

TOOLING MANUAL

for

INTEGREX 100-III/IIIS/IIIST

MANUAL No. : H372TA0010E

Serial No. :

Before using this machine and equipment, fully understand the contents of this manual to ensure proper operation. Should any questions arise, please ask the nearest Technical/Service Center.

IMPORTANT NOTICE

1. Be sure to observe the safety precautions described in this manual and the contents of the safety plates on the machine and equipment. Failure may cause serious personal injury or material damage. Please replace any missing safety plates as soon as possible.
2. No modifications are to be performed that will affect operation safety. If such modifications are required, please contact the nearest Technical/Service Center.
3. For the purpose of explaining the operation of the machine and equipment, some illustrations may not include safety features such as covers, doors, etc. Before operation, make sure all such items are in place.
4. This manual was considered complete and accurate at the time of publication, however, due to our desire to constantly improve the quality and specification of all our products, it is subject to change or modification. If you have any questions, please contact the nearest Technical/Service Center.
5. Always keep this manual near the machinery for immediate use.
6. If a new manual is required, please order from the nearest Technical/Service Center with the manual No. or the machine name, serial No. and manual name.

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CONTENTS

	Page
1 KM63 TOOLING	1-1
1-1 KM63 Tooling System	1-1
1-1-1 Tooling system diagram for metric system (KM63).....	1-1
1-1-2 Tooling table for metric system (KM63)	1-4
1-1-3 Tooling system diagram for inch system (KM63).....	1-8
1-1-4 Tooling table for inch system (KM63)	1-10
1-2 KM63 Turning Tool	1-15
1-2-1 O.D. tool holder for spindle reverse rotation (KM63).....	1-15
1-2-2 O.D. tool holder for spindle forward rotation (KM63).....	1-16
1-2-3 45° O.D. tool holder for spindle reverse rotation (KM63)	1-17
1-2-4 45° O.D. tool holder for spindle forward rotation (KM63)	1-18
1-2-5 Boring bar holder (KM63)	1-19
1-2-6 Throw-away tip drill holder (KM63).....	1-20
1-2-7 Cut-off tool holder (KM63) (option)	1-21
1-2-8 Multi tool holder (KM63) (option)	1-22
1-2-9 Boring bar socket (KM63).....	1-23
1-2-10 Drill socket (M. T. No. 1) (KM63)	1-24
1-2-11 Drill socket (M. T. No. 2) (KM63)	1-24
1-2-12 Throw-away tip drill socket (KM63).....	1-25
1-2-13 Optional boring bar holders (KM63).....	1-26
1-3 KM63 Milling Tool	1-27
1-3-1 Tool shank (KM63).....	1-27

2	BT40-MAS TOOLING	2-1
2-1	BT40-MAS Tooling System	2-1
2-1-1	Tooling system diagram (BT40-MAS).....	2-2
2-1-2	Tooling table (BT40-MAS).....	2-3
2-2	BT40-MAS Turning Tool.....	2-4
2-2-1	O.D. tool holder (left-handed) (BT40-MAS)	2-4
2-2-2	O.D. tool holder (right-handed) (BT40-MAS)	2-5
2-2-3	45° O.D. tool holder (right-handed) (BT40-MAS).....	2-6
2-2-4	45° O.D. tool holder (left-handed) (BT40-MAS).....	2-7
2-2-5	Boring bar holder (BT40-MAS).....	2-8
2-2-6	Throw-away tip drill holder (BT40-MAS).....	2-9
2-2-7	Cut-off tool holder (BT40-MAS) (option).....	2-10
2-3	BT40-MAS Milling Tool.....	2-11
2-3-1	Tool shank (BT40-MAS).....	2-11
2-3-2	Pull stud of ANSI type (34931900680) (BT40-MAS).....	2-12
3	CAPTO TOOLING	3-1
3-1	CAPTO Turning Tool.....	3-1
3-1-1	O.D. tool holder for spindle forward rotation ($\square 20 \times 100$) (CAPTO)	3-1
3-1-2	O.D. tool holder for spindle reverse rotation ($\square 20 \times 100$) (CAPTO)	3-2
3-1-3	Boring bar holder ($\phi 32 \times 180$) (CAPTO)	3-3
3-1-4	45° O.D. tool holder for spindle reverse rotation ($\square 20 \times 85$) (CAPTO).....	3-4
3-1-5	45° O.D. tool holder for spindle forward rotation ($\square 20 \times 85$) (CAPTO).....	3-5
3-1-6	O.D. tool holder for spindle reverse rotation ($\square 3/4" \times 4"$) (CAPTO).....	3-6
3-1-7	O.D. tool holder for spindle forward rotation ($\square 3/4" \times 4"$) (CAPTO).....	3-7

3-1-8	Boring bar holder ($\phi 1\cdot 1/4$ ") (CAPTO).....	3-8
3-1-9	45° O.D. tool holder for spindle reverse rotation ($\square 3/4$ " \times 3") (CAPTO).....	3-9
3-1-10	45° O.D. tool holder for spindle forward rotation ($\square 3/4$ " \times 3") (CAPTO).....	3-10
3-1-11	Cut-off tool holder (CAPTO)	3-11
3-1-12	Restrictions on 40-tool magazine specifications (CAPTO).....	3-12
4	LOWER TURRET TOOLING	4-1
4-1	Lower Turret Tooling System	4-1
4-1-1	Tooling system diagram (lower turret)	4-1
4-1-2	Tooling table (lower turret)	4-2
5	CAT.40 TOOLING	5-1
5-1	CAT.40 Tooling System.....	5-1
5-1-1	Tooling system diagram for metric system (CAT.40)	5-2
5-1-2	Tooling table for metric system (CAT.40)	5-3
5-1-3	Tooling system diagram for inch system (CAT.40)	5-4
5-1-4	Tooling table for inch system (CAT.40)	5-5
5-2	CAT.40 Turning Tool	5-6
5-2-1	O.D. tool holder (left-handed) (CAT.40).....	5-6
5-2-2	O.D. tool holder (right-handed) (CAT.40).....	5-7
5-2-3	45° O.D. tool holder (left-handed) (CAT.40)	5-8
5-2-4	45° O.D. tool holder (right-handed) (BT40-MAS)	5-9
5-2-5	Boring bar holder (CAT.40)	5-10
5-2-6	Throw-away tip drill holder (CAT.40)	5-11
5-2-7	Cut-off tool holder (CAT.40)	5-12
5-3	CAT.40 Milling Tool	5-13

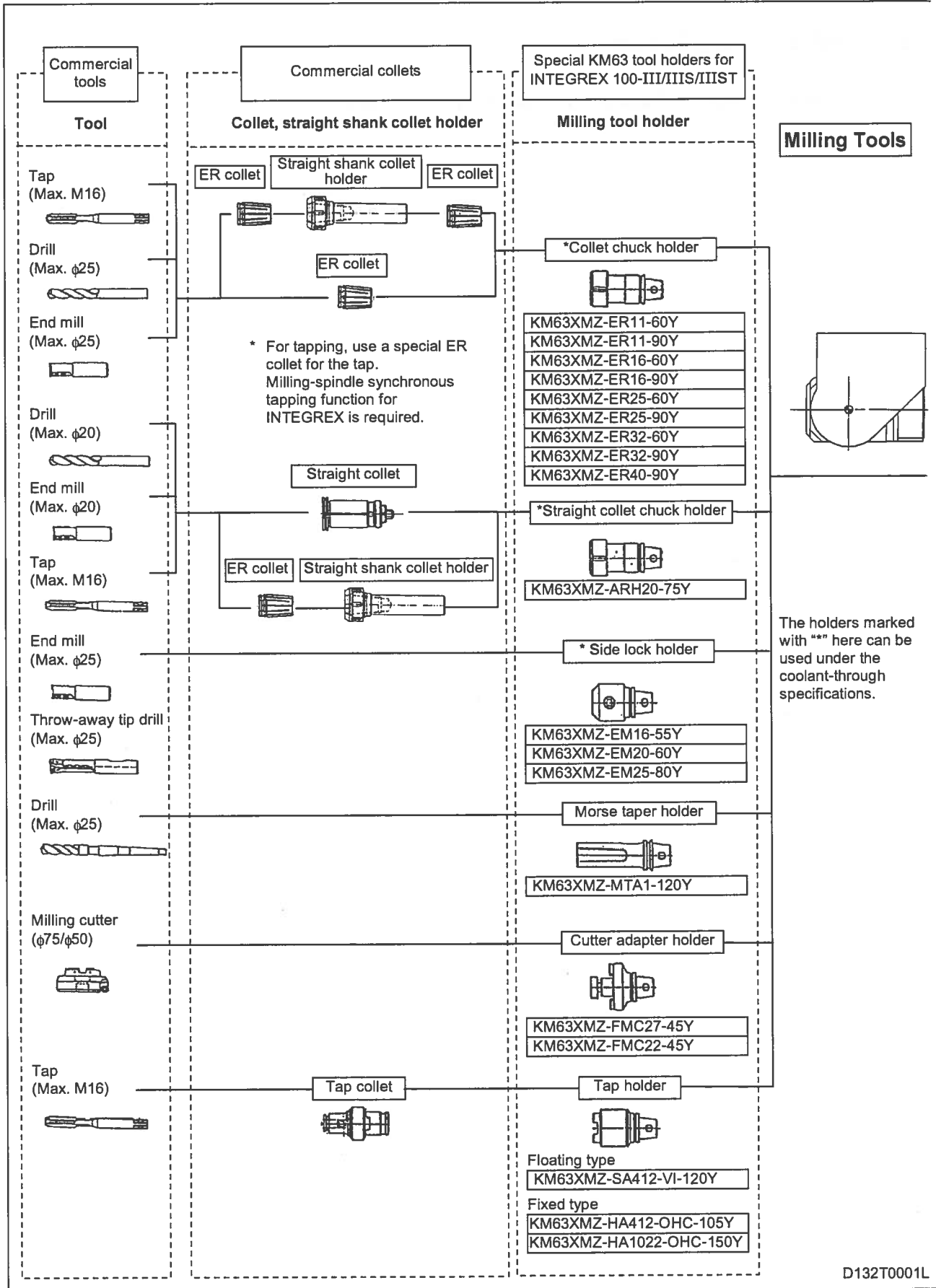
6	CUTTING CAPACITY	6-1
6-1	Stroke Diagram (INTEGREX 100-III)	6-1
6-2	Stroke Diagram (INTEGREX 100-IIIS)	6-3
6-3	Stroke Diagram (INTEGREX 100-IIIST)	6-5
6-4	Restrictions on Tools	6-7
7	MAINTENANCE AND INSPECTION	7-1
7-1	O-ring (only for KM63)	7-1
8	APPENDIX	8-1
8-1	Products of KENNAMETAL	8-1
8-2	Cartridges for Multi Tool Holder (Products of Mitsubishi Materials)	8-25

1 KM63 TOOLING

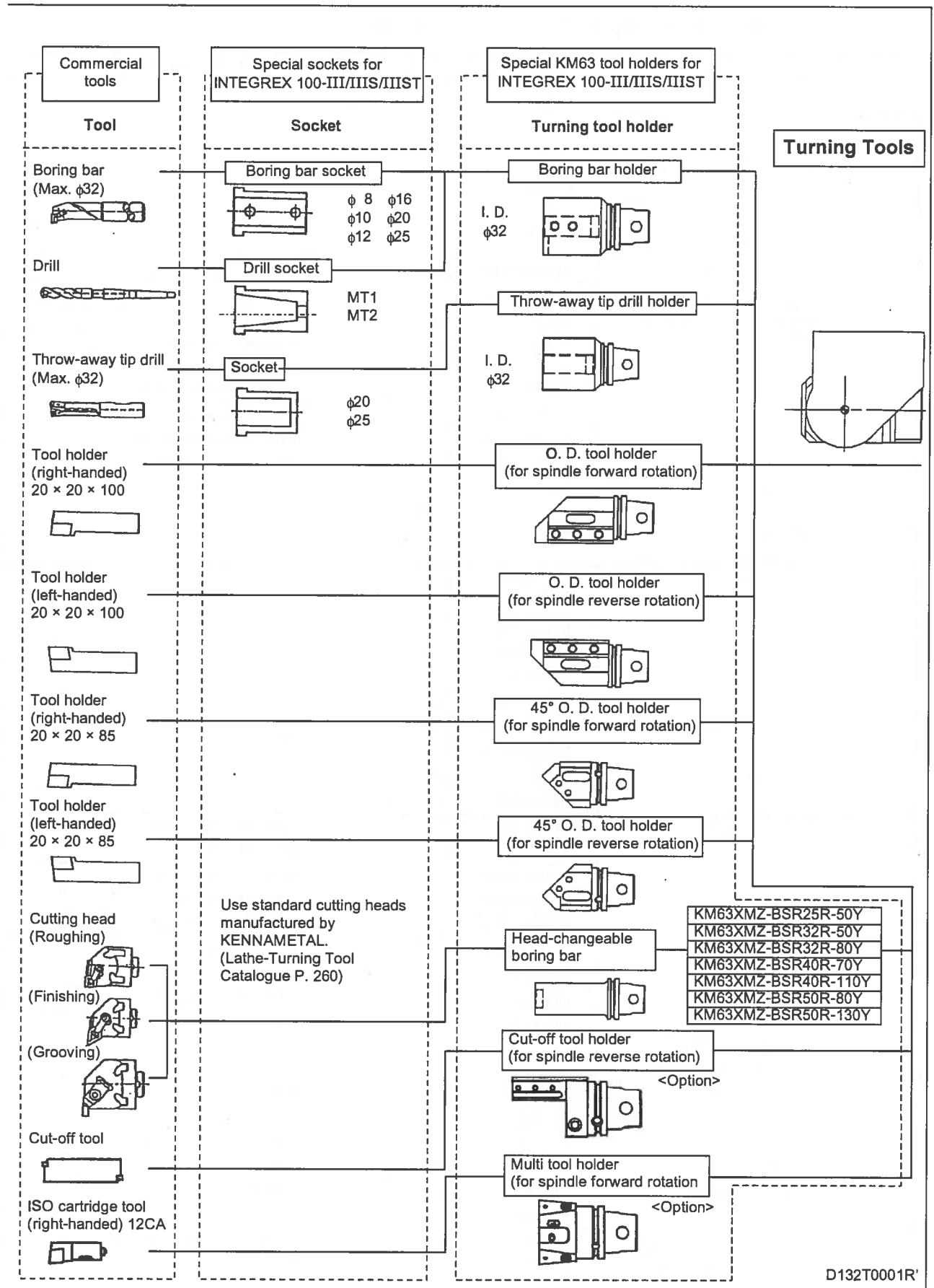
1-1 KM63 Tooling System

1-1-1 Tooling system diagram for metric system (KM63)

INTEGREX 100-III/IIIS/IIIST Tooling System (KM63)



The holders marked with "*" here can be used under the coolant-through specifications.



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1-1-2 Tooling table for metric system (KM63)

INTEGREX 100-III/IIIS/IIIST tooling table (EX. MM)

Item	Unit No. (MAZAK)	Specification	Type (KENNAMETAL)	Std. q'ty	
Turning tool holder	O.D. tool holder (for spindle forward rotation)	51328000201	20 × 20 × 100	1	
	O.D. tool holder (for spindle reverse rotation)	51328000100	20 × 20 × 100	1	
	45° O.D. tool holder (for spindle forward rotation)	51328000502	20 × 20 × 85	1	
	45° O.D. tool holder (for spindle reverse rotation)	51328000402	20 × 20 × 85	1	
	Boring bar holder	51328000302	φ32	3	
	Throw-away tip drill holder	51328000600	φ32	1	
	Head-changeable boring bar holder	51358071600	φ25 × 50	KM63XMZ-BSR25R-50Y	
		51358071700	φ32 × 50	KM63XMZ-BSR32R-50Y	
		51358071800	φ32 × 80	KM63XMZ-BSR32R-80Y	
		51358071900	φ40 × 70	KM63XMZ-BSR40R-70Y	
		51358072000	φ40 × 110	KM63XMZ-BSR40R-110Y	
		51358072100	φ50 × 80	KM63XMZ-BSR50R-80Y	
	51358072200	φ50 × 130	KM63XMZ-BSR50R-130Y		
	Cut-off tool holder (for spindle reverse rotation)	51328002000	151.2-21-** (SANDVIK)		
Multi tool holder (for spindle forward rotation)	51328031300	ISO cartridge tool (right-handed) 12CA			
Turning tool socket	Boring bar socket	51328000800	φ25	1	
		51328000700	φ20	1	
		53178012301	φ16	1	
		53178012401	φ12	1	
		53178012501	φ10	1	
		53178012601	φ8	1	
	Throw-away tip drill socket	53258001800	φ25	1	
		53258001700	φ20	1	
	Drill socket	51328001001	M. T. No. 2	1	
		51328000901	M. T. No. 1	1	
Milling tool holder	Collet chuck holder	51358010500	ER11	KM63XMZ-ER11-60Y	
		51358010600		KM63XMZ-ER11-90Y	
		51358010800	ER16	KM63XMZ-ER16-60Y	
		51358010900		KM63XMZ-ER16-90Y	
		51358011100	ER25	KM63XMZ-ER25-60Y	
		51358011200		KM63XMZ-ER25-90Y	
		51358011400	ER32	KM63XMZ-ER32-60Y	
		51358011500		KM63XMZ-ER32-90Y	
		51338000600	ER40	KM63XMZ-ER40-90Y	
	Milling chuck holder (straight collet chuckholder)	51358013000	φ20	KM63XMZ-ARH20-75Y	
	Side lock holder	51358016000	φ16	KM63XMZ-EM16-55Y	
		51358016100	φ20	KM63XMZ-EM20-60Y	
		51358016200	φ25	KM63XMZ-EM25-80Y	
	Morse taper holder	51358020000	MT1	KM63XMZ-MTA1-120Y	
	Shell mill adapter (cutter adapter)	51358026000	φ75	KM63XMZ-FMC27-45Y	
		51358010000	φ50	KM63XMZ-FMC22-45Y	
	Tap holder (floating type)	51358040200	M4 - M12	KM63XMZ-SA412-VI-120Y	
	Tap holder (fixed type)	51358040000	M4 - M12	KM63XMZ-HA412-OHC-105Y	
		51358040100	M10 - M22	KM63XMZ-HA1022-OHC-150Y	

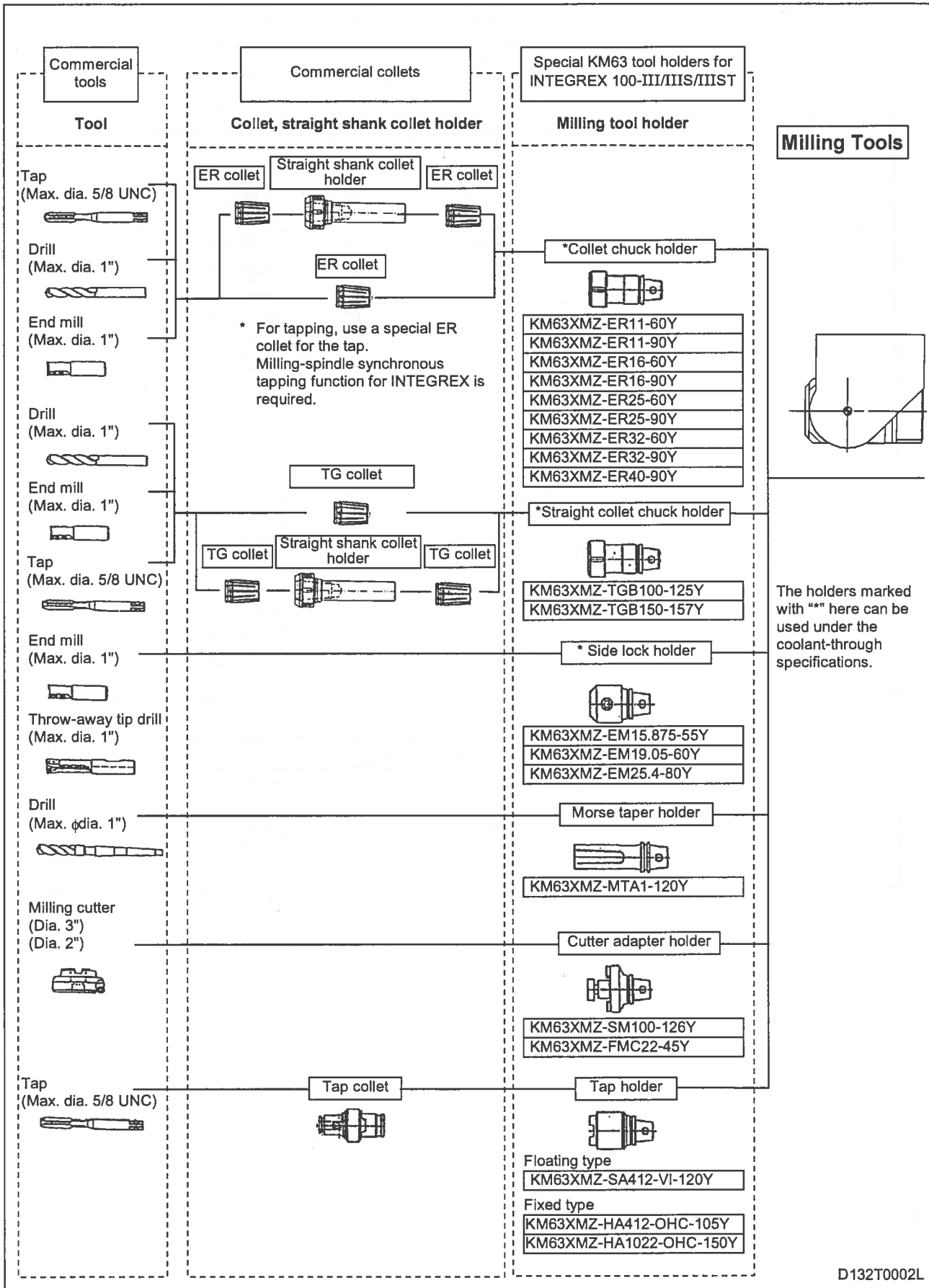
Item	Unit No. (MAZAK)	Specification	Type (Alps, KENNAMETAL)	Std. q'ty	
Milling collet Collet chuck (applicable to through coolant)	51358053000	ER11 φ4.0	AR11-OH-4.0		
	51358053100	φ5.0	AR11-OH-5.0		
	51358053200	φ6.0	AR11-OH-6.0		
	51358053300	φ7.0	AR11-OH-7.0		
	51358054000	ER16 φ6.0	AR16-OH-6.0		
	51358054100	φ7.0	AR16-OH-7.0		
	51358054200	φ8.0	AR16-OH-8.0		
	51358054300	φ9.0	AR16-OH-9.0		
	51358054400	φ10.0	AR16-OH-10.0		
	51358055000	ER25 φ10.0	AR25-OH-10.0		
	51358055100	φ11.0	AR25-OH-11.0		
	51358055200	φ12.0	AR25-OH-12.0		
	51358055300	φ13.0	AR25-OH-13.0		
	51358055400	φ14.0	AR25-OH-14.0		
	51358055500	φ15.0	AR25-OH-15.0		
	51358055600	φ16.0	AR25-OH-16.0		
	51358056000	ER32 φ10.0	AR32-OH-10.0		
	51358056100	φ11.0	AR32-OH-11.0		
	51358056200	φ12.0	AR32-OH-12.0		
	51358056300	φ13.0	AR32-OH-13.0		
	51358056400	φ14.0	AR32-OH-14.0		
	51358056500	φ15.0	AR32-OH-15.0		
	51358056600	φ16.0	AR32-OH-16.0		
	51358056700	φ20.0	AR32-OH-20.0		
	51338050100	ER40 φ10.0	AR40-OH-10.0		
	51338050200	φ14.0	AR40-OH-14.0		
	51338050300	φ16.0	AR40-OH-16.0		
	51338050400	φ20.0	AR40-OH-20.0		
	51338050500	φ25.0	AR40-OH-25.0		
	Collet chuck (for tap)	51358058000	ER16 M4	AR16GB-M4	
		51358058100	M5	AR16GB-M5	
		51358058200	M6	AR16GB-M6	
51358058300		M8	AR16GB-M8		
51358058400		M10	AR16GB-M10		
51358059000		ER25 M4	AR25GB-M4		
51358059100		M5	AR25GB-M5		
51358059200		M6	AR25GB-M6		
51358059300		M8	AR25GB-M8		
51358059400		M10	AR25GB-M10		
51358059500		M12	AR25GB-M12		
51358059600		M14	AR25GB-M14		
51358059700		M16	AR25GB-M16		
51358060000		ER32 M4	AR32GB-M4		
51358060100		M5	AR32GB-M5		
51358060200		M6	AR32GB-M6		
51358060300		M8	AR32GB-M8		
51358060400		M10	AR32GB-M10		
51358060500		M12	AR32GB-M12		
51358060600		M14	AR32GB-M14		
51358060700		M16	AR32GB-M16		
51338051000		ER40 M10	AR40GB-M10		
51338051100		M12	AR40GB-M12		
51338051200		M14	AR40GB-M14		
51338051300	M16	AR40GB-M16			

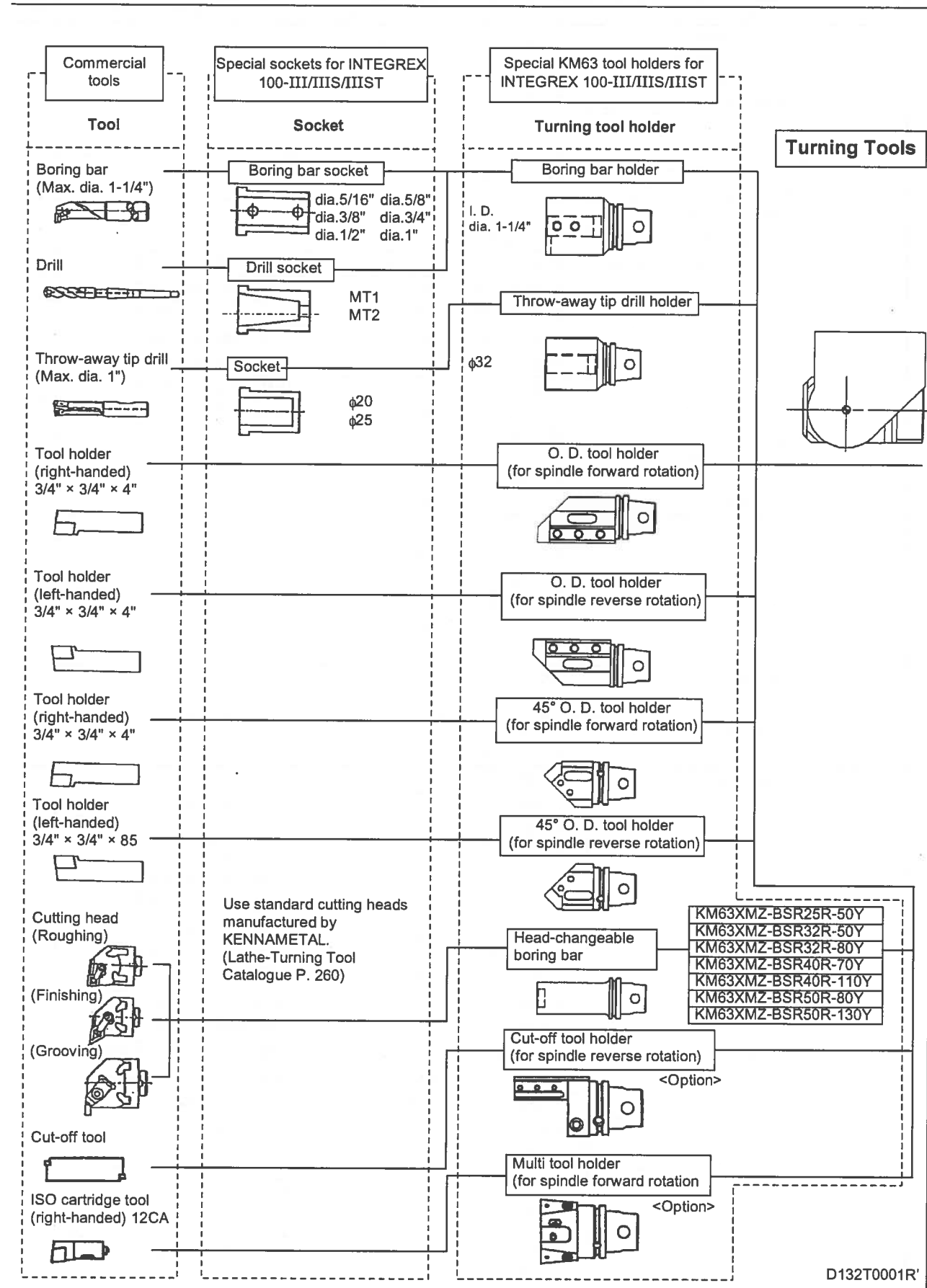
Item	Unit No. (MAZAK)	Specification	Type (Alps/Rego, Schaublin)	Std. q'ty
Milling collet Collet chuck	51358050000	ER11 ϕ 1.0	11ER010M	
	51358050100	ϕ 1.5	11ER015M	
	51358050200	ϕ 2.0	11ER020M	
	51358050300	ϕ 2.5	11ER025M	
	51358050400	ϕ 3.0	11ER030M	
	51358050500	ϕ 3.5	11ER035M	
	51358050600	ϕ 4.0	11ER040M	
	51358050700	ϕ 4.5	11ER045M	
	51358050800	ϕ 5.0	11ER050M	
	51358050900	ϕ 5.5	11ER055M	
	51358051000	ϕ 6.0	11ER060M	
	51358051100	ϕ 6.5	11ER065M	
	51358051200	ϕ 7.0	11ER070M	
	51358052000	ER16 ϕ 1.0	16ER010M	
	51358052100	ϕ 2.0	16ER020M	
	51358052200	ϕ 3.0	16ER030M	
	51358052300	ϕ 4.0	16ER040M	
	51358052400	ϕ 5.0	16ER050M	
	51358052500	ϕ 6.0	16ER060M	
	51358052600	ϕ 7.0	16ER070M	
	51358052700	ϕ 8.0	16ER080M	
	51358052800	ϕ 9.0	16ER090M	
	51358052900	ϕ 10.0	16ER100M	
	53528090100	ER25 ϕ 2.0	25ER020M	
	53528090200	ϕ 3.0	25ER030M	
	53528090300	ϕ 4.0	25ER040M	
	53528090400	ϕ 5.0	25ER050M	
	53528090500	ϕ 6.0	25ER060M	
	53528090600	ϕ 7.0	25ER070M	
	53528090700	ϕ 8.0	25ER080M	
	53528090800	ϕ 9.0	25ER090M	
	53528090900	ϕ 10.0	25ER100M	
	53528091000	ϕ 11.0	25ER110M	
	53528091100	ϕ 12.0	25ER120M	
	53528091200	ϕ 13.0	25ER130M	
	53528091300	ϕ 14.0	25ER140M	
	53528091400	ϕ 15.0	25ER150M	
	53528091500	ϕ 16.0	25ER160M	
	53628090100	ER32 ϕ 2.0	32ER020M	
	53628090200	ϕ 2.5	32ER025M	
	53628090300	ϕ 3.0	32ER030M	
	53628090400	ϕ 3.5	32ER035M	
	53628090500	ϕ 4.0	32ER040M	
	53628090600	ϕ 4.5	32ER045M	
	53628090700	ϕ 5.0	32ER050M	
	53628090800	ϕ 6.0	32ER060M	
53628090900	ϕ 7.0	32ER070M		
53628091000	ϕ 8.0	32ER080M		
53628091100	ϕ 9.0	32ER090M		
53628091200	ϕ 10.0	32ER100M		
53628091300	ϕ 11.0	32ER110M		
53628091400	ϕ 12.0	32ER120M		
53628091500	ϕ 13.0	32ER130M		
53628091600	ϕ 14.0	32ER140M		

Item		Unit No. (MAZAK)	Specification	Type (Alps/Rego, Schaublin)	Std. q'ty
Milling collet	Collet chuck	53628091700	φ15.0	32ER150M	
		53628091800	φ16.0	32ER160M	
		53628091900	φ17.0	32ER170M	
		53628092000	φ18.0	32ER180M	
		53628092100	φ19.0	32ER190M	
		53628092200	φ20.0	32ER200M	
		51338053000	ER40 φ4.0	40ER040M	
		51338053100	φ5.0	40ER050M	
		51338053200	φ6.0	40ER060M	
		51338053300	φ7.0	40ER070M	
		51338053400	φ8.0	40ER080M	
		51338053500	φ9.0	40ER090M	
		51338053600	φ10.0	40ER100M	
		51338053700	φ11.0	40ER110M	
		51338053800	φ12.0	40ER120M	
		51338053900	φ13.0	40ER130M	
		51338054000	φ14.0	40ER140M	
		51338054100	φ15.0	40ER150M	
		51338054200	φ16.0	40ER160M	
		51338054300	φ17.0	40ER170M	
		51338054400	φ18.0	40ER180M	
		51338054500	φ19.0	40ER190M	
		51338054600	φ20.0	40ER200M	
		51338054700	φ21.0	40ER210M	
		51338054800	φ22.0	40ER220M	
		51338054900	φ23.0	40ER230M	
51338055000	φ24.0	40ER240M			
51338055100	φ25.0	40ER250M			
51338055200	φ26.0	40ER260M			

Item		Unit No. (MAZAK)	Specification	Type (BIG)	Std. q'ty
Milling collet	Collet chuck (straight collet) adjustable For milling chuck holder	51358080000	φ20 - φ6	AC20-6	
		51358080100	φ8	AC20-8	
		51358080200	φ10	AC20-10	
		51358080300	φ12	AC20-12	
		51358080400	φ16	AC20-16	

1-1-3 Tooling system diagram for inch system (KM63)





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1-1-4 Tooling table for inch system (KM63)

Item	Unit No. (MAZAK)	Specification	Type (KENNAMETAL)	Std. q'ty	
Turning holder	O.D. tool holder (for spindle forward rotation)	51328001200	3/4" × 3/4" × 4"	1	
	O.D. tool holder (for spindle reverse rotation)	51328001100	3/4" × 3/4" × 4"	1	
	45° O.D. tool holder (for spindle forward rotation)	51328001502	3/4" × 3/4" × 3"	1	
	45° O.D. tool holder (for spindle reverse rotation)	51328001402	3/4" × 3/4" × 3"	1	
	Boring bar holder	51328001302	1-1/4"	3	
	Throw-away tip drill holder	51328000600	1.26"	1	
	Head-changeable boring bar holder	51358071600	φ25 × 50	KM63XMZ-BSR25R-50Y	
		51358071700	φ32 × 50	KM63XMZ-BSR32R-50Y	
		51358071800	φ32 × 80	KM63XMZ-BSR32R-80Y	
		51358071900	φ40 × 70	KM63XMZ-BSR40R-70Y	
		51358072000	φ40 × 110	KM63XMZ-BSR40R-110Y	
		51358072100	φ50 × 80	KM63XMZ-BSR50R-80Y	
	51358072200	φ50 × 130	KM63XMZ-BSR50R-130Y		
Cut-off tool holder (for spindle reverse rotation)	51328002000	151.2-21-*** (SANDVIK)			
Multi tool holder (for spindle forward rotation)	51328031300	ISO cartridge tool (right-handed) 12CA			
Turning tool socket	Boring bar socket	51328001700	1"	1	
		51328001600	3/4"	1	
		53178013301	5/8"	1	
		53178013401	1/2"	1	
		53178013501	3/8"	1	
		53178013601	5/16"	1	
	Throw-away tip drill socket	53258001800	φ25	1	
		53258001700	φ20	1	
	Drill socket	51328001900	M. T. No. 2	1	
		51328001800	M. T. No. 1	1	
Milling tool holder	Collet chuck holder	51358010500	ER11	KM63XMZ-ER11-60Y	
		51358010600		KM63XMZ-ER11-90Y	
		51358010800	ER16	KM63XMZ-ER16-60Y	
		51358010900		KM63XMZ-ER16-90Y	
		51358011100	ER25	KM63XMZ-ER25-60Y	
		51358011200		KM63XMZ-ER25-90Y	
		51358011400	ER32	KM63XMZ-ER32-60Y	
		51358011500		KM63XMZ-ER32-90Y	
		51338000600	ER40	KM63XMZ-ER40-90Y	
	Milling chuck	51358010301	3/4"	KM63XMZ-TGB100-125Y	
		51358010401	1-1/4"	KM63XMZ-TGB150-157Y	
	Side lock holder	51358016500	EM15.875	KM63XMZ-EM15.875-55Y	
		51358016600	EM19.05	KM63XMZ-EM19.05-60Y	
		51358016700	EM25.4	KM63XMZ-EM25.4-80Y	
	Morse taper holder	51358020000	MT1	KM63XMZ-MTA1-120Y	
	Shell mill adapter	51358014001	3"	KM63XMZ-SM100-126Y	
		51328010000	2"	KM63XMZ-FMC22-45Y	
	Tap holder (floating type)	51358040200	5/32"-15/32"	KM63XMZ-SA412-VI-120Y	
	Tap holder (fixed type)	51358040000	5/32"-15/32"	KM63XMZ-HA412-OHC-105Y	
51358040100		13/32"-7/8"	KM63XMZ-HA1022-OHC-150Y		

Item		Unit No. (MAZAK)	Specification	Type (ALPS)	Std. q'ty
Milling tool collet	Collet chuck (applicable for through coolant)	51358053000	ER11 ϕ 4.0	AR11-OH-4.0	
		51358053100	ϕ 5.0	AR11-OH-5.0	
		51358053200	ϕ 6.0	AR11-OH-6.0	
		51358053300	ϕ 7.0	AR11-OH-7.0	
		51358054000	ER16 ϕ 6.0	AR16-OH-6.0	
		51358054100	ϕ 7.0	AR16-OH-7.0	
		51358054200	ϕ 8.0	AR16-OH-8.0	
		51358054300	ϕ 9.0	AR16-OH-9.0	
		51358054400	ϕ 10.0	AR16-OH-10.0	
		51358055000	ER25 ϕ 10.0	AR25-OH-10.0	
		51358055100	ϕ 11.0	AR25-OH-11.0	
		51358055200	ϕ 12.0	AR25-OH-12.0	
		51358055300	ϕ 13.0	AR25-OH-13.0	
		51358055400	ϕ 14.0	AR25-OH-14.0	
		51358055500	ϕ 15.0	AR25-OH-15.0	
		51358055600	ϕ 16.0	AR25-OH-16.0	
		51358056000	ER32 ϕ 10.0	AR32-OH-10.0	
		51358056100	ϕ 11.0	AR32-OH-11.0	
		51358056200	ϕ 12.0	AR32-OH-12.0	
		51358056300	ϕ 13.0	AR32-OH-13.0	
		51358056400	ϕ 14.0	AR32-OH-14.0	
		51358056500	ϕ 15.0	AR32-OH-15.0	
		51358056600	ϕ 16.0	AR32-OH-16.0	
		51358056700	ϕ 20.0	AR32-OH-20.0	
		51338050100	ER40 ϕ 10.0	AR40-OH-10.0	
		51338050200	ϕ 14.0	AR40-OH-14.0	
		51338050300	ϕ 16.0	AR40-OH-16.0	
		51338050400	ϕ 20.0	AR40-OH-20.0	
		51338050500	ϕ 25.0	AR40-OH-25.0	

Item		Unit No. (MAZAK)	Specification	Type (Rego, Schaublin)	Std. q'ty
Milling tool collet	Collet chuck	51358050000	ER11 ϕ 1.0	11ER010M	
		51358050100	ϕ 1.5	11ER015M	
		51358050200	ϕ 2.0	11ER020M	
		51358050300	ϕ 2.5	11ER025M	
		51358050400	ϕ 3.0	11ER030M	
		51358050500	ϕ 3.5	11ER035M	
		51358050600	ϕ 4.0	11ER040M	
		51358050700	ϕ 4.5	11ER045M	
		51358050800	ϕ 5.0	11ER050M	
		51358050900	ϕ 5.5	11ER055M	
		51358051000	ϕ 6.0	11ER060M	
		51358051100	ϕ 6.5	11ER065M	
		51358051200	ϕ 7.0	11ER070M	

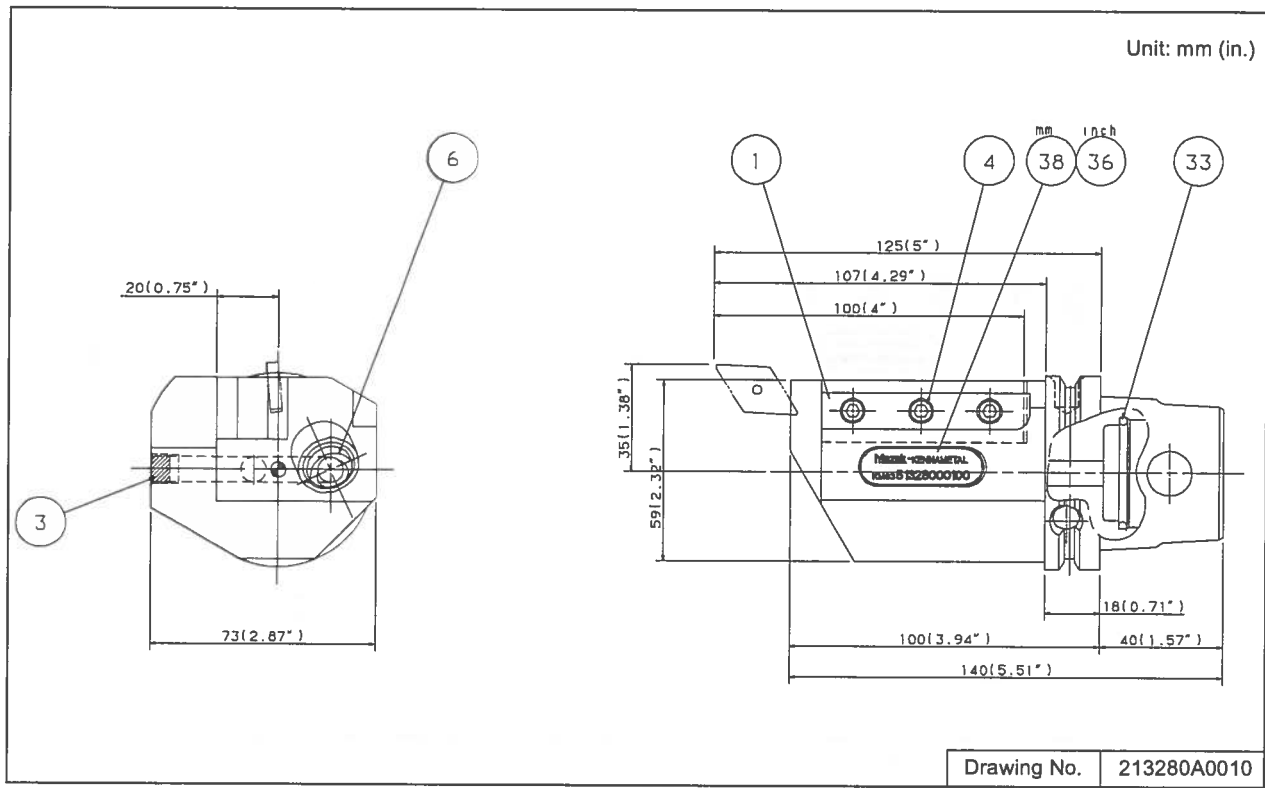
Item		Unit No. (MAZAK)	Specification	Type (Rego, Schaublin)	Std. q'ty
Milling tool collet	Collet chuck	51358052000	ER16 ϕ 1.0	16ER010M	
		51358052100	ϕ 2.0	16ER020M	
		51358052200	ϕ 3.0	16ER030M	
		51358052300	ϕ 4.0	16ER040M	
		51358052400	ϕ 5.0	16ER050M	
		51358052500	ϕ 6.0	16ER060M	
		51358052600	ϕ 7.0	16ER070M	
		51358052700	ϕ 8.0	16ER080M	
		51358052800	ϕ 9.0	16ER090M	
		51358052900	ϕ 10.0	16ER100M	
		53528090100	ER25 ϕ 2.0	25ER020M	
		53528090200	ϕ 3.0	25ER030M	
		53528090300	ϕ 4.0	25ER040M	
		53528090400	ϕ 5.0	25ER050M	
		53528090500	ϕ 6.0	25ER060M	
		53528090600	ϕ 7.0	25ER070M	
		53528090700	ϕ 8.0	25ER080M	
		53528090800	ϕ 9.0	25ER090M	
		53528090900	ϕ 10.0	25ER100M	
		53528091000	ϕ 11.0	25ER110M	
		53528091100	ϕ 12.0	25ER120M	
		53528091200	ϕ 13.0	25ER130M	
		53528091300	ϕ 14.0	25ER140M	
		53528091400	ϕ 15.0	25ER150M	
		53528091500	ϕ 16.0	25ER160M	
		53628090100	ER32 ϕ 2.0	32ER020M	
		53628090200	ϕ 2.5	32ER025M	
		53628090300	ϕ 3.0	32ER030M	
		53628090400	ϕ 3.5	32ER035M	
		53628090500	ϕ 4.0	32ER040M	
		53628090600	ϕ 4.5	32ER045M	
		53628090700	ϕ 5.0	32ER050M	
		53628090800	ϕ 6.0	32ER060M	
		53628090900	ϕ 7.0	32ER070M	
		53628091000	ϕ 8.0	32ER080M	
		53628091100	ϕ 9.0	32ER090M	
		53628091200	ϕ 10.0	32ER100M	
		53628091300	ϕ 11.0	32ER110M	
		53628091400	ϕ 12.0	32ER120M	
		53628091500	ϕ 13.0	32ER130M	
		53628091600	ϕ 14.0	32ER140M	
		53628091700	ϕ 15.0	32ER150M	
		53628091800	ϕ 16.0	32ER160M	
		53628091900	ϕ 17.0	32ER170M	
53628092000	ϕ 18.0	32ER180M			
53628092100	ϕ 19.0	32ER190M			
53628092200	ϕ 20.0	32ER200M			

Item		Unit No. (MAZAK)	Specification	Type (Rego, Schaublin)	Std. q'ty
Milling collet	Collet chuck	51338053000	ER40 ϕ 4.0	40ER040M	
		51338053100	ϕ 5.0	40ER050M	
		51338053200	ϕ 6.0	40ER060M	
		51338053300	ϕ 7.0	40ER070M	
		51338053400	ϕ 8.0	40ER080M	
		51338053500	ϕ 9.0	40ER090M	
		51338053600	ϕ 10.0	40ER100M	
		51338053700	ϕ 11.0	40ER110M	
		51338053800	ϕ 12.0	40ER120M	
		51338053900	ϕ 13.0	40ER130M	
		51338054000	ϕ 14.0	40ER140M	
		51338054100	ϕ 15.0	40ER150M	
		51338054200	ϕ 16.0	40ER160M	
		51338054300	ϕ 17.0	40ER170M	
		51338054400	ϕ 18.0	40ER180M	
		51338054500	ϕ 19.0	40ER190M	
		51338054600	ϕ 20.0	40ER200M	
		51338054700	ϕ 21.0	40ER210M	
		51338054800	ϕ 22.0	40ER220M	
		51338054900	ϕ 23.0	40ER230M	
51338055000	ϕ 24.0	40ER240M			
51338055100	ϕ 25.0	40ER250M			

Item		Unit No. (MAZAK)	Specification	Type (KENNAMETAL)	Std. q'ty
Milling tool collet	Collet chuck (TG collet) Inch	51358081500	100TG- 3/32"	100TG-0094	
		51358081600	1/8"	100TG-0125	
		51358081700	5/32"	100TG-0156	
		51358081800	3/16"	100TG-0188	
		51358081900	7/32"	100TG-0219	
		51358082000	1/4"	100TG-0250	
		51358082100	9/32"	100TG-0281	
		51358082200	5/16"	100TG-0312	
		51358082300	11/32"	100TG-0344	
		51358082400	3/8"	100TG-0375	
		51358082500	13/32"	100TG-0406	
		51358082600	7/16"	100TG-0438	
		51358082700	15/32"	100TG-0469	
		51358082800	1/2"	100TG-0500	
		51358082900	17/32"	100TG-0531	
		51358083000	9/16"	100TG-0562	
		51358083100	19/32"	100TG-0594	
		51358083200	5/8"	100TG-0625	
		51358083300	21/32"	100TG-0656	
		51358083400	11/16"	100TG-0688	
		51358083500	23/32"	100TG-0719	
		51358083600	3/4"	100TG-0750	
		51358083700	25/32"	100TG-0781	
		51358083800	13/16"	100TG-0812	
		51358083900	27/32"	100TG-0844	
		51358084000	7/8"	100TG-0875	
		51358084100	29/32"	100TG-0906	
		51358084200	15/16"	100TG-0938	
		51358084300	31/32"	100TG-0969	
		51358084400	1"	100TG-1000	
		51358084500	150TG- 1/2"	150TG-0500	
		51358084600	17/32"	150TG-0531	
		51358084700	9/16"	150TG-0562	
		51358084800	19/32"	150TG-0594	
		51358084900	5/8"	150TG-0625	
		51358085000	21/32"	150TG-0656	
		51358085100	11/16"	150TG-0688	
		51358085200	23/32"	150TG-0719	
		51358085300	3/4"	150TG-0750	
		51358085400	25/32"	150TG-0781	
		51358085500	13/16"	150TG-0812	
		51358085600	27/32"	150TG-0844	
		51358085700	7/8"	150TG-0875	
		51358085800	29/32"	150TG-0906	
51358085900	15/16"	150TG-0938			
51358086000	31/32"	150TG-0969			
51358086100	1"	150TG-1000			

