Tungaloy
Member IMC Group

DOMTURN
TUNGALOY

TurnLine

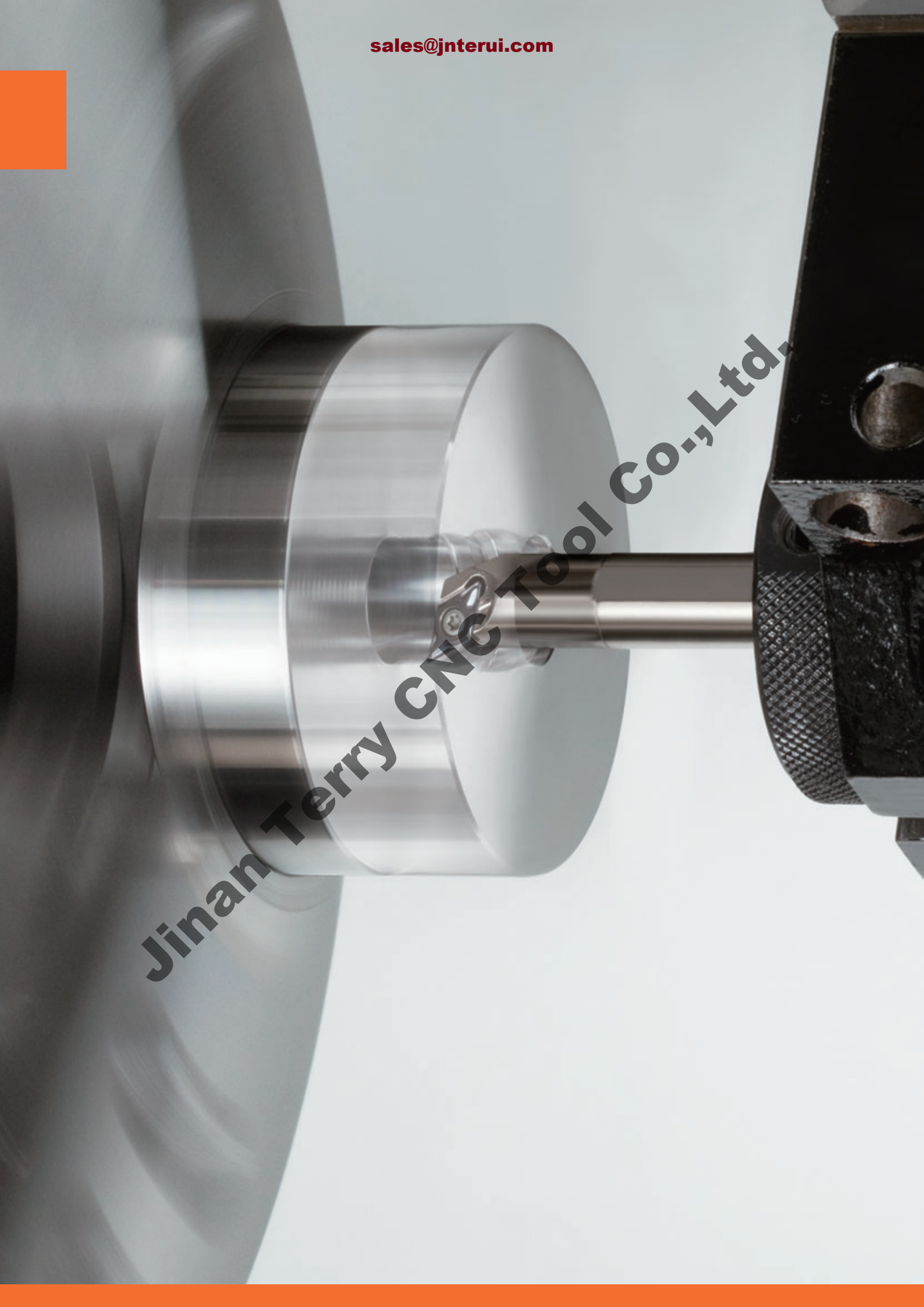
TURNLINE

Tungaloy Report No. 417-E

www.tungaloy.com

Innovative insert
provides superior
economic advantages!

sales@jnterui.com



www.tungaloy.com

TurnLine

DOMTURN

TUNGALOY

Sharpness of positive inserts with twice the number of cutting edges

Tungaloy

Member IMC Group

DOMTURN

TUNGALOY

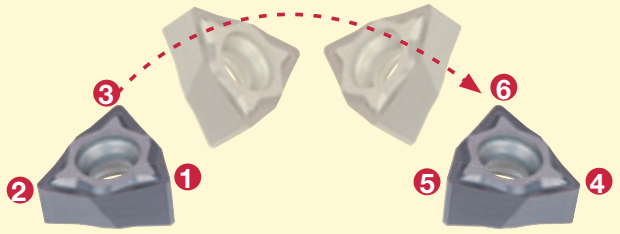
Economical double sided inserts with positive cutting edge

Innovative multi-cornered insert clamped into a unique pocket ensures insert stability resulting in superior machining performance.

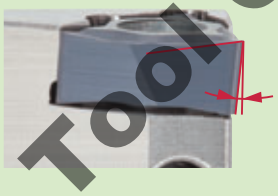
Inserts

High rake angle

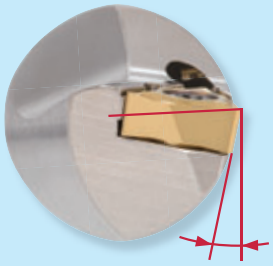
WXGU0403·· Inserts with 6 positive cutting edges



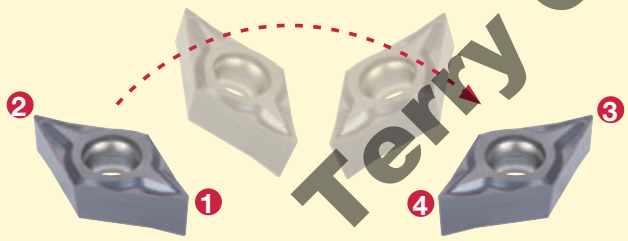
External turning



Internal turning

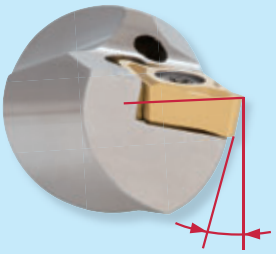


DXGU0703·· Inserts with 4 positive cutting edges



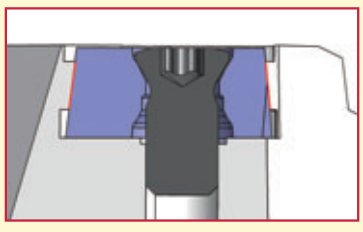
External turning

Internal turning



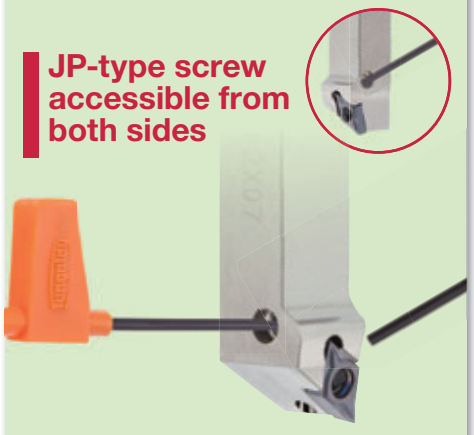
Toolholders

Dovetail structure ensures secure insert clamping.



