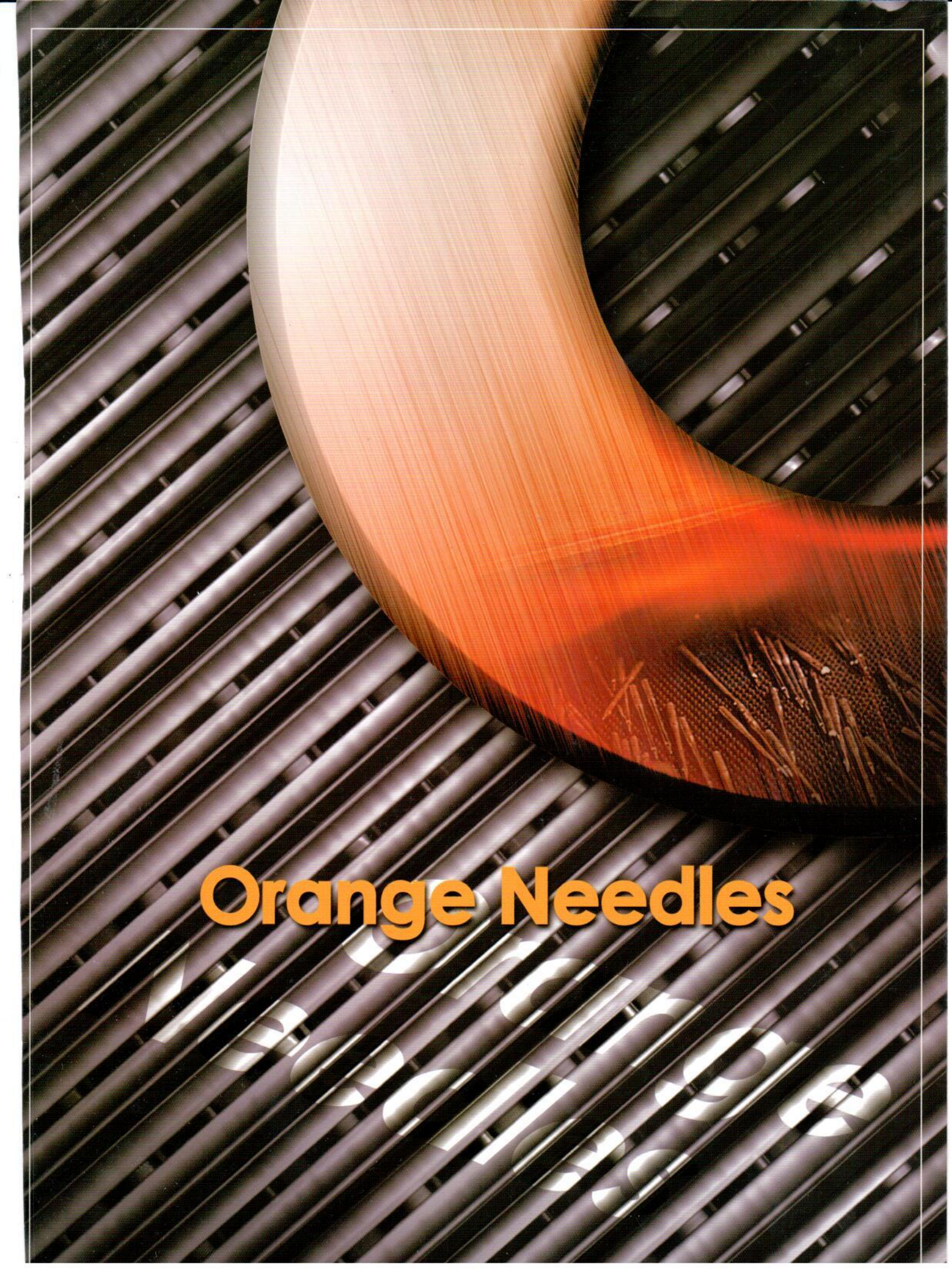
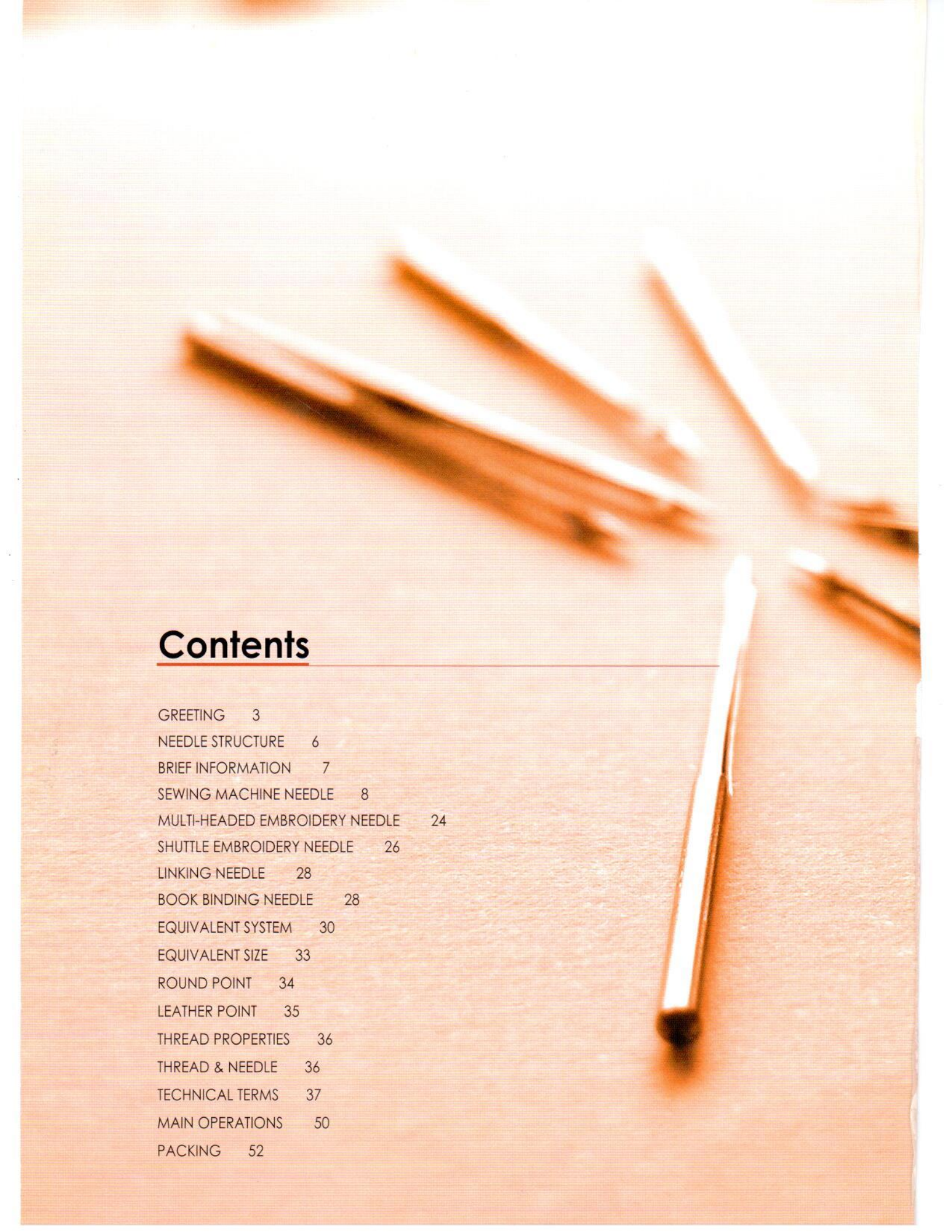
