

TOOLING LIST

ANNEX

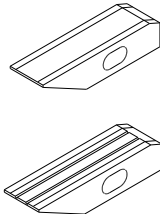
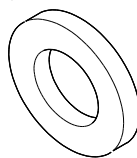
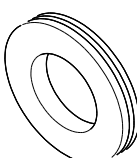

ORII&MEC

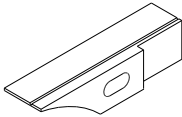
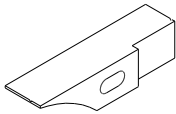
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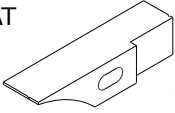
TOOLINGS

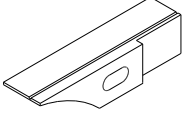
STANDARD TOOLINGS

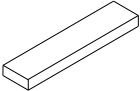
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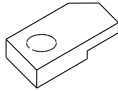
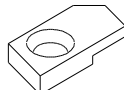

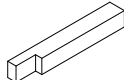
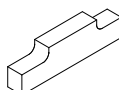
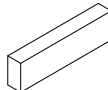
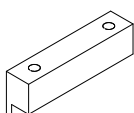
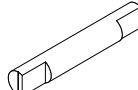
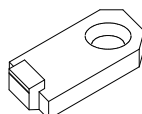
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
PRIMARY GUIDE (INLET GUIDE) 	FLAT	10X135-F		TYPE II
	0.08	10X135-008		TYPE V
	0.1	10X135-010		
	0.2	10X135-020		
	0.4	10X135-040		
	0.6	10X135-060		
	0.8	10X135-080		
	1.0	10X135-100		
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
FEED ROLLER FLAT (φ50) 	0.10 (φ49.9)	15X509-F010	For φ0.15 or less	TYPE II
	0.20 (φ49.8)	15X509-F020	From φ0.16 to 0.25	TYPE V
	0.30 (φ49.7)	15X509-F030	From φ0.26 to 0.35	
	0.40 (φ49.6)	15X509-F040	From φ0.36 to 0.45	
	0.50 (φ49.5)	15X509-F050	From φ0.46 to 0.55	
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
FEED ROLLER (φ50) 	0.10/0.15	15X509-1015	Double-grooved	TYPE II
	0.18/0.23	15X509-1823		TYPE V
	0.20/0.26	15X509-2026		
	0.30/0.40	15X509-3040		
	0.35/0.45	15X509-3545		
	0.50/0.60	15X509-5060		
	0.55/0.65	15X509-5565		
	0.70/0.80	15X509-7080		
	0.75/0.85	15X509-7585		
	0.90/1.00	15X509-9000		
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
WIRE GUIDE FLAT  L=32	FLAT	02X031-F		TYPE II TYPE V

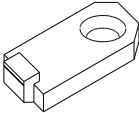
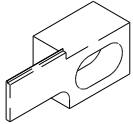
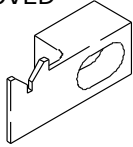
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
WIRE GUIDE RH w/GROOVE  L=52	0.08	02X031-R008		TYPE II
	0.09	02X031-R009		TYPE V
	0.10	02X031-R010		
	0.12	02X031-R012		
	0.13	02X031-R013		
	0.14	02X031-R014		
	0.15	02X031-R015		
	0.16	02X031-R016		
	0.18	02X031-R018		
	0.20	02X031-R020		
	0.23	02X031-R023		
	0.25	02X031-R025		
	0.26	02X031-R026		
	0.30	02X031-R030		
	0.32	02X031-R032		
	0.35	02X031-R035		
	0.40	02X031-R040		
	0.45	02X031-R045		
	0.50	02X031-R050		
	0.55	02X031-R055		
	0.60	02X031-R060		
	0.65	02X031-R065		
	0.70	02X031-R070		
	0.75	02X031-R075		
	0.80	02X031-R080		
	0.85	02X031-R085		
	0.90	02X031-R090		
	1.00	02X031-R100		
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
WIRE GUIDE w/o GROOVE  L=52		02X033-R		TYPE II TYPE V

