SPECIFICATION FOR CUTTING TOOLS

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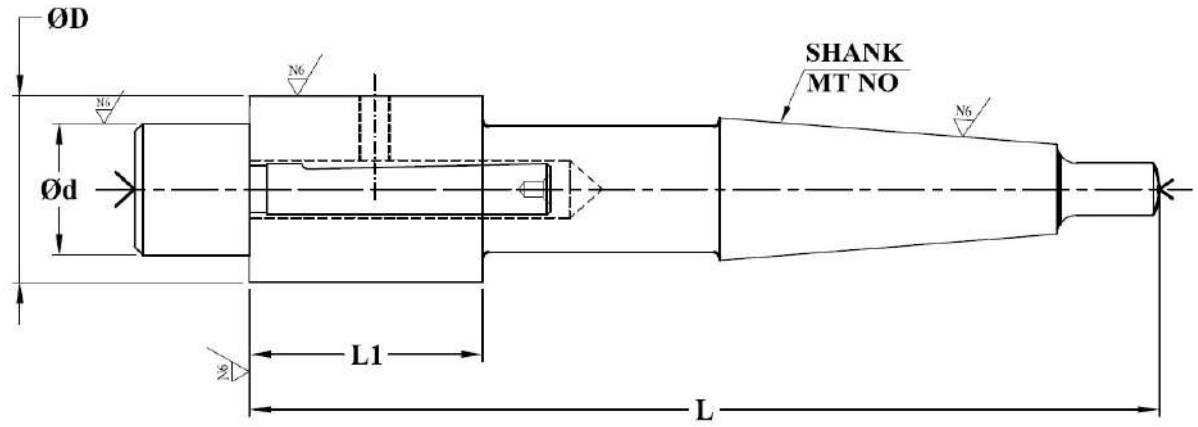
1 Counter Boring Tool with Pilot - Taper Shank, Out Diameter = 14 mm, Pilot Diameter = 7 mm

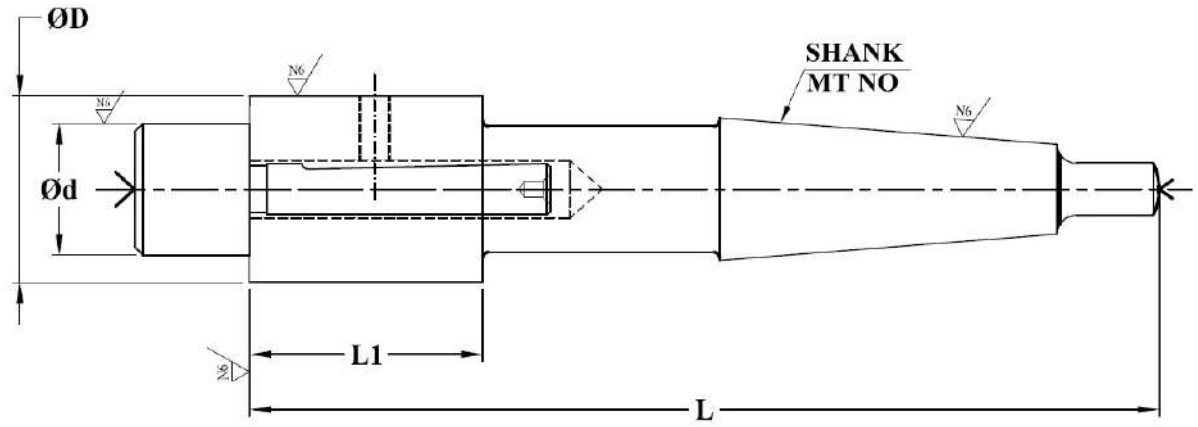
1.1 Basic Indicative Diagram



1.2	Compliance:	Confirming to IS: 5710 - 1988 (Reaffirmed: 2002)
1.3	Diameter 'ØD':	Ø14.00 z9 (+0.093 / +0.050)
1.4	Overall Length 'L':	132.00 mm
1.5	Cutting Length 'L1':	22.00 mm
1.6	Pilot Diameter 'Ød':	Ø7.00 e8 (-0.025 / -0.047)
1.7	Shank:	MT-2
1.8	Cutting Portion Material:	HSS-M2
1.9	Finish:	Milled / Ground
1.10	Hardness	
	1.10.1 Cutting Portion:	760 HV to 900 HV
	1.10.2 Shank Portion:	185 HV Min.
1.11	Surface Treatment:	Bright Finish

2 Counter Boring Tool with Pilot - Taper Shank, Out Diameter = 18 mm, Pilot Diameter = 9 mm

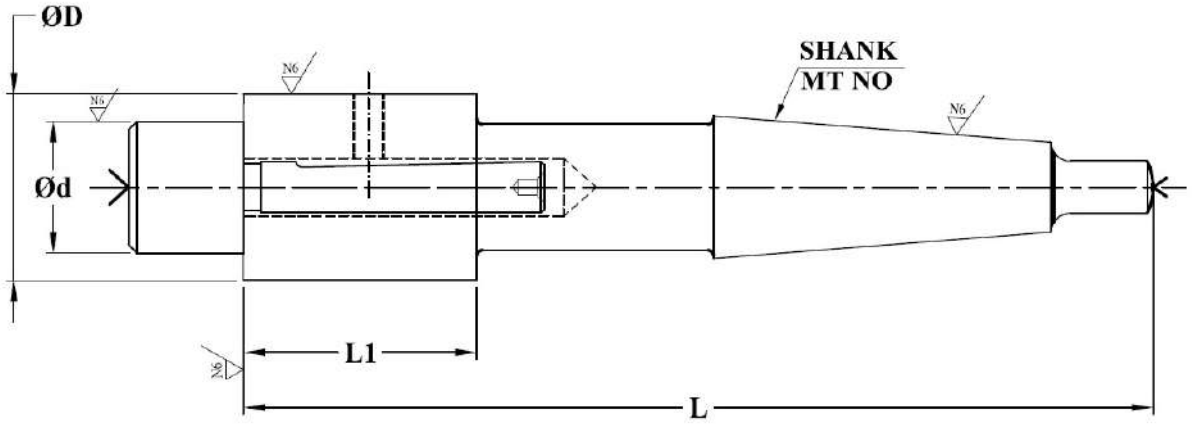
2.1 Basic Indicative Diagram



2.2	Compliance:	Confirming to IS: 5710 - 1988 (Reaffirmed: 2002)
2.3	Diameter 'ØD':	Ø18.00 z9 (+0.103 / +0.060)
2.4	Overall Length 'L':	140.00 mm
2.5	Cutting Length 'L1':	25.00 mm
2.6	Pilot Diameter 'Ød':	Ø9.00 e8 (-0.025 / -0.047)
2.7	Shank:	MT-2
2.8	Cutting Portion Material:	HSS-M2
2.9	Finish:	Milled / Ground
2.10	Hardness	
	2.10.1 Cutting Portion:	760 HV to 900 HV
	2.10.2 Shank Portion:	185 HV Min.
2.11	Surface Treatment:	Bright Finish

3 Counter Boring Tool with Pilot - Taper Shank, Out Diameter = 22 mm, Pilot Diameter = 11 mm

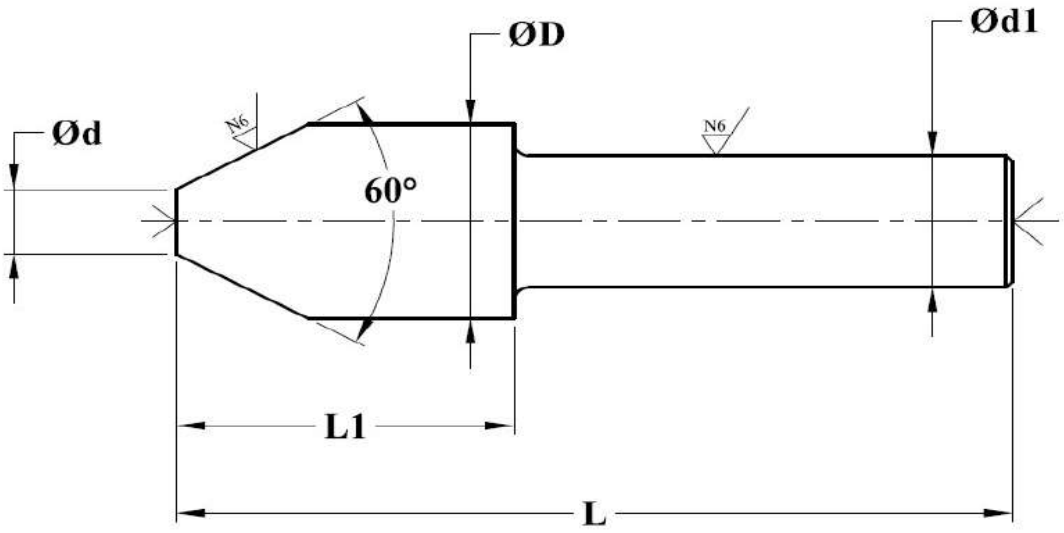
3.1 Basic Indicative Diagram



3.2	Compliance:	Confirming to IS: 5710 - 1988 (Reaffirmed: 2002)
3.3	Diameter 'ØD':	Ø22.00 z9 (+0.125 / +0.073)
3.4	Overall Length 'L':	150.00 mm
3.5	Cutting Length 'L1':	30.00 mm
3.6	Pilot Diameter 'Ød':	Ø11.00 e8 (-0.032 / -0.059)
3.7	Shank:	MT-2
3.8	Cutting Portion Material:	HSS-M2
3.9	Finish:	Milled / Ground
3.10	Hardness	
	3.10.1 Cutting Portion:	760 HV to 900 HV
	3.10.2 Shank Portion:	185 HV Min.
3.11	Surface Treatment:	Bright Finish

4 Counter Sink - Parallel Shank, Out Diameter = 12.5 mm, Angle = 60˚

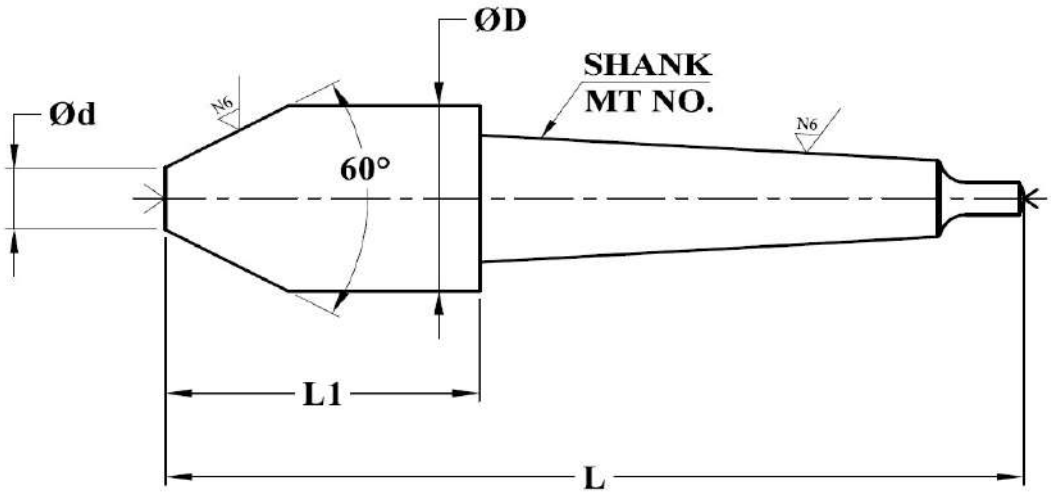
4.1 Basic Indicative Diagram



4.2	Compliance:	Confirming to IS: 13304 - 1992
4.3	Body Diameter 'ØD':	Ø12.50 js16 (±0.550)
4.4	Small Diameter 'Ød':	Ø2.50 mm
4.5	Overall Length 'L':	52.00 mm
4.6	Body Length 'L1':	20.00 mm
4.7	Shank Diameter 'Ød1':	Ø8.00 h9 (+0.0 / -0.036)
4.8	Material:	HSS-M2
4.9	Finish:	Milled / Ground
4.10	Hardness:	760 HV to 900 HV
4.11	Surface Treatment:	Bright Finish

5 Counter Sink - Taper Shank, Out Diameter = 16 mm, Angle = 60˚

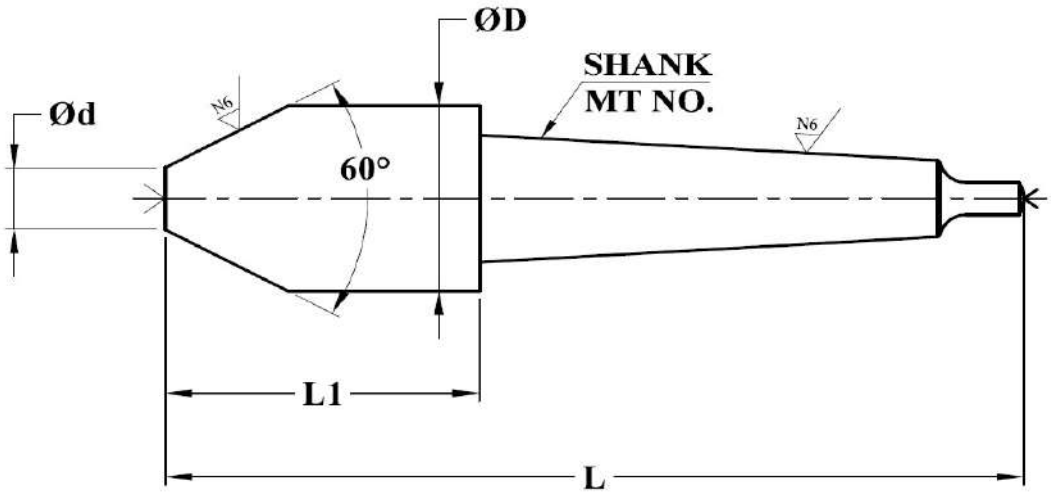
5.1 Basic Indicative Diagram



5.2	Compliance:	Confirming to IS: 13303 - 1992
5.3	Body Diameter 'ØD':	Ø16.00 js16 (± 0.550)
5.4	Small Diameter 'Ød':	Ø3.20 mm
5.5	Overall Length 'L':	97.00 mm
5.6	Body Length 'L1':	24.00 mm
5.7	Shank:	MT-1
5.8	Cutting Portion Material:	HSS-M2
5.9	Finish:	Milled / Ground
5.10	Hardness	
	5.10.1 Cutting Portion:	760 HV to 900 HV
	5.10.2 Shank Portion:	185 HV Min.
5.11	Surface Treatment:	Bright Finish

6 Counter Sink - Taper Shank, Out Diameter = 25 mm, Angle = 60˚

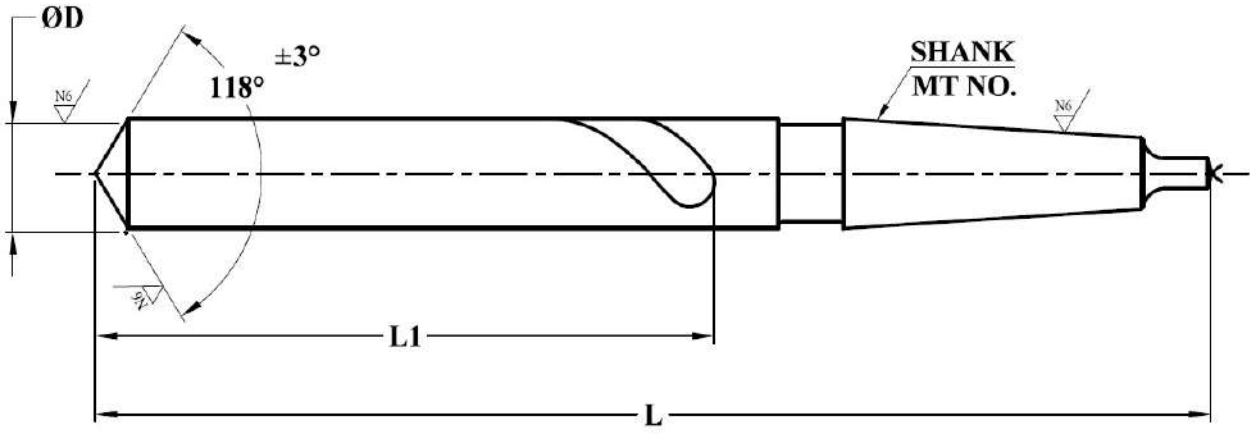
6.1 Basic Indicative Diagram



6.2	Compliance:	Confirming to IS: 13303 - 1992
6.3	Body Diameter 'ØD':	Ø25.00 js16 (± 0.650)
6.4	Small Diameter 'Ød':	Ø7.0 mm
6.5	Overall Length 'L':	125.00 mm
6.6	Body Length 'L1':	33.00 mm
6.7	Shank:	MT-2
6.8	Cutting Portion Material:	HSS-M2
6.9	Finish:	Milled / Ground
6.10	Hardness	
	6.10.1 Cutting Portion:	760 HV to 900 HV
	6.10.2 Shank Portion:	185 HV Min.
6.11	Surface Treatment:	Bright Finish

7 Drill Twist - Taper Shank - Ø14.00 mm

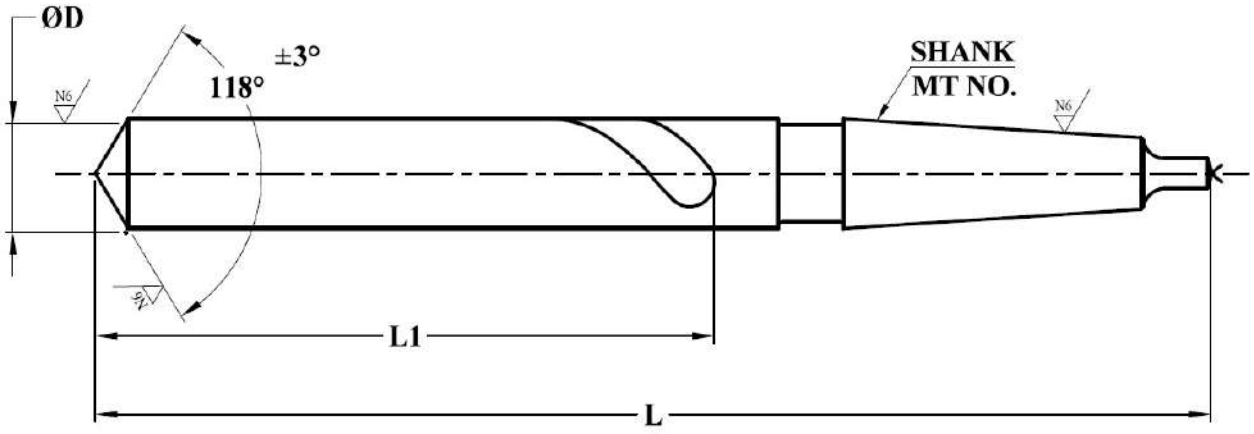
7.1 Basic Indicative Diagram



7.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
7.3	Drill Diameter 'ØD':	Ø14.00 h8 (+0.0 / -0.027)
7.4	Overall Length 'L':	189.00 mm
7.5	Flute Length 'L1':	108.00 mm
7.6	Shank:	MT-1
7.7	Cutting Portion Material:	HSS-M2
7.8	Finish:	Milled / Ground
7.9	Hardness	
7.9.1	Cutting Portion:	760 HV to 900 HV
7.9.2	Shank Portion:	185 HV Min.
7.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance.

8 Drill Twist - Taper Shank - Ø15.00 mm

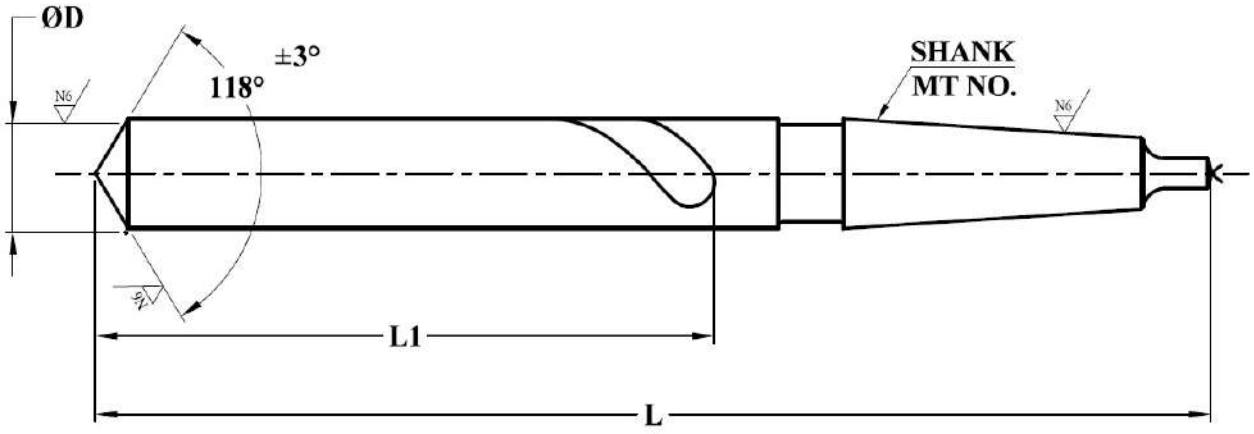
8.1 Basic Indicative Diagram



8.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
8.3	Drill Diameter 'ØD':	Ø15.00 h8 (+0.0 / -0.027)
8.4	Overall Length 'L':	212.00 mm
8.5	Flute Length 'L1':	114.00 mm
8.6	Shank:	MT-2
8.7	Cutting Portion Material:	HSS-M2
8.8	Finish:	Milled / Ground
8.9	Hardness	
8.9.1	Cutting Portion:	760 HV to 900 HV
8.9.2	Shank Portion:	185 HV Min.
8.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance

9 Drill Twist - Taper Shank - Ø16.00 mm

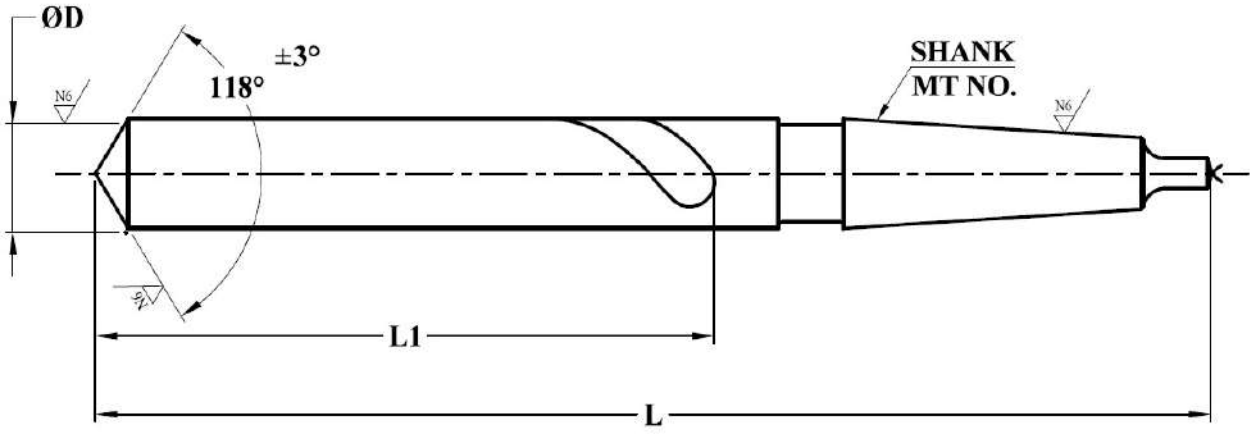
9.1 Basic Indicative Diagram



9.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
9.3	Drill Diameter 'ØD':	Ø16.00 h8 (+0.0 / -0.027)
9.4	Overall Length 'L':	218.00 mm
9.5	Flute Length 'L1':	120.00 mm
9.6	Shank:	MT-2
9.7	Cutting Portion Material:	HSS-M2
9.8	Finish:	Milled / Ground
9.9	Hardness	
9.9.1	Cutting Portion:	760 HV to 900 HV
9.9.2	Shank Portion:	185 HV Min.
9.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance.

10 Drill Twist - Taper Shank - Ø18.00 mm

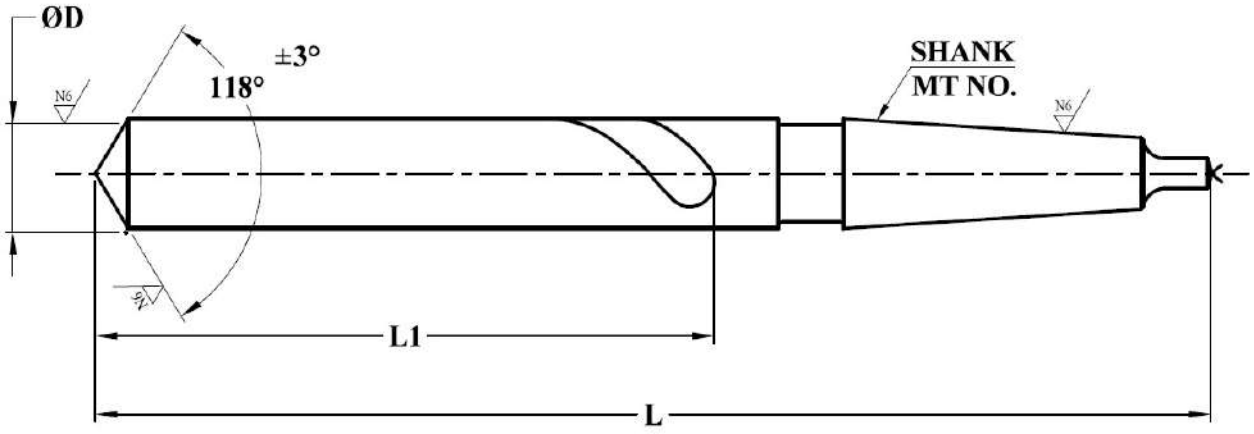
10.1 Basic Indicative Diagram



10.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
10.3	Drill Diameter 'ØD':	Ø18.00 h8 (+0.0 / -0.027)
10.4	Overall Length 'L':	228.00 mm
10.5	Flute Length 'L1':	130.00 mm
10.6	Shank:	MT-2
10.7	Cutting Portion Material:	HSS-M2
10.8	Finish:	Milled / Ground
10.9	Hardness	
	10.9.1 Cutting Portion:	760 HV to 900 HV
	10.9.2 Shank Portion:	185 HV Min.
10.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance

11 Drill Twist - Taper Shank - Ø20.00 mm

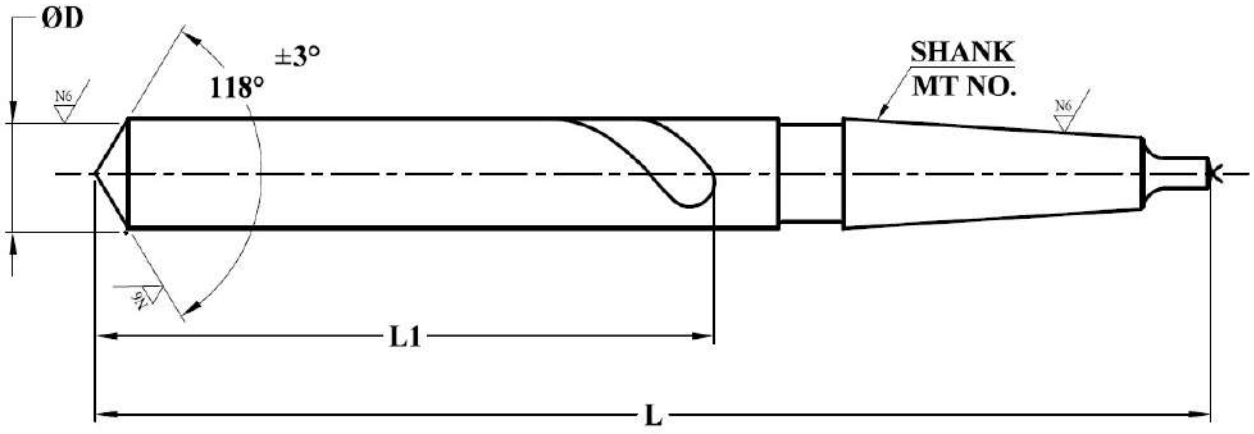
11.1 Basic Indicative Diagram



11.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
11.3	Drill Diameter 'ØD':	Ø20.00 h8 (+0.0 / -0.033)
11.4	Overall Length 'L':	238.00 mm
11.5	Flute Length 'L1':	140.00 mm
11.6	Shank:	MT-2
11.7	Cutting Portion Material:	HSS-M2
11.8	Finish:	Milled / Ground
11.9	Hardness	
	11.9.1 Cutting Portion:	760 HV to 900 HV
	11.9.2 Shank Portion:	185 HV Min.
11.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance.