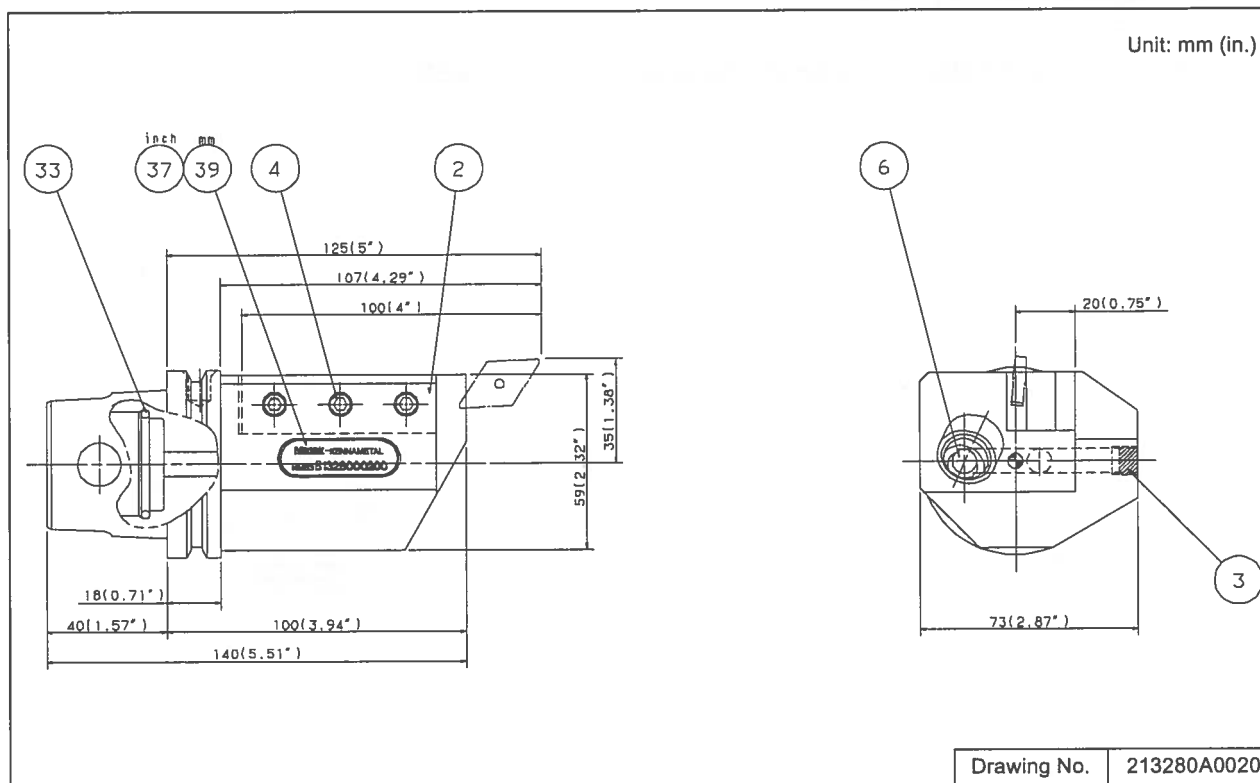
1-2 KM63 Turning Tool

1-2-1 O.D. tool holder for spindle reverse rotation (KM63)



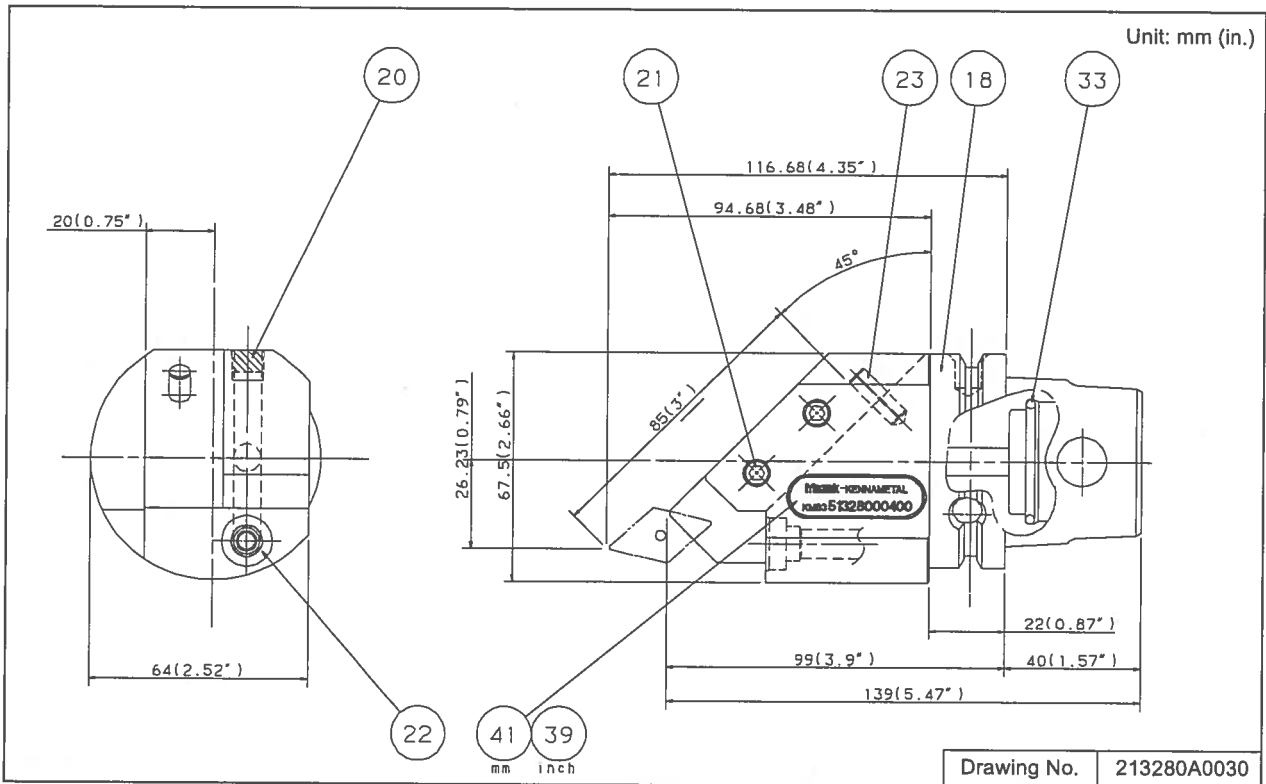
Metric system Unit code No. 51328000100		Inch system Unit code No. 51328001100		Designation
No.	Parts code No.	No.	Parts code No.	
1	11328135271	1	11328135990	Tool holder
3	H3600001S80	3	H3600001S80	Hexagon socket plug
4	A15A08X0220	4	A15A08X0220	Hexagon socket set screw
33	J25ZZ002810	33	J25ZZ002810	O-ring
6	E00PBA6E020	6	E00PBA6E020	Nozzle
38	41328135590	36	41328136080	Panel

1-2-2 O.D. tool holder for spindle forward rotation (KM63)



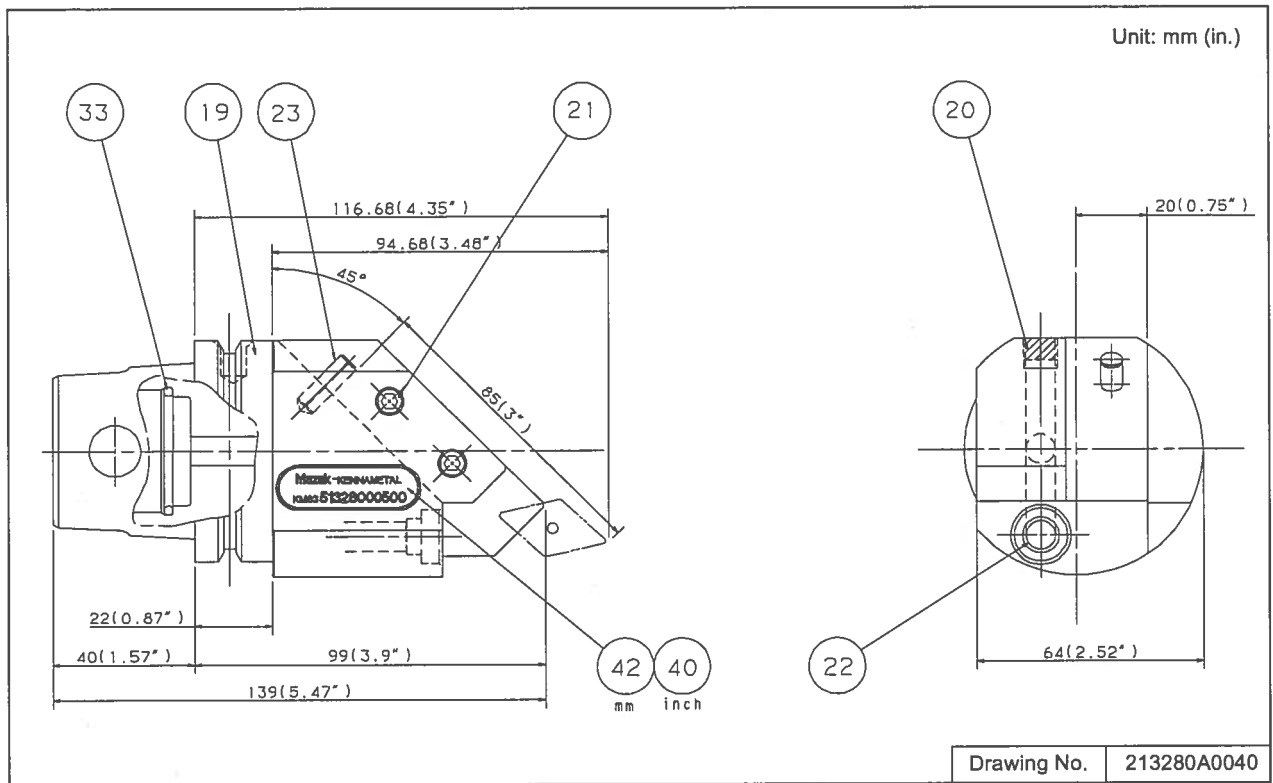
Metric system Unit code No. 51328000201		Inch system Unit code No. 51328001200		Designation
No.	Parts code No.	No.	Parts code No.	
2	11328135312	2	11328136000	Tool holder
3	H3600001S80	3	H3600001S80	Hexagon socket plug
4	A15A08X0220	4	A15A08X0220	Hexagon socket set screw
33	J25ZZ002810	33	J25ZZ002810	O-ring
6	E00PBA6E020	6	E00PBA6E020	Nozzle
39	41328135600	37	41328136090	Panel

1-2-3 45° O.D. tool holder for spindle reverse rotation (KM63)



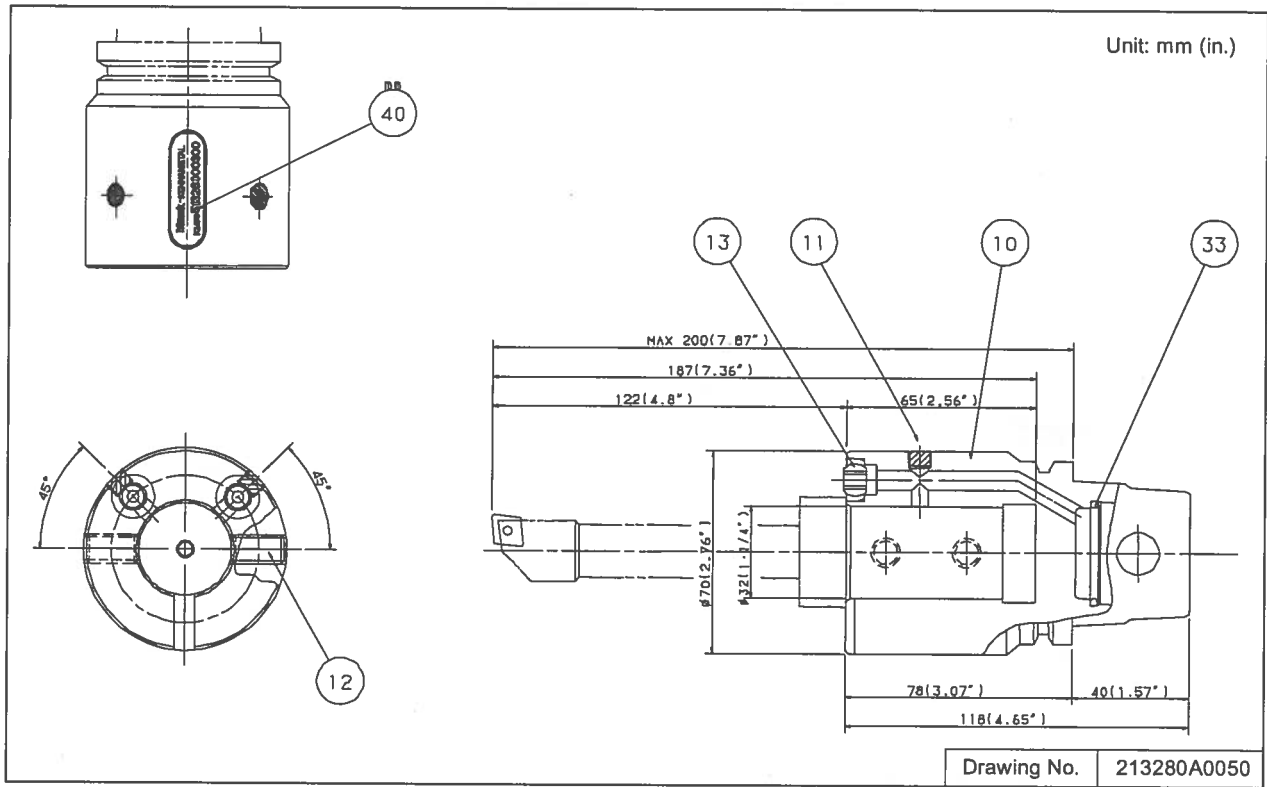
Metric system Unit code No. 51328000402		Inch system Unit code No. 51328001402		Designation
No.	Parts code No.	No.	Parts code No.	
18	11328135552	18	11328136022	Tool holder
20	H3600001S80	20	H3600001S80	Hexagon socket plug
21	A15A08X0250	21	A15A08X0250	Hexagon socket set screw
33	J25ZZ002810	33	J25ZZ002810	O-ring
22	E00PBA6E020	22	E00PBA6E020	Nozzle
41	41328135620	39	41328136110	Panel
23	A12006X0180	23	A12006X0180	Spring pin

1-2-4 45° O.D. tool holder for spindle forward rotation (KM63)



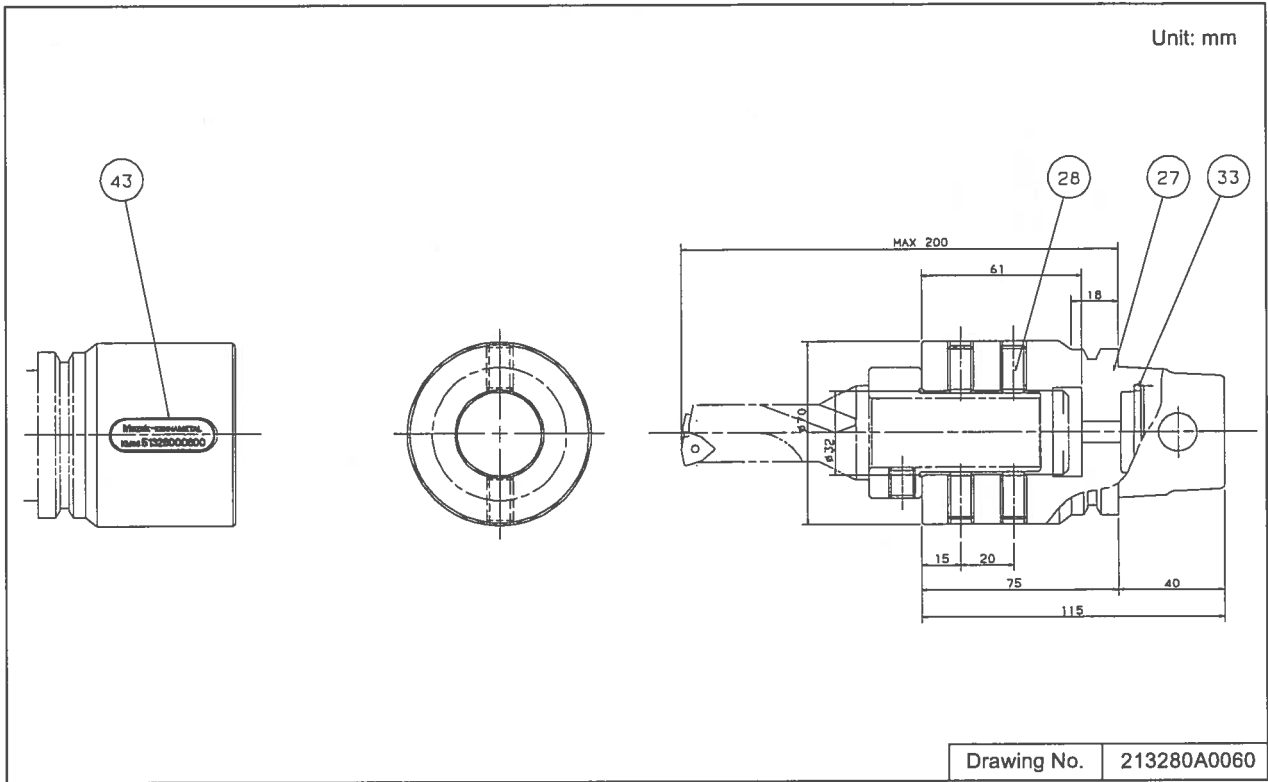
Metric system Unit code No. 51328000502		Inch system Unit code No. 51328001502		Designation
No.	Parts code No.	No.	Parts code No.	
19	11328135562	19	11328136032	Tool holder
20	H3600001S80	20	H360000S80	Hexagon socket plug
21	A15A08X0250	21	A15A08X0250	Hexagon socket set screw
33	J25ZZ002810	33	J25ZZ002810	O-ring
22	E00PBA6E020	22	E00PBA6E020	Nozzle
42	41328135630	40	41328136120	Panel
23	A12006X0180	23	A12006X0180	Spring pin

1-2-5 Boring bar holder (KM63)



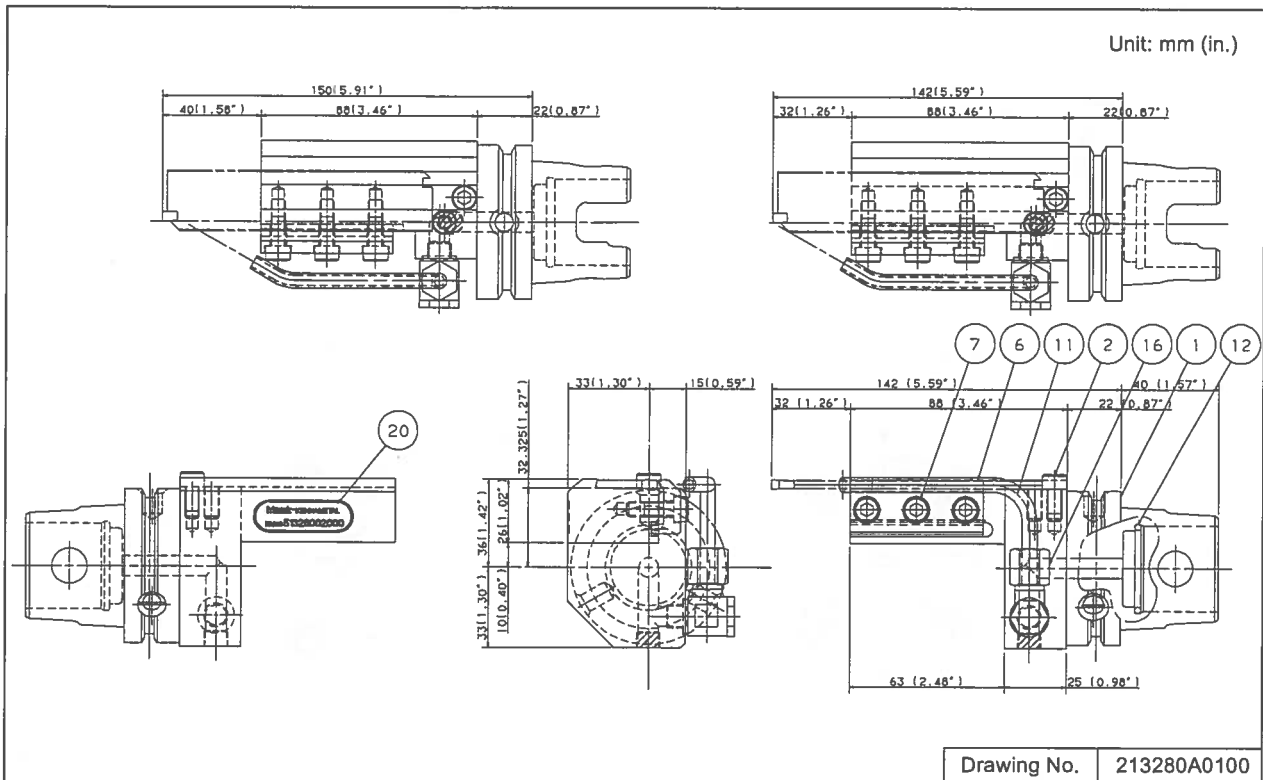
Metric system Unit code No. 51328000302		Inch system Unit code No. 51328001302		Designation
No.	Parts code No.	No.	Parts code No.	
10	11328135293	10	11328136012	Tool holder
11	H3600001S80	11	H3600001S80	Hexagon socket plug
12	A15A10X0180	12	A15A10X0180	Hexagon socket set screw
33	J25ZZ002810	33	J25ZZ002810	O-ring
13	E00PBA6E020	13	E00PBA6E020	Nozzle
40	41328135610	38	41328136100	Panel

1-2-6 Throw-away tip drill holder (KM63)



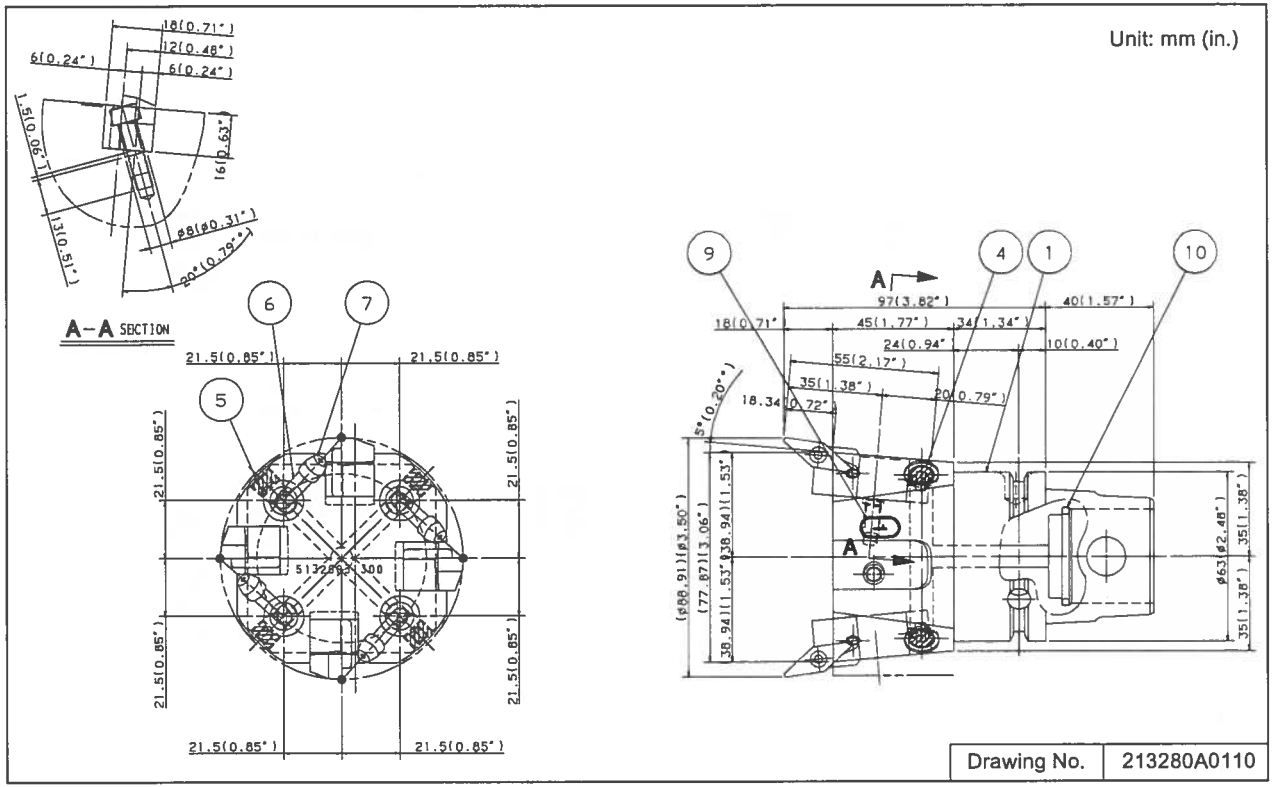
Metric system Unit code No. 51328000600		Designation
No.	Parts code No.	
27	11328135650	Tool holder
28	A15B10X0180	Hexagon socket set screw
33	J25ZZ002810	O-ring
43	41328135640	Panel

1-2-7 Cut-off tool holder (KM63) (option)



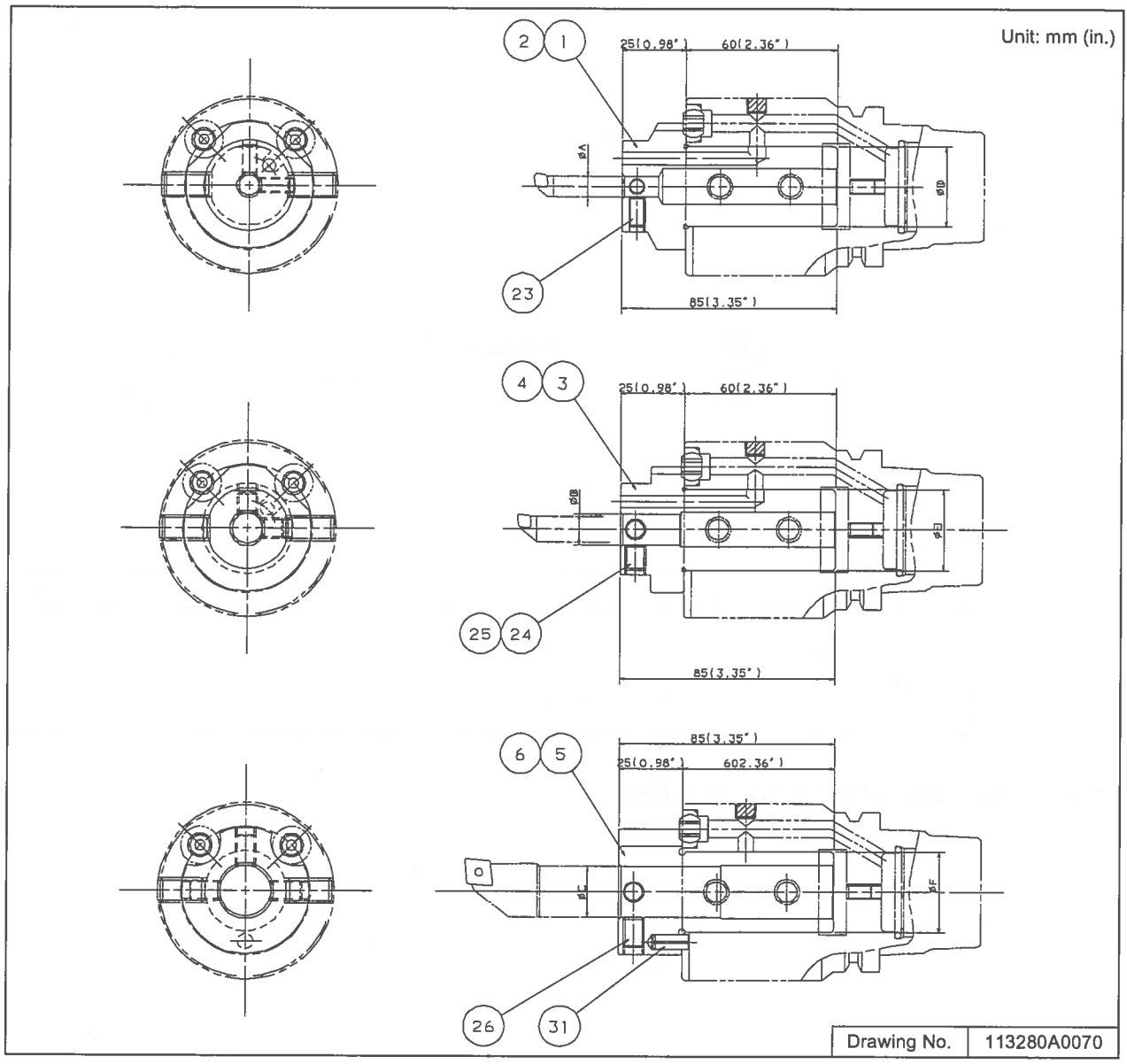
Metric system, Inch system Unit code No. 51328002001		Designation
No.	Parts code No.	
1	11328136191	Tool holder
2	A06CB060100	Hexagon socket head cap screw
6	41328136200	Retainer
7	A06CB060160	Hexagon socket head cap screw
11	41328136210	Pipe
12	J25ZZ002810	O-ring
16	H23NNO13100	Pipe connector
20	41328136241	Panel

1-2-8 Multi tool holder (KM63) (option)



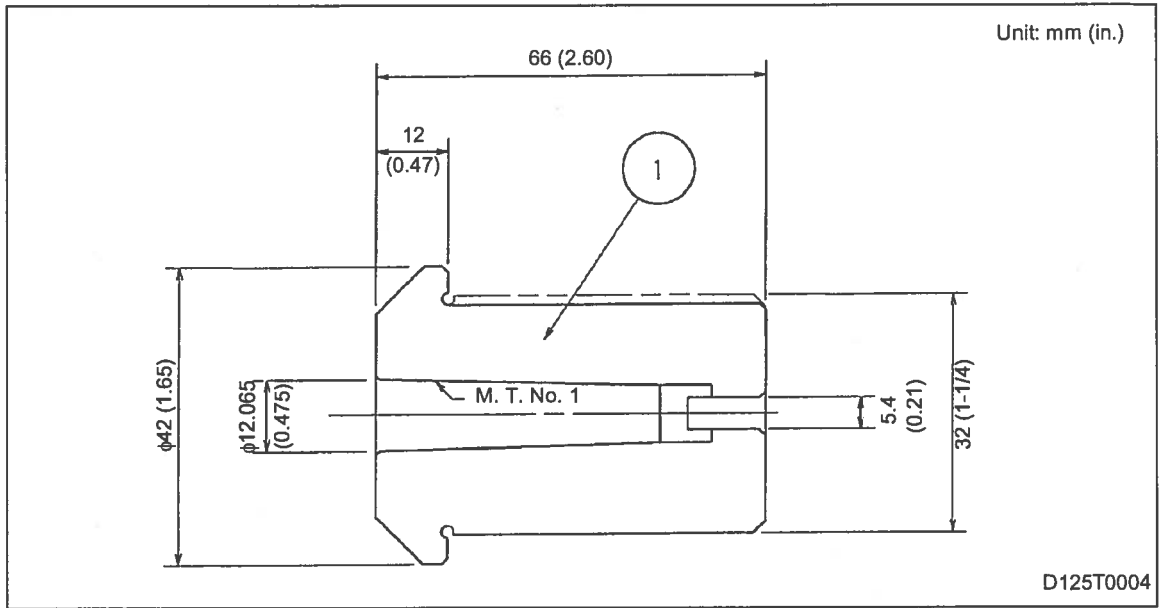
Metric system, Inch system Unit code No. 51328031300		Designation
No.	Parts code No.	
1	11328112880	Tool holder
4	H35GS000050	Plug
5	E00PBA6E020	Nozzle
6	41328112910	Pipe
7	41328112900	Nozzle
9	41328112890	Name plate
10	J25ZZ002810	O-ring

1-2-9 Boring bar socket (KM63)



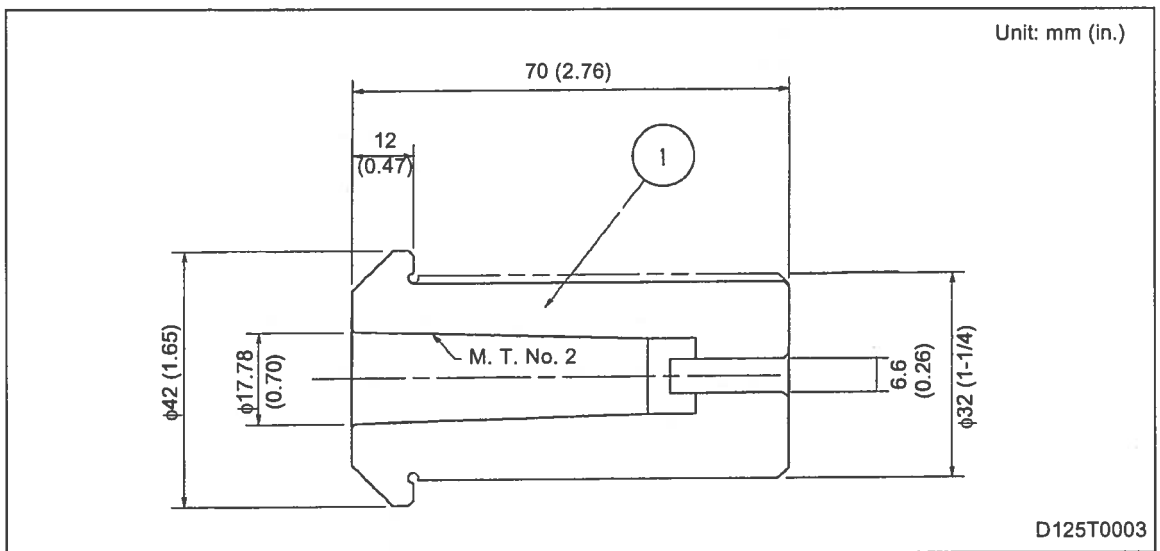
ϕd		1, 2, 3, 4, 5, 6 (Boring bar socket)	23, 24, 25, 26 (Hexagon socket head screw)	31 (Spring pin)
mm	$\phi 25$	31328135671	M 8 \times 12	$\phi 6 \times 18$
	$\phi 20$	31328135661	M 8 \times 12	$\phi 6 \times 18$
	$\phi 16$	33178132532	M 8 \times 8	
	$\phi 12$	33178132522	M 8 \times 10	
	$\phi 10$	33178132512	M 6 \times 12	
	$\phi 8$	33178132502	M 6 \times 12	
inch	$\phi 1''$	31328136050	M 8 \times 12	$\phi 6 \times 18$
	$\phi 3/4''$	31328136040	M 8 \times 12	$\phi 6 \times 18$
	$\phi 5/8''$	33178132661	M 8 \times 8	
	$\phi 1/2''$	33178132651	M 8 \times 10	
	$\phi 3/8''$	33178132641	M 6 \times 12	
	$\phi 5/16''$	33178132631	M 6 \times 12	

1-2-10 Drill socket (M. T. No. 1) (KM63)



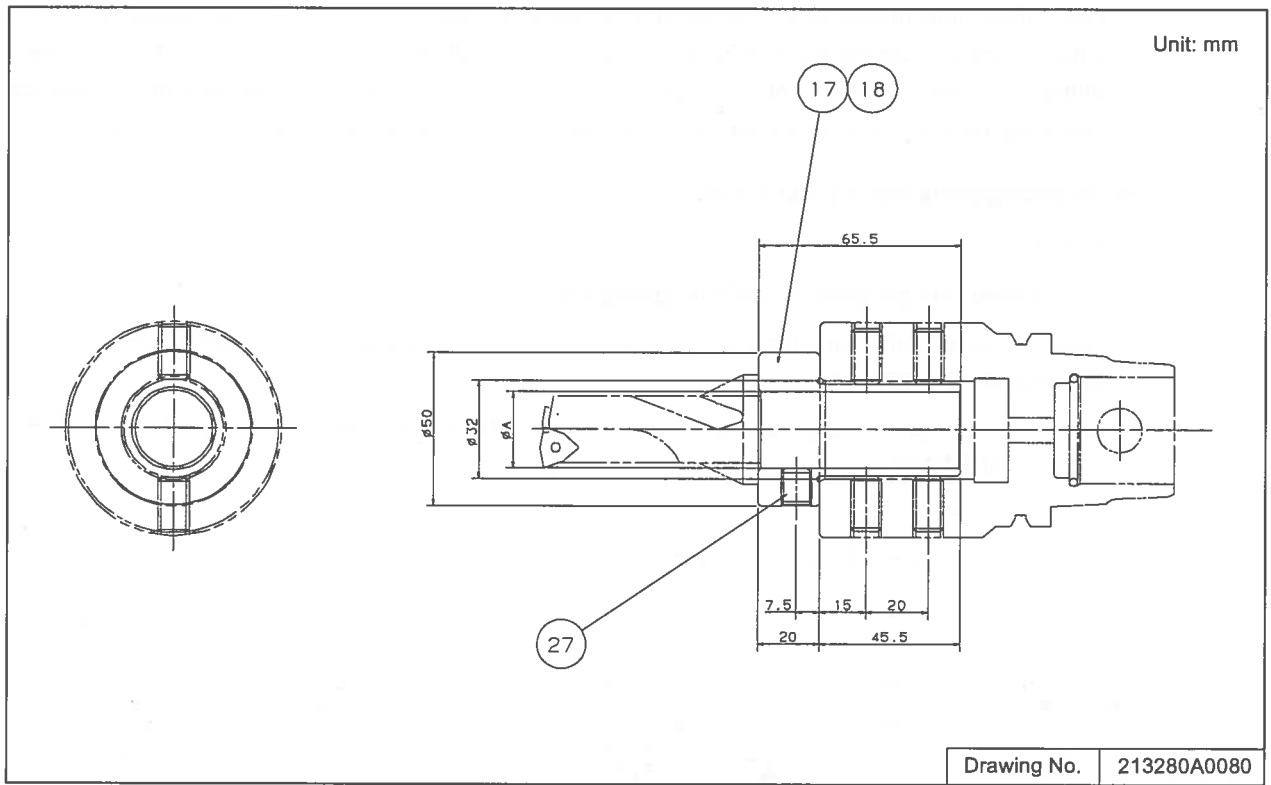
Unit code No.	No.	Parts code No.	Designation	Q'ty	Remarks
513281000901 (metric system)	1	31328135681	Drill socket	1	M. T. No. 1
51328001800 (inch system)		31328136060			

1-2-11 Drill socket (M. T. No. 2) (KM63)



Unit code No.	No.	Parts code No.	Designation	Q'ty	Remarks
51328101001 (metric system)	1	31328135691 (metric system)	Drill socket	1	M. T. No. 2
51328001900 (inch system)		31328136070 (inch system)			

1-2-12 Throw-away tip drill socket (KM63)



ϕd	17, 18 (Throw-away drill socket)	27 (Hexagon socket head screw)
$\phi 25$	43258130550	M10 x 12
$\phi 20$	43258130560	M10 x 12

1-2-13 Optional boring bar holders (KM63)

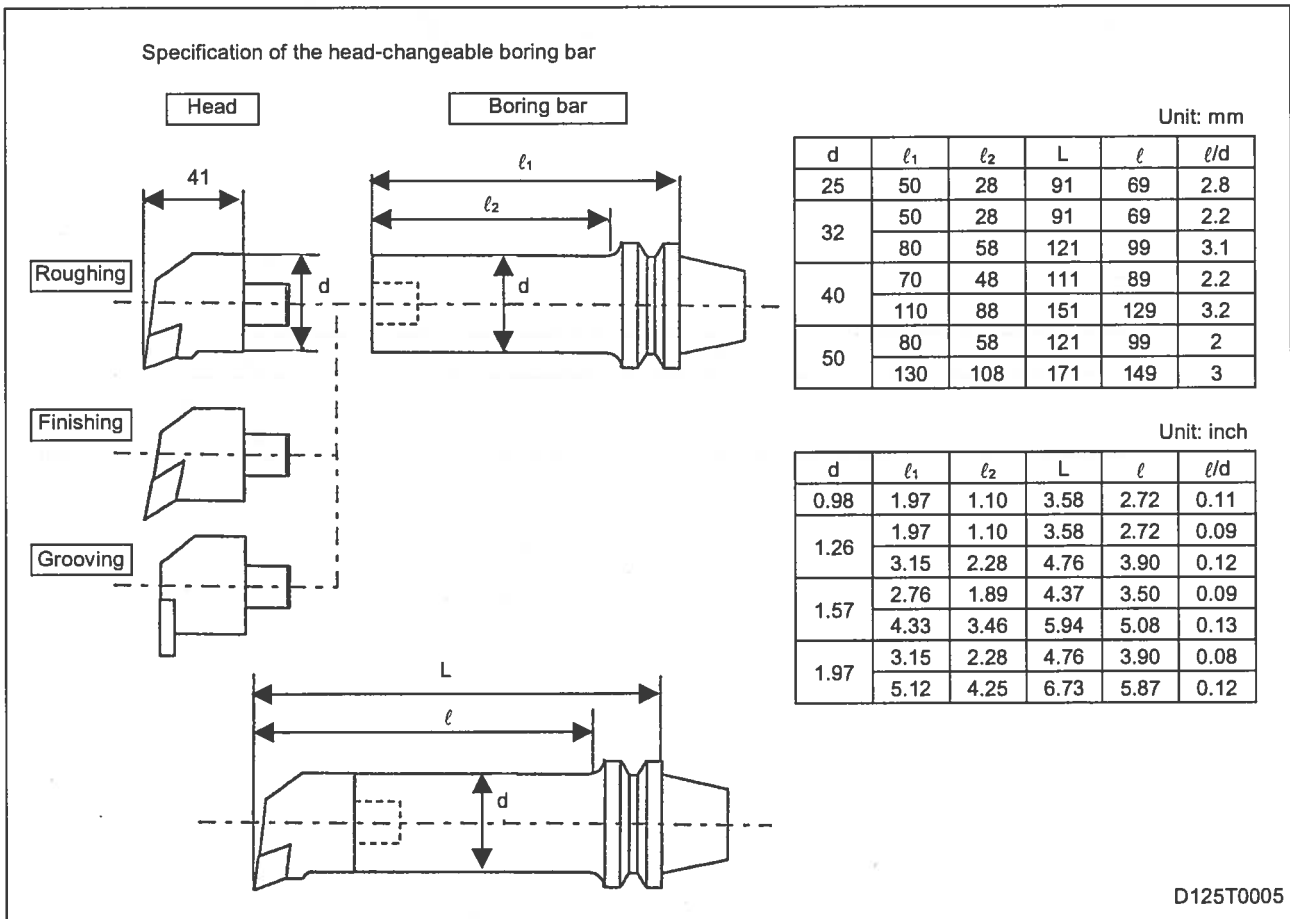
When deep-hole boring at L:D rates of 3 or more or deep-hole grooving expansion is executed using a standard boring bar holder, the machining conditions (such as the type of workpiece, the cutting conditions, and/or the type of tool tip) may cause vibration and not give satisfactory machining results. In such a case, using an optional boring bar holder is recommended.

1. Head-changeable boring bar holder

Features:

- This holder can be used for both roughing and finishing.
- Various types of machining becomes possible by changing the head manufactured by KENNAMETAL.

Note: The head must be purchased from KENNAMETAL. (For details refer to "4. APPENDIX".)

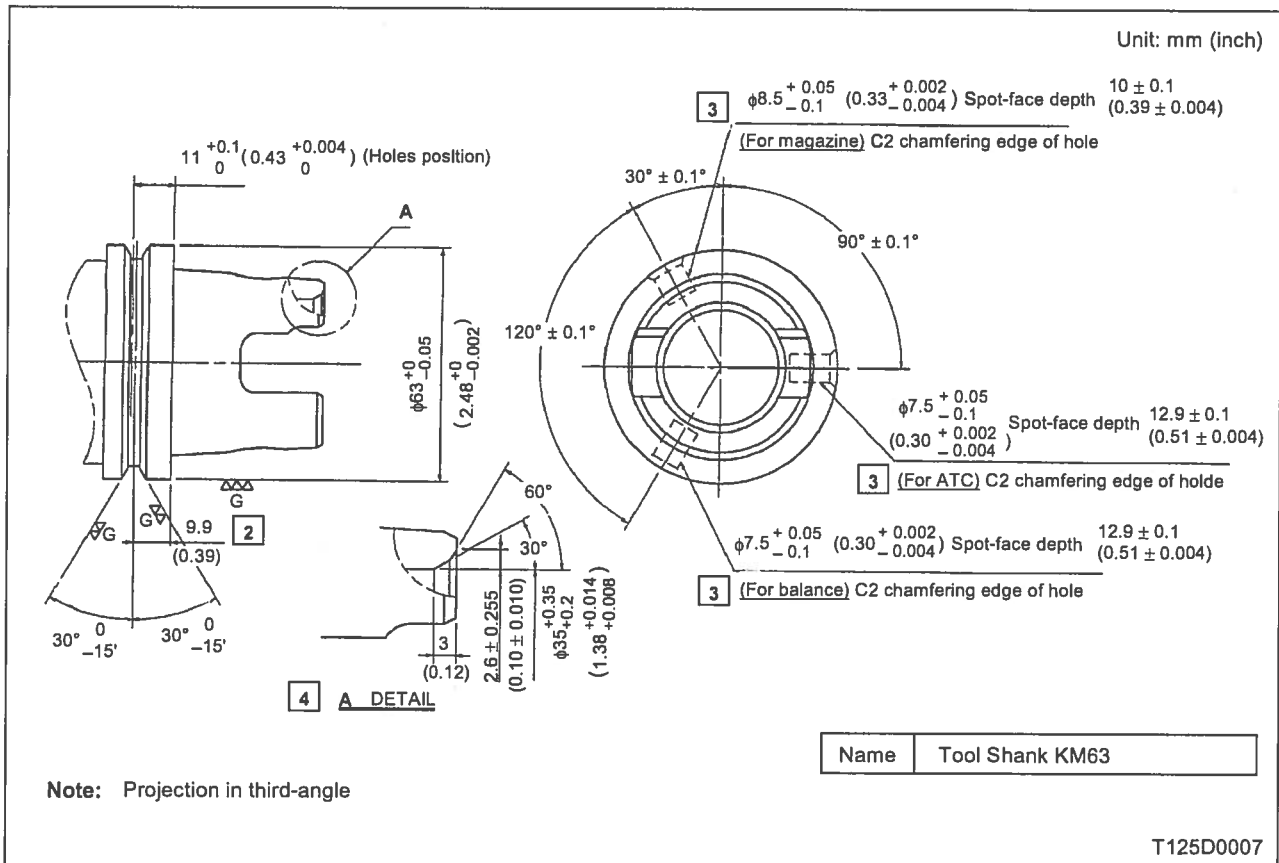


1-3 KM63 Milling Tool

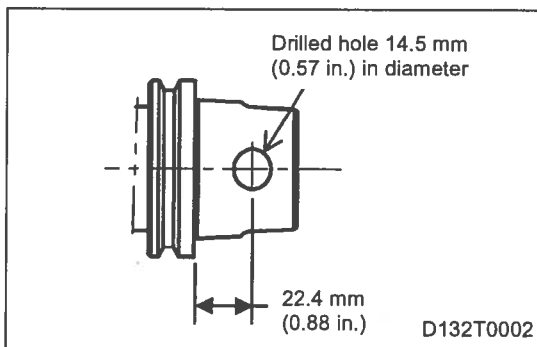
1-3-1 Tool shank (KM63)

KM tools for INTEGRIX 100-III/IIIS/IIIST are different from KM-63 standard in the points below.