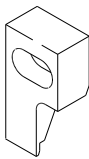
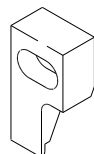
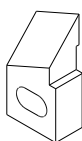

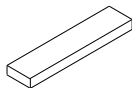
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
WIRE GUIDE (ALL TC) FLAT 		02X034-F		TYPE II TYPE V

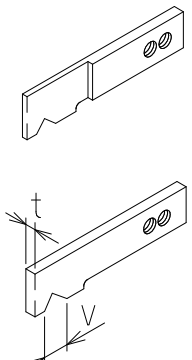
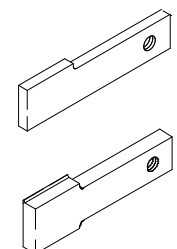
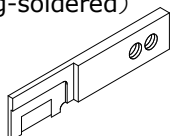
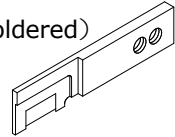
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
WIRE GUIDE (ALL TC) w/GROOVE  L=52	0.08	02X034-R008	*	TYPE II TYPE V
	0.09	02X034-R009	*	
	0.10	02X034-R010	*	
	0.12	02X034-R012	*	
	0.13	02X034-R013	*	
	0.14	02X034-R014	*	
	0.15	02X034-R015	*	
	0.16	02X034-R016	*	
	0.18	02X034-R018	*	
	0.20	02X034-R020	*	
	0.23	02X034-R023	*	
	0.25	02X034-R025	*	
	0.26	02X034-R026	*	
	0.30	02X034-R030	*	
	0.32	02X034-R032	*	
	0.35	02X034-R035	*	
	0.40	02X034-R040	*	
	0.45	02X034-R045	*	
	0.50	02X034-R050	*	
	0.55	02X034-R055	*	
	0.60	02X034-R060	*	
	0.65	02X034-R065	*	
	0.70	02X034-R070		
	0.75	02X034-R075	*	
	0.80	02X034-R080		
	0.85	02X034-R085		
	0.90	02X034-R090	*	
	1.00	02X034-R100		

DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
CUTTING TOOL 		02X011-H 02X011-T 02X011-E	HSS (SKH57) ALL TC (D30) ALL TC (EM10)	TYPE II TYPE V

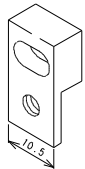
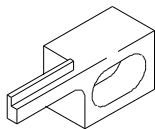
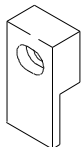
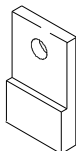
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
PITCH TOOL RH 		10X114-R			TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
PITCH TOOL 		04X140			TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
ARBOR    	3x3	10X112-33	Use along with dedicated holder φ3.0 or less	} Depends on coil I.D.	TYPE II TYPE V
	4x4	10X112-44	~φ4		
	4x5	10X112-45	~φ6		
	4x8	10X112-48	~Φ8		
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
ARBOR HOLDER 		10X113		FOR ARBOR 3x3	TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
COILING PIN w/V-GROOVE 		10X119-V05	*	Use along with dedicated holder	TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
COILING POINT w/V-GROOVE 		10X120-V05		W.D. φ0.5 or less	} For high tension spring part
		10X120-V10		from φ0.5 to 1.0	
					TYPE II TYPE V

DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
COILING POINT U-GROOVED 	0.08	10X120-008		TYPE II
	0.10	10X120-010		TYPE V
	0.12	10X120-012		
	0.14	10X120-014		
	0.15	10X120-015		
	0.16	10X120-016		
	0.18	10X120-018		
	0.16	10X120-016		
	0.18	10X120-018		
	0.20	10X120-020		
	0.23	10X120-023		
	0.25	10X120-025		
	0.26	10X120-026		
	0.30	10X120-030		
	0.32	10X120-032		
	0.35	10X120-035		
	0.40	10X120-040		
	0.45	10X120-045		
	0.50	10X120-050		
	0.55	10X120-055		
	0.60	10X120-060		
	0.65	10X120-065		
	0.70	10X120-070		
	0.80	10X120-080		
	0.90	10X120-090		
	1.00	10X120-100		
	1.10	10X120-110	*	
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
BASE TOOL RH 	0.5 x 0.1	10X121-B005	Depends on wire dia.	TYPE II
	1.0 x 1.5	10X121-B15	0.15 ~φ0.3	TYPE V
	1.5 x 0.3	10X121-B30	0.3 φ0.3~φ0.5	
	2.5 x 0.6	10X121-B60	0.6 φ0.6~	
BASE TOOL RH V-GROOVED 	0.15	10X121-VR015	V ANGLE: 90°	TYPE II
	0.30	10X121-VR030		TYPE V
	0.60	10X121-VR060		

