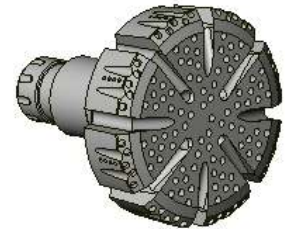


# MACHINING PROCESS STUDY

ESPRIT Turning report generated by surfsup on 9/1/2009 8:52 AM.

<b>Customer:</b>	<b>ESPRIT CAM</b>	<b>Generated By:</b>	<b>MAZAK</b>
<b>Address:</b>	<b>ESPRIT by DP Technology</b> 10275 West Higgins Road #420 Rosemont, IL 60018 (800)627-8479	<b>Address:</b>	<b>MAZAK Technical Center</b> Mark Y. 300 E. Commerce Drive Schaumburg, IL 60173 www.mazakusa.com
<b>Comment:</b>	*This report does not constitute a guaranteed performance on the specified machine and should not replace actual testing.		

<b>Part Name:</b>	<b>08_DrillingToolSide2_MazakIntegrexE650H</b>		
<b>ESPRIT File Path:</b>	C:\VYTAS\ESPRIT\DemoGallery\ProductionTurning\Mazak\08_DrillingToolSide2_MazakIntegrexE650H.esp		
<b>NC Program</b>	4533.0000	<b>Stock</b>	
Number:	09928-12rev21	Type:	2
Name:	Inch	Diameter:	30.0000
Unit:		Length(Part/Total):	8.8236/8.8236
<b>Overall Cycle Time:</b>	02:47:41	<b>Machine Name:</b>	E650H_Integrex
<b>Material Class:</b>			
<b>Condition:</b>			
<b>Comment:</b>	This is a sample report from ESPRIT CAM Software to show how you can quickly generate a full report with tooling information, operation information and cycle times - automatically. A movie of the part simulation can also be created to further help show the capabilities of the machine tool.		



OP #	OPERATION	SPINDLE# TURRET# HEAD#	STATION# TOOL# ORIENT.	TOOL	SPEED RPM/SPM	FEED UNIT PM/PR (XY/Z)	NC COMP	CYCLE TIME	COMMENT
166	<a href="#">Steady Rest Support</a>	1.0000 - 1.0000	S - T - -	-	300.0000 2513.0000	10.0000 0.0000	-	00:00:00	Bring In Steady Rest
9	<a href="#">Rough the Face</a>	1.0000 - 1.0000	S 1.0000 T 1.0000 3H	<a href="#">CNMG EXT 3H</a>	1000.0000 0.0000	7.0000 0.0000	Off	00:00:01	-
11	<a href="#">Back Turn</a>	1.0000 - 1.0000	S 2.0000 T 2.0000 3H	<a href="#">DCMT FINISH SUB</a>	700.0000 0.0000	7.0000 0.0000	Off	00:00:03	Back Turn the OD to complete turning
22	<a href="#">Drill All Holes on Face</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	700.0000 0.0000	7.0000 -	-	00:18:33	Drill Holes on Face 26mm Drill
55	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
56	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
58	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
57	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
60	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
101	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
102	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face
103	<a href="#">Drill Angled Holes 26mm</a>	1.0000 - 1.0000	S 1.0000 T 11.0000 Z +	<a href="#">26mm DRILL</a>	600.0000 0.0000	7.0000 -	-	00:00:12	Drill relief holes at 45 angle to face