12 Drill Twist - Taper Shank - Ø22.00 mm

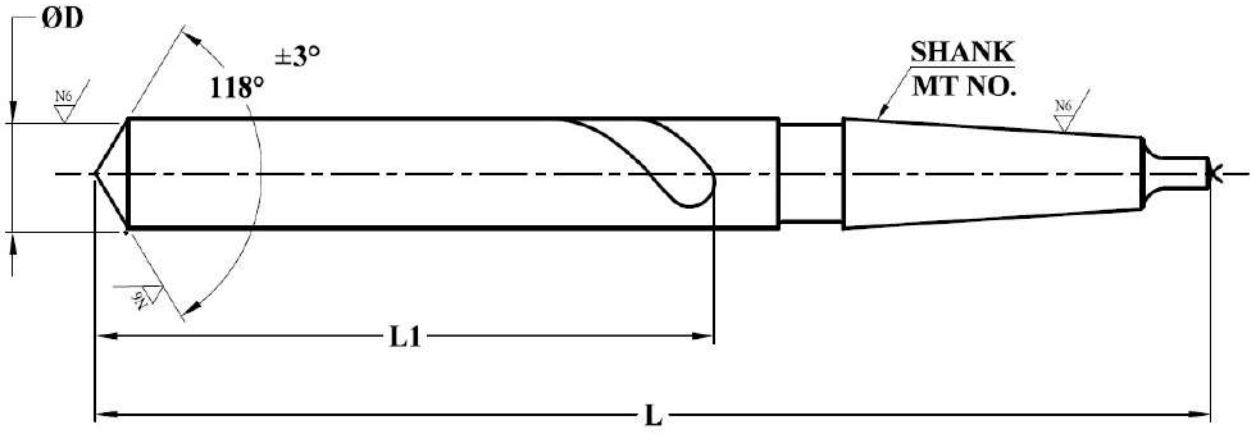
12.1 Basic Indicative Diagram



12.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
12.3	Drill Diameter 'ØD':	Ø22.00 h8 (+0.0 / -0.033)
12.4	Overall Length 'L':	248.00 mm
12.5	Flute Length 'L1':	150.00 mm
12.6	Shank:	MT-2
12.7	Cutting Portion Material:	HSS-M2
12.8	Finish:	Milled / Ground
12.9	Hardness	
	12.9.1 Cutting Portion:	760 HV to 900 HV
	12.9.2 Shank Portion:	185 HV Min.
12.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance.

13 Drill Twist - Taper Shank - Ø24.00 mm

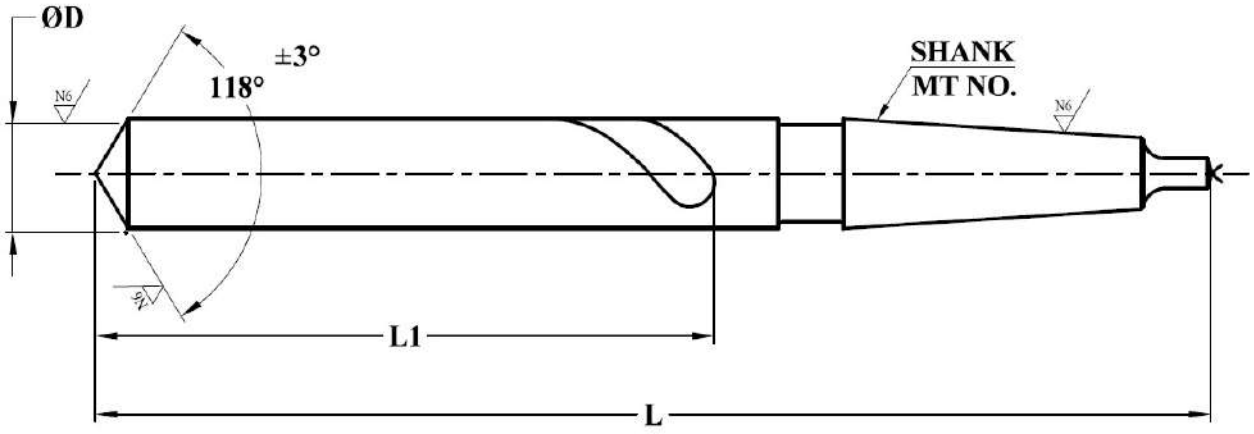
13.1 Basic Indicative Diagram



13.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
13.3	Drill Diameter 'ØD':	Ø24.00 h8 (+0.0 / -0.033)
13.4	Overall Length 'L':	281.00 mm
13.5	Flute Length 'L1':	160.00 mm
13.6	Shank:	MT-3
13.7	Cutting Portion Material:	HSS-M2
13.8	Finish:	Milled / Ground
13.9	Hardness	
	13.9.1 Cutting Portion:	760 HV to 900 HV
	13.9.2 Shank Portion:	185 HV Min.
13.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance

14 Drill Twist - Taper Shank - Ø25.00 mm

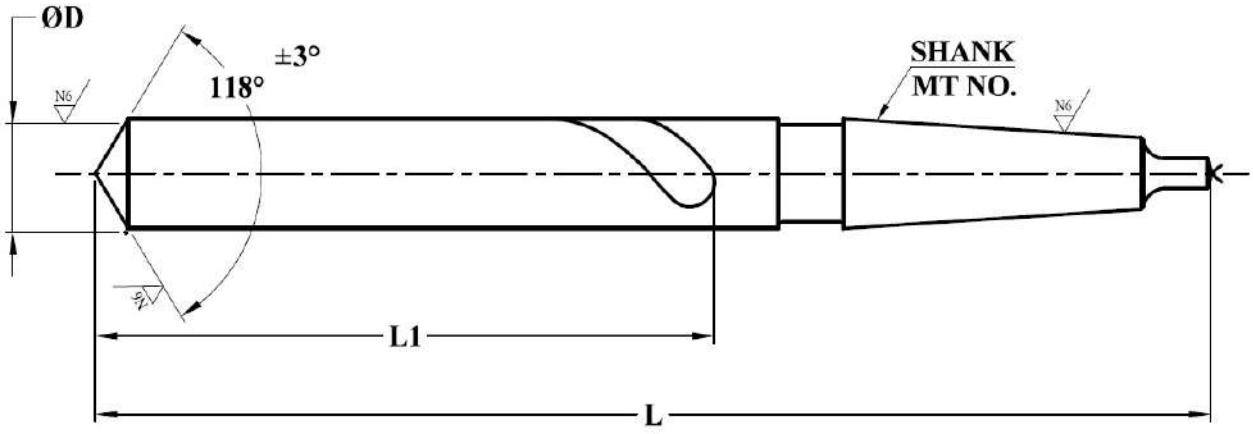
14.1 Basic Indicative Diagram



14.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
14.3	Drill Diameter 'ØD':	Ø25.00 h8 (+0.0 / -0.033)
14.4	Overall Length 'L':	281.00 mm
14.5	Flute Length 'L1':	160.00 mm
14.6	Shank:	MT-3
14.7	Cutting Portion Material:	HSS-M2
14.8	Finish:	Milled / Ground
14.9	Hardness	
	14.9.1 Cutting Portion:	760 HV to 900 HV
	14.9.2 Shank Portion:	185 HV Min.
14.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance

15 Drill Twist - Taper Shank - Ø27.00 mm

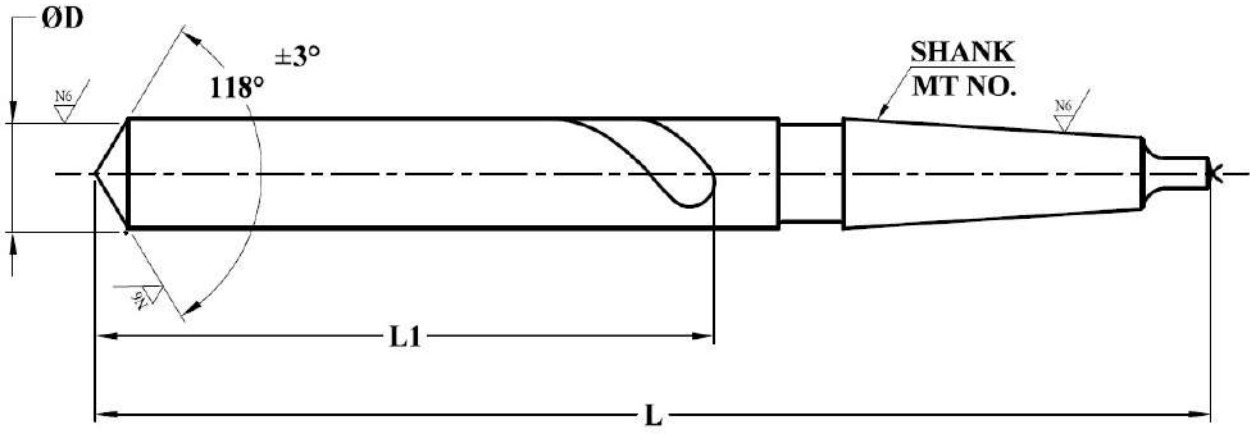
15.1 Basic Indicative Diagram



15.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
15.3	Drill Diameter 'ØD':	Ø27.00 h8 (+0.0 / -0.033)
15.4	Overall Length 'L':	291.00 mm
15.5	Flute Length 'L1':	170.00 mm
15.6	Shank:	MT-3
15.7	Cutting Portion Material:	HSS-M2
15.8	Finish:	Milled / Ground
15.9	Hardness	
	15.9.1 Cutting Portion:	760 HV to 900 HV
	15.9.2 Shank Portion:	185 HV Min.
15.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance.

16 Drill Twist - Taper Shank - Ø30.00 mm

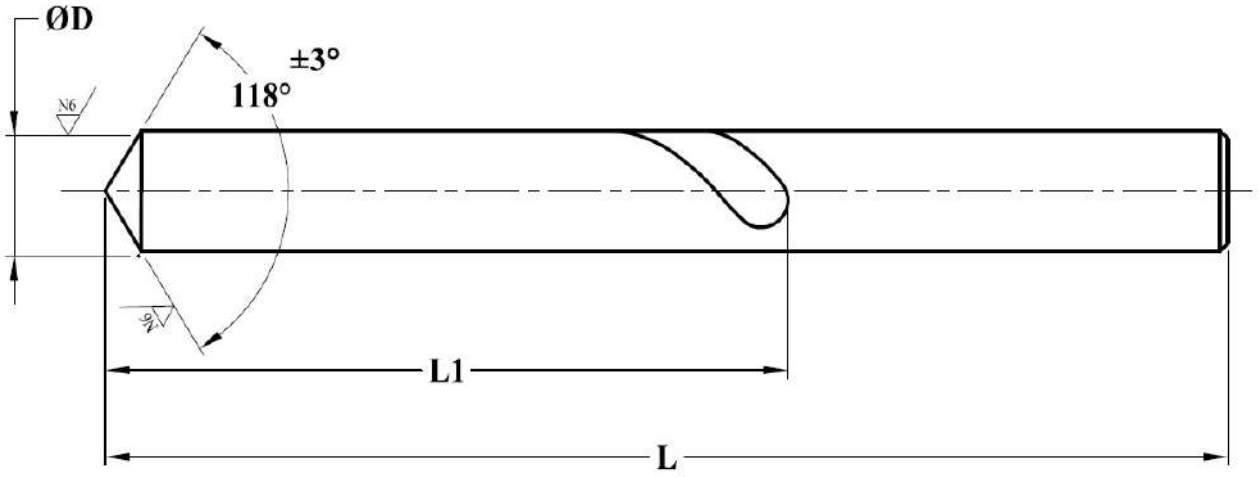
16.1 Basic Indicative Diagram



16.2	Compliance:	Confirming to IS: 5103 - 1969 (Reaffirmed 1997)
16.3	Drill Diameter 'ØD':	Ø30.00 h8 (+0.0 / -0.033)
16.4	Overall Length 'L':	296.00 mm
16.5	Flute Length 'L1':	175.00 mm
16.6	Shank:	MT-3
16.7	Cutting Portion Material:	HSS-M2
16.8	Finish:	Milled / Ground
16.9	Hardness	
	16.9.1 Cutting Portion:	760 HV to 900 HV
	16.9.2 Shank Portion:	185 HV Min.
16.10	Surface Treatment:	Flutes should be Steam Tempered for better wear resistance and performance.

17 Drill Twist Set - Straight Shank, 1 mm to 13 mm by 0.5 mm

17.1 Basic Indicative Diagram

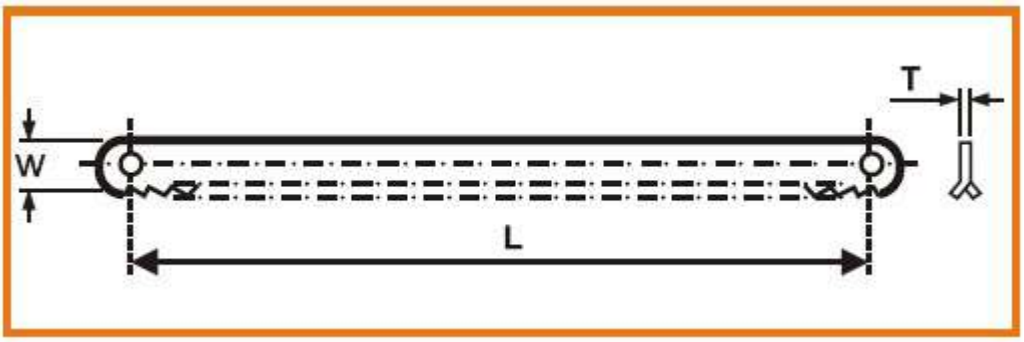


17.2	Compliance:	Confirming to IS: 5101 - 1991
17.3	Drill Diameter 'ØD':	Ø1.0 mm to Ø13.0 mm
17.4	Shank:	Parallel
17.5	Material:	HSS-M2
17.6	Finish:	Milled / Ground
17.7	Hardness:	760 HV to 900 HV
17.8	Surface Treatment:	Bright finish

17.9 Suitable Wooden/ Plastic/ Metal Box for storage

18 Hacksaw Blade - Length = 300 mm, Width = 12.5 mm, Thickness = 0.63 mm, TPI = 18, HSS, Packet of 100 Blades

18.1 Basic Indicative Diagram



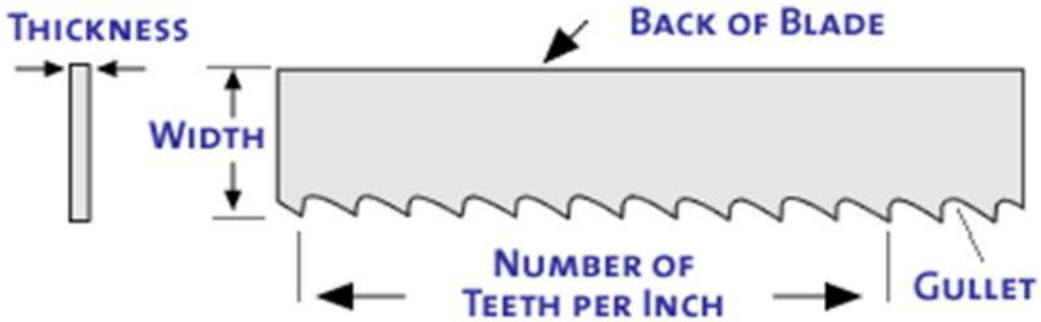
18.2	Compliance:	Confirming to IS: 2594
18.3	Length 'L':	300 mm
18.4	Width 'W':	12.5 mm
18.5	Thickness 'T':	0.63 mm
18.6	TPI:	18
18.7	Material:	M2
18.8	Finish:	Milling Teeth
18.9	Hardness:	62-65 HRC
18.10	Surface Treatment:	Painted with any colour except Black

18.11 Packet consisting of 100 Blades.

18.12 Each Blade should comply the following specifications

19 Hacksaw Blade - Length = 300 mm, Width = 12.5 mm, Thickness = 0.63 mm, TPI = 18, Low Alloy, Packet of 100 Blades

19.1 Basic Indicative Diagram



19.2	Compliance:	Confirming to IS: 2594
19.3	Length 'L':	300 mm
19.4	Width 'W':	12.5 mm
19.5	Thickness 'T':	0.63 mm
19.6	TPI:	18
19.7	Material:	M2
19.8	Finish:	Milling Teeth
19.9	Surface Treatment:	Black Colour

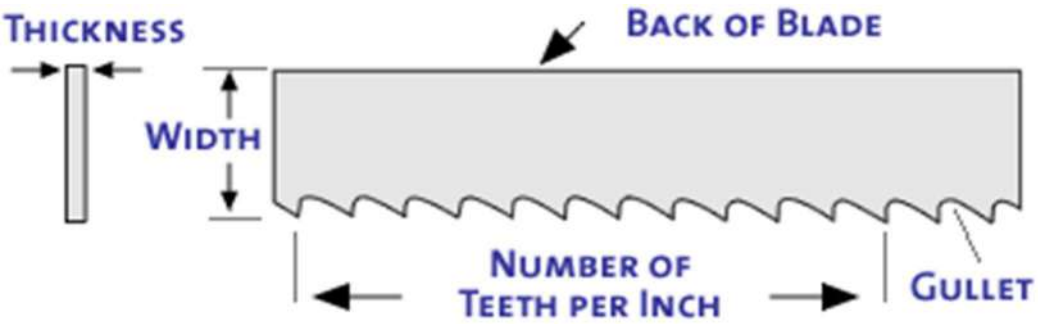
19.10 Packet consisting of 100 Blades.

19.11 Each Blade should comply the following specifications

20 Power Hacksaw Blade - Length = 350 mm, Width = 32 mm, Thickness = 1.6 mm, TPI = 6, HSS, Packet of 10 Blades

20.1 Basic Indicative Diagram

20.2



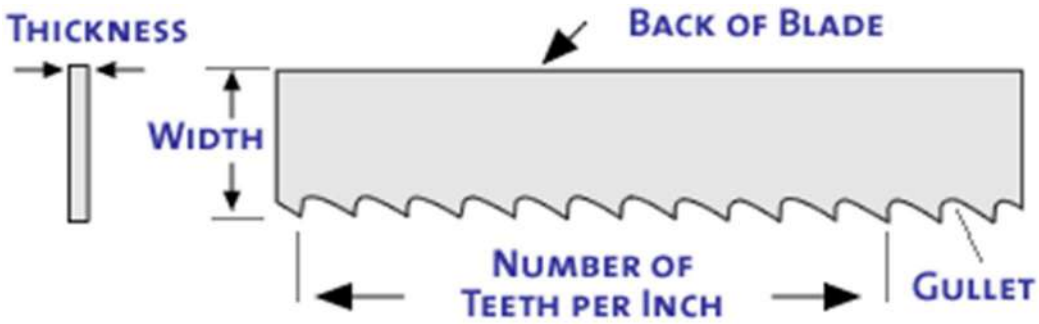
20.3	Compliance:	Confirming to ISO: 2336 Part 1 & 2
20.4	Length 'L':	350 mm
20.5	Width 'W':	32 mm
20.6	Thickness 'T':	1.60 mm
20.7	TPI:	6
20.8	Material:	M2
20.9	Finish:	Milling Teeth
20.10	Hardness:	62-65 HRC
20.11	Surface Treatment:	Painted with any colour except Black

20.12 Packet consisting of 10 Blades.

20.13 Each Blade should comply the following specifications

21 Power Hacksaw Blade - Length = 450 mm, Width = 40 mm, Thickness = 2.0 mm, TPI = 6, HSS, Packet of 10 Blades

21.1 Basic Indicative Diagram



21.2	Compliance:	Confirming to ISO: 2336 Part 1 & 2
21.3	Length 'L':	450 mm
21.4	Width 'W':	40 mm
21.5	Thickness 'T':	2.00 mm
21.6	TPI:	6
21.7	Material:	M2
21.8	Finish:	Milling Teeth
21.9	Hardness:	62-65 HRC
21.10	Surface Treatment:	Painted with any colour except Black

21.11 Packet consisting of 10 Blades.

21.12 Each Blade should comply the following specifications

22 Universal Knurling Tool - Straight, Diamond and Cross

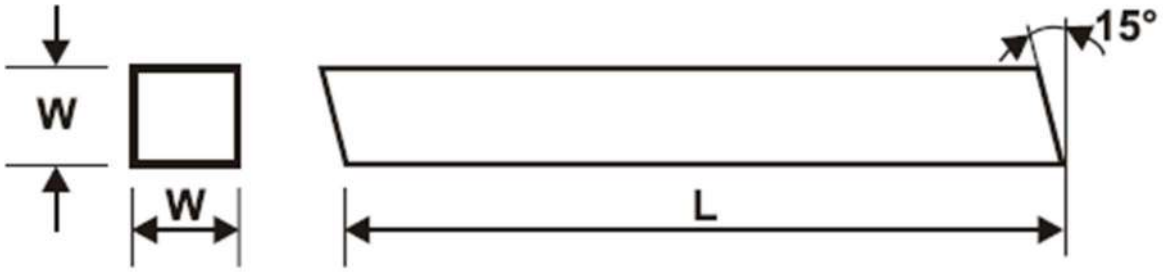
22.1 Basic Indicative Diagram

22.2	Total Length:	183 mm ± 3 mm
22.3	Width:	28 mm ± 1 mm
22.4	Thickness:	13 mm ± 2 mm
22.5	Knurls Diameter:	19 mm
22.6	Fine Pitch:	0.8 mm
22.7	Medium Pitch:	1 mm
22.8	Coarse Pitch:	1.8 mm
22.9	Body Material:	Mild Steel
22.10	Hardness:	55 - 60 HRC

22.11 Should have Knurling tool impact on job for gripping of piece
22.12 Should be easy to use on lathe machine during knurling
22.13 Should be possible to change the knurl tool as per work job requirement

23 HSS Tool Bit - 10 mm X 10 mm X 150 mm, S 500 Grade

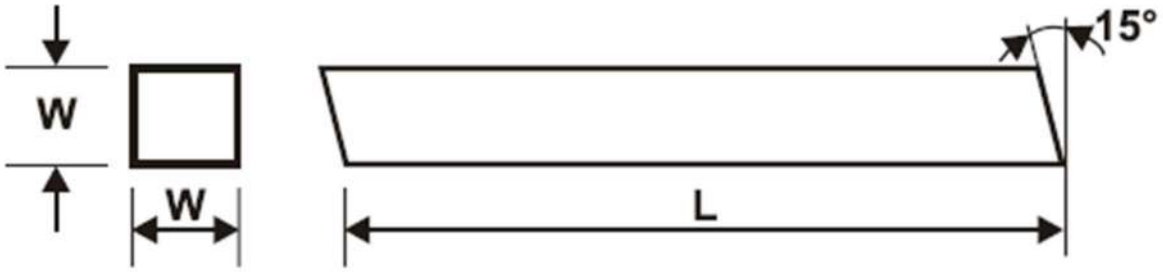
23.1 Basic Indicative Diagram



23.2	Compliance:	Confirming to IS : 11143-1991
23.3	Length 'L':	150 mm (± 1.5 mm)
23.4	Width ' W':	10 mm
23.5	Material:	HSS-T42 / S400
23.6	Finish:	Milled / Ground
23.7	Hardness:	65 - 69 HRC
23.8	Surface Treatment:	Bright finish

24 HSS Tool Bit - 12 mm X 12 mm X 150 mm, S 500 Grade

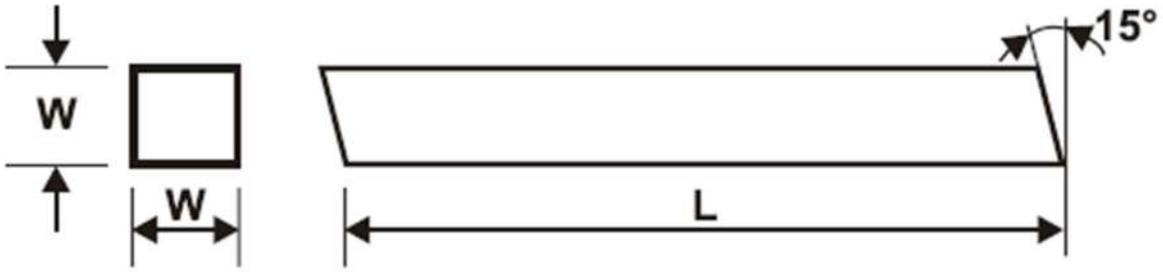
24.1 Basic Indicative Diagram



24.2	Compliance:	Confirming to IS : 11143-1991
24.3	Length 'L':	150 mm (± 1.5 mm)
24.4	Width ' W':	12 mm
24.5	Material:	HSS-T42 / S400
24.6	Finish:	Milled / Ground
24.7	Hardness:	65 - 69 HRC
24.8	Surface Treatment:	Bright finish