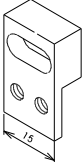
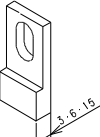
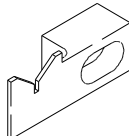

DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
SQUEEZE TOOL 				Depends on wire dia.	TYPE II
	0.15	10X122-R015		0.15 ~φ0.3	TYPE V
	0.30	10X122-R030		0.3 φ0.4~φ0.5	
	0.60	10X122-R060		0.6 φ0.6~	
	0.80	10X122-R080			
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
SQUEEZE TOOL U-GROOVED 	0.50	10X122-UR05	*		TYPE II
	0.60	10X122-UR06	*		TYPE V
	0.70	10X122-UR07	*		
	0.80	10X122-UR08	*		
	0.90	10X122-UR09	*		
	1.00	10X122-UR10	*		
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
HOOK TOOL RH 	0.5x0.1	10X123-R8		Depends on coil outside dia. width 8mm -- φ1~φ4 11mm - φ4~φ8 15mm - φ8~	TYPE II
	1.0x1.5	10X123-R11			TYPE V
	1.5x0.3	10X123-R15			
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
SIDE HOOK TOOL 	10mm/0°	10X124-F10			TYPE II
	15mm/0°	10X124-F15			TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
CHIP A 		10X180			TYPE II TYPE V

DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
CLAMP TOOL V-GROOVED 	t x V		Depends on coil outside dia.	TYPE II
	1 x 1.6	10X126-1016	*	TYPE V
	1 x 4	10X126-1040	*	V size - W.D. applicable 1.6mm-φ0.5~φ1.8 (3mm-φ1.4~φ3.5) 4mm-φ1.7~φ4 6mm-φ3~φ6 11mm-φ5~φ12 } Diamond coated
	1 x 6	10X126-1060	*	
	2 x 1.6	10X126-2016		
	2. x 4	10X126-2040		
	2 x 6	10X126-2060		
	3.5 x 3	10X126-3530		
	3.5 x 4	10X126-3540		
	3.5 x 6	10X126-3560		
	6 x 4	10X126-6040		
	6 x 6	10X126-6060D		
	6 x 11	10X126-6011D		
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
CLAMP TOOL FLAT 	t1	10X127-F10		TYPE II
	t2	10X127-F20		TYPE V
	t3.5	10X127-F35		
	t6	10X127-F60	• When w.d. 0.6 or less, use flat side. • When w.d. thicker than 0.6, use stepped side.	
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
CLAMP TOOL w/BLADE 7.5x14x t0.13 (Ag-soldered) 	t0.5	10X125-05	• For w.d. less than 0.4, and short closed coil, or bigger D/d index one	TYPE II
	t1.0	10X125-10		TYPE V
CLAMP TOOL w/BLADE 8x15x t0.25 (Ag-soldered) 		10X125-S10		
ONLY BLADE		10X125-99		TYPE II TYPE V

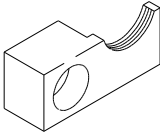
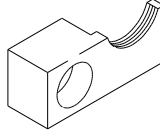
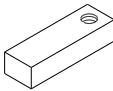


TOOLINGS FOR U HOOK

DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
U HOOK SQUEEZE TOOL 	0.15	04X141-015		~φ0.3	TYPE II
	0.3	04X141-030		φ0.3~φ0.5	TYPE V
	0.6	04X141-060		φ0.6~	
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
U HOOK BASE TOOL RH 	0.6	04X142-B06		~φ0.7	TYPE II
	1.0	04X142-B10		φ0.8~	TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
U HOOK TOOL 		04X143			TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
U HOOK PRESSER 		04X144			TYPE II TYPE V