50	<a href="#">Face Pockets</a>	1.0000 - 1.0000	S 1.0000 T 6.0000 Z +	<a href="#">1.75in BM</a>	2750.0000 0.0000	22.0000 12.0000	Off 0.0000	00:01:53	Rough and FlN Face Pockets
51	<a href="#">Face Pockets</a>	1.0000 - 1.0000	S 1.0000 T 6.0000 Z +	<a href="#">1.75in BM</a>	2750.0000 0.0000	22.0000 12.0000	Off 0.0000	00:01:56	Rough and FlN Face Pockets
52	<a href="#">Face Pockets</a>	1.0000 - 1.0000	S 1.0000 T 6.0000 Z +	<a href="#">1.75in BM</a>	2750.0000 0.0000	22.0000 12.0000	Off 0.0000	00:01:56	Rough and FlN Face Pockets
53	<a href="#">Face Pockets</a>	1.0000 - 1.0000	S 1.0000 T 6.0000 Z +	<a href="#">1.75in BM</a>	2750.0000 0.0000	22.0000 12.0000	Off 0.0000	00:01:56	Rough and FlN Face Pockets
54	<a href="#">Face Pockets</a>	1.0000 - 1.0000	S 1.0000 T 6.0000 Z +	<a href="#">1.75in BM</a>	2750.0000 0.0000	22.0000 12.0000	Off 0.0000	00:01:56	Rough and FlN Face Pockets
136	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
137	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
138	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
139	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
140	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
141	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
142	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
143	<a href="#">OD holes 14mm</a>	1.0000 - 1.0000	S 1.0000 T 8.0000 Z +	<a href="#">14mm DRILL</a>	2000.0000 0.0000	8.0000 -	- -	00:00:20	Drill 4 holes OD @ 45 degree interval
162	<a href="#">Relief Bores</a>	1.0000 - 1.0000	S 1.0000 T 9.0000 Z +	<a href="#">1.5in DRILL</a>	1000.0000 0.0000	10.0000 -	- -	00:01:49	Drill out relief 4plcs 1.5inch
163	<a href="#">Relief Bores</a>	1.0000 - 1.0000	S 1.0000 T 9.0000 Z +	<a href="#">1.5in DRILL</a>	1000.0000 0.0000	10.0000 -	- -	00:01:49	Drill out relief 4plcs 1.5inch
164	<a href="#">Relief Bores</a>	1.0000 - 1.0000	S 1.0000 T 9.0000 Z +	<a href="#">1.5in DRILL</a>	1000.0000 0.0000	10.0000 -	- -	00:01:49	Drill out relief 4plcs 1.5inch
161	<a href="#">Relief Bores</a>	1.0000 - 1.0000	S 1.0000 T 9.0000 Z +	<a href="#">1.5in DRILL</a>	1000.0000 0.0000	10.0000 -	- -	00:01:49	Drill out relief 4plcs 1.5inch

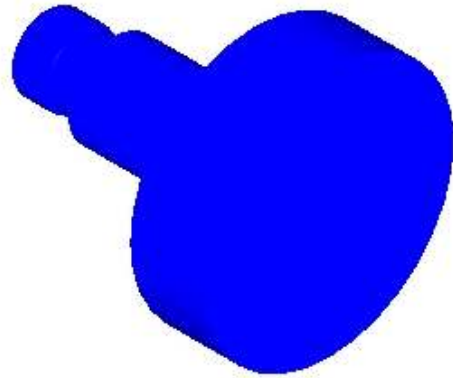
# OPERATION DETAILS

## OP 166 : Steady Rest Support

Op Type	-
Work Coordinate	XYZ
Primary Angle	0.0000
Secondary Angle	0.0000
Cycle Time	00:00:00
Rapid length	0.0000
Feed Length	94.0000

## T CLT1101V : CL498V

Tool Style	CLT1110V
Orientation	CLT1402V
Tool Material	CLT1420V
Spindle Direction	CLT1195V
Coolant	CLT1214V
Length Comp Register	CLT1121V