- 1: Hardness is HRC 50 ± 2 (all around)
- 2: V-groove for ATC is ground.
- 3: 3-holes are additional for ATC, magazine and balance.
- 4: Chamfering of Part A: length 3, angle 30°



- For the INTEGRIX 100-III/IIIS/IIIST (equipped with 20-tool/40-tool magazine), the 14.5 mm (0.57 in.) -diameter hole in the side of the shank is used for tool clamping with the shifter.

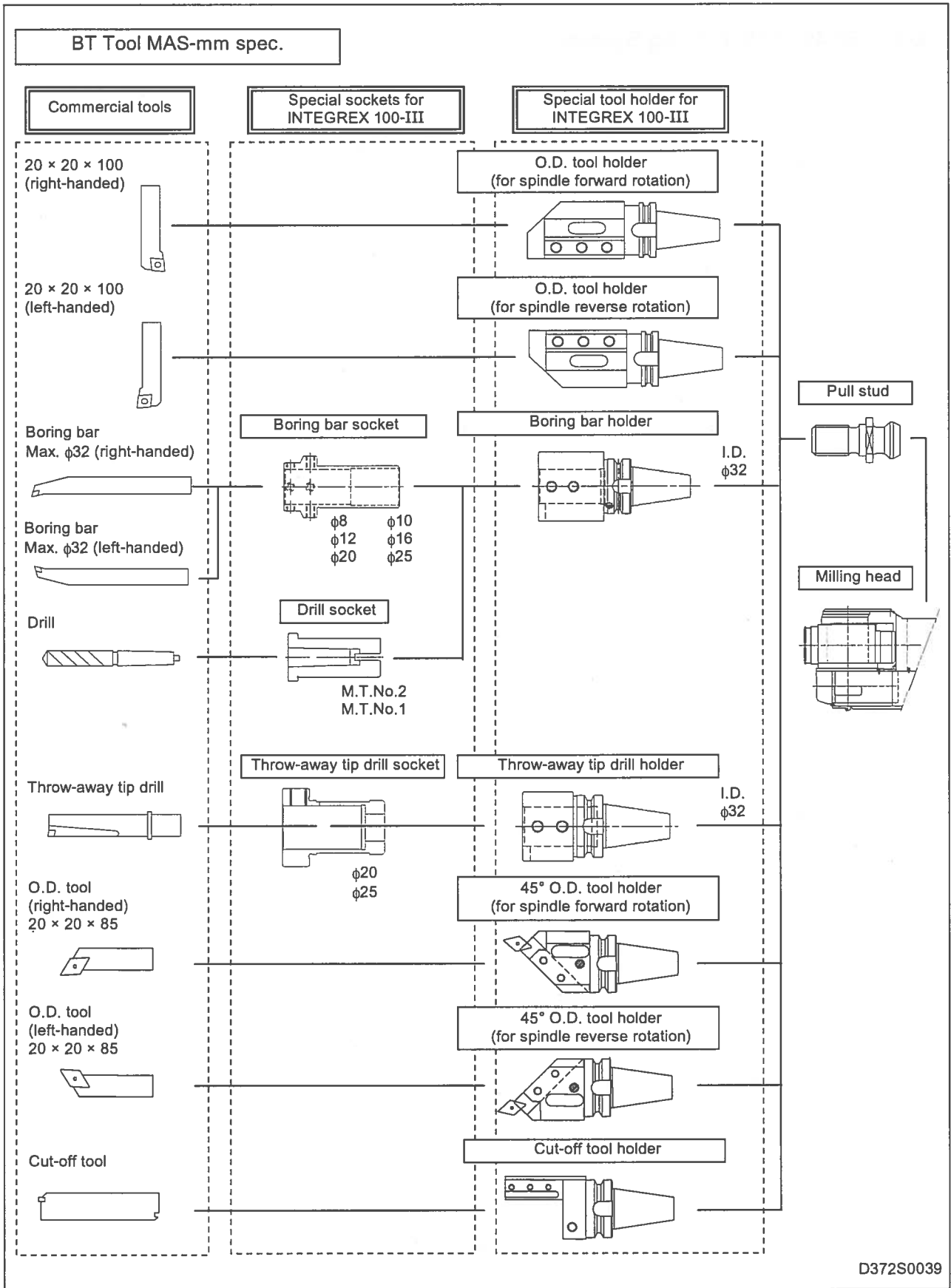


- NOTE -

2 BT40-MAS TOOLING

2-1 BT40-MAS Tooling System

2-1-1 Tooling system diagram (BT40-MAS)



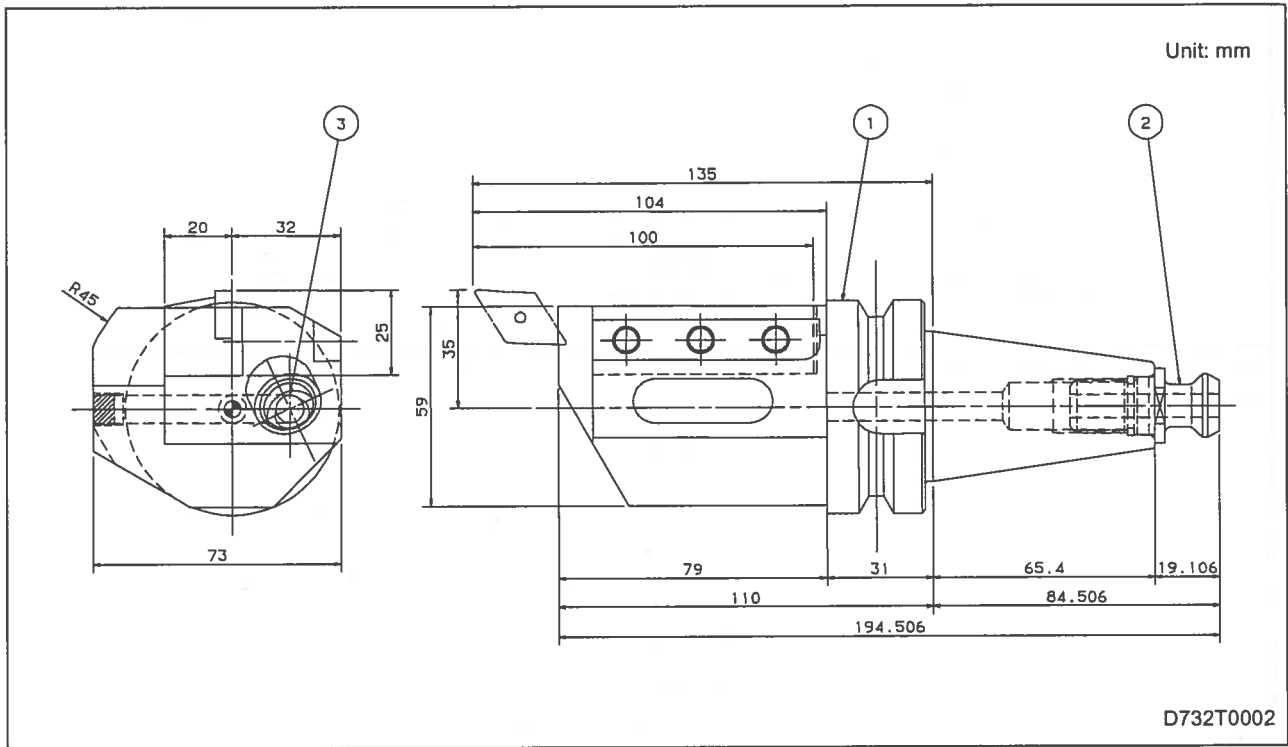
2-1-2 Tooling table (BT40-MAS)

	Item	Unit No. (MAZAK)	Specification	Type	Std. q'ty
Turning tool holder	O.D. tool holder (for spindle forward rotation)	53728005200	20 × 20 × 100		1
	O.D. tool holder (for spindle reverse rotation)	53728005100	20 × 20 × 100		1
	45° O.D. tool holder (for spindle forward rotation)	53728005500	20 × 20 × 85		1
	45° O.D. tool holder (for spindle reverse rotation)	53728005400	20 × 20 × 85		1
	Boring bar holder	53728005300	φ32		3
	Throw-away tip drill holder (Note)	53728005600	φ32		1
	Cut-off tool holder	53728010000	151.2-21-*** (SANDVIK)		-
Turning tool socket	Boring bar socket	51328000801	φ25		1
		51328000701	φ20		1
		53178012301	φ16		1
		53178012401	φ12		1
		53178012501	φ10		1
		53178012601	φ8		1
	Throw-away tip drill socket	53258001800	φ25		1
		53258001700	φ20		1
	Drill socket	51328001001	M. T. No. 2		1
		51328000901	M. T. No. 1		1

Note: The throw-away tip drill holder can be used as a boring bar holder. Such usage can in some cases enhance the stability in inside turning accuracy.

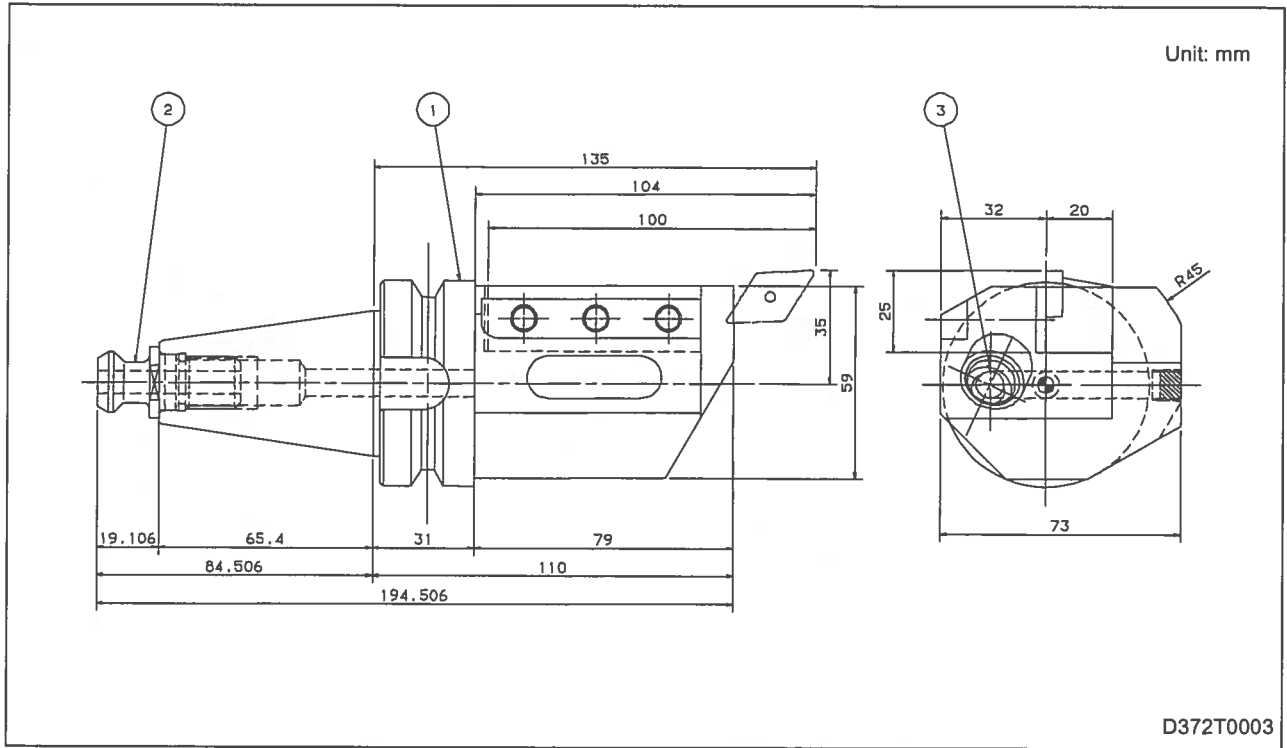
2-2 BT40-MAS Turning Tool

2-2-1 O.D. tool holder (left-handed) (BT40-MAS)



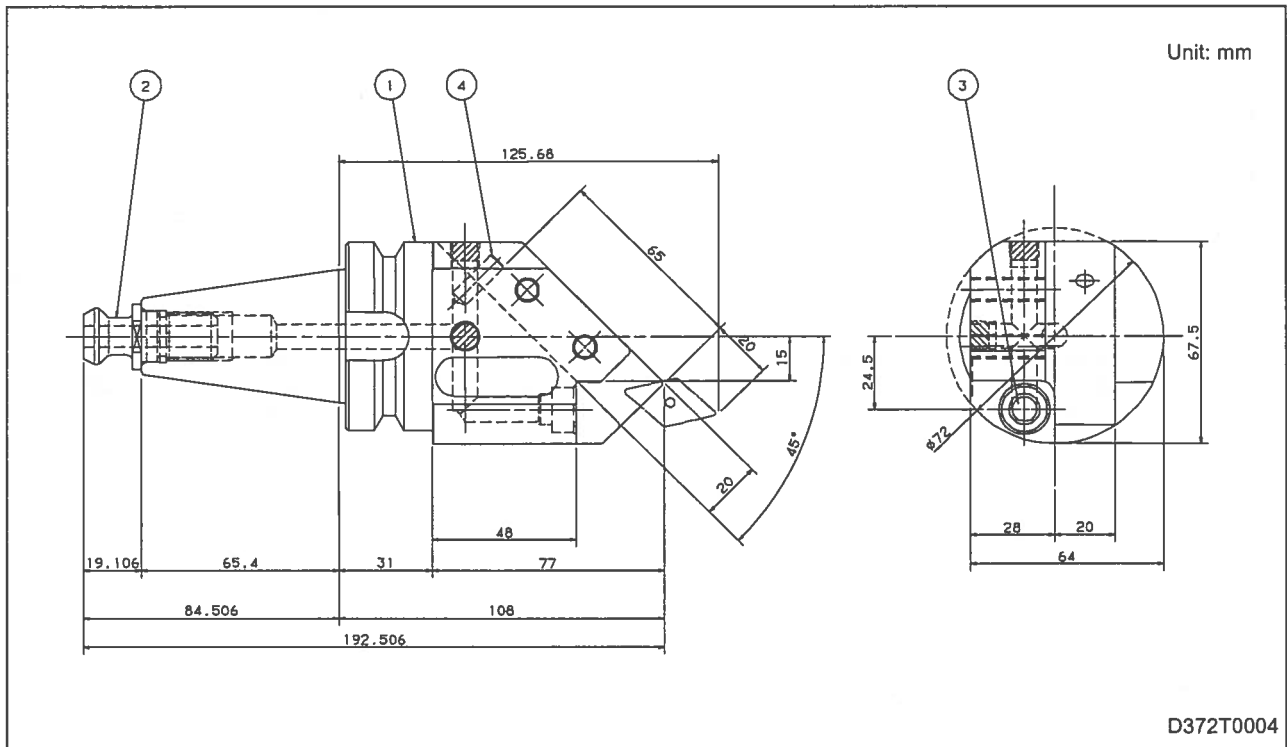
Unit code No.	mm 53728005100	
No.	Parts code No.	Name
1	13728142770	Tool holder
2	34931900680	Pull stud
3	E00PBA6E020	Nozzle

2-2-2 O.D. tool holder (right-handed) (BT40-MAS)



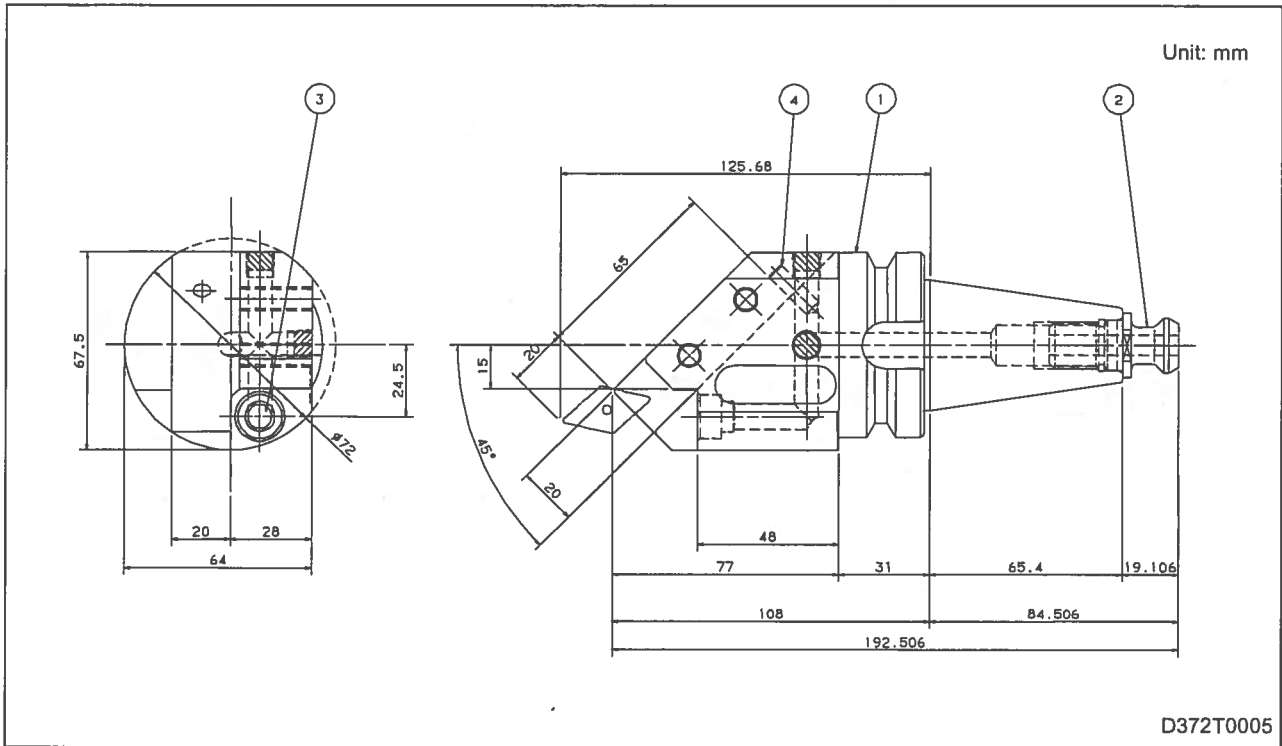
Unit code No.	mm 53728005200	
No.	Parts code No.	Name
1	13728142760	Tool holder
2	34931900680	Pull stud
3	E00PBA6E020	Nozzle

2-2-3 45° O.D. tool holder (right-handed) (BT40-MAS)



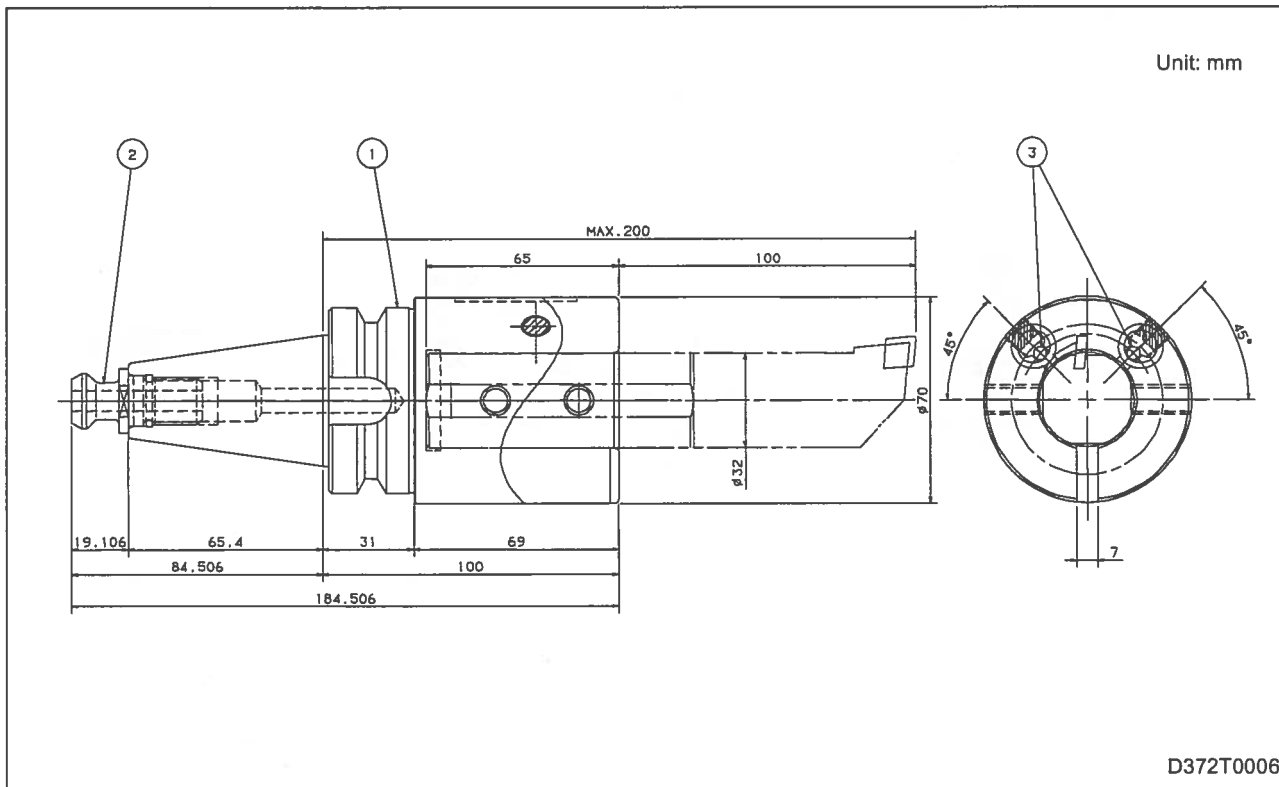
Unit code No.	mm 53728005500	
No.	Parts code No.	Name
1	13728142780	Tool holder
2	34931900680	Pull stud
3	E00PBA6E020	Nozzle
4	A12006X0180	Spring pin

2-2-4 45° O.D. tool holder (left-handed) (BT40-MAS)



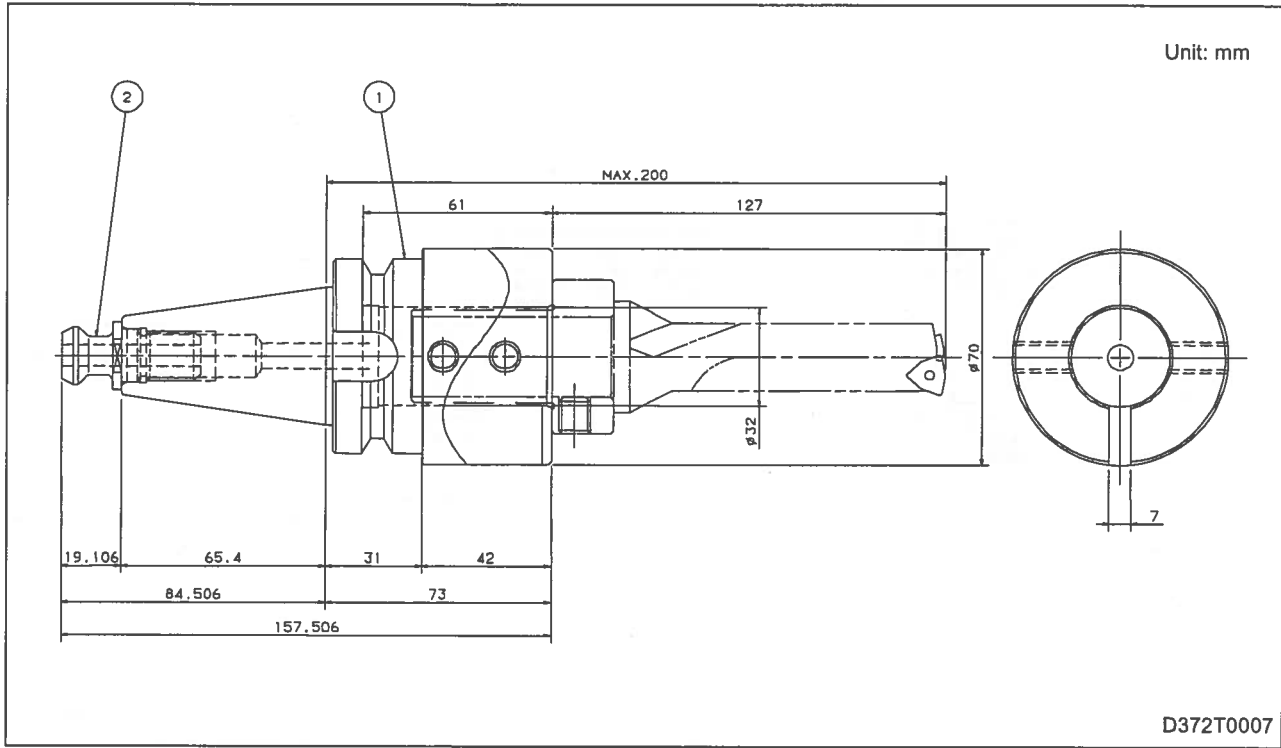
Unit code No.	mm 53728005400	
No.	Parts code No.	Name
1	13728142790	Tool holder
2	34931900680	Pull stud
3	E00PBA6E020	Nozzle
4	A12006X0180	Spring pin

2-2-5 Boring bar holder (BT40-MAS)



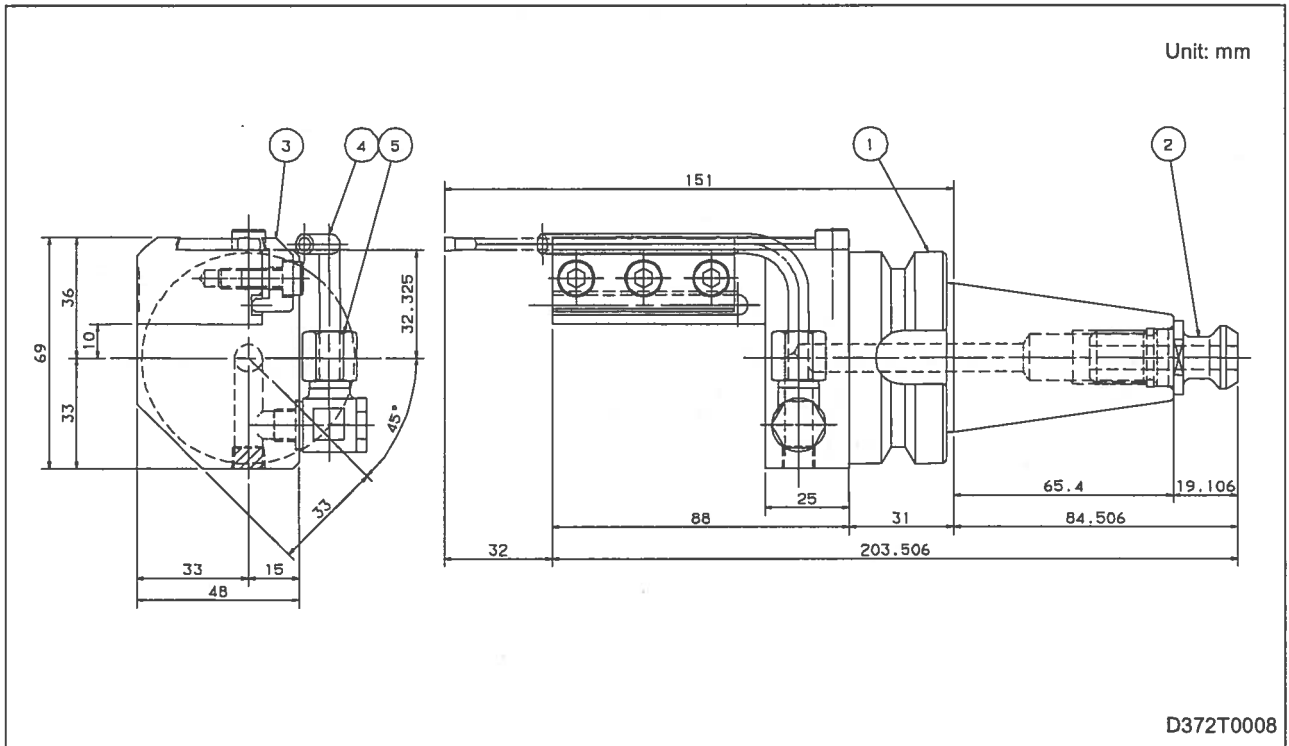
Unit code No.	mm 53728005300	
No.	Parts code No.	Name
1	13728142830	Tool holder
2	34931900680	Pull stud
3	E00PBA6E020	Nozzle

2-2-6 Throw-away tip drill holder (BT40-MAS)



Unit code No.	mm	
	53728005600	
No.	Parts code No.	Name
1	13728142800	Tool holder
2	34931900680	Pull stud

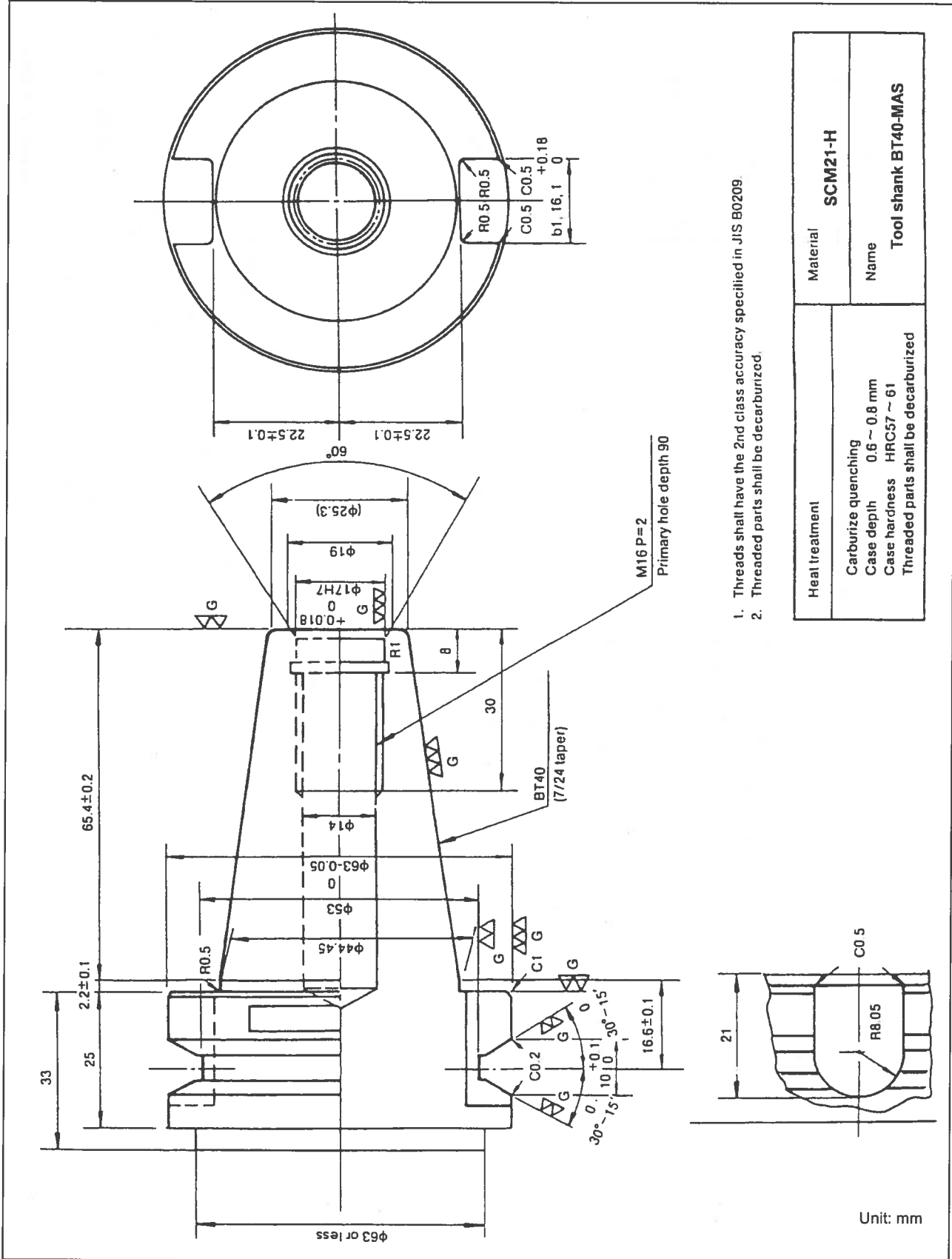
2-2-7 Cut-off tool holder (BT40-MAS) (option)



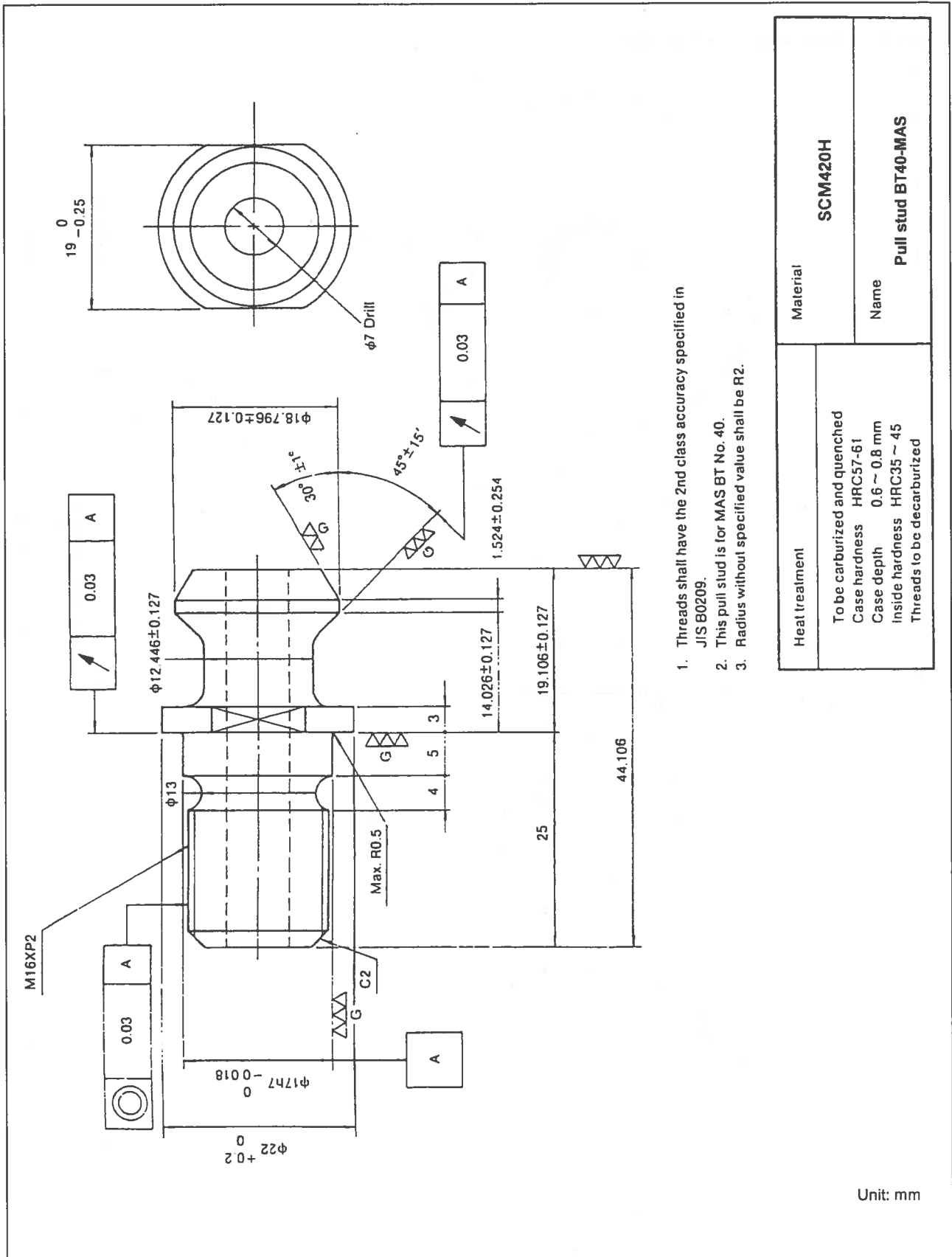
Unit code No.	mm 53728010000	
No.	Parts code No.	Name
1	13728142810	Tool holder
2	34931900680	Pull stud
3	41328136200	Retainer
4	41328136210	Pipe
5	H23NN013100	Pipe connector

2-3 BT40-MAS Milling Tool

2-3-1 Tool shank (BT40-MAS)



2-3-2 Pull stud of ANSI type (34931900680) (BT40-MAS)



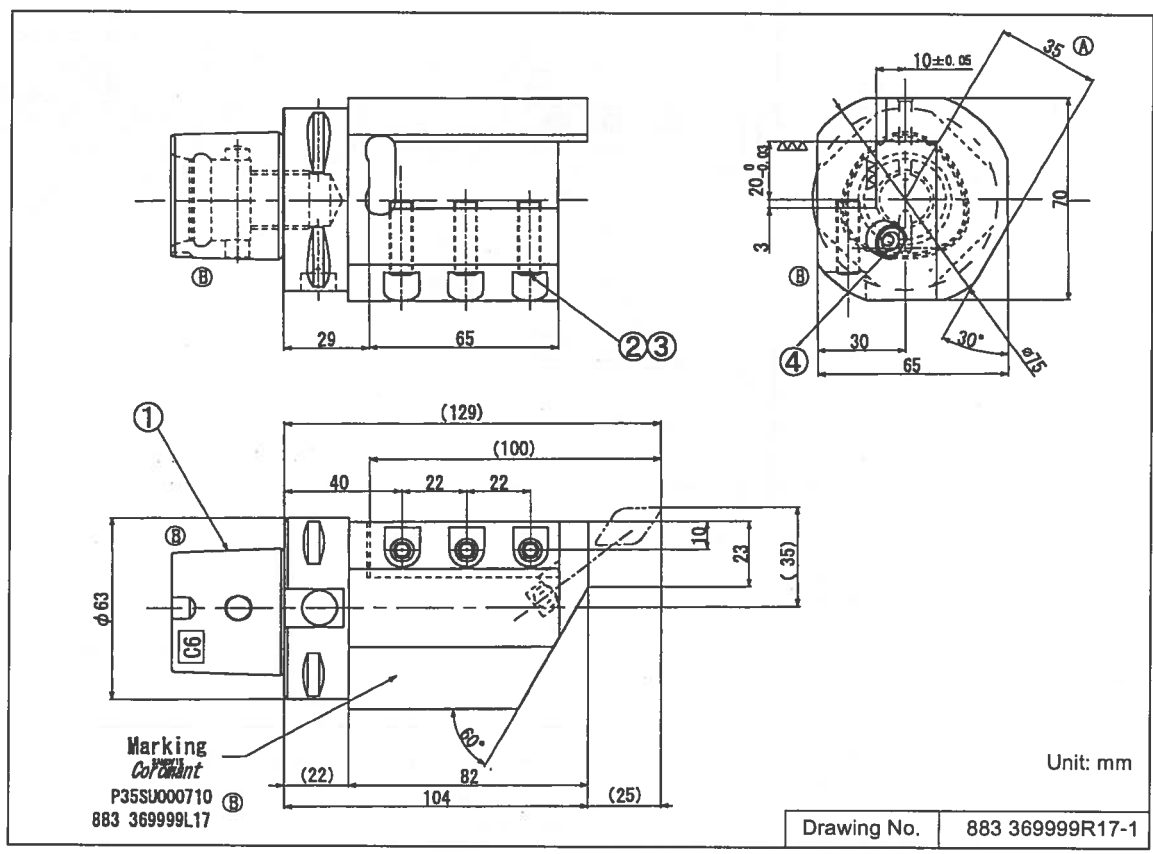
1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. This pull stud is for MAS BT No. 40.
3. Radius without specified value shall be R2.

Unit: mm

3 CAPTO TOOLING

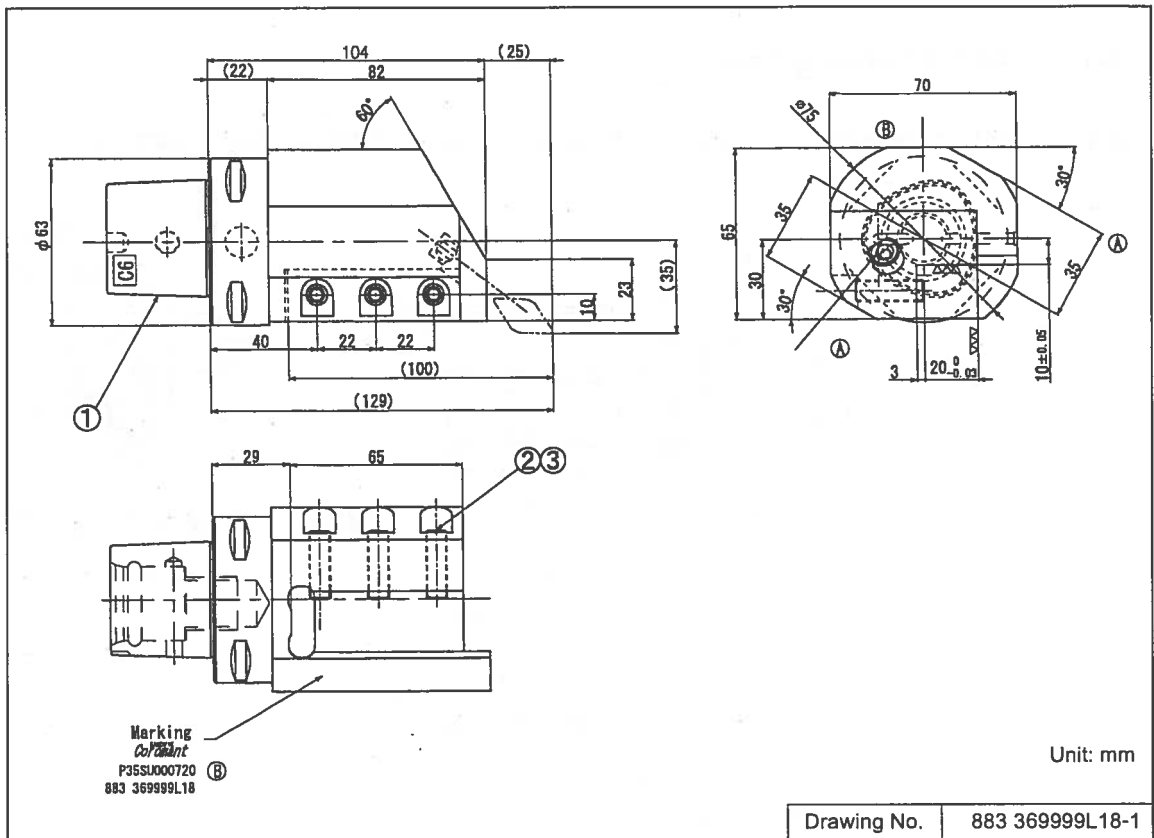
3-1 CAPTO Turning Tool

3-1-1 O.D. tool holder for spindle forward rotation (□20 × 100) (CAPTO)



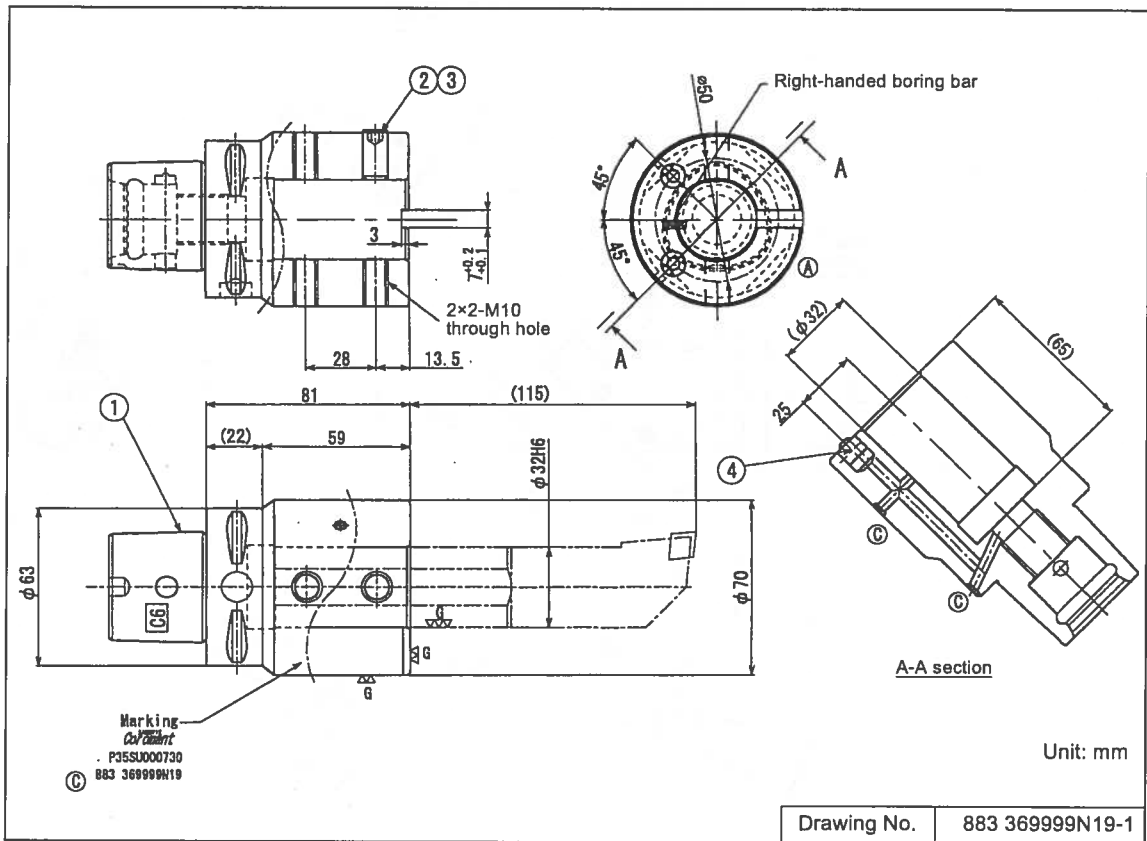
Unit code No. (Parts code No.)	51328020200 (P35SU000710)	
No.	Designation	Type
1	Body	883 369999R17
2	Hexagon socket set screw	M8 × 25
3	Hexagon wrench	B-4
4	Coolant nozzle	5691 029-02

3-1-2 O.D. tool holder for spindle reverse rotation (□20 × 100) (CAPTO)