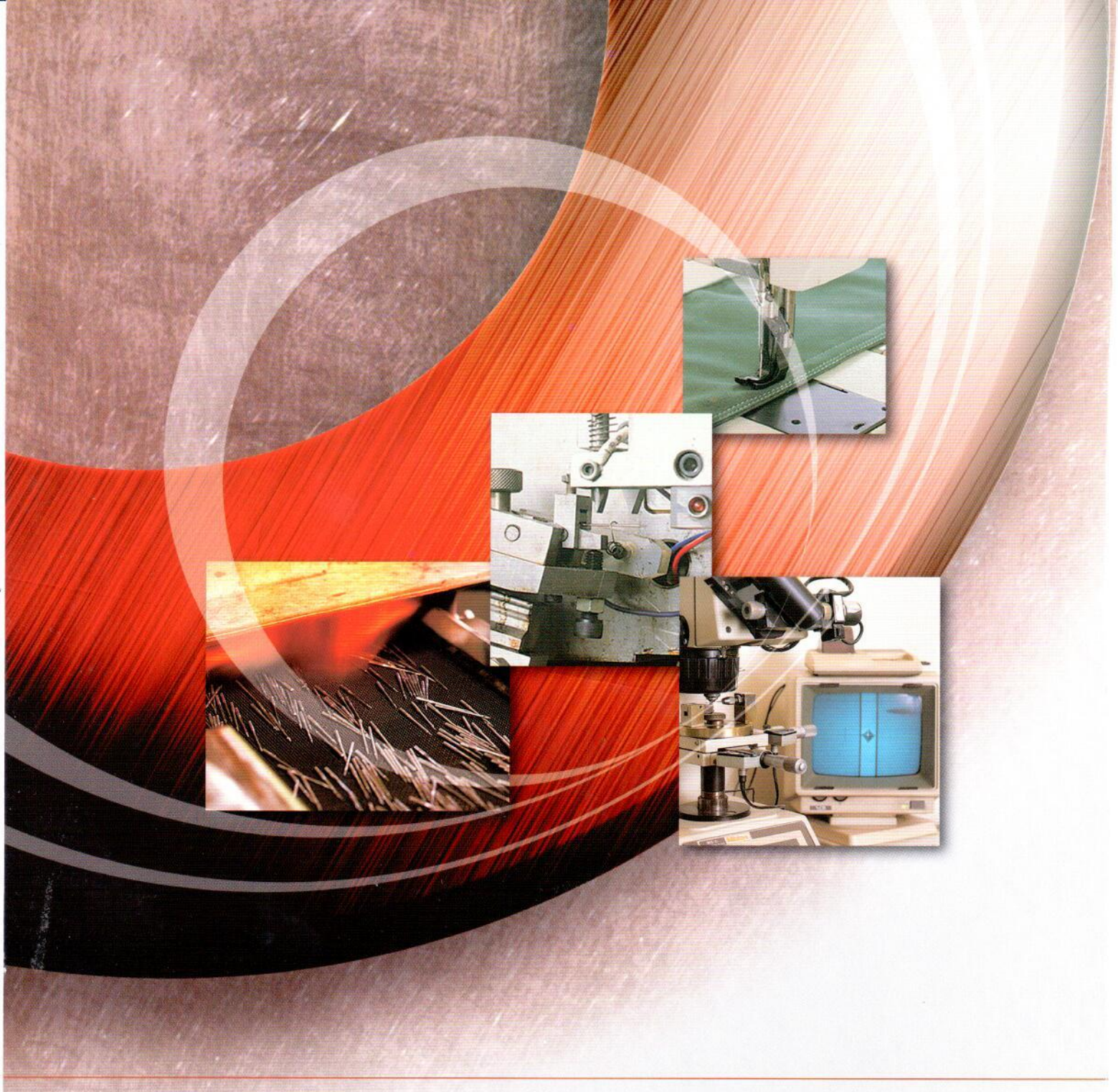