25 HSS Tool Bit - 16 mm X 16 mm X 150 mm, S 500 Grade

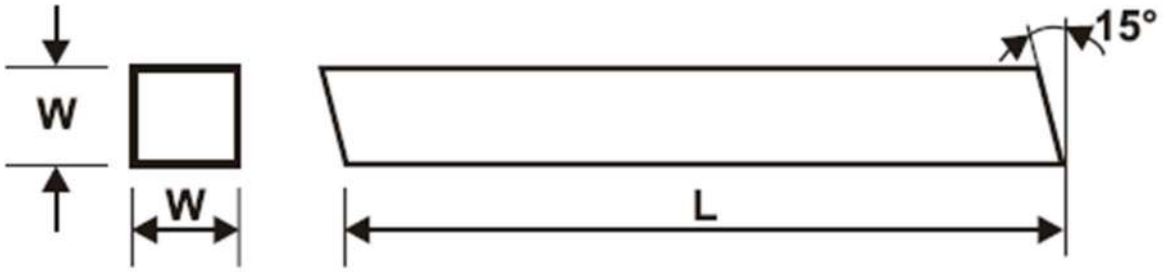
25.1 Basic Indicative Diagram



25.2	Compliance:	Confirming to IS : 11143-1991
25.3	Length 'L':	150 mm (± 1.5 mm)
25.4	Width ' W':	16 mm
25.5	Material:	HSS-T42 / S400
25.6	Finish:	Milled / Ground
25.7	Hardness:	65 - 69 HRC
25.8	Surface Treatment:	Bright finish

26 HSS Tool Bit - 6 mm X 6 mm X 150 mm, S 500 Grade

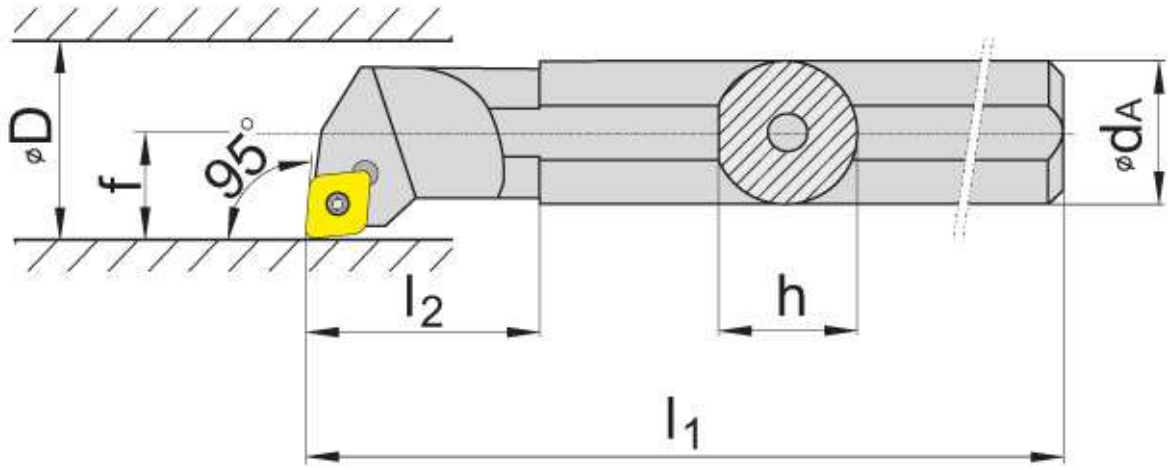
26.1 Basic Indicative Diagram



26.2	Compliance:	Confirming to IS : 11143-1991
26.3	Length 'L':	150 mm (± 1.5 mm)
26.4	Width 'W':	6 mm
26.5	Material:	HSS-T42 / S400
26.6	Finish:	Milled / Ground
26.7	Hardness:	65 - 69 HRC
26.8	Surface Treatment:	Bright finish

27 Lathe Machine Tool - Boring Bar, Indexible Type, Right Hand, Diameter = 12 mm, S12KSCLCR06

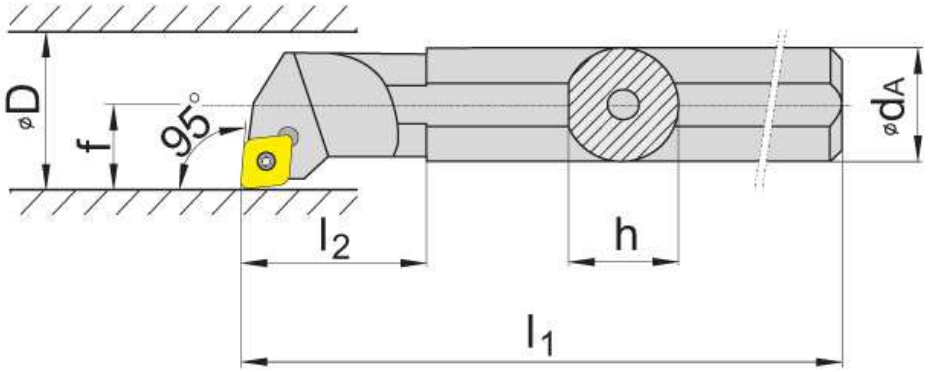
27.1 Basic Indicative Diagram



27.2	Hand of Tool:	Right
27.3	Cranking Angle:	95 Degree
27.4	Length 'l1':	180.0 mm
27.5	Diameter 'dA':	12.0 mm
27.6	Min Entry Diameter 'D':	16.0 mm
27.7	Function Value 'f':	9 mm
27.8	Compatible with Insert:	CCMT 0602
27.9	Clamping Screw:	M2.5 X 5 / T08
27.10	Clamping Key:	T08

28 Lathe Machine Tool - Boring Bar, Indexible Type, Right Hand, Diameter = 16 mm, S16MSCLCR09

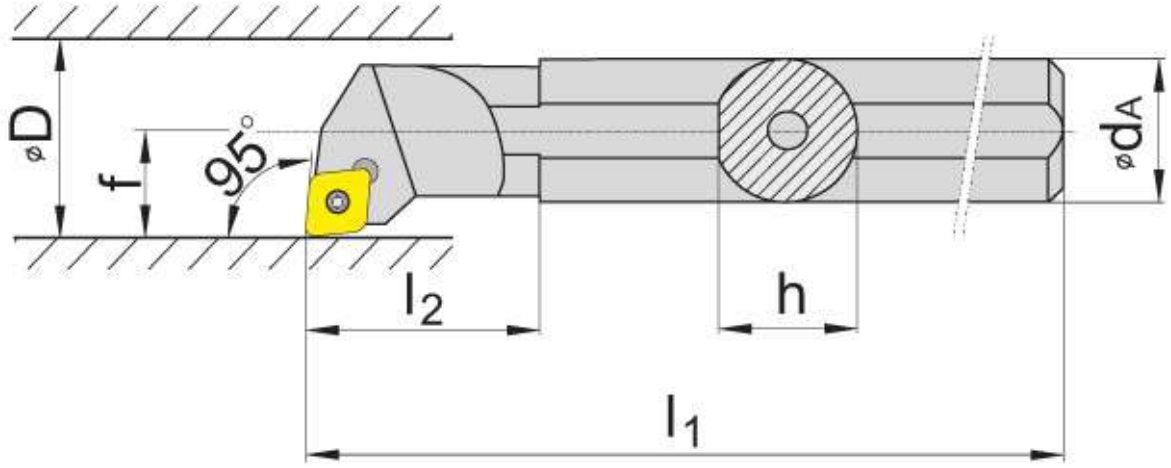
28.1 Basic Indicative Diagram



28.2	Hand of Tool:	Right
28.3	Cranking Angle:	95 Degree
28.4	Length 'l1':	200.0 mm
28.5	Diameter 'dA':	16.0 mm
28.6	Min Entry Diameter 'D':	20.0 mm
28.7	Function Value 'f':	11 mm
28.8	Compatible with Insert:	CCMT 09T3
28.9	Clamping Screw:	M3.5 X 7.2 / T15
28.10	Clamping Key:	T15

29 Lathe Machine Tool - Boring Bar, Indexible Type, Right Hand, Diameter = 8 mm, S08FSCLCR06

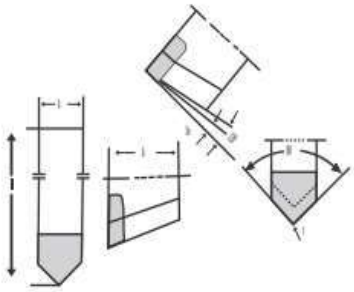
29.1 Basic Indicative Diagram



29.2	Hand of Tool:	Right
29.3	Cranking Angle:	95 Degree
29.4	Length 'l1':	100.0 mm
29.5	Diameter 'dA':	8.0 mm
29.6	Min Entry Diameter 'D':	11.0 mm
29.7	Function Value 'f':	5 mm ± 1 mm
29.8	Compatible with Insert:	CCMT 0602
29.9	Clamping Screw:	M2.5 X 5 / T08
29.10	Clamping Key;	T08

30 Lathe Machine Tool - Carbide Tipped Groving and Turning Tool, Shank 16 mm X 16 mm X 110 mm, P40, No.163

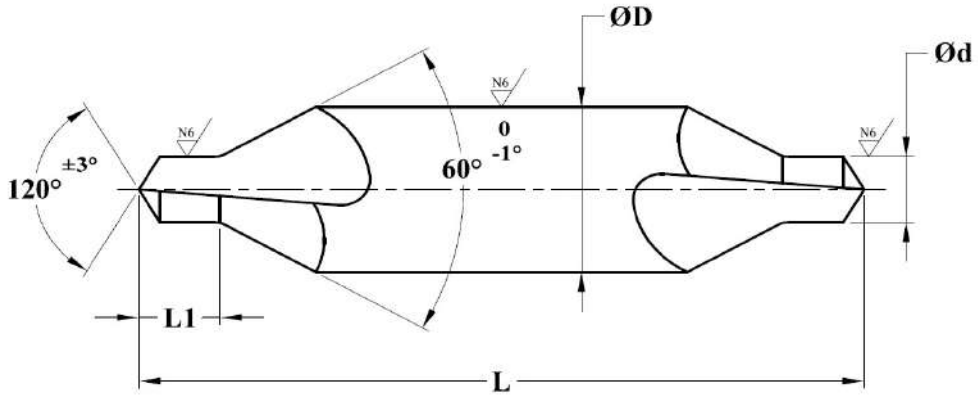
30.1 Basic Indicative Diagram



30.2	Compliance:	163 Straight Turning & Grooving
30.3	Size:	16 X 16 mm
30.4	Overall Length 'L':	110 mm
30.5	Insert Grade:	P40

31 Lathe Machine Tool - HSS Center Drill, BS 4

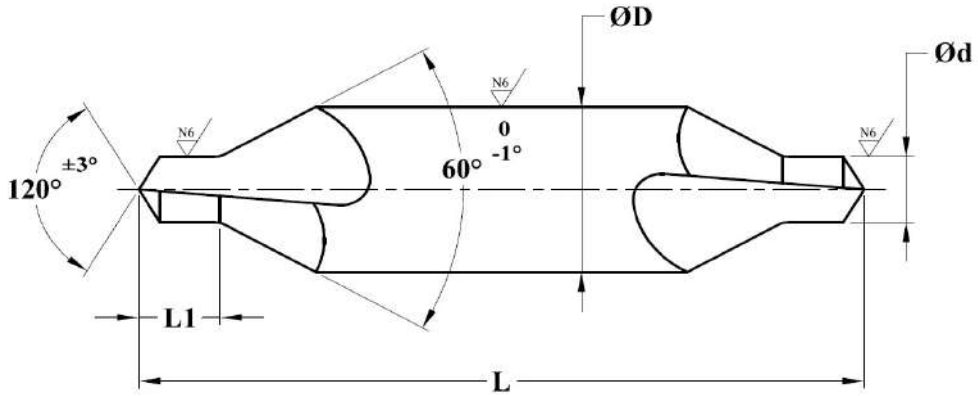
31.1 Basic Indicative Diagram



31.2	Compliance:	Confirming to BS 328 : Part 2 : 1950
31.3	Body Diameter 'ØD':	Ø5 / 16" (+0.0 / -0.002")
31.4	Pilot Diameter 'Ød':	Ø1 / 8" (±0.003")
31.5	Overall Length 'L':	2.1 / 4"
31.6	Pilot Length 'L1':	3 / 16" to 5 / 32"
31.7	Material:	HSS-M2
31.8	Finish:	Milled / Ground
31.9	Hardness:	760 HV to 900 HV
31.10	Surface Treatment:	Bright Finish

32 Lathe Machine Tool - HSS Center Drill, BS 5

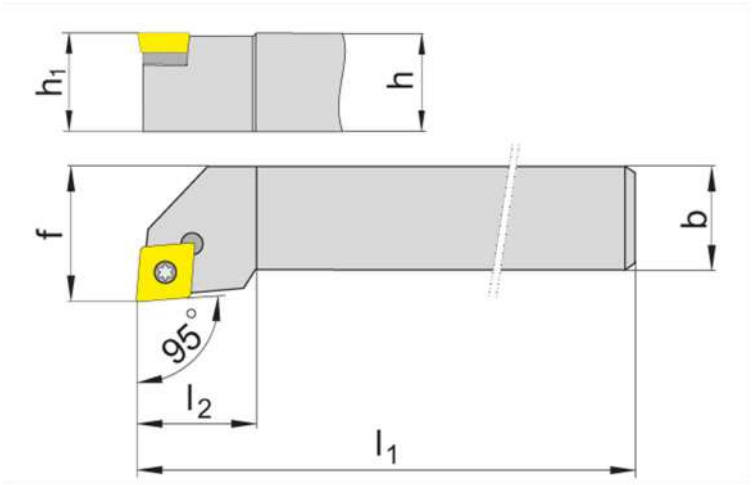
32.1 Basic Indicative Diagram



32.2	Compliance:	Confirming to BS 328 : Part 2 : 1950
32.3	Body Diameter 'ØD':	Ø7 / 16" (+0.0 / -0.002")
32.4	Pilot Diameter 'Ød':	Ø3 / 16" (±0.003")
32.5	Overall Length 'L':	2.1 / 2"
32.6	Pilot Length 'L1':	9 / 32" to 1 / 4"
32.7	Material:	HSS-M2
32.8	Finish:	Milled / Ground
32.9	Hardness:	760 HV to 900 HV
32.10	Surface Treatment:	Bright Finish

33 Lathe Machine Tool - Indexible Tool Holder, Right Hand, Shank 12 mm X 12 mm, SCLCR1212F09

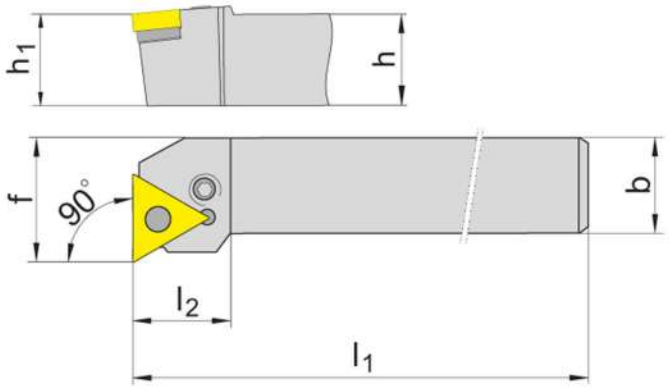
33.1 Basic Indicative Diagram



33.2	Hand of Tool:	Right
33.3	Cranking Angle:	95 Degree
33.4	Length (l1):	80.0 mm
33.5	Width (b):	12.0 mm
33.6	Thickness (h):	12.0 mm
33.7	Function Value (f):	16 mm
33.8	Compatible with Insert:	CCMT 09T3
33.9	Clamping Screw:	M3.5 X 11.0 / T15
33.10	Clamping Key	T15

34 Lathe Machine Tool - Indexible Tool Holder, Right Hand, Shank 16 mm X 16 mm, PTFNR1616H16

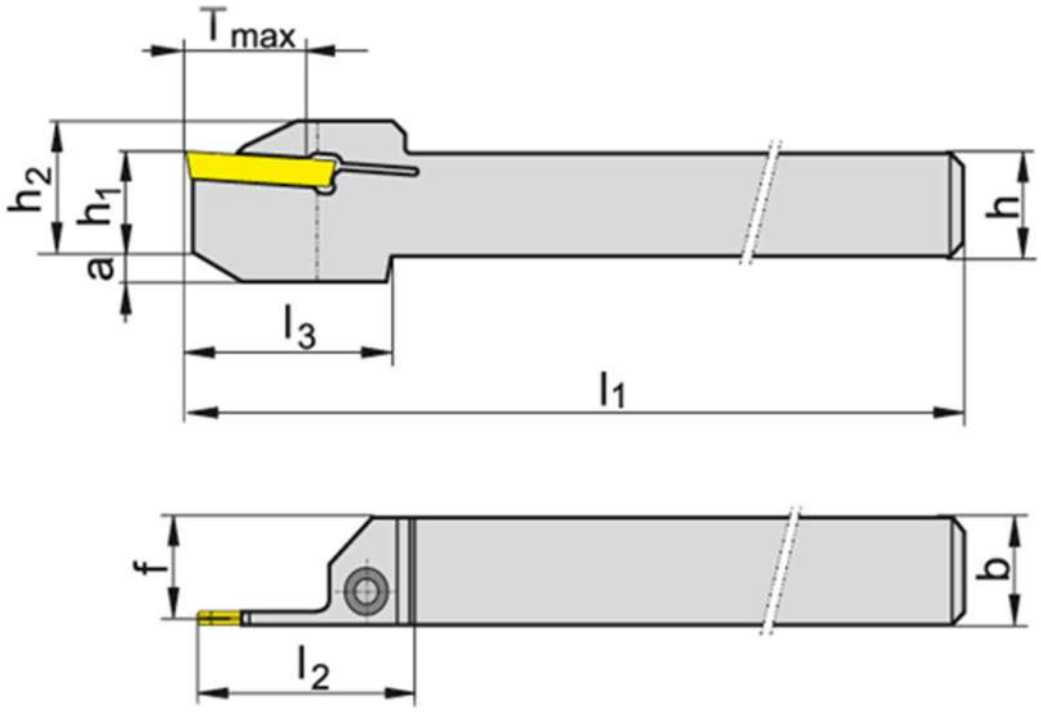
34.1 Basic Indicative Diagram



34.2	Hand of Tool:	Right with Shim holder
34.3	Cranking Angle:	90 Degree
34.4	Length (L1):	100.0 mm
34.5	Width (b):	16.0 mm
34.6	Thickness (h):	16.0 mm
34.7	Function Value (f):	20 mm
34.8	Compatible with Insert:	TNMG 1604
34.9	Length (l2):	20.2 mm
34.10	Clamping Key:	Allen Key 2.5
34.11	Clamping:	Lever

35 Lathe Machine Tool - Parting Tool, Indexible Type, Right Hand, Shank 16 mm X 16 mm, 4 mm thick

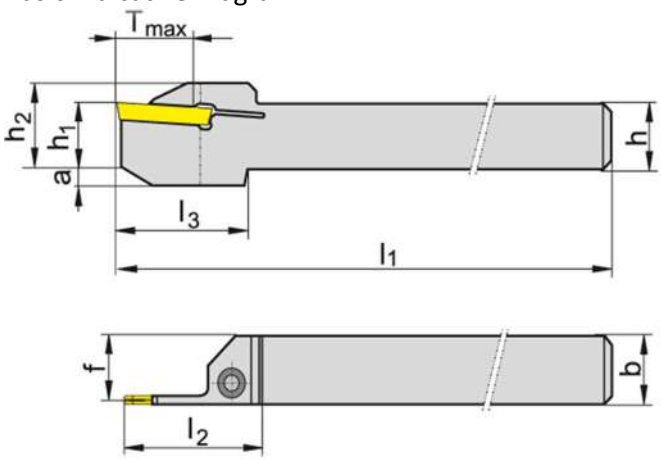
35.1 Basic Indicative Diagram



35.2	Hand of Holder:	Right
35.3	Length (L1):	125 mm
35.4	Length (L2):	25 mm – 35 mm
35.5	Width (b):	16.0 mm
35.6	Thickness (h / h1):	16.0 mm
35.7	Thickness (h2):	21.0 mm – 28 mm
35.8	Max Parting Depth (T max):	12 mm – 16 mm
35.9	Function Value (f):	14 mm – 19 mm
35.10	Compatible with Insert:	4 mm Parting
35.11	Clamping Screw:	M3.5 X 14.0 or M6 X 1
35.12	Clamping Key:	T15 / T20

36 Lathe Machine Tool - Parting Tool, Indexible Type, Right Hand, Shank 20 mm X 20 mm, 6 mm thick

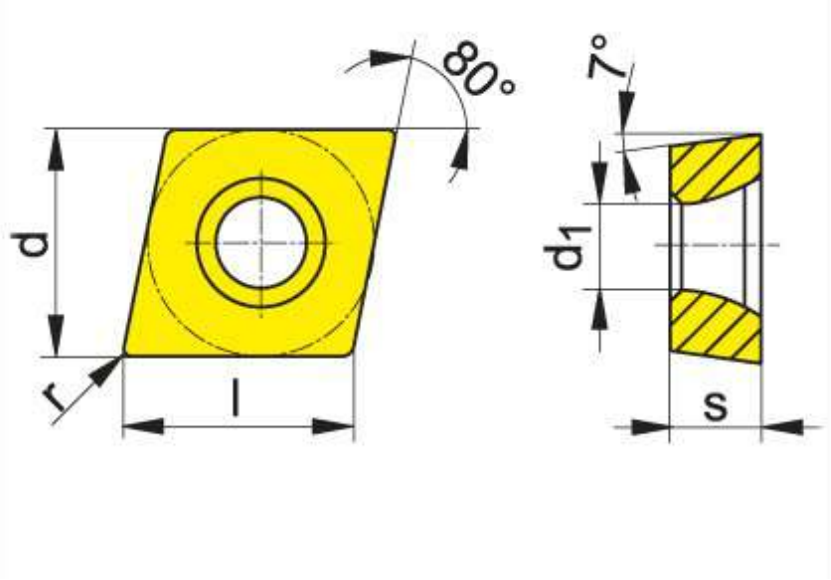
36.1 Basic Indicative Diagram



36.2	Hand of Holder:	Right
36.3	Length (L1):	125 mm
36.4	Length (L2):	25 mm – 35 mm
36.5	Width (b):	20.0 mm
36.6	Thickness (h / h1):	20.0 mm
36.7	Thickness (h2):	25 mm – 28 mm
36.8	Max Parting Depth (T max):	16 mm – 21 mm
36.9	Function Value (f):	14 mm – 19 mm
36.10	Compatible with Insert:	6 mm Parting
36.11	Clamping Screw:	M4.0 X 18.0
36.12	Clamping Key:	T20

37 Lathe Machine Tool - Boring Insert, Indexible Type, Diameter = 12 mm, CCMT060204, Set of 10 pieces

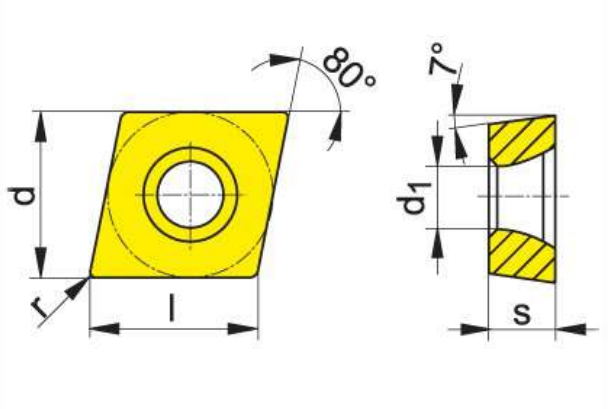
37.1 Basic Indicative Diagram



37.2	Type of Insert:	Turning
37.3	Size:	6 mm
37.4	Corner Radius (r):	0.40 mm
37.5	Length (l):	6.40 mm
37.6	Width (d):	6.35 mm
37.7	Thickness (s):	2.38 mm
37.8	Hole Size (d1):	2.80 mm
37.9	Material:	Composition: Co 9.6%; mixed carbides 7.4%; WC balance
37.10	Grain Size:	1 - 2 µm
37.11	Hardness:	HV30 1400
37.12	Surface Treatment:	CVD TiCN-TiNB multi-layer
37.13	Pack consists of 10 pieces	

38 Lathe Machine Tool - Boring Insert, Indexible Type, Diameter = 16 mm, CCMT09T304, Set of 10 pieces

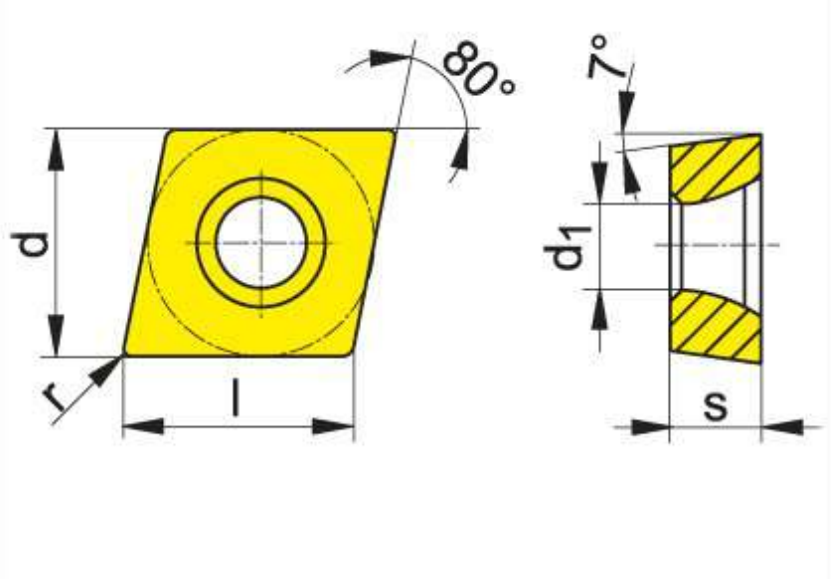
38.1 Basic Indicative Diagram



38.2	Type of Insert:	Turning
38.3	Size:	9 mm
38.4	Corner Radius:	0.4 mm
38.5	Length (l):	9.7 mm
38.6	Width (d):	9.5 mm
38.7	Thickness (s):	3.97 mm
38.8	Hole Size (d1):	2.80 mm
38.9	Material:	Composition: Co 9.6%; mixed carbides 7.4%; WC balance
38.10	Grain Size:	1 - 2 µm
38.11	Hardness:	HV30 1400
38.12	Surface Treatment:	CVD TiCN-TiNB multi-layer
38.13	Pack consists of 10 pieces	