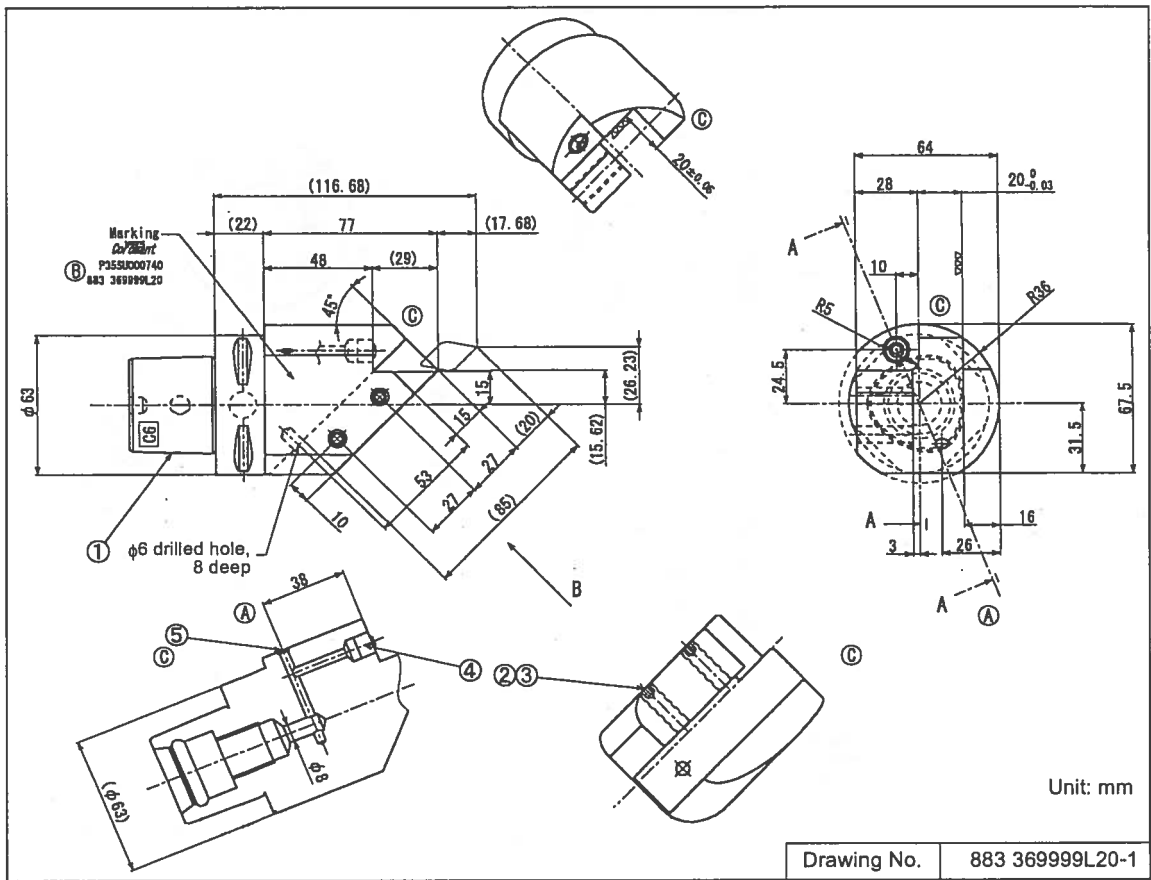
Unit code No. (Parts code No.)	51328020100 (P35SU000720)	
No.	Designation	Type
1	Body	883 369999L18
2	Hexagon socket set screw	M8 × 25
3	Hexagon wrench	B-4
4	Coolant nozzle	5691 029-02

3-1-3 Boring bar holder ($\phi 32 \times 180$) (CAPTO)



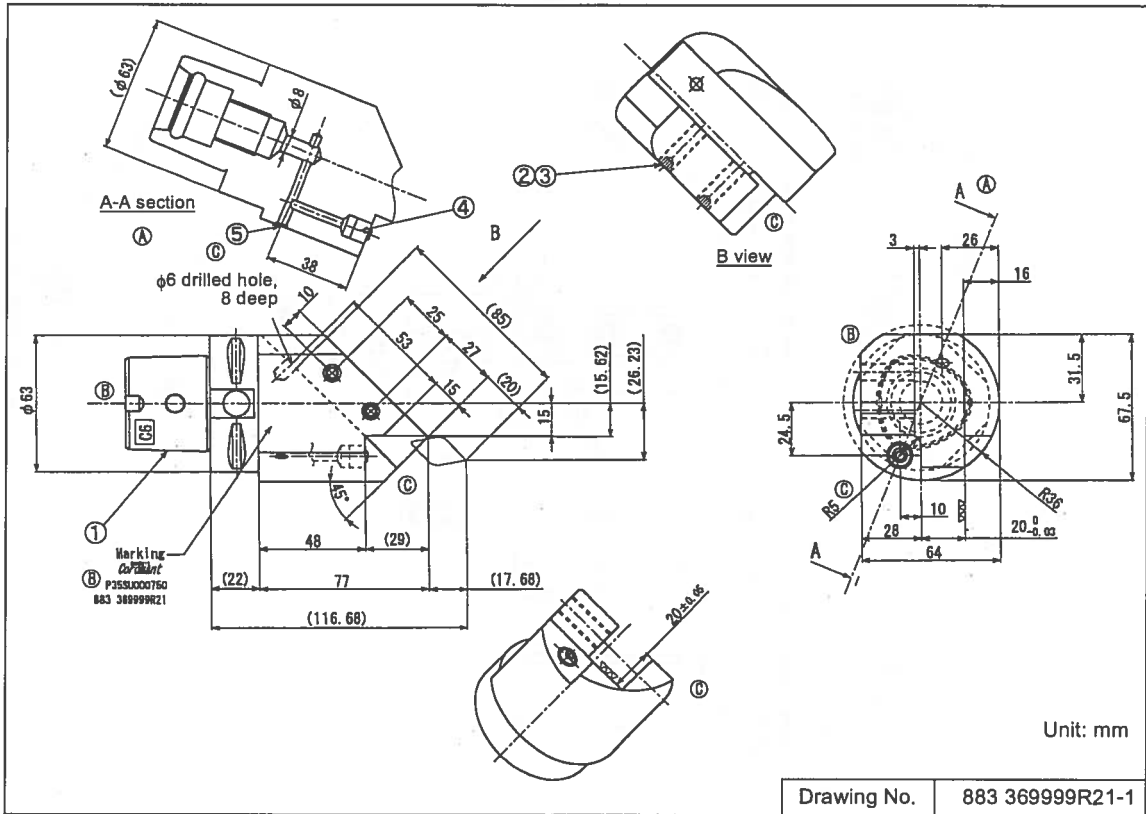
Unit code No. (Parts code No.)	51328020300 (P35SU000730)	
No.	Designation	Type
1	Body	883 369999N19
2	Hexagon socket set screw	M10 × 20
3	Hexagon wrench	B-5
4	Coolant nozzle	5691-029-02
5	Hexagon socket set screw	M4 × 5
6	Detent plug	5643 020-06

3-1-4 45° O.D. tool holder for spindle reverse rotation (□20 × 85) (CAPTO)



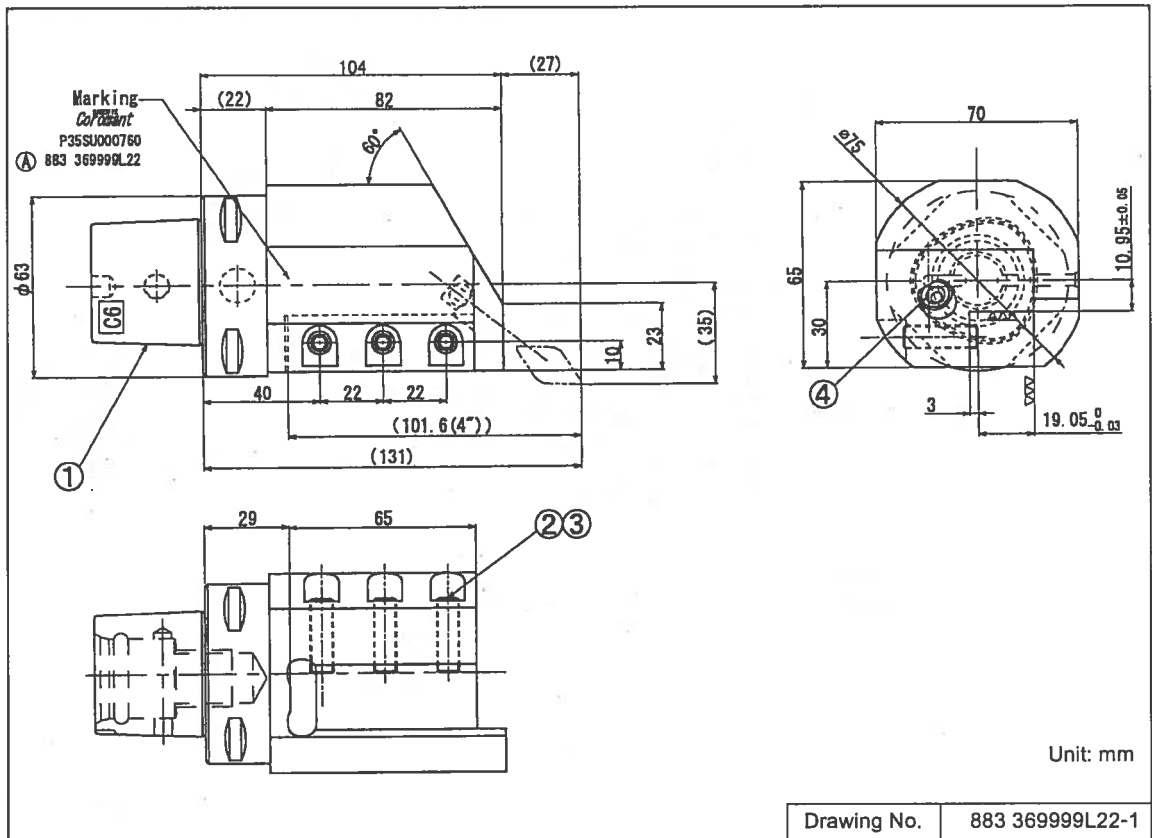
No.	Designation	Type
1	Body	883 369999L20
2	Hexagon socket set screw	M10 × 25
3	Hexagon wrench	B-4
4	Coolant nozzle	5691-029-02
5	Detent plug	5643 020-06

3-1-5 45° O.D. tool holder for spindle forward rotation (□20 × 85) (CAPTO)

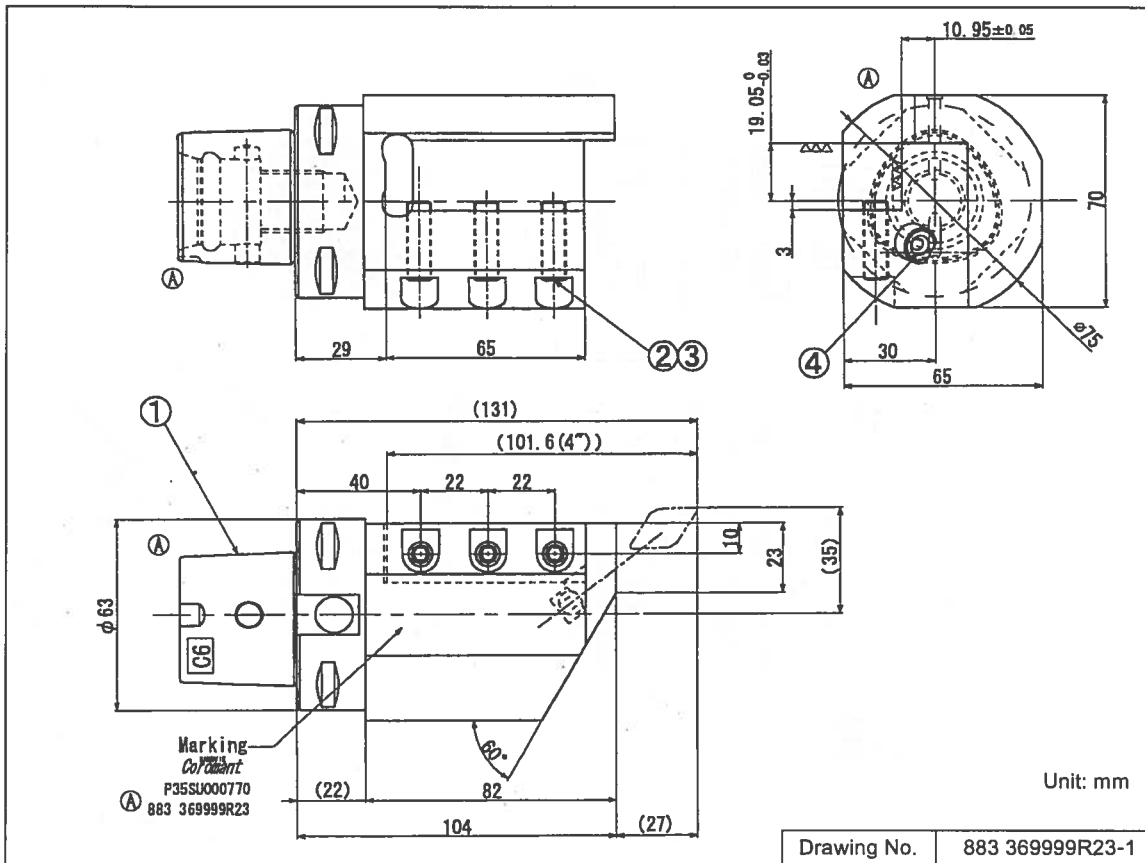


Unit code No. (Parts code No.)	51328020500 (P35SU000750)	
No.	Designation	Type
1	Body	883 369999R21
2	Hexagon socket set screw	M10 × 25
3	Hexagon wrench	B-4
4	Coolant nozzle	5691-029-02
5	Detent plug	5643 020-06

3-1-6 O.D. tool holder for spindle reverse rotation (□3/4" × 4") (CAPTO)

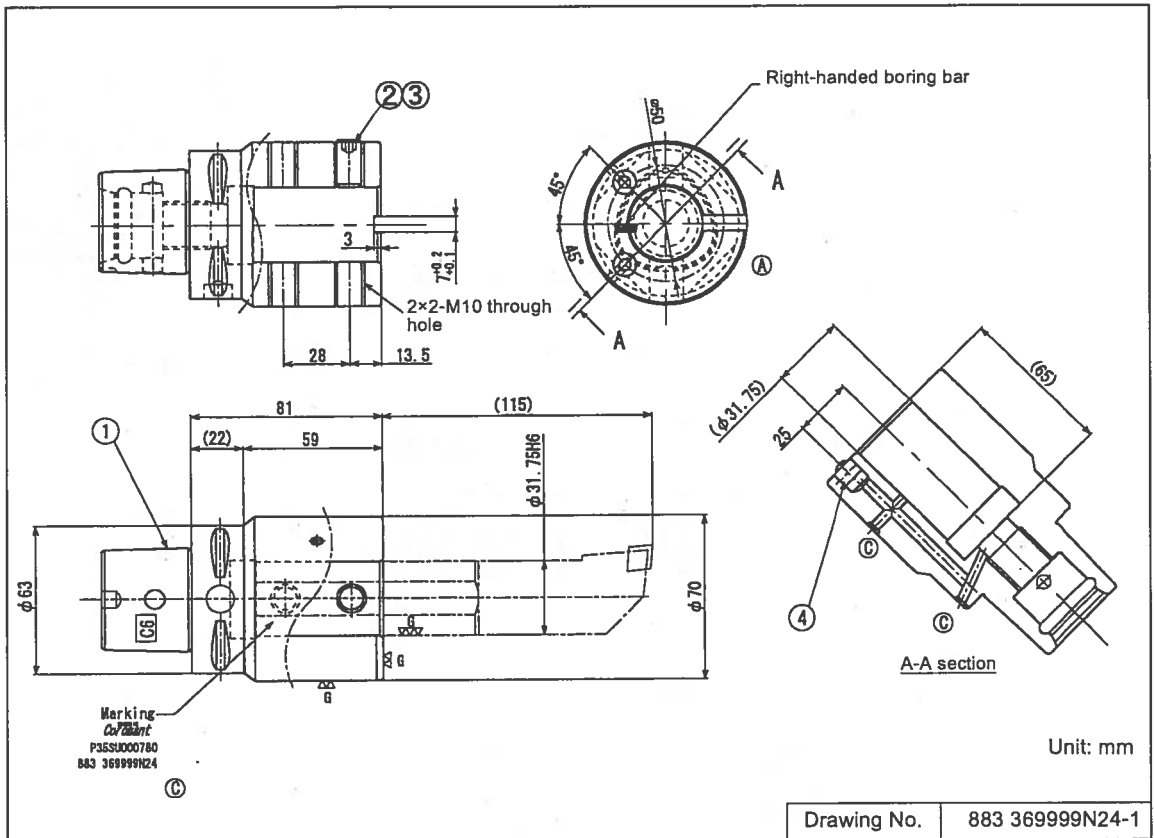


Unit code No. (Parts code No.)	51328021100 (P35SU000760)	
No.	Designation	Type
1	Body	883 369999L22
2	Hexagon socket set screw	M8 × 25
3	Hexagon wrench	B-4
4	Coolant nozzle	5691 029-02

3-1-7 O.D. tool holder for spindle forward rotation ($\square 3/4" \times 4"$) (CAPTO)

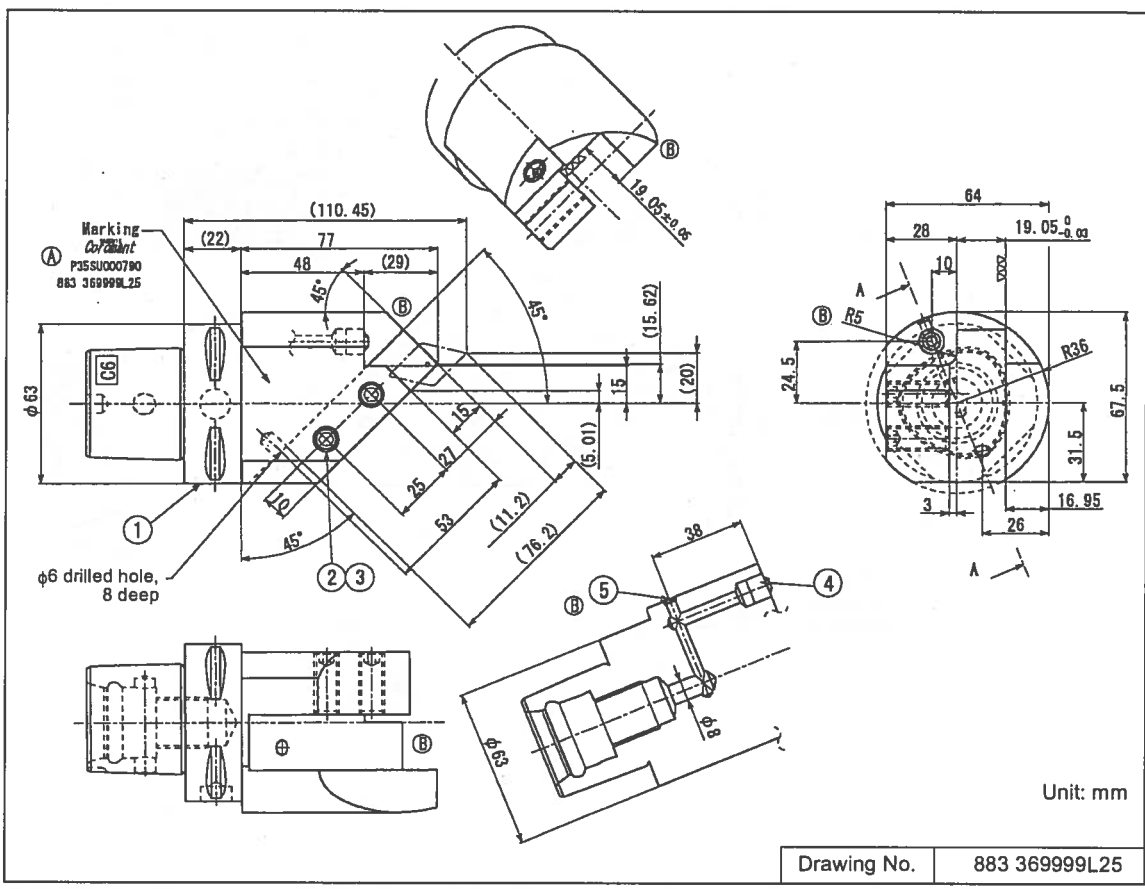
Unit code No. (Parts code No.)	51328021200 (P35SU000770)	
No.	Designation	Type
1	Body	883 369999R23
2	Hexagon socket set screw	M8 × 25
3	Hexagon wrench	B-4
4	Coolant nozzle	5691 029-02

3-1-8 Boring bar holder ($\phi 1\frac{1}{4}$ ") (CAPTO)



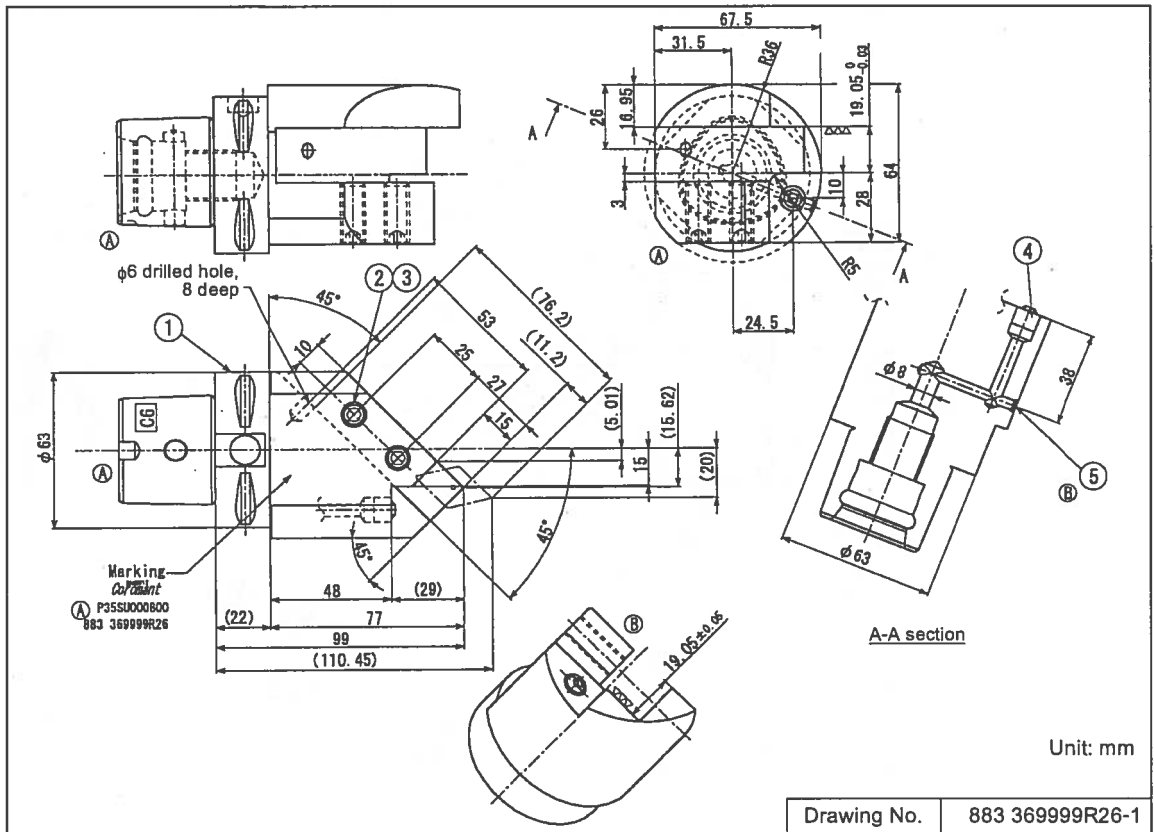
Unit code No. (Parts code No.)	51328021300 (P35SU000780)	
No.	Designation	Type
1	Body	883 369999N24
2	Hexagon socket set screw	M10 x 20
3	Hexagon wrench	B-5
4	Coolant nozzle	5691-029-02
5	Hexagon socket set screw	M4 x 5
6	Detent plug	5643 020-06

3-1-9 45° O.D. tool holder for spindle reverse rotation (□3/4" × 3") (CAPTO)



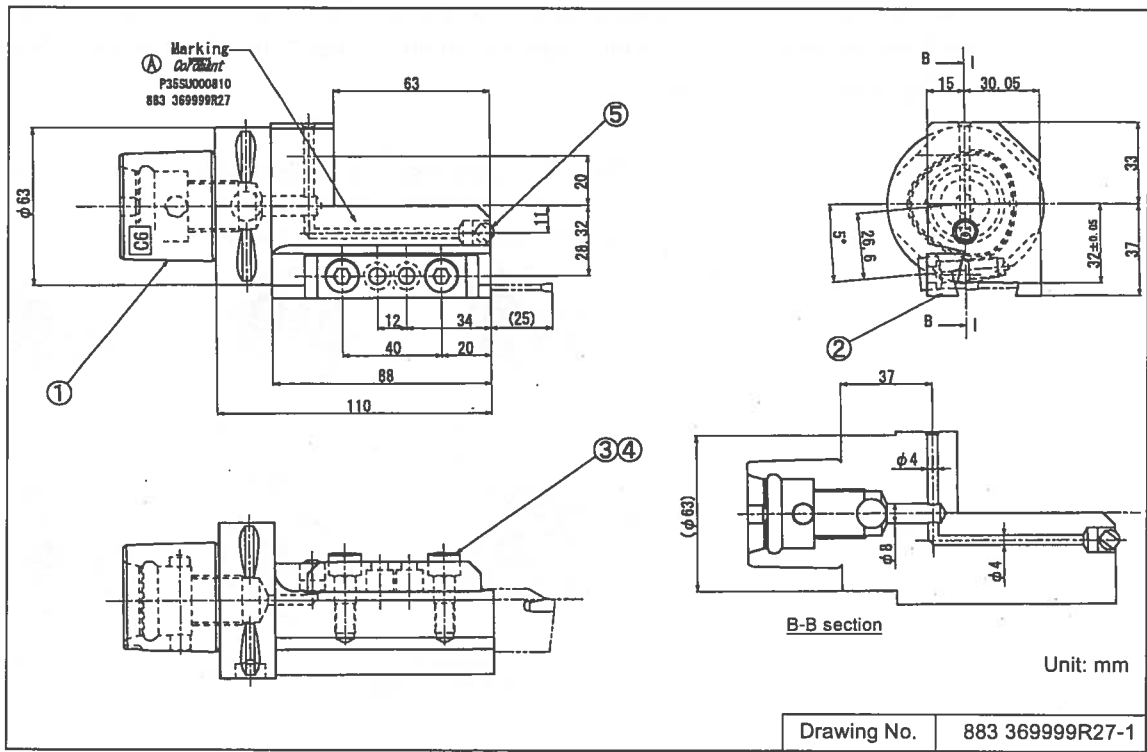
Unit code No. (Parts code No.)	51328021400 (P35SU000790)	
No.	Designation	Type
1	Body	883 369999L25
2	Hexagon socket set screw	M10 × 25
3	Hexagon wrench	B-5
4	Coolant nozzle	5691-029-02
5	Detent plug	5643 020-06

3-1-10 45° O.D. tool holder for spindle forward rotation (□3/4" × 3") (CAPTO)



No.	Designation	Type
1	Body	883 369999R26
2	Hexagon socket set screw	M10 × 25
3	Hexagon wrench	B-5
4	Coolant nozzle	5691-029-02
5	Detent plug	5643 020-06

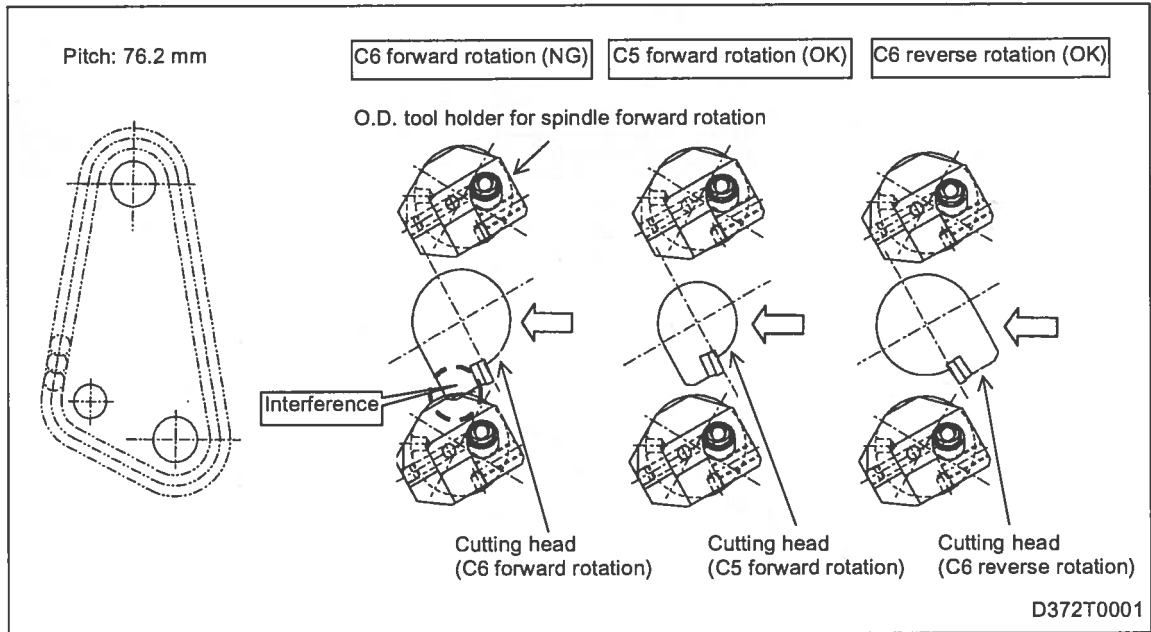
3-1-11 Cut-off tool holder (CAPTO)



Unit code No. (Parts code No.)	51328021600 (P35SU000810)	
No.	Designation	Type
1	Body	883 369999R27
2	Clamp	5412 120-01
3	Hexagon socket set screw	3212 010-410
4	Hexagon wrench	3021 010-060
5	Coolant nozzle	5691 029-02

3-1-12 Restrictions on 40-tool magazine specifications (CAPTO)

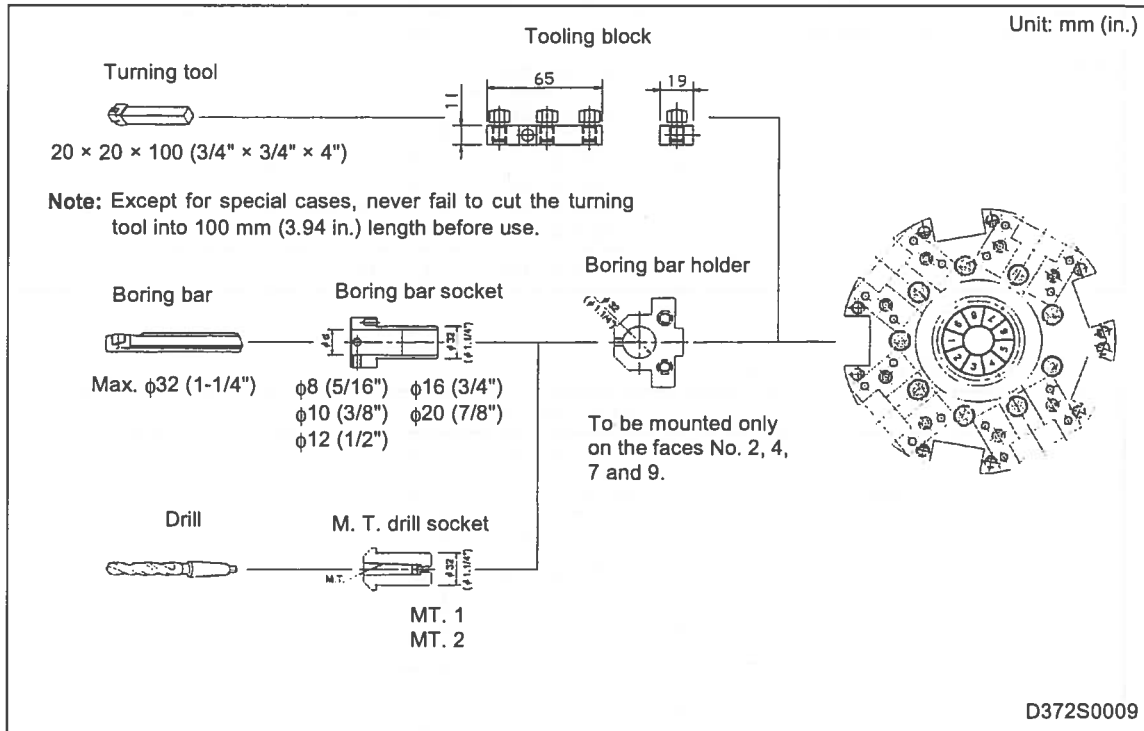
The C6 cutting head for forward rotation of the CAPTO may interfere with the adjacent tools in the lower position of the 40-tool magazine. In such a case, use the reduction holder and the C5 cutting head in combination.



4 LOWER TURRET TOOLING

4-1 Lower Turret Tooling System

4-1-1 Tooling system diagram (lower turret)



4-1-2 Tooling table (lower turret)

Tooling table for metric system

Item		Unit No. (MAZAK)	Specification	Type	Std. q'ty
Turning tool	Boring bar holder	53728000101	φ25		3
	Tooling block	53728003100	φ20		4
Turning tool socket	Boring bar socket	53728001400	φ20		1
		53728001300	φ16		1
		53728001200	φ12		1
		53728001100	φ10		1
		53728001000	φ8		1
	Drill socket	51478001200	M. T. No. 1		1
		51478001100	M. T. No. 2		1

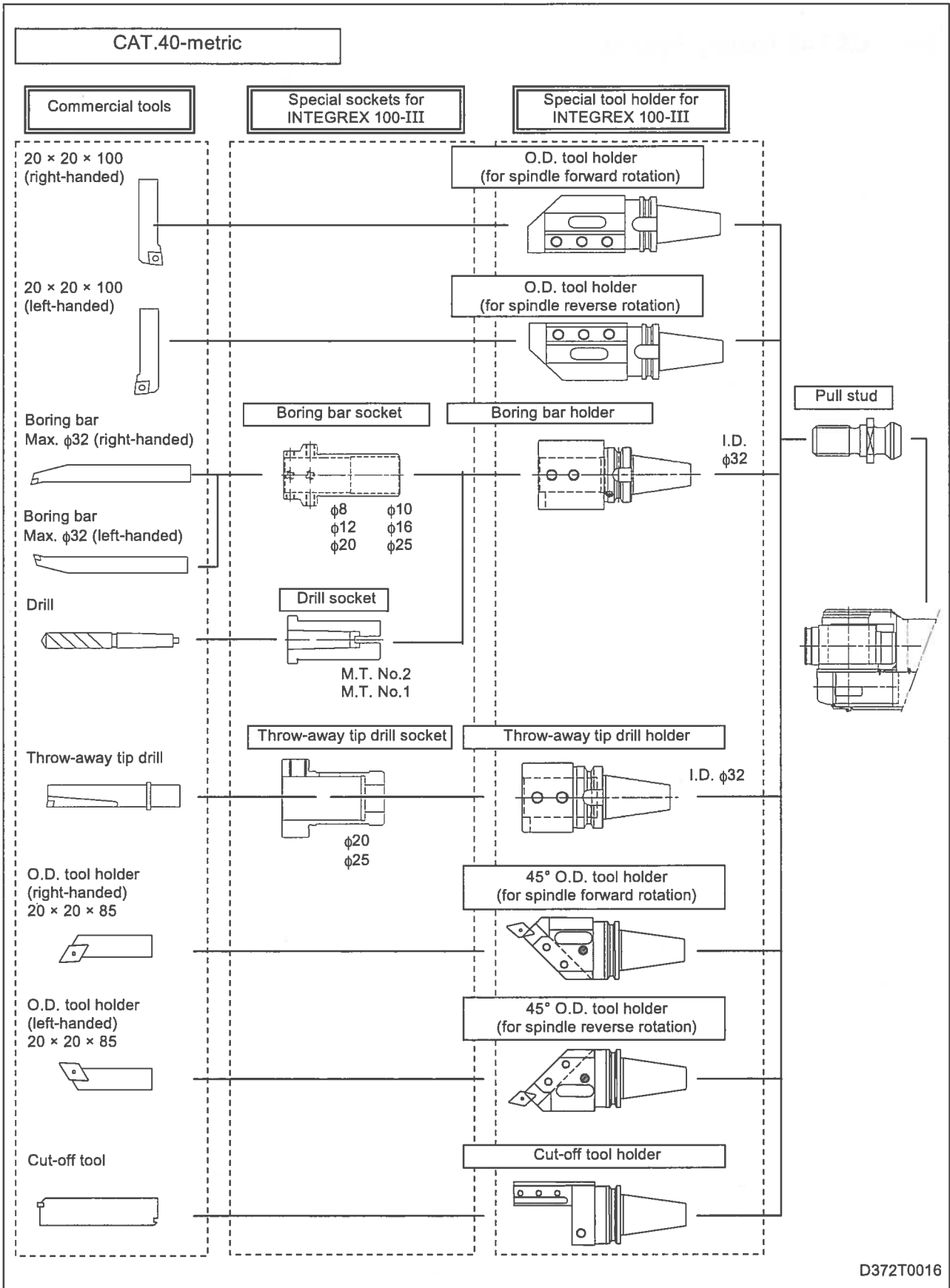
Tooling table for inch system

Item		Unit No. (MAZAK)	Specification	Type	Std. q'ty
Turning tool	Boring bar holder	53728050100	φ1-1/2"		3
	Tooling block	53728003100	φ3/4"		4
Turning tool socket	Boring bar socket	53728051400	φ3/4"		1
		53728051300	φ5/8"		1
		53728051200	φ1/2"		1
		53728051100	φ3/8"		1
		53728051000	φ5/16"		1
	Drill socket	51478002700	M. T. No. 1		1
		51478002600	M. T. No. 2		1

5 CAT.40 TOOLING

5-1 CAT.40 Tooling System

5-1-1 Tooling system diagram for metric system (CAT.40)



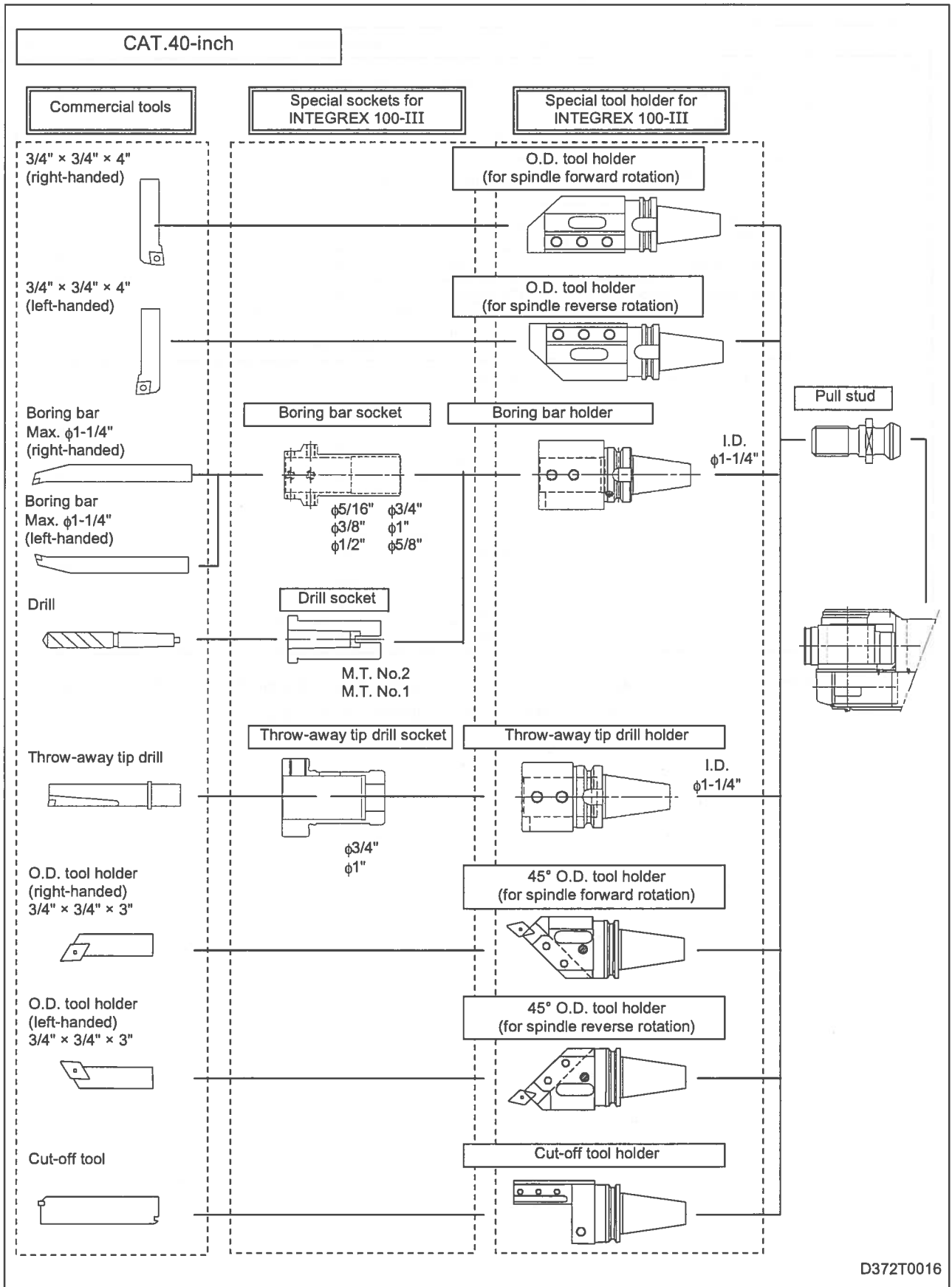
D372T0016

5-1-2 Tooling table for metric system (CAT.40)

	Item	Unit No. (MAZAK)	Specification	Type	Std. q'ty
Turning tool holder	O.D. tool holder (for spindle forward rotation)	53728015200	20 × 20 × 100		1
	O.D. tool holder (for spindle reverse rotation)	53728015100	20 × 20 × 100		1
	45° O.D. tool holder (for spindle forward rotation)	53728015500	20 × 20 × 85		1
	45° O.D. tool holder (for spindle reverse rotation)	53728015400	20 × 20 × 85		1
	Boring bar holder	53728015300	φ32		3
	Throw-away tip drill holder (Note)	53728015600	φ32		1
	Cut-off tool holder	53728010100	151.2-21-*** (SANDVIK)		-
Turning tool socket	Boring bar socket	51328000801	φ25		1
		51328000701	φ20		1
		53178012301	φ16		1
		53178012401	φ12		1
		53178012501	φ10		1
		53178012601	φ8		1
	Throw-away tip drill socket	53258001800	φ25		1
		53258001700	φ20		1
	Drill socket	51328001001	M. T. No. 2		1
		51328000901	M. T. No. 1		1

Note: The throw-away tip drill holder can be used as a boring bar holder. Such usage can in some cases enhance the stability in inside turning accuracy.

5-1-3 Tooling system diagram for inch system (CAT.40)



D372T0016

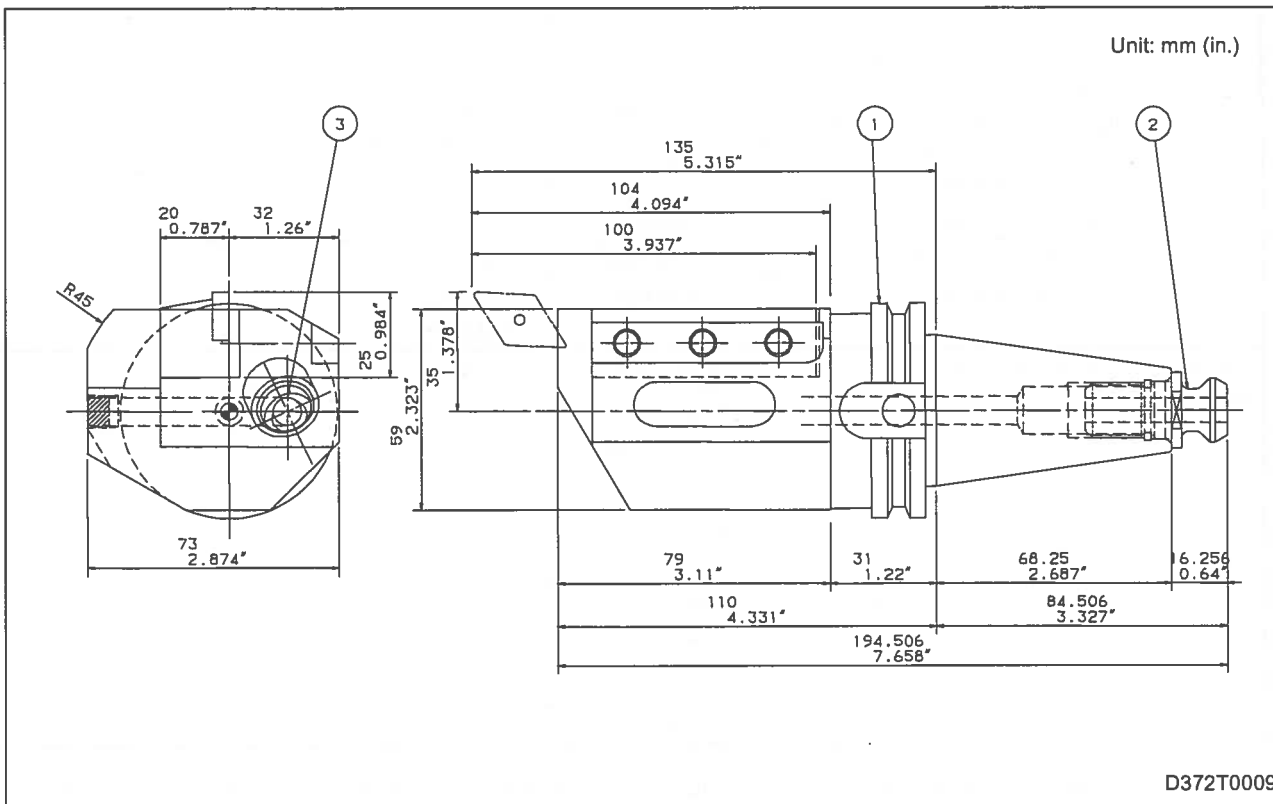
5-1-4 Tooling table for inch system (CAT.40)

Item	Unit No. (MAZAK)	Specification	Type	Std. q'ty
Turning tool holder	O.D. tool holder (for spindle forward rotation)	53728025200	3/4" × 3/4" × 4"	1
	O.D. tool holder (for spindle reverse rotation)	53728025100	3/4" × 3/4" × 4"	1
	45° O.D. tool holder (for spindle forward rotation)	53728025500	3/4" × 3/4" × 3"	1
	45° O.D. tool holder (for spindle reverse rotation)	53728025400	3/4" × 3/4" × 3"	1
	Boring bar holder	53728025300	1-1/4"	3
	Throw-away tip drill holder (Note)	53728025600	φ1.26	1
	Cut-off tool holder	53728010200	151.2-21-** (SANDVIK)	-
Turning tool socket	Boring bar socket	51328001700	1"	1
		51328001600	3/4"	1
		53178013301	5/8"	1
		53178013401	1/2"	1
		53178013501	3/8"	1
		53178013601	5/16"	1
	Throw-away tip drill socket	53258001800	φ25	1
		53258001700	φ20	1
	Drill socket	51328001900	M. T. No. 2	1
		51328001800	M. T. No. 1	1

Note: The throw-away tip drill holder can be used as a boring bar holder. Such usage can in some cases enhance the stability in inside turning accuracy.