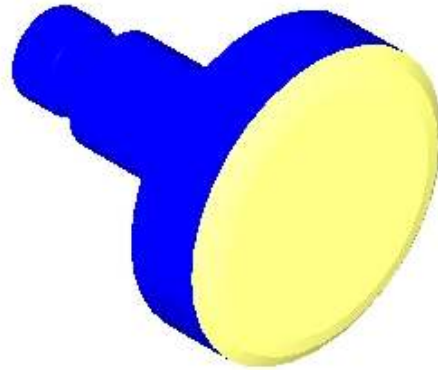
# OPERATION DETAILS

## OP 9 : Rough the Face

Op Type	-
Work Coordinate	XYZ
Primary Angle	0.0000
Secondary Angle	0.0000
Cycle Time	00:00:01
Rapid length	28.0863
Feed Length	26.2993

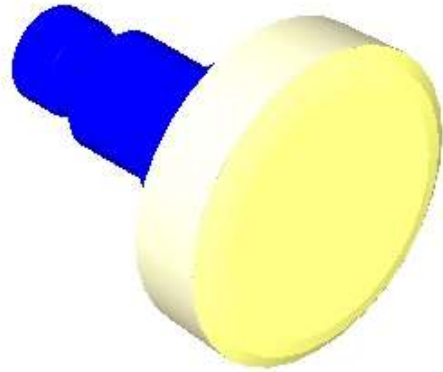
## T 1.0000 : CNMG EXT 3H

Tool Style	
Orientation	3H
Tool Material	Carbide, Indexable, Coated
Spindle Direction	CW
Coolant	On
Length Comp Register	1.0000



# OPERATION DETAILS

<b>OP 11 : Back Turn</b>	
Op Type	-
Work Coordinate	XYZ
Primary Angle	0.0000
Secondary Angle	90.0000
Cycle Time	00:00:03
Rapid length	54.7118
Feed Length	35.0021
<b>T 2.0000 : DCMT FINISH SUB</b>	
Tool Style	
Orientation	3H
Tool Material	Carbide, Indexable, Coated
Spindle Direction	CW
Coolant	On
Length Comp Register	2.0000



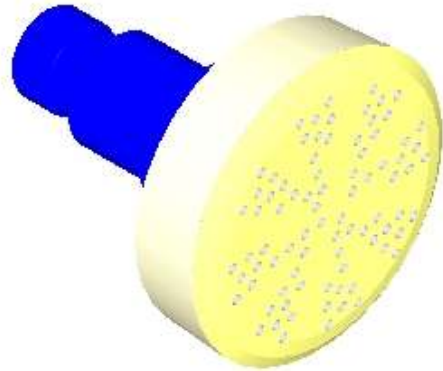
# OPERATION DETAILS

## OP 22 : Drill All Holes on Face

Op Type	-
Work Coordinate	XYZ
Primary Angle	0.0000
Secondary Angle	0.0000
Cycle Time	00:18:33
Rapid length	806.6078
Feed Length	125.1247

## T 11.0000 : 26mm DRILL

Tool Style	Drill
Orientation	Z +
Tool Material	High Speed Steel, Solid, Uncoated
Spindle Direction	CW
Coolant	On
Length Comp Register	11.0000



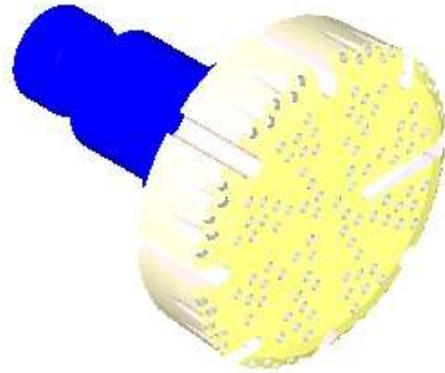
# OPERATION DETAILS

## OP 47 : Face Pockets

Op Type	-
Work Coordinate	XYZ
Primary Angle	0.0000
Secondary Angle	10.0000
Cycle Time	00:01:53
Rapid length	28.0973
Feed Length	36.3891

## T 6.0000 : 1.75in BM

Tool Style	Ball End Mill
Orientation	Z +
Tool Material	High Speed Steel, Solid, Coated
Spindle Direction	CW
Coolant	On
Length Comp Register	6.0000



