

**TOOLS FOR OKUMA CNC TURNING CENTRE**

Sr. No.	Operation	Tool Description	Quantity
1	Rough External Turning Tools	Radial Lever type mounting Rough turning holder left hand with 25x25 shank for trigon insert:	2
		6 edged Trigon 80 degree Insert for above holder with roughing chipformer and high helical cutting egde for high metal removal rates. Insert should be of 6.78 mm thickness and be capable of cutting steel at feed rates 0.25 to 0.8 mm/rev and depth of cut of 5 mm. The insert should have wiper configuration to produce good surface finish even at high feedrates.	20
		Tangential lever mounting Roughing turning holder left hand of 25x25 shank.	2
		Double sided insert with 4 cutting edges with unique helical shaped cutting edge for high metal removal rates. Insert should be of 6.4 mm thick and capable of taking depth of cut upto 6 mm at feed rates of 0.3 to 0.75 mm/ rev.	20
		Radial lever clamp mounting Rough turning holder left hand of 25x25 shank for rhombic insert	2
		4 edged Rhombic 88 degree Insert for above holder with roughing chipformer and high helical cutting egde for high MRR. Insert should be of 7.44 mm thickness and be capable of cutting steel at feed rates 0.25 to 0.6 mm/rev, depth of cut of 6 mm. The insert should have wiper configuration to produce good surface finish	20
2	Finish External Turning Tools	Radial R-Clamp mounting Finish turning holder , left hand of 25x25 shank for trigon insert	2
		6 edged Trigon 80 degree Insert for above holder with wiper finishing chipformer. Insert should be of 3.97 mm thickness and be capable of cutting steel at feed rates 0.1 to 0.5 mm/rev and depth of cut of 3 mm. The insert should have wiper configuration to produce good surface finish even at high feedrates.	20
		Radial R-Clamp mounting finish turning holder, left hand of 25x25 shank for rhombic insert	2
		4 edged Rhombic 80 degree Insert for above holder with wiper finishing chipformer. Insert should be of 4.76 mm thickness and be capable of cutting steel at feed rates 0.1 to 0.5 mm/rev and depth of cut of 3.5 mm. The insert should have wiper configuration to produce good surface finish even at high feedrates.	20
		Radial R-Clamp mounting finish turning holder, left hand of 25x25 shank	2
		4 edged 55 degree copy turning insert for above holder with wiper finishing chipformer. Insert should be of 6.35 mm thickness and be capable of cutting steel at feed rates 0.2 to 0.5 mm/rev and depth of cut of 2.5 mm. The insert should have wiper configuration to produce good surface finish even at high feedrates.	20
		Radial screw clamp mounting finish turning holder, left hand of 25x25 shank	2
		4 edged 35 degree profiling turning insert for above holder with finishing chipformer. Insert should be of 3.97 mm thickness and capable of cutting steel at feed rates 0.08 to 0.3 mm/rev, upto 3mm depth of cut	20
3	External Grooving Tools	Tangential screw mounting grooving holder, left hand of 25x25 shank . The holder should be capable of accommodating inserts in the width range from 0.5 to 3 mm on the same holder	2
		5 edged star shaped neutral grooving insert with J type chipbreaker of 1 mm width with maximum grooving depth of 3.5 mm with corner radius 0.06 mm.	20
		5 edged star shaped neutral grooving insert with J type chipbreaker of 2 mm width with maximum grooving depth of 6 mm with corner radius 0.2 mm.	20
		5 edged star shaped neutral grooving insert with J type chipbreaker of 3 mm width with maximum grooving depth of 6.5 mm with corner radius 0.2 mm.	20
	External Parting off	Tangential screwless rigid grip type double ended blade of length 180 mm capable of parting off workpieces of Dia 120 mm maximum.	2
		Tool Block of 25x25 shank to suit above parting blade.	2