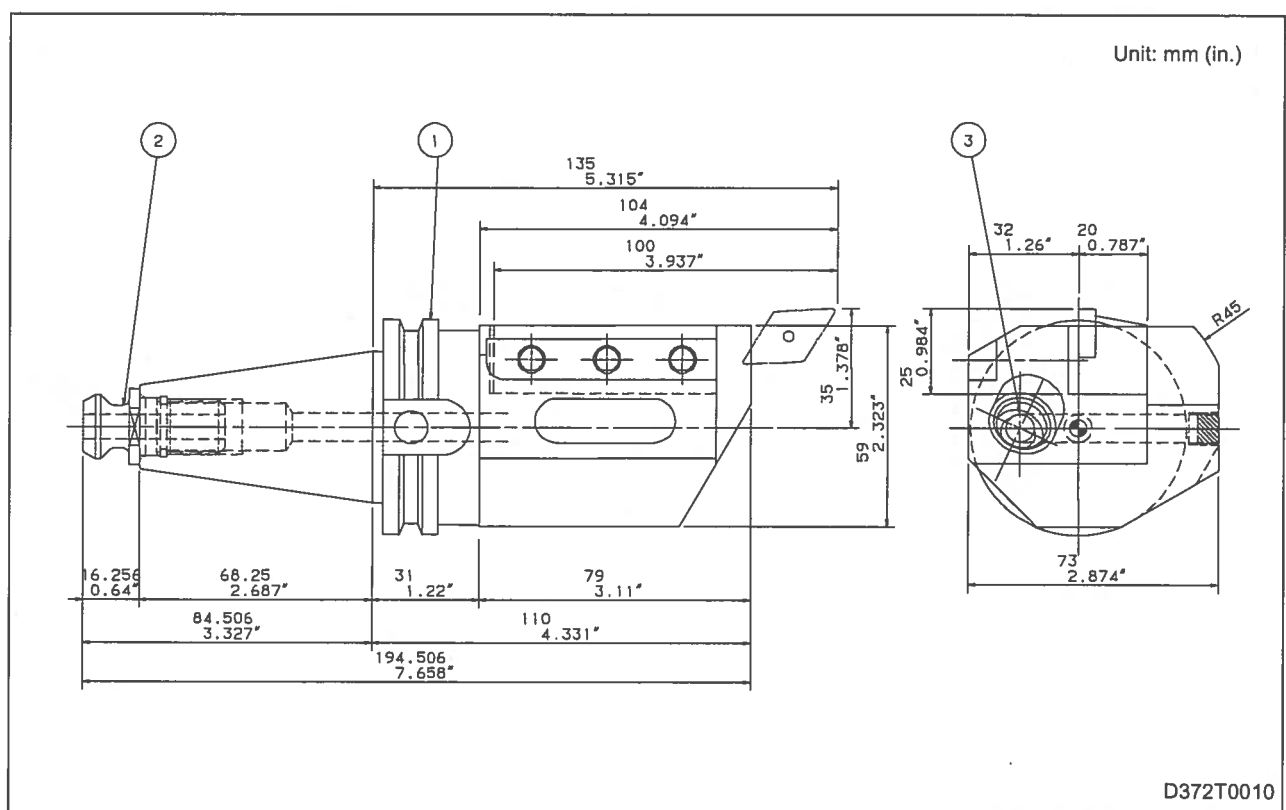
5-2 CAT.40 Turning Tool

5-2-1 O.D. tool holder (left-handed) (CAT.40)



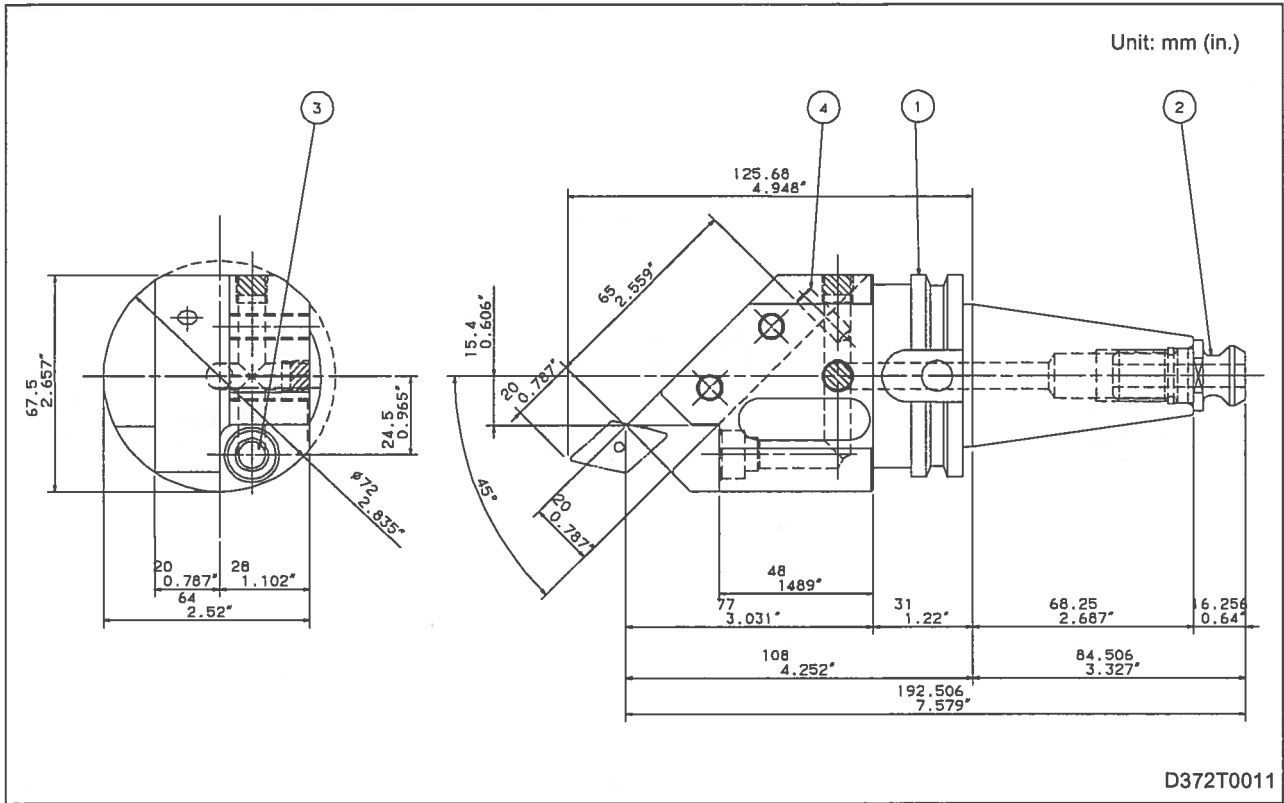
Unit code No.	mm (inch) 53728015100 (53728025100)	
No.	Parts code No.	Name
1	13728145110 (13728145180)	Tool holder
2	34931900660 (34931900670)	Pull stud
3	E00PBA6E020	Nozzle

5-2-2 O.D. tool holder (right-handed) (CAT.40)



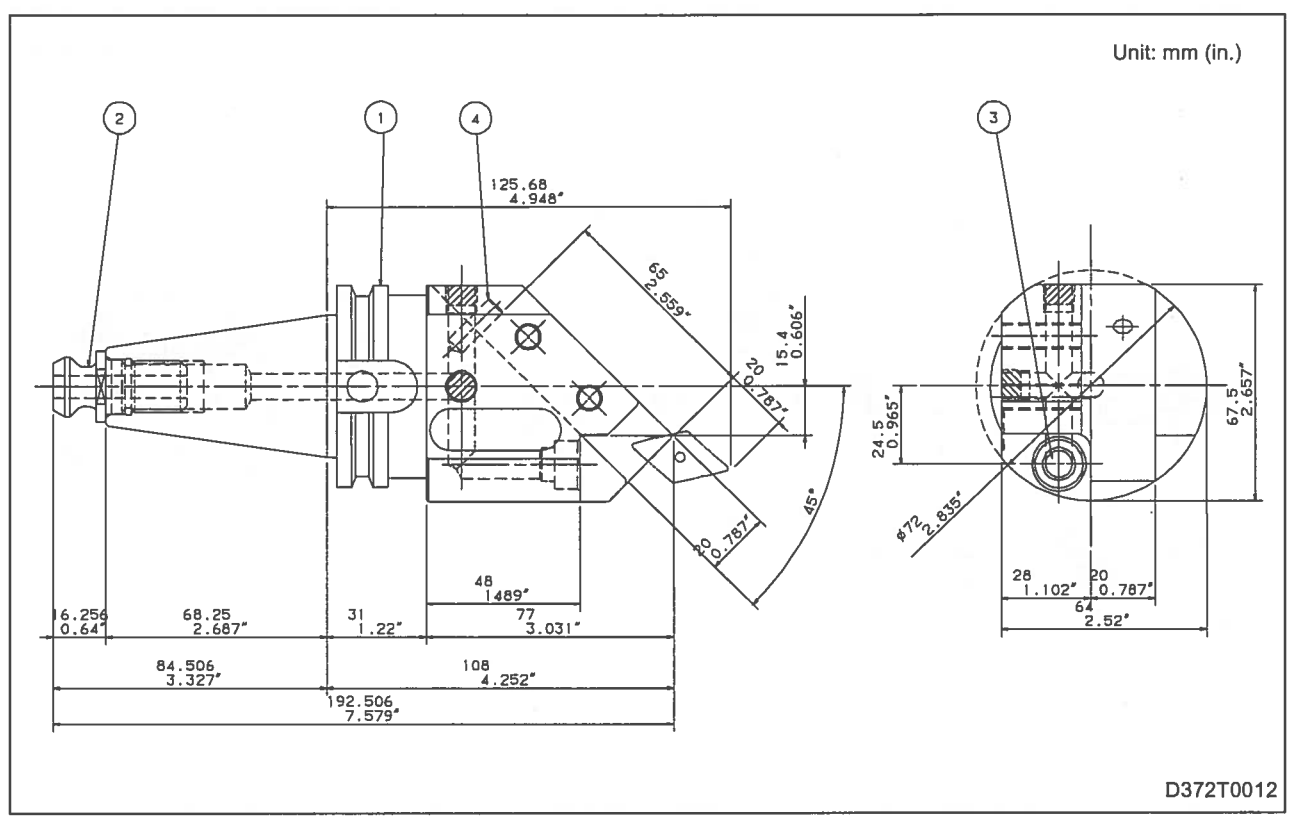
Unit code No.	mm (inch) 53728015200 (53728025200)	
No.	Parts code No.	Name
1	13728145100 (13728145170)	Tool holder
2	34931900660 (34931900670)	Pull stud
3	E00PBA6E020	Nozzle

5-2-3 45° O.D. tool holder (left-handed) (CAT.40)



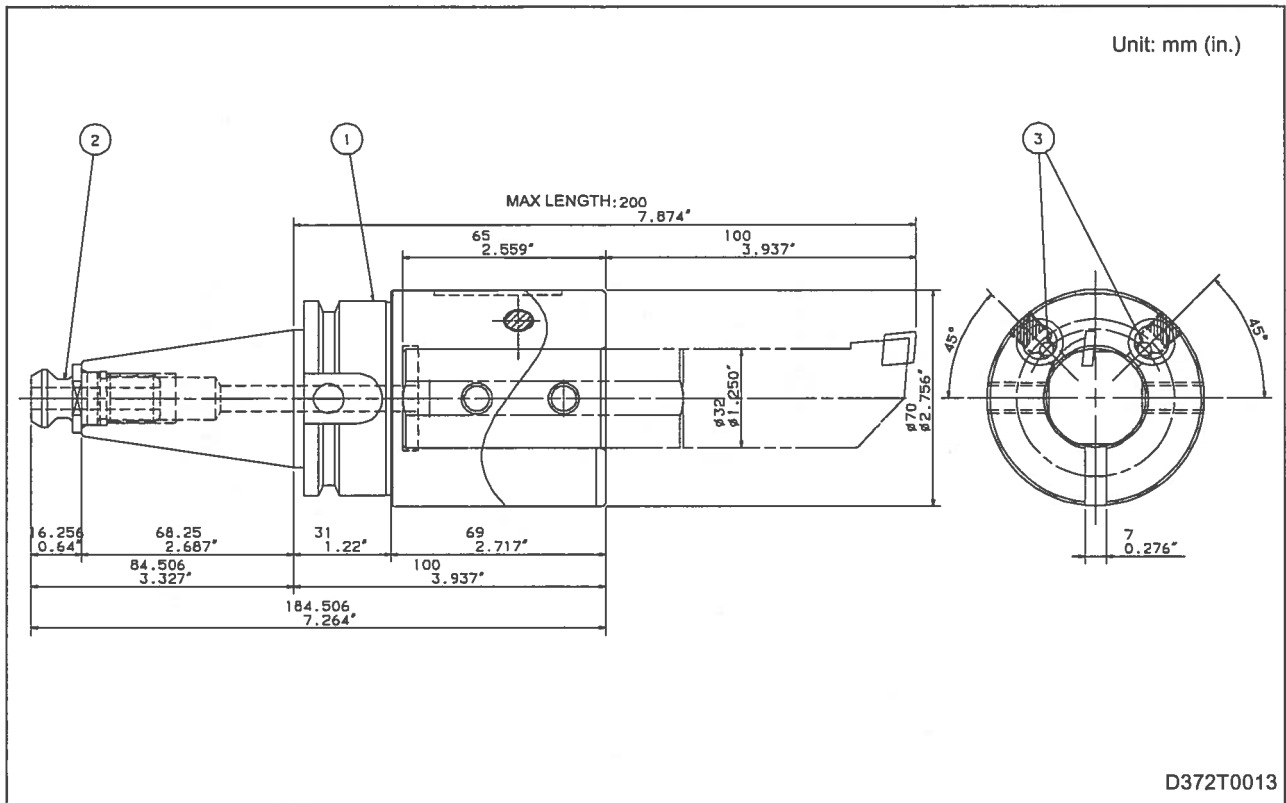
Unit code No.	mm 53728015400 (53728025400)	
No.	Parts code No.	Name
1	13728145130 (13728145200)	Tool holder
2	34931900660 (34931900670)	Pull stud
3	E00PBA6E020	Nozzle
4	A12006X0180	Spring pin

5-2-4 45° O.D. tool holder (right-handed) (BT40-MAS)



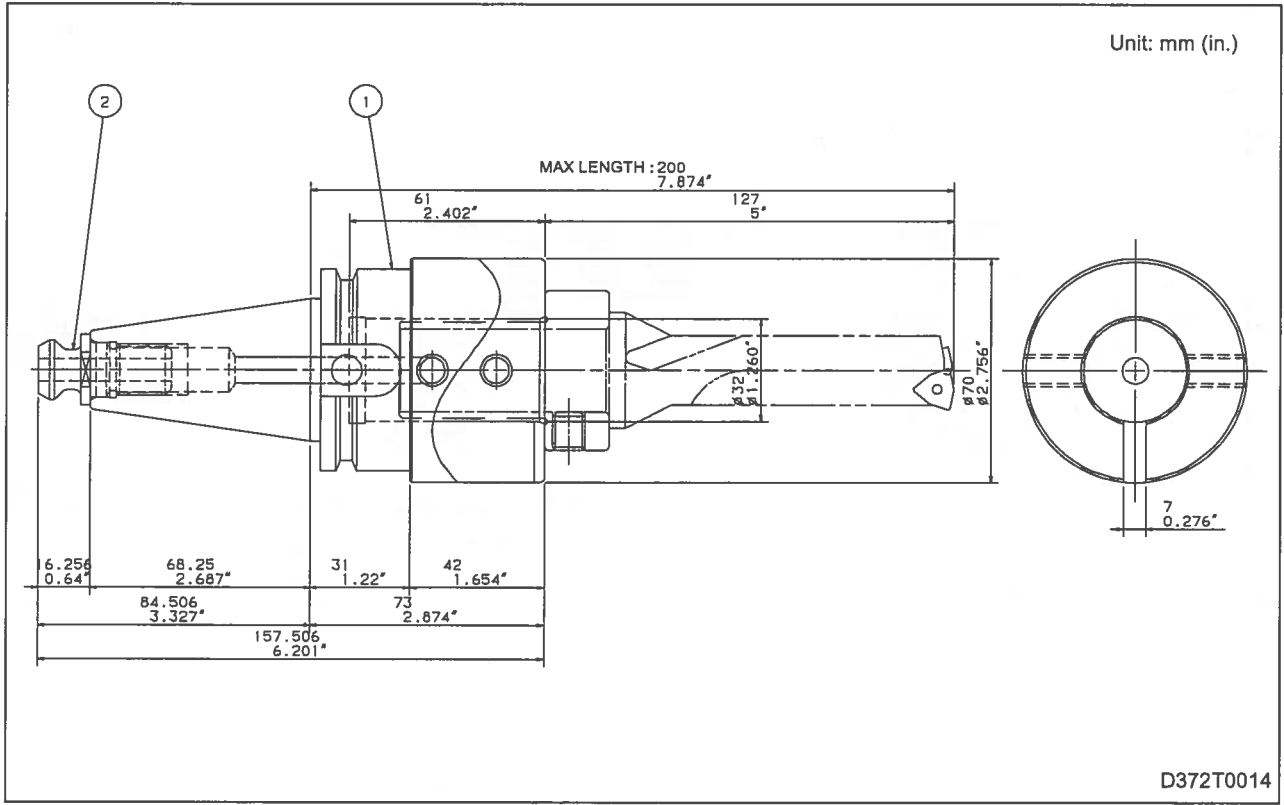
Unit code No.	mm 53728015500 (53728025500)	
No.	Parts code No.	Name
1	13728145120 (13728145190)	Tool holder
2	34931900660 (34931900670)	Pull stud
3	E00PBA6E020	Nozzle
4	A12006X0180	Spring pin

5-2-5 Boring bar holder (CAT.40)



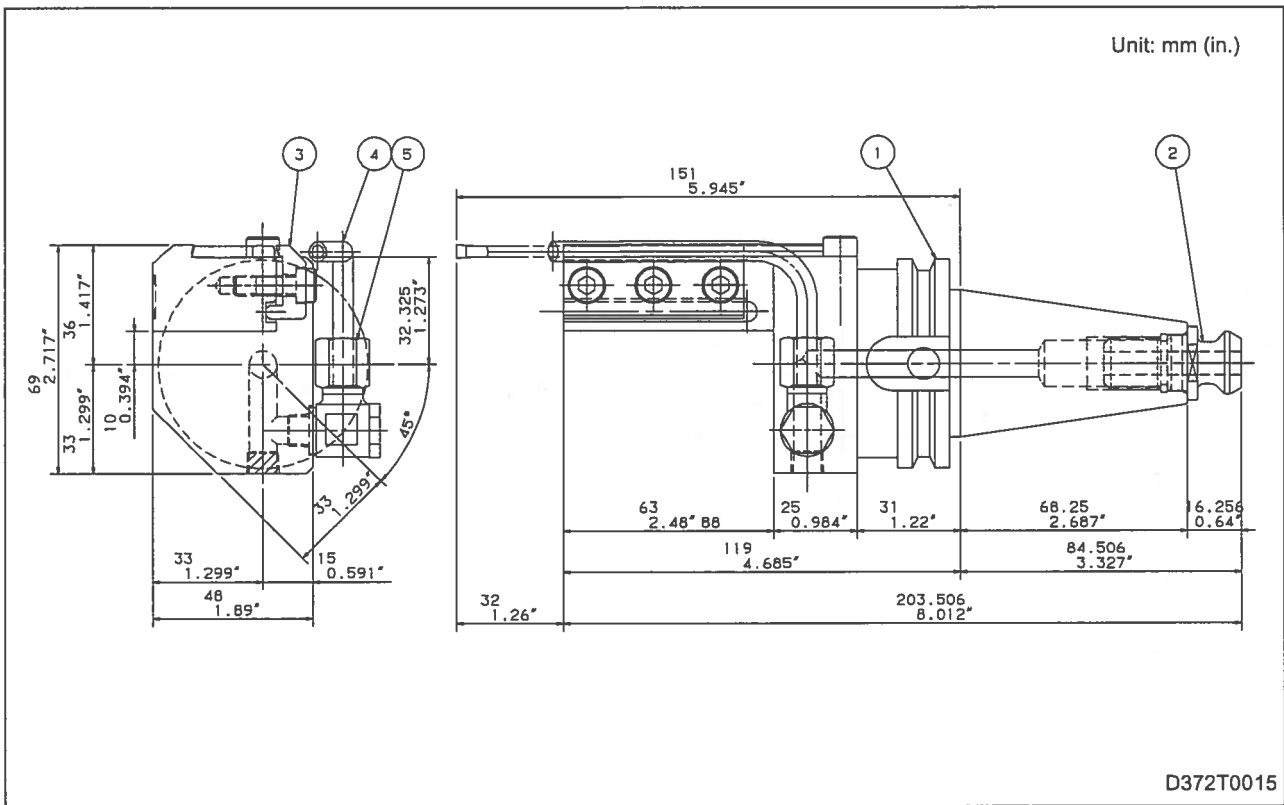
Unit code No.	mm (inch)	
	53728015300 (53728025300)	
No.	Parts code No.	Name
1	13728145140 (13728145210)	Tool holder
2	34931900660 (34931900670)	Pull stud
3	E00PBA6E020	Nozzle

5-2-6 Throw-away tip drill holder (CAT.40)



Unit code No.	mm (inch) 53728015600 (53728025600)	
No.	Parts code No.	Name
1	13728145150 (13728145220)	Tool holder
2	34931900660 (34931900670)	Pull stud

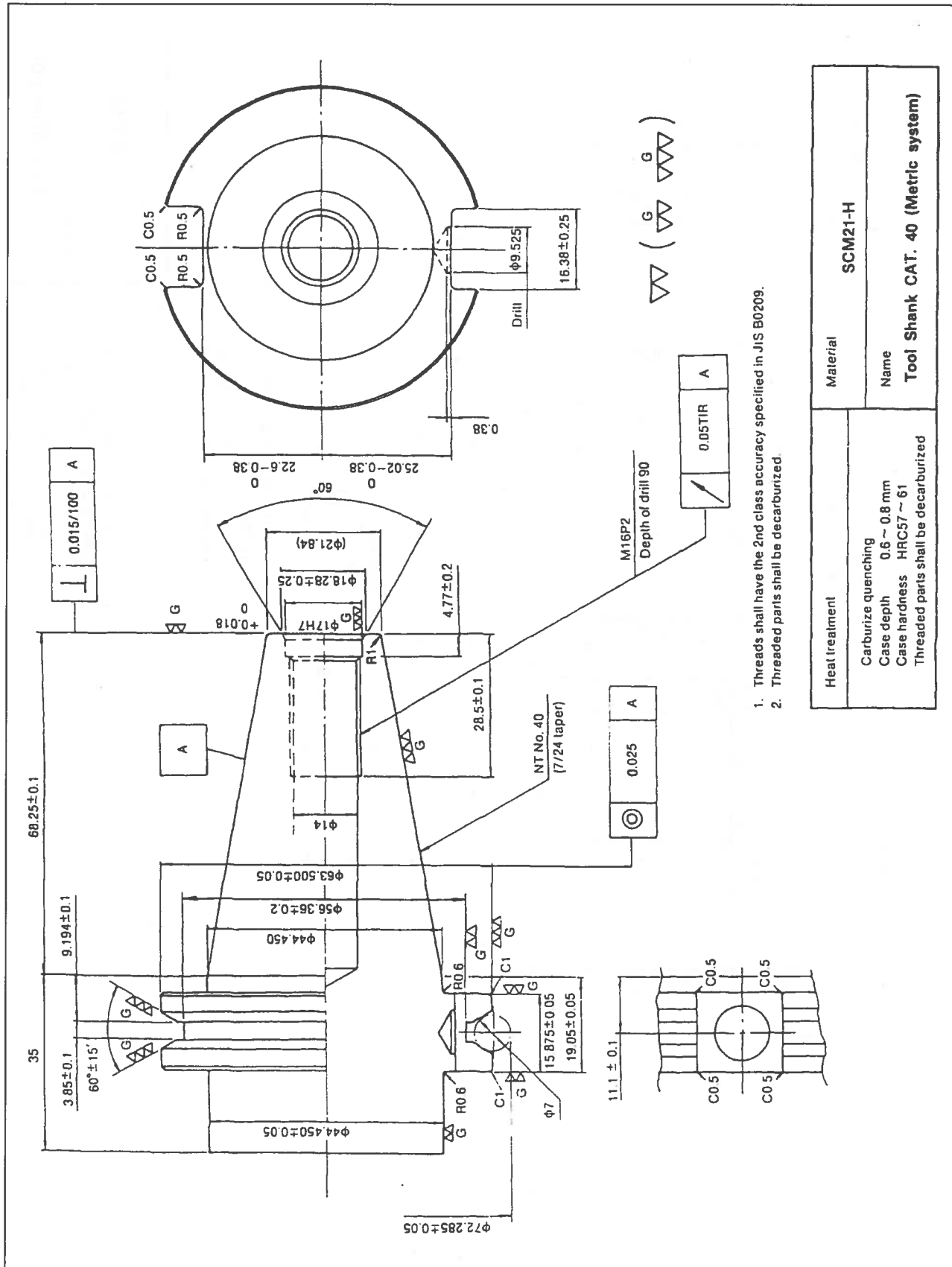
5-2-7 Cut-off tool holder (CAT.40)



Unit code No.	mm 53728010100 (53728010200)	
No.	Parts code No.	Name
1	13728145160 (13728145230)	Tool holder
2	34931900660 (34931900670)	Pull stud
3	41328136200	Retainer
4	41328136210	Pipe
5	H23NN013100	Pipe connector

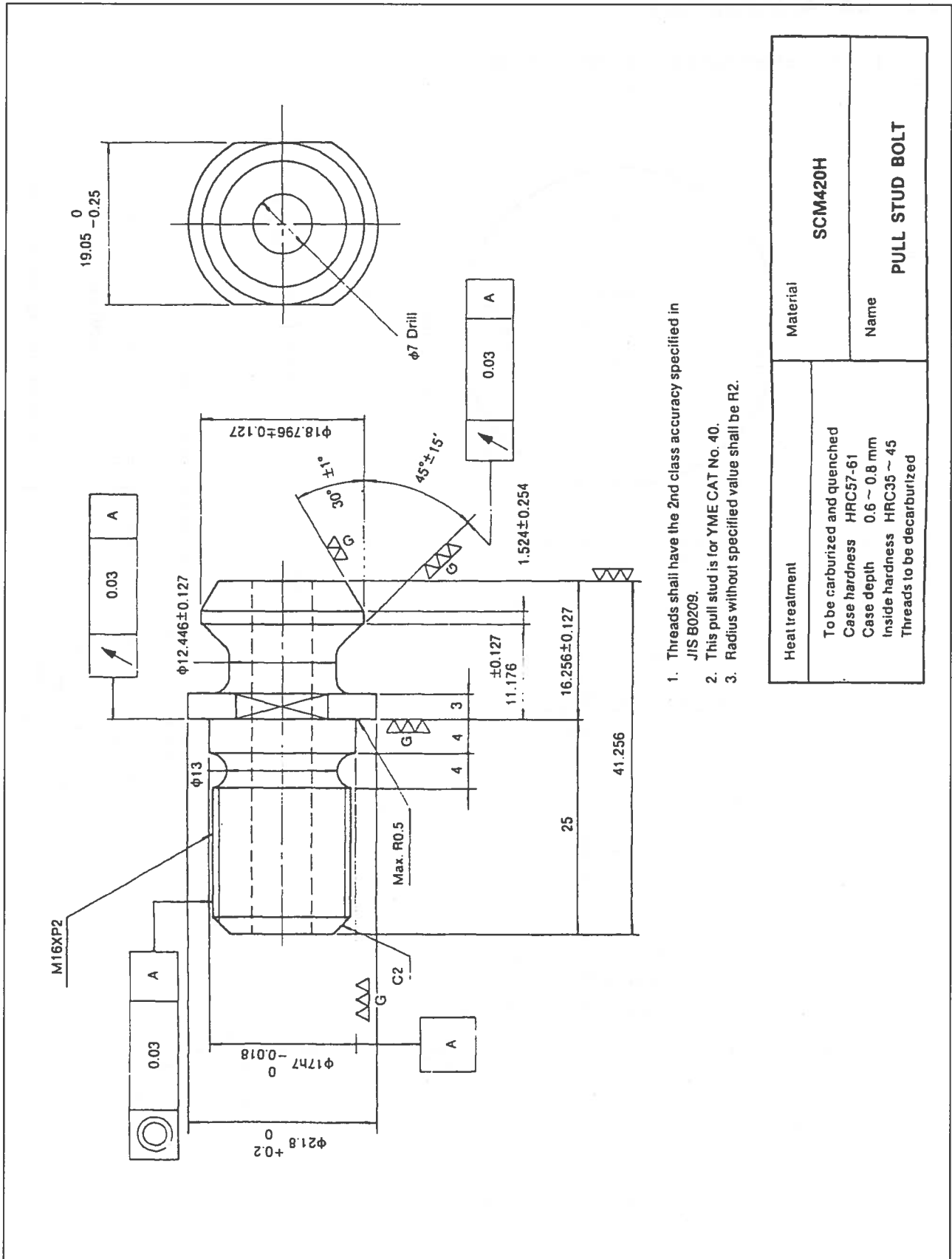
5-3 CAT.40 Milling Tool

1. Tool shank for metric system (CAT.40)



1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. Threaded parts shall be decarburized

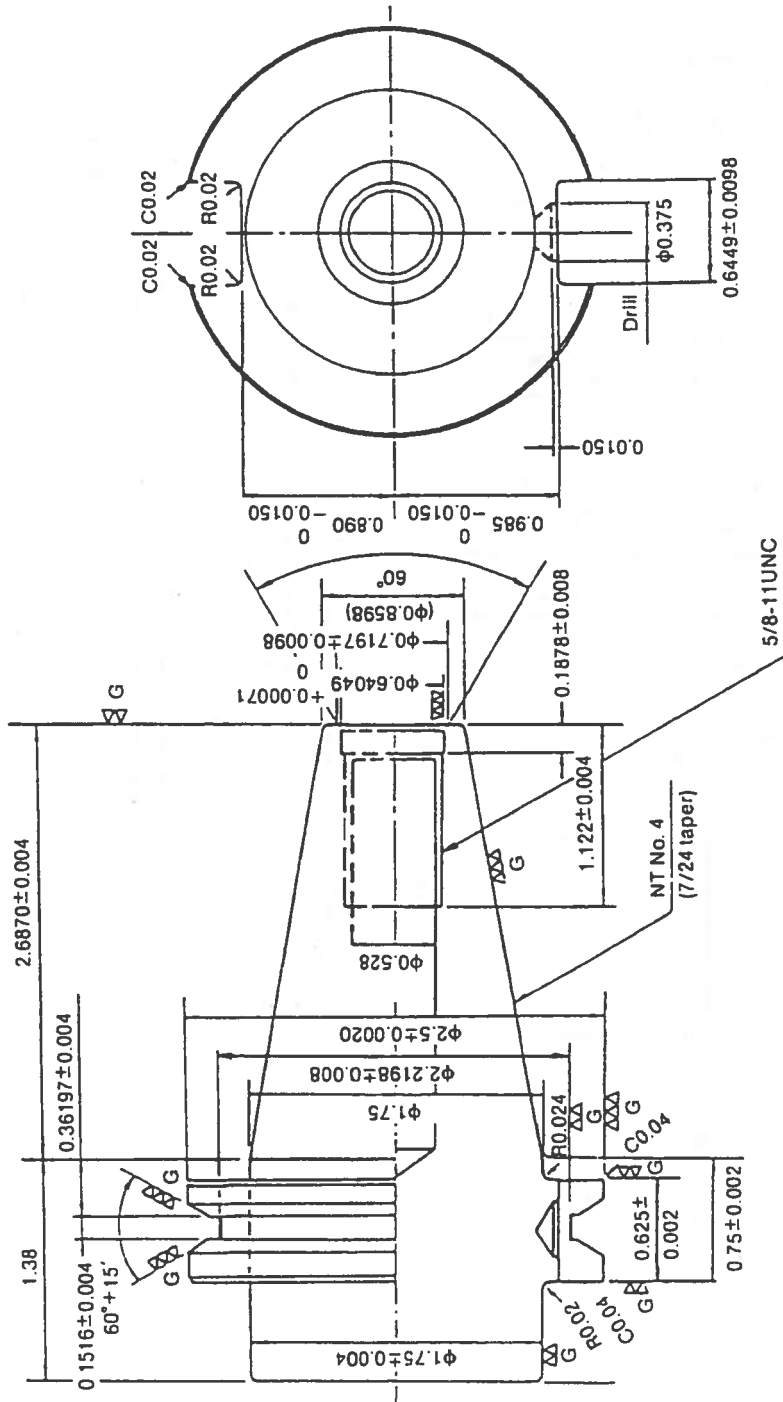
2. Pull stud of ANSI type for metric system (34931900680) (CAT.40)



1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. This pull stud is for YME CAT No. 40.
3. Radius without specified value shall be R2.

Heat treatment	To be carburized and quenched Case hardness HRC57-61 Case depth 0.6 ~ 0.8 mm Inside hardness HRC35 ~ 45 Threads to be decarburized
Material	SCM420H
Name	PULL STUD BOLT

3. Tool shank for inch system (CAT.40)

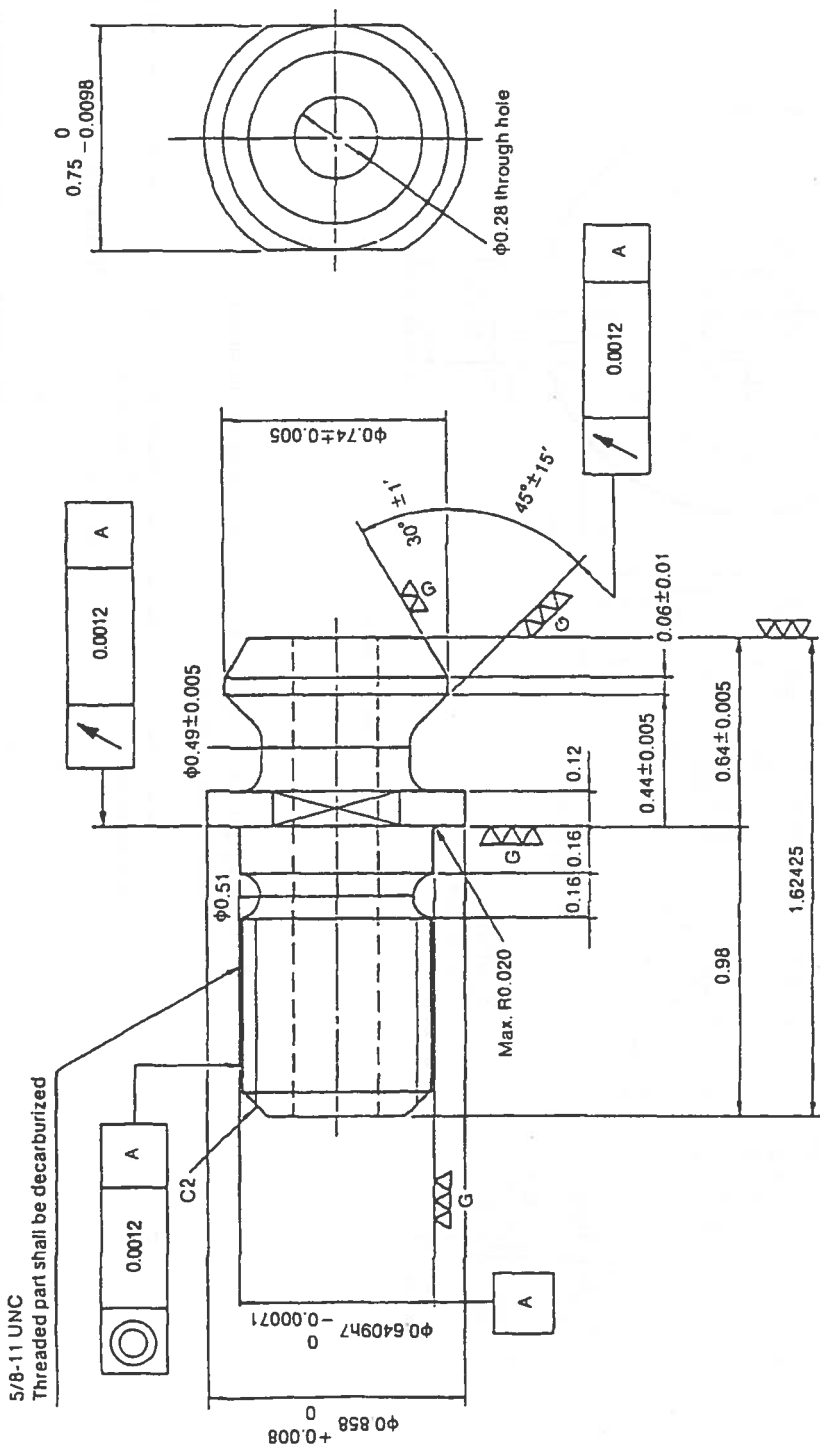


1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. Threaded parts shall be decarburized.

Heat treatment	Material	SCM21-H
Carburize quenching Case depth 0.6 ~ 0.8 mm Case hardness HRC57 ~ 61 Threaded parts shall be decarburized	Name	Tool Shank CAT. 40 (Inch system)

D128S0032

4. Pull stud of ANSI type for inch system (34931900680) (CAT.40)



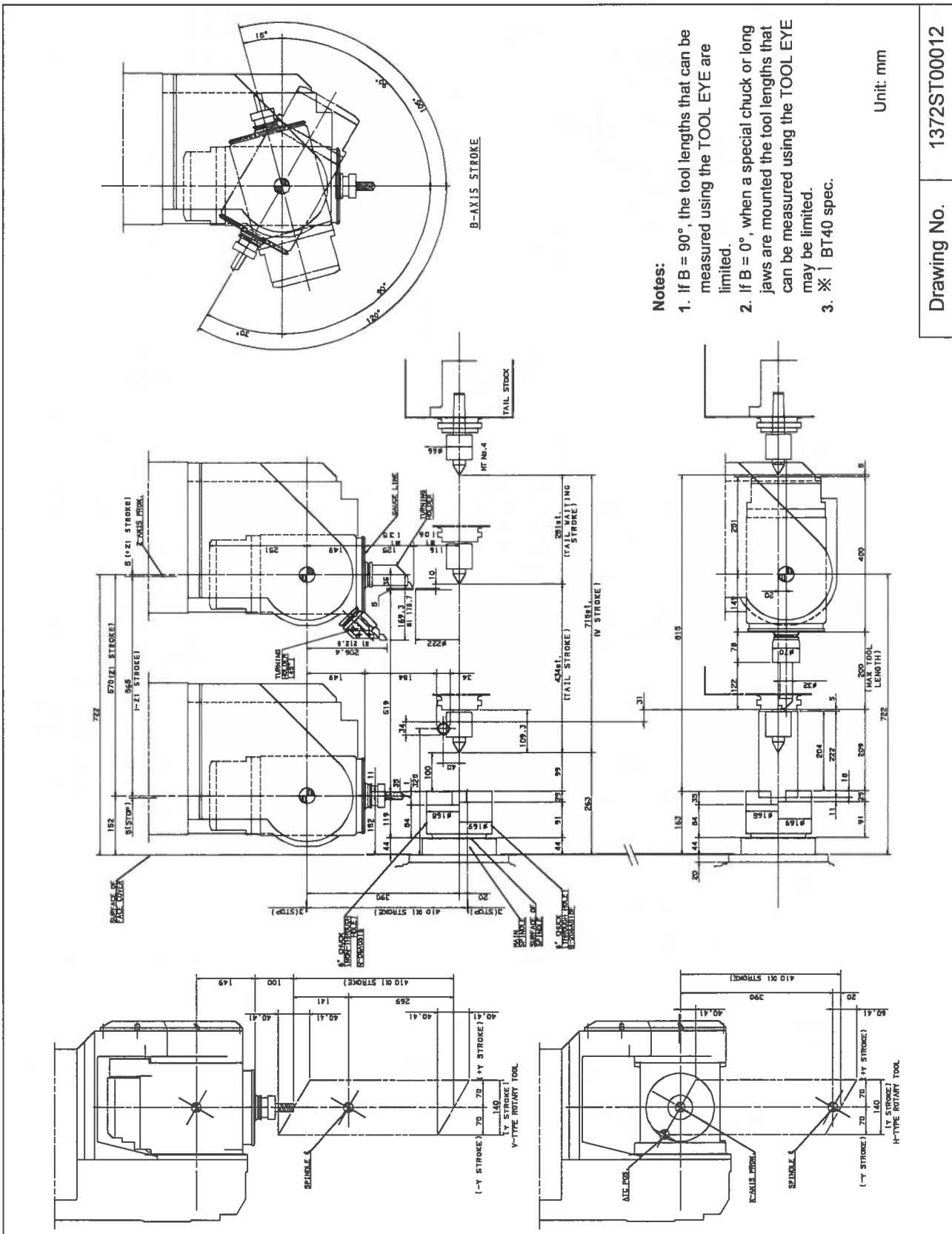
1. Threads shall have the 2nd class accuracy specified in JIS B0209.
2. This pull stud is for CAT No. 40.
3. Radius without specified value shall be R2.

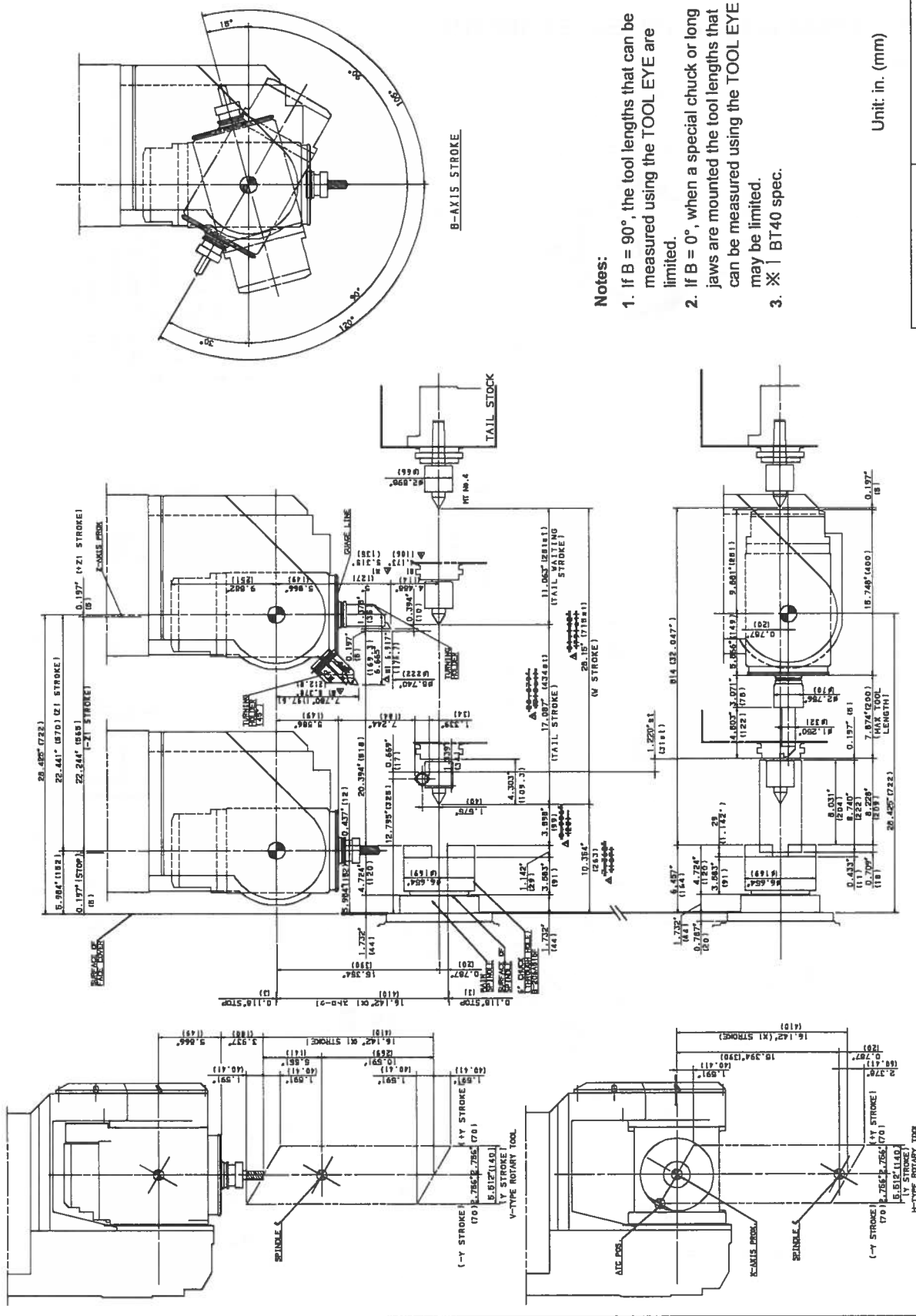
Heat treatment	To be carburized and quenched Case hardness HRC57-61 Case depth 0.6 ~ 0.8 mm Inside hardness HRC35 ~ 45 Threads to be decarburized
Material	SCM420H
Name	PULL STUD BOLT

D128S0032

6 CUTTING CAPACITY

6-1 Stroke Diagram (INTEGREX 100-III)



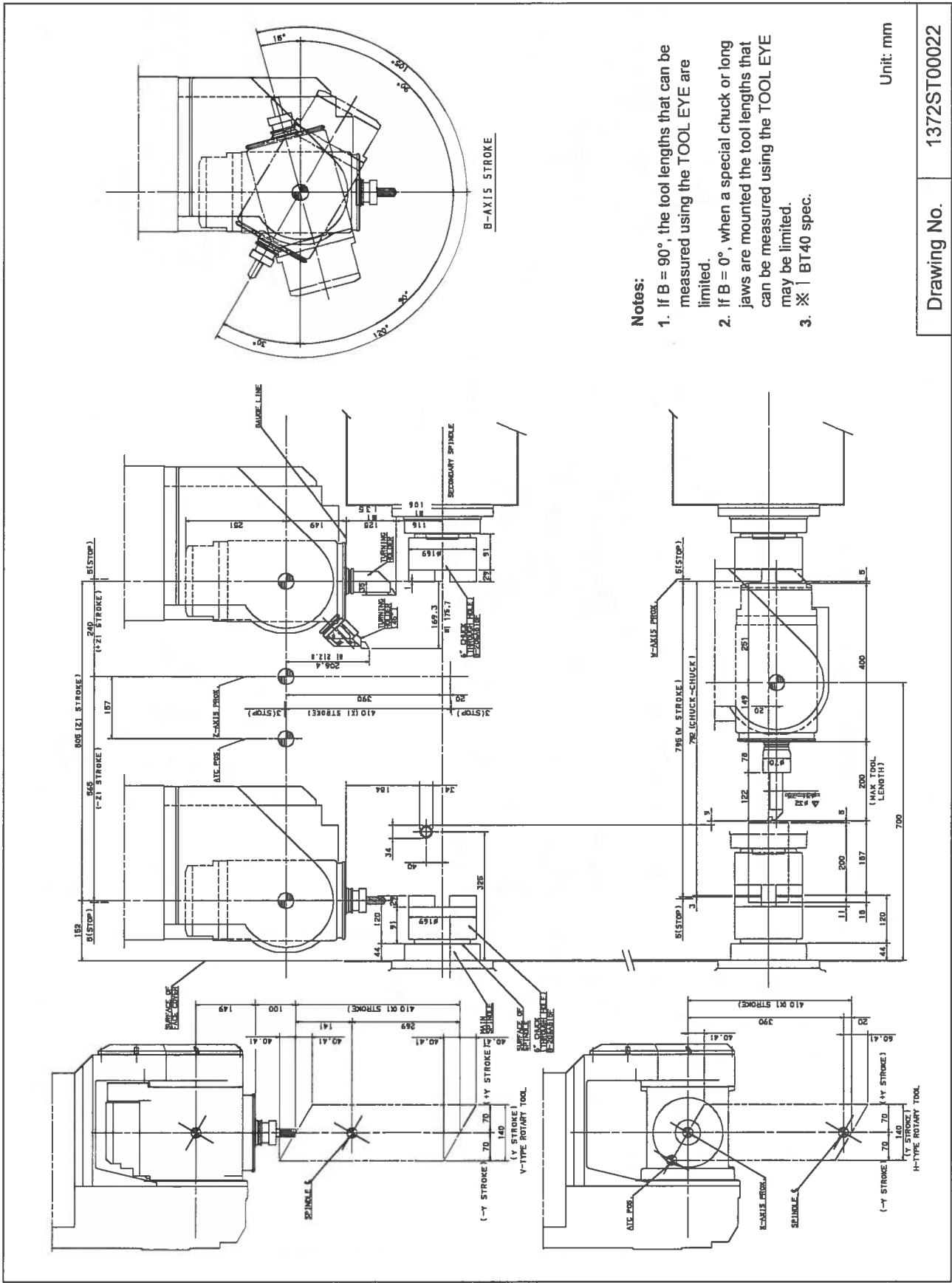


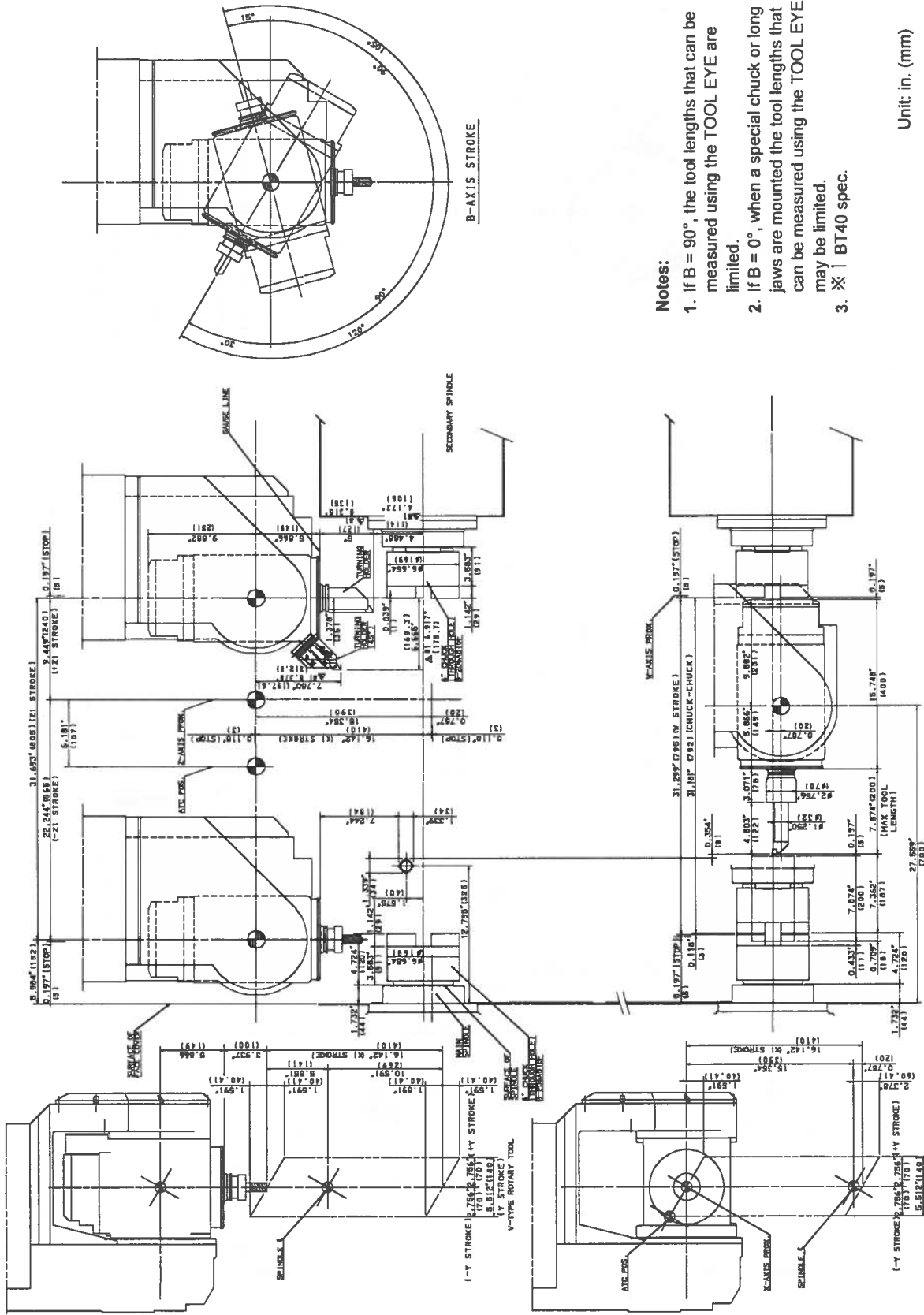
- Notes:**
1. If B = 90°, the tool lengths that can be measured using the TOOL EYE are limited.
 2. If B = 0°, when a special chuck or long jaws are mounted the tool lengths that can be measured using the TOOL EYE may be limited.
 3. ※ | BT40 spec.