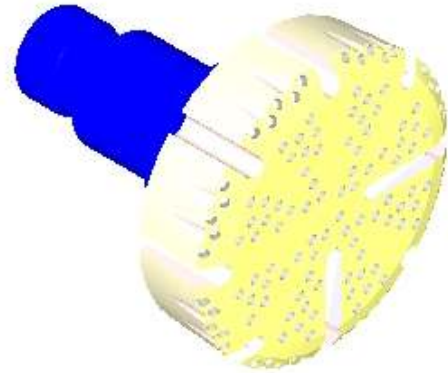
# OPERATION DETAILS

## OP 48 : Face Pockets

Op Type	-
Work Coordinate	XYZ
Primary Angle	(90.0000)
Secondary Angle	10.0000
Cycle Time	00:01:53
Rapid length	28.0973
Feed Length	36.3891

## T 6.0000 : 1.75in BM

Tool Style	Ball End Mill
Orientation	Z +
Tool Material	High Speed Steel, Solid, Coated
Spindle Direction	CW
Coolant	On
Length Comp Register	6.0000



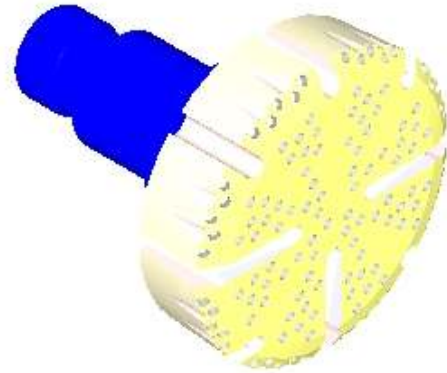
# OPERATION DETAILS

## OP 49 : Face Pockets

Op Type	-
Work Coordinate	XYZ
Primary Angle	180.0000
Secondary Angle	10.0000
Cycle Time	00:01:53
Rapid length	28.0973
Feed Length	36.3891

## T 6.0000 : 1.75in BM

Tool Style	Ball End Mill
Orientation	Z +
Tool Material	High Speed Steel, Solid, Coated
Spindle Direction	CW
Coolant	On
Length Comp Register	6.0000



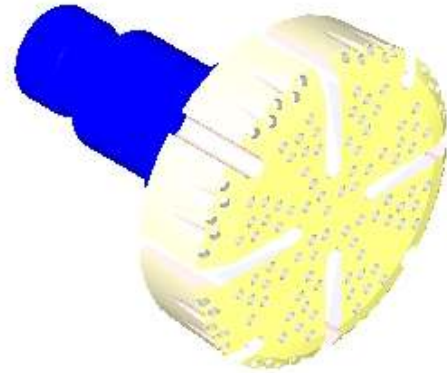
# OPERATION DETAILS

## OP 50 : Face Pockets

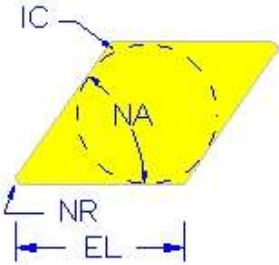
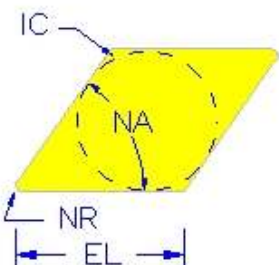


Op Type	-
Work Coordinate	XYZ
Primary Angle	90.0000
Secondary Angle	10.0000
Cycle Time	00:01:53
Rapid length	28.0973
Feed Length	36.3891

## T 6.0000 : 1.75in BM

Tool Style	Ball End Mill
Orientation	Z +
Tool Material	High Speed Steel, Solid, Coated
Spindle Direction	CW
Coolant	On
Length Comp Register	6.0000



