.0000	0.9459	0.8978	0.9098	23.25	25.75
1-1/8	12	1.1250	1.0709	1.0228	1.0348	26.50	29.00
1-1/4	12	1.2500	1.1959	1.1478	1.1598	29.50	32.00
1-3/8	12	1.3750	1.3209	1.2728	1.2848	32.75	35.50
1-1/2	12	1.5000	1.4459	1.3978	1.4098	36.00	38.50

UNEF UNIFIED NATIONAL EXTRA FINE

UNEF nom. dia.	pitch	basic major dia.	basic effective dia.	basic minor dia. ext.	basic minor dia. int.	tapping drill	clearance drill
inch	tpi	inch	inch	inch	inch	mm	mm
1/4	32	0.2500	0.2297	0.2128	0.2162	5.60	6.50
5/16	32	0.3125	0.2922	0.2753	0.2787	7.20	8.10
3/8	32	0.3750	0.3547	0.3378	0.3412	8.80	9.70
7/16	28	0.4375	0.4143	0.3949	0.3988	10.20	11.30
1/2	28	0.5000	0.4768	0.4574	0.4613	11.80	13.00
9/16	24	0.5625	0.5354	0.5129	0.5174	13.20	14.50
5/8	24	0.6250	0.5979	0.5754	0.5799	14.75	16.25
3/4	20	0.7500	0.7175	0.6905	0.6959	18.00	19.25
7/8	20	0.8750	0.8425	0.8155	0.8209	21.00	22.50
1	20	1.0000	0.9675	0.9405	0.9459	24.20	25.75





TAPPING DRILL CHARTS FOR FLUTELESS TAPS (ROLL FORM, THREADFLOW)



METRIC						
Metric Coarse nominal dia.	pitch	tapping drill		Metric Fine nominal dia.	pitch	tapping drill
mm	mm	mm		mm	mm	mm
2.00	0.40	1.80		5.00	0.50	4.75
3.00	0.50	2.80		6.00	0.75	5.65
3.50	0.60	3.25		7.00	0.75	6.65
4.00	0.70	3.70		8.00	1.00	7.55
4.50	0.75	4.15		9.00	1.00	8.55
5.00	0.80	4.65		10.00	1.00	9.55
6.00	1.00	5.55		10.00	1.25	9.40
7.00	1.00	6.55		11.00	1.00	10.55
8.00	1.25	7.40	12.00	1.00	11.55	
9.00	1.25	8.40	12.00	1.25	11.40	
10.00	1.50	9.25	12.00	1.50	11.30	
11.00	1.50	10.25	14.00	1.00	13.55	
12.00	1.75	11.20	14.00	1.25	13.40	
14.00	2.00	13.10	14.00	1.50	13.30	
16.00	2.00	15.10	16.00	1.00	15.55	
18.00	2.50	16.90	16.00	1.50	15.30	
20.00	2.50	18.90	18.00	1.50	17.30	

UNIFIED NATIONAL						
UNC nominal dia.	pitch	tapping drill		UNF nominal dia.	pitch	tapping drill
inch	tpi	mm		inch	tpi	mm
1G	64	1.65		0G	80	1.40
2G	56	1.95		1G	72	1.70
3G	48	2.25		2G	64	2.00
4G	40	2.55		3G	56	2.30
5G	40	2.90		4G	48	2.60
6G	32	3.20		5G	44	2.90
8G	32	3.80		6G	40	3.20
10G	24	4.30		8G	36	3.80
12G	24	5.00		10G	32	4.50
1/4	20	5.80		12G	28	5.10
5/16	18	7.30		1/4	28	5.90
3/8	16	8.80		5/16	24	7.50
				3/8	24	9.00

BRITISH STANDARD											
BSW nominal dia.			pitch	tapping drill			BSF nominal dia.			pitch	tapping drill
inch			tpi	mm			inch			tpi	mm
1/8			40	2.90			3/16			32	4.40
3/16			24	4.30			1/4			26	5.90
1/4			20	5.80			5/16			22	7.40
5/16			18	7.30			3/8			20	9.00
3/8			16	8.80							