Orange Needles



Contents



STRICT QUALITY CONTROL

Our quality control activities are consistently carried out from the stage of designing and raw material purchase to the end of the service life of our products. The chemical composition, mechanical properties, appearance and dimension of raw materials, and various characteristics of needle quality, including the appearance, size, shape, plating conditions, and heat treatment of the finished products, are strictly controlled and precisely tested. We are always inspecting every piece of our needles to get rid of any defective products. The reliability of our quality guaranty system has been well-known to our customers.

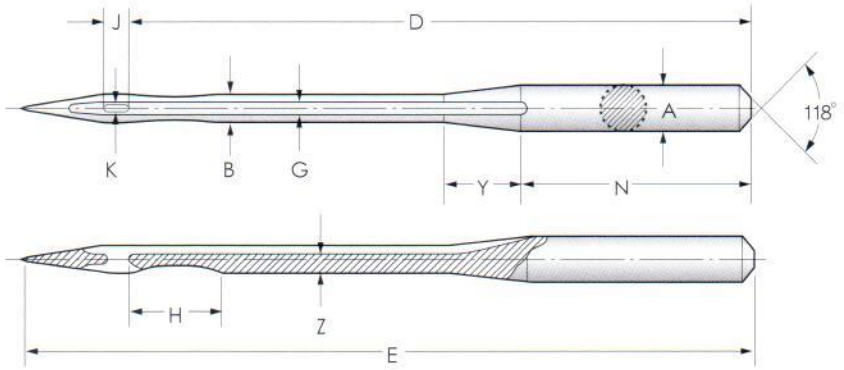
ADVANCED TECHNOLOGY

On the basis of our long-term accumulated technologies, we have been carrying out continuous R & D activities to produce high quality needles. Our R & D activities include the improvement of our processing methods and needle shapes for better performance, the automatization of our production facilities for uniform needle characteristics, and the continuous development of our new needles to meet the diversified needlework patterns. Our R & D activities will be even more expansive than now, since they are a must in order to satisfy our customers' needs for needle quality.