39 Lathe Machine Tool - Boring Insert, Indexible Type, Diameter = 8 mm, CCMT060204, Set of 10 pieces

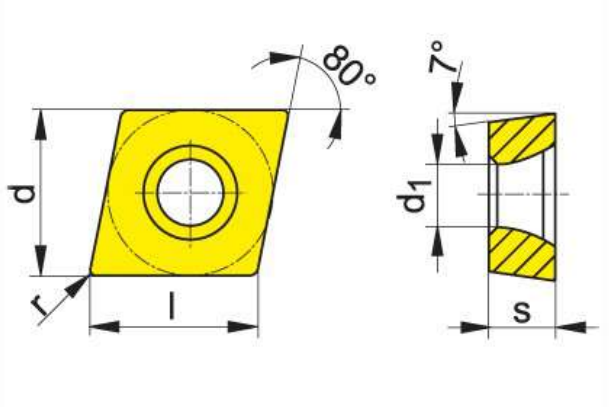
39.1 Basic Indicative Diagram



39.2	Type of Insert:	Turning
39.3	Size:	6 mm
39.4	Corner Radius (r):	0.40 mm
39.5	Length (l):	6.40 mm
39.6	Width (d):	6.35 mm
39.7	Thickness (s):	2.38 mm
39.8	Hole Size (d1):	2.80 mm
39.9	Material:	Composition: Co 9.6%; mixed carbides 7.4%; WC balance
39.10	Grain Size:	1 - 2 µm
39.11	Hardness:	HV30 1400
39.12	Surface Treatment:	CVD TiCN-TiNB multi-layer
39.13	Pack consists of 10 pieces	

40 Lathe Machine Tool - Insert for Shank 12 mm X 12 mm, CCMT09T308, Set of 10 pieces

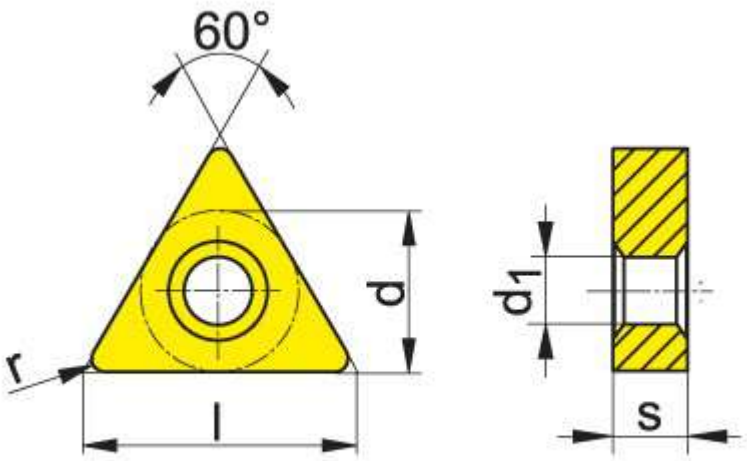
40.1 Basic Indicative Diagram



40.2	Type of Insert:	Turning
40.3	Size:	9 mm
40.4	Corner Radius:	0.8 mm
40.5	Length (l):	9.7 mm
40.6	Width (d):	9.5 mm
40.7	Thickness (s):	3.97 mm
40.8	Hole Size (d1):	4.40 mm
40.9	Material:	Composition: Co 9.6%; mixed carbides 7.4%; WC balance
40.10	Grain Size:	1 - 2 µm
40.11	Hardness:	HV30 1400
40.12	Surface Treatment:	CVD TiCN-TiNB multi-layer
40.13	Pack consists of 10 pieces	

41 Lathe Machine Tool - Insert for Shank 16 mm X 16 mm, TNMG160408, Set of 10 pieces

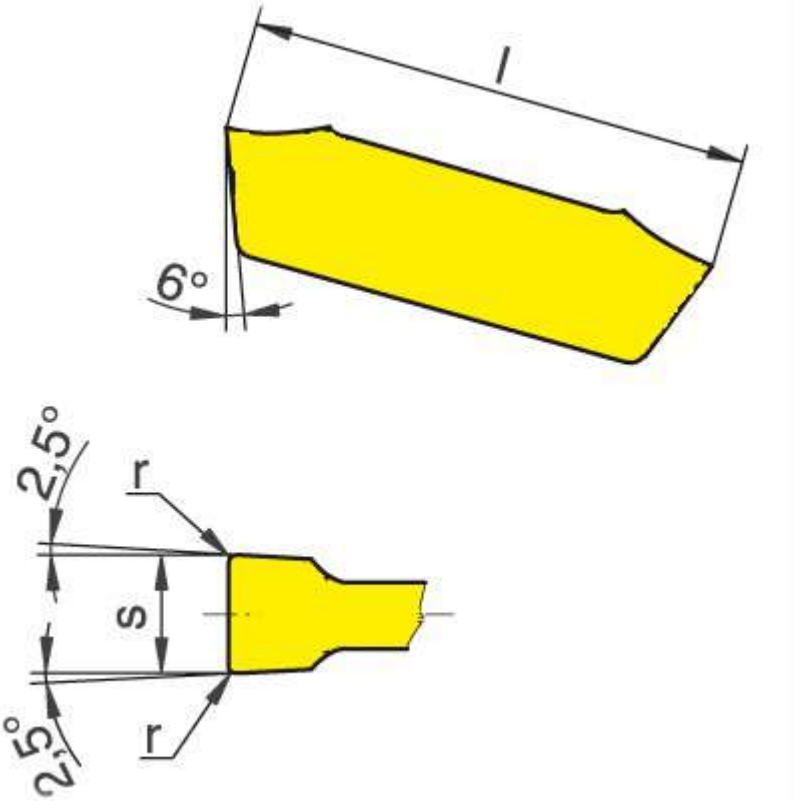
41.1 Basic Indicative Diagram



41.2	Type of Insert:	Turning
41.3	Size:	16 mm
41.4	Corner Radius:	0.8 mm
41.5	Length (l):	16.50 mm
41.6	Width (d):	9.52 mm
41.7	Thickness (s):	4.76 mm
41.8	Hole Size (d1):	3.81 mm
41.9	Material:	Composition: Co 9.6%; mixed carbides 7.4%; WC balance
41.10	Grain Size:	1 - 2 µm
41.11	Hardness:	HV30 1400
41.12	Surface Treatment:	CVD TiCN-TiNB multi-layer
41.13	Pack consists of 10 pieces	

42 Lathe Machine Tool - Parting Insert - 2 Indexing, Shank 16 mm X 16 mm, 4 mm thick, Set of 10 Pieces

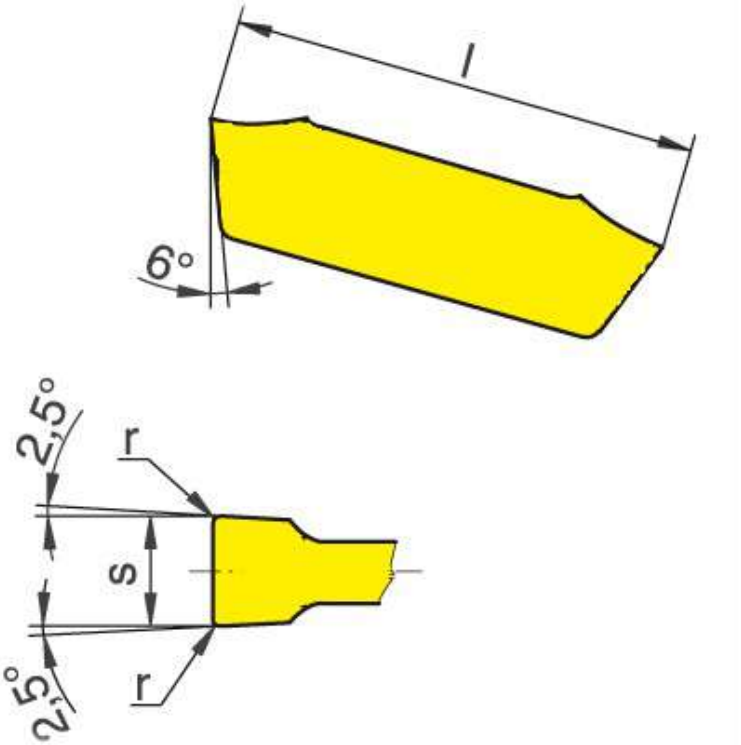
42.1 Basic Indicative Diagram



42.2	Type of Insert:	Grooving
42.3	Size (S):	4 mm
42.4	Corner Radius (r):	0.4 mm
42.5	Length (l):	16.00 mm
42.6	Application:	Parting & Grooving
42.7	Max Parting Depth:	12 mm
42.8	Material:	Co 9.0%; mixed carbides 2.0%; WC balance
42.9	Grain Size:	0.7-1 µm
42.10	Hardness:	HV30 1590
42.11	Surface Treatment:	PVD TiAlN
42.12	Pack consists of 10 pieces	

43 Lathe Machine Tool - Parting Insert - 2 Indexing, Shank 20 mm X 20 mm, 6 mm thick, Set of 10 Pieces

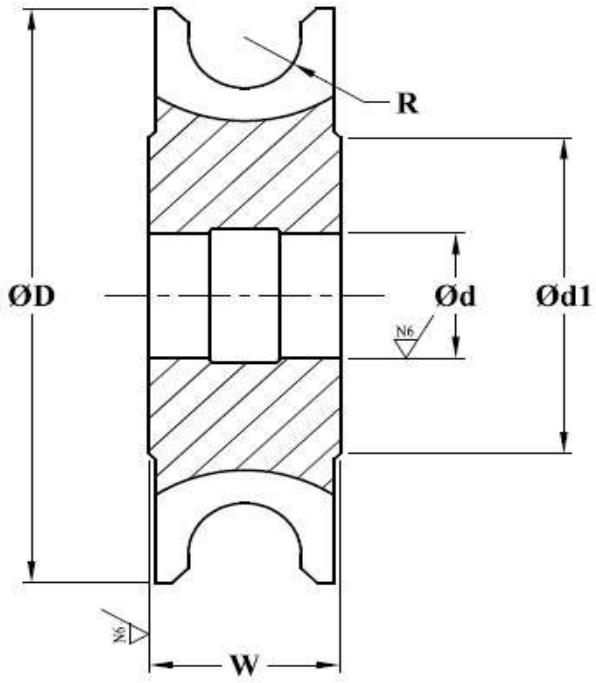
43.1 Basic Indicative Diagram



43.2	Type of Insert:	Grooving
43.3	Size (S):	6 mm
43.4	Corner Radius (r):	0.5 mm
43.5	Length (l):	24.00 mm
43.6	Application:	Parting & Grooving
43.7	Max Parting Depth:	21 mm
43.8	Material:	Co 9.0%; mixed carbides 2.0%; WC balance
43.9	Grain Size:	0.7-1 µm
43.10	Hardness:	HV30 1590
43.11	Surface Treatment:	PVD TiAlN
43.12	Pack consists of 10 pieces	

44 Milling Cutter - Concave - Outer Diameter = 63 mm, Radius = 4 mm, Bore Diameter = 27 mm

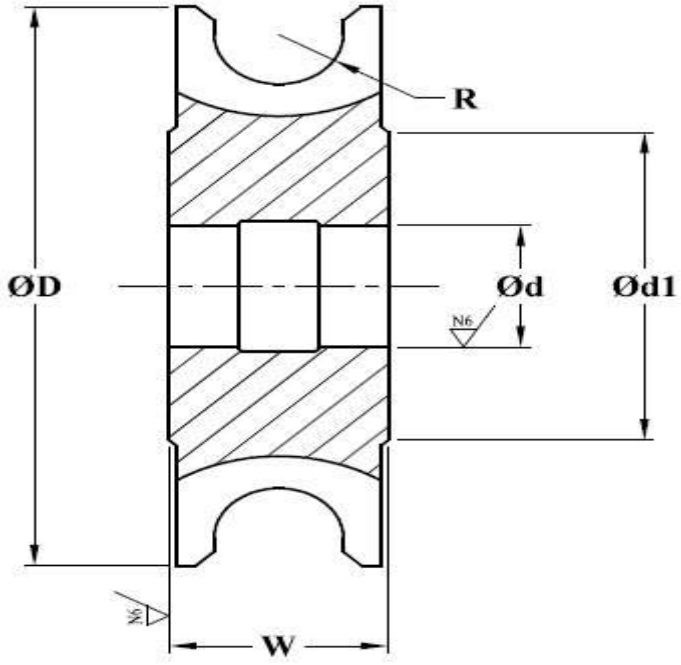
44.1 Basic Indicative Diagram



44.2	Compliance:	Confirming to IS: 6322 - 1982
44.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
44.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
44.5	Diameter 'Ød1':	34.00 mm
44.6	Radius 'R':	4.00 mm
44.7	Cutter Width 'W':	16.00 mm
44.8	Material:	HSS-M2
44.9	Finish:	Milled / Ground
44.10	Hardness:	760 HV to 900 HV
44.11	Surface Treatment:	Dual Finish

45 Milling Cutter - Concave - Outer Diameter = 80 mm, Radius = 6 mm, Bore Diameter = 27 mm

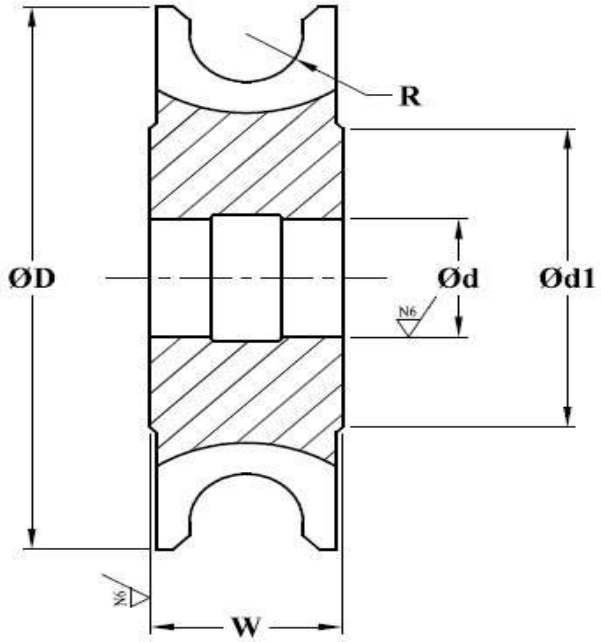
45.1 Basic Indicative Diagram



45.2	Compliance:	Confirming to IS: 6322 - 1982
45.3	Diameter 'ØD':	Ø80.00 js16 (±0.950)
45.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
45.5	Diameter 'Ød1':	41.00 mm
45.6	Radius 'R':	6.00 mm
45.7	Cutter Width 'W':	24.00 mm
45.8	Material:	HSS-M2
45.9	Finish:	Milled / Ground
45.10	Hardness:	760 HV to 900 HV
45.11	Surface Treatment:	Dual Finish

46 Milling Cutter - Concave - Outer Diameter = 80 mm, Radius = 8 mm, Bore Diameter = 27 mm

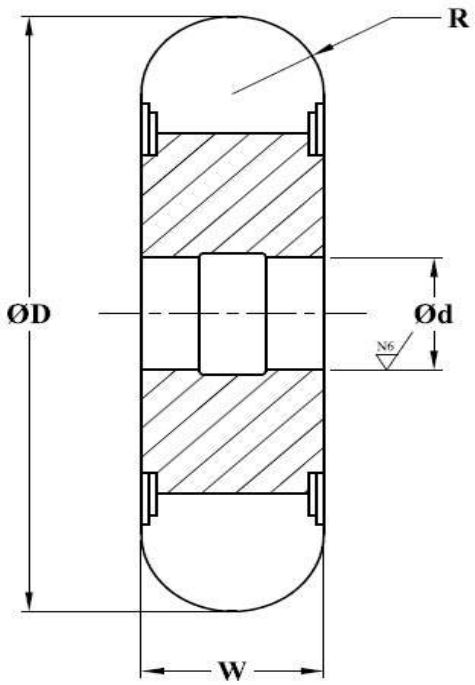
46.1 Basic Indicative Diagram



46.2	Compliance:	Confirming to IS: 6322 - 1982
46.3	Diameter 'ØD':	Ø80.00 js16 (±0.950)
46.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
46.5	Diameter 'Ød1':	41.00 mm
46.6	Radius 'R':	8.00 mm
46.7	Cutter Width 'W':	32.00 mm
46.8	Material:	HSS-M2
46.9	Finish:	Milled / Ground
46.10	Hardness:	760 HV to 900 HV
46.11	Surface Treatment:	Dual Finish

47 Milling Cutter - Convex - Outer Diameter = 63 mm, Radius = 4 mm, Bore Diameter = 27 mm

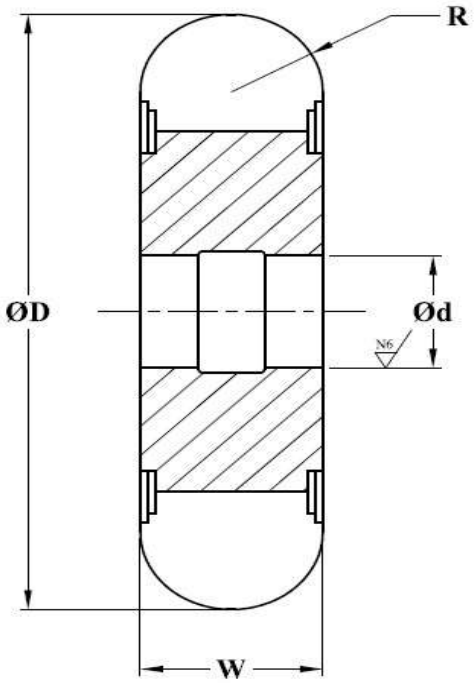
47.1 Basic Indicative Diagram



47.2	Compliance:	Confirming to IS: 6323 - 1982
47.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
47.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
47.5	Radius 'R':	4.00 mm
47.6	Cutter Width 'W':	8.00 mm
47.7	Material:	HSS-M2
47.8	Finish:	Milled / Ground
47.9	Hardness:	760 HV to 900 HV
47.10	Surface Treatment:	Dual Finish

48 Milling Cutter - Convex - Outer Diameter = 80 mm, Radius = 6 mm, Bore Diameter = 27 mm

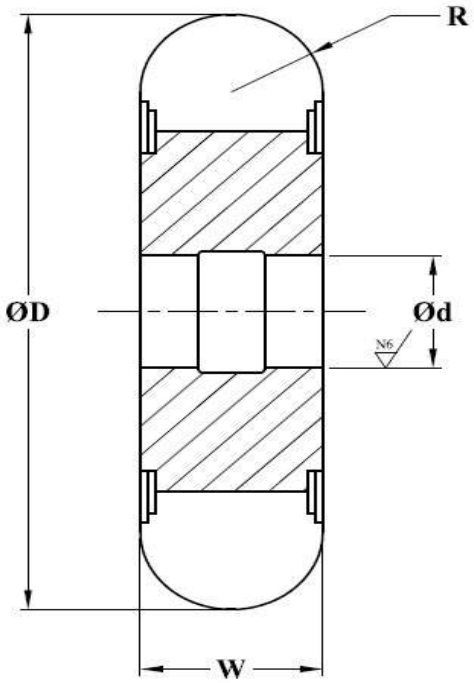
48.1 Basic Indicative Diagram



48.2	Compliance:	Confirming to IS: 6323 - 1982
48.3	Diameter 'ØD':	Ø80.00 js16 (±0.950)
48.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
48.5	Radius 'R':	6.00 mm
48.6	Cutter Width 'W':	12.0 mm
48.7	Material:	HSS-M2
48.8	Finish:	Milled / Ground
48.9	Hardness:	760 HV to 900 HV
48.10	Surface Treatment:	Dual Finish

49 Milling Cutter - Convex - Outer Diameter = 80 mm, Radius = 8 mm, Bore Diameter = 27 mm

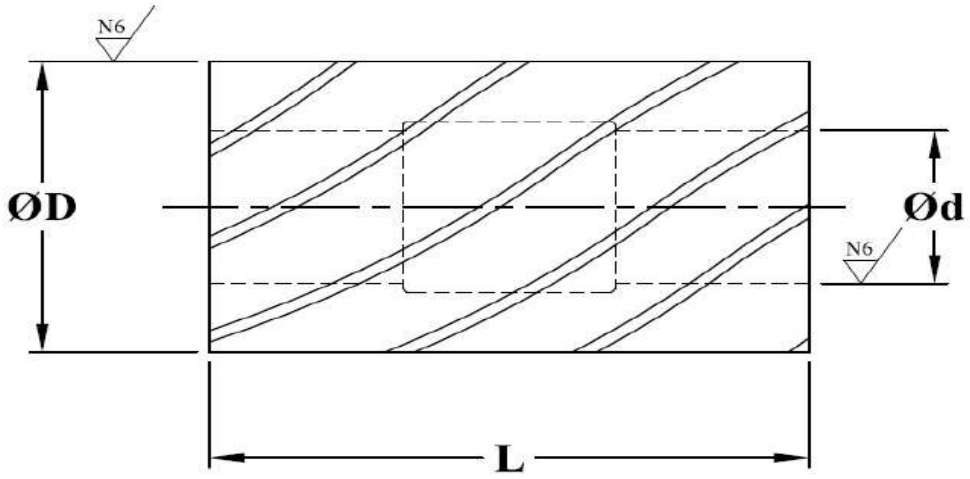
49.1 Basic Indicative Diagram



49.2	Compliance:	Confirming to IS: 6323 - 1982
49.3	Diameter 'ØD':	Ø80.00 js16 (±0.950)
49.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
49.5	Radius 'R':	8.00 mm
49.6	Cutter Width 'W':	16.0 mm
49.7	Material:	HSS-M2
49.8	Finish:	Milled / Ground
49.9	Hardness:	760 HV to 900 HV
49.10	Surface Treatment:	Dual Finish

50 Milling Cutter - Cylindrical - Outer Diameter = 63 mm, Length = 70 mm, Bore Diameter = 27 mm

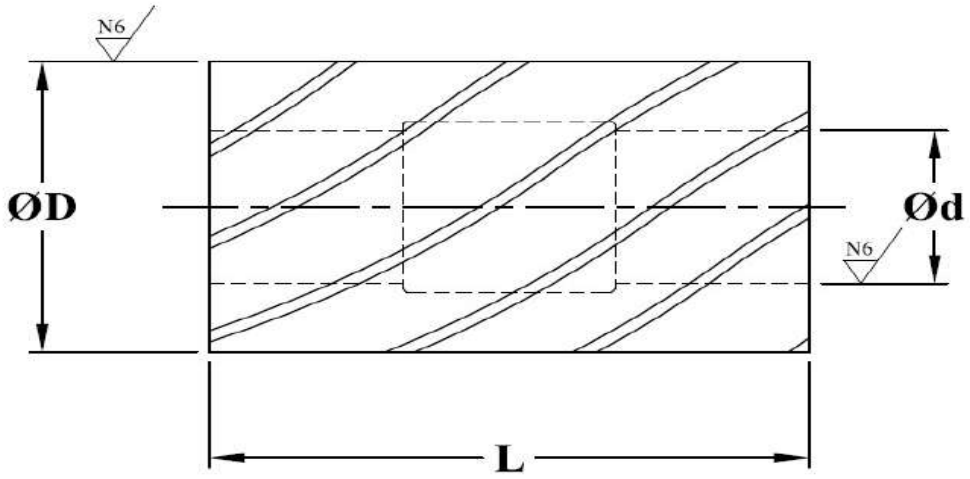
50.1 Basic Indicative Diagram



50.2	Compliance:	Confirming to IS: 6309 - 1982
50.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
50.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
50.5	Cutter length 'L':	70.00 mm
50.6	Material:	HSS-M2
50.7	Finish:	Milled / Ground
50.8	Hardness:	760 HV to 900 HV
50.9	Surface Treatment:	Dual Finish

51 Milling Cutter - Cylindrical - Outer Diameter = 80 mm, Length = 90 mm, Bore Diameter = 27 mm

51.1 Basic Indicative Diagram



51.2	Compliance:	Confirming to IS: 6309 - 1982
51.3	Diameter 'ØD':	Ø80.00 js16 (±0.950)
51.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
51.5	Cutter length 'L':	90.00 mm
51.6	Material:	HSS-M2
51.7	Finish:	Milled / Ground
51.8	Hardness:	760 HV to 900 HV
51.9	Surface Treatment:	Dual Finish

52 Milling Cutter - Disc type form (Involutes Form - 1.5 Module, Pressure Angle = 20°), Set of 8 Pieces

52.1 Basic Indicative Diagram

52.2	Compliance:	Confirming to BS2518 -1954
52.3	Rotary Form Relieved Involute Gear Cutter	
52.4	Inclusive Range of Teeth for Spur Gears	
52.4.1	Cutter No 1	135 to Rack
52.4.2	Cutter No 2	55 to 134
52.4.3	Cutter No 3	35 to54
52.4.4	Cutter No 4	26 to 34
52.4.5	Cutter No 5	21 to 25
52.4.6	Cutter No 6	17 to 20
52.4.7	Cutter No 7	14 to 16
52.4.8	Cutter No 8	12 to 13
52.5	Diametral Pitch:	16.9333
52.6	Circular Pitch:	0.1855
52.7	Module:	1.5
52.8	Pressure Angle:	20 Degree
52.9	Hardness:	62-65 HRC
52.10	Material:	High Speed Steel
52.11	Bore:	27.0 mm

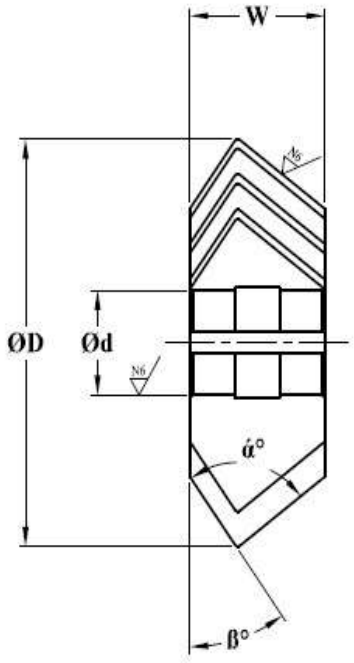
53 Milling Cutter - Disc type form (Involutes Form - 2 Module, Pressure Angle = 20°), Set of 8 Pieces