TOOLINGS FOR V-TOOLING UNIT

DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
GERMAN SQUEEZE TOOL 	0.15	11X161-015		~φ0.3	TYPE V
	0.30	11X161-030		φ0.3~φ0.5	
	0.60	11X161-060		φ0.6~	
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
U HOOK HOLDER 	3mm	11X162-3		~3mm	TYPE V
	6mm	11X162-6		3mm~6mm	
	15mm	11X162-15		6mm~	
				Hook height (Inside)	
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
BASE TOOL V-TYPE 	W 0.3	11X163-VW03		~φ0.4	TYPE V
	W 0.6	11X163-VW06		φ0.5~	
DESCRIPTION	SIZE	PART NO.	NOTES		APPLICATION
GERMAN HOOK TOOL RH 		10X138-RH		MATERIAL : SKH51	TYPE V

TOOLILNG FOR TYPE II TOOLING UNIT

DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
GERMAN BASE TOOL RH 	TAPPING SIZE M2~M7 M8~M12	10X136-R01 § 10X136-R30	RH SCREW REF TABLE ON P10-12	TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
GERMAN CLAMP TOOL RH 	TAPPING SIZE M2~M7 M8~M12	10X139-R01 § 10X139-R30	RH SCREW REF TABLE ON P10-12	TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
GERMAN ANVIL 		10X137		TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
GERMAN HOOK TOOL RH 		10X138-RH	MATERIAL : SKH51	TYPE II TYPE V
DESCRIPTION	SIZE	PART NO.	NOTES	APPLICATION
GERMAN HOOK TOOL LH 		10X138-LH	MATERIAL: SKH51	TYPE II TYPE V

SIZE FOR GERMAN BASE & GERMAN CLAMP TOOLS

GERMAN BASE	GERMAN CLAMP	W.D. × COIL O.D.	
P/NO. (RH)	P/NO. (LH)		
Y10X136-R01	Y10X139-R01	0.2	1.8
Y10X136-R02	Y10X139-R02	0.2	2.3
Y10X136-R03	Y10X139-R03	0.2	2.8
Y10X136-R04	Y10X139-R04	0.2	3.8
Y10X136-R05	Y10X139-R05	0.25	1.8
Y10X136-R06	Y10X139-R06	0.25	2.8
Y10X136-R07	Y10X139-R07	0.3	2.7
Y10X136-R08	Y10X139-R08	0.3	3.7
Y10X136-R09	Y10X139-R09	0.3	5.7
Y10X136-R10	Y10X139-R10	0.35	3.15
Y10X136-R11	Y10X139-R11	0.35	4.65
Y10X136-R12	Y10X139-R12	0.4	3.1
Y10X136-R13	Y10X139-R13	0.4	3.6
Y10X136-R14	Y10X139-R14	0.4	4.1
Y10X136-R15	Y10X139-R15	0.4	7.6
Y10X136-R16	Y10X139-R16	0.5	4.5
Y10X136-R17	Y10X139-R17	0.5	7.5
Y10X136-R18	Y10X139-R18	0.5	9.5
Y10X136-R19	Y10X139-R19	0.6	6.4
Y10X136-R20	Y10X139-R20	0.64	3.15
Y10X136-R21	Y10X139-R21	0.7	6.3
Y10X136-R22	Y10X139-R21	0.75	6.3
Y10X136-R23	Y10X139-R23	0.75	7.3
Y10X136-R24	Y10X139-R24	0.75	9.3
Y10X136-R25	Y10X139-R25	0.75	11.3
Y10X136-R26	Y10X139-R26	0.8	5.6
Y10X136-R27	Y10X139-R27	0.8	6.8
Y10X136-R28	Y10X139-R28	1.0	6.0
Y10X136-R29	Y10X139-R29	1.0	8.0
Y10X136-R30	Y10X139-R30	1.0	11.0

Closer one is chosen when other than above W.D. and coil O.D.