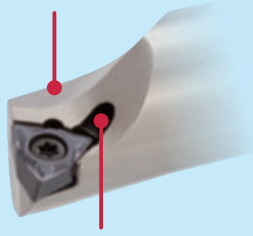
External turning

JP-type screw accessible from both sides



Internal turning

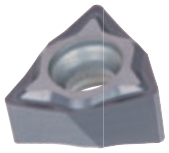
Unique design for optimal chip evacuation

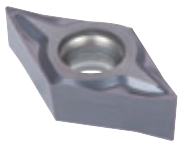


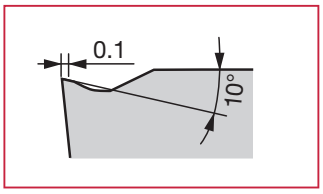
Coolant outlet directing to the cutting edge

Uniquely designed chipbreakers

TS / JTS / TSW chipbreaker


WXGU0403··

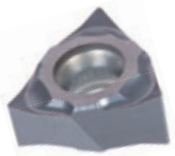

DXGU0703··

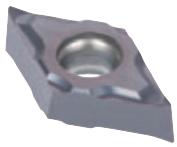


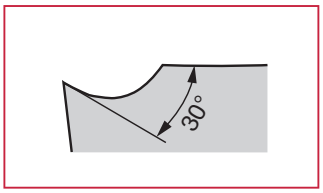
P M K

Excellent chip control, recommended for steel and stainless steel machining.

SS / JSS chipbreaker


WXGU0403··


DXGU0703··



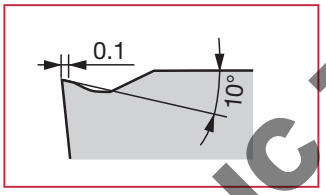
M P

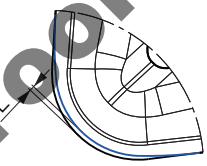
Generates low cutting forces, recommended for steel and stainless steel machining.

TSW chipbreaker (Wiper)

New


WXGU0403··





Off set: L = -0.05 mm

P M K

Excellent surface finishing and high efficiency for high feed machining.

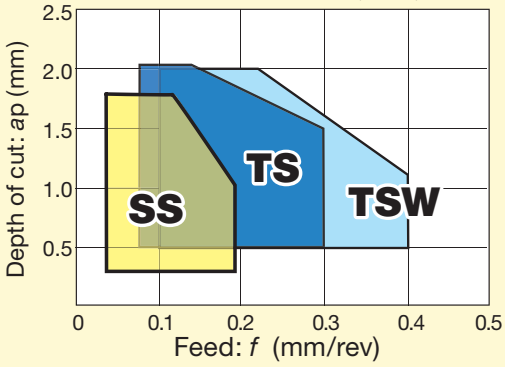
Chipbreakers for general purposes

WXGU0403·· -TS / SS / TSW
DXGU0703·· -TS / SS

Reinforced cutting edge used at medium to low feeds in semi-finishing and finishing operations.

■ **Application area**

Corner radius $r\varepsilon$ = 0.2, 0.4, 0.8



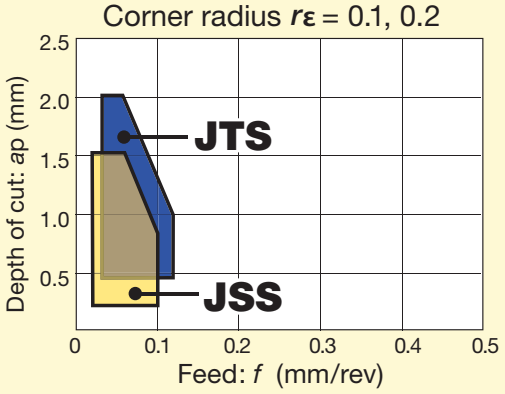
Chipbreakers for small parts machining

WXGU0403·· -JTS / JSS
DXGU0703·· -JTS / JSS

Extra sharp cutting edge used at low feeds for finishing operations.
An excellent solution to reduce vibration.

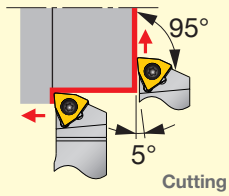
■ **Application area**

Corner radius $r\varepsilon$ = 0.1, 0.2

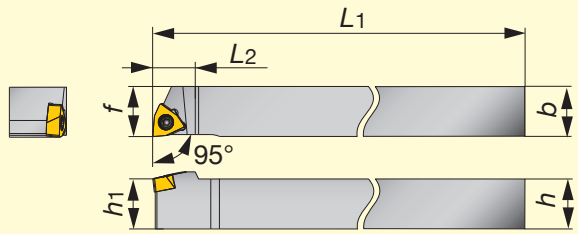


External toolholders

JSWL2XR/L Turning & facing — J-type (PosJive rake, screw-on system)



Cutting edge style **L2**



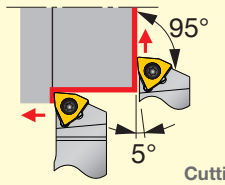
Without offset

Right hand (R) shown

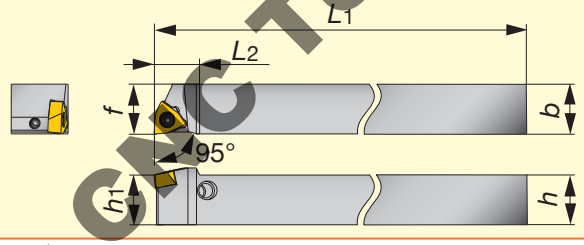
Cat. No.	Stock		Dimensions (mm)						Std. corner radius	Insert	Parts	
	R	L	h	b	L_1	L_2	h_1	f	r_ε		Clamping screw	Wrench
JSWL2XR/L1010X04	●	●	10	10	120	11	10	10	0.2	WXGU0403L/R	SR34-514	T-7F
JSWL2XR/L1212F04	●	●	12	12	85	11	12	12	0.2	WXGU0403L/R	SR34-514	T-7F
JSWL2XR/L1212X04	●	●	12	12	120	11	12	12	0.2	WXGU0403L/R	SR34-514	T-7F
JSWL2XR/L1616X04	●	●	16	16	120	13	16	16	0.2	WXGU0403L/R	SR34-514	T-7F

❶ Right hand toolholders (R) are used with left hand inserts (L)
❷ Left hand toolholders (L) are used with right hand inserts (R)

JPWL2XR/L Turning & facing — J-type (Positive rake, side clamping system)



Cutting edge style **L2**



Without offset

Right hand (R) shown

Cat. No.	Stock		Dimensions (mm)						Std. corner radius	Insert	Parts			
	R	L	h	b	L_1	L_2	h_1	f	r_ε		Lever	Pin	Clamping screw	Wrench
JPWL2XR/L1010X04	●	●	10	10	120	11	10	10	0.2	WXGU0403L/R	SLLV-2	SL-PI-2	SR10400611	P-2F
JPWL2XR/L1212F04	●	●	12	12	85	11	12	12	0.2	WXGU0403L/R	SLLV-2	SL-PI-2	SR10400611	P-2F
JPWL2XR/L1212X04	●	●	12	12	120	11	12	12	0.2	WXGU0403L/R	SLLV-2	SL-PI-2	SR10400611	P-2F
JPWL2XR/L1616X04	●	●	16	16	120	13	16	16	0.2	WXGU0403L/R	SLLV-2	SL-PI-2	SR10400611	P-2F