Good Price Top Quality Fast Service High Precision

NEEDLE STRUCTURE

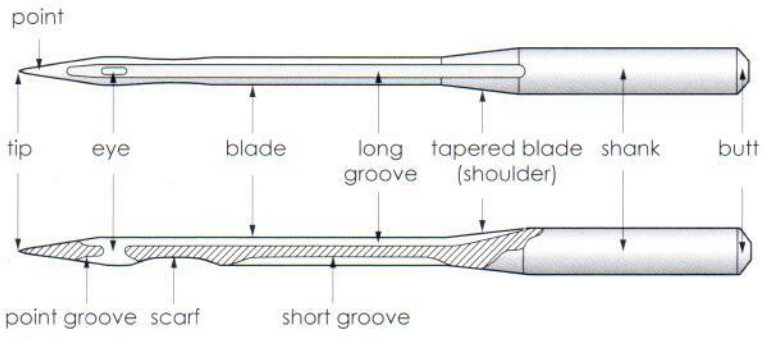
SYMBOL OF MAIN MEASUREMENT



EXPLANATION FOR SYMBOL

SYMBOL	DESCRIPTION
A	diameter of shank
E	overall length
D	distance from beginning of eye to top of shank
N	length of shank
Y	length of tapered blade
B	diameter of blade
J	length of eye
K	width of eye
H	length of scarf
Z	depth of groove
G	width of groove

DESIGNATION OF VARIOUS PARTS



SYSTEM

We have arranged a variety of needle systems in alphabetical and numerical order are shown. You will find a lot of systems in this catalog, which are comparatively popular needles at present in the field of the sewing industry.

NEEDLE FIGURE

The drawings in this catalog show the actual size outline of the needles. You will realize all the particulars such as the supplementary shoulder, scarf, flattened shank, shape of short groove, etc···

POINT SHAPE

The point symbols represent the shape of the needle point by promise, and the marked symbol indicates the standard shape of the system. Besides, the standard shape, various Ball Points and Leather Points can be processed according to the special uses. Also, the arrow sign in the drawings indicates the direction of the threading.

SECTION OF BLADE (X-X')

You will easily realize the shape of the blade by the number of the grooves and the position of the grooves in the cross-sectional views.

DIAMETER OF SHANK (A⌀)

The diameter of the shank is a basically important factor when selecting the needle and should be suitable to the needle bar of the sewing machine. Through this column you will recognize the diameter of the shank and the direction of flattening or notch on the shank.

DISTANCE FROM BUTT TO TOP OF EYE (D)

The distance from the butt to the top of the eye has a direct relation to the timing of the hook or the looper as well as the stroke of the needle bar. Please refer to this column when selecting the needle.

LENGTH OF SHANK (N)

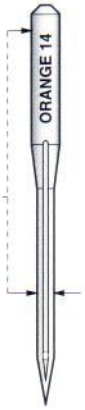
You should select the exact length of the needle shank according to the mechanical condition of the sewing machine or the thickness of the sewing materials.

NEEDLE SIZE

The needle size indicates the diameter of the needle blade, and its marking methods are different according to each needle' s manufacturer. Our company, together with the Japanese manufacturer and Singer, mark them with a series of number while the German manufacturers mark them with a metric size(Nm). In this catalog, we have marked the suppliable needle sizes with our codes on the upper line and the corresponding Nm style or other numbering system on the bottom line, so that you can easily recognize the mutual connection.

《 example 》

OUR CODE	Nm STYLE	DIAMETER OF SHANK
14	90	0.90 mm
18	110	1.10 mm



EQUIVALENT SYSTEM

Notwithstanding the same shape and measurement of a needle, its designation may be different according to the needle' s manufacturer. To avoid confusion, the other manufacturers' needle systems have been recorded in this catalog as well. Upon request from our customers, we sometimes correspond other manufacturers' systems on the packing envelope, box, etc···

《 example 》

DB X 1, 287WH, 1738, 16 X 231, SY2254, SY2270

TECHNICAL TERMS

For the purpose of aiding the selection and use of a needle we describe various technical terms in relation to sewing and the sewing machine needle.