4	Internal Threading tools	Single ended tangential L shaped insert of width 3.03 mm and corner radius 0.2 mm with C type chipformer with high positive rake angle and single cavity and negative land for parting off bars.	20
		Single ended tangential L shaped insert of width 3 mm and corner radius 0.2 mm with J type chipformer with high positive rake angle for parting off tubes.	20
5	External Threading tools	Screw Type clamping RH holder, 25x25 shank	2
		3 edged 60 degree partial profile M- type inserts with unground formed chipbreaker to suite above holder. The insert should be able to machine threads in range 8 - 48 TPI.	20
		Screw Type clamping RH holder of 25x25 shank:	2
		3 edged 60 degree partial profile M- type inserts with unground formed chipbreaker to suite above holder. The insert should be able to machine threads in range 5 - 7 TPI.	20
6	Face Grooving	Integral Axial grooving toolholder, left hand of 25x25 shank with maximum depth of groove of 12 mm and initial diameter range of 25 - 30 mm. The holder should be capable of groove turning also.	2
		Double prismatic twisted insert of width 3 mm and nose radius 0.3 mm capable of axial groove turn to suite above holder.	20
		Integral Axial grooving toolholder, left hand of 25x25 shank for maximum depth of groove of 12 mm and initial diameter range of 25 - 29 mm. The holder should be capable of groove turning also.	2
		Double prismatic twisted insert of width 4 mm and nose radius 0.4 mm capable of axial groove turn to suite above holder.	20
7	Internal Rough turning tools	Dia. 20 mm Radial Lever type mounting Rough boring bar with thru coolant for trigon insert	2
		6 edged Trigon 80 degree Insert for above holder with roughing chipformer and high helical cutting egde for high metal removal rates. Insert should be of 4.41 mm thickness and be capable of cutting steel at feed rates 0.25 to 0.6 mm/rev and depth of cut of 4 mm. The insert should have wiper configuration to produce good surface finish even at high feedrates.	20
8	Internal Finish turning tools	Dia. 20 mm Radial Wedge -Clamp mounting Finish boring holder for trigon insert	2
		6 edged Trigon 80 degree Insert for above holder with wiper finishing chipformer. Insert should be of 3.97 mm thickness and be capable of cutting steel at feed rates 0.1 to 0.5 mm/rev and depth of cut of 3 mm. The insert should have wiper configuration to produce good surface finish even at high feedrates.	20
9	Internal Grooving tools	Internal Grooving tool of dia 20 mm which can take different inserts in the width ranging from 3 to 4.8 mm, capable of maximum grooving depth of 4.5 mm. The minimum entry bore diameter should be 20 mm	2
		Double edged ground precision grooving insert of width 3 mm ,with corner radius of 0.4 mm to suit above internal grooving holder. The insert should also be capable of groove turning with depth of cut of 2 mm	20
		Double edged ground precision internal profile grooving insert of width 3 mm to suit above internal grooving holder.	20
		Double edged ground precision grooving insert of width 4 mm with corner radius of 0.4 mm to suit above internal grooving holder. The insert should also be capable of groove turning with depth of cut of 2.5 mm	20
		Double edged ground precision internal profile grooving insert of width 4 mm to suit above internal grooving holder.	20
10	Internal threading tools	Internal threading bar to machine minimum bore size of 19 mm with neck length 40 mm and shank holding dia. 16 mm.	2
		3 edged 60 degree partial profile M- type inserts with unground formed chipbreaker. The insert should be able to machine threads in range 8 - 48 TPI.	20

11	Drilling Tools	Indexable head type drill body (l/d = 5)with dovetail pocket clamping design of head. The drill should be capable of accommodating drill heads in the dia. range 8 to 8.4 mm. The drilled hole tolerance should be within + 50 microns.	2
		Dia. 8 mm Solid carbide drill head to suit above drill body. The drill head should be regrindable upto 3 times.	6
		Indexable head type drill body (l/d = 5)with dovetail pocket clamping design of head. The drill should be capable of accommodating drill heads in the dia range of. 10 to 10.4 mm. The drilled hole tolerance should be within + 50 microns.	2
		Dia. 10 mm Solid carbide drill head to suit above drill body. The drill head should be regrindable upto 3 times.	6
		Indexable head type drill body (l/d = 5)with dovetail pocket clamping design of head . The drill should be capable of accommodating drill heads in the Dia range of 12 to 12.4 mm. The drilled hole tolerance should be within + 50 microns.	2
		Dia. 12 mm Solid carbide drill head to suit above drill body. The drill head should be regrindable upto 3 times.	6
		Indexable head type drill body (l/d = 5)with dovetail pocket clamping design of head in the body. The drill should be capable of accommodating drill heads in the dia range of 16 to 16.9 mm. The drilled hole tolerance should be within + 50 microns.	2
		Dia. 16 mm Solid carbide drill head to suit above drill body. The drill head should be regrindable upto 3 times.	6