53.1 Basic Indicative Diagram

53.2	Compliance:	Confirming to BS2518 -1954
53.3	Rotary Form Relieved Involute Gear Cutter	
53.4	Inclusive Range of Teeth for Spur Gears	
53.4.1	Cutter No 1	135 to Rack
53.4.2	Cutter No 2	55 to 134
53.4.3	Cutter No 3	35 to54
53.4.4	Cutter No 4	26 to 34
53.4.5	Cutter No 5	21 to 25
53.4.6	Cutter No 6	17 to 20
53.4.7	Cutter No 7	14 to 16
53.4.8	Cutter No 8	12 to 13
53.5	Diametral Pitch:	12.7000
53.6	Circular Pitch:	0.2474
53.7	Module:	2
53.8	Pressure Angle:	20 Degree
53.9	Hardness:	62-65 HRC
53.10	Material:	High Speed Steel
53.11	Bore:	27.0 mm

54 Milling Cutter - Double Angle Unequal Cutter - Outer Diameter = 63 mm, Width = 18 mm, Bore Diameter = 27 mm, Angle = 12˚ X 55˚

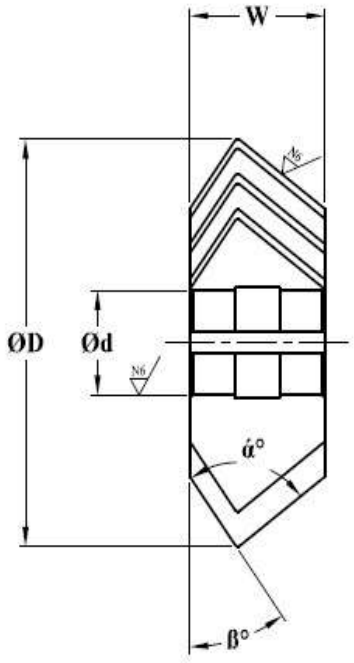
54.1 Basic Indicative Diagram



54.2	Compliance:	Confirming to IS: 6325 - 1971
54.3	Diameter 'ØD':	Ø63.00 js16 (± 0.950)
54.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
54.5	Cutter Width 'W':	18.00 mm
54.6	Angle 'α':	55°
54.7	Angle 'ß':	12°
54.8	Material:	HSS-M2
54.9	Finish:	Milled / Ground
54.10	Hardness:	760 HV to 900 HV
54.11	Surface Treatment:	Dual Finish

55 Milling Cutter - Double Angle Unequal Cutter - Outer Diameter = 63 mm, Width = 18 mm, Bore Diameter = 27 mm, Angle = 12˚ X 60˚

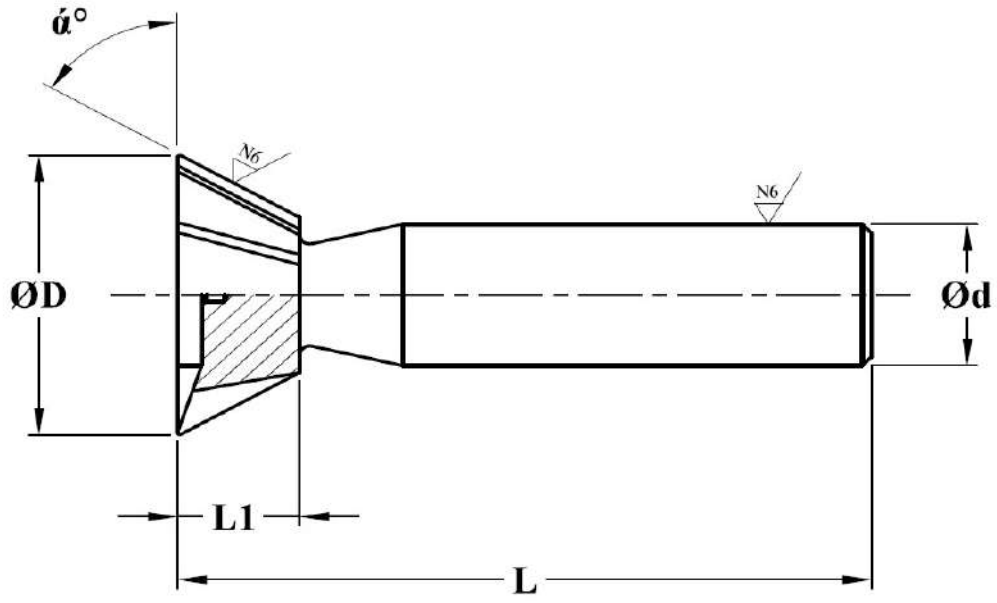
55.1 Basic Indicative Diagram



55.2	Compliance:	Confirming to IS: 6325 - 1971
55.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
55.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
55.5	Cutter Width 'W':	18.00 mm
55.6	Angle 'α':	60°
55.7	Angle 'ß':	15°
55.8	Material:	HSS-M2
55.9	Finish:	Milled / Ground
55.10	Hardness:	760 HV to 900 HV
55.11	Surface Treatment:	Dual Finish

56 Milling Cutter - Dovetail Cutter, Outer Diameter = 20 mm, Angle = 45˚, Shank Diameter = 12 mm, Parallel Shank, Type A

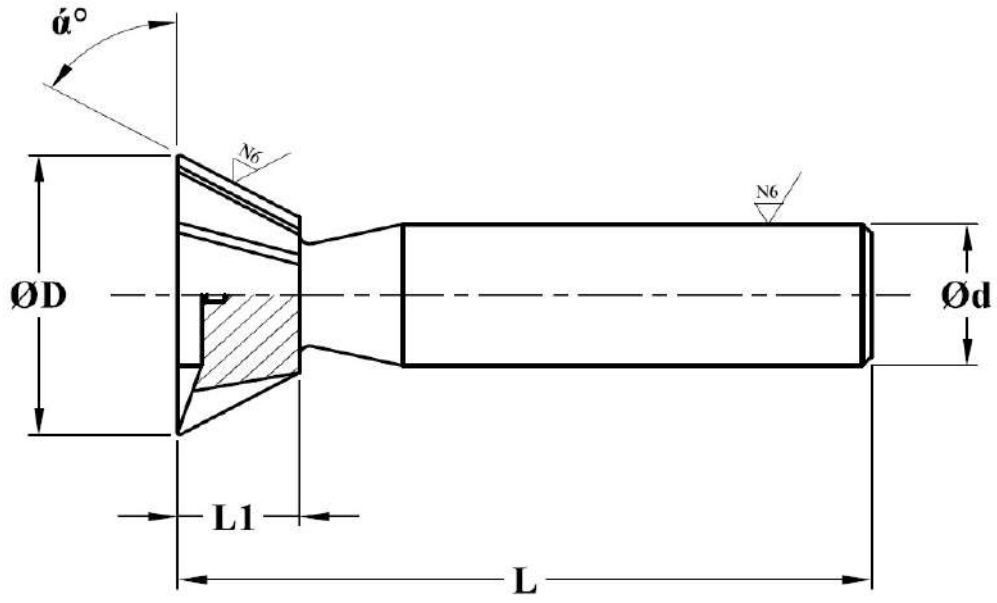
56.1 Basic Indicative Diagram



56.2	Compliance:	Confirming to IS: 6255 - 1995
56.3	Diameter 'ØD':	Ø20.0 js16 (±0.650)
56.4	Shank Diameter 'Ød':	Ø12.0 mm
56.5	Cutter Width 'L1':	5.0 mm
56.6	Overall length 'L':	63.0 mm
56.7	Angle 'α':	45°
56.8	Material:	HSS-M2
56.9	Finish:	Milled / Ground
56.10	Hardness:	760 HV to 900 HV
56.11	Surface Treatment:	Bright Finish

57 Milling Cutter - Dovetail Cutter, Outer Diameter = 20 mm, Angle = 60˚, Shank Diameter = 12 mm, Parallel Shank, Type A

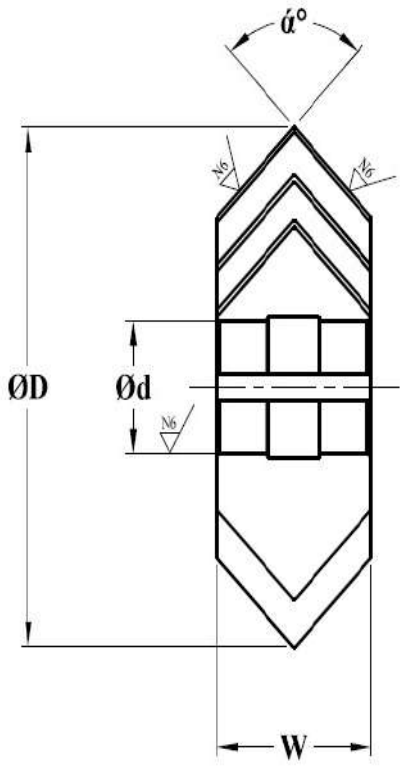
57.1 Basic Indicative Diagram



57.2	Compliance:	Confirming to IS: 6255 - 1995
57.3	Diameter 'ØD':	Ø20.0 js16 (±0.650)
57.4	Shank Diameter 'Ød':	Ø12.0 mm
57.5	Cutter Width 'L1':	8.0 mm
57.6	Overall length 'L':	63.0 mm
57.7	Angle 'α':	60°
57.8	Material:	HSS-M2
57.9	Finish:	Milled / Ground
57.10	Hardness:	760 HV to 900 HV
57.11	Surface Treatment:	Bright Finish

58 Milling Cutter - Equal Angle Cutter 45˚, Outer Diameter = 100 mm, Width = 25 mm, Bore Diameter = 27 mm

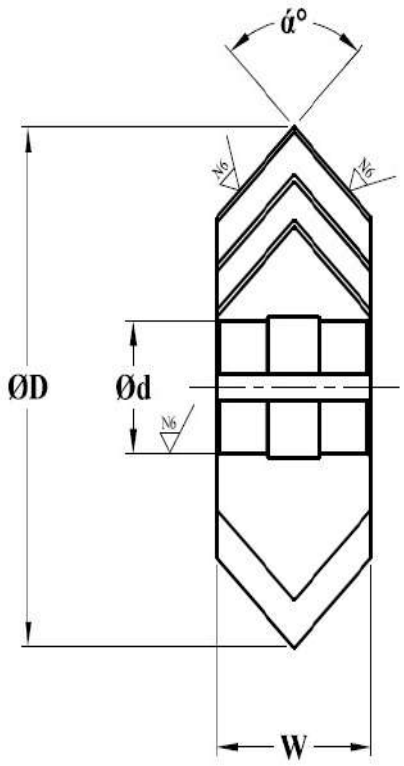
58.1 Basic Indicative Diagram



58.2	Compliance:	Confirming to IS: 6326 - 1996
58.3	Diameter 'ØD':	Ø100.00 js16 (±1.100)
58.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
58.5	Cutter Width 'W':	18.00 mm
58.6	Angle 'α':	45°
58.7	Material:	HSS-M2
58.8	Finish:	Milled / Ground
58.9	Hardness:	760 HV to 900 HV
58.10	Surface Treatment:	Dual Finish

59 Milling Cutter - Equal Angle Cutter 60˚, Outer Diameter = 100 mm, Width = 25 mm, Bore Diameter = 27 mm

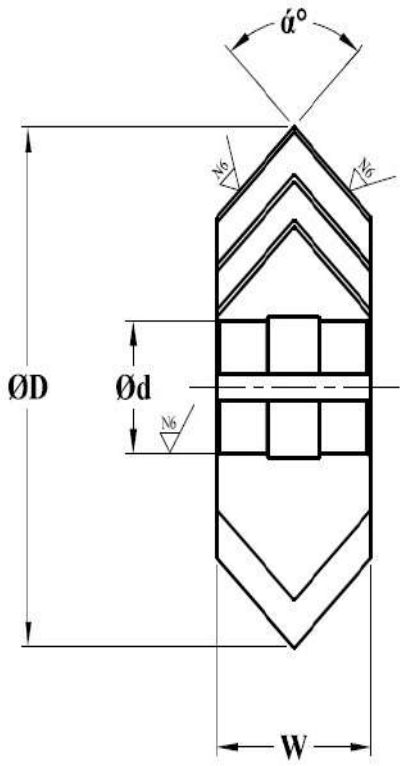
59.1 Basic Indicative Diagram



59.2	Compliance:	Confirming to IS: 6326 - 1996
59.3	Diameter 'ØD':	Ø100.00 js16 (±1.100)
59.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
59.5	Cutter Width 'W':	25.00 mm
59.6	Angle 'α':	60°
59.7	Material:	HSS-M2
59.8	Finish:	Milled / Ground
59.9	Hardness:	760 HV to 900 HV
59.10	Surface Treatment:	Dual Finish

60 Milling Cutter - Equal Angle Cutter 90˚, Outer Diameter = 100 mm, Width = 25 mm, Bore Diameter = 27 mm

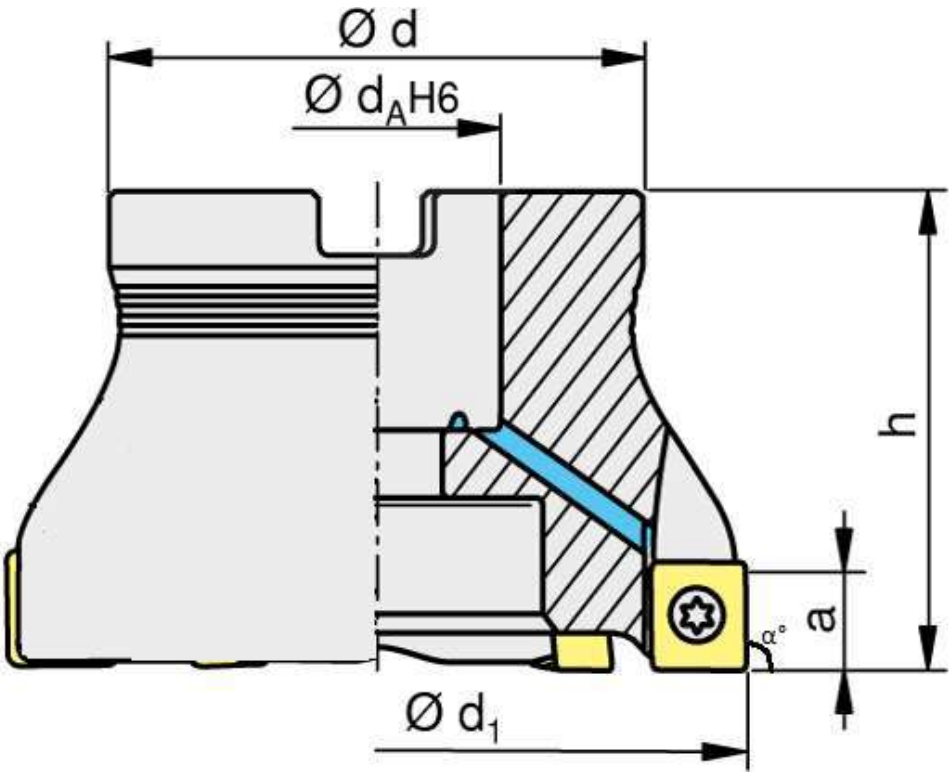
60.1 Basic Indicative Diagram



60.2	Compliance:	Confirming to IS: 6326 - 1996
60.3	Diameter 'ØD':	Ø100.00 js16 (±1.100)
60.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
60.5	Cutter Width 'W':	32.00 mm
60.6	Angle 'α':	90°
60.7	Material:	HSS-M2
60.8	Finish:	Milled / Ground
60.9	Hardness:	760 HV to 900 HV
60.10	Surface Treatment:	Dual Finish

61 Milling Cutter - Indexible Shoulder Mill, 8 Cutting Edges, Outer Diameter = 50 mm, Bore Diameter = 22 mm

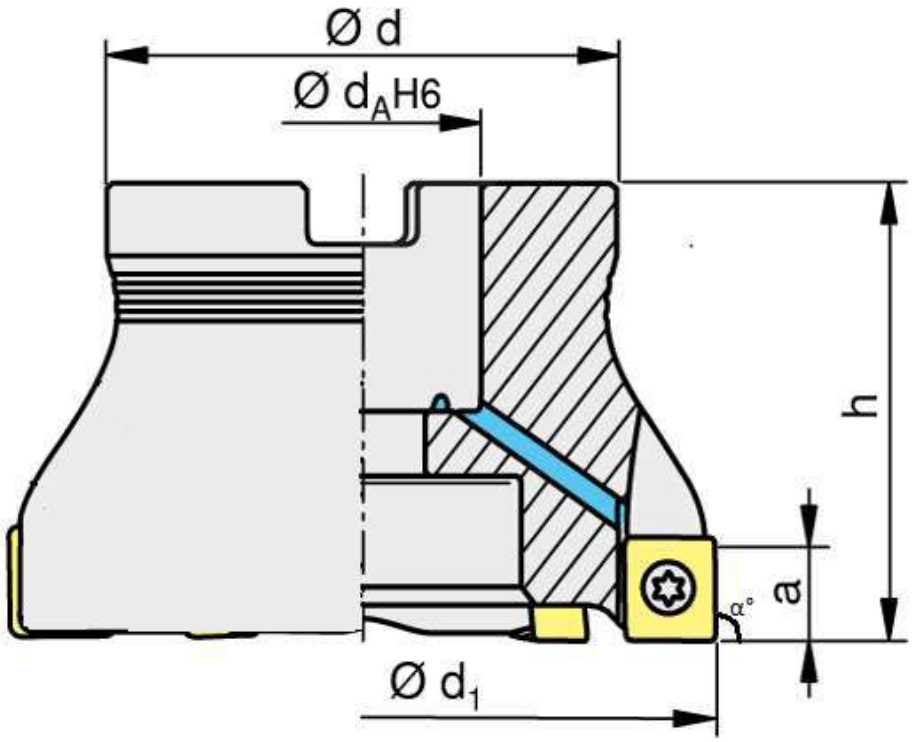
61.1 Basic Indicative Diagram



61.2	Type of Cutter:	Right hand
61.3	Diameter (d1):	50.0 mm
61.4	Diameter (d):	43.0 mm
61.5	Bore Diameter (da):	22.0 mm
61.6	Thickness (h):	40.0 mm
61.7	Max RPM:	9800
61.8	Number of Pockets (Z):	4 Numbers
61.9	Compatible with Insert:	8 Edge Shoulder milling insert length Min 12 mm
61.10	Angle (α):	90°
61.11	Clamping Screw:	M3.5 X 8 / T15IP
61.12	Clamping Key:	T15IP

62 Milling Cutter - Indexible Shoulder Mill, 8 Cutting Edges, Outer Diameter = 80 mm, Bore Diameter = 27 mm

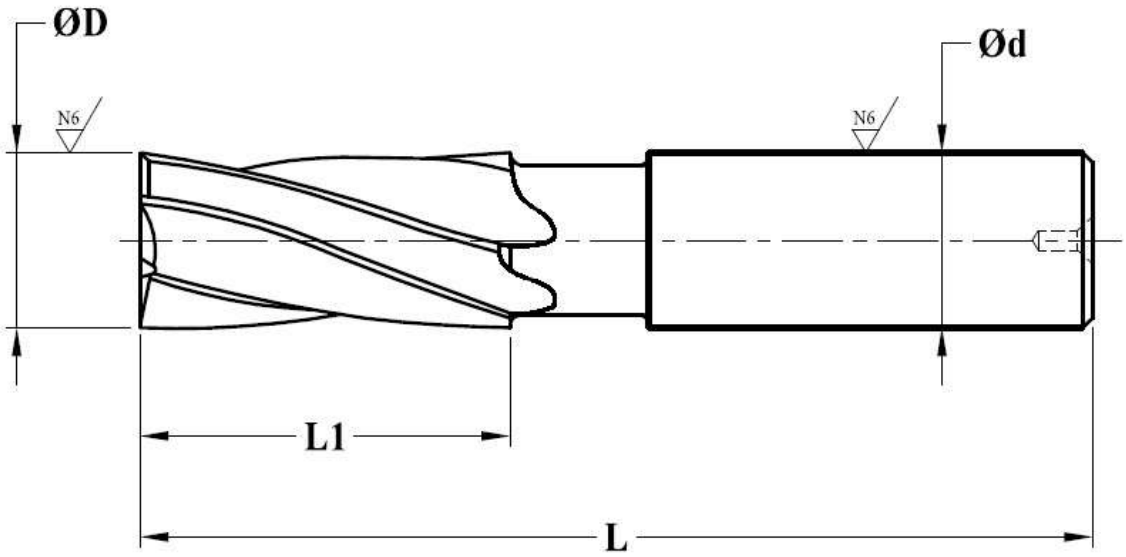
62.1 Basic Indicative Diagram



62.2	Type of Cutter:	Right hand
62.3	Diameter (d1):	80.0 mm
62.4	Diameter (d):	58.0 mm
62.5	Bore Diameter (da):	27.0 mm
62.6	Thickness (h):	50.0 mm
62.7	Max RPM:	7400
62.8	Number of Pockets (Z):	6 Numbers
62.9	Compatible with Insert:	8 Edge Shoulder milling insert length Min 12 mm
62.10	Angle (α)	90°
62.11	Clamping Screw	M3.5 X 8 / T15IP
62.12	Clamping Key	T15IP

63 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 10 mm, Four Fluted Center Cutting

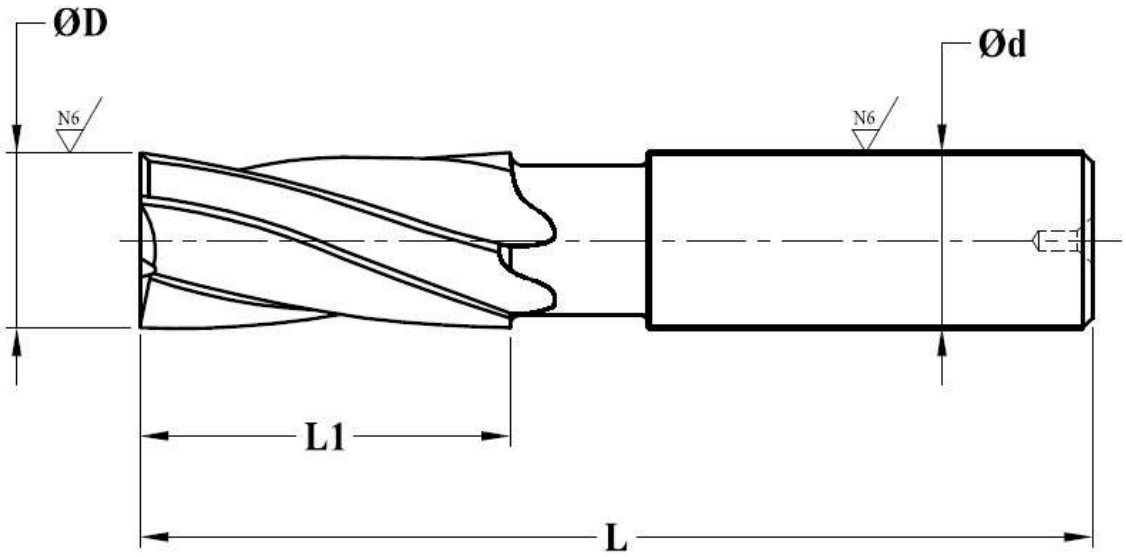
63.1 Basic Indicative Diagram



63.2	Compliance:	Confirming to IS: 6353 - 1991
63.3	Diameter 'ØD':	Ø10.0 js14 (±0.180)
63.4	Shank Diameter 'Ød':	Ø10.0 h8 (+0.0 / -0.022)
63.5	Cutting Length 'L1':	22.0 mm
63.6	Overall length 'L':	72.0 mm
63.7	No. of flutes:	4 flutes
63.8	Material:	HSS-M2
63.9	Finish:	Milled / Ground
63.10	Hardness:	760 HV to 900 HV
63.11	Surface Treatment:	Bright Finish

64 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 12 mm, Four Fluted Center Cutting

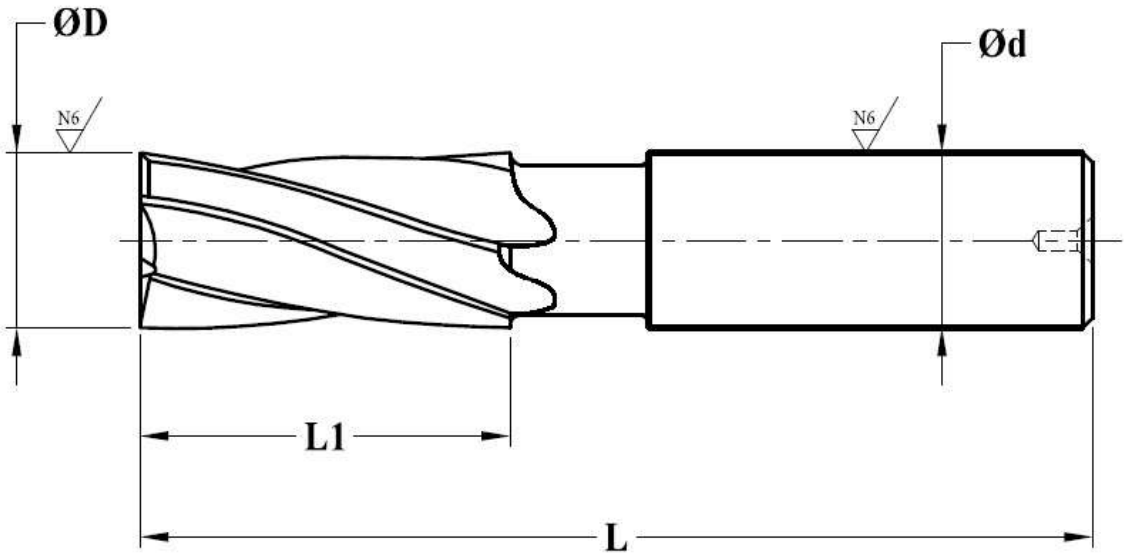
64.1 Basic Indicative Diagram



64.2	Compliance:	Confirming to IS: 6353 - 1991
64.3	Diameter 'ØD':	Ø12.0 js14 (±0.215)
64.4	Shank Diameter 'Ød':	Ø12.0 h8 (+0.0 / -0.027)
64.5	Cutting Length 'L1':	26.0 mm
64.6	Overall length 'L':	83.0 mm
64.7	No. of flutes:	4 flutes
64.8	Material:	HSS-M2
64.9	Finish:	Milled / Ground
64.10	Hardness:	760 HV to 900 HV
64.11	Surface Treatment:	Bright Finish