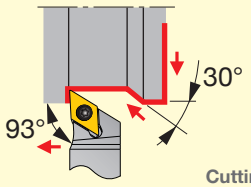
❶ Right hand toolholders (R) are used with left hand inserts (L)
❷ Left hand toolholders (L) are used with right hand inserts (R)

❶ Right hand toolholder with left hand insert shown

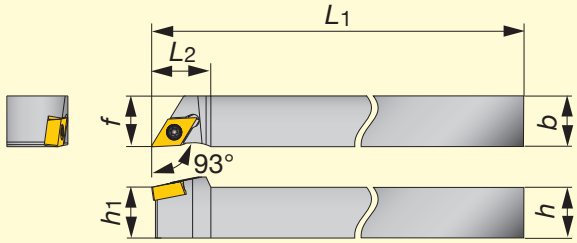
❷ Left hand toolholder with right hand insert shown

● : Stocked items

JSDJ2XR/L Turning & profiling J-type (Positive rake, screw-on system)



Cutting edge style **J2**



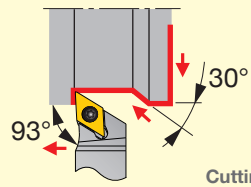
Without offset

Right hand (R) shown

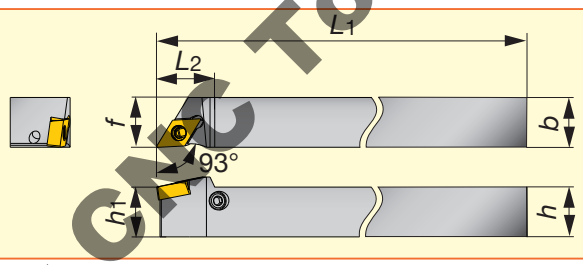
Cat. No.	Stock		Dimensions (mm)						Std. corner radius	Insert	Parts	
	R	L	h	b	L_1	L_2	h_1	f	r_ε		Clamping screw	Wrench
JSDJ2XR/L1010X07	●	●	10	10	120	14	10	10	0.2	DXGU0703L/R	SR34-514	T-7F
JSDJ2XR/L1212F07	●	●	12	12	85	14	12	12	0.2	DXGU0703L/R	SR34-514	T-7F
JSDJ2XR/L1212X07	●	●	12	12	120	14	12	12	0.2	DXGU0703L/R	SR34-514	T-7F
JSDJ2XR/L1616X07	●	●	16	16	120	18	16	16	0.2	DXGU0703L/R	SR34-514	T-7F

❶ Right hand toolholders (R) are used with left hand inserts (L)
❷ Left hand toolholders (L) are used with right hand inserts (R)

JPDJ2XR/L Turning & profiling J-type (Positive rake, side clamping system)



Cutting edge style **J2**



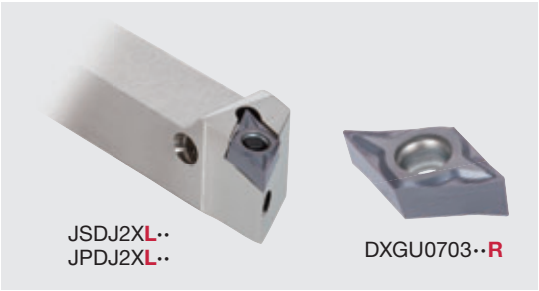
Without offset

Right hand (R) shown

Cat. No.	Stock		Dimensions (mm)						Std. corner radius	Insert	Parts			
	R	L	h	b	L_1	L_2	h_1	f	r_ε		Lever	Pin	Clamping screw	Wrench
JPDJ2XR/L1010X07	●	●	10	10	120	14	10	10	0.2	DXGU0703L/R	SLLV-2	SL-PI-2	SR10400611	P-2F
JPDJ2XR/L1212F07	●	●	12	12	85	14	12	12	0.2	DXGU0703L/R	SLLV-2	SL-PI-2	SR10400611	P-2F
JPDJ2XR/L1212X07	●	●	12	12	120	14	12	12	0.2	DXGU0703L/R	SLLV-2	SL-PI-2	SR10400611	P-2F
JPDJ2XR/L1616X07	●	●	16	16	120	18	16	16	0.2	DXGU0703L/R	SLLV-2	SL-PI-2	SR10400611	P-2F

❶ Right hand toolholders (R) are used with left hand inserts (L)
❷ Left hand toolholders (L) are used with right hand inserts (R)

❶Right hand toolholder with left hand insert shown



❷Left hand toolholder with right hand insert shown

● : Stocked items

Internal turning

Cutting performance

Unique design which prevents vibration

Steel shank diameter : ø12 mm
Workpiece : S45C / C45
Insert : WXGU040304L-TS AH725
Cutting speed : *Vc* = 150 m/min
Overhang length : 36 mm (L/D = 3)
Coolant : Wet (internal supply)

DOMTURN BORE LINE

Depth of cut: *ap* (mm)	0.05	0.10	0.15	0.20
2.0	OK	OK	OK	OK
1.5	OK	OK	OK	OK
1.0	OK	OK	OK	OK
0.5	OK	OK	OK	OK
ap/f	Feed: *f* (mm/rev)			

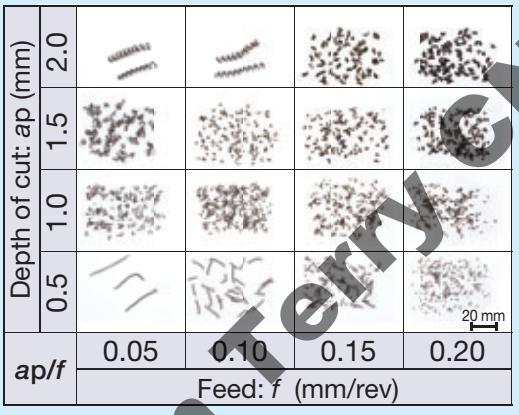
=

ISO positive insert

Depth of cut: *ap* (mm)	0.05	0.10	0.15	0.20
2.0	OK	OK	OK	OK
1.5	OK	OK	OK	OK
1.0	OK	OK	OK	OK
0.5	OK	OK	OK	OK
ap/f	Feed: *f* (mm/rev)			

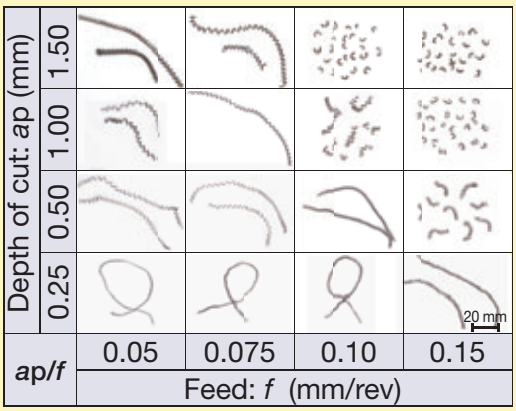
Chip control

P



Workpiece : S45C / C45
Insert : WXGU040304L-TS AH725
Toolholder : A12M-SWLXR04-D140
Cutting speed : *Vc* = 150 m/min
Boring depth : H = 36 mm (L/D = 3)
Coolant : Wet (internal supply)

