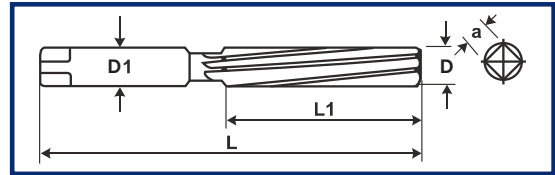


HSS Parallel Shank Hand Reamers As Per IS : 5444 - 1978

Metric Sizes As Per DIN 206

Cutting Diameter	Shank Diameter	Flute Length	Overall Length	No. Of Flutes	Sq. Size
D mm	D1 mm	L1 mm	L mm	Nos.	a. mm
3.0	3.0	31	62	4	3.00
4.0	4.0	38	76	6	3.15
4.5	4.5	41	81	6	3.55
5.0	5.0	44	87	6	4.00
5.5	5.5	47	93	6	4.50
6.0	6.0	47	93	6	4.50
6.5	6.5	50	100	6	5.00
7.0	7.0	54	107	6	5.60
7.5	7.5	54	107	6	5.60
8.0	8.0	58	115	6	6.30
8.5	8.5	58	115	6	6.30
9.0	9.0	62	124	6	7.10
9.5	9.5	62	124	6	7.10
10.0	10.0	66	133	6	8.00
10.5	10.5	66	133	6	8.00
11.0	11.0	71	142	6	9.00
11.5	11.5	71	142	6	9.00
12.0	12.0	76	152	6	10.00
12.5	12.5	76	152	6	10.00
13.0	13.0	76	152	6	10.00
13.5	13.5	81	163	6	11.20
14.0	14.0	81	163	6	11.20
14.5	14.5	81	163	8	11.20
15.0	15.0	81	163	8	11.20
16.0	16.0	87	175	8	12.50
17.0	17.0	87	175	8	12.50
18.0	18.0	93	188	8	14.00
19.0	19.0	93	188	8	14.00
20.0	20.0	100	201	8	16.00
21.0	21.0	100	201	8	16.00
22.0	22.0	107	215	8	18.00
23.0	23.0	107	215	8	18.00
24.0	24.0	115	231	10	20.00
25.0	25.0	115	231	10	20.00

Intermediate sizes are available on request

Packing: Square Plastic Tube
As per customer requirement

Manufacturing Standards

German	DIN 206
British	BS 328

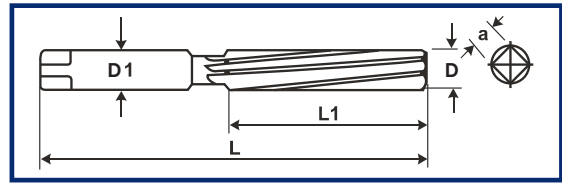
Description	Standard
Helix Angle	7° Left hand helix/Right hand cut
Required finished Hole Tolerance	H 7
Holding	Straight shank with Square end
Taper Lead	1/2° to 1°/Length of taper - 1.5 x Cutting Diameter maximum up to 20.0mm.
Bevel Lead	45°
Applications	Intended to finish existing holes to H7 tolerance in most ferrous and non-ferrous metals.

Miranda Hand Reamers are made from M2 Grade of HSS.

Miranda Hand Reamers are manufactured with Milled Flute.

Miranda Hand Reamers are available in Sand Blasted or Steam Blue Finish.

Imperial sizes can be supplied as per BS 328.

HSS Parallel Shank Hand Reamers As Per IS : 5444 - 1978 / DIN - 206

Metric Sizes As Per DIN 206

Cutting Diameter	Shank Diameter	Flute Length	Overall Length	No. Of Flutes	Sq. Size
D mm	D1 mm	L1 mm	L mm	Nos.	a. mm
26.0	26.0	115	231	10	20.00
27.0	27.0	124	247	10	22.40
28.0	28.0	124	247	10	22.40
29.0	29.0	124	247	10	22.40
30.0	30.0	124	247	10	22.40
31.0	31.0	133	265	10	25.00
32.0	32.0	133	265	10	25.00
33.0	33.0	133	265	10	25.00
34.0	34.0	142	284	10	28.00
35.0	35.0	142	284	10	28.00
36.0	36.0	142	284	10	28.00
37.0	37.0	142	284	10	28.00
38.0	38.0	152	305	12	31.50
39.0	39.0	152	305	12	31.50
40.0	40.0	152	305	12	31.50
41.0	41.0	152	305	12	31.50
42.0	42.0	152	305	12	31.50
43.0	43.0	163	326	12	35.50
44.0	44.0	163	326	12	35.50
45.0	45.0	163	326	12	35.50
46.0	46.0	163	326	12	35.50
47.0	47.0	163	326	12	35.50
48.0	48.0	174	347	12	40.00
49.0	49.0	174	347	12	40.00
50.0	50.0	174	347	12	40.00