Unit: in. (mm)

Drawing No. 1372ST00041

6-2 Stroke Diagram (INTEGREX 100-IIIS)





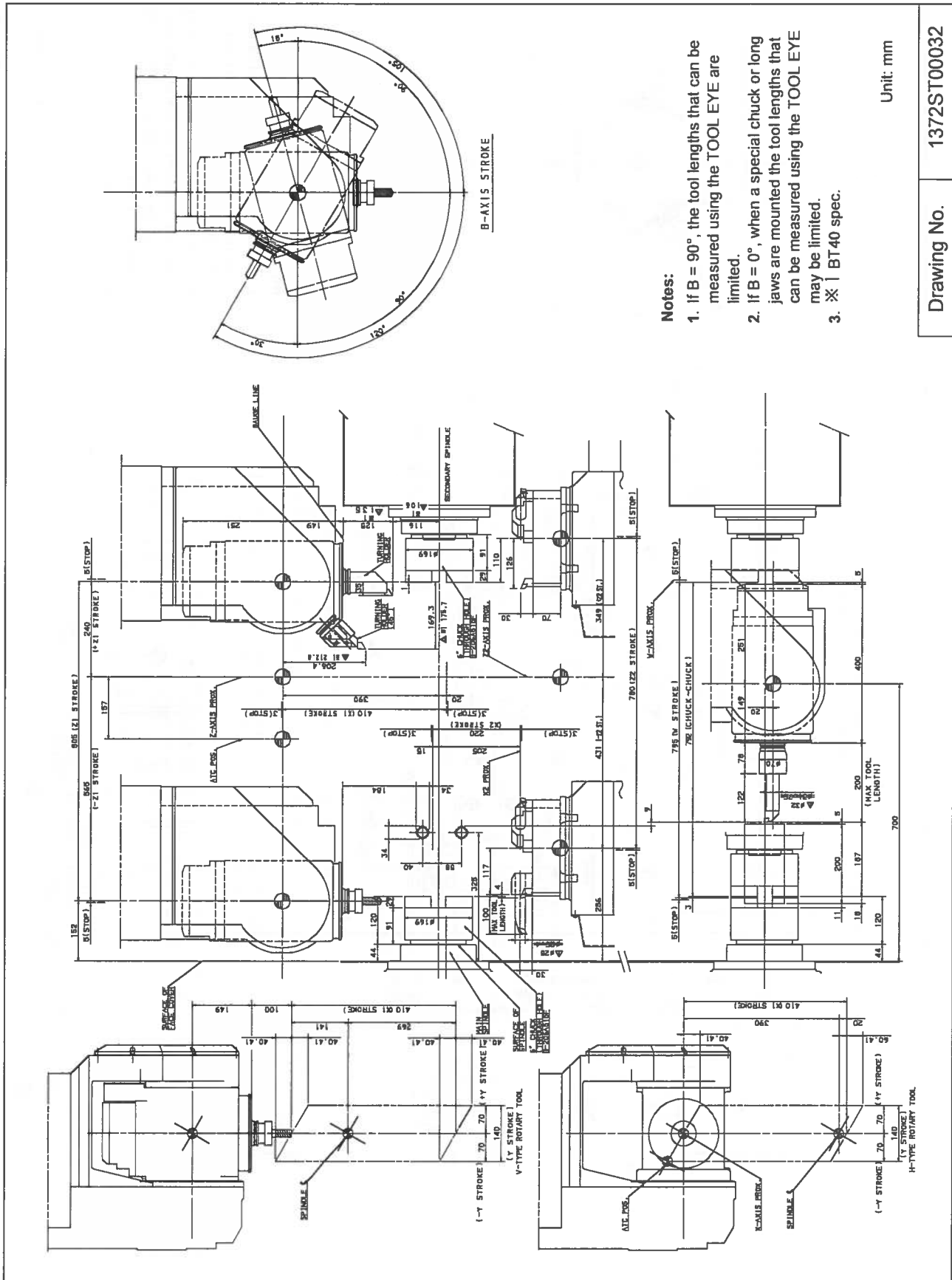
Notes:

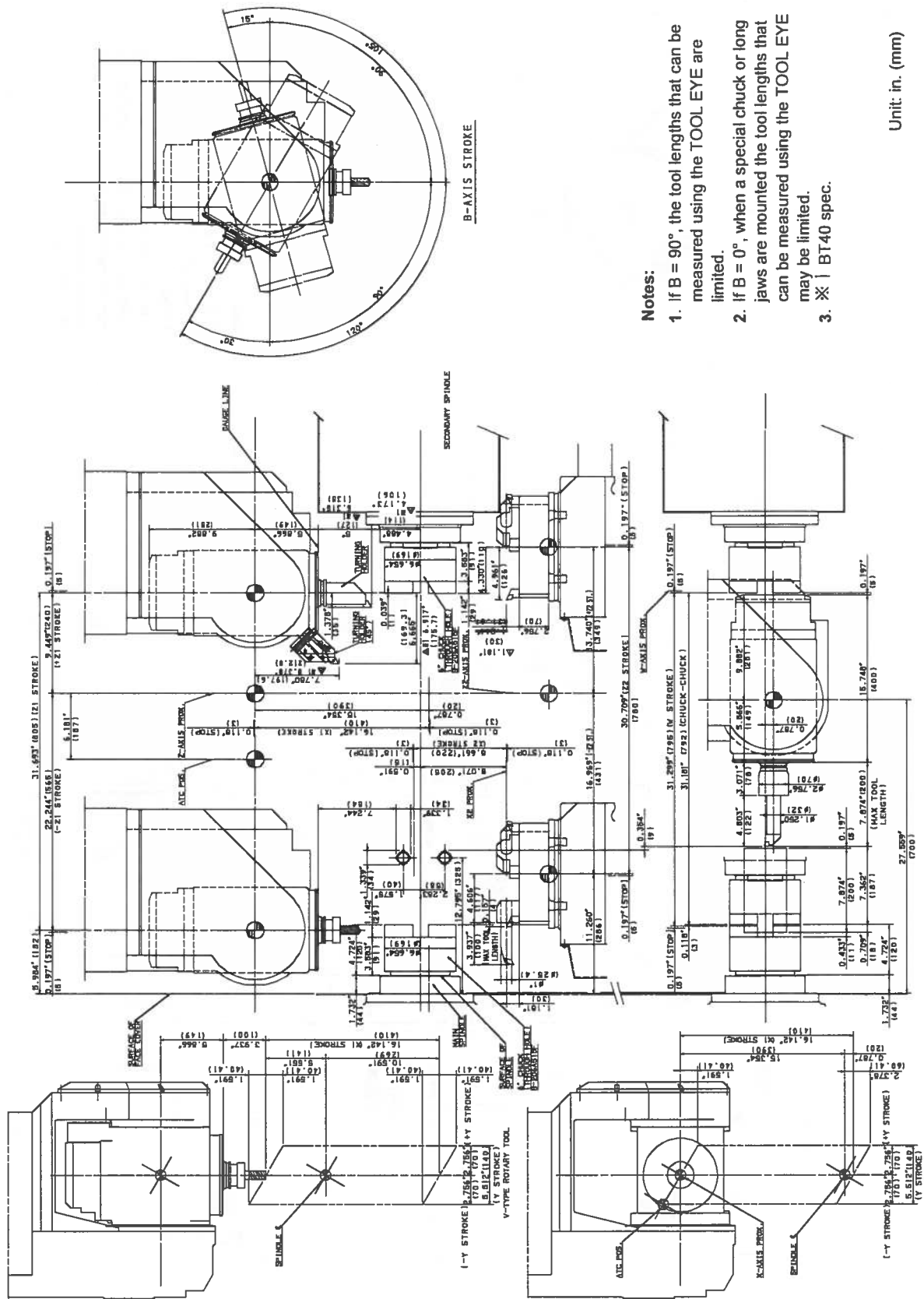
1. If B = 90°, the tool lengths that can be measured using the TOOL EYE are limited.
2. If B = 0°, when a special chuck or long jaws are mounted the tool lengths that can be measured using the TOOL EYE may be limited.
3. * 1 BT40 spec.

Unit: in. (mm)

Drawing No. 1372ST00051

6-3 Stroke Diagram (INTEGREX 100-IIIST)



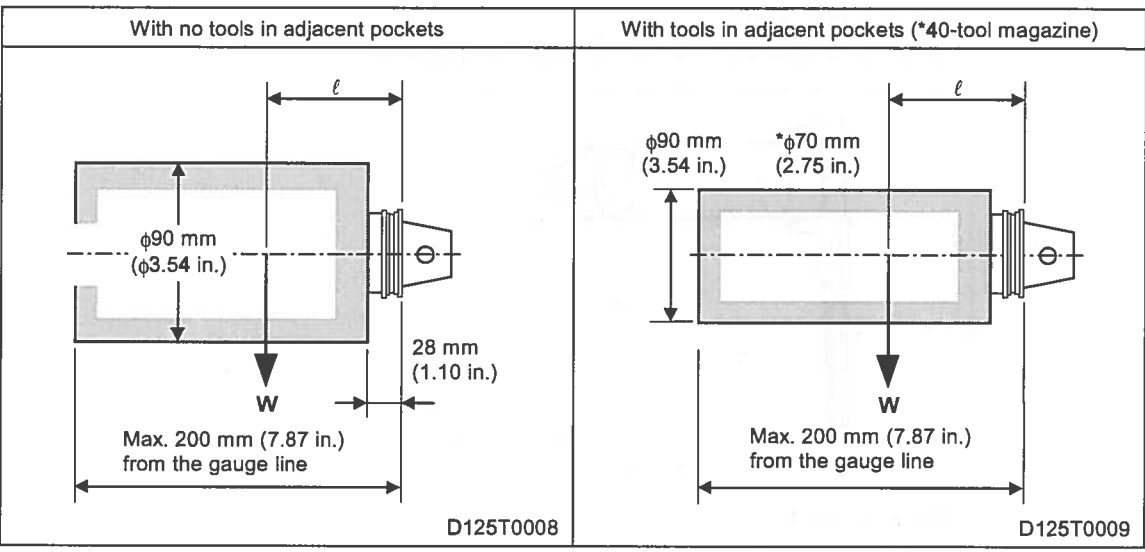


- Notes:**
1. If B = 90°, the tool lengths that can be measured using the TOOL EYE are limited.
 2. If B = 0°, when a special chuck or long jaws are mounted the tool lengths that can be measured using the TOOL EYE may be limited.
 3. ※ | BT40 spec.

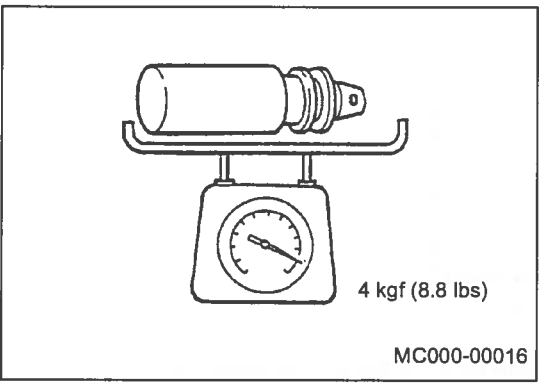
Unit: in. (mm)

Drawing No. 1322ST00061

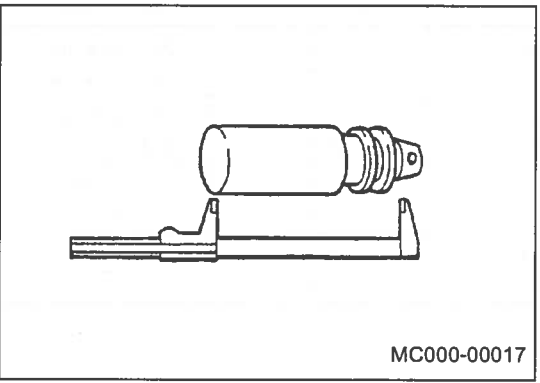
6-4 Restrictions on Tools



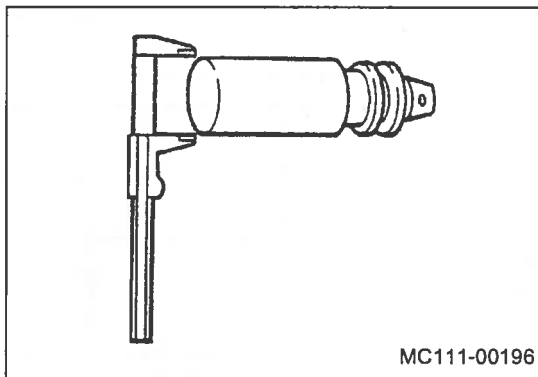
- Max. tool weight: 4 kgf (8.8 lbs)
(including the shank and pull stud)



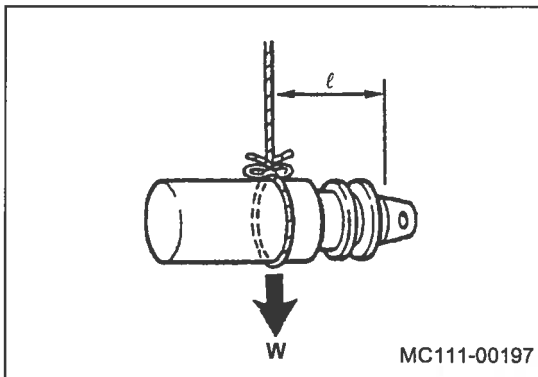
- Max. tool length: 200 mm (7.87 in.)
(from gauge line)



- Max. tool diameter:
 $\phi 90$ mm ($\phi 3.54$ in.)
 $\phi 70$ mm ($\phi 2.75$ in.)
 (40-tool magazine, with tool in adjacent pockets)



- Max. moment:
 $26 \text{ kgf}\cdot\text{cm}$ ($1.88 \text{ ft}\cdot\text{lbs}$)($W \times l$)



W : Tool weight

l : Distance between the center of gravity of the tool and the gauge line

Tool weight table

No.	Name	Holder weight [kgf (lbs)]	Tool		Total [kgf (lbs)]
			Weight [kgf (lbs)]	Size [mm (in.)]	
1	O. D. tool holder	2.9 (6.4)	0.3 (0.7)	$20 \times 20 \times 100\ell$ ($3/4 \times 3/4 \times 4\ell$)	3.2 (7.0)
2	45° O. D. tool holder	2.7 (5.9)	0.3 (0.7)	$20 \times 20 \times 85\ell$ ($3/4 \times 3/4 \times 3\ell$)	3.0 (6.6)
3	Boring bar holder	2.6 (5.7)	1.1 (2.4)	$\phi 32 \times 180\ell$ ($1-1/4 \times 7.1\ell$)	3.7 (8.1)
4	Throw-away tip drill holder	2.6 (5.7)	1.1 (2.4)	—	3.7 (8.1)

7 MAINTENANCE AND INSPECTION

7-1 O-ring (only for KM63)

The O-ring of a tool holder, shown in Fig. 7-1, has the important function of cutting off air from the air blast and coolant. Negligence of the following replacement or inspection may cause a malfunction or breakdown of the machine.

Replace the O-ring with a new one annually.

The O-ring can be removed easily with a screwdriver. When attaching the new O-ring, check that it is securely set in the O-ring groove by pressing it using the ball of your finger. (Fig. 7-2)

Inspect the O-ring when setting up a tool holder.

When setting a tool holder in the magazine or the turret for daily machine operation, check in the same manner as when attaching the O-ring that the O-ring is fitted in the O-ring groove and that the O-ring itself is not defective. (Fig. 7-3)

When the O-ring is out of its groove, set the O-ring in its groove using your finger. When the O-ring is defective, replace it with a new one.

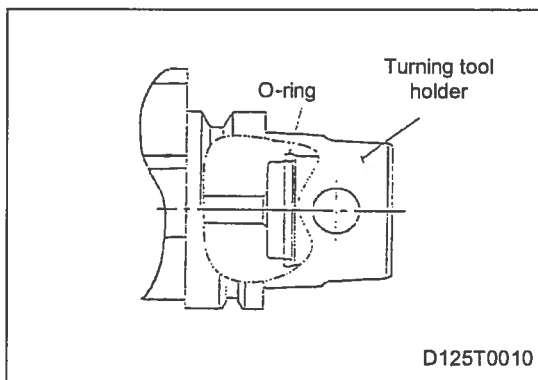


Fig. 7-1 O-ring to be maintained or inspected

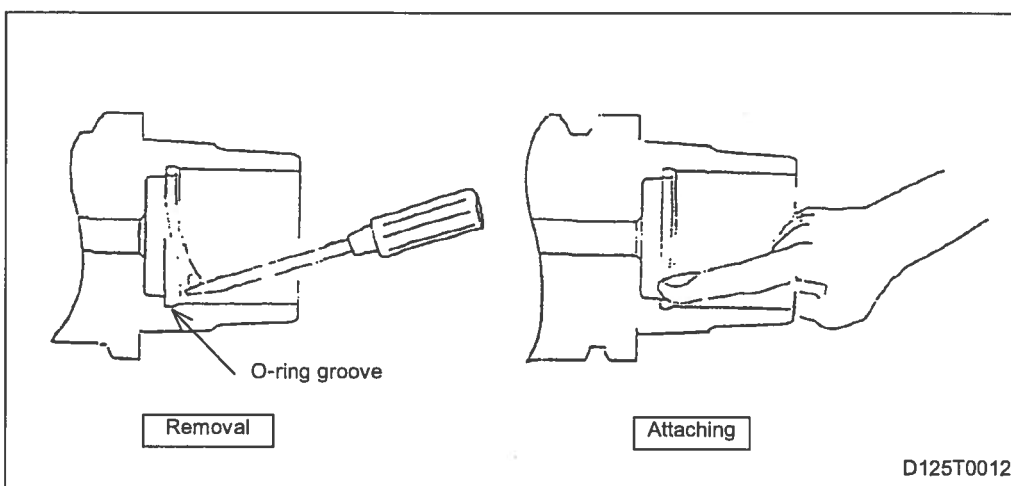


Fig. 7-2 Attaching and removal of the O-ring

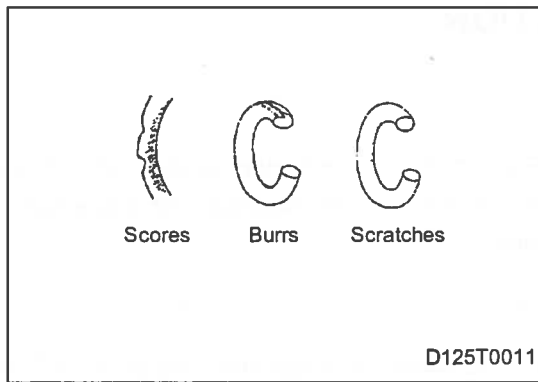


Fig. 7-3 Examples of defective O-ring

8 APPENDIX

8-1 Products of KENNAMETAL

Steel Shank DeVibrator Boring Bars

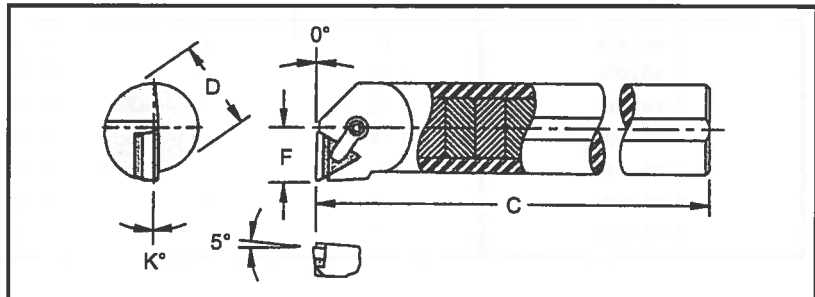
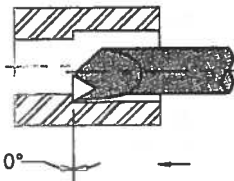
Positive Kendex

Features and Benefits

- Eliminates chatter at overhang to bar diameter ratios of up to 6:1
- Features heavy tungsten alloy "Inertia discs" sealed in the bar to counteract vibration and chatter.

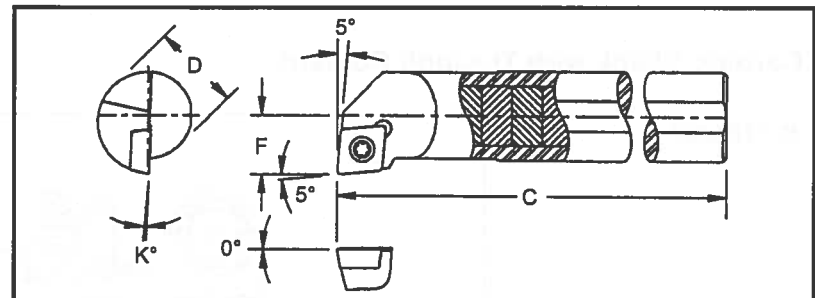
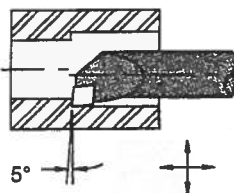
To place an order, call:
1-800-446-7738
 (U.S.) or (Canada).

B-CTF



			D	C	min. shortening length	F	K°	min. bore				
B10-CTFPR2	—	TPG-221	5/8	10	5 1/4	.406	4°	.770	—	—	CK-19	STC-9
B12-CTFPR3	—	TPG-322	3/4	10	5 3/4	.500	0°	.930	—	—	CK-7	STC-9
B14-CTFPR3	—	TPG-322	7/8	10	6 1/4	.516	0°	1.060	—	—	CK-20	STC-11
B16-CTFPR3	—	TPG-322	1	12	6 1/2	.640	0°	1.200	—	—	CK-20	STC-11
B20-CTFPR3	—	TPG-322	1 1/4	14	8 1/4	.765	3° Neg.	1.470	SM-41	S-111	CK-10	STC-8
B24-CTFPR4	—	TPG-432	1 1/2	15 1/2	9 3/4	.890	3° Neg.	1.760	SM-37	S-125	CK-10	STC-8
B28-CTFPR4	—	TPG-432	1 3/4	18 1/2	10 3/4	1.015	3° Neg.	2.010	SM-37	S-125	CK-10	STC-8
B32-CTFPR4	—	TPG-432	2	21 1/2	12 1/4	1.281	3° Neg.	2.400	SM-37	S-125	CK-9	STC-4
B40-CTFPR4	—	TPG-432	2 1/2	27 1/2	14 1/4	1.531	3° Neg.	3.030	SM-37	S-125	CK-9	STC-4

B-SCLP

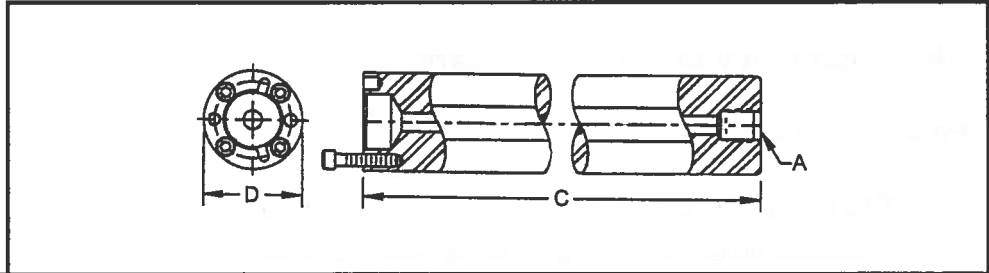






			D	C	min. shortening length	F	K°	min. bore		
B10-SCLPR3	B10-SCLPL3	CPMT-32.52	5/8	10	5 3/8	.406	2°	.770	MS-1155	FT-15
B12-SCLPR3	B12-SCLPL3	CPMT-32.52	3/4	10	6	.500	2°	.930	MS-1155	FT-15
B16-SCLPR3	B16-SCLPL3	CPMT-32.52	1	12	6 1/2	.640	0°	1.200	MS-1155	FT-15

Interchangeable Head Boring System

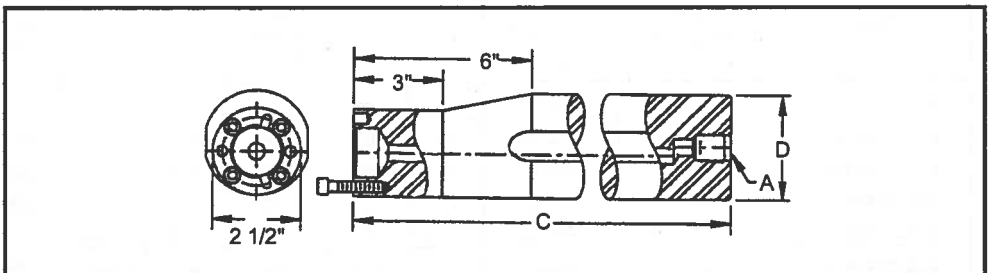
Steel Shank with Through Coolant





S-4400W



standard catalog number	dimensions			  	
	D	C	A		
S-4416W	1	9	1/4-18 NPT	S-319	S-322
S-4420W	1 1/4	9	3/8-18 NPT	S-327	S-330
S-4424W	1 1/2	10	3/8-18 NPT	S-327	S-330
S-4428W	1 3/4	12	3/8-18 NPT	S-337	S-340
S-4432W	2	13	3/8-18 NPT	S-337	S-340
S-4436W	2 1/4	15	3/8-18 NPT	S-337	S-340
S-4440W	2 1/2	17	3/8-18 NPT	S-350	S-353

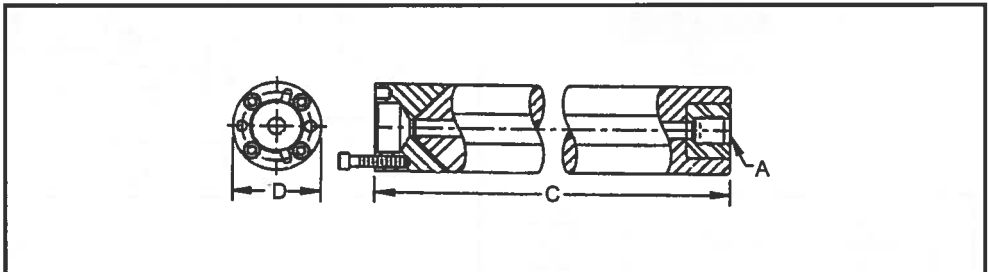
S-4400W48








standard catalog number	dimensions			  	
	D	C	A		
S-4440W48	3	18	3/8-18 NPT	S-350	S-353

Carbide Shank with Through Coolant

S-11800W

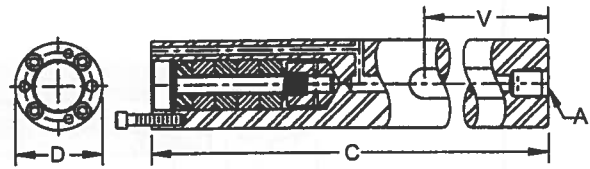


standard catalog number	dimensions			  	 
	D	C	A		
C-11816W	1	11	1/4-18	S-319	S-322
C-11820W	1 1/4	11	1/4-18	S-412	S-415

Interchangeable Head Boring System

Steel Shank DeVibrator with Through Coolant

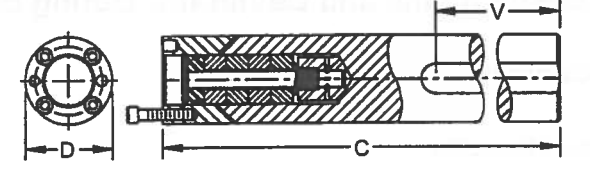
D-5400W



standard catalog number	dimensions					S-327			S-330
	D	C	V	min. shortening length	A				
D-5420W	1 1/4	10	7.75	7	3/8-18 NPT				S-330
D-5424W	1 1/2	12	9.25	8	3/8-18 NPT				S-330
D-5428W	1 3/4	14	10.12	9	3/8-18 NPT				S-340
D-5432W	2	16	12.75	10	3/8-18 NPT				S-340
D-5436W	2 1/4	18	14.38	11	3/8-18 NPT				S-340
D-5440W	2 1/2	20	14.87	12	3/8-18 NPT				S-353

Carbide Shank DeVibrator without Through Coolant

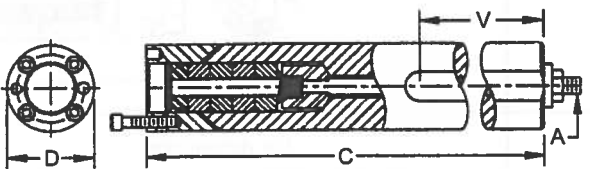
C-6400



standard catalog number	dimensions				S-412			S-415
	D	C	V	min. shortening length				
C-6420	1 1/4	11	8.75	7				S-415

Carbide Shank DeVibrator with Through Coolant

C-6400W



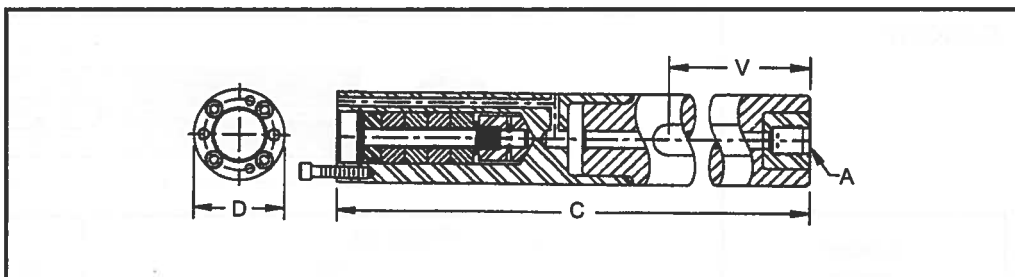
standard catalog number	dimensions					S-412			S-415
	D	C	V	min. shortening length*	A				
C-6420W	1 1/4	11	8 3/4	7	1/4-28 UNF				S-415
C-6424W	1 1/2	14	11 1/4	8	1/4-28 UNF				S-415
C-6428W	1 3/4	16	11 3/8	9	3/8-24 UNF				S-425
C-6432W	2	19	15 3/4	10	3/8-24 UNF				S-425
C-6436W	2 1/4	21	17 3/8	11	3/8-24 UNF				S-425
C-6440W	2 1/2	24	18	12	3/8-24 UNF				S-435

* Coolant tube must be cut, rethreaded and reflatted. End of bar must be hermetically sealed, use of a silicone rubber compound is recommended.

Interchangeable Head Boring System

Composite Shank DeVibrator with Through Coolant

C-11900W



standard catalog number	dimensions				toolholders		
	D	C*	V	A			
C-11924W	1 1/2	15	7.75	3/8-18 NPT	S-327	S-337	S-330
C-11928W	1 3/4	17	8.25	3/8-18 NPT	S-337	S-340	S-340
C-11932W	2	20	9.75	3/8-18 NPT	S-337	S-340	S-340
C-11936W	2 1/4	22	10.25	3/8-18 NPT	S-337	S-340	S-340
C-11940W	2 1/2	25	11.75	3/8-18 NPT	S-350	S-353	S-353

* Shortening Composite Shank DeVibrator bars is not recommended.

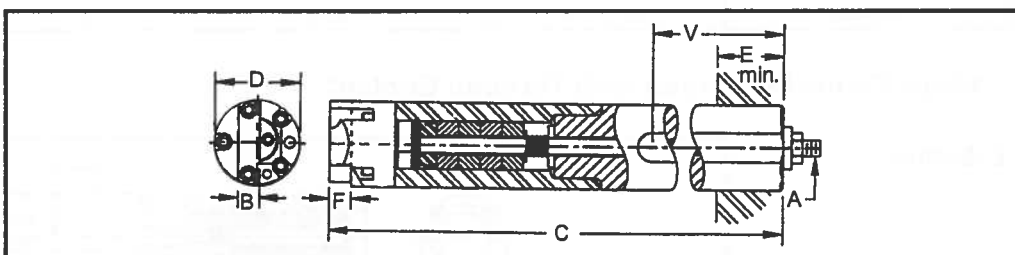
Custom Composite Shank and DeVibrator Boring Bars

with Through Coolant

Features and Benefits

- Carbide DeVibrator bars are designed for use in overhang to bar diameter ratios greater than 6:1.
- Custom designed configurations are available for both small and large complex jobs.
- Special design features include stepped diameter and elliptical or tapered shanks.

B-6400



boring bar catalog number	bar dimensions				*tool slot dimensions		coolant connector thread size
	D	C**	E	V	F	B	
B-6422-1	2 3/4	35	7	12	3/4	5/8	1/2-20 UNF
B-6424-1	3	38	7 1/2	13	3/4	3/4	
B-6428-1	3 1/2	44	8 3/4	16	3/4	3/4	
B-6432-1	4	50	10	18	1	1	
B-6436-1	4 1/2	56	11 1/4	30	1	1	3/8-18 NPT
B-6440-1	5	63	12 1/2	23	1	1 1/4	
B-6448-1	6	75	15	27	1	1 1/4	

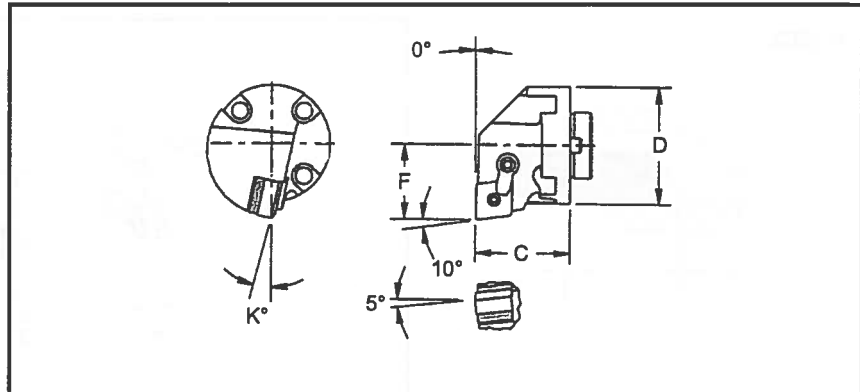
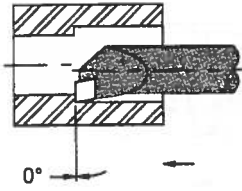
* Heads illustrated use standard toolholders to fit job requirements. Other head designs available on request and must be ordered separately.

** Shortening Composite Shank DeVibrator bars is not recommended.

Interchangeable Head

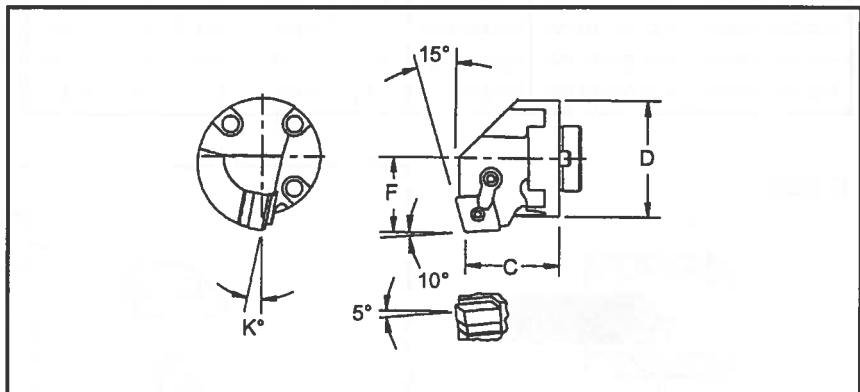
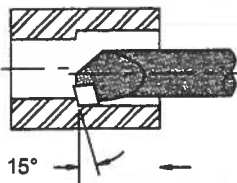
LP-Series with Through Coolant

H-DCF



			D	C	F	K°	min. bore					
H20-DCFNR4W	H20-DCFNL4W	CNMG-432	1 1/4	1.625	.765	14°	1.470	SM-303	LP-53	CK-21	STC-20	HDP-188-0375
H24-DCFNR4W	H24-DCFNL4W	CNMG-432	1 1/2	1.625	.890	12°	1.760	SM-303	LP-53	CK-21	STC-20	HDP-188-0375
H32-DCFNR5W	H32-DCFNL5W	CNMG-543	2	1.625	1.281	12°	2.400	SM-390	LP-68	CK-20	STC-20	HDP-250-0500
H32-DCFNR6W	H32-DCFNL6W	CNMG-643	2	1.625	1.281	12°	2.400	SM-304	LP-70	CK-12	STC-4	HDP-250-0500
H40-DCFNR6W	H40-DCFNL6W	CNMG-643	2 1/2	1.625	1.531	10°	3.030	SM-304	LP-70	CK-12	STC-4	HDP-250-0500

H-DCK

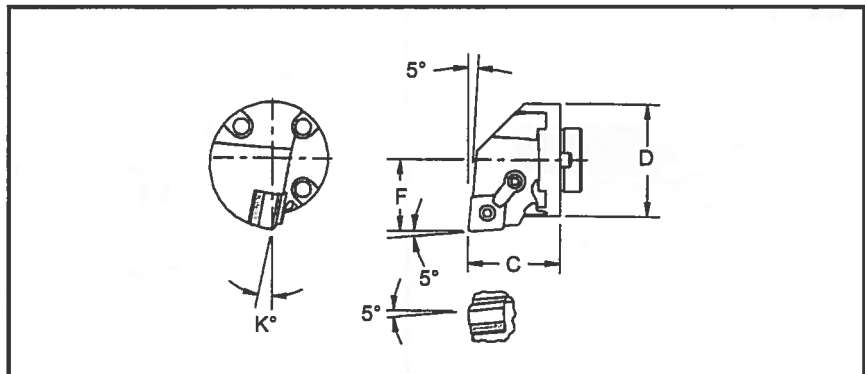
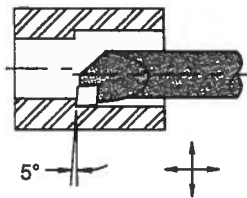


			D	C	F	K°	min. bore					
H20-DCKNR4W	H20-DCKNL4W	CNMG-432	1 1/4	1.625	.765	14°	1.470	SM-303	LP-53	CK-21	STC-20	HDP-188-0375
H24-DCKNR4W	H24-DCKNL4W	CNMG-432	1 1/2	1.625	.890	12°	1.760	SM-303	LP-55	CK-21	STC-20	HDP-188-0375
H32-DCKNR4W	H32-DCKNL4W	CNMG-432	2	1.625	1.281	8°	2.400	SM-303	LP-55	CK-21	STC-20	HDP-250-0500
H32-DCKNR5W	H32-DCKNL5W	CNMG-543	2	1.625	1.281	12°	2.400	SM-390	LP-68	CK-21	STC-20	HDP-250-0500
H40-DCKNR5W	H40-DCKNL5W	CNMG-543	2 1/2	1.625	1.531	10°	3.030	SM-390	LP-65	CK-21	STC-20	HDP-250-0500
H32-DCKNR6W	H32-DCKNL6W	CNMG-643	2	1.625	1.281	12°	2.400	SM-304	LP-70	CK-12	STC-4	HDP-250-0500
H40-DCKNR6W	H40-DCKNL6W	CNMG-643	2 1/2	1.625	1.531	10°	3.030	SM-304	LP-70	CK-12	STC-4	HDP-250-0500

Interchangeable Head

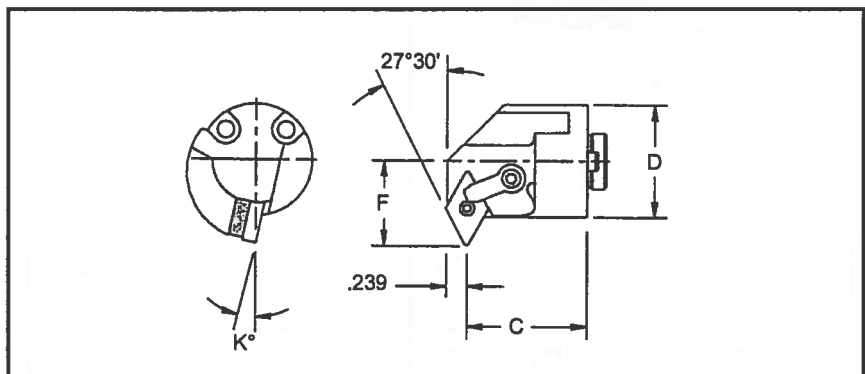
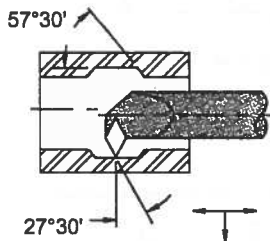
LP-Series with Through Coolant

H-DCL



			D	C	F	K°	min. bore					
H20-DCLNR4W	H20-DCLNL4W	CNMG-432	1 1/4	1.625	.765	14°	1.470	SM-303	LP-53	CK-21	STC-20	HDP-188-0375
H24-DCLNR4W	H24-DCLNL4W	CNMG-432	1 1/2	1.625	.890	12°	1.760	SM-303	LP-53	CK-21	STC-20	HDP-188-0375
H28-DCLNR4W	H28-DCLNL4W	CNMG-432	1 3/4	1.625	1.015	12°	2.010	SM-303	LP-55	CK-21	STC-20	HDP-250-0500
H32-DCLNR4W	H32-DCLNL4W	CNMG-432	2	1.625	1.281	10°	2.400	SM-303	LP-55	CK-21	STC-20	HDP-250-0500
H24-DCLNR5W	H24-DCLNL5W	CNMG-543	1 1/2	1.625	.890	14°	1.760	SM-390	LP-68	CK-20	STC-20	HDP-188-0375
H32-DCLNR5W	H32-DCLNL5W	CNMG-543	2	1.625	1.281	12°	2.400	SM-390	LP-68	CK-20	STC-20	HDP-250-0500
H40-DCLNR5W	H40-DCLNL5W	CNMG-543	2 1/2	1.625	1.531	10°	3.030	SM-390	LP-65	CK-22	STC-11	HDP-250-0500
H32-DCLNR6W	H32-DCLNL6W	CNMG-643	2	1.625	1.281	12°	2.400	SM-304	LP-70	CK-12	STC-4	HDP-250-0500
H36-DCLNR6W	H36-DCLNL6W	CNMG-643	2 1/4	1.625	1.406	10°	2.650	SM-304	LP-70	CK-12	STC-4	HDP-250-0500
H40-DCLNR6W	H40-DCLNL6W	CNMG-643	2 1/2	1.625	1.531	10°	3.030	SM-304	LP-70	CK-12	STC-4	HDP-250-0500

H-DDP

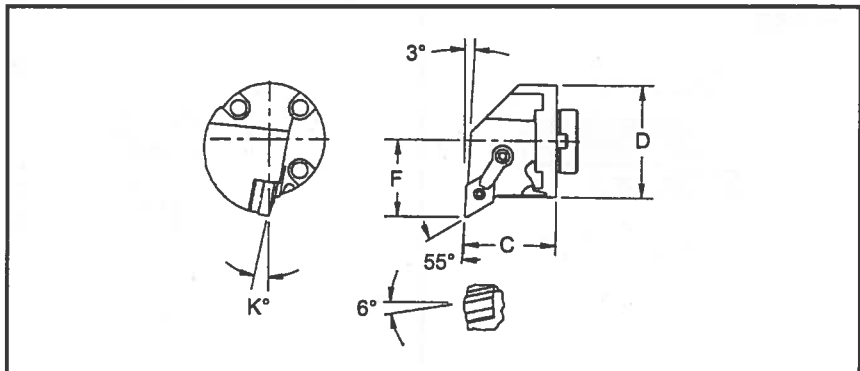
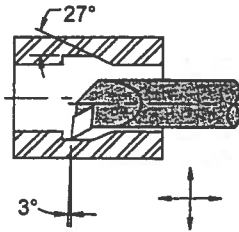


			D	C	F	K°	min. bore					
H20-DDPNR4W	H20-DDPNL4W	DNMG-432	1 1/4	1.625	1.000	13°	1.705	SM-306	LP-55	CK-22	STC-20	HDP-188-0375
H24-DDPNR4W	H24-DDPNL4W	DNMG-432	1 1/2	1.625	1.125	12°	2.000	SM-306	LP-55	CK-22	STC-20	HDP-188-0375

Interchangeable Head

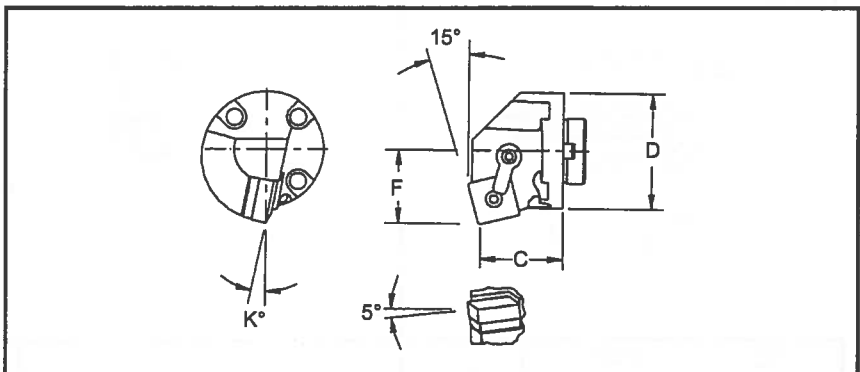
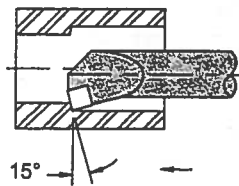
LP-Series with Through Coolant

H-DDU



			D	C	F	K°	min. bore					
H20-DDUNR4W	H20-DDUNL4W	DNMG-432	1 1/4	1.625	1.000	10°	1.705	SM-306	LP-55	CK-22	STC-20	HDP-188-0375
H24-DDUNR4W	H24-DDUNL4W	DNMG-432	1 1/2	1.625	1.125	10°	2.000	SM-306	LP-55	CK-22	STC-20	HDP-188-0375
H28-DDUNR4W	H28-DDUNL4W	DNMG-432	1 3/4	1.625	1.250	10°	2.250	SM-306	LP-55	CK-22	STC-20	HDP-250-0500
H32-DDUNR4W	H32-DDUNL4W	DNMG-432	2	1.625	1.375	10°	2.500	SM-306	LP-55	CK-22	STC-20	HDP-250-0500
H36-DDUNR4W	H36-DDUNL4W	DNMG-432	2 1/4	1.625	1.625	10°	2.870	SM-306	LP-55	CK-22	STC-20	HDP-250-0500
H40-DDUNR4W	H40-DDUNL4W	DNMG-432	2 1/2	1.625	1.750	10°	3.250	SM-306	LP-55	CK-22	STC-20	HDP-250-0500