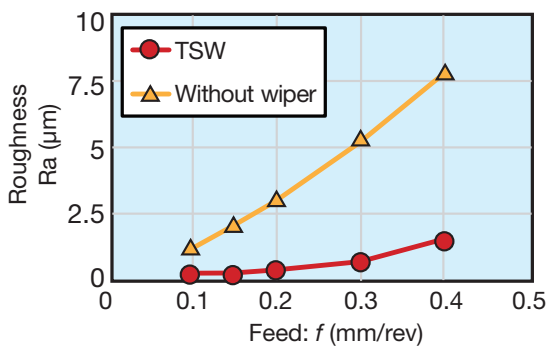
M



Workpiece : SUS304 / X5CrNi18-9
Insert : WXGU040304L-SS AH725
Toolholder : E12Q-SWLXR04-D140
Cutting speed : *Vc* = 150 m/min
Boring depth : H = 60 mm (L/D = 5)
Coolant : Wet (internal supply)

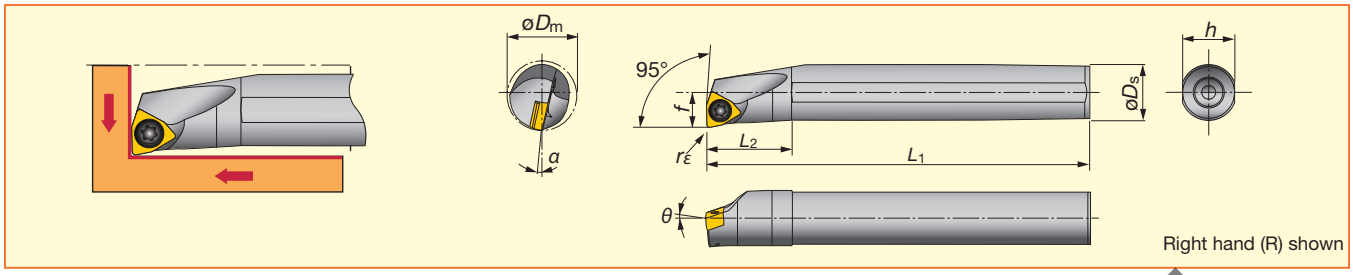
Wiper performance

Workpiece : S45C / C45
Insert : WXGU040304L-TSW
CCMT09T304-**(Without wiper)
Toolholder : E16R-SWLXR04-D180
Cutting speed : *Vc* = 150 m/min
Depth of cut : *ap* = 0.5 mm
Hole depth : H = 48 mm (L/D = 3)
Coolant : Wet (internal supply)



Internal toolholders

SWLXR/L Boring & internal facing



Right hand (R) shown

Steel shank

Cat. No	Stock R	Stock L	Min bore dia. øDm	Dimensions (mm) øDs	f	L1	L2	h	f2	θ	a	Std. corner radius rε	Insert	Clamping screw	Wrench	Torque (N·m)
A10K-SWLXR/L04-D120	●	●	12	10	6	125	20	9	-	-10°	-16°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
A12M-SWLXR/L04-D140	●	●	14	12	7	150	24	11	-	-10°	-14°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
A16Q-SWLXR/L04-D180	●	●	18	16	9	180	32	15	-	-10°	-11°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
A20R-SWLXR/L04-D220	●	●	22	20	11	200	36	18	-	-10°	-10°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9

Carbide shank

Cat. No	Stock R	Stock L	Min bore dia. øDm	Dimensions (mm) øDs	f	L1	L2	h	f2	θ	a	Std. corner radius rε	Insert	Clamping screw	Wrench	Torque (N·m)
E10M-SWLXR/L04-D120	●	●	12	10	6	150	25	9	-	-10°	-16°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
E12Q-SWLXR/L04-D140	●	●	14	12	7	180	27	11	-	-10°	-14°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
E16R-SWLXR/L04-D180	●	●	18	16	9	200	32	15	-	-10°	-11°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
E20S-SWLXR/L04-D220	●	●	22	20	11	250	36	18	-	-10°	-10°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9

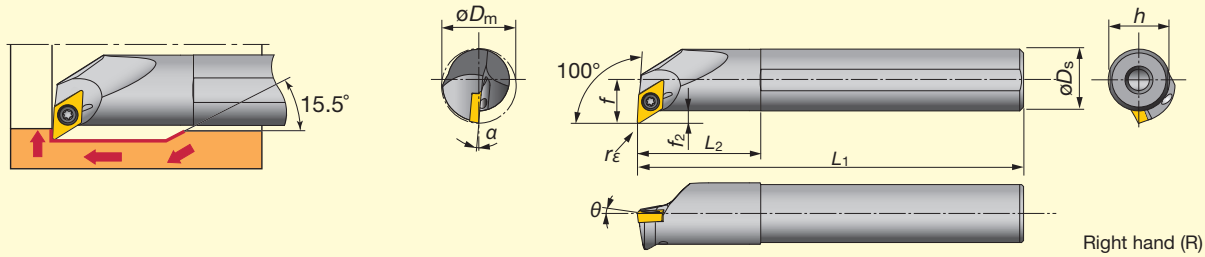
❶ Right hand toolholders (R) are used with left hand inserts (L)
❷ Left hand toolholders (L) are used with right hand inserts (R)

❶ Right hand toolholder with left hand insert shown

❷ Left hand toolholder with right hand insert shown

● : Stocked items

SDXXR/L Boring & internal facing



Right hand (R) shown

Steel shank

Cat. No	Stock R	Stock L	Min bore dia. øDm	Dimensions (mm) øDs	f	L1	L2	h	f2	θ	a	Std. corner radius rε	Insert	Clamping screw	Wrench	Torque (N·m)
A10K-SDXXR/L07-D130	●	●	13	10	7.6	125	20	9	2.6	-14°	-16°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
A12M-SDXXR/L07-D160	●	●	16	12	8.6	150	24	11	2.6	-14°	-14°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
A16Q-SDXXR/L07-D200	●	●	20	16	10.6	180	32	15	2.6	-13°	-13°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
A20R-SDXXR/L07-D240	●	●	24	20	12.6	200	36	18	2.6	-13°	-12°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9

Carbide shank

Cat. No	Stock R	Stock L	Min bore dia. øDm	Dimensions (mm) øDs	f	L1	L2	h	f2	θ	a	Std. corner radius rε	Insert	Clamping screw	Wrench	Torque (N·m)
E10M-SDXXR/L07-D130	●	●	13	10	7.6	150	25	9	2.6	-14°	-16°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
E12Q-SDXXR/L07-D160	●	●	16	12	8.6	180	27	11	2.6	-14°	-14°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
E16R-SDXXR/L07-D200	●	●	20	16	10.6	200	32	15	2.6	-13°	-13°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
E20S-SDXXR/L07-D240	●	●	24	20	12.6	250	36	18	2.6	-13°	-12°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9