Intermediate sizes are available on request

Packing:

Square Plastic Tube
As per customer requirement

Manufacturing Standards

IS 5444 - 1978

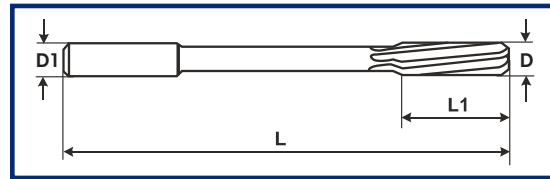
Description	Standard
Helix Angle	7° Left hand helix/Right hand cut
Required finished Hole Tolerance	H 7
Holding	Straight shank with Square end
Taper Lead	1/2° to 1°/Length of taper - 1.5 x Cutting Diameter maximum up to 20.0mm.
Bevel Lead	45°
Applications	Intended to finish existing holes to H7 tolerance in most ferrous and non-ferrous metals.

Miranda Hand Reamers are made from M2 Grade of HSS.

Miranda Hand Reamers are manufactured with Milled Flute.

Miranda Hand Reamers are available in Sand Blasted or Steam Blue Finish.

Imperial sizes can be supplied as per BS 328.

HSS Parallel Shank Chucking Reamers As Per IS : 5444 - 1978 / DIN - 212

Metric Sizes As Per DIN 212

Cutting Diameter	Shank Diameter	Flute Length	Overall Length	No. Of Flutes
D mm	D1 mm	L1 mm	L mm	Nos.
4	4	19	75	6
4.5	4.5	21	80	6
5	5	23	86	6
5.5	5.6	26	93	6
6	5.6	26	93	6
6.5	6.3	28	101	6
7	7.1	31	109	6
8	8	33	117	6
9	9	36	125	6
10	10	38	133	6
11	10	41	142	6
12	10	44	151	6
13	10	44	151	6
14	12.5	47	160	8
15	12.5	50	162	8
16	12.5	52	170	8
17	14	54	175	8
18	14	56	182	8
19	16	58	189	8
20	16	60	195	8

Intermediate sizes are available on request

Manufacturing Standards

IS	5444 - 1978
-----------	--------------------

Description	Standard
Helix Angle	7° Left hand helix/Right hand cut
Required finished Hole Tolerance	H 7
Holding	Straight shank without Square end
Taper Lead	No taper lead
Bevel Lead	45°
Applications	1) For general purpose machine use in batch or mass production . 2) Intended to finish existing holes to H7 tolerance in most ferrous and non-ferrous metals.

Miranda Parallel shank chucking Reamers are made from M2 Grade of HSS.

Miranda Parallel shank chucking Reamers are manufactured with Milled flute.

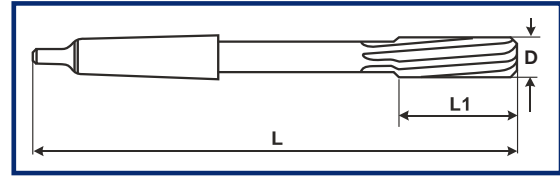
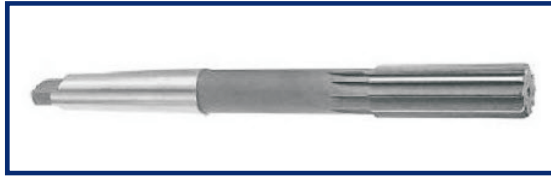
Miranda Parallel shank chucking Reamers are available in Sand Blasted or Steam Blue Finish.

Imperial sizes can be supplied as per BS 328.