H-DSK

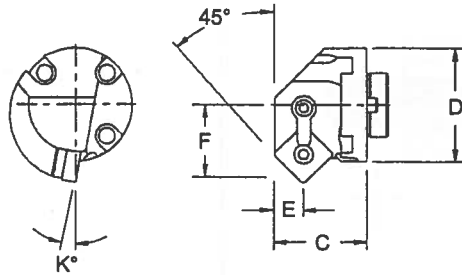
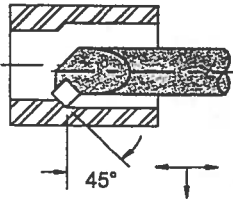










			D	C	F	K°	min. bore					
H20-DSKNR4W	H20-DSKNL4W	SNMG-432	1 1/4	1.625	.765	14°	1.470	SM-297	LP-53	CK-21	STC-20	HDP-188-0375
H24-DSKNR4W	H24-DSKNL4W	SNMG-432	1 1/2	1.625	.890	10°	1.760	SM-297	LP-53	CK-21	STC-20	HDP-188-0375
H28-DSKNR4W	H28-DSKNL4W	SNMG-432	1 3/4	1.625	1.015	10°	2.010	SM-297	LP-55	CK-21	STC-20	HDP-250-0500
H32-DSKNR6W	H32-DSKNL6W	SNMG-643	2	1.625	1.281	12°	2.400	SM-299	LP-70	CK-12	STC-4	HDP-250-0500
H36-DSKNR6W	H36-DSKNL6W	SNMG-643	2 1/4	1.625	1.406	10°	2.650	SM-299	LP-70	CK-12	STC-4	HDP-250-0500
H40-DSKNR6W	H40-DSKNL6W	SNMG-643	2 1/2	1.625	1.531	10°	3.030	SM-299	LP-70	CK-12	STC-4	HDP-250-0500

Interchangeable Head

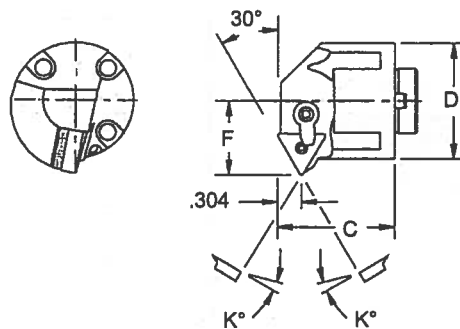
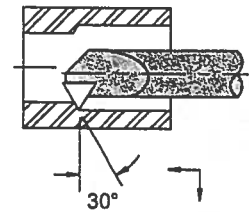
LP-Series with Through Coolant


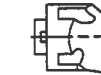






H-DSS



			D	C	F	K°	E	min. bore					
H20-DSSNR4W	—	SNMG-432	1 1/4	1.625	1.000	12°	.336	1.705	SM-297	LP-55	CK-21	STC-20	HDP-188-0375
H24-DSSNR4W	—	SNMG-432	1 1/2	1.625	1.125	12°	.336	2.000	SM-297	LP-55	CK-21	STC-20	HDP-188-0375
H28-DSSNR4W	—	SNMG-432	1 3/4	1.625	1.250	12°	.336	2.250	SM-297	LP-55	CK-21	STC-20	HDP-250-0500
H32-DSSNR6W	—	SNMG-643	2	1.625	1.375	10°	.507	2.500	SM-299	LP-70	CK-12	STC-4	HDP-250-0500
H40-DSSNR6W	—	SNMG-643	2 1/2	1.625	1.750	8°	.507	3.250	SM-299	LP-70	CK-12	STC-4	HDP-250-0500

H-DTE

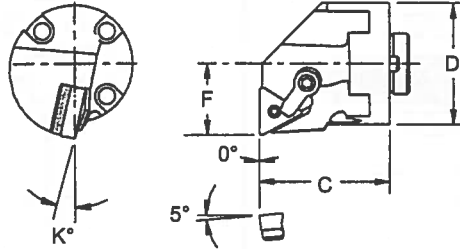
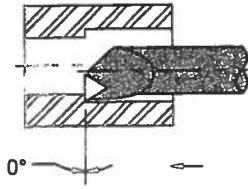


			D	C	F	K°	min. bore					
H32-DTENR3W	—	TNMG-332	2	1.625	1.250	8°	1.370	SM-290	LP-30	CK-21	STC-20	HDP-250-0500
H40-DTENR3W	—	TNMG-332	2 1/2	1.625	1.500	8°	1.750	SM-290	LP-31	CK-21	STC-20	HDP-250-0500

Interchangeable Head

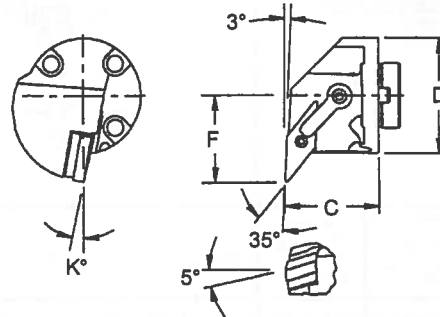
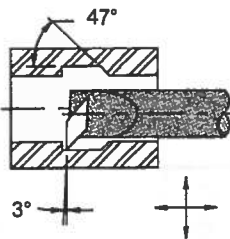
LP-Series with Through Coolant

H-DTF



			D	C	F	K°	min. bore					
H20-DTFNR3W	H20-DTFNL3W	TNMG-332	1 1/4	1.625	.765	10°	1.470	SM-290	LP-30	CK-21	STC-20	HDP-188-0375
H24-DTFNR3W	H24-DTFNL3W	TNMG-332	1 1/2	1.625	.890	10°	1.760	SM-290	LP-31	CK-21	STC-20	HDP-188-0375
H28-DTFNR3W	H28-DTFNL3W	TNMG-332	1 3/4	1.625	1.015	10°	2.010	SM-290	LP-31	CK-21	STC-20	HDP-250-0500
H32-DTFNR4W	H32-DTFNL4W	TNMG-432	2	1.625	1.281	8°	2.400	SM-292	LP-55	CK-9	STC-4	HDP-250-0500
H36-DTFNR4W	H36-DTFNL4W	TNMG-432	2 1/4	1.625	1.406	8°	2.650	SM-292	LP-56	CK-9	STC-4	HDP-250-0500
H40-DTFNR4W	H40-DTFNL4W	TNMG-432	2 1/2	1.625	1.531	8°	3.030	SM-292	LP-56	CK-9	STC-4	HDP-250-0500
H32-DTFNR5W	—	TNMG-543	2	1.625	1.281	12°	2.400	SM-293	LP-65	CK-24	STC-19	HDP-250-0500
H40-DTFNR5W	—	TNMG-543	2 1/2	2.000	1.531	10°	3.030	SM-293	LP-66	CK-24	STC-19	HDP-250-0500

H-DVU

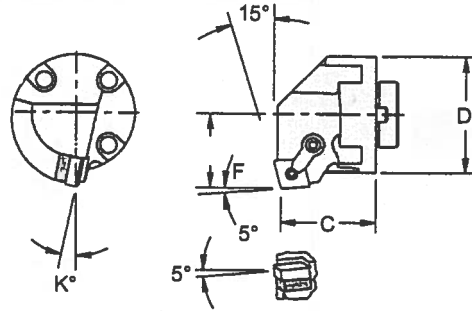
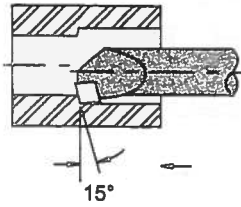


			D	C	F	K°	min. bore					
H20-DVUNR3W	H20-DVUNL3W	VNMG-332	1 1/4	1.625	1.000	10°	1.750	SM-310	LP-31	CK-22	STC-20	HDP-188-0375
H24-DVUNR3W	H24-DVUNL3W	VNMG-332	1 1/2	1.625	1.125	10°	2.000	SM-310	LP-31	CK-22	STC-20	HDP-188-0375
H32-DVUNR4W	H32-DVUNL4W	VNMG-432	2	1.625	1.375	10°	2.500	SM-386	LP-55	CK-26	STC-4	HDP-250-0500
H40-DVUNR4W	H40-DVUNL4W	VNMG-432	2 1/2	1.625	1.750	10°	3.250	SM-386	LP-55	CK-26	STC-4	HDP-250-0500

Interchangeable Head

KL-Series with Through Coolant

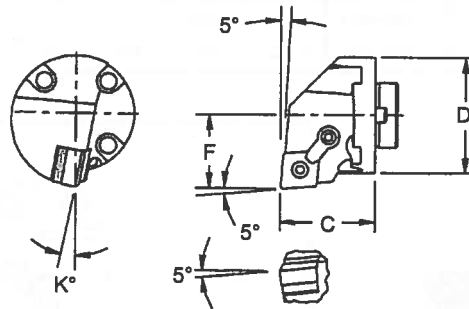
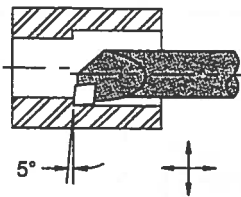
H-MCK



OPTIONAL
HARDWARE

			D	C	F	K°	min. bore							
H24-MCKNR4	H24-MCKNL4	CNMG-432	1 1/2	1.625	.890	12°	1.760	ICSN-433	KL-46	CK-20	STC-20	HDP-188-0375	KAS-4	—
H32-MCKNR4	H32-MCKNL4	CNMG-432	2	1.625	1.281	12°	2.400	ICSN-433	KL-46	CK-20	STC-20	HDP-250-0500	KAS-4	—
H40-MCKNR5	H40-MCKNL5	CNMG-543	2 1/2	1.625	1.531	10°	3.030	ICSN-533	KL-58	CK-12	STC-4	HDP-250-0500	KAS-5	—
H40-MCKNR6	H40-MCKNL6	CNMG-643	2 1/2	1.625	1.531	10°	3.030	ICSN-633	KL-68	CK-12	STC-4	HDP-250-0500	KAS-6	ICSN-643

H-MCL



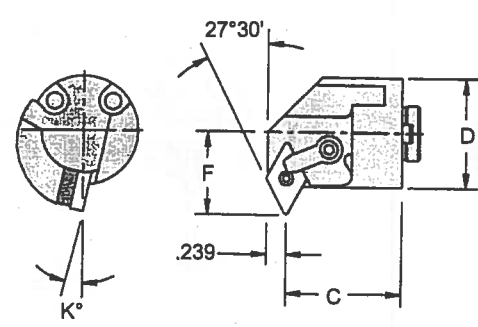
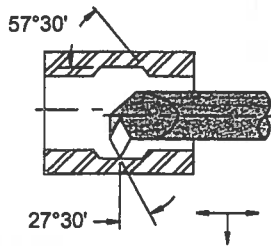
OPTIONAL
HARDWARE

			D	C	F	K°	min. bore							
H16-MCLNR3	H16-MCLNL3	CNMG-322	1	1.625	.640	10°	1.200	—	KL-33	CK-6	STC-5	HDP-040-100M	—	—
H20-MCLNR3	H20-MCLNL3	CNMG-322	1 1/4	1.625	.765	10°	1.470	ICSN-332	KL-34L	CK-6	STC-5	HDP-188-0375	KAS-3	ICSN-322
H24-MCLNR3	H24-MCLNL3	CNMG-322	1 1/2	1.625	.890	8°	1.760	ICSN-332	KL-34L	CK-6	STC-5	HDP-188-0375	KAS-3	ICSN-322
H28-MCLNR3	H28-MCLNL3	CNMG-322	1 3/4	1.625	1.015	8°	2.010	ICSN-332	KL-34L	CK-6	STC-5	HDP-250-0500	KAS-3	ICSN-322
H32-MCLNR3	H32-MCLNL3	CNMG-322	2	1.625	1.281	8°	2.400	ICSN-332	KL-34L	CK-6	STC-5	HDP-250-0500	KAS-3	ICSN-322
H16-MCLNR4	H16-MCLNL4	CNMG-432	1	1.625	.640	14°	1.200	—	KL-44	CK-7	STC-9	HDP-040-100M	—	—
H20-MCLNR4	H20-MCLNL4	CNMG-432	1 1/4	1.625	.765	14°	1.470	ICSN-433	KL-46	CK-20	STC-20	HDP-188-0375	KAS-4	—
H24-MCLNR4	H24-MCLNL4	CNMG-432	1 1/2	1.625	.890	12°	1.760	ICSN-433	KL-46	CK-20	STC-20	HDP-188-0375	KAS-4	—
H28-MCLNR4	H28-MCLNL4	CNMG-432	1 3/4	1.625	1.015	12°	2.010	ICSN-433	KL-46	CK-20	STC-20	HDP-250-0500	KAS-4	—
H32-MCLNR4	H32-MCLNL4	CNMG-432	2	1.625	1.281	12°	2.400	ICSN-433	KL-46	CK-20	STC-20	HDP-250-0500	KAS-4	—
H24-MCLNR5	H24-MCLNL5	CNMG-543	1 1/2	1.625	.890	12°	1.760	ICSN-533	KL-58	CK-12	STC-4	HDP-188-0375	KAS-5	—
H32-MCLNR5	H32-MCLNL5	CNMG-543	2	1.625	1.281	12°	2.400	ICSN-533	KL-58	CK-12	STC-4	HDP-250-0500	KAS-5	—
H40-MCLNR5	H40-MCLNL5	CNMG-543	2 1/2	1.625	1.531	10°	3.030	ICSN-533	KL-58	CK-12	STC-4	HDP-250-0500	KAS-5	—
H32-MCLNR6	H32-MCLNL6	CNMG-643	2	1.625	1.281	12°	2.400	ICSN-633	KL-68	CK-12	STC-4	HDP-250-0500	KAS-6	ICSN-643
H40-MCLNR6	H40-MCLNL6	CNMG-643	2 1/2	1.625	1.531	10°	3.030	ICSN-633	KL-68	CK-12	STC-4	HDP-250-0500	KAS-6	ICSN-643

Interchangeable Head

KL-Series with Through Coolant

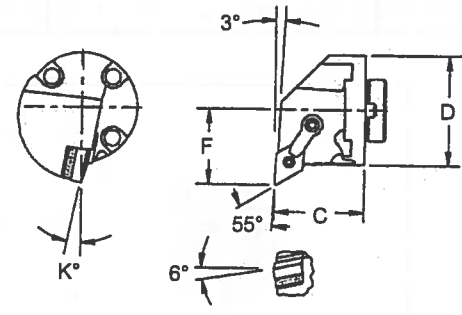
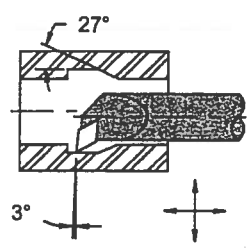
H-MDP



OPTIONAL
HARDWARE

			D	C	F	K°	min. bore							
H20-MDPNR4	H20-MDPNL4	DNMG-432	1 1/4	1.625	1.00	12°	1.705	IDSN-443	KL-46L	CK-22	STC-20	HDP-188-0375	KAS-4	IDSN-433
H24-MDPNR4	H24-MDPNL4	DNMG-432	1 1/2	1.625	1.125	10°	2.000	IDSN-443	KL-46L	CK-22	STC-20	HDP-188-0375	KAS-4	IDSN-433

H-MDU



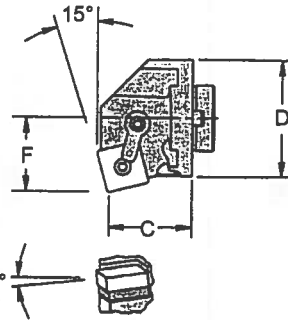
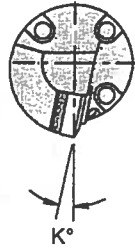
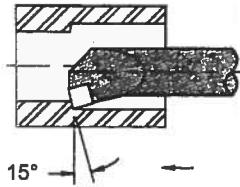
OPTIONAL
HARDWARE

			D	C	F	K°	min. bore							
H16-MDUNR3	H16-MDUNL3	DNMG-332	1	1.625	.750	14°	1.300	—	KL-33	CK-7	STC-5	HDP-040-100M	—	—
H20-MDUNR3	H20-MDUNL3	DNMG-332	1 1/4	1.625	1.000	12°	1.705	IDSN-322	KL-34L	CK-7	STC-5	HDP-188-0375	KAS-3	IDSN-332
H24-MDUNR3	H24-MDUNL3	DNMG-332	1 1/2	1.625	1.125	10°	2.000	IDSN-322	KL-34L	CK-7	STC-5	HDP-188-0375	KAS-3	IDSN-332
H28-MDUNR3	H28-MDUNL3	DNMG-332	1 3/4	1.625	1.250	10°	2.250	IDSN-322	KL-34L	CK-7	STC-5	HDP-250-0500	KAS-3	IDSN-332
H32-MDUNR3	H32-MDUNL3	DNMG-332	2	1.625	1.375	8°	2.500	IDSN-322	KL-34L	CK-7	STC-5	HDP-250-0500	KAS-3	IDSN-332
H20-MDUNR4	H20-MDUNL4	DNMG-432	1 1/4	1.625	1.000	12°	1.705	IDSN-443	KL-46L	CK-12	STC-4	HDP-188-0375	KAS-4	IDSN-433
H24-MDUNR4	H24-MDUNL4	DNMG-432	1 1/2	1.625	1.125	10°	2.000	IDSN-443	KL-46L	CK-12	STC-4	HDP-188-0375	KAS-4	IDSN-433
H28-MDUNR4	H28-MDUNL4	DNMG-432	1 3/4	1.625	1.250	10°	2.250	IDSN-443	KL-46L	CK-12	STC-4	HDP-250-0500	KAS-4	IDSN-433

Interchangeable Head

KL-Series with Through Coolant

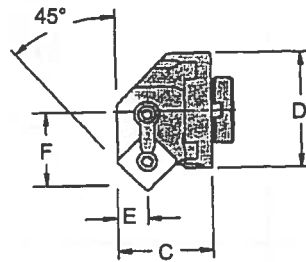
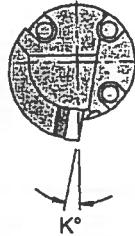
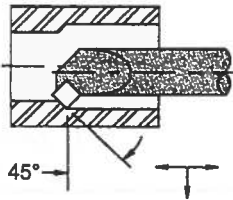
H-MSK



OPTIONAL
HARDWARE

			D	C	F	K°	min. bore							
H20-MSKNR4	H20-MSKNL4	SNMG-432	1 1/4	1.625	.765	14°	1.470	—	KL-44	CK-21	STC-20	HDP-188-0375	—	—
H24-MSKNR4	H24-MSKNL4	SNMG-432	1 1/2	1.625	.890	10°	1.760	ISSN-433	KL-46	CK-21	STC-20	HDP-188-0375	KAS-4	ISSN-443
H28-MSKNR4	H28-MSKNL4	SNMG-432	1 3/4	1.625	1.015	10°	2.010	ISSN-433	KL-46	CK-21	STC-20	HDP-250-0500	KAS-4	ISSN-443
H32-MSKNR4	H32-MSKNL4	SNMG-432	2	1.625	1.281	12°	2.400	ISSN-433	KL-46	CK-21	STC-20	HDP-250-0500	KAS-4	ISSN-443
H40-MSKNR6	H40-MSKNL6	SNMG-643	2 1/2	1.625	1.531	10°	3.030	ISSN-633	KL-68	CK-12	STC-4	HDP-250-0500	KAS-6	ISSN-643

H-MSS



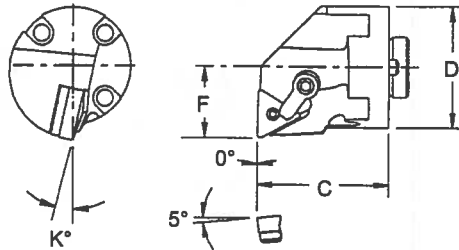
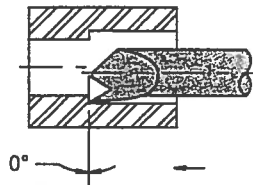
OPTIONAL
HARDWARE

			D	C	F	K°	E	min. bore							
H20-MSSNR4	—	SNMG-432	1 1/4	1.625	1.000	12°	.336	1.705	—	KL-44	CK-21	STC-20	HDP-188-0375	—	—
H24-MSSNR4	—	SNMG-432	1 1/2	1.625	1.125	10°	.336	2.000	ISSN-433	KL-46	CK-21	STC-20	HDP-188-0375	KAS-4	ISSN-443
H28-MSSNR4	—	SNMG-432	1 3/4	1.625	1.250	10°	.336	2.250	ISSN-433	KL-46	CK-21	STC-20	HDP-250-0500	KAS-4	ISSN-443
H40-MSSNR6	—	SNMG-643	2 1/2	1.625	1.750	10°	.507	3.250	ISSN-633	KL-68	CK-12	STC-4	HDP-250-0500	KAS-6	ISSN-643

Interchangeable Head

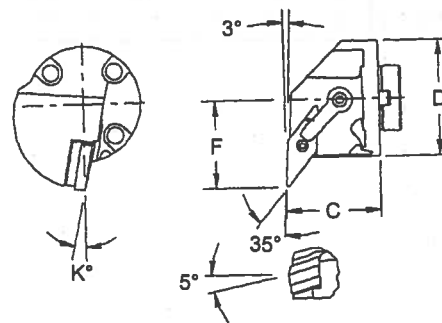
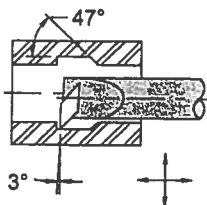
KL-Series with Through Coolant

H-MTF



													OPTIONAL HARDWARE	
			D	C	F	K°	min. bore							
H16-MTFNR3	H16-MTFNL3	TNMG-332	1	1.625	.640	12°	1.200	—	KL-33L	CK-7	STC-9	HDP-040-100M	—	—
H20-MTFNR3	H20-MTFNL3	TNMG-332	1 1/4	1.625	.765	12°	1.470	—	KL-33L	CK-7	STC-9	HDP-188-0375	—	—
H24-MTFNR3	H24-MTFNL3	TNMG-332	1 1/2	1.625	.890	10°	1.760	ITSN-323	KL-34L	CK-7	STC-9	HDP-188-0375	KAS-3	ITSN-333
H28-MTFNR3	H28-MTFNL3	TNMG-332	1 3/4	1.625	1.015	10°	2.010	ITSN-323	KL-34L	CK-7	STC-9	HDP-250-0500	KAS-3	ITSN-333
H32-MTFNR4	H32-MTFNL4	TNMG-432	2	1.625	1.281	8°	2.400	ITSN-433	KL-46	CK-9	STC-4	HDP-250-0500	KAS-4	ITSN-423
H40-MTFNR4	H40-MTFNL4	TNMG-432	2 1/2	1.625	1.531	6°	3.030	ITSN-433	KL-46	CK-9	STC-4	HDP-250-0500	KAS-4	ITSN-423

H-MVU

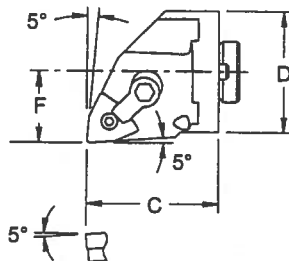
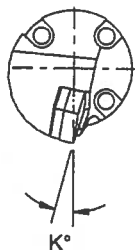
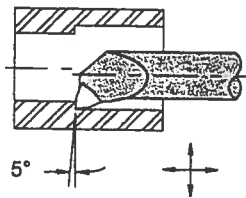


													OPTIONAL HARDWARE	
			D	C	F	K°	min. bore							
H20-MVUNR3	H20-MVUNL3	VNMG-332	1 1/4	1.625	1.000	10°	1.705	IVSN-322	KL-34L	CK-22	STC-20	HDP-188-0375	KAS-3	—
H24-MVUNR3	H24-MVUNL3	VNMG-332	1 1/2	1.625	1.125	8°	2.000	IVSN-322	KL-34L	CK-22	STC-20	HDP-188-0375	KAS-3	—
H32-MVUNR4	H32-MVUNL4	VNMG-432	2	1.625	1.375	10°	2.500	IVSN-433	KL-46	CK-43	STC-4	HDP-250-0500	KAS-4	—
H40-MVUNR4	H40-MVUNL4	VNMG-432	2 1/2	1.625	1.750	10°	3.030	IVSN-433	KL-46	CK-43	STC-4	HDP-250-0500	KAS-4	—

Interchangeable Head

KL-Series with Through Coolant

H-MWL



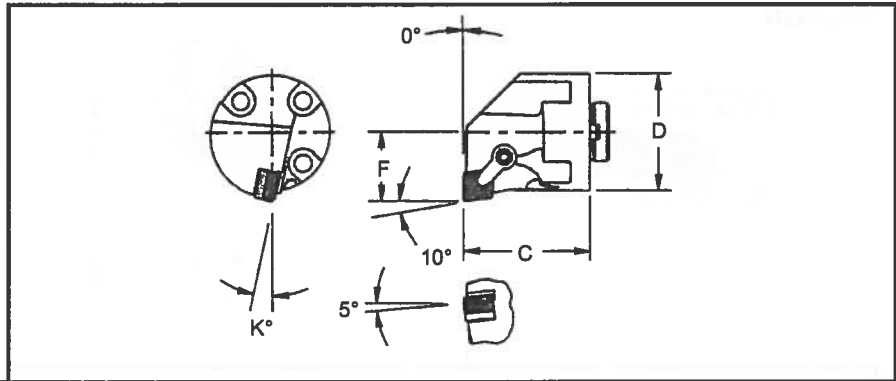
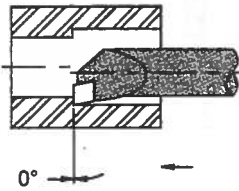
OPTIONAL
HARDWARE

			D	C	F	K°	min. bore							
H16-MWLNR3	H16-MWLNL3	WNMG-322	1	1.625	.640	12°	1.200	—	KL-33	CK-6	STC-11	HDP-040-100M	—	—
H20-MWLNR3	H20-MWLNL3	WNMG-322	1 1/4	1.625	.765	14°	1.470	IWSN-332	KL-34L	CK-6	STC-5	HDP-188-0375	KAS-3	IWSN-322
H24-MWLNR3	H24-MWLNL3	WNMG-322	1 1/2	1.625	.890	12°	1.760	IWSN-332	KL-34L	CK-6	STC-5	HDP-188-0375	KAS-3	IWSN-322
H28-MWLNR3	H28-MWLNL3	WNMG-322	1 3/4	1.625	1.015	12°	2.010	IWSN-332	KL-34L	CK-6	STC-5	HDP-250-0500	KAS-3	IWSN-322
H32-MWLNR3	H32-MWLNL3	WNMG-322	2	1.625	1.281	10°	2.400	IWSN-332	KL-34L	CK-6	STC-5	HDP-250-0500	KAS-3	IWSN-322
H16-MWLNR4	H16-MWLNL4	WNMG-432	1	1.625	.640	14°	1.200	—	KL-44	CK-20	STC-11	HDP-040-100M	—	—
H20-MWLNR4	H20-MWLNL4	WNMG-432	1 1/4	1.625	.765	14°	1.470	IWSN-433	KL-46	CK-20	STC-20	HDP-188-0375	—	—
H24-MWLNR4	H24-MWLNL4	WNMG-432	1 1/2	1.625	.890	14°	1.760	IWSN-433	KL-46	CK-20	STC-20	HDP-188-0375	—	—
H28-MWLNR4	H28-MWLNL4	WNMG-432	1 3/4	1.625	1.015	14°	2.010	IWSN-433	KL-46	CK-20	STC-20	HDP-250-0500	—	—
H32-MWLNR4	H32-MWLNL4	WNMG-432	2	1.625	1.281	14°	2.400	IWSN-433	KL-46	CK-20	STC-20	HDP-250-0500	—	—

Interchangeable Head

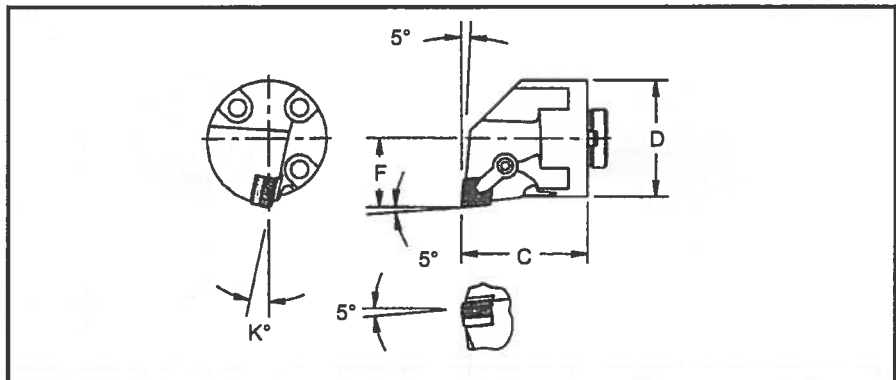
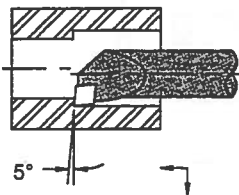
Kendex Negative with Through Coolant - for Polycrystalline Inserts

H-CCFN



			D	C	F	K°	min. bore						
H16-CCFNR3	H16-CCFNL3	CNM-322	1	1.625	.640	14°	1.200	—	—	CK-7LP	STC-9	HDP-040-100M	—
H20-CCFNR3	H20-CCFNL3	CNM-322	1 1/4	1.625	.765	14°	1.470	SM-432	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-433
H24-CCFNR3	H24-CCFNL3	CNM-322	1 1/2	1.625	.890	12°	1.760	SM-432	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-433
H32-CCFNR3	H32-CCFNL3	CNM-322	2	1.625	1.281	12°	2.400	SM-432	SL-344	CK-7LP	STC-9	HDP-250-0500	SM-433

H-CCLN

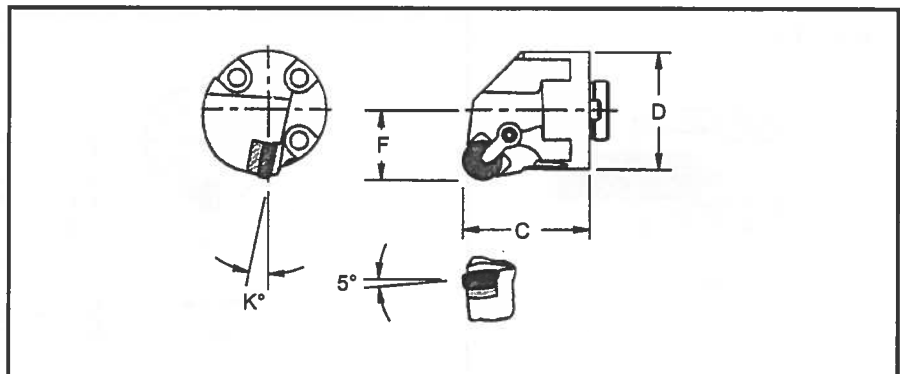
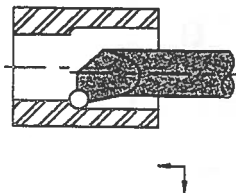


			D	C	F	K°	min. bore						
H16-CCLNR3	H16-CCLNL3	CNM-322	1	1.625	.640	14°	1.200	—	—	CK-7LP	STC-9	HDP-040-100M	—
H20-CCLNR3	H20-CCLNL3	CNM-322	1 1/4	1.625	.765	14°	1.470	SM-432	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-433
H24-CCLNR3	H24-CCLNL3	CNM-322	1 1/2	1.625	.890	12°	1.760	SM-432	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-433
H32-CCLNR3	H32-CCLNL3	CNM-322	2	1.625	1.281	12°	2.400	SM-432	SL-344	CK-7LP	STC-9	HDP-250-0500	SM-433

Interchangeable Head

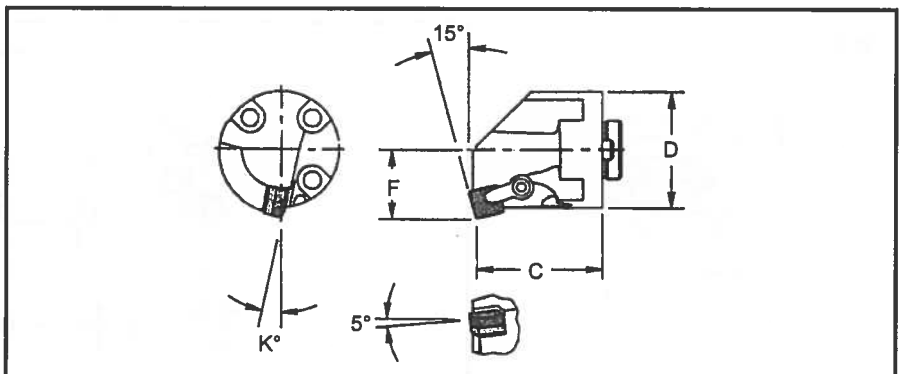
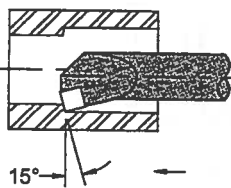
Kendex Negative with Through Coolant - for Polycrystalline Inserts

H-CRGN



			D	C	F	K°	min. bore						
H16-CRGNR4	H16-CRGNL4	RNM-42	1	1.625	.640	10°	1.200	—	—	CK-7LP	STC-9	HDP-040-100M	—
H20-CRGNR4	H20-CRGNL4	RNM-42	1 1/4	1.625	.765	14°	1.470	SM-437	SL-344	CK-7LP	STC-9	HDP-188-0375	—
H24-CRGNR4	H24-CRGNL4	RNM-42	1 1/2	1.625	.890	12°	1.760	SM-437	SL-344	CK-7LP	STC-9	HDP-188-0375	—
H32-CRGNR4	H32-CRGNL4	RNM-42	2	1.625	1.281	12°	2.400	SM-437	SL-344	CK-7LP	STC-9	HDP-250-0500	—

H-CSKN

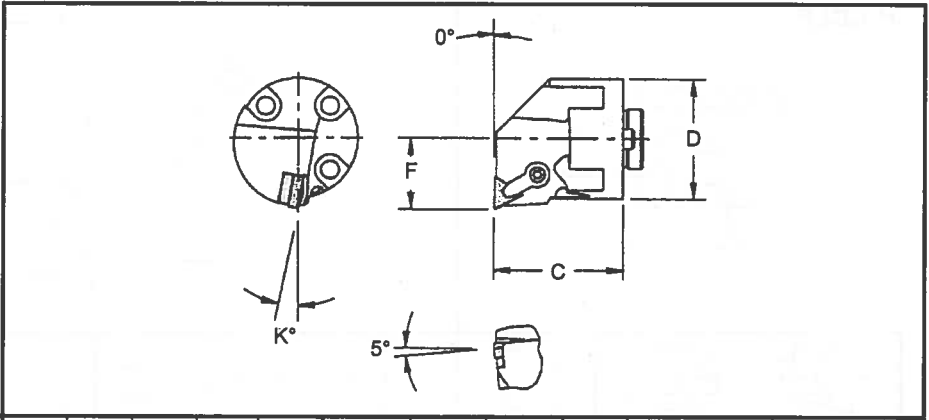
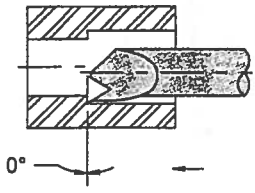


			D	C	F	K°	min. bore						
H16-CSKNR3	H16-CSKNL3	SNM-322	1	1.625	.640	14°	1.200	—	—	CK-7LP	STC-9	HDP-040-100M	—
H20-CSKNR3	H20-CSKNL3	SNM-322	1 1/4	1.625	.765	14°	1.470	SM-87	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-438
H24-CSKNR3	H24-CSKNL3	SNM-322	1 1/2	1.625	.890	12°	1.760	SM-87	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-438
H32-CSKNR3	H32-CSKNL3	SNM-322	2	1.625	1.281	12°	2.400	SM-87	SL-344	CK-7LP	STC-9	HDP-250-0500	SM-438
H16-CSKNR4	H16-CSKNL4	SNM-422	1	1.625	.640	14°	1.200	—	—	CK-7LP	STC-9	HDP-040-100M	—
H20-CSKNR4	H20-CSKNL4	SNM-422	1 1/4	1.625	.765	14°	1.470	SM-435	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-436
H24-CSKNR4	H24-CSKNL4	SNM-422	1 1/2	1.625	.890	12°	1.760	SM-435	SL-344	CK-7LP	STC-9	HDP-188-0375	SM-436
H32-CSKNR4	H32-CSKNL4	SNM-422	2	1.625	1.281	12°	2.400	SM-435	SL-344	CK-7LP	STC-9	HDP-250-0500	SM-436

Interchangeable Head

Kendex Negative with Through Coolant - for Polycrystalline Inserts

H-CTFN

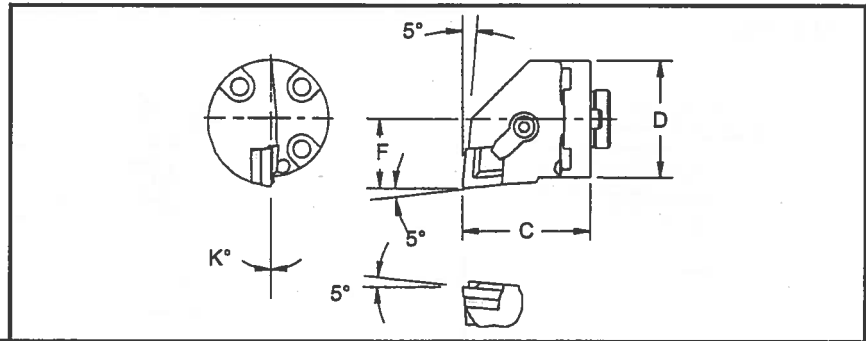
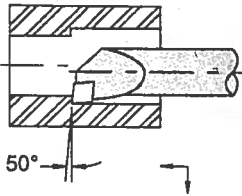


			D	C	F	K°	min. bore						
H16-CTFNR2	H16-CTFNL2	TNM-221	1	1.625	.640	14°	1.200	—	—	CK-7LP	STC-9	HDP-040-100M	—
H20-CTFNR2	H20-CTFNL2	TNM-221	1 1/4	1.625	.765	14°	1.470	SM-429	SL-342	CK-7LP	STC-9	HDP-188-0375	SM-430, SM-431
H24-CTFNR2	H24-CTFNL2	TNM-221	1 1/2	1.625	.890	12°	1.760	SM-429	SL-342	CK-7LP	STC-9	HDP-188-0375	SM-430, SM-431
H32-CTFNR2	H32-CTFNL2	TNM-221	2	1.625	1.281	12°	2.400	SM-429	SL-342	CK-7LP	STC-9	HDP-250-0500	SM-430, SM-431

Interchangeable Head

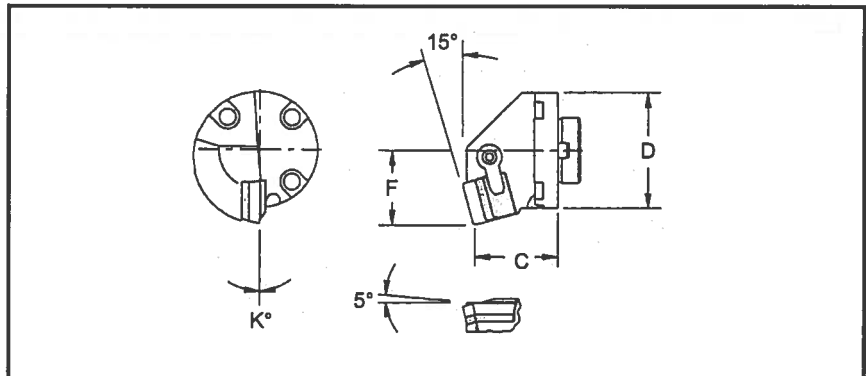
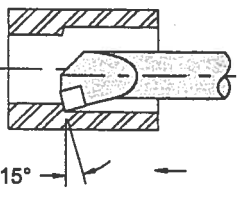
Kendex Positive with Through Coolant

H-CCLP



			D	C	F	K°	min. bore					
H20-CCLPR4W	H20-CCLPL4W	CPG-422	1 1/4	1.625	.765	0°	1.470	SM-369	S-111	CK-20	STC-20	HDP-188-0375
H24-CCLPR4W	H24-CCLPL4W	CPG-422	1 1/2	1.625	.890	0°	1.760	SM-369	S-111	CK-20	STC-20	HDP-188-0375
H32-CCLPR6W	H32-CCLPL6W	CPG-633	2	1.625	1.281	0°	2.400	SM-190	S-125	CK-12	STC-4	HDP-250-0500
H40-CCLPR6W	H40-CCLPL6W	CPG-633	2 1/2	1.625	1.531	0°	3.030	SM-190	S-125	CK-12	STC-4	HDP-250-0500

H-CSKP

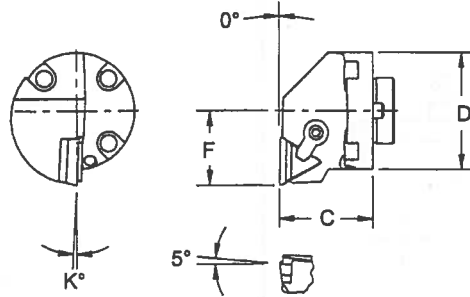
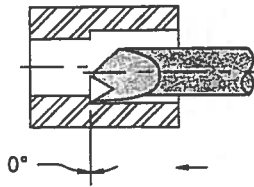


			D	C	F	K°	min. bore					
H20-CSKPR4W	H20-CSKPL4W	SPG-422	1 1/4	1.625	.765	0°	1.470	SM-40	S-111	CK-10	STC-8	HDP-188-0375
H24-CSKPR4W	H24-CSKPL4W	SPG-422	1 1/2	1.625	.890	0°	1.760	SM-40	S-111	CK-10	STC-8	HDP-188-0375
H28-CSKPR4W	H28-CSKPL4W	SPG-422	1 3/4	1.625	1.015	0°	2.010	SM-40	S-111	CK-10	STC-8	HDP-250-0500
H32-CSKPR6W	H32-CSKPL6W	SPG-633	2	1.625	1.281	0°	2.400	SM-36	S-125	CK-13	STC-4	HDP-250-0500
H36-CSKPR6W	—	SPG-633	2 1/4	1.625	1.406	0°	2.650	SM-36	S-125	CK-13	STC-4	HDP-250-0500
H40-CSKPR6W	—	SPG-633	2 1/2	1.625	1.531	0°	3.030	SM-36	S-125	CK-13	STC-4	HDP-250-0500

Interchangeable Head

Kendex Positive with Through Coolant

H-CTFP

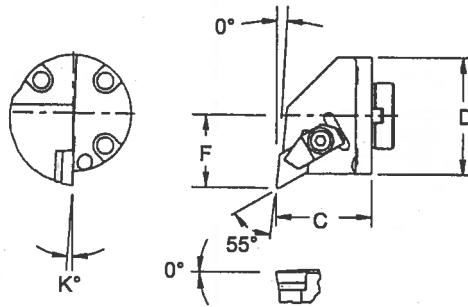
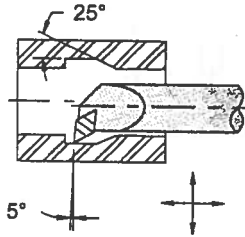


			D	C	F	K°	min. bore					
H20-CTFPR3W	H20-CTFPL3W	TPG-322	1 1/4	1.625	.765	3° neg.	1.470	SM-41	S-111	CK-10	STC-8	HDP-188-0375
H24-CTFPR3W	H24-CTFPL3W	TPG-322	1 1/2	1.625	.890	3° neg.	1.760	SM-41	S-111	CK-10	STC-8	HDP-188-0375
H28-CTFPR3W	H28-CTFPL3W	TPG-322	1 3/4	1.625	1.015	3° neg.	2.010	SM-41	S-111	CK-10	STC-8	HDP-250-0500
H24-CTFPR4W	H24-CTFPL4W	TPG-433	1 1/2	1.625	.890	0°	1.760	SM-37	S-125	CK-10	STC-8	HDP-188-0375
H28-CTFPR4W	H28-CTFPL4W	TPG-433	1 3/4	1.625	1.015	0°	2.010	SM-37	S-125	CK-10	STC-8	HDP-250-0500
H32-CTFPR4W	H32-CTFPL4W	TPG-433	2	1.625	1.281	0°	2.400	SM-37	S-125	CK-10	STC-4	HDP-250-0500
H36-CTFPR4W	H36-CTFPL4W	TPG-433	2 1/4	1.625	1.406	0°	2.650	SM-37	S-125	CK-10	STC-4	HDP-250-0500
H40-CTFPR4W	H40-CTFPL4W	TPG-433	2 1/2	1.625	1.531	0°	3.030	SM-37	S-125	CK-10	STC-4	HDP-250-0500

Interchangeable Head

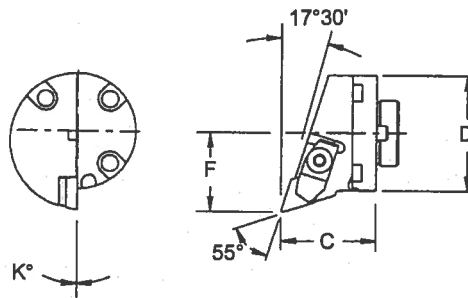
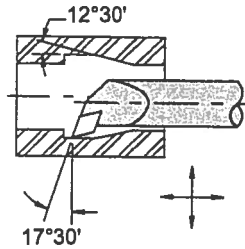
Top Notch Profiling with Through Coolant

H-NDL



			D	C	F	K°	min. bore						
H20-NDLPR4W		DPGR-432	1 1/4	1.625	.875	3°	1.750	SM-414	S-111	CM-118	—	S-532	HDP-188-0375
	H20-NDLPL4W	DPGR-432	1 1/4	1.625	.875	3°	1.750	SM-414	S-111	—	CM-119	S-532	HDP-188-0375
H24-NDLPR4W		DPGR-432	1 1/2	1.625	1.000	2°	2.000	SM-414	S-111	CM-118	—	S-532	HDP-188-0375
	H24-NDLPL4W	DPGR-432	1 1/2	1.625	1.000	2°	2.000	SM-414	S-111	—	CM-119	S-532	HDP-188-0375
H28-NDLPR4W		DPGR-432	1 3/4	1.625	1.125	2°	2.250	SM-414	S-111	CM-118	—	S-532	HDP-250-0500
	H28-NDLPL4W	DPGR-432	1 3/4	1.625	1.125	2°	2.250	SM-414	S-111	—	CM-119	S-532	HDP-250-0500
H32-NDLPR4W		DPGR-432	2	1.625	1.250	2°	2.500	SM-414	S-111	CM-118	—	S-532	HDP-250-0500
	H32-NDLPL4W	DPGR-432	2	1.625	1.250	2°	2.500	SM-414	S-111	—	CM-119	S-532	HDP-250-0500
H40-NDLPR4W		DPGR-432	2 1/2	1.625	1.625	0°	3.125	SM-414	S-111	CM-118	—	S-532	HDP-250-0500
	H40-NDLPL4W	DPGR-432	2 1/2	1.625	1.625	0°	3.125	SM-414	S-111	—	CM-119	S-532	HDP-250-0500

H-NDQ

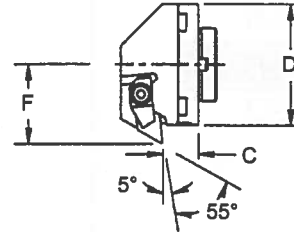
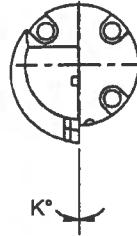
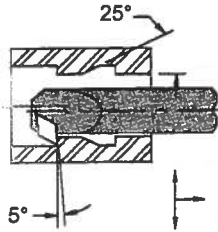