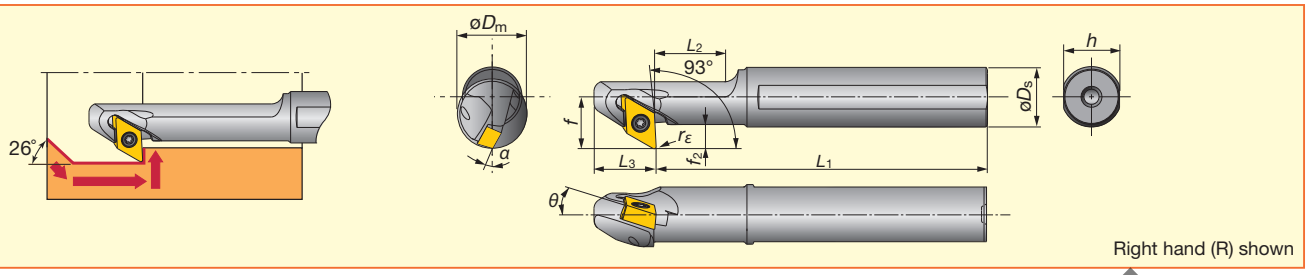
❶ Right hand toolholders (R) are used with left hand inserts (L)
❷ Left hand toolholders (L) are used with right hand inserts (R)

● : Stocked items

❶ Right hand toolholder with left hand insert shown

❷ Left hand toolholder with right hand insert shown

SDZXR/L Back boring



Right hand (R) shown

Steel shank

Cat. No	Stock		Min bore dia.	Dimensions (mm)									Std. corner radius	Insert	Clamping screw	Wrench	Torque
	R	L	øDm	øDs	f	L1	L2	L3	h	f2	θ	a	rε				(N·m)
A12M-SDZXR/L07-D140	●	●	14	12	11	150	30	13	11	4.5	-10°	-14°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9
A16Q-SDZXR/L07-D160	●	●	16	16	13	180	35	13	15	4.5	-10°	-12.5°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9
A20R-SDZXR/L07-D200	●	●	20	20	15	200	40	13	18	4.5	-10°	-10.5°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9

Carbide shank

Cat. No	Stock		Min bore dia.	Dimensions (mm)									Std. corner radius	Insert	Clamping screw	Wrench	Torque
	R	L	øDm	øDs	f	L1	L2	L3	h	f2	θ	a	rε				(N·m)
E12Q-SDZXR/L07-D180	●	●	18	12	11	180	-	13	11	4.5	-11°	-11°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9
E16R-SDZXR/L07-D220	●	●	22	16	13	200	-	13	15	4.5	-11°	-9°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9

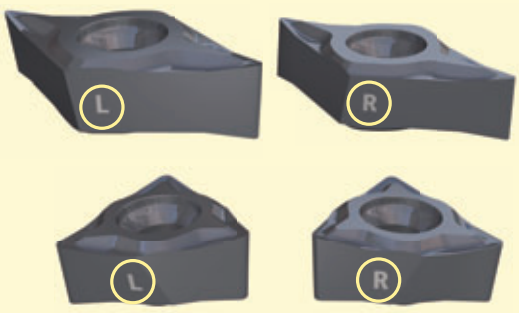
❶ Right hand toolholders (R) are used with right hand inserts (R)
❷ Left hand toolholders (L) are used with left hand inserts (L)

● : Stocked items

❶ Right hand toolholder with right hand insert shown

❷ Left hand toolholder with left hand insert shown

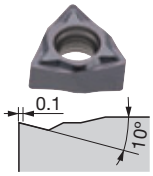
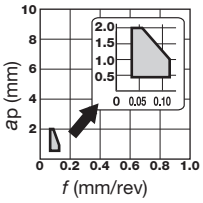
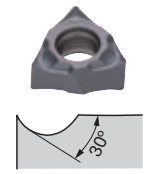
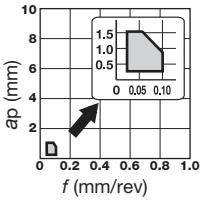
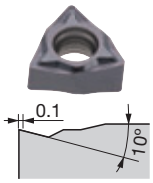
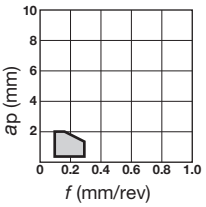
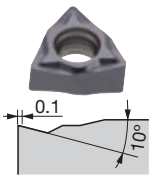
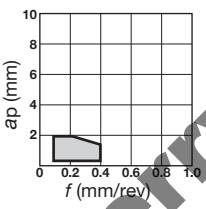
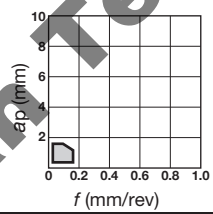
Marking



Insert hand is marked by "R" or "L"

Inserts

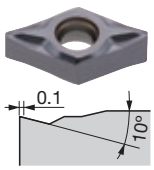
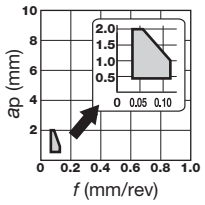
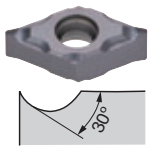
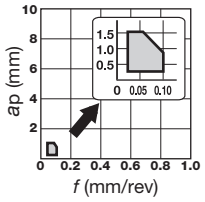
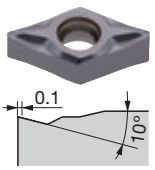
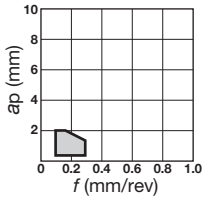
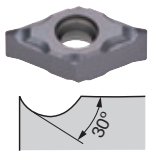
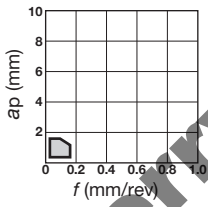
80° Trigon

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No.	Grades Coated AH725	Coated cermet New GT9530	Cermet New NS9530	Carbide New KS05F	Dimensions (mm) I.C. dia. ød	Thick-ness s	Hole dia. ød1	Corner radius r_ε
Finishing to medium cutting (For swiss type automatic lathes)	JTS 		WXGU040301MR-JTS	●				6.35	3.18	2.7	< 0.1*
			WXGU040301ML-JTS	●				6.35	3.18	2.7	< 0.1*
			WXGU040302MR-JTS	●				6.35	3.18	2.7	< 0.2*
			WXGU040302ML-JTS	●				6.35	3.18	2.7	< 0.2*
Finishing (Low cutting force) (For swiss type automatic lathes)	JSS 		WXGU040301MR-JSS	●				6.35	3.18	2.7	< 0.1*
			WXGU040301ML-JSS	●				6.35	3.18	2.7	< 0.1*
			WXGU040302MR-JSS	●				6.35	3.18	2.7	< 0.2*
			WXGU040302ML-JSS	●				6.35	3.18	2.7	< 0.2*
Finishing to medium cutting	TS 		WXGU040302R-TS	●	●	●	●	6.35	3.18	2.7	0.2
			WXGU040302L-TS	●	●	●	●	6.35	3.18	2.7	0.2
			WXGU040304R-TS	●	●	●	●	6.35	3.18	2.7	0.4
			WXGU040304L-TS	●	●	●	●	6.35	3.18	2.7	0.4
			WXGU040308R-TS	●	●	●	●	6.35	3.18	2.7	0.8
			WXGU040308L-TS	●	●	●	●	6.35	3.18	2.7	0.8
New Finishing (Wiper)	TSW 		WXGU040304R-TSW	●	●	●		6.35	3.18	2.7	0.4
			WXGU040304L-TSW	●	●	●		6.35	3.18	2.7	0.4
			WXGU040308R-TSW	●	●	●		6.35	3.18	2.7	0.8
			WXGU040308L-TSW	●	●	●		6.35	3.18	2.7	0.8
Finishing (Low cutting force)	SS 		WXGU040302R-SS	●	●	●	●	6.35	3.18	2.7	0.2
			WXGU040302L-SS	●	●	●	●	6.35	3.18	2.7	0.2
			WXGU040304R-SS	●	●	●	●	6.35	3.18	2.7	0.4
			WXGU040304L-SS	●	●	●	●	6.35	3.18	2.7	0.4

* JTS and TSS have minus tolerance of corner radius.