# TOOL LIST

T 2.0000 : DCMT FINISH SUB			Comment : -	
	Insert ID	-	Insert Material	<b>Carbide, Indexable, Coated</b>
	Holder ID	-	Coolant	<b>On</b>
	Turret Name	<b>1.0000</b>	Spindle Direction	<b>CW</b>
	Station Name	<b>2.0000</b>	Length Register	<b>2.0000</b>
	Compensation	<b>Corner</b>	-	-
	-	-	Orientation	<b>3H</b>
	-	-	-	-
T 1.0000 : CNMG EXT 3H			Comment : -	
	Insert ID	-	Insert Material	<b>Carbide, Indexable, Coated</b>
	Holder ID	-	Coolant	<b>On</b>
	Turret Name	<b>1.0000</b>	Spindle Direction	<b>CW</b>
	Station Name	<b>1.0000</b>	Length Register	<b>1.0000</b>
	Compensation	<b>Corner</b>	-	-
	-	-	Orientation	<b>3H</b>
	-	-	-	-
T 7.0000 : 2in BM			Comment : -	
	Tool Diameter	<b>2.0000</b>	Tool Material	<b>High Speed Steel, Solid, Coated</b>
	Holder Diameter	<b>5.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>10.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>8.0000</b>	Length Comp Register	<b>7.0000</b>
	Shank Diameter	<b>2.0000</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>1.5000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-
T 6.0000 : 1.75in BM			Comment : -	
	Tool Diameter	<b>1.7500</b>	Tool Material	<b>High Speed Steel, Solid, Coated</b>
	Holder Diameter	<b>5.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>10.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>8.0000</b>	Length Comp Register	<b>6.0000</b>
	Shank Diameter	<b>1.7500</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>1.5000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-

**T 11.0000 : 26mm DRILL**

Comment : -



Tool Diameter	<b>26.0000</b>	Tool Material	<b>High Speed Steel, Solid, Uncoated</b>
Holder Diameter	<b>80.0000</b>	Coolant	<b>On</b>
Overall Length	<b>150.0000</b>	Spindle Direction	<b>CW</b>
Tool Length	<b>120.0000</b>	Length Comp Register	<b>11.0000</b>
Shank Diameter	<b>26.0000</b>	Axis Orientation	<b>Z +</b>
Cutting Length	<b>50.0000</b>	-	-
Number of Flutes	<b>2.0000</b>	-	-

**T 8.0000 : 14mm DRILL**

Comment : -



Tool Diameter	<b>14.0000</b>	Tool Material	<b>High Speed Steel, Solid, Uncoated</b>
Holder Diameter	<b>80.0000</b>	Coolant	<b>On</b>
Overall Length	<b>150.0000</b>	Spindle Direction	<b>CW</b>
Tool Length	<b>120.0000</b>	Length Comp Register	<b>8.0000</b>
Shank Diameter	<b>14.0000</b>	Axis Orientation	<b>Z +</b>
Cutting Length	<b>50.0000</b>	-	-
Number of Flutes	<b>2.0000</b>	-	-

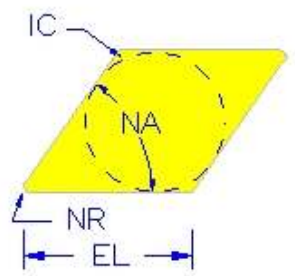
**T 9.0000 : 1.5in DRILL**

Comment : -

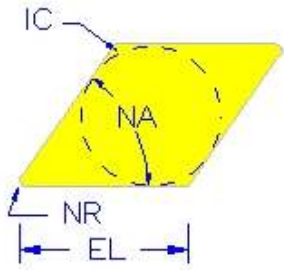


Tool Diameter	<b>1.5000</b>	Tool Material	<b>High Speed Steel, Solid, Uncoated</b>
Holder Diameter	<b>4.0000</b>	Coolant	<b>On</b>
Overall Length	<b>20.0000</b>	Spindle Direction	<b>CW</b>
Tool Length	<b>15.0000</b>	Length Comp Register	<b>9.0000</b>
Shank Diameter	<b>1.5000</b>	Axis Orientation	<b>Z +</b>
Cutting Length	<b>5.0000</b>	-	-
Number of Flutes	<b>2.0000</b>	-	-