65 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 14 mm, Four Fluted Center Cutting

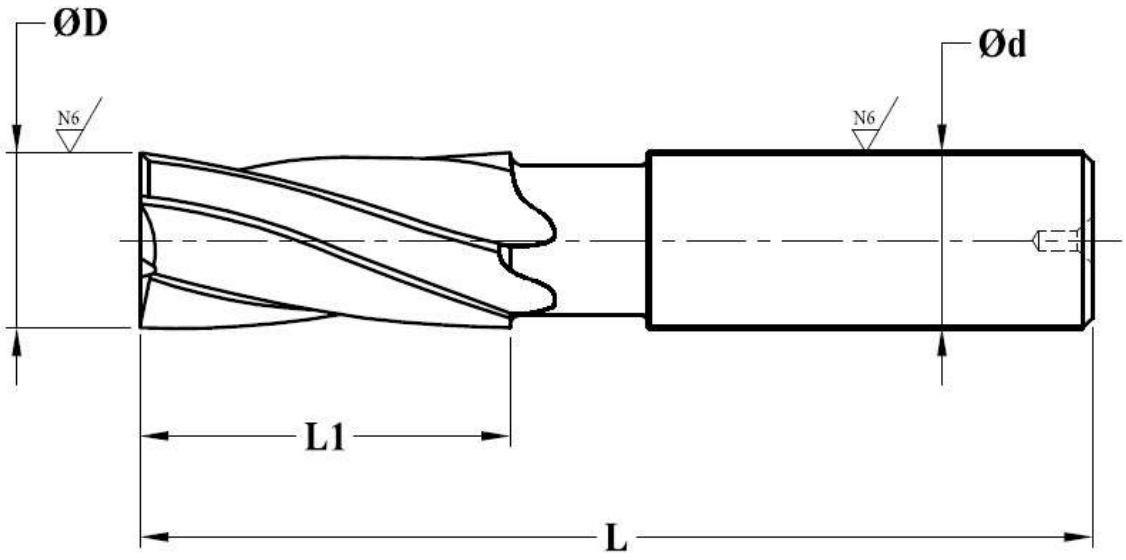
65.1 Basic Indicative Diagram



65.2	Compliance:	Confirming to IS: 6353 - 1991
65.3	Diameter 'ØD':	Ø14.0 js14 (±0.215)
65.4	Shank Diameter 'Ød':	Ø12.0 h8 (+0.0 / -0.027)
65.5	Cutting Length 'L1':	26.0 mm
65.6	Overall length 'L':	83.0 mm
65.7	No. of flutes:	4 flutes
65.8	Material:	HSS-M2
65.9	Finish:	Milled / Ground
65.10	Hardness:	760 HV to 900 HV
65.11	Surface Treatment:	Bright Finish

66 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 16 mm, Four Fluted Center Cutting

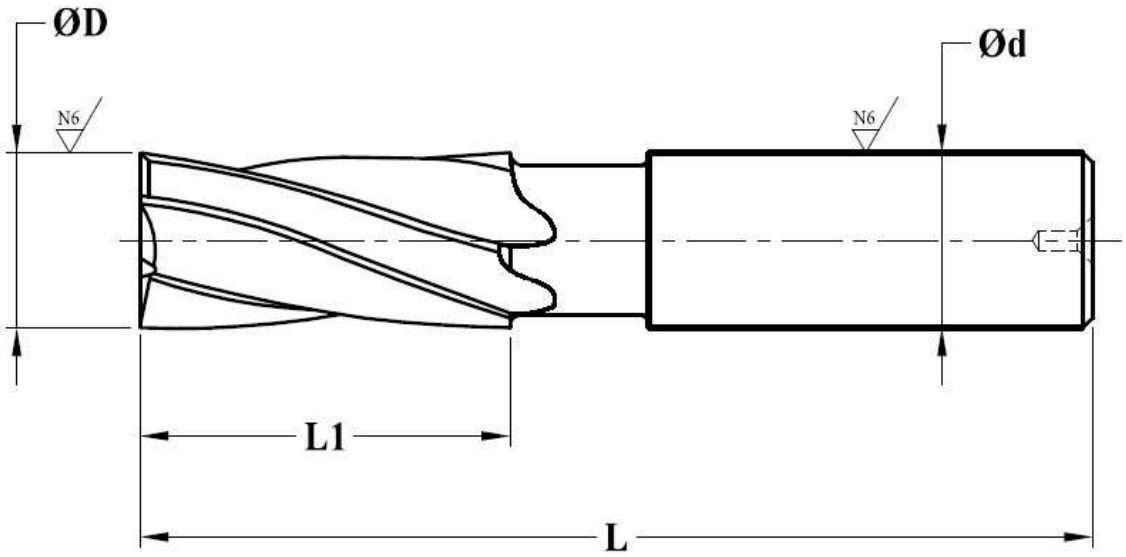
66.1 Basic Indicative Diagram



66.2	Compliance:	Confirming to IS: 6353 - 1991
66.3	Diameter 'ØD':	Ø16.0 js14 (±0.215)
66.4	Shank Diameter 'Ød':	Ø16.0 h8 (+0.0 / -0.027)
66.5	Cutting Length 'L1':	32.0 mm
66.6	Overall length 'L':	92.0 mm
66.7	No. of flutes:	4 flutes
66.8	Material:	HSS-M2
66.9	Finish:	Milled / Ground
66.10	Hardness:	760 HV to 900 HV
66.11	Surface Treatment:	Bright Finish

67 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 18 mm, Four Fluted Center Cutting

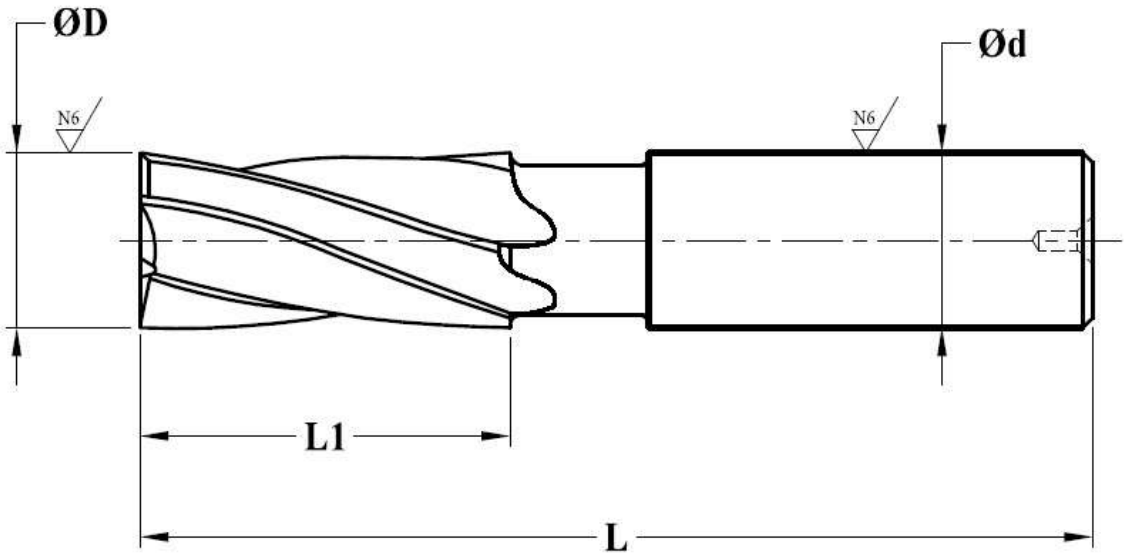
67.1 Basic Indicative Diagram



67.2	Compliance:	Confirming to IS: 6353 - 1991
67.3	Diameter 'ØD':	Ø18.0 js14 (±0.215)
67.4	Shank Diameter 'Ød':	Ø16.0 h8 (+0.0 / -0.027)
67.5	Cutting Length 'L1':	32.0 mm
67.6	Overall length 'L':	92.0 mm
67.7	No. of flutes:	4 flutes
67.8	Material:	HSS-M2
67.9	Finish:	Milled / Ground
67.10	Hardness:	760 HV to 900 HV
67.11	Surface Treatment:	Bright Finish

68 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 20 mm, Six Fluted Center Cutting

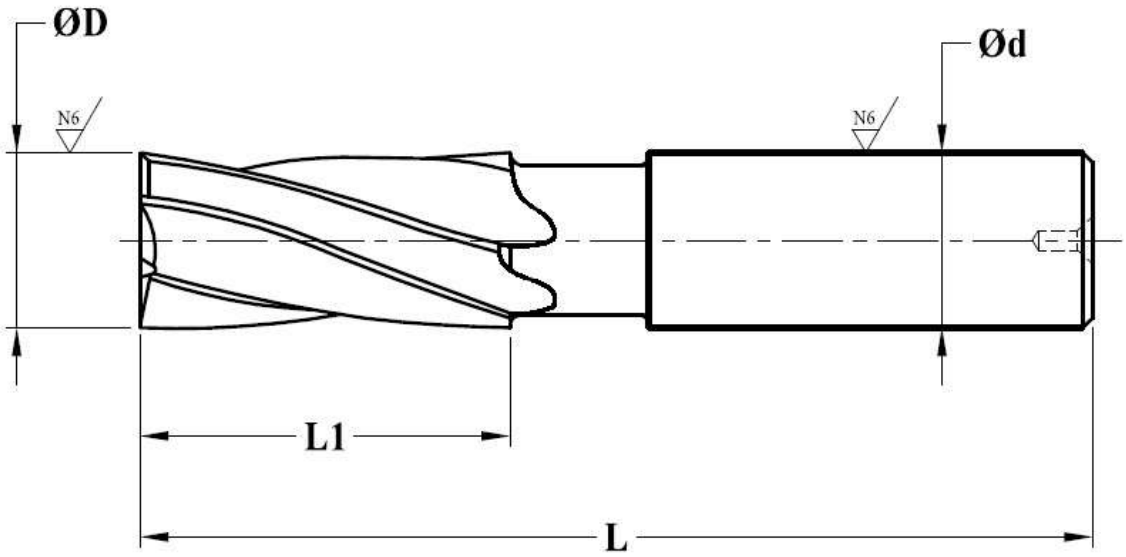
68.1 Basic Indicative Diagram



68.2	Compliance:	Confirming to IS: 6353 - 1991
68.3	Diameter 'ØD':	Ø20.0 js14 (±0.260)
68.4	Shank Diameter 'Ød':	Ø20.0 h8 (+0.0 / -0.033)
68.5	Cutting Length 'L1':	38.0 mm
68.6	Overall length 'L':	104.0 mm
68.7	No. of flutes:	6 flutes
68.8	Material:	HSS-M2
68.9	Finish:	Milled / Ground
68.10	Hardness:	760 HV to 900 HV
68.11	Surface Treatment:	Bright Finish

69 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 25 mm, Six Fluted Center Cutting

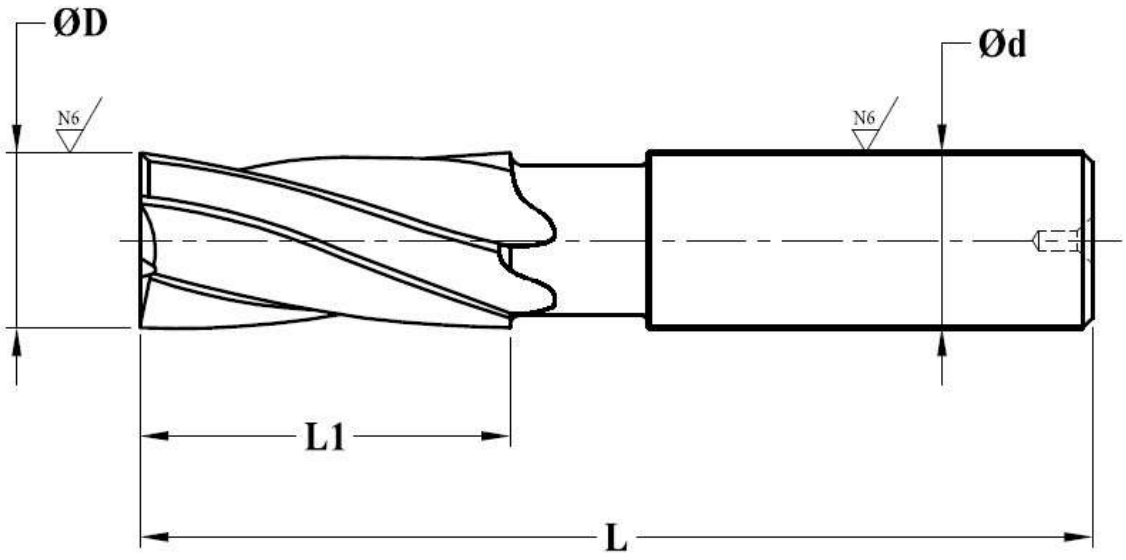
69.1 Basic Indicative Diagram



69.2	Compliance:	Confirming to IS: 6353 - 1991
69.3	Diameter 'ØD':	Ø25.0 js14 (±0.260)
69.4	Shank Diameter 'Ød':	Ø25.0 h8 (+0.0 / -0.033)
69.5	Cutting Length 'L1':	45.0 mm
69.6	Overall length 'L':	121.0 mm
69.7	No. of flutes:	6 flutes
69.8	Cutting Portion Material:	HSS-M2
69.9	Finish:	Milled / Ground
69.10	Hardness	
	69.10.1 Cutting Portion:	760 HV to 900 HV
	69.10.2 Shank Portion:	185 HV Min.
69.11	Surface Treatment:	Bright Finish

70 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 6 mm, Four Fluted Center Cutting

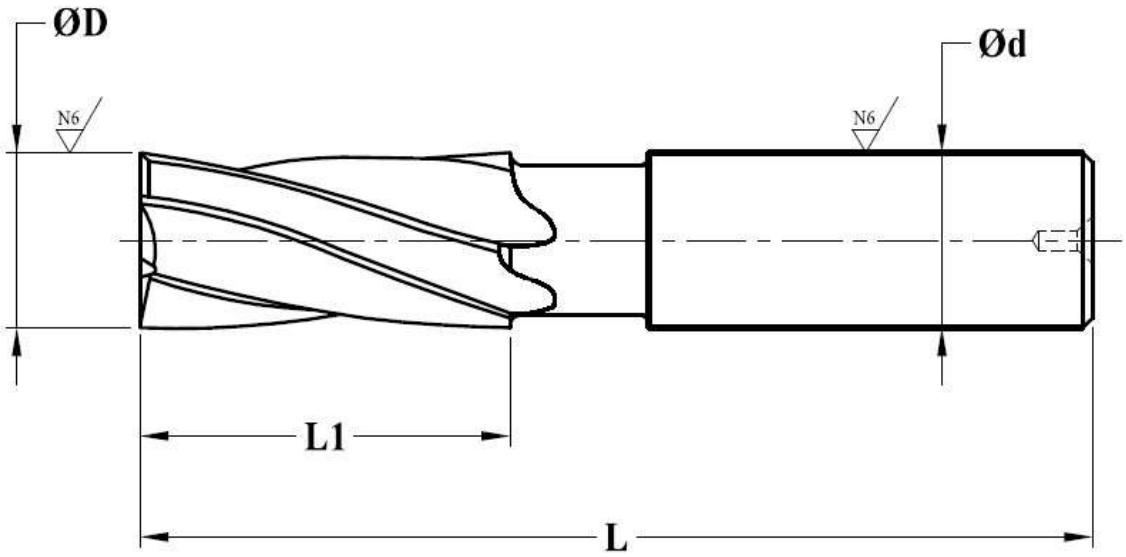
70.1 Basic Indicative Diagram



70.2	Compliance:	Confirming to IS: 6353 - 1991
70.3	Diameter 'ØD':	Ø6.0 js14 (±0.150)
70.4	Shank Diameter 'Ød':	Ø6.0 h8 (+0.0 / -0.018)
70.5	Cutting Length 'L1':	13.0 mm
70.6	Overall length 'L':	57.0 mm
70.7	No. of flutes:	4 flutes
70.8	Material:	HSS-M2
70.9	Finish:	Milled / Ground
70.10	Hardness:	760 HV to 900 HV
70.11	Surface Treatment:	Bright Finish

71 Milling Cutter - Parallel Shank HSS End Mills, Outer Diameter = 8 mm, Four Fluted Center Cutting

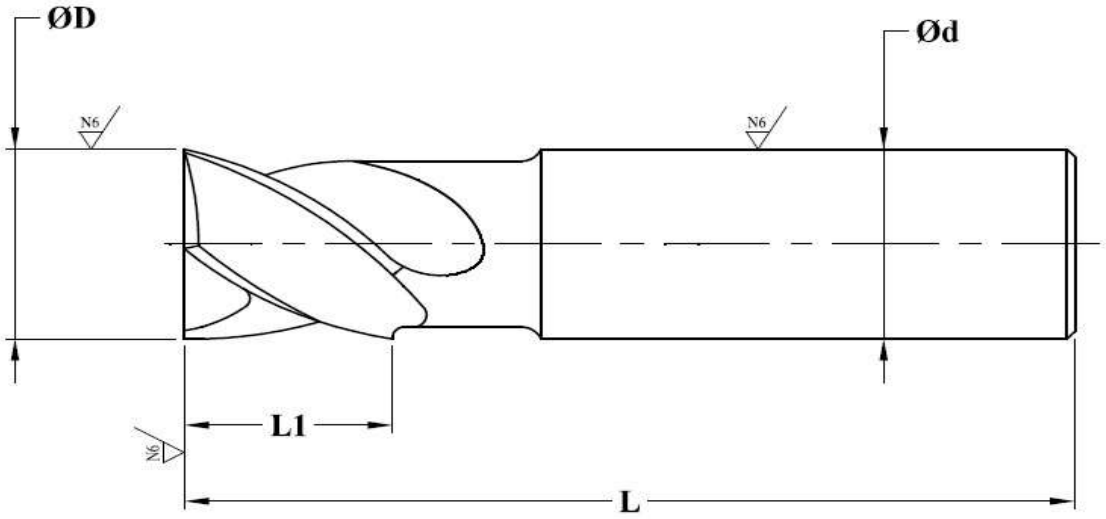
71.1 Basic Indicative Diagram



71.2	Compliance:	Confirming to IS: 6353 - 1991
71.3	Diameter 'ØD':	Ø8.0 js14 (±0.180)
71.4	Shank Diameter 'Ød':	Ø8.0 h8 (+0.0 / -0.022)
71.5	Cutting Length 'L1':	19.0 mm
71.6	Overall length 'L':	63.0 mm
71.7	No. of flutes:	4 flutes
71.8	Material:	HSS-M2
71.9	Finish:	Milled / Ground
71.10	Hardness:	760 HV to 900 HV
71.11	Surface Treatment:	Bright Finish

72 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 10 mm, Center Cutting

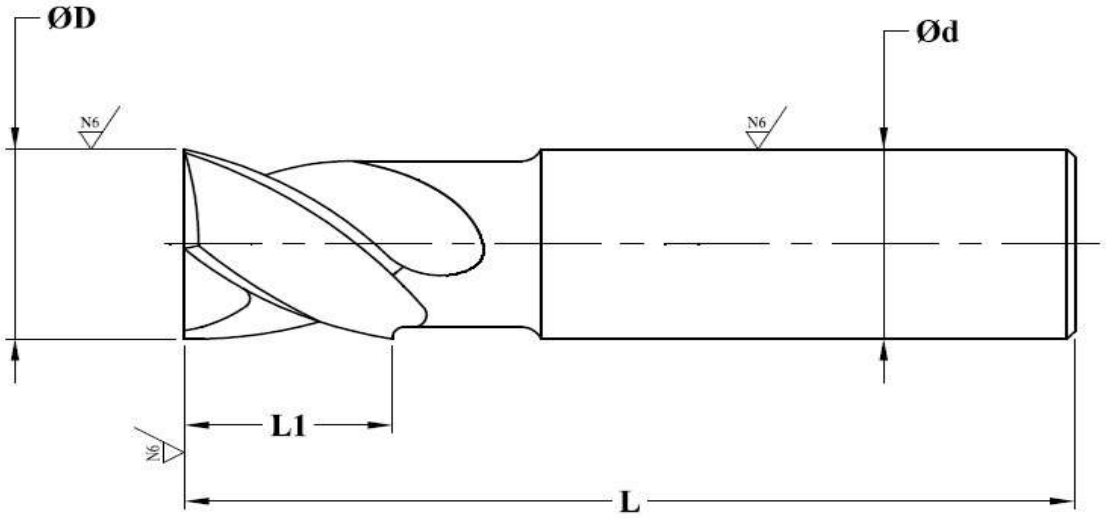
72.1 Basic Indicative Diagram



72.2	Compliance:	Confirming to IS: 6352 - 1991
72.3	Diameter 'ØD':	Ø10.0 e8 (-0.025 / -0.047)
72.4	Shank Diameter 'Ød':	Ø10.0 h8 (+0.0 / -0.022)
72.5	Cutting Length 'L1':	22.0 mm
72.6	Overall length 'L':	72.0 mm
72.7	Material:	HSS-M2
72.8	Finish:	Milled / Ground
72.9	Hardness:	760 HV to 900 HV
72.10	Surface Treatment:	Bright Finish

73 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 12 mm, Center Cutting

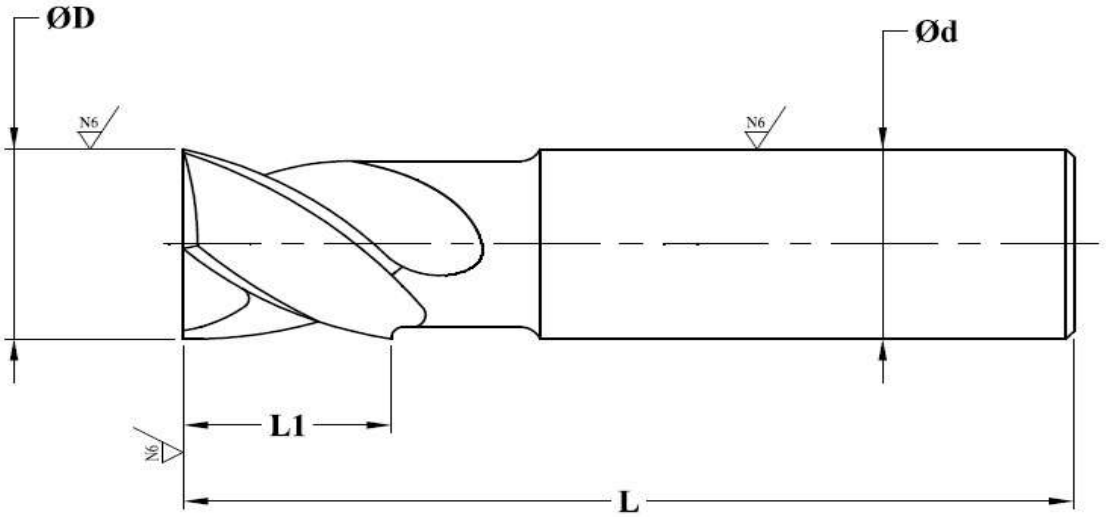
73.1 Basic Indicative Diagram



73.2	Compliance:	Confirming to IS: 6352 - 1991
73.3	Diameter 'ØD':	Ø12.0 e8 (-0.032 / -0.059)
73.4	Shank Diameter 'Ød':	Ø12.0 h8 (+0.0 / -0.027)
73.5	Cutting Length 'L1':	26.0 mm
73.6	Overall length 'L':	83.0 mm
73.7	Material:	HSS-M2
73.8	Finish:	Milled / Ground
73.9	Hardness:	760 HV to 900 HV
73.10	Surface Treatment:	Bright Finish

74 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 14 mm, Center Cutting

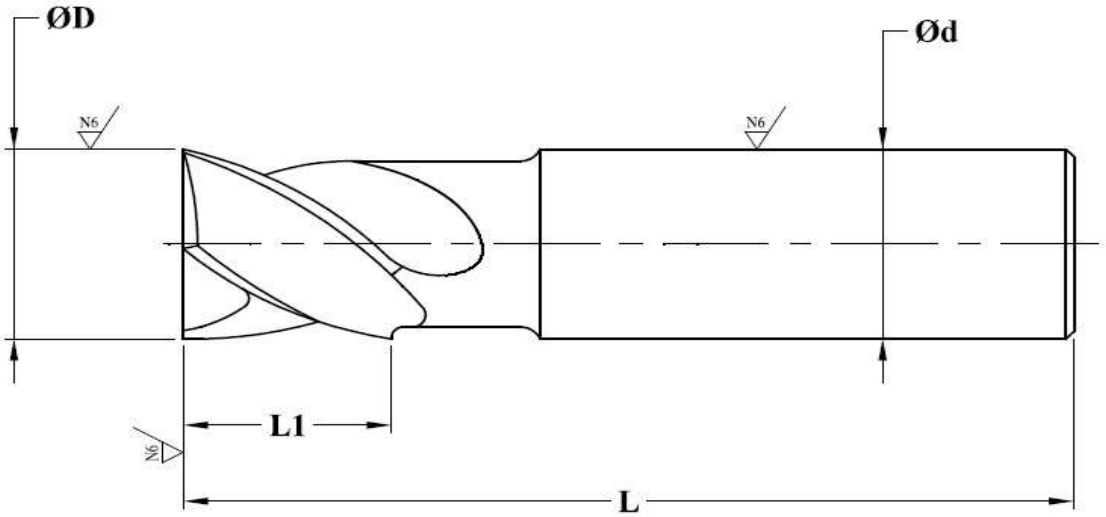
74.1 Basic Indicative Diagram



74.2	Compliance:	Confirming to IS: 6352 - 1991
74.3	Diameter 'ØD':	Ø14.0 e8 (-0.032 / -0.059)
74.4	Shank Diameter 'Ød':	Ø12.0 h8 (+0.0 / -0.027)
74.5	Cutting Length 'L1':	26.0 mm
74.6	Overall length 'L':	83.0 mm
74.7	Material:	HSS-M2
74.8	Finish:	Milled / Ground
74.9	Hardness:	760 HV to 900 HV
74.10	Surface Treatment:	Bright Finish