CONDITIONS OF SALE

CONDITIONS OF SALE

1. **PRICES:** All prices quoted exclude GST and are subject to change without notice. Export shipments are not subject to GST. All prices quoted in Australian Dollars unless otherwise stated.
2. **FREIGHT TERMS:** Bordo International Pty Ltd ("Bordo") has no minimum invoice value. All orders over \$250 nett exclusive of GST are freight-free — prices are ex-warehouse. Bordo reserves the right to despatch freight-free orders by a carrier and method of its choosing. Freight-free orders are calculated on a \$250 nett exclusive of GST basis per order for each warehouse dispatch. Drop-shipments incur freight charges. Where the order is under \$250 nett exclusive of GST the customer is responsible for all costs associated with delivery. Any period for delivery of goods stated by Bordo is an estimate only and not a contractual commitment. Bordo will use its reasonable endeavours to meet any estimated dates for delivery of the goods but will not be liable for any loss or damage suffered by the customer or any third party for failure to meet an estimated date. The customer indemnifies Bordo against any loss or damage suffered by Bordo, its subcontractors or employees as a result of delivery, except where the customer is a "consumer" as defined in the Australian Consumer Schedule of the Competition and Consumer Act 2010 (Cth) as amended ("ACL") and Bordo has not used due care and skill.
3. **PAYMENT TERMS:** Unless otherwise agreed in writing payment for the goods or services must be made in full within 30 days from the end of the month of the date of Bordo's invoice. Bordo reserves the right to require payment in full on delivery of the goods. Payment by cheque is not deemed made until the proceeds of the cheque have cleared. Payment terms may be revoked or amended at Bordo's sole discretion immediately upon giving the customer written or verbal notice. The time for payment is of the essence.
4. **DAMAGE, DEFECTS AND LOSS IN TRANSIT:** Bordo will not be liable for any shortages or non compliance with the specifications in these Terms and Conditions unless the customer notifies Bordo with full details and description within 10 working days of delivery to the customer. Where any shortages, claim for damaged goods or non compliance with the agreement specifications is accepted by Bordo, Bordo may, at its option, repair or replace the goods or refund or credit the portion of the purchase price. Bordo will not under any circumstances accept goods for return that have been specifically produced, imported or acquired to fulfil the agreement, that are discontinued goods or no longer stocked by Bordo, that have been altered in any way, that have been used, or that are not in their original condition and packaging. If the customer is a consumer, nothing in this clause limits any remedy available for a failure of the statutory guarantees in the ACL.
5. **CREDIT INFORMATION:**
 - 5.1. Bordo may seek consumer credit information (section 18K(1)(b), Privacy Act 1988). If Bordo considers it relevant to assessing the customer's application for commercial credit the customer agrees to Bordo obtaining from a credit reporting agency a credit report containing personal credit information about the customer and to conducting a search of the Personal Property Securities Register for the purpose of assessing the customer's application for commercial credit.
 - 5.2. Exchanging information with other credit providers (Section 18N(1)(b), Privacy Act 1988). The customer agrees to Bordo obtaining personal information about the customer from other credit providers whose names the customer may have provided for Bordo or that may be named in a credit report, and from the Personal Property Securities Register, for the purpose of assessing the customer's application for commercial credit.
 - 5.3. Agreement to a credit provider being given a consumer credit report to collect overdue payments on commercial credit (Section 18K(1)(h) Privacy Act 1988). The customer agrees that Bordo may obtain a consumer credit report about the customer from a credit reporting agency for the purpose of collecting overdue payments relating to commercial credit owed by the customer.
6. **RETENTION OF TITLE:**
 - 6.1. Until Bordo receives full payment in cleared funds for all goods supplied by it to the customer, as well as all other amounts owing to Bordo by the customer:
 - (a) title and property in all goods remains vested in Bordo and does not pass to the customer;
 - (b) the customer must hold the goods as fiduciary bailee and agent for Bordo;
 - (c) the customer must keep the goods separate from its own goods and maintain Bordo's labelling and packaging;
 - (d) the customer must hold the proceeds of sale of the goods on trust for Bordo in a separate account with a bank to whom the customer has not given security however failure to do so will not affect the customer's obligation as trustee;
 - (e) in addition to its rights under the Personal Property Securities Act 2009 (Cth) ("PPSA"), Bordo may without notice, enter any premises where it suspects the goods are and remove them, notwithstanding that they may have been attached to other goods not the property of Bordo, and for this purpose the customer irrevocably licences Bordo to enter such premises and also indemnifies Bordo from and against all costs, claims, demands or actions by any party arising from such action.
 - 6.2. The customer warrants that it is not at the time of placing an order for goods or services insolvent and knows of no circumstances which would entitle any creditor to appoint a receiver or to petition for winding up or to exercise any other rights over or against its assets.
 - 6.3. If any of these retention of title provisions are construed to be invalid or not enforceable in accordance with their terms all other provisions which are self-sustaining and capable of separate enforcement without regard to the invalid provisions shall be and continue to be valid and enforceable in accordance with their terms.
7. **PERSONAL PROPERTY SECURITIES ACT:**
 - 7.1. Notwithstanding anything to the contrary contained in these Terms and Conditions, the PPSA applies to these Terms and Conditions.
 - 7.2. For the purposes of the PPSA:
 - (a) terms used in this clause 7 that are defined in the PPSA have the same meaning as in the PPSA;
 - (b) these Terms and Conditions are a security agreement and Bordo has a Purchase Money Security Interest in all present and future goods supplied by Bordo to the customer and the proceeds of the goods;
 - (c) the security interest is a continuing interest irrespective of whether there are monies or obligation owing by the customer at any particular time; and
 - (d) the customer must do whatever is necessary in order to give a valid security interest over the goods and their proceeds which is able to be registered by Bordo on the Personal Property Securities Register.
 - 7.3. The security interest arising under this clause 7 attaches to the goods when the goods are collected or dispatched from Bordo's premises and not at any later time.
 - 7.4. Where permitted by the PPSA, the customer waives any rights to receive the notifications, verifications, disclosures or other documentation specified under sections 95, 118, 121(4), 130, 132(3)(d), 132(4), 135 and 157 of the PPSA.
 - 7.5. Bordo and the customer agree to contract out of and nothing in the provisions of sections 96, 125, 129, 142 and 143 of the PPSA will apply to these Terms and Conditions.
 - 7.6. To the extent permitted by the PPSA, the customer agrees that:
 - (a) the provisions of Chapter 4 of the PPSA which are for the benefit of the customer or which place obligations on Bordo will apply only to the extent that they are mandatory or Bordo agrees to their application in writing; and
 - (b) where Bordo has rights in addition to those in Chapter 4 of the PPSA, those rights will continue and apply.
 - 7.7. The customer must immediately upon Bordo's request:
 - (a) do all things and execute all documents necessary to give effect to the security interest created under these Terms and Conditions; and
 - (b) procure from any person considered by Bordo to be relevant to its security position such agreements and waivers (including as equivalent to those above) as Bordo may at any time require.
 - 7.8. Bordo may allocate amounts received from the customer in any manner Bordo determines, including in any manner required to preserve any Purchase Money Security Interest it has in goods supplied by Bordo.
8. **CREDITS/RETURNS:** Except to the extent of any liability imposed by the ACL, authorisation must be obtained before returning goods for credit. No goods will be accepted for credit that are correctly supplied and invoiced if not returned freight paid within 14 days and delivery freight will be charged. Also a 15% restocking fee will be charged for any goods supplied correctly. Goods forwarded in error will be replaced no charge freight paid. Goods incorrectly sent must be held by the customer pending our further instruction.