● : Stocked items

55° Rhombic

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No.	Grades: Coated AH725	Coated cermet GT9530 (New)	Cermet NS9530 (New)	Carbide KS05F (New)	Dimensions (mm): I.C. dia. ød	Thickness s	Hole dia. ød1	Corner radius rε
Finishing to medium cutting (For swiss type automatic lathes)	JTS 		DXGU070301MR-JTS	●				6.35	3.18	2.7	< 0.1*
			DXGU070301ML-JTS	●				6.35	3.18	2.7	< 0.1*
			DXGU070302MR-JTS	●				6.35	3.18	2.7	< 0.2*
			DXGU070302ML-JTS	●				6.35	3.18	2.7	< 0.2*
Finishing (Low cutting force) (For swiss type automatic lathes)	JSS 		DXGU070301MR-JSS	●				6.35	3.18	2.7	< 0.1*
			DXGU070301ML-JSS	●				6.35	3.18	2.7	< 0.1*
			DXGU070302MR-JSS	●				6.35	3.18	2.7	< 0.2*
			DXGU070302ML-JSS	●				6.35	3.18	2.7	< 0.2*
Finishing to medium cutting	TS 		DXGU070302R-TS	●	●	●	●	6.35	3.18	2.7	0.2
			DXGU070302L-TS	●	●	●	●	6.35	3.18	2.7	0.2
			DXGU070304R-TS	●	●	●	●	6.35	3.18	2.7	0.4
			DXGU070304L-TS	●	●	●	●	6.35	3.18	2.7	0.4
			DXGU070308R-TS	●	●	●	●	6.35	3.18	2.7	0.8
			DXGU070308L-TS	●	●	●	●	6.35	3.18	2.7	0.8
Finishing (Low cutting force)	SS 		DXGU070302R-SS	●	●	●	●	6.35	3.18	2.7	0.2
			DXGU070302L-SS	●	●	●	●	6.35	3.18	2.7	0.2
			DXGU070304R-SS	●	●	●	●	6.35	3.18	2.7	0.4
			DXGU070304L-SS	●	●	●	●	6.35	3.18	2.7	0.4

* JTS and TSS have minus tolerance of corner radius.

● : Stocked items

Standard cutting conditions

For external turning

Applications	ISO	Workpiece materials	Priority	Chip-breaker	Grades	Cutting speed *Vc* (m/min)	Depth of cut *ap* (mm)	Feed *f* (mm/rev)
For swiss type automatic lathes	P	Low carbon steels (SS400 / E275A etc.) Carbon steels (S45C / C45 etc.) Low alloy steels (SCM415 etc.) Alloy steels (SCM440 / 42CrMo4 etc.)	First choice	**JTS**	**AH725**	50 - 180	0.1 - 2.0	0.03 - 0.10
			With high sharpness	**JSS**	**AH725**	50 - 180	0.1 - 1.5	0.03 - 0.10
	M	Stainless steels (Austenitic) (SUS304 / X5CrNi18-9 etc.) Stainless steels (Martensitic and ferritic) (SUS430 / X6Cr17 etc.) Stainless steels (Precipitation hardened) (SUS630 / X5CrNiCuNb16-4 etc.)	First choice	**JSS**	**AH725**	50 - 180	0.1 - 1.5	0.03 - 0.10
			For impact resistance	**JTS**	**AH725**	50 - 180	0.1 - 2.0	0.03 - 0.10
For small size CNC lathes	P	Low carbon steels (SS400 / E275A etc.) Carbon steels (S45C / C45 etc.) Low alloy steels (SCM415 etc.) Alloy steels (SCM440 / 42CrMo4 etc.)	First choice	**SS**	**AH725**	50 - 180	0.15 - 1.5	0.05 - 0.2
				TS	**AH725**	50 - 180	0.3 - 2.0	0.08 - 0.3
			For improved surface finish	**SS**	**NS9530**	80 - 200	0.15 - 1.5	0.05 - 0.2
				TS	**NS9530**	80 - 200	0.3 - 2.0	0.08 - 0.3
			For wear resistance	**SS**	**GT9530**	80 - 250	0.15 - 1.5	0.05 - 0.2
				TS	**GT9530**	80 - 250	0.3 - 2.0	0.08 - 0.3
	M	Stainless steels (Austenitic) (SUS304 / X5CrNi18-9 etc.) Stainless steels (Martensitic and ferritic) (SUS430 / X6Cr17 etc.) Stainless steels (Precipitation hardened) (SUS630 / X5CrNiCuNb16-4 etc.)	First choice	**SS**	**AH725**	50 - 150	0.15 - 1.5	0.05 - 0.2
			For impact resistance	**TS**	**AH725**	50 - 150	0.3 - 2.0	0.08 - 0.3

For internal turning

ISO	Workpiece materials	First Choice	For surface finish	For wear resistance (High speed)	Cutting speed *Vc* (m/min)	Depth of cut *ap* (mm)	Feed *f* (mm/rev)
P	Low carbon steels SS400, SM490, S25C etc.	**AH725**	-	-	50 - 180	0.3 - 2.0	0.08 - 0.3
		-	**NS9530**	-	80 - 250	0.3 - 2.0	0.08 - 0.3
		-	-	**GT9530**	80 - 300	0.3 - 2.0	0.08 - 0.3
	Carbon steels S45C, S55C/ C45, C55 etc.	**AH725**	-	-	50 - 180	0.3 - 2.0	0.08 - 0.3
		-	**NS9530**	-	80 - 250	0.3 - 2.0	0.08 - 0.3
		-	-	**GT9530**	80 - 300	0.3 - 2.0	0.08 - 0.3
	Low alloy steels SCM415 etc.	**AH725**	-	-	50 - 180	0.3 - 2.0	0.08 - 0.3
		-	**NS9530**	-	80 - 250	0.3 - 2.0	0.08 - 0.3
		-	-	**GT9530**	80 - 300	0.3 - 2.0	0.08 - 0.3
	Alloy steels SCM440, SCr420 / 42CrMo4, 20Cr4 etc.	**AH725**	-	-	50 - 180	0.3 - 2.0	0.08 - 0.3
		-	**NS9530**	-	80 - 250	0.3 - 2.0	0.08 - 0.3
		-	-	**GT9530**	80 - 300	0.3 - 2.0	0.08 - 0.3
M	Stainless steels (Austenitic) SUS304, SUS316 / X5CrNi18-9, X5CrNiMo17-12-2 etc.	**AH725**	-	-	50 - 150	0.3 - 2.0	0.08 - 0.3
	Stainless steels (Martensitic and ferritic) SUS430, SUS416 / X6Cr17, X20Cr13 etc.	**AH725**	-	-	50 - 150	0.3 - 2.0	0.08 - 0.3
	Stainless steels (Precipitation hardening) SUS630 / X5CrNiCuNb16-4 etc.	**AH725**	-	-	50 - 150	0.3 - 2.0	0.08 - 0.3
K	Grey cast irons FC250 / GG25 etc.	**AH725**	-	-	50 - 180	0.3 - 2.0	0.08 - 0.3
		-	**NS9530**	-	80 - 250	0.3 - 2.0	0.08 - 0.3
		-	-	**GT9530**	80 - 300	0.3 - 2.0	0.08 - 0.3
	Ductile cast irons FCD700 / GGG70 etc.	**AH725**	-	-	50 - 120	0.3 - 2.0	0.08 - 0.3
		-	**NS9530**	-	80 - 150	0.3 - 2.0	0.08 - 0.3
		-	-	**GT9530**	80 - 180	0.3 - 2.0	0.08 - 0.3
N	Non ferrous Metals Aluminum alloy etc.	**KS05F**	-	-	100 - 300	0.3 - 2.0	0.08 - 0.3
	Non ferrous Metals Cu Alloy etc.	**KS05F**	-	-	100 - 300	0.3 - 2.0	0.08 - 0.3