75 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 16 mm, Center Cutting

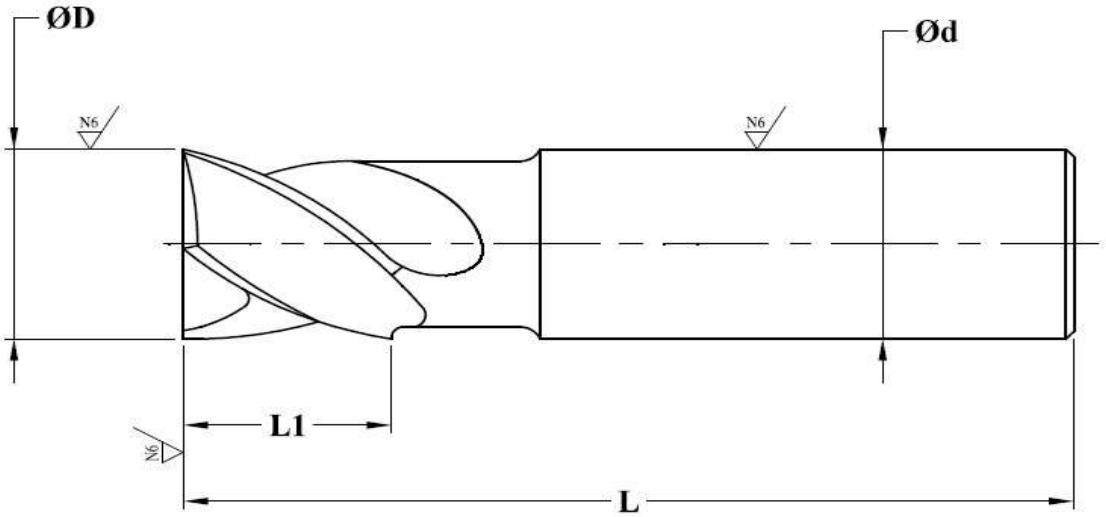
75.1 Basic Indicative Diagram



75.2	Compliance:	Confirming to IS: 6352 - 1991
75.3	Diameter 'ØD':	Ø16.0 e8 (-0.032 / -0.059)
75.4	Shank Diameter 'Ød':	Ø16.0 h8 (+0.0 / -0.027)
75.5	Cutting Length 'L1':	32.0 mm
75.6	Overall length 'L':	92.0 mm
75.7	Material:	HSS-M2
75.8	Finish:	Milled / Ground
75.9	Hardness:	760 HV to 900 HV
75.10	Surface Treatment:	Bright Finish

76 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 18 mm, Center Cutting

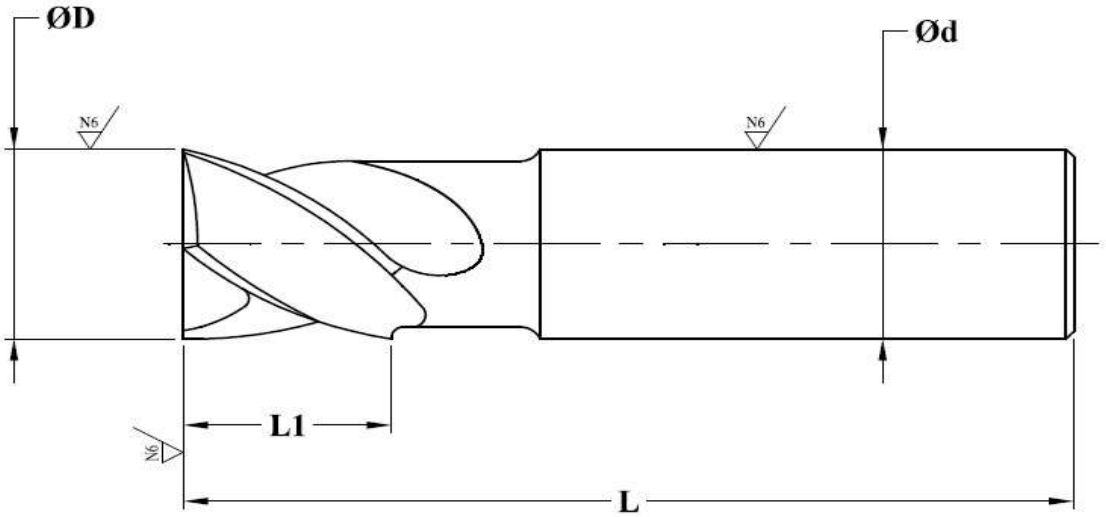
76.1 Basic Indicative Diagram



76.2	Compliance:	Confirming to IS: 6352 - 1991
76.3	Diameter 'ØD':	Ø18.0 e8 (-0.032 / -0.059)
76.4	Shank Diameter 'Ød':	Ø16.0 h8 (+0.0 / -0.027)
76.5	Cutting Length 'L1':	32.0 mm
76.6	Overall length 'L':	92.0 mm
76.7	Material:	HSS-M2
76.8	Finish:	Milled / Ground
76.9	Hardness:	760 HV to 900 HV
76.10	Surface Treatment:	Bright Finish

77 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 20 mm, Center Cutting

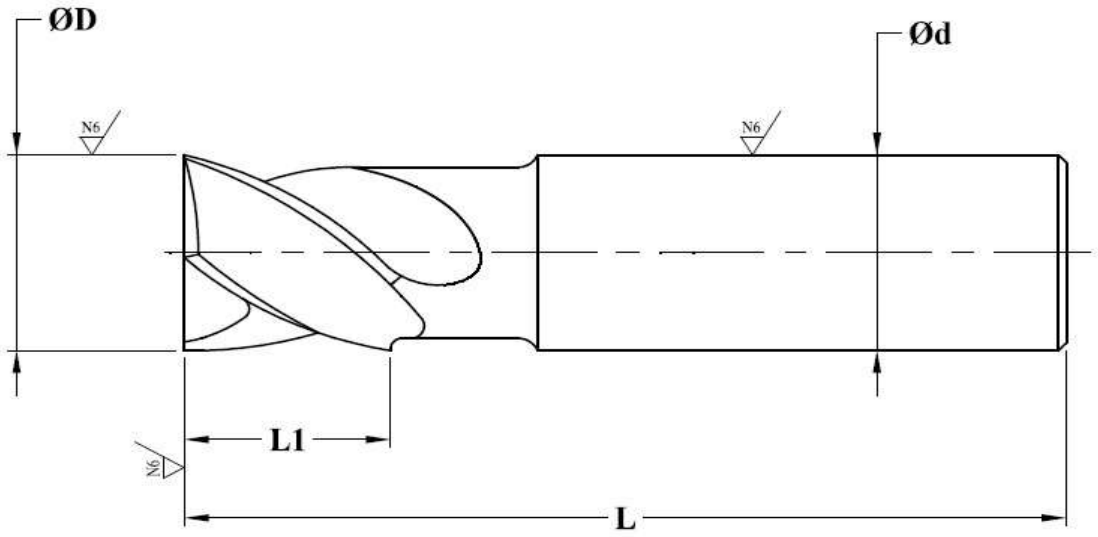
77.1 Basic Indicative Diagram



77.2	Compliance:	Confirming to IS: 6352 - 1991
77.3	Diameter 'ØD':	Ø20.0 e8 (-0.040 / -0.073)
77.4	Shank Diameter 'Ød':	Ø20.0 h8 (+0.0 / -0.033)
77.5	Cutting Length 'L1':	38.0 mm
77.6	Overall length 'L':	104.0 mm
77.7	Material:	HSS-M2
77.8	Finish:	Milled / Ground
77.9	Hardness:	760 HV to 900 HV
77.10	Surface Treatment:	Bright Finish

78 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 6 mm, Center Cutting

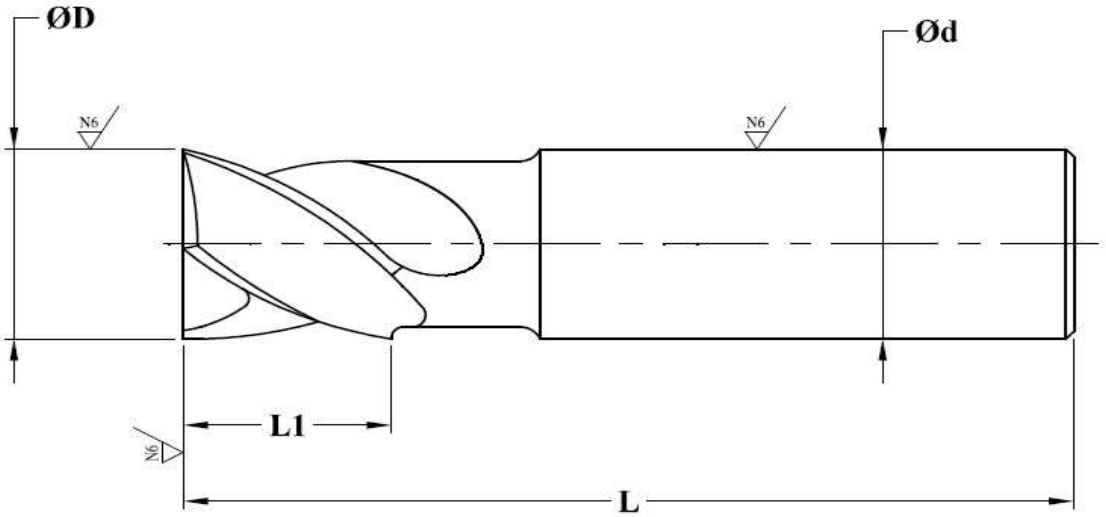
78.1 Basic Indicative Diagram



78.2	Compliance:	Confirming to IS: 6352 - 1991
78.3	Diameter 'ØD':	Ø6.0 e8 (-0.020 / -0.038)
78.4	Shank Diameter 'Ød':	Ø6.0 h8 (+0.0 / -0.018)
78.5	Cutting Length 'L1':	13.0 mm
78.6	Overall length 'L':	57.0 mm
78.7	Material:	HSS-M2
78.8	Finish:	Milled / Ground
78.9	Hardness:	760 HV to 900 HV
78.10	Surface Treatment:	Bright Finish

79 Milling Cutter - Parallel Shank HSS Slot Drill, Outer Diameter = 8 mm, Center Cutting

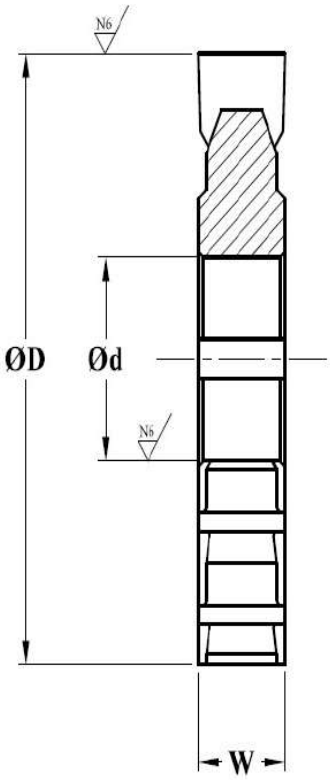
79.1 Basic Indicative Diagram



79.2	Compliance:	Confirming to IS: 6352 - 1991
79.3	Diameter 'ØD':	Ø8.0 e8 (-0.025 / -0.047)
79.4	Shank Diameter 'Ød':	Ø8.0 h8 (+0.0 / -0.022)
79.5	Cutting Length 'L1':	19.0 mm
79.6	Overall length 'L':	63.0 mm
79.7	Material:	HSS-M2
79.8	Finish:	Milled / Ground
79.9	Hardness:	760 HV to 900 HV
79.10	Surface Treatment:	Bright Finish

80 Milling Cutter - Plain Side and Face - Outer Diameter = 100 mm, Width = 10 mm, Bore Diameter = 27 mm, 24 Teeth

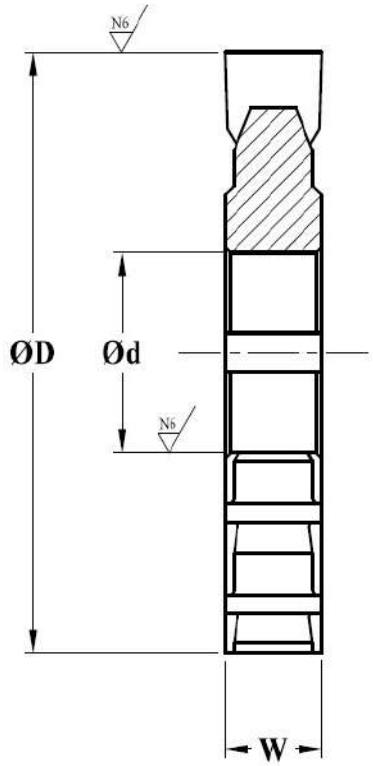
80.1 Basic Indicative Diagram



80.2	Compliance:	Confirming to IS: 6308 - 1982
80.3	Diameter 'ØD':	Ø100.0 js16 (±1.100)
80.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
80.5	Cutter Width 'W':	10.00 mm
80.6	No. of teeth:	24
80.7	Material:	HSS-M2
80.8	Finish:	Milled / Ground
80.9	Hardness:	760 HV to 900 HV
80.10	Surface Treatment:	Dual Finish

81 Milling Cutter - Plain Side and Face - Outer Diameter = 100 mm, Width = 12 mm, Bore Diameter = 27 mm, 24 Teeth

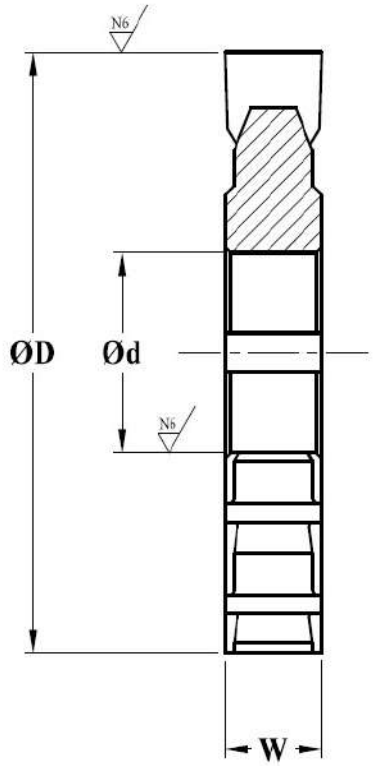
81.1 Basic Indicative Diagram



81.2	Compliance:	Confirming to IS: 6308 - 1982
81.3	Diameter 'ØD':	Ø100.0 js16 (±1.100)
81.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
81.5	Cutter Width 'W':	12.00 mm
81.6	No. of teeth:	24
81.7	Material:	HSS-M2
81.8	Finish:	Milled / Ground
81.9	Hardness:	760 HV to 900 HV
81.10	Surface Treatment:	Dual Finish

82 Milling Cutter - Plain Side and Face - Outer Diameter = 160 mm, Width = 10 mm, Bore Diameter = 27 mm, 24 Teeth

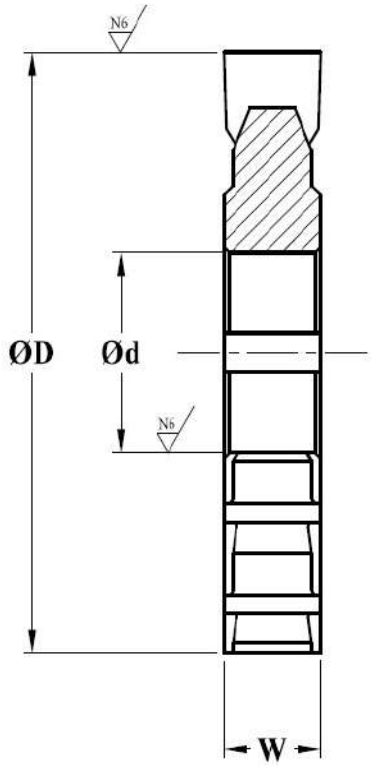
82.1 Basic Indicative Diagram



82.2	Compliance:	Confirming to IS: 6308 - 1982
82.3	Diameter 'ØD':	Ø160.0 js16 (±1.250)
82.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
82.5	Cutter Width 'W':	10.00 mm
82.6	No. of teeth:	24
82.7	Material:	HSS-M2
82.8	Finish:	Milled / Ground
82.9	Hardness:	760 HV to 900 HV
82.10	Surface Treatment:	Dual Finish

83 Milling Cutter - Plain Side and Face - Outer Diameter = 160 mm, Width = 16 mm, Bore Diameter = 27 mm, 24 Teeth

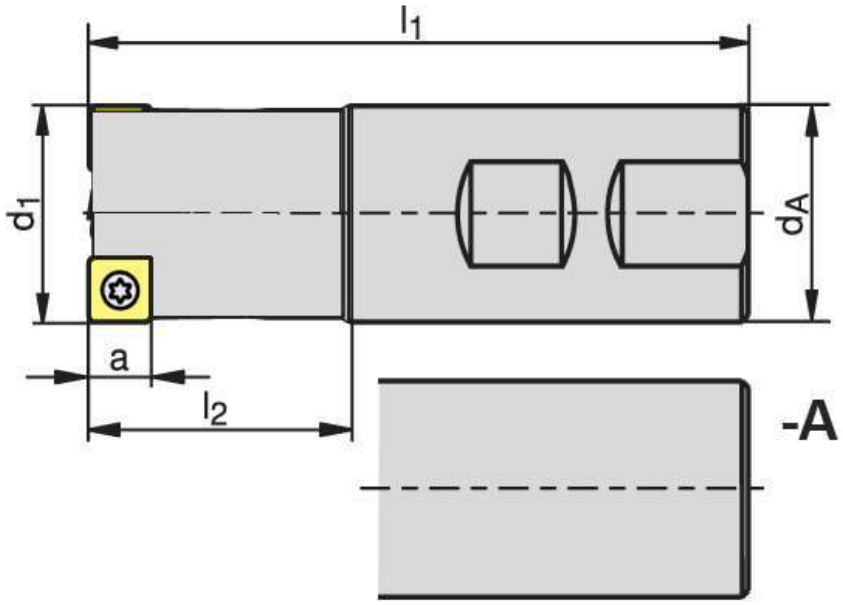
83.1 Basic Indicative Diagram



83.2	Compliance:	Confirming to IS: 6308 - 1982
83.3	Diameter 'ØD':	Ø160.0 js16 (±1.250)
83.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
83.5	Cutter Width 'W':	16.00 mm
83.6	No. of teeth:	24
83.7	Material:	HSS-M2
83.8	Finish:	Milled / Ground
83.9	Hardness:	760 HV to 900 HV
83.10	Surface Treatment:	Dual Finish

84 Milling Cutter - Shoulder Cutter, Cylindrical Shank, 2 Indexing, Diameter = 16 mm, Length = 165 mm

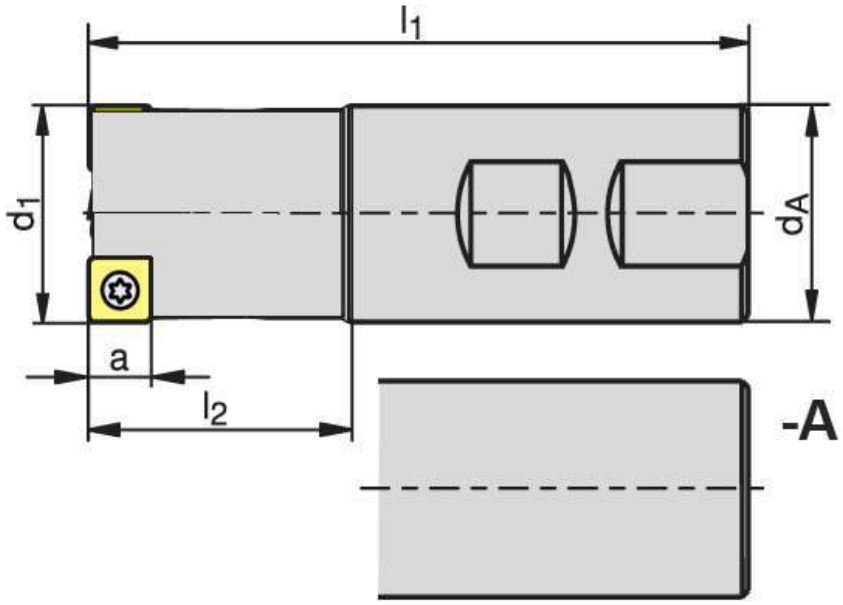
84.1 Basic Indicative Diagram



84.2	Type of Cutter:	Right hand
84.3	Diameter (d1):	16.0 mm
84.4	Diameter (dA):	16.0 mm
84.5	Length (l1):	165.0 mm
84.6	Length (l2):	32.0 mm
84.7	Max RPM:	14800
84.8	Number of Pockets (Z):	2 Numbers
84.9	Compatible with Insert:	2 Edge Shoulder milling insert
84.10	Clamping Screw:	M2.5 X 5.6
84.11	Clamping Key:	T08IP

85 Milling Cutter - Shoulder Cutter, Cylindrical Shank, 2 Indexing, Diameter = 20 mm, Length = 200 mm

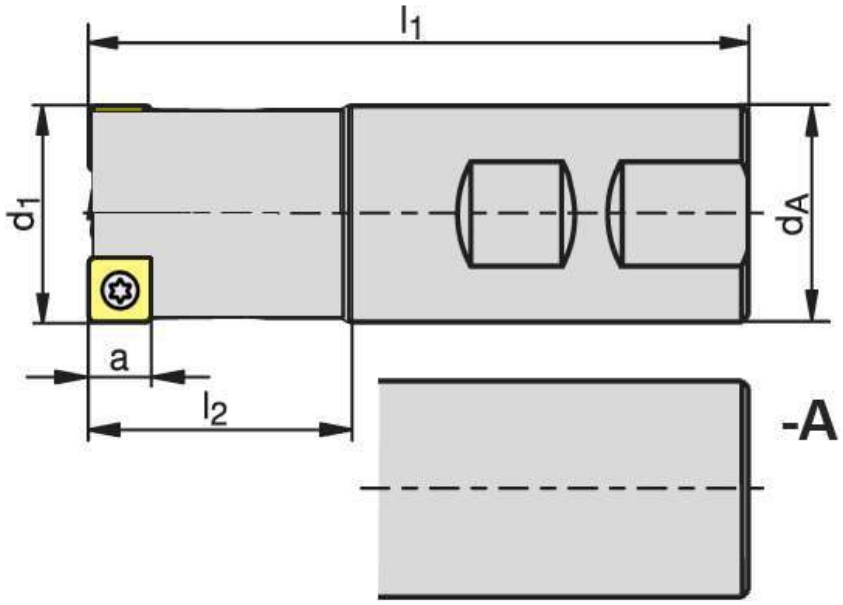
85.1 Basic Indicative Diagram



85.2	Type of Cutter:	Right hand
85.3	Diameter (d1):	20.0 mm
85.4	Diameter (dA):	20.0 mm
85.5	Length (l1):	200.0 mm
85.6	Length (l2):	40.0 mm
85.7	Max RPM:	10500
85.8	Number of Pockets (Z):	2 Numbers
85.9	Compatible with Insert:	2 Edge Shoulder milling insert
85.10	Clamping Screw:	M2.5 X 5.6
85.11	Clamping Key:	T08IP

86 Milling Cutter - Shoulder Cutter, Cylindrical Shank, 4 Indexing, Diameter = 25 mm, Length = 165 mm

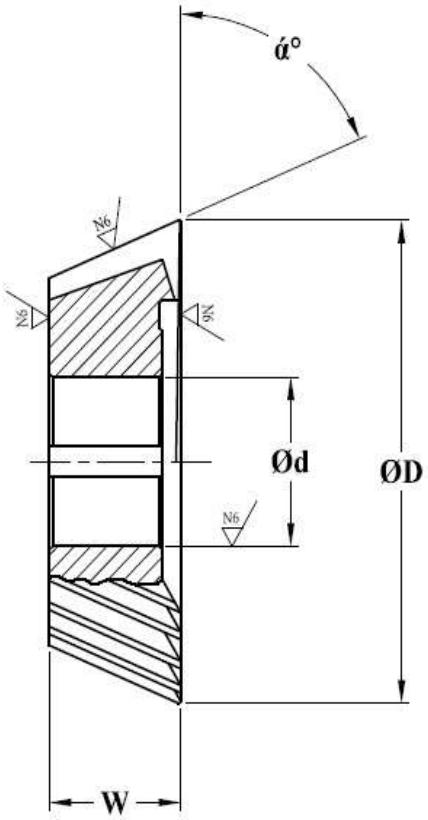
86.1 Basic Indicative Diagram



86.2	Type of Cutter:	Right hand
86.3	Diameter (d1):	25.0 mm – 32.0 mm
86.4	Diameter (dA):	25.0 mm
86.5	Length (l1):	165.0 mm
86.6	Length (l2):	40.0 mm
86.7	Max RPM:	17700
86.8	Number of Pockets (Z):	2 Numbers
86.9	Compatible with Insert:	4 Edge Shoulder milling insert
86.10	Clamping Screw:	M3.5 X 7.2 / T15
86.11	Clamping Key:	T15P

87 Milling Cutter - Single Angle Cutter, Outer Diameter = 63 mm, Width = 18 mm, Angle = 45˚, Bore Diameter = 27 mm, Left Hand

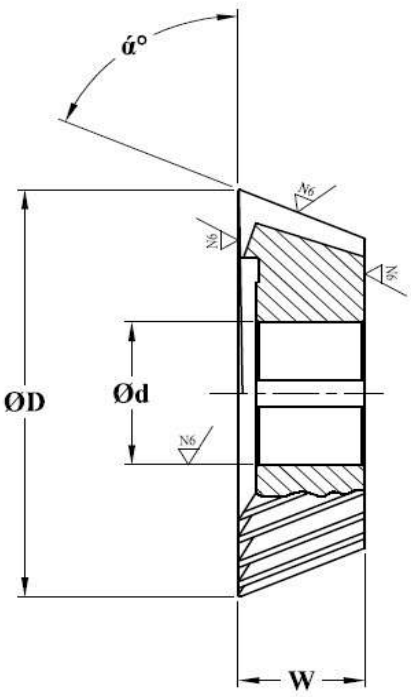
87.1 Basic Indicative Diagram



87.2	Compliance:	Confirming to IS: 6324 - 1971
87.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
87.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
87.5	Cutter Width 'W':	18.00 mm
87.6	Angle 'α':	45°
87.7	Material:	HSS-M2
87.8	Finish:	Milled / Ground
87.9	Hardness:	760 HV to 900 HV
87.10	Surface Treatment:	Dual Finish

88 Milling Cutter - Single Angle Cutter, Outer Diameter = 63 mm, Width = 18 mm, Angle = 45˚, Bore Diameter = 27 mm, Right Hand