Packing:

Square Plastic Tube

As per customer requirement

HSS Taper Shank Chucking Reamers As Per IS : 5444 - 1978 / DIN - 208

Metric Sizes As Per DIN 208

Cutting Diameter	Shank	Flute Length	Overall Length	No. Of Flutes
D mm		L1 mm	L mm	Nos.
6	MT1	26	138	6
7	MT1	31	150	6
8	MT1	33	156	6
9	MT1	36	162	6
10	MT1	38	168	6
11	MT1	41	175	6
12	MT1	44	182	6
13	MT1	44	182	6
14	MT1	47	189	8
15	MT2	50	204	8
16	MT2	52	210	8
17	MT2	54	214	8
18	MT2	56	219	8
19	MT2	58	223	8
20	MT2	60	228	8
22	MT2	64	237	8
24	MT3	68	268	8
25	MT3	68	268	8
26	MT3	70	273	8
28	MT3	71	277	10
30	MT3	73	281	10
31	MT3	75	285	10
32	MT4	77	317	10
33	MT4	77	317	10
34	MT4	78	321	10
35	MT4	78	321	10
36	MT4	79	325	10
38	MT4	81	329	10
40	MT4	81	329	10
42	MT4	82	333	12
44	MT4	83	336	12
45	MT4	83	336	12
46	MT4	84	340	12
47	MT4	84	340	12
48	MT4	86	344	12
50	MT4	86	344	12

Intermediate sizes are available on request

Packing:

Square Plastic Tube

As per customer requirement

Manufacturing Standards

IS

5444 - 1978

Description	Standard
Helix Angle	7° Left hand helix/Right hand cut
Required finished Hole Tolerance	H 7
Holding	Taper shank
Taper Lead	No taper lead
Bevel Lead	45°
Applications	1) For general purpose machine use in batch or mass production . 2) Intended to finish existing holes to H7 tolerance in most ferrous and non-ferrous metals.

Miranda Taper shank chucking Reamers are made from M2 Grade of HSS.

Miranda Taper shank chucking Reamers are manufactured with Milled flute.

Miranda Taper shank chucking Reamers are available in Sand Blasted or Steam Blue Finish.

Imperial sizes can be supplied as per BS 328.

HSS HAND REAMERS AS PER IS : 5444 - 1978

**HSS MACHINE REAMERS WITH TAPER SHANK AS PER IS : 5445 - 1978
ISO : 236**


SIZE MM DIA	HAND REAMER		LONG FLUTED MACHINE REAMER			MOQ NOS.
	FL MM (L)	OAL MM (L)	MT SHANK	FL MM (L)	OAL MM (L)	
3.00	31	62	-		-	
4.00	38	76	MT1		-	
4.50	41	81	MT1		-	
5.00	44	87	MT1		-	
6.00	47	93	MT1		-	
7.00	54	107	MT1	58	118	15
8.00	58	115	MT1	58	138	15
9.00	62	124	MT1	62	142	15
10.00	66	133	MT1	66	146	15
11.00	71	142	MT1	71	151	15
12.00	76	152	MT1	76	156	15
13.00	76	152	MT1	76	156	15
14.00	81	163	MT1	81	161	15
15.00	81	163	MT2	81	181	10
16.00	87	175	MT2	87	187	10
17.00	87	175	MT2	87	187	10
18.00	93	188	MT2	93	193	10
19.00	93	188	MT2	93	193	10
20.00	100	201	MT2	100	200	10
21.00	100	201	MT2	107	200	10
22.00	107	215	MT2	107	207	10
23.00	107	215	MT2	107	207	10
24.00	115	231	MT3	115	242	5
25.00	115	231	MT3	115	242	5

HSS REAMERS

SIZE MM	HAND REAMER		LONG FLUTED MACHINE REAMER			MOQ NOS.
	FL MM (LI)	OAL MM (L)	MT SHANK	FL MM (LI)	OAL MM (L)	
26.00	115	231	MT3	115	242	5
27.00	124	247	MT3	124	251	5
28.00	124	247	MT3	124	251	5
29.00	124	247	MT3	124	251	5
30.00	124	247	MT3	124	251	5
31.00	133	265	MT3	133	260	5
32.00	133	265	MT4	133	293	5
33.00	133	265	MT4	133	293	3
34.00	142	284	MT4	142	302	3
35.00	142	284	MT4	142	302	3
36.00	142	284	MT4	142	302	3
37.00	142	284	MT4	142	302	3
38.00	152	305	MT4	152	312	3
39.00	152	305	MT4	152	312	3
40.00	152	305	MT4	152	312	3
41.00	152	305	MT4	152	312	3
42.00	152	305	MT4	152	312	3
43.00	163	326	MT4	163	323	3
44.00	163	326	MT4	163	323	3
45.00	163	326	MT4	163	323	3
46.00	163	326	MT4	163	323	3
47.00	163	326	MT4	163	323	3
48.00	174	347	MT4	174	334	3
49.00	174	347	MT4	174	334	3
50.00	174	347	MT4	174	334	3