CREDITS AND RETURNS PROCEDURES

9. **LIABILITY:**
- 9.1. Except as these Terms and Conditions specifically state, these Terms and Conditions do not include by implication any other term, condition or warranty in respect of the quality, merchantability, acceptability, fitness for purpose, condition, description, assembly, manufacture, design or performance of the goods or services or any contractual remedy for their failure.
 - 9.2. If the customer is a consumer nothing in these Terms and Conditions restricts, limits or modifies the customer's rights or remedies against Bordo for failure of a statutory guarantee under the ACL.
 - 9.3. If the customer on-supplies the goods to a consumer:
 - (a) if the goods or services are not of a kind ordinarily acquired for personal, domestic or household use or consumption, then the amount specified in section 276A(1) of the ACL is the absolute limit of Bordo's liability to the customer;
 - (b) if the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then payment of any amount required under section 274 of the ACL is the absolute limit of Bordo's liability to the customer howsoever arising under or in connection with the sale, installation, use of, storage or any other dealings with the goods by the customer or any third party.
 - 9.4. If clause 9.2 or 9.3 does not apply, then other than as stated in these Terms and Conditions Bordo is not liable to the customer in any way howsoever arising under or in connection with the sale, installation, use of, storage or any other dealings with the goods or services by the customer or any third party.
 - 9.5. Bordo is not liable for any indirect or consequential losses or expenses suffered by the customer or any third party, howsoever caused, including but not limited to loss of turnover, profits, business or goodwill or any liability to any other party, except to the extent of any liability imposed by the ACL.
 - 9.6. The customer acknowledges that:
 - (a) it has not relied on any service involving skill and judgement, or on any advice, recommendation, information or assistance provided by Bordo in relation to the goods or their use or application;
 - (b) it has not made known, either expressly or by implication, to Bordo any purpose for which it requires the goods and it has the sole responsibility of satisfying itself that the goods are suitable for the use of the customer.
 - 9.7. Nothing in these Terms and Conditions is to be interpreted as excluding, restricting or modifying the application of any State or Federal legislation applicable to the sale of goods which cannot be so excluded, restricted or modified.
10. **TRADING TERMS AND CONDITIONS:** Are subject to change without notice. Trading terms and conditions appear on the Account Application Form, our web site (www.bordo.com.au), or are available on request.