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
AI X 1		SPI		Nm	22.00	9.50
BB X 155		R		2.00	33.70	10.50
BK X 705KH		R		1.95	33.90	14.50
BL X 1		J Ball		1.62	33.80	13.50
BQ X 1		STU		1.62	37.20	15.00
CP X 1		R		2.02	34.50	18.00
DA X 1		R		1.62	29.60	14.50
		R		1.62	33.80	16.00
DB X 1		R		1.90	33.80	12.50
		R		2.02	33.80	12.50 ~ 10.50
DB X 1KN		S Ball		1.62	33.80	16.00
DB X 95		R		1.62	33.80	13.50
DB X A20		R		1.62	33.80	12.50 ~ 11.50
		LR		1.62	33.80	16.00
DB X F2		LR		1.90	33.80	12.50
		LR		2.02	33.80	12.50 ~ 10.50
DB X N20		R		1.62	33.80	12.50
DC X 1		R		2.02	28.60	10.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
5 6 7 8 9 11 12 21 20 18 16 14 12 11 292 Bonis No.	176 X 1: 262A	**AI X 1**
16 18 19 21 100 110 120 130	B-155	**BB X 155**
12 14 16 18 80 90 100 110	705KH	**BK X 705KH**
14 90	1738KK FFG	**BL X 1**
10 11 12 14 16 18 70 75 80 90 100 110	108 X 1	**BQ X 1**
14 16 90 100	135 X 9: SY1902	**CP X 1**
9 10 11 12 13 14 16 18 65 70 75 80 85 90 100 110	88 X 1: 1128	**DA X 1**
7 8 9 10 11 12 13 14 16 18 55 60 65 70 75 80 85 90 100 110	16 X 231: 16 X 257: 1738: SY2254	**DB X 1**
19 120		
20 21 22 23 24 25 125 130 140 160 180 200		
8 9 10 11 12 14 60 65 70 75 80 90	1738SAN10	**DB X 1KN**
19 20 21 22 23 24 120 125 130 140 160 180	16 X 95: 287WH: 1738A	**DB X 95**
20 21 125 130	1738AK	**DB X A20**
9 11 12 14 16 18 65 75 80 90 100 110	16 X 230RTW: 1738LR	**DB X F2**
19 120		
20 21 22 23 24 25 125 130 140 160 180 200		
9 11 14 65 75 90	1738KK	**DB X N20**
7 8 9 10 11 12 13 14 16 18 19 20 21 22 23 55 60 65 70 75 80 85 90 100 110 120 125 130 140 160	81 X 1: 621: MY1023A	**DC X 1**

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
DC X 1F		R		ø 2.02	28.60	10.00
DC X 5		R		2.02	28.60	10.50
DC X 27		R		2.02	28.60	10.00
DC X 27KN		S Ball		2.02	28.60	10.00
DC X C87		J Ball		ø 2.02	28.60	10.00
DC X N17		R		2.02	28.60	13.00
DD X 1		R		2.29	52.20	20.00
		R		2.49	52.20	18.00
DD X 2LL		LL		2.29	52.20	20.00
		LL		2.49	52.20	18.00
DD X 2LR		LR		2.29	52.20	20.00
		LR		2.49	52.20	18.00
DH X 1		R		ø 2.02	28.20	11.50
DI X 1		R		1.98	39.20 ~ 38.60	13.00
DI X 3		R		1.98	39.00	13.00
DI X 4LL		LL		1.98	39.20	13.00
DI X E36		R		1.98	43.00	13.00
DL X 1		R		1.62	33.90	16.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
11 75 **14** 90		**DC X 1F**
23 160	81 X 5	**DC X 5**
7 55 **8** 60 **9** 65 **10** 70 **11** 75 **12** 80 **13** 85 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160	B-27: 81 X 27: MY1023: 1886	**DC X 27**
11 75 **14** 90	B-27 SAN10	**DC X 27KN**
11 75 **14** 90		**DC X C87**
9 65	81 X 1: 621: MY1023A	**DC X N17**
20 125 **21** 130 **22** 140 **23** 160 **24** 180	214 X 1: 328	**DD X 1**
25 200 **26** 230 **27** 250		
23 160 **24** 180	214 X 2TW: 328LL	**DD X 2LL**
25 200 **26** 230 **27** 250		
23 160 **24** 180	214 X 2RTW: 328LR	**DD X 2LR**
25 200 **26** 230 **27** 250		
9 65 **11** 75 **14** 90 **16** 100 **18** 110	24 X 1: 1881	**DH X 1**
21 130 **23** 160 **25** 200	29 X 1	**DI X 1**
16 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160 **24** 180 **25** 200	29 X 3: 332	**DI X 3**
19 120 **20** 125 **21** 130 **22** 140	29 X 4(TW): 332LL	**DI X 4LL**
25 200		**DI X E36**
11 75 **12** 80 **14** 90 **16** 100 **18** 110	71 X 1	**DL X 1**