HSS HAND REAMERS AS PER BS 328 PART - 4
HSS MACHINE REAMERS WITH TAPER SHANK AS PER BS - 328 PART-4

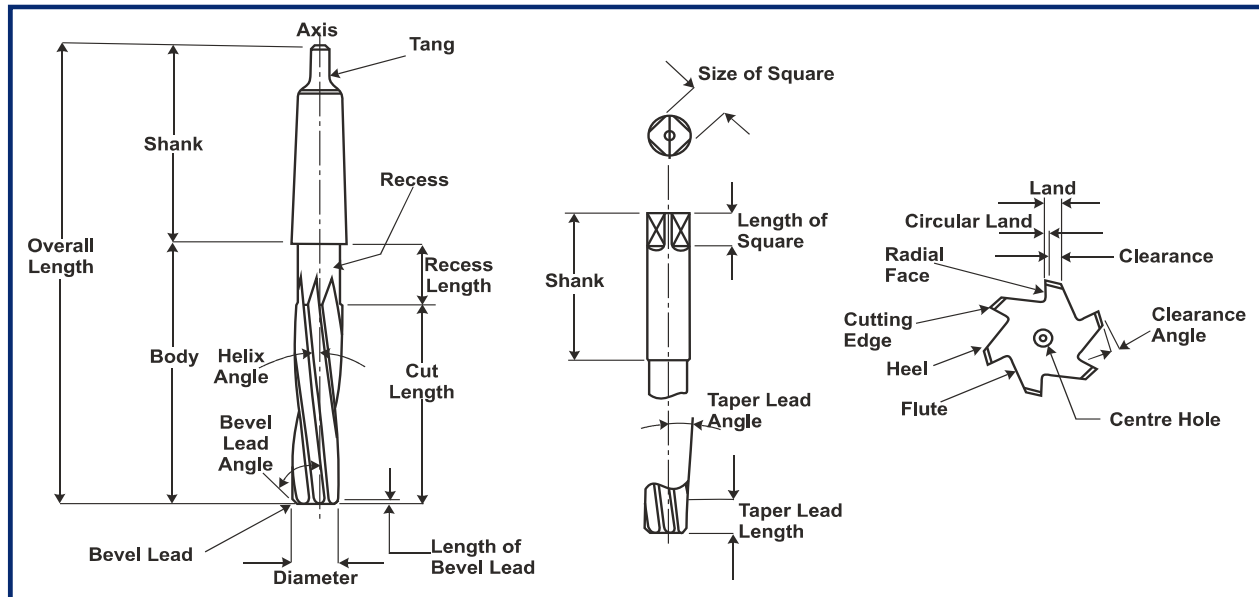
SIZE MM	HAND REAMER		LONG FLUTED MACHINE REAMER			MOQ NOS.
	FL MM (LI)	OAL MM (L)	MT SHANK	FL MM (LI)	OAL MM (L)	
1/8	33	66		-	-	
5/32	38	76		-	-	
3/16	44	87		-	-	
7/32	47	93		-	-	
1/4	50	100	MTI	2/50	130	25
9/32	54	107	MTI	54	134	15
5/16	58	115	MTI	58	138	15
11/32	62	124	MTI	62	142	15
3/8	66	133	MTI	66	146	15