Grades

AH725 P M K PREMIUMTEC TUNGALOY

- Versatile PVD coated grade suitable for a wide range of work materials.
- Demonstrates excellent balance of wear and fracture resistance.

GT9530 P K PREMIUMTEC TUNGALOY

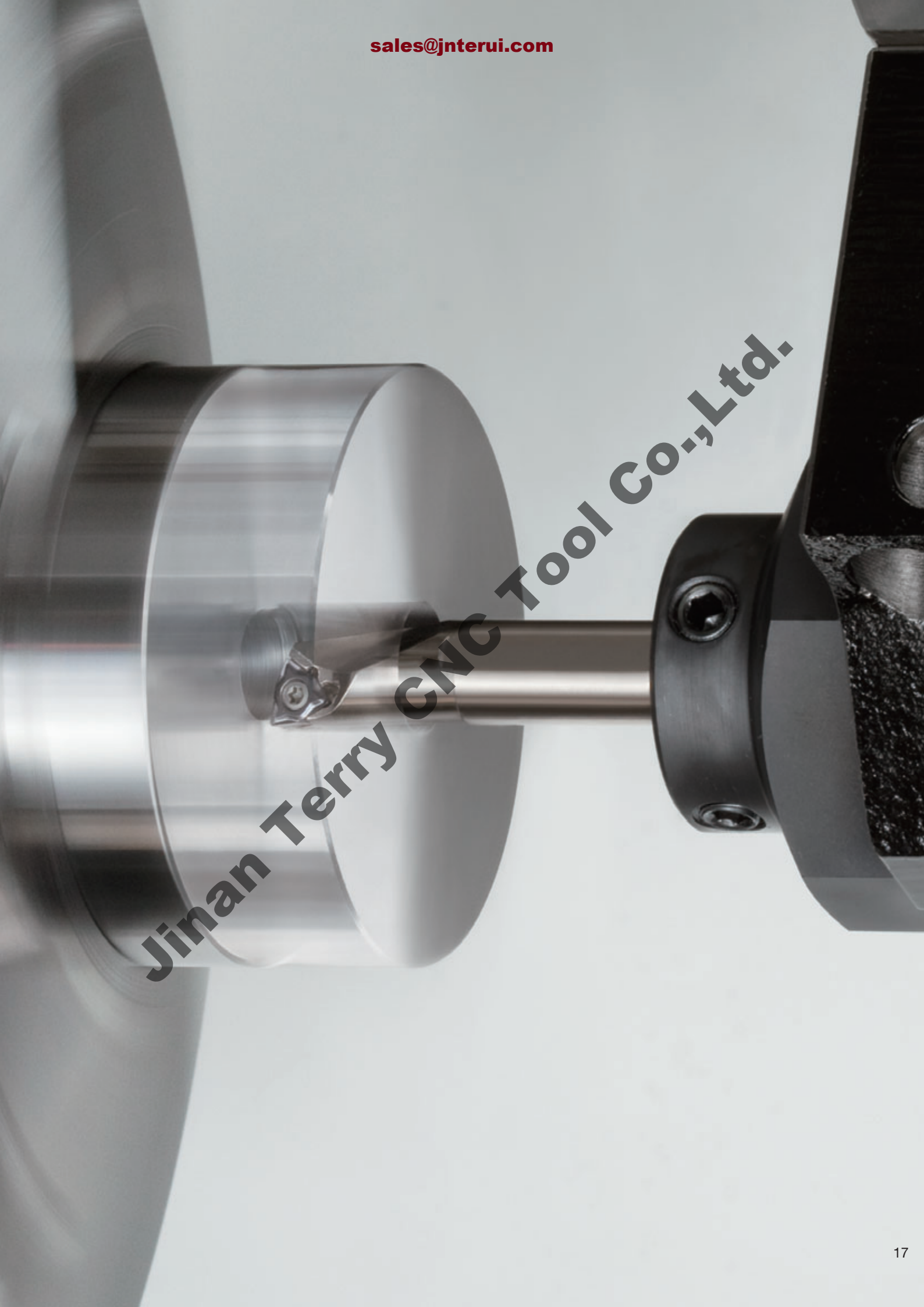
- Coated cermet grade with premium coating demonstrates exceptional wear resistance.
- Provides remarkable performance in finishing of steels during high speed machining.

NS9530 P K PREMIUMTEC TUNGALOY

- Versatile cermet grade with incredible fracture and wear resistance.
- Provides long tool life and excellent surface finish in steel finishing applications.

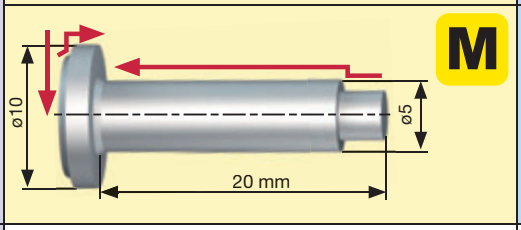
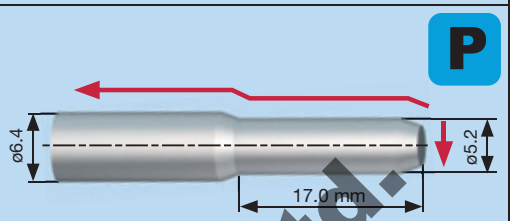
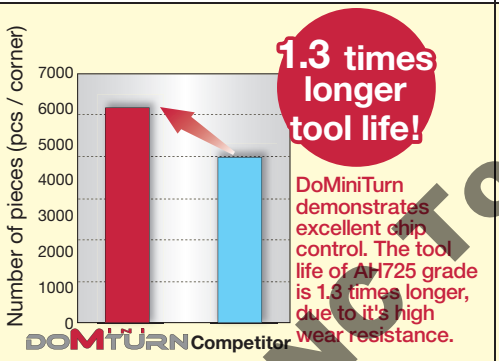
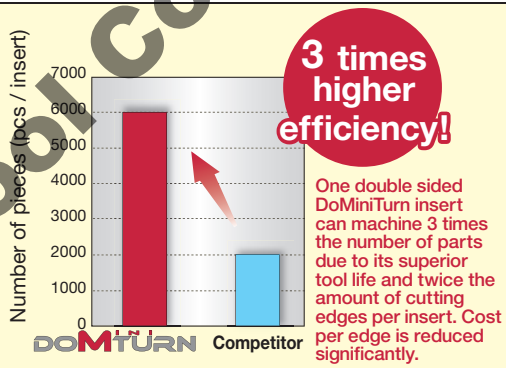
KS05F N