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	A Ø	D	N
DM X 1		R		2.02	28.60	10.00
DM X 13		R		2.02	28.60	8.00
DN X 1		R		2.02	42.40	14.50 ~ 13.00
DO X 5		R		2.02	31.30	10.00
DO X 558		R		2.00	33.90	11.00
DP X 1		R		2.00	31.90	12.50 ~ 11.50
DP X 5		R		2.00	33.90	12.50 ~ 11.50
DP X 16D		D		2.00	39.00	13.50
DP X 16DIA		DI		2.00	39.00	13.50
DP X 16P		P		2.00	39.00	13.50
DP X 17		R		2.00	39.00	16.00 ~ 13.00
DP X 35D		D		2.00	38.20	13.50
DP X 35K		STU		2.00	38.00	15.00
DP X 35LR		LR		2.00	38.10	13.50
DP X 35PCL		PCL		2.00	38.10	13.50
DP X 35R		R		2.00	38.20	13.50
DP X 35S		S		2.00	38.20	13.50
DP X 39		R		2.00	33.90	18.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
11 **12** **14** **16** **18** 75 80 90 100 110	82 X 1	**DM X 1**
9 **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** 65 70 75 80 85 90 100 110 120 125 130	82 X 13: 1886KK	**DM X 13**
18 **21** **23** **24** **25** **26** **27** 110 130 160 180 200 230 250	92 X 1: UY143GS: MY1013: 1286	**DN X 1**
11 **14** **16** **18** **19** **20** **21** 75 90 100 110 120 125 130	142 X 5: 1778	**DO X 5**
11 **12** **14** **16** **18** **19** **21** 75 80 90 100 110 120 130	558	**DO X 558**
9 **10** **11** **12** **14** **16** **18** **19** **21** **22** 65 70 75 80 90 100 110 120 130 140	61B: 135 X 1: 354	**DP X 1**
7 **8** **9** **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** **22** **23** **24** **25** 55 60 65 70 75 80 85 90 100 110 120 125 130 140 160 180 200	134(R): 135 X 5: 135 X 7: SY1955	**DP X 5**
16 **18** **19** **20** **21** **22** **23** **24** 100 110 120 125 130 140 160 180	135 X 16TRI	**DP X 16D**
14 **16** **18** **19** **20** **21** **22** **23** **24** 90 100 110 120 125 130 140 160 180	135 X 16DIA	**DP X 16DIA**
14 **16** **18** **19** **20** **21** **22** **23** **24** 90 100 110 120 125 130 140 160 180	135 X 16(NW)	**DP X 16P**
9 **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** **22** **23** **24** **25** 65 70 75 80 85 90 100 110 120 125 130 140 160 180 200	135 X 17: 2167	**DP X 17**
18 **19** 110 120	134-35TRI: 2134-35TRI	**DP X 35D**
14 **16** **18** 90 100 110	134-35K: 2134-35K	**DP X 35K**
14 **16** **18** **19** **20** **21** **22** **23** **24** **25** 90 100 110 120 125 130 140 160 180 200	134-35LR: 2134-35LR	**DP X 35LR**
16 **18** **19** **23** **25** 100 110 120 160 200	134-35PCL: 2134-35PCL	**DP X 35PCL**
12 **14** **16** **18** **19** **20** **21** **22** **22½** **23** 80 90 100 110 120 125 130 140 150 160	134-35(R): 2134-35R	**DP X 35R**
14 90	134-35S: 2134-35S	**DP X 35S**
12 **14** **16** 80 90 100	135 X 39	**DP X 39**