HSS REAMERS

SIZE INCH	PARALLEL SHANK CHUCKING REAMER			TAPER SHANK CHUCKING REAMER				MOQ NOS.
	PART CODE (MIR06)	FL INCH (LI)	OAL INCH (L)	PART CODE (MIR06)	MT SHANK	FL INCH (LI)	OAL INCH (L)	
13/32	52032ZC	66	133	52268VC	MT1	66	146	15
7/16	52035BC	75	142	52270XC	MT1	71	151	15
15/32	52037DC	76	152	52272ZC	MT1	76	156	15
1/2	52039FC	76	152	52275BC	MT1	76	156	15
17/32	52041HV	81	163	52277DC	MT1	81	161	15
9/16	52043KC	81	163	52279FC	MT2	81	181	10
19/32	52045MC	87	175	52281HC	MT2	87	187	10
5/8	52047PC	87	175	52283KC	MT2	87	187	10
21/32	52049RC	87	175	52285MC	MT2	87	187	10
11/16	52051TC	93	188	52287PC	MT2	93	193	10
23/32	52053WC	93	188	52289RC	MT2	93	193	10
3/4	52055YC	100	201	52291TC	MT2	100	200	10
13/16	52058AC	100	201	52293WC	MT2	100	200	10
7/8	52060CC	107	215	52295YC	MT2	107	207	10
15/16	52062EC	115	231	52298AC	MT3	115	242	5
1	52064GC	115	231	52300CC	MT3	115	242	5
1.1/16	52066JC	124	247	52301DC	MT3	124	251	5
1.1/8	52068LC	124	247	52302EC	MT3	124	251	5
1.3/16	52070NC	133	265	52303FC	MT3	133	260	5
1.1/4	52072QC	133	265	52304GC	MT4	133	260	5
1.5/16	52074SC	133	265	52305HC	MT4	133	293	3
1.3/8	52076VC	142	284	52306JC	MT4	142	302	3
1.7/16	52078XC	142	284	52307KC	MT4	142	302	3
1.1/2	52080ZC	152	305	52308LC	MT4	152	312	3
1.9/16	52082AC	152	305	52309AC	MT4	152	312	3
1.5/8	52083BC	152	305	52309MC	MT4	152	312	3
1.3/4	52085DC	163	320	52310NC	MT4	163	323	3
1.7/8	52087FC	174	347	52311PC	MT4	174	334	3
2	52089HC	174	347	52312QC	MT4	212	409	3

Note : Item Marked *are exstock. For Remaining item M.O.Q. required. OR (minimum order value of Rs.20000/-)

Reamer Terms - General Features



Recommended Cutting Parameters

Material	Cutting Speed m/min		Feed Rate Code		Reaming stock allowance in mm				
	Spiral Flute	Straight Flute	Spiral Flute	Straight Flute	dia. up to 6mm	dia. up to 10mm	dia. up to 16mm	dia. up to 25mm	dia. up to 25mm
Steel up to tensile strength 700 N/mm ²	14	11	C	B	0.1-0.2	0.2	0.2-0.3	0.3-0.4	0.4-0.5
Steel above tensile strength 700N/mm ²	11	9	C	B	0.1-0.2	0.2	0.2	0.3	0.3-0.4
Cast steel	10	8	D	C	0.1-0.2	0.2	0.2	0.2-0.3	0.3-0.4
Grey cast iron	12	9	D	C	0.1-0.2	0.2	0.2-0.3	0.3-0.4	0.4-0.5
Malleable cast iron	10	8	C	B	0.1-0.2	0.2	0.3	0.4	0.5
Copper	17	14	D	C	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5	0.5
Brass, Bronze	20	17	E	D	0.1-0.2	0.2	0.2-0.3	0.3	0.3-0.4
Light alloys	17-20	14-18	F	E	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5	0.5
Plastics	20	16	B	A	0.1-0.2	0.2	0.4	0.4-0.5	0.5

Cutting speeds and feed may vary by 10-15% depending upon specific application

Reamer Feed Chart

FEED CODE	Reamer Diameter								
	5mm	8mm	10mm	12mm	16mm	20mm	25mm	30mm	40mm
A	0.100	0.150	0.170	0.185	0.220	0.250	0.280	0.320	0.390
B	0.150	0.180	0.210	0.240	0.280	0.310	0.360	0.400	0.500
C	0.185	0.220	0.260	0.285	0.335	0.390	0.440	0.480	0.600
D	0.200	0.270	0.320	0.360	0.410	0.470	0.540	0.600	0.730
E	0.250	0.350	0.390	0.430	0.500	0.530	0.640	0.750	0.910
F	0.350	0.440	0.500	0.550	0.630	0.700	0.800	0.930	1.200

Feed rates are given in mm/rev.