DISCLAIMER Whilst every effort has been made to ensure the accuracy of the information contained herein, Bordo International Pty Ltd accepts no liability for any loss or damage either direct or consequential arising out of, or in relation to, the use or application of the said information or products referred to herein. All information is believed to be correct at time of printing. E.&O.E.

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CREDITS/RETURNS PROCEDURE

RETURNED FOR WARRANTY

1. All goods returned to Bordo International MUST be accompanied by a Return Authorisation Number. Goods returned to Bordo International without an RA will not be processed.
2. All RA returns are to be delivered to Bordo International Pty Ltd 3 Kingston Park Court Scoresby Victoria 3179 Australia.
3. Cost of returning all goods under warranty including transport and insurance, is the CUSTOMER'S responsibility.
4. Goods must be properly packaged for return, goods damaged in transit will void warranty.
5. Goods returned for warranty will be repaired or replaced at Bordo International's discretion.
6. Whilst Bordo International will endeavour to return warrantied goods to customers as quickly as possible, temporary replacement items will not be supplied.
7. A copy of the original invoice must accompany all warranty returns.
8. Goods returned with NO FAULT FOUND may be charged a minimum administration fee of \$25.00 +GST per item.

RETURNED FOR CREDIT

1. All credit requests must be made to your account/sales representative OR to Bordo Customer Service.
2. All goods returned to Bordo International MUST be accompanied by a Return Authorisation Number. Goods returned to Bordo International without an RA will not be processed.
3. Specifically ordered non-stock items will not be accepted for credit.
4. Credit will be issued at Bordo International's discretion and, where applicable, re-stocking fees will apply.
5. All RA returns are to be delivered to Bordo International Pty Ltd 3 Kingston Park Court Scoresby Victoria 3179 Australia.
6. Goods may be considered as eligible for credit return provided that ALL of the following criteria are met:
 - a) a credit Return Authorisation number (RA) is obtained prior to sending the returned goods; and
 - b) the goods are returned unopened, undamaged and in original packaging, and as such must not have additional price, warranty, freight and/or other sticker, tags or labels attached; and
 - c) the returned goods are received by Bordo International within 14 days of receipt of goods by the customer.
7. If returned goods are deemed by Bordo International NOT to be in a re-saleable condition, credit will be denied and it will be the customer's responsibility to arrange the collection of the goods.
8. Unless Bordo International have incorrectly shipped products, transport charges will be paid by the customer unless otherwise agreed by Bordo International in writing.



GOLIATH
the threading specialists



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the threading specialists

OUR CORPORATE PHILOSOPHY

Bordo International is synonymous with excellence in industrial cutting tools, accessories, and threading products. Bordo's head office is located in the Eastern suburbs of Melbourne and uses a comprehensive distribution network throughout Australia. Founded in 1987, Bordo remains a 100% family-owned Australian company with offices and warehouses in Europe and the USA.

Reflecting our total commitment to excellence, our mission is to provide a complete cutting tool range of a quality and reliability that exceeds our customers' expectations and requirements, and a service level second-to-none in the market.

PRODUCTS

As Industrial Cutting Tool and Power Tool Accessory specialists, our extensive product range is one of the most comprehensive in the industry. Our continually expanding range of precision cutting tools ensures you need look no further for all your industrial cutting needs. All of our products have been carefully selected and determined to be the best quality of their kind in the world.

SERVICE

Bordo International is committed to working with our suppliers and customers to improve and expand our range of cutting tools and power tool accessories, whilst continuing to provide the highest levels of service. We are supported by a team of technical and production experts who ensure that all specialised tooling requirements are met to our customers' exacting specifications.

VISION

The Bordo Quality Commitment exists throughout all levels of our company – products, service, vision. We source our products from the world's finest manufacturers, maintaining our 'quality without compromise' ethos. Our commitment results in the most reliable and competitive package available – when you use our tools you can be assured you are getting the very best the world has to offer.



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