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
DP X 85		R		2.00	38.10	13.50
DR X 2		Q		3.95	53.45	16.00
DV X 1		R		1.98	39.00	13.50
DV X 43		R		1.98	39.00	13.50
DV X 57		R		1.98	38.70	13.00
DV X 57P		P		1.98	38.70	13.00
DV X 59		R		1.98	41.50	13.00
DV X 63		R		1.98	39.00	13.50
DV X 123QCL		QCL		1.98	39.00	13.50
DV X G9		R		1.98	39.00	13.50
DY X 3		R		2.49	60.00	24.00 ~ 22.00
DY X 3F		R		≠ 2.49	60.00	24.00 ~ 22.00
DY X 3FR		R		≠ 2.49	60.00	21.00
DY X 3LR		LR		2.49	60.00	22.00
DY X E3		R		2.49	62.00	24.00 ~ 22.00
EB X 1		R		2.02	49.20	21.00
EB X 1F		R		≠ 2.02	49.20	21.00
EB X 750		R		≠ 1.62	33.00	12.50

SIZE	EQUIVALENT SYSTEM	SYSTEM
16 100	2134 - 85	**DP X 85**
25 200 **26** 230 **27** 250 **28** 280	124 X 2	**DR X 2**
8 60 **9** 65 **10** 70 **11** 75 **12** 80 **13** 85 **14** 90 **16** 100 **18** 110 **20** 125 **21** 130 **22** 140	62 X 21: UY121GS: 759: 1628	**DV X 1**
8 60 **9** 65 **10** 70 **11** 75 **12** 80 **13** 85 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160	62 X 43	**DV X 43**
11 75 **12** 80 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160	62 X 57: 5640	**DV X 57**
16 100	62 X 57NW: 5640NW	**DV X 57P**
18 110 **20** 125 **21** 130 **22** 140 **23** 160 **24** 180	62 X 59	**DV X 59**
8 60 **9** 65 **10** 70 **11** 75 **12** 80 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140	B-63	**DV X 63**
23 160 **24** 180	123-14LGPT	**DV X 123QCL**
8 60 **9** 65 **11** 75	1280: MY1040	**DV X G9**
24 180 **25** 200 **26** 230 **27** 250	7 X 3: 794	**DY X 3**
19 120 **23** 160 **24** 180	7 X 3F: 794F: 7 X 3KSP FL	**DY X 3F**
22 140 **24** 180		**DY X 3FR**
26 230 **27** 250	794LR	**DY X 3LR**
24 180		**DY X E3**
14 90 **16** 100 **18** 110 **19** 120	490: 2331: HOWE D	**EB X 1**
18 110 **19** 120 **21** 130 **22** 140	490F: 2331F	**EB X 1F**
10 70 **12** 80 **14** 90 **16** 100 **18** 110	750(SC)	**EB X 750**

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	D / N / X-X' / A Ø (mm)	X-X'	A Ø	D	N
EB X 755		 R			 1.62	33.00	13.00
EB X 1567		 R			 1.39	33.50	16.00
EY X 1		 R			 ø 1.90	35.40	13.50
FL X 118A		 R			 ø 1.50	36.60	16.50
FL X 118B		 R			 ø 1.50	36.60	16.50
HA X 1		 R			 ø 2.02	33.80	11.70
HA X 1KN		 S Ball			 ø 2.02	33.80	11.70
LQ X 5		 R			 1.62	33.90	12.00
LW X 1T		 EM			 ø 2.02	36.20	10.00
LW X 2T		 EM			 ø 2.02	39.90	15.00
LW X 3T		EM			ø 2.02	38.70	15.50
LW X 5T		EM			ø 2.02	40.70	15.50
LW X 6T		EM			ø 2.02	40.00	15.00
LW X 1669E		EM			ø 2.02	38.60	13.50
MR X R9		R			ø 2.02	29.20	15.00
MT X 134LR		LR			2.00	33.90	12.50
MT X 134PCL		PCL			2.00	33.90	15.00 ~ 11.50
MT X 190		R			1.98	44.50	13.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
11 12 14 16 18 19 20 21 22 75 80 90 100 110 120 125 130 140	501(SC): 755H: 1807(D)	**EB X 755**
7 8 9 10 11 12 14 16 19 55 60 65 70 75 80 90 100 120	459R: 1567	**EB X 1567**
23 160	128 X 20	**EY X 1**
8 9 10 11 60 65 70 75	UY118GAS	**FL X 118A**
9 10 11 12 14 65 70 75 80 90	UY118GBS	**FL X 118B**
8 9 10 11 12 13 14 16 18 19 20 21 22 60 65 70 75 80 85 90 100 110 120 125 130 140	15 X 1: 130(R): 705(H): PF X 130	**HA X 1**
14 90		**HA X 1KN**
12 14 16 18 19 80 90 100 110 120	68 X 5: 3201	**LQ X 5**
14 16 90 100	29-BC: 29-12: 1717TP	**LW X 1T**
8 9 10 11 12 14 16 18 60 65 70 75 80 90 100 110	29-34	**LW X 2T**
9 10 11 12 14 16 65 70 75 80 90 100	251: 29-C-300	**LW X 3T**
9 10 11 12 13 14 15 16 18 0C 5C 10C 15C 20C 25C 30C 35C 45C Columbia New No.	251LG: 29-C-300LG	**LW X 5T**
9 11 14 16 18 2½ 3 3½ 4 4½ Lewis Curved Needle No.	29-BA: 29-49: 2140BE	**LW X 6T**
10 12 14 16 18 70 80 90 100 110	1669E: 3669E	**LW X 1669E**
10 12 14 16 18 1D 2D 3D 4D 5D Merrow No.	MERROW: 60M	**MR X R9**
11 75		**MT X 134LR**
10 12 14 16 18 19 21 70 80 90 100 110 120 130	134PCL: 797PCL	**MT X 134PCL**
11 14 16 18 19 21 22 75 90 100 110 120 130 140	190(R)	**MT X 190**