# TOOL DETAILS

T 2.0000 : DCMT FINISH SUB		Comment : CL7V		
	Insert ID	CL811V	Insert Material	Carbide, Indexable, Coated
	Holder ID	CL820V	Coolant	On
	Turret Name	1.0000	Spindle Direction	CW
	Station Name	2.0000	Length Register	2.0000
	Compensation	Corner	CL700C	CL700V
	-	-	Orientation	3H
	-	-	CL403C	CL403V
	-	-		


# TOOL DETAILS

<b>T 1.0000 : CNMG EXT 3H</b>		<b>Comment : CL7V</b>		
	Insert ID	<b>CL811V</b>	Insert Material	<b>Carbide, Indexable, Coated</b>
	Holder ID	<b>CL820V</b>	Coolant	<b>On</b>
	Turret Name	<b>1.0000</b>	Spindle Direction	<b>CW</b>
	Station Name	<b>1.0000</b>	Length Register	<b>1.0000</b>
	Compensation	<b>Corner</b>	CL700C	<b>CL700V</b>
	-	-	Orientation	<b>3H</b>
	-	-	CL403C	<b>CL403V</b>
	-	-		


# TOOL DETAILS

<b>T 7.0000 : 2in BM</b>		Comment : <b>CL7V</b>		
	Tool Diameter	<b>2.0000</b>	Tool Material	<b>High Speed Steel, Solid, Coated</b>
	Holder Diameter	<b>5.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>10.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>8.0000</b>	Length Comp Register	<b>7.0000</b>
	Shank Diameter	<b>2.0000</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>1.5000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-


# TOOL DETAILS

<b>T 6.0000 : 1.75in BM</b>		<b>Comment : CL7V</b>		
	Tool Diameter	<b>1.7500</b>	Tool Material	<b>High Speed Steel, Solid, Coated</b>
	Holder Diameter	<b>5.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>10.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>8.0000</b>	Length Comp Register	<b>6.0000</b>
	Shank Diameter	<b>1.7500</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>1.5000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-

# TOOL DETAILS

<b>T 11.0000 : 26mm DRILL</b>		<b>Comment : CL7V</b>		
	Tool Diameter	<b>26.0000</b>	Tool Material	<b>High Speed Steel, Solid, Uncoated</b>
	Holder Diameter	<b>80.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>150.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>120.0000</b>	Length Comp Register	<b>11.0000</b>
	Shank Diameter	<b>26.0000</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>50.0000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-


# TOOL DETAILS

<b>T 8.0000 : 14mm DRILL</b>		Comment : <b>CL7V</b>		
	Tool Diameter	<b>14.0000</b>	Tool Material	<b>High Speed Steel, Solid, Uncoated</b>
	Holder Diameter	<b>80.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>150.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>120.0000</b>	Length Comp Register	<b>8.0000</b>
	Shank Diameter	<b>14.0000</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>50.0000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-



The Right Choice

# TOOL DETAILS

<b>T 9.0000 : 1.5in DRILL</b>		<b>Comment : CL7V</b>		
	Tool Diameter	<b>1.5000</b>	Tool Material	<b>High Speed Steel, Solid, Uncoated</b>
	Holder Diameter	<b>4.0000</b>	Coolant	<b>On</b>
	Overall Length	<b>20.0000</b>	Spindle Direction	<b>CW</b>
	Tool Length	<b>15.0000</b>	Length Comp Register	<b>9.0000</b>
	Shank Diameter	<b>1.5000</b>	Axis Orientation	<b>Z +</b>
	Cutting Length	<b>5.0000</b>	-	-
	Number of Flutes	<b>2.0000</b>	-	-