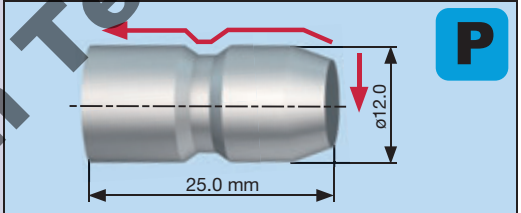
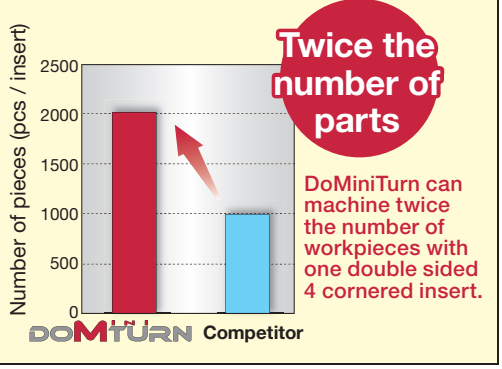
- Micro-grain cemented carbide in which wear resistance and impact resistance are balanced.
- The homogeneous fine-grained structure contribute to the excellent resistance of wear, fracture, and chip welding!



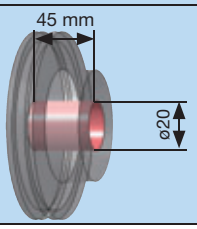
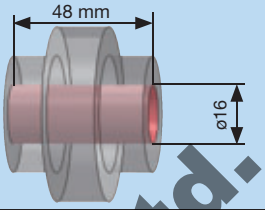
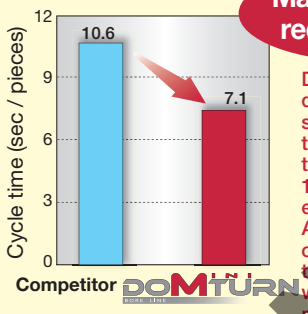
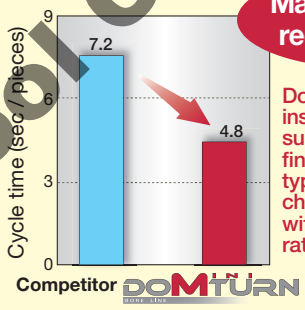
Practical examples

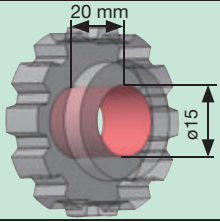
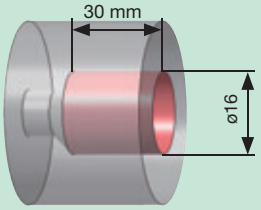
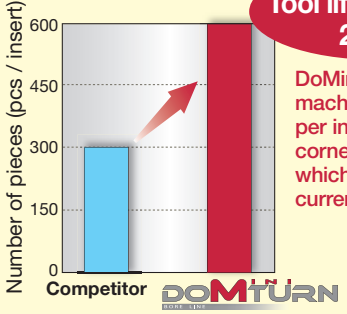
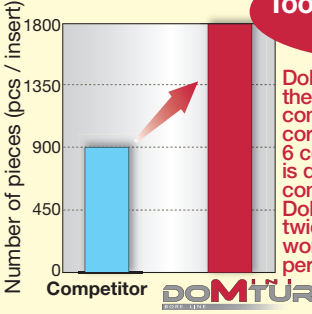
External turning

Workpiece type		Shaft	Shaft
Toolholder		JSDJ2XR1212X07	JSWL2XR1212X04
Insert		DXGU070301ML-JSS	WXGU040302ML-TS
Grade		AH725	AH725
Workpiece material		SUS304 / X5CrNi18-9	S45C /C45
			
Cutting conditions	Cutting speed: *Vc* (m/min)	110 - 150 (External), 10 - 100 (Facing)	66 - 80
	Feed : *f* (mm/rev)	0.04 (External), 0.05 (Facing)	0.15
	Depth of cut : *ap* (mm)	0.4 (External, facing)	0.6
	Machining	External • Facing	External
	Coolant	Wet	Wet
Results		 1.3 times longer tool life! DoMiniTurn demonstrates excellent chip control. The tool life of AH725 grade is 1.3 times longer, due to it's high wear resistance.	 3 times higher efficiency! One double sided DoMiniTurn insert can machine 3 times the number of parts due to its superior tool life and twice the amount of cutting edges per insert. Cost per edge is reduced significantly.

Workpiece type		Shaft
Toolholder		JSDJ2XR1212X07
Insert		DXGU070302L-JTS
Grade		AH725
Workpiece material		Alloy steels
		
Cutting conditions	Cutting speed: *Vc* (m/min)	90
	Feed : *f* (mm/rev)	0.03
	Depth of cut : *ap* (mm)	0.5
	Machining	External
	Coolant	Wet
Results		 Twice the number of parts DoMiniTurn can machine twice the number of workpieces with one double sided 4 cornered insert.

Internal turning

Workpiece type		Machine Parts	Machine Parts
Toolholder		A16Q-SWLXR04-D180	E12Q-SWLXR04-D140
Insert		WXGU040304L-TSW New	WXGU040304L-TSW
Grade		AH725	GT9530 New
Workpiece material		S45C / C45  P	SCM435 / 34CrMo4  P
Cutting conditions	Cutting speed: *Vc* (m/min)	160	200
	Feed : *f* (mm/rev)	0.10 → 0.15	0.10 → 0.15
	Depth of cut : *ap* (mm)	0.5	0.2
	Machining	Internal Turning (continuous cutting)	Internal Turning (continuous cutting)
	Coolant	Wet	Wet
Results		Machining time reduced 30%!  DoMiniTurn demonstrated surface finish equal to conventional type even with 1.5 times more efficient machining. Also, DoMiniTurn contributed to cycle time reduction, which increased productivity by 30%.	Machining time reduced 30%!  DoMiniTurn wiper insert offered surface finish as fine as conventional type without chattering even with 1.5 higher feed rate.

Workpiece type		Machine Parts	Machine Parts
Toolholder		A10K-SWLXR04-D120	A12M-SDXXR04-D140
Insert		WXGU040302L-SS	DXGU070304L-TS
Grade		KS05F New	KS05F New
Workpiece material		CAC406 / Bronze casting  N	A5056 (Al - Mg)  N
Cutting conditions	Cutting speed: *Vc* (m/min)	70	200
	Feed : *f* (mm/rev)	0.1	0.1
	Depth of cut : *ap* (mm)	1.0	1.0
	Machining	Internal Turning (continuous cutting)	Internal Turning (continuous cutting)
	Coolant	Wet	Wet
Results		Tool life improved 200%!  DoMiniTurn machined 720 pcs per insert with 6 corners available , which is double the current item.	Tool life improved 200%!  DoMiniTurn achieved the same tool life as competitor's with 3 cornered postive-type. 6 corners, which is double the conventional, allowed DoMiniTurn to increase twice the number of workpieces processed per insert.

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