			D	C	F	K°	min. bore						
H20-NDQPR4W		DPGR-432	1 1/4	1.625	.875	3°	1.585	SM-414	S-111	CM-117	—	S-530	HDP-188-0375
	H20-NDQPL4W	DPGR-432	1 1/4	1.625	.875	3°	1.585	SM-414	S-111	—	CM-116	S-530	HDP-188-0375
H24-NDQPR4W		DPGR-432	1 1/2	1.625	1.000	2°	1.835	SM-414	S-111	CM-117	—	S-532	HDP-188-0375
	H24-NDQPL4W	DPGR-432	1 1/2	1.625	1.000	2°	1.835	SM-414	S-111	—	CM-116	S-532	HDP-188-0375
H32-NDQPR4W		DPGR-432	2	1.625	1.375	0°	2.495	SM-414	S-111	CM-117	—	S-532	HDP-250-0500
	H32-NDQPL4W	DPGR-432	2	1.625	1.375	0°	2.495	SM-414	S-111	—	CM-116	S-532	HDP-250-0500
H40-NDQPR4W		DPGR-432	2 1/2	1.625	1.625	0°	3.125	SM-414	S-111	CM-117	—	S-532	HDP-250-0500
	H40-NDQPL4W	DPGR-432	2 1/2	1.625	1.625	0°	3.125	SM-414	S-111	—	CM-116	S-532	HDP-250-0500

Interchangeable Head

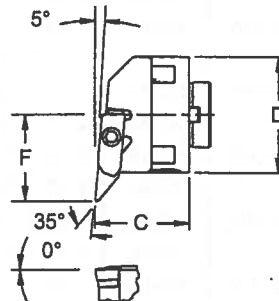
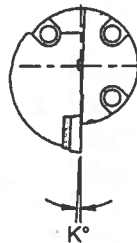
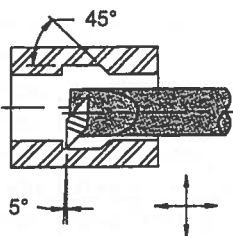
Top Notch Profiling with Through Coolant

H-NDX



			D	C	F	K°	min. bore						
H20-NDXPR4W		DPGR-432	1 1/4	.750	1.000	0°	1.705	SM-414	S-111	CM-118	—	S-532	HDP-188-0375
	H20-NDXPL4W	DPGR-432	1 1/4	.750	1.000	0°	1.705	SM-414	S-111	—	CM-119	S-532	HDP-188-0375
H24-NDXPR4W		DPGR-432	1 1/2	.750	1.125	0°	2.000	SM-414	S-111	CM-118	—	S-532	HDP-188-0375
	H24-NDXPL4W	DPGR-432	1 1/2	.750	1.125	0°	2.000	SM-414	S-111	—	CM-119	S-532	HDP-188-0375
H32-NDXPR4W		DPGR-432	2	.750	1.375	0°	2.500	SM-414	S-111	CM-118	—	S-532	HDP-250-0500
	H32-NDXPL4W	DPGR-432	2	.750	1.375	0°	2.500	SM-414	S-111	—	CM-119	S-532	HDP-250-0500
H40-NDXPR4W		DPGR-432	2 1/2	.750	1.625	0°	3.125	SM-414	S-111	CM-118	—	S-532	HDP-250-0500
	H40-NDXPL4W	DPGR-432	2 1/2	.750	1.625	0°	3.125	SM-414	S-111	—	CM-119	S-532	HDP-250-0500

H-NVL

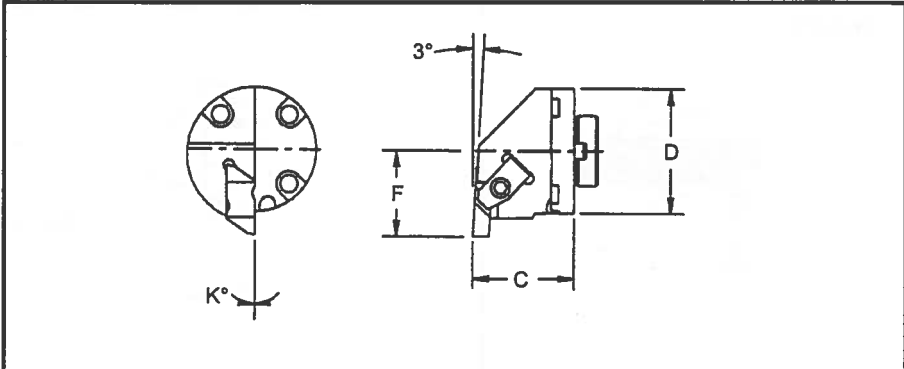
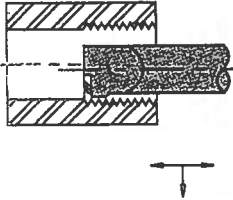


			D	C	F	K°	min. bore						
H20-NVLPR3W		VPGR-332	1 1/4	1.625	1.125	2°	1.830	SM-412	S-959	CM-113	—	S-412	HDP-188-0375
	H20-NVLPL3W	VPGR-332	1 1/4	1.625	1.125	2°	1.830	SM-412	S-959	—	CM-114	S-412	HDP-188-0375
H24-NVLPR3W		VPGR-332	1 1/2	1.625	1.250	2°	2.120	SM-412	S-959	CM-113	—	S-412	HDP-188-0375
	H24-NVLPL3W	VPGR-332	1 1/2	1.625	1.250	2°	2.120	SM-412	S-959	—	CM-114	S-412	HDP-188-0375
H32-NVLPR3W		VPGR-332	2	1.625	1.500	2°	2.620	SM-412	S-959	CM-113	—	S-412	HDP-250-0500
	H32-NVLPL3W	VPGR-332	2	1.625	1.500	2°	2.620	SM-412	S-959	—	CM-114	S-412	HDP-250-0500
H40-NVLPR3W		VPGR-332	2 1/2	1.625	2.000	0°	3.500	SM-412	S-959	CM-113	—	S-412	HDP-250-0500
	H40-NVLPL3W	VPGR-332	2 1/2	1.625	2.000	0°	3.500	SM-412	S-959	—	CM-114	S-412	HDP-250-0500

Interchangeable Head

Top Notch Threading and Grooving with Through Coolant

H-NE

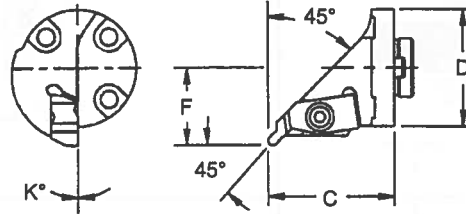
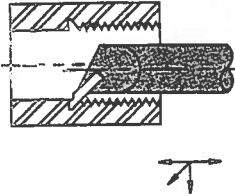


			D	C	F	K°	min. bore						
H20-NER3W		NG-3L	1 1/4	1.625	.875	0°	1.750	—	—	—	CM-73	S-412	HDP-188-0375
	H20-NEL3W	NG-3R	1 1/4	1.625	.875	0°	1.750	—	—	CM-72	—	S-412	HDP-188-0375
H24-NER3W		NG-3L	1 1/2	1.625	1.000	0°	2.000	—	—	—	CM-73	S-412	HDP-188-0375
	H24-NEL3W	NG-3R	1 1/2	1.625	1.000	0°	2.000	—	—	CM-72	—	S-412	HDP-188-0375
H28-NER3W		NG-3L	1 3/4	1.625	1.125	0°	2.250	—	—	—	CM-73	S-412	HDP-250-0500
	H28-NEL3W	NG-3R	1 3/4	1.625	1.125	0°	2.250	—	—	CM-72	—	S-412	HDP-250-0500
H32-NER3W		NG-3L	2	1.625	1.250	0°	2.500	—	—	—	CM-73	S-412	HDP-250-0500
	H32-NEL3W	NG-3R	2	1.625	1.250	0°	2.500	—	—	CM-72	—	S-412	HDP-250-0500
H40-NER3W		NG-3L	2 1/2	1.625	1.500	0°	3.000	—	—	—	CM-73	S-412	HDP-250-0500
	H40-NEL3W	NG-3R	2 1/2	1.625	1.500	0°	3.000	—	—	CM-72	—	S-412	HDP-250-0500
H28-NER4W		NG-4L	1 3/4	1.625	1.250	0°	2.500	—	—	—	CM-73	S-412	HDP-250-0500
	H28-NEL4W	NG-4R	1 3/4	1.625	1.250	0°	2.500	—	—	CM-72	—	S-412	HDP-250-0500
H32-NER4W		NG-4L	2	1.625	1.375	0°	2.750	—	—	—	CM-73	S-412	HDP-250-0500
	H32-NEL4W	NG-4R	2	1.625	1.375	0°	2.750	—	—	CM-72	—	S-412	HDP-250-0500
H36-NER4W		NG-4L	2 1/4	1.625	1.500	0°	3.000	—	—	—	CM-73	S-412	HDP-250-0500
	H36-NEL4W	NG-4R	2 1/4	1.625	1.500	0°	3.000	—	—	CM-72	—	S-412	HDP-250-0500
H40-NER4W		NG-4L	2 1/2	1.625	1.625	0°	3.250	—	—	—	CM-73	S-412	HDP-250-0500
	H40-NEL4W	NG-4R	2 1/2	1.625	1.625	0°	3.250	—	—	CM-72	—	S-412	HDP-250-0500
H28-NER6W		NG-6L	1 3/4	1.625	1.250	0°	2.500	—	—	—	CM-121	S-412	HDP-250-0500
	H28-NEL6W	NG-6R	1 3/4	1.625	1.250	0°	2.500	—	—	CM-120	—	S-412	HDP-250-0500
H32-NER6W		NG-6L	2	1.625	1.375	0°	2.750	—	—	—	CM-121	S-412	HDP-250-0500
	H32-NEL6W	NG-6R	2	1.625	1.375	0°	2.750	—	—	CM-120	—	S-412	HDP-250-0500
H40-NER6W		NG-6L	2 1/2	1.625	1.625	0°	3.250	—	—	—	CM-121	S-412	HDP-250-0500
	H40-NEL6W	NG-6R	2 1/2	1.625	1.625	0°	3.250	—	—	CM-120	—	S-412	HDP-250-0500
H20-NER8W		NG-8L	1 1/4	1.625	.875	0°	1.750	—	—	—	CM-145	S-422	HDP-188-0375
	H20-NEL8W	NG-8R	1 1/4	1.625	.875	0°	1.750	—	—	CM-144	—	S-422	HDP-188-0375
H24-NER8W		NG-8L	1 1/2	1.625	1.000	0°	2.000	SM-427	S-111	—	CM-145	S-422	HDP-188-0375
	H24-NEL8W	NG-8R	1 1/2	1.625	1.000	0°	2.000	SM-427	S-111	CM-144	—	S-422	HDP-188-0375
H32-NER8W		NG-8L	2	1.625	1.250	0°	2.500	SM-427	S-111	—	CM-145	S-422	HDP-250-0500
	H32-NEL8W	NG-8R	2	1.625	1.250	0°	2.500	SM-427	S-111	CM-144	—	S-422	HDP-250-0500

Interchangeable Head

Top Notch Threading and Grooving with Through Coolant

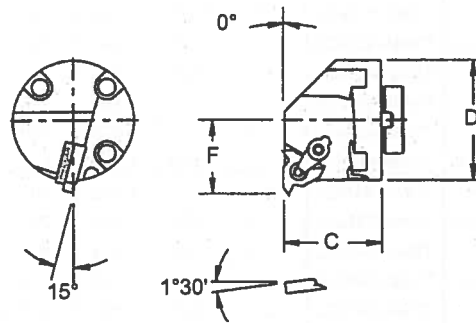
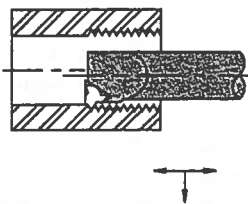
H-NR



Tool Head		Head	D	C	F	K°	min. bore	Head	Head	Head	Head	Head	Head
H20-NRR3	—	NU-3125L	1 1/4	1.625	.875	0°	1.750	—	—	—	CM-73	S-618	HDP-188-0375
H24-NRR3	—	NU-3125L	1 1/2	1.625	1.000	0°	2.000	—	—	—	CM-73	S-618	HDP-188-0375

LT-Threading with Through Coolant

H-LSE

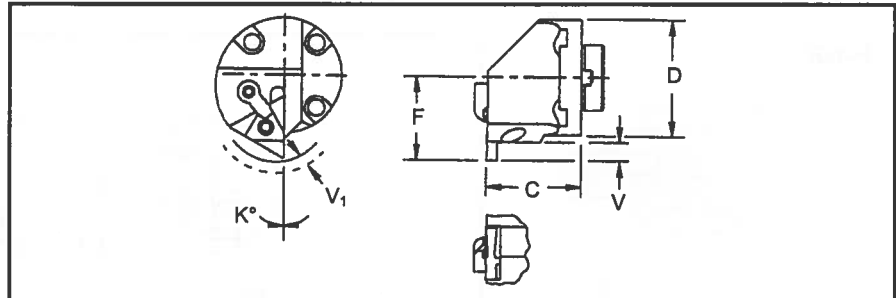
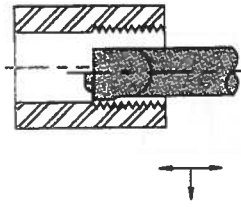


Tool Head		Head	D	C	F	min. bore	Head	Head	Head	Head	Head	Head	Head
H16-LSER2	H16-LSEL2	LT-11NR	1	1.625	.650	1.200	S-SN2T	—	—	—	—	FT-8	HDP-040-100M
		LT-11NL	1	1.625	.650	1.200	S-SN2T	—	—	—	—	FT-8	HDP-040-100M
H20-LSER2	H20-LSEL2	LT-11NR	1 1/4	1.625	.765	1.450	S-SN2T	—	—	—	—	FT-8	HDP-188-0375
		LT-11NL	1 1/4	1.625	.765	1.450	S-SN2T	—	—	—	—	FT-8	HDP-188-0375
H16-LSER3	H16-LSEL3	LT-16NR	1	1.625	.650	1.200	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-040-100M
		LT-16NL	1	1.625	.650	1.200	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-040-100M
H20-LSER3	H20-LSEL3	LT-16NR	1 1/4	1.625	.765	1.450	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-188-0375
		LT-16NL	1 1/4	1.625	.765	1.450	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-188-0375
H24-LSER3	H24-LSEL3	LT-16NR	1 1/2	1.625	.890	1.760	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-188-0375
		LT-16NL	1 1/2	1.625	.890	1.760	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-188-0375
H32-LSER3	H32-LSEL3	LT-16NR	2	1.625	1.281	2.400	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-250-0500
		LT-16NL	2	1.625	1.281	2.400	S-SA3T	SM-YE3	SM-YI3	S-SY3T	CK-C3	FT-10-15	HDP-250-0500
H24-LSER4	H24-LSEL4	LT-22NR	1 1/2	1.625	.890	1.760	S-SA4T	SM-YE4	SM-YI4	S-SY4T	CK-C4	FT-20	HDP-188-0375
		LT-22NL	1 1/2	1.625	.890	1.760	S-SA4T	SM-YE4	SM-YI4	S-SY4T	CK-C4	FT-20	HDP-188-0375
H32-LSER4	H32-LSEL4	LT-22NR	2	1.625	1.281	2.400	S-SA4T	SM-YE4	SM-YI4	S-SY4T	CK-C4	FT-20	HDP-250-0500
		LT-22NL	2	1.625	1.281	2.400	S-SA4T	SM-YE4	SM-YI4	S-SY4T	CK-C4	FT-20	HDP-250-0500

Interchangeable Heads with Through Coolant

On-Edge Threading

H-MTH

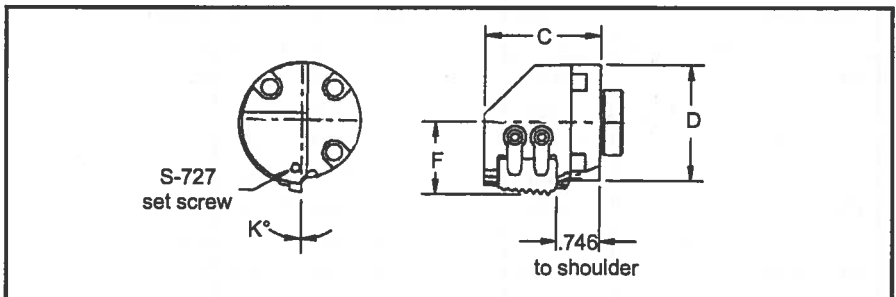
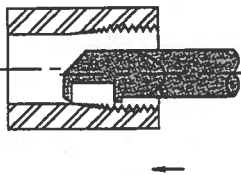


			D	C	F	V	min. bore	V ₁ *				
H16-MTHOR3		TNMA-32NGL	1	1.625	.688	.125	1.690	.100	KLC-33	CKM-19	STCC-38	HDP-040-100M
	H16-MTHOL3	TNMA-32NGR	1	1.625	.688	.125	1.690	.100	KLC-33	CKM-19	STCC-38	HDP-040-100M
H20-MTHOR3		TNMA-32NGL	1 1/4	1.625	.798	.125	1.788	.100	KLC-33	CKM-7LP	STCC-38	HDP-188-0375
	H20-MTHOL3	TNMA-32NGR	1 1/4	1.625	.798	.125	1.788	.100	KLC-33	CKM-7LP	STCC-38	HDP-188-0375
H24-MTHOR3		TNMA-32NGL	1 1/2	1.625	.923	.125	1.875	.100	KLC-33	CKM-7LP	STCC-38	HDP-188-0375
	H24-MTHOL3	TNMA-32NGR	1 1/2	1.625	.923	.125	1.875	.100	KLC-33	CKM-7LP	STCC-38	HDP-188-0375
H20-MTHOR4		TNMA-43NGL	1 1/4	1.625	1.048	.194	2.420	.145	KLC-43	CKM-7LP	STCC-9	HDP-188-0375
	H20-MTHOL4	TNMA-43NGR	1 1/4	1.625	1.048	.194	2.420	.145	KLC-43	CKM-7LP	STCC-9	HDP-188-0375
H24-MTHOR4		TNMA-43NGL	1 1/2	1.625	1.173	.194	2.625	.145	KLC-43	CKM-7LP	STCC-9	HDP-188-0375
	H24-MTHOL4	TNMA-43NGR	1 1/2	1.625	1.173	.194	2.625	.145	KLC-43	CKM-7LP	STCC-9	HDP-188-0375
H28-MTHOR4		TNMA-43NGL	1 3/4	1.625	1.298	.194	2.625	.145	KLC-43	CKM-7LP	STCC-9	HDP-188-0375
	H28-MTHOL4	TNMA-43NGR	1 3/4	1.625	1.298	.194	2.625	.145	KLC-43	CKM-7LP	STCC-9	HDP-188-0375
H32-MTHOR4		TNMA-43NGL	2	1.625	1.423	.194	2.875	.145	KLC-43	CKM-7LP	STCC-9	HDP-250-0500
	H32-MTHOL4	TNMA-43NGR	2	1.625	1.423	.194	2.875	.145	KLC-43	CKM-7LP	STCC-9	HDP-250-0500
H40-MTHOR4		TNMA-43NGL	2 1/2	1.625	1.673	.194	3.375	.145	KLC-43	CKM-7LP	STCC-9	HDP-250-0500
	H40-MTHOL4	TNMA-43NGR	2 1/2	1.625	1.673	.194	3.375	.145	KLC-43	CKM-7LP	STCC-9	HDP-250-0500
H24-MTHOR5		TNMA-54NGL	1 1/2	1.625	1.173	.200	3.200	.200	KLC-56	CKM-20LP	STCC-40	HDP-188-0375
	H24-MTHOL5	TNMA-54NGR	1 1/2	1.625	1.173	.200	3.200	.200	KLC-56	CKM-20LP	STCC-40	HDP-188-0375
H28-MTHOR5		TNMA-54NGL	1 3/4	1.625	1.298	.200	3.250	.200	KLC-56	CKM-20LP	STCC-40	HDP-250-0500
	H28-MTHOL5	TNMA-54NGR	1 3/4	1.625	1.298	.200	3.250	.200	KLC-56	CKM-20LP	STCC-40	HDP-250-0500
H32-MTHOR5		TNMA-54NGL	2	1.625	1.423	.200	3.250	.200	KLC-56	CKM-20LP	STCC-40	HDP-250-0500
	H32-MTHOL5	TNMA-54NGR	2	1.625	1.423	.200	3.250	.200	KLC-56	CKM-20LP	STCC-40	HDP-250-0500
H40-MTHOR5		TNMA-54NGL	2 1/2	1.625	1.673	.200	3.375	.200	KLC-56	CKM-20LP	STCC-40	HDP-250-0500
	H40-MTHOL5	TNMA-54NGR	2 1/2	1.625	1.673	.200	3.375	.200	KLC-56	CKM-20LP	STCC-40	HDP-250-0500

* V₁ is maximum groove depth at minimum bore.

Thread Chaser

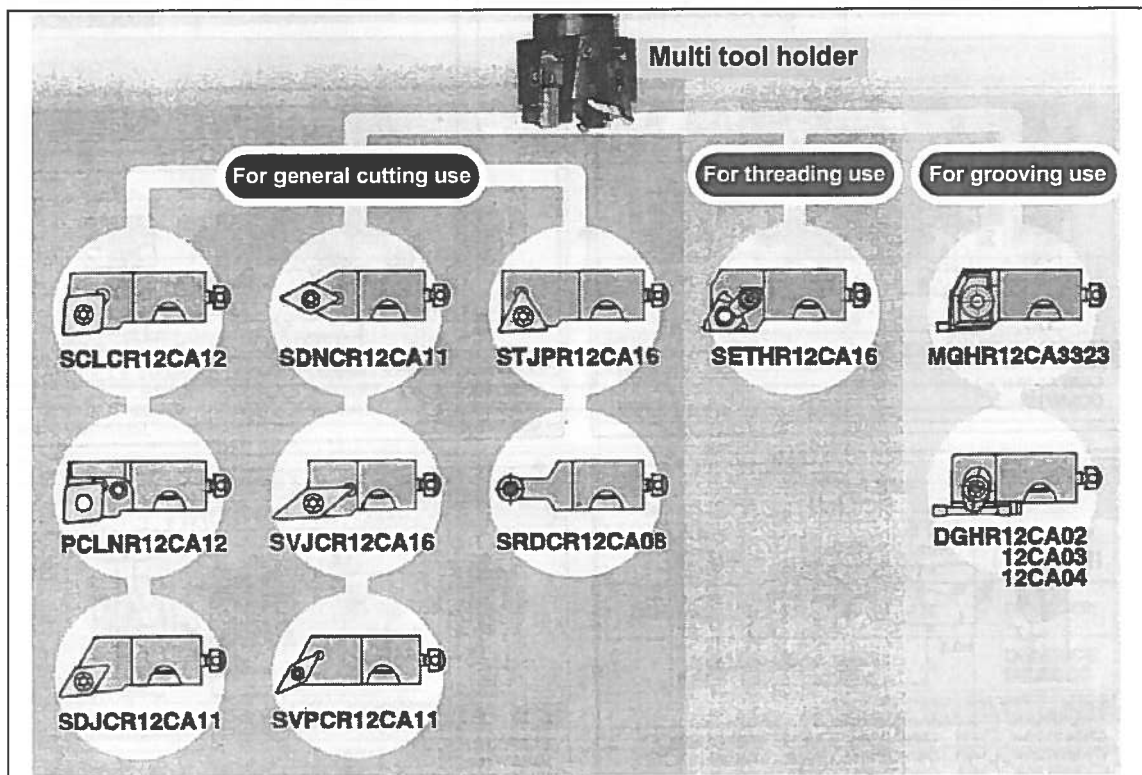
H-CDC



			D	C	F	K°						
H28-CDCRW	—	CDC	1 3/4	2	1.125	0°	SM-8RD	S-111	CK-23	STC-11	HDP-250-0500	CB-8RDLF or
H32-CDCRW	—	CDC	2	2	1.250	0°	SM-8RD	S-111	CK-23	STC-11	HDP-250-0500	CB-8RDLN or
H40-CDCRW	—	CDC	2 1/2	2	1.500	0°	SM-8RD	S-111	CK-23	STC-11	HDP-250-0500	CB-8RDLC or

* Two required.

8-2 Cartridges for Multi Tool Holder (Products of Mitsubishi Materials)



- Recommended cutting conditions

Blank material		Material	Cutting speed [m/min]
Mild steel	Finish cutting	NX2525	200 (100 - 250)
	Light-duty cutting	US7020	180 (100 - 250)
	Middle-duty cutting	UE6020	180 (100 - 250)
Carbon steel Alloyed steel	Finish cutting	NX2525	200 (100 - 250)
	Light-duty cutting	UC6010	200 (150 - 250)
	Middle-duty cutting	UC6010	180 (120 - 220)
Stainless steel	Finish cutting	NX2525	180 (100 - 250)
	Light-duty cutting	US7020	170 (120 - 220)
	Middle-duty cutting	US735	100 (70 - 120)
Cast iron	Finish cutting	UC5015	240 (180 - 300)
	Light-duty cutting	UC5015	210 (160 - 250)
	Middle-duty cutting	UC5015	200 (150 - 240)
Aluminum alloy		HT110	600 (400 - 800)
		MD220	800 (400 - 1500)

- Tool material

	Coating	Cermet	Gold cermet	Sintered carbide	Diamond-sintered body
Steel	UE6005 UC6010 UE6020	NX1010 NX99 NX2525 NX335	AP25N UP35N	UT120T	
Stainless steel	US7020 US735	NX2525	AP25N	UT120T	
Cast iron	UC5005 UC6010 UC5015	NX1010 NX2525	AP25N	UT120T HT110	
Aluminum alloy				HT110	MD220

■ Holder specifications

For general cutting use	Nominal code	Stock
		SCLCR12CA12

Applicable tips (7° positive tips)

CCMT120400
CCMW120400

For general cutting use	Nominal code	Stock
		SVJCR12CA16

Applicable tips (7° positive tips)

VCMT160400-FV
VCMT160400
VCMW160400

For general cutting use	Nominal code	Stock
		PCLNR12CA12

Applicable tips (negative tips)

CNMG120400-FH CNMG120400-MH CNMG120400
CNMG120400-SH CNMG120400-MA CNMA120400
CNMG120400-FJ CNGG120400-MJ

For general cutting use	Nominal code	Stock
		SVPCR12CA11

Applicable tips (7° positive tips)

VCMT110300-FV
VCMT110300
VCMW110300

For general cutting use	Nominal code	Stock
		SDJCR12CA11

Applicable tips (7° positive tips)

DCMT11T300-FV DCMT11T300
DCMT11T300-SQ DCMW11T300
DCMT11T300-MV

For general cutting use	Nominal code	Stock
		STJPR12CA16

Applicable tips (11° positive tips)

TPMT160300R-FS TPMT160300
TPMH160300-MV TPGX160300
TPMT160300-MQ

For general cutting use	Nominal code	Stock
		SDNCR12CA11

Applicable tips (7° positive tips)

DCMT11T300-FV DCMT11T300
DCMT11T300-SQ DCMW11T300
DCMT11T300-MV

For general cutting use	Nominal code	Stock
		SRDCR12CA08

Applicable tips (7° positive tips)

RCMT0602M0

- Note:
1. The value of nose R is a standard value.
 2. The dot (●) mark under "Stock" denotes a standard stock item.

For threading use	Nominal code	Stock
	SETHR12CA16	●
Applicable tips (for threading)		
SETOOOR3XMM SETOOOR3XMP SETOOOR3XMP SETOOOR3XMPT SETOOOR3XMM SETOOOR3XMUN		

For grooving use	Nominal code	Stock
	MGHR12CA3323	●
Applicable tips (for grooving)		
MGTR33230 } MGTR33330		

For grooving use	Holder specifications			
	Holder nominal code	Stock	Groove width (mm) W	Applicable tip (for grooving)
	DGHR12CA02	●	2	DGM20CE
	12CA03	●	3	DGM30CE DGJ30CE
	12CA04	●	4	DGJ40CE

Note: The dot (●) mark under "Stock" denotes a standard stock item.

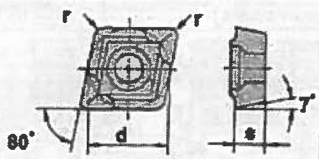
■ Applicable parts (for general-purpose tools)

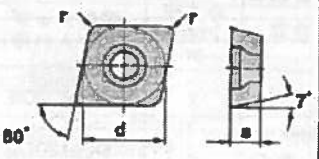
Holder nominal code								
	Clamp screw	Clamp lever	Lever lock spring	Axial adjusting screw	Radial adjusting screw	Setbolt for main unit	Wrench for tip	Wrench for adjusting screw
SCLCR12CA12	[1] TS5	—	—	KS1	TSS06010	HSC06020	TKY25R	TKY20F
SDJCR12CA11	[1] TS43	—	—	KS1	TSS06010	HSC06020	TKY15R	TKY20F
SDNCR12CA11	[1] TS43	—	—	KS1	TSS06010	HSC06020	TKY15R	TKY20F
SRDCR12CA08	[1] TS3	—	—	KS1	TSS06010	HSC06020	TKY08R	TKY20F
SVJCR12CA16	[1] TS43	—	—	KS1	TSS06010	HSC06020	TKY15R	TKY20F
SVPCR12CA11	[1] TS25	—	—	KS1	TSS06010	HSC06020	TKY08R	TKY20F
STJPR12CA16	[1] TS4	—	—	KS1	TSS06010	HSC06020	TKY15R	TKY20F
PCLNR12CA12	[2] LLCS106S	LLCL14S	HLS3	KS1	LLR1	HSC06020	HKY25R	HKY20F

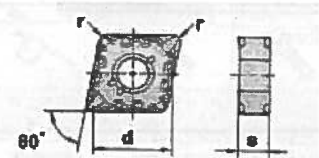
■ Applicable parts (for threading or grooving tools)

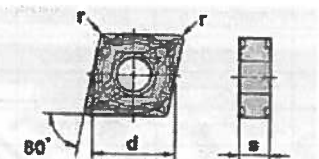
Holder nominal code										
	Clamp screw	Clamp set	Clamp guides	Seat	Seat setscrew	Axial adjusting screw	C-type retaining ring	Spring	Setbolt for main unit	Wrench
SETHR12CA16	[1] SETS51	—	[1] SETK51	CT32T1	HFC03008	KS1	CR4	MES3	HSC6020	[1] TKY15R
MGHR12CA3323	[2] HBH06018	—	[2] MTK1R	—	—	KS1	—	—	HSC6020	[2] HKY40R
DGHR12CA02	—	BC5	—	—	—	KS1	—	—	HSC6020	[1] TKY10R
DGHR12CA03	—	BC5	—	—	—	KS1	—	—	HSC6020	[1] TKY10R
DGHR12CA04	—	BC5	—	—	—	KS1	—	—	HSC6020	[1] TKY10R

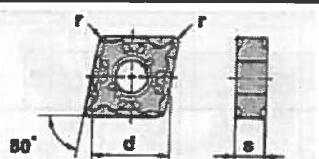
■ Applicable tip (for general-purpose tools)

CCMT (Class M)				Applicable holder: SCLCR12CA12								
				Types of materials in stock								
Nominal code	d	s	r	UC6010	UC6025	US735	NX2525	NX99	AP25N	UP35N	UT120T	
CCMT120404	12.70	4.76	0.4	●	●	●	●	●	●	●	●	
120408			0.8	●	●	●	●	●	●	●	●	

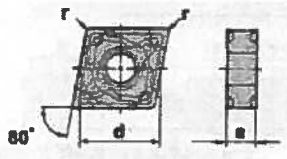
CCMW (Class M)				Applicable holder: SCLCR12CA12								
				Types of materials in stock								
Nominal code	d	s	r	UC5015	HT110							
CCMW120404	12.70	4.76	0.4	●	●							
120408			0.8	●	●							

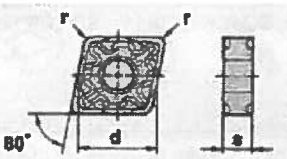
CNMG-FH (Class M)				Applicable holder: PCLNR12CA12								
				Types of materials in stock								
Nominal code	d	s	r	UC6010	US735	NX2525	AP25N					
CNMG120404-FH	12.70	4.76	0.4	●	●	●	●					
120408-FH			0.8	●	●	●	●					

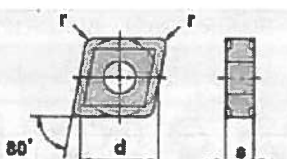
CNGG-FJ (Class G)				Applicable holder: PCLNR12CA12								
				Types of materials in stock								
Nominal code	d	s	r	AP15TF	TF15							
CNGG120404-FJ	12.70	4.76	0.4	●	●							
120408-FJ			0.8	●	●							

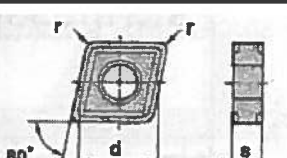
CNMG-SH (Class M)				Applicable holder: PCLNR12CA12								
				Types of materials in stock								
Nominal code	d	s	r	UE6005	UC6010	UE6020	UC6025	US735	NX1010	NX2525	AP25N	
CNMG120404-SH	12.70	4.76	0.4	●	●	●	●	●	●	●	●	
120408-SH			0.8	●	●	●	●	●	●	●	●	●

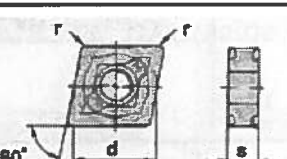
Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

CNMG-MH (Class M)				Applicable holder: PCLNR12CA12									
	Types of materials in stock												
Nominal code	d	s	r	UE6005	UC6010	UE6020	UE6035	US7020					
CNMG120404-MH	12.70	4.76	0.4	●	●	●	●	●					
120408-MH			0.8	●	●	●	●	●					

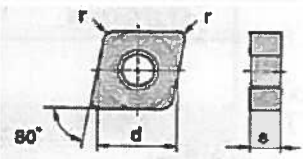
CNMG-MA (Class M)				Applicable holder: PCLNR12CA12									
	Types of materials in stock												
Nominal code	d	s	r	UE6005	UC6010	UE6020	UC6025	UE6035	US7020	US735	NX335	UP35N	
CNMG120404-MA	12.70	4.76	0.4	●	●	●	●	●	●	●	●	●	
120408-MA			0.8	●	●	●	●	●	●	●	●	●	●

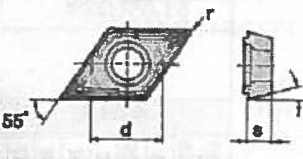
CNMG (Class M)				Applicable holder: PCLNR12CA12									
	Types of materials in stock												
Nominal code	d	s	r	UE6005	UC6010	UE6020	UC6025	UE6035	CU5015	NX2525	UT120T	HT110	
CNMG120404	12.70	4.76	0.4	●	●	●	●	○	●	●	●	●	
120408			0.8	●	●	●	●	●	●	●	●	●	●

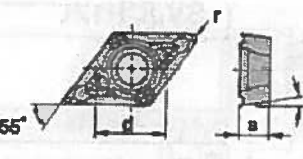
CNMG-MS (Class M)				Applicable holder: PCLNR12CA12									
	Types of materials in stock												
Nominal code	d	s	r	UC6010	UC6025	US7020	US735	UP20M	UT120T	HT110	HT120T		
CNMG120404-MS	12.70	4.76	0.4	●	●	●	●	●	●	●	●		
120408-MS			0.8	●	●	●	●	●	●	●	●	●	

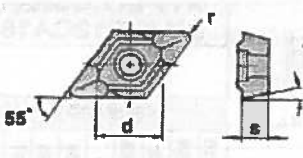
CNGG-MJ (Class G)				Applicable holder: PCLNR12CA12									
	Types of materials in stock												
Nominal code	d	s	r	AP15TF	TF15								
CNGG120404-MJ	12.70	4.76	0.4	●	●								
120408-MJ			0.8	●	●								

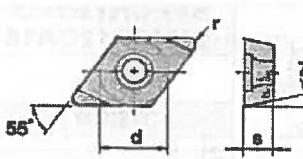
Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

CNMA (Class M)				Applicable holder: PCLNR12CA12								
				Types of materials In stock								
Nominal code	d	s	r	UE6005	UC5015	UT120T	HT105T	HT110				
CNMA120404	12.70	4.76	0.4	●	●	□	●	●				
120408			0.8	●	●	●	●	●				

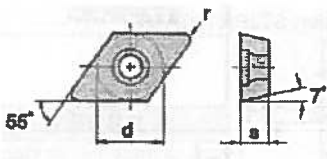
DCMT-FV (Class M)				Applicable holder: SDJCR12CA11 SDNCR12CA11								
				Types of materials In stock								
Nominal code	d	s	r	NX2525	AP25N							
DCMT11T304-FV	9.525	3.97	0.4	●	●							
11T308-FV			0.8	●	●							

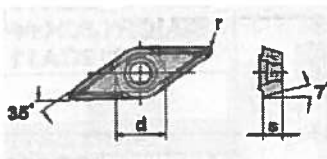
DCMT-MV (Class M)				Applicable holder: SDJCR12CA11 SDNCR12CA11								
				Types of materials In stock								
Nominal code	d	s	r	US7020	NX2525	AP25N						
DCMT11T302-MV	9.525	3.97	0.2	●	●	●						
11T304-MV			0.4	●	●	●						
11T308-MV			0.8	●	●	●						

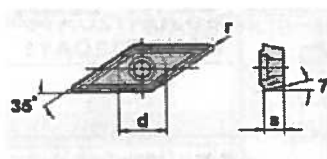
DCMT (Class M)				Applicable holder: SDJCR12CA11 SDNCR12CA11								
				Types of materials In stock								
Nominal code	d	s	r	UC6010	UC6025	US735	NX2525	NX99	AP25N	UP35N	UT120T	
DCMT11T302	9.525	3.97	0.2	●	□	●	●	●	●	●	●	
11T304			0.4	●	●	●	●	●	●	●	●	
11T308			0.4	●	●	●	●	●	●	●	●	

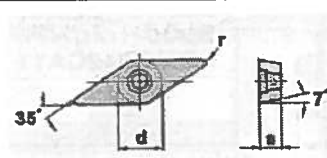
DCGT-R-F (Class G)				Applicable holder: SDJCR12CA11 SDNCR12CA11								
				Types of materials In stock								
Nominal code	d	s	r	GP15TF	NX2525	AP25N						
DCGT11T302R-F	9.525	3.97	0.4	●	●	●						
11T304R-F			0.8	●	●	●						

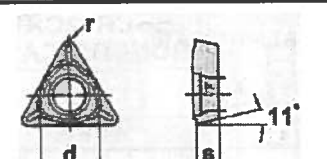
Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

DCMW (Class M)				Applicable holder: SDJCR12CA11 SDNCR12CA11							
				Types of materials in stock							
Nominal code	d	s	r	UC5015	UT120T	HT110					
DCMW11T304	9.525	3.97	0.4	●	●	●					
11T308			0.8	●	□	●					

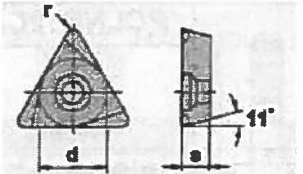
VCMT-FV (Class M)				Applicable holder: SVJCR12CA16							
				Types of materials in stock							
Nominal code	d	s	r	NX2525	AP25N						
VCMT160404-FV	9.525	4.76	0.4	●	●						
160408-FV			0.8	●	●						

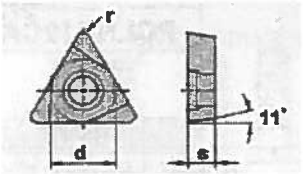
VCMT (Class M)				Applicable holder: SVPCR12CA11 SVJCR12CA16							
				Types of materials in stock							
Nominal code	d	s	r	UC6010	UC6025	US735	NX2525	NX99	AP25N	UP35N	UT120T
VCMT110304	6.35	3.18	0.4	●	□	●	●	●	●	●	●
160404	9.525	4.76	0.4	●	●	●	●	●	●	●	●
160408			0.8	●	●	●	●	●	●	●	●

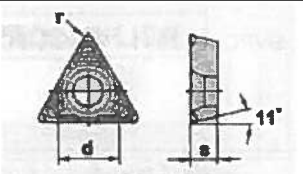
VCMW (Class M)				Applicable holder: SVPCR12CA11 SVJCR12CA16							
				Types of materials in stock							
Nominal code	d	s	r	UC5015	HT110						
VCMW110304	9.525	4.76	0.4	□	●						
160404			0.4	●	●						
160408			0.8	●	●						

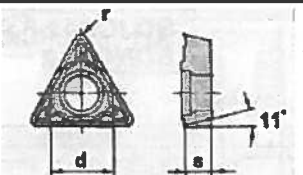
TPMT-SQ (Class M)				Applicable holder: STJPR12CA16							
				Types of materials in stock							
Nominal code	d	s	r	US735							
TPMT160304-SQ	9.525	3.18	0.4	●							

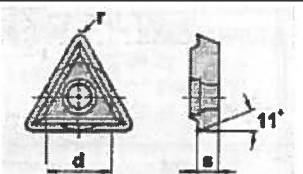
Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

TPGH-R-FS (Class G)				Applicable holder: STJPR12CA16							
	Types of materials in stock										
Nominal code	d	s	r	GP15TF	NX2525	HT110					
TPGH160304R-FS	9.525	3.18	0.4	●	●	●					
160308R-FS			0.8	●	●	●					

TPGT-R-F (Class G)				Applicable holder: STJPR12CA16							
	Types of materials in stock										
Nominal code	d	s	r	NX2525							
TPGT160304R-F	9.525	3.18	0.4	●							

TPMH-MV (Class M)				Applicable holder: STJPR12CA16							
	Types of materials in stock										
Nominal code	d	s	r	US7020	NX2525	AP25N					
TPMH160304-MV	9.525	3.18	0.4	●	●	●					
160308-MV			0.8	●	●	●					
Note: To use this tip, change the clamping screw of the holder from TS4 to TS4D.											

TPMT-MQ (Class M)				Applicable holder: STJPR12CA16							
	Types of materials in stock										
Nominal code	d	s	r	UC8010	UC8025	US735	NX2525	NX335	AP25N	UP35N	UT120T
TPMT160304-MQ	9.525	3.18	0.4	●	●	●	●	●	●	●	○
160308-MQ			0.8	●	●	●	●	●	●	○	●

TPMT (Class M)				Applicable holder: STJPR12CA16							
	Types of materials in stock										
Nominal code	d	s	r	NX2525							
TPMT160304	9.525	3.18	0.4	●							
160308			0.8	●							

Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

TPGX (Class M)				Applicable holder: STJPR12CA16								
				Types of materials In stock								
Nominal code	d	s	r	NX2525	UT120T	HT110						
TPGX160304	9.525	3.18	0.4	●	●	●						
160308			0.8	□	○	●						

RCMT-M0 (Class M)				Applicable holder: SRDCR12CA08								
				Types of materials In stock								
Nominal code	d	s		UC6010	US735	NX2525	UT120T					
RCMT0803M0	8.0	3.18		●	●	●	●					

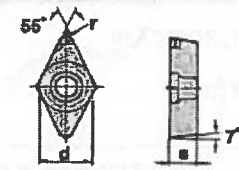
Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

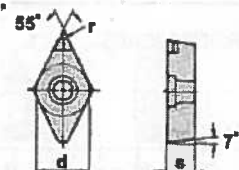
■ Applicable tips (Tips with diamond-sintered body)

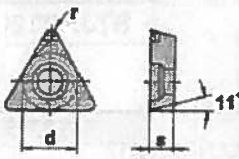
P-CNMM-R-F (Class M)				Applicable holder: PCLNR12CA12								
				Types of materials In stock								
Nominal code	d	s	r	MD220								
P-CNMM120402R-F	12.70	4.76	0.2	●								
120404R-F			0.4	●								
120408R-F			0.8	●								

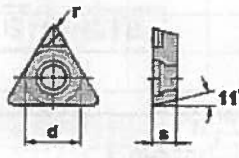
CNMA (Class M)				Applicable holder: PCLNR12CA12								
				Types of materials In stock								
Nominal code	d	s	r	MD220								
CNMA120404	12.70	4.76	0.4	●								
120408			0.8	●								

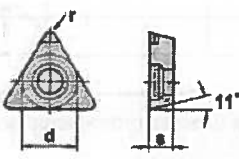
Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

NP-DCMT-R-F (Class M)														Applicable holder: SDJCR12CA11 SDNCR12CA11									
														Types of materials in stock									
Nominal code		d	s	r	MD220																		
NP-DCMT11T302R-F		9.525	3.97	0.2	●																		
11T304R-F				0.4	●																		

DCMW (Class M)														Applicable holder: SDJCR12CA11 SDNCR12CA11									
														Types of materials in stock									
Nominal code		d	s	r	MD220																		
DCMW11T302		9.525	3.97	0.2	●																		
11T304				0.4	●																		

NP-TPMH-R-F (Class M)														Applicable holder: STJPR12CA16									
														Types of materials in stock									
Nominal code		d	s	r	MD220																		
NP-TPMH160302R-F		9.525	3.18	0.2	●																		
160304R-F				0.4	●																		

TPGT-R-F (Class G)														Applicable holder: STJPR12CA16									
														Types of materials in stock									
Nominal code		d	s	r	MD220																		
TPGT160302R-F		9.525	3.18	0.2	●																		
160304R-F				0.4	●																		

TPGX (Class G)														Applicable holder: STJPR12CA16									
														Types of materials in stock									
Nominal code		d	s	r	MD220																		
TPGX160304		9.525	3.18	0.4	●																		
160308				0.8	●																		

Note: The ● mark under "Stock" denotes standard stock items, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

■ Applicable tips

- For cutting-off or grooving use (for applicable holder DGHR12CA**)

DGM20CE 	Types of materials in stock	
	NX2525	UT120T
	●	●

DGJ30CE 	Types of materials in stock		
	UP20M	NX2525	UT120T
	●	●	●

DGM30CE 	Types of materials in stock	
	NX2525	UT120T
	●	●

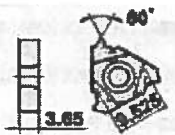
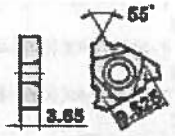
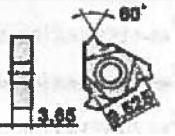
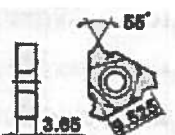
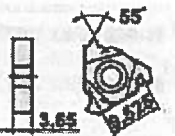
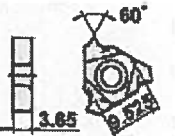
DGJ40CE 	Types of materials in stock		
	UP20M	NX2525	UT120T
	●	●	●

- For grooving use (for MGHR12CA3323)

Shape	Tip nominal code				Stock		
		w	a	r	US735	NX55	UT120T
	MGTR33230	2.30	3.0	0.2	□	△	●
	R33250	2.50		●	▲	●	
	R33270	2.70		□	△	●	
	R33280	2.80		□	△	○	
	R33300	3.00		○	▲	●	
	R33320	3.20		□	△	●	
	R33330	3.30		□	△	●	

Note: The ● mark under "Stock" denotes standard stock items. Likewise, the ▲ mark denotes that the product, although currently a standard stock item, will be replaced with a new product in the future, the △ mark denotes that the product, although currently an order-based product, will be replaced with a new product in the future, the ○ mark denotes order-based products, and the □ mark denotes that the product is not manufactured.

- For threading use (for SETHR12CA16)

Type	Shape	ISO metric thread pitch mm (threads/inch)	Tip nominal code	Stock		
				US735	NX55	UT120T
General-purpose type 60°	Without flat drag 	0.5 - 1.5 (48 - 16)	SET6006R3XMM	●	●	●
		1.75 - 3.0 (14 - 8)	6022R3XMM	●	●	●
General-purpose type 55°	Without flat drag 	(48 - 16)	SET5507R3XMP	●	●	●
		(14 - 8)	5525R3XMP	●	●	●
Metric screw thread ISO	With flat drag 	1.0	SET100R3XMM	●	●	●
		1.25	125R3XMM	●	●	●
		1.5	150R3XMM	●	●	●
		1.75	175R3XMM	●	●	●
		2.0	200R3XMM	●	●	●
		2.5	250R3XMM	●	●	●
Whitworth parallel pipe thread W	With flat drag 	(19)	SET190R3XMP	●	●	●
		(14)	140R3XMP	●	●	●
		(12)	120R3XMP	●	●	●
		(11)	110R3XMP	●	●	●
Taper pipe thread BSPT	With flat drag 	(19)	SET190R3XMPT	●	●	●
		(14)	140R3XMPT	●	●	●
		(11)	110R3XMPT	●	●	●
Unified screw thread UN	With flat drag 	(24)	SET240R3XMUN	●	●	●
		(20)	200R3XMUN	●	●	●
		(16)	160R3XMUN	●	●	●
		(14)	140R3XMUN	●	●	●
		(12)	120R3XMUN	●	●	●

Note: The dot (●) mark under "Stock" denotes a standard stock item.

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