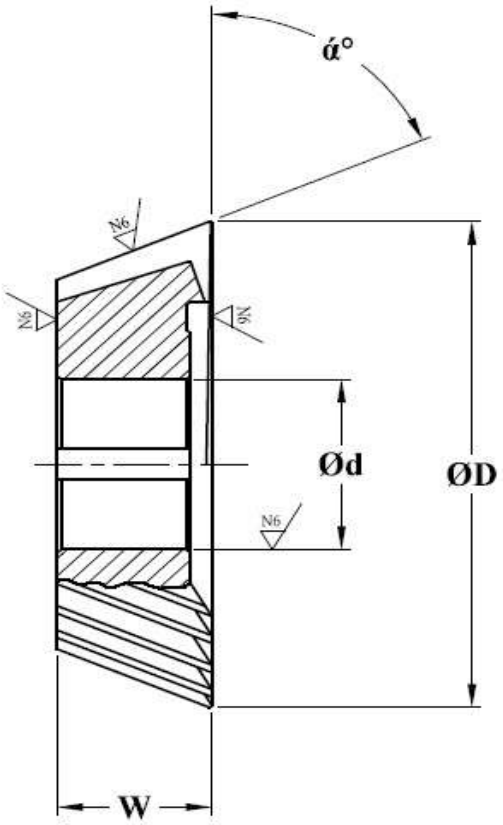
88.1 Basic Indicative Diagram



88.2	Compliance:	Confirming to IS: 6324 - 1971
88.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
88.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
88.5	Cutter Width 'W':	18.00 mm
88.6	Angle 'α':	45°
88.7	Material:	HSS-M2
88.8	Finish:	Milled / Ground
88.9	Hardness:	760 HV to 900 HV
88.10	Surface Treatment:	Dual Finish

89 Milling Cutter - Single Angle Cutter, Outer Diameter = 63 mm, Width = 18 mm, Angle = 60˚, Bore Diameter = 27 mm, Left Hand

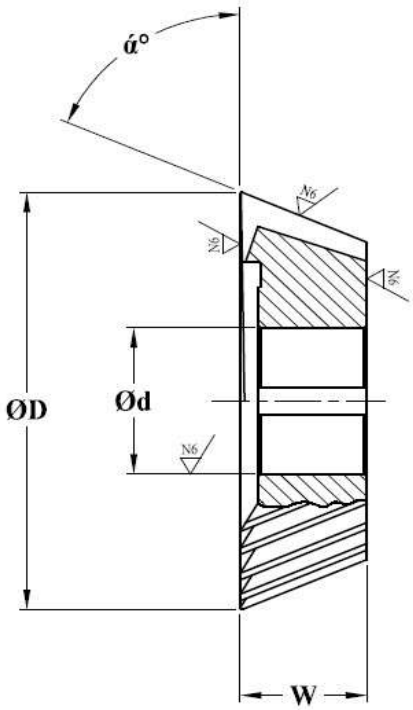
89.1 Basic Indicative Diagram



89.2	Compliance:	Confirming to IS: 6324 - 1971
89.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
89.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
89.5	Cutter Width 'W':	18.00 mm
89.6	Angle 'α':	60°
89.7	Material:	HSS-M2
89.8	Finish:	Milled / Ground
89.9	Hardness:	760 HV to 900 HV
89.10	Surface Treatment:	Dual Finish

90 Milling Cutter - Single Angle Cutter, Outer Diameter = 63 mm, Width = 18 mm, Angle = 60˚, Bore Diameter = 27 mm, Right Hand

90.1 Basic Indicative Diagram



90.2	Compliance:	Confirming to IS: 6324 - 1971
90.3	Diameter 'ØD':	Ø63.00 js16 (±0.950)
90.4	Bore Diameter 'Ød':	Ø27.0 H7 (+0.021 / -0.0)
90.5	Cutter Width 'W':	18.00 mm
90.6	Angle 'α':	60°
90.7	Material:	HSS-M2
90.8	Finish:	Milled / Ground
90.9	Hardness:	760 HV to 900 HV
90.10	Surface Treatment:	Dual Finish

91 Milling Cutter - Slitting Saw Cutter - Outer Diameter = 100 mm, Width = 6 mm, Bore Diameter = 27 mm

91.1 Basic Indicative Diagram

91.2	Compliance:	Confirming to IS 5031-1992
91.3	Diameter:	Ø 00 mm ± 0.1 mm
91.4	Inner Diameter:	Ø 27 mm ± 0.05 mm
91.5	Thickness:	6 mm ± 0.05 mm
91.6	No. of Teeth:	Coarse Pitch 32
91.7	Hardness:	55 to 60 HRC
91.8	Material:	High Speed Steel

92 Milling Cutter - Slitting Saw Cutter - Outer Diameter = 80 mm, Width = 4 mm, Bore Diameter = 27 mm

92.1 Basic Indicative Diagram

92.2	Compliance:	Confirming to IS 5031-1992
92.3	Diameter:	Ø 80 mm ± 0.1 mm
92.4	Inner Diameter:	Ø 27 mm ± 0.05 mm
92.5	Thickness:	4 mm ± 0.05 mm
92.6	No. of Teeth:	Coarse Pitch 32
92.7	Hardness:	55 to 60 HRC
92.8	Material:	High Speed Steel

93 Milling Cutter - T Slot Cutter with Parallel Shank - Outer Diameter = 18 mm, Width = 8 mm, Shank Diameter = 8 mm

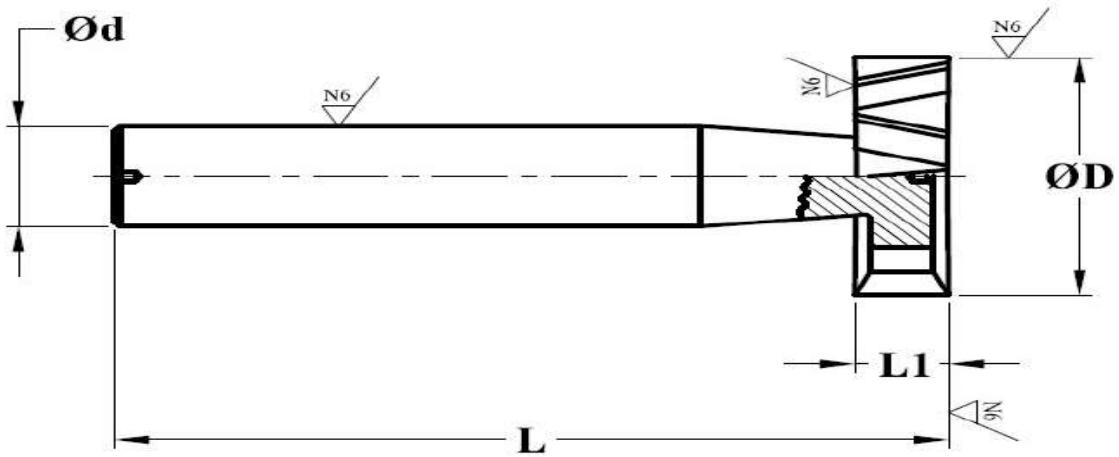
93.1 Basic Indicative Diagram

93.2	Total Length:	75 mm ± 0.2 mm
93.3	Cutter flute width:	8 mm ± 0.3 mm
93.4	Flute Diameter:	18 mm ± 1 mm
93.5	Shank Diameter:	8 mm
93.6	Material:	High speed steel

93.7 Should be suitable for T shape head on existing mill slot
93.8 Should be used for bolt slot & should be provided with bolt shank
93.9 Should be used for milling steel, aluminum, copper & iron

94 Milling Cutter - Woodruff Key Cutter, Outer Diameter = 19.5 mm, Shank Diameter = 10 mm, Width = 6 mm, Type B, Key 6 mm X 7.5 mm

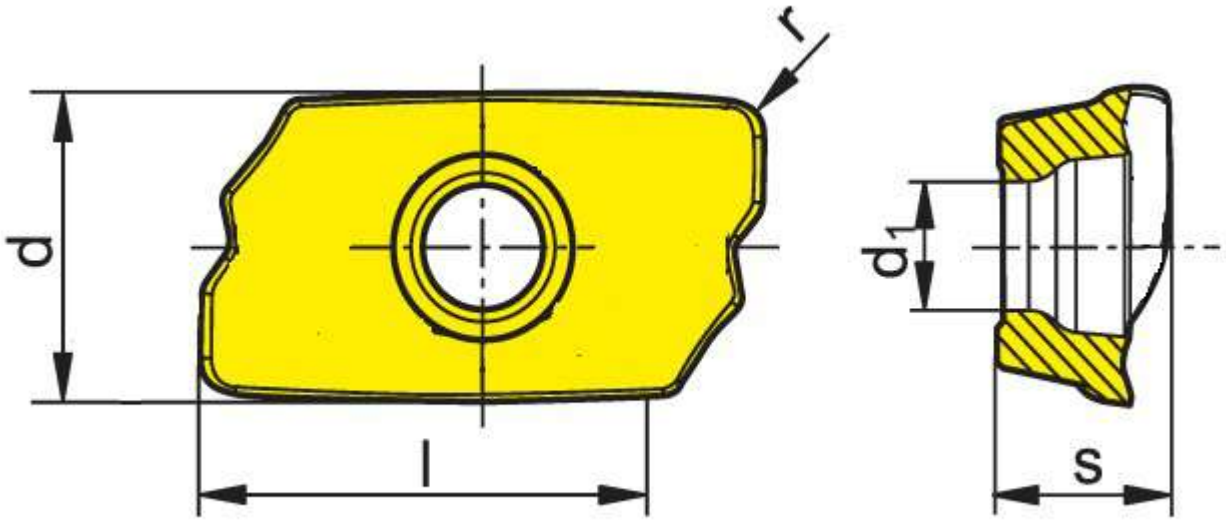
94.1 Basic Indicative Diagram



94.2	Compliance:	Confirming to IS: 2669 - 1971
94.3	Diameter 'ØD':	Ø19.50 h11 (+0.0 / -0.130)
94.4	Shank Diameter 'Ød':	Ø10.0 h8 (+0.0 / -0.022)
94.5	Cutter Width 'L1':	6.0 mm
94.6	Overall length 'L':	63.0 mm
94.7	Material:	HSS-M2
94.8	Finish:	Milled / Ground
94.9	Hardness:	760 HV to 900 HV
94.10	Surface Treatment:	Bright Finish

95 Milling Cutter - Inserts for Shoulder Cutter, Cylindrical Shank, 2 Indexing, Diameter = 16 mm, Length = 165 mm, Set of 10 Pieces

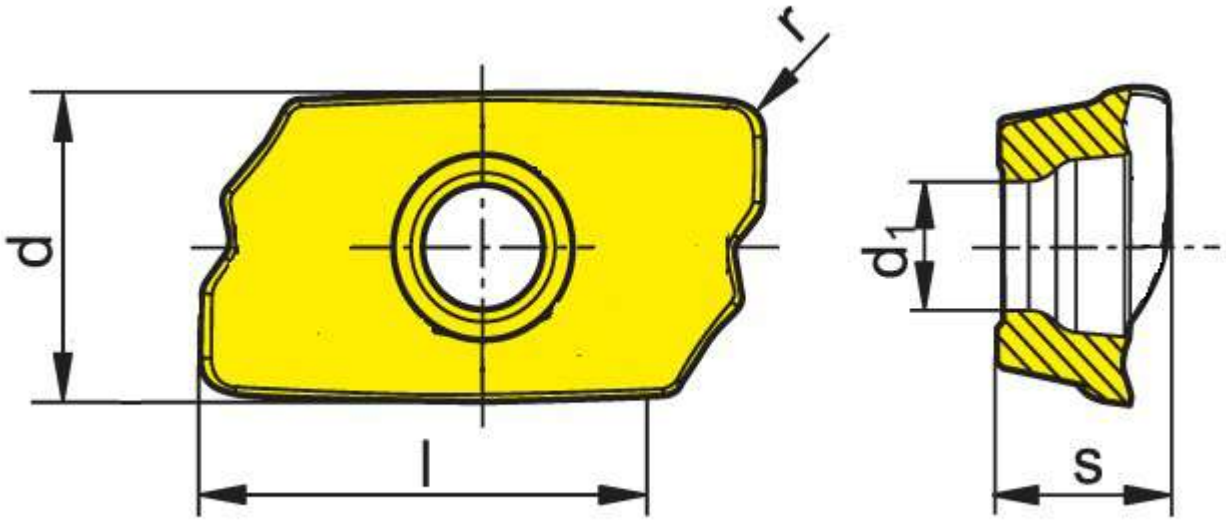
95.1 Basic Indicative Diagram



95.2	Type of Insert:	Milling
95.3	Number of cutting edges:	2
95.4	Corner Radius (r):	0.80 mm
95.5	Length (l):	10.50 mm – 11.50 mm
95.6	Width (d):	6.30 mm – 6.80 mm
95.7	Thickness (s):	3.50 mm – 3.80 mm
95.8	Hole Size (d1):	2.80 mm
95.9	Material:	Composition: Co 12.5%, mixed carbides 2.0%; WC Balance
95.10	Grain Size:	1 µm
95.11	Hardness:	HV30 1380
95.12	Surface Treatment:	PVD TiAlTaN
95.13	Pack consists of 10 pieces	

96 Milling Cutter - Inserts for Shoulder Cutter, Cylindrical Shank, 2 Indexing, Diameter = 20 mm, Length = 200 mm, Set of 10 Pieces

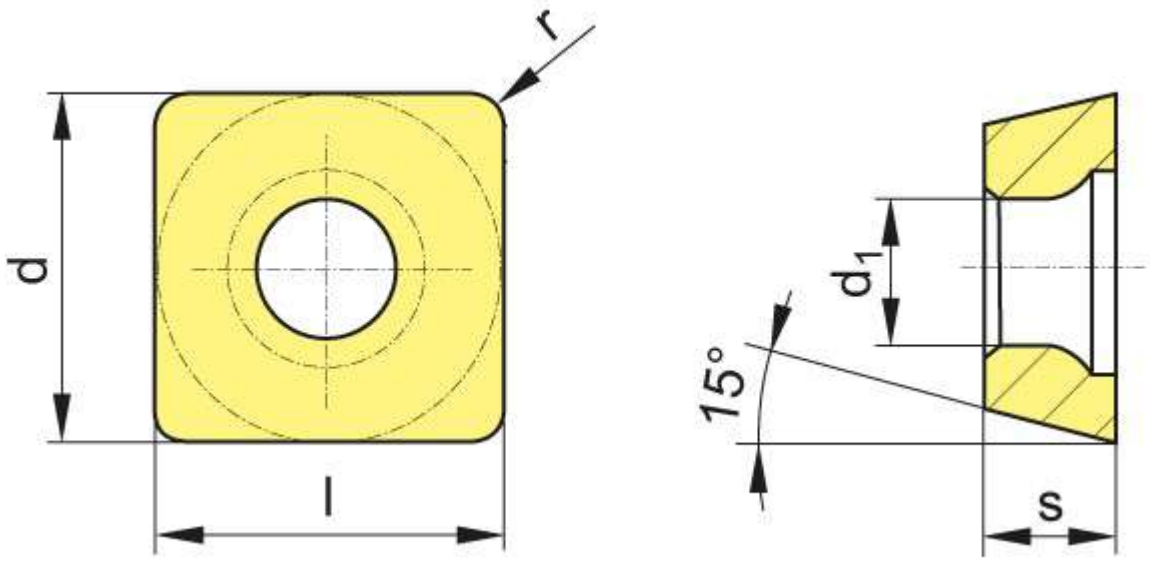
96.1 Basic Indicative Diagram



96.2	Type of Insert:	Milling
96.3	Number of cutting edges:	2
96.4	Corner Radius (r):	0.80 mm
96.5	Length (l):	10.50 mm – 11.50 mm
96.6	Width (d):	6.30 mm – 6.80 mm
96.7	Thickness (s):	3.50 mm – 3.80 mm
96.8	Hole Size (d1):	2.80 mm
96.9	Material:	Composition: Co 12.5%,mixed carbides 2.0%; WC balance
96.10	Grain Size:	1 µm
96.11	Hardness:	HV30 1380
96.12	Surface Treatment:	PVD TiAlTaN
96.13	Pack consists of 10 pieces	

97 Milling Cutter - Inserts for Shoulder Cutter, Cylindrical Shank, 4 Indexing, Diameter = 25 mm, Length = 165 mm, Set of 10 Pieces

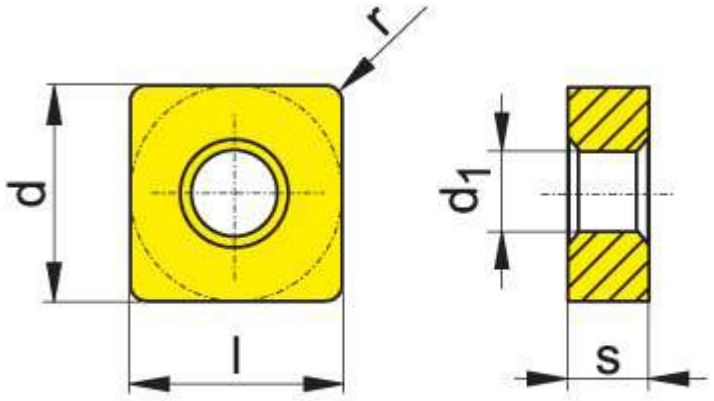
97.1 Basic Indicative Diagram



97.2	Type of Insert:	Milling
97.3	Number of cutting edges:	4
97.4	Corner Radius:	0.8 mm
97.5	Length (l):	9.52 mm
97.6	Width (d):	9.52 mm
97.7	Thickness (s):	3.97 mm
97.8	Hole Size (d1):	4.40 mm
97.9	Material:	Composition: Co 12.5%,mixed carbides 2.0%; WC Balance
97.10	Grain Size:	1 µm
97.11	Hardness:	HV30 1380
97.12	Surface Treatment:	PVD TiAlTaN
97.13	Pack consists of 10 pieces	

98 Milling Cutter - Shoulder Mill Inserts - 8 Indexing, Outer Diameter = 50 mm, Bore Diameter = 22 mm, Set of 10 Pieces

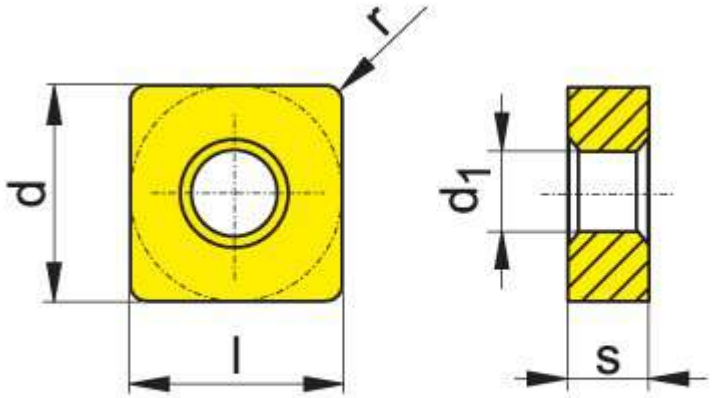
98.1 Basic Indicative Diagram



98.2	Type of Insert:	Milling
98.3	Number of cutting edges:	8
98.4	Corner Radius (r):	0.80 mm
98.5	Length (l):	12.20 mm
98.6	Width (d):	12.20 mm
98.7	Thickness (s):	5.00 mm
98.8	Hole Size (d1):	4.40 mm
98.9	Material:	Composition: Co 12.5%,mixed carbides 2.0%; WC balance
98.10	Grain Size:	1 µm
98.11	Hardness:	HV30 1380
98.12	Surface Treatment:	PVD TiAlTaN
98.13	Pack consists of 10 pieces	

99 Milling Cutter - Shoulder Mill Inserts - 8 Indexing, Outer Diameter = 80 mm, Bore Diameter = 27 mm, Set of 10 Pieces

99.1 Basic Indicative Diagram



99.2	Type of Insert:	Milling
99.3	Number of cutting edges:	8
99.4	Corner Radius (r):	0.80 mm
99.5	Length (l):	12.20 mm
99.6	Width (d):	12.20 mm
99.7	Thickness (s):	5.00 mm
99.8	Hole Size (d1):	4.40 mm
99.9	Material:	Composition: Co 12.5%,mixed carbides 2.0%; WC Balance
99.10	Grain Size:	1 µm
99.11	Hardness:	HV30 1380
99.12	Surface Treatment:	PVD TiAlTaN
99.13	Pack consists of 10 pieces	

100 Hand Reamer Set - Adjustable - 6 - 27 mm, Set of 15 Pieces

100.1 Basic Indicative Diagram

100.2 Each reamer should expands to the smallest size of next larger size
100.3 Should be used for light cut, repair work, removing stock or simply for enlarging holes
100.4 Should be hand operated by use of wrenches. The size can be adjusted by moving the blades in tapered slots by means of loosening one nut and tightening the other
100.5 Blades should be Hardened and Ground
100.6 Range (in mm)

100.6.1	6.35 to 7.14	No. of Blades - 4
100.6.2	7.14 to 7.94	No. of Blades - 4
100.6.3	7.94 to 8.73	No. of Blades - 4
100.6.4	8.73 to 9.52	No. of Blades - 5
100.6.5	9.52 to 10.32	No. of Blades - 6
100.6.6	10.32 to 11.11	No. of Blades - 6
100.6.7	11.11 to 11.91	No. of Blades - 6
100.6.8	11.91 to 13.49	No. of Blades - 6
100.6.9	13.49 to 15.08	No. of Blades - 6
100.6.10	15.08 to 16.67	No. of Blades - 6
100.6.11	16.67 to 18.26	No. of Blades - 6
100.6.12	18.26 to 19.84	No. of Blades - 6
100.6.13	19.84 to 21.43	No. of Blades -6
100.6.14	21.43 to 23.81	No. of Blades - 6
100.6.15	23.81 to 26.99	No. of Blades - 6

100.7 Material: High Speed Steel
100.8 Hardness: 50 to 55 HRC
100.9 Suitable Wooden/ Plastic/ Metal Box for storage
100.10 Each box is clearly marked with different reamer sizes to facilitate convenient storages

101 Hand Reamer Set - Parallel - 6 - 16 mm, Set of 6 Pieces

101.1 Basic Indicative Diagram

101.2 Dimensions with tolerance

S.N.	SIZE	TOTAL LENGTH	FLUTE DIAMETER	FLUTE LENGTH
1	6 mm	97 ± 4mm	6 ± 0.05 mm	50 ± 4 mm
2	8 mm	115 ± 4mm	8 ± 0.05 mm	60 ± 4 mm
3	10 mm	135 ± 4mm	10 ± 0.05 mm	65 ± 4 mm
4	12 mm	150 ± 4mm	12 ± 0.05 mm	75 ± 4 mm
5	14 mm	163 ± 4mm	14 ± 0.05 mm	80 ± 4 mm
6	16 mm	176 ± 4mm	16 ± 0.05 mm	87 ± 4 mm

101.3 Compliance: Confirming to IS 5444-1978
101.4 Material: HSS M2
101.5 Helix Angle: 7^{o} Left Hand Helix / Right Hand Cut
101.6 Finished Hole Tolerance: H7
101.7 Holding: Straight Shank with Square end
101.8 Bevel Lead: 45^{o}
101.9 Applications: Intended to finish existing holes to H7 tolerance in most ferrous & non ferrous metals
101.10 Should be manufactured with Milled Flute
101.11 Surface Treatment: Sand blast or Steam Blue finish
101.12 Hardness: 35-40 HRC
101.13 Suitable Wooden/ Plastic/ Metal Box for storage

102 Machine Reamer Set - Tapper - 6 - 12 mm, Set of 4 Pieces

102.1 Basic Indicative Diagram

102.2 Dimensions with tolerance

S.N.	SIZE	TOTAL LENGTH	FLUTE DIAMETER	FLUTE LENGTH	SHANK TAPER
1	6 mm	128 ± 2 mm	6 ± 0.05 mm	50 ± 3 mm	MT-1
2	8 mm	140 ± 2 mm	8 ± 0.05 mm	60 ± 3 mm	
3	10 mm	146 ± 2 mm	10 ± 0.05 mm	65 ± 3 mm	
4	12 mm	155 ± 2 mm	12 ± 0.05 mm	75 ± 3 mm	

102.3 Compliance: Confirming to IS 5445-1978
102.4 Cutting Portion Material: HSS-M2
102.5 Finish: Milled flute
102.6 Hardness:
102.6.1 Cutting Portion: 62 – 65 HRC
102.6.2 Shank Portion: 30 – 40 HRC
102.7 Surface Treatment: Sand Blast or Steam Blue finish
102.8 Helix Angle: 7^{o} Left Hand Helix / Right Hand Cut
102.9 Finished Hole Tolerance: H7
102.10 Holding: Taper Shank
102.11 Bevel Lead: 45^{o}
102.12 Applications: Intended to finish existing holes to H7 tolerance in most ferrous & non ferrous metals
102.13 Suitable Wooden/ Plastic/ Metal Box for storage

103 Machine Reamer - 6 - 25 mm by 1 mm

103.1 Basic Indicative Diagram

103.2 Dimensions

Size (Diameter)	MT	Flute Length	Overall Length
6 mm	MT 1	47 mm	127 mm
7 mm	MT 1	58 mm	134 mm
8 mm	MT 1	58 mm	138 mm
9 mm	MT 1	62 mm	142 mm
10 mm	MT 1	66 mm	146 mm
11 mm	MT 1	71 mm	151 mm
12 mm	MT 1	76 mm	156 mm
13 mm	MT 1	76 mm	156 mm
14 mm	MT 1	81 mm	161 mm
15 mm	MT 2	81 mm	181 mm
16 mm	MT 2	87 mm	187 mm
17 mm	MT 2	87 mm	187 mm
18 mm	MT 2	93 mm	193 mm
19 mm	MT 2	93 mm	193 mm
20 mm	MT 2	100 mm	200 mm
21 mm	MT 2	107 mm	200 mm
22 mm	MT 2	107 mm	207 mm
23 mm	MT 2	107 mm	207 mm
24 mm	MT 3	115 mm	242 mm
25 mm	MT 3	115 mm	242 mm

103.3 Compliance: Confirming to IS: 5445-1978
103.4 Cutting portion Material: HSS-M2
103.5 Finish: Milled flute
103.6 Hardness
103.6.1 Cutting Portion: 62 - 65 HRC
103.6.2 Shank Portion: 35 - 40 HRC
103.7 Surface Treatment: Sand blast or Steam Blue finish
103.8 Helix Angle: 7^{o} Left Hand Helix / Right Hand Cut
103.9 Finished Hole Tolerance: H7
103.10 Holding: Taper Shank
103.11 Bevel Lead: 45^{o}
103.12 Applications: Intended to finish existing holes to H7 tolerance in most ferrous & non ferrous metals
103.13 Suitable Wooden/ Plastic/ Metal Box for storage