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	A Ø	D	N
MT X 190K		STU		1.98	44.50	13.00
PF X 134D		D		2.00	33.90	14.50 ~ 11.50
PF X 134KS		S		2.00	33.90	14.50 ~ 11.50
PF X 134LL		LL		2.00	33.90	14.50 ~ 11.50
PF X 134LR		LR		2.00	33.90	14.50 ~ 11.50
PF X 134P		P		2.00	33.90	14.50 ~ 11.50
PF X 797		R		2.00	33.90	14.50 ~ 11.50
PV X 7		R		1.62	33.80	17.50
RM X 29		R		2.02	28.60	10.00
SG X 1906		R		1.98	33.90	13.50 ~ 11.50
SM X 1014B		R		1.47	39.00	15.50
SM X 332LG		STU		1.98	48.50	18.00
SY X 8160		R		≠2.00	52.00	22.00
TB X 1		R		1.62	33.80	16.00
		R		1.90	33.80	12.50
		R		2.02	33.80	12.50 ~ 10.50
TF X 1		R		1.62	33.80	13.50
		R		2.02	33.80	11.50

SIZE	EQUIVALENT SYSTEM	SYSTEM
14 90 **16** 100 **18** 110 **19** 120	190K	**MT X 190K**
10 70 **12** 80 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140	134D: 797D: 135 X 8TRI	**PF X 134D**
9 65 **11** 75 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160	134S: 134KKS: 797S: 135 X 8NCR	**PF X 134KS**
9 65 **10** 70 **11** 75 **12** 80 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160 **24** 180	134LL: 797LL: 135 X 8TW	**PF X 134LL**
9 65 **10** 70 **11** 75 **12** 80 **14** 90 **16** 100 **18** 110 **19** 120 **20** 125 **21** 130 **22** 140 **23** 160 **24** 180 **25** 200	134LR: 797LR: 135 X 8RTW	**PF X 134LR**
10 70 **12** 80 **14** 90 **16** 100 **18** 110 **21** 130 **23** 160	134P: 797P: 135 X 8NW	**PF X 134P**
11 75 **12** 80 **14** 90 **16** 100	134K: 556KH: 797KH	**PF X 797**
14 90	52 X 7	**PV X 7**
11 75 **12** 80 **14** 90 **16** 100 **18** 110	B-29	**RM X 29**
12 80 **14** 90 **16** 100 **18** 110 **19** 120 **21** 130	135 X 53	**SG X 1906**
10 70 **11** 75 **12** 80 **14** 90 **16** 100 **18** 110	MY1014B	**SM X 1014B**
16 100	332 LGH KSP	**SM X 332LG**
18 110	SY8160	**SY X 8160**
11 75 **12** 80 **14** 90 **16** 100 **18** 110	16 X 87: 1647	**TB X 1**
19 120		
20 125 **21** 130		
10 70 **12** 80 **14** 90 **16** 100 **18** 110	16 X 1: 34(R): 287: 563	**TF X 1**
20 125		

SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
TF X 2D		D		1.62	33.80	13.50
		LL		1.62	33.80	13.50
TF X 2LL		LL		1.90	33.80	12.50
		LL		2.02	33.80	11.50 ~ 10.50
		LR		1.62	33.80	13.50
TF X 2LR		LR		1.90	33.80	12.50
		LR		2.02	33.80	10.50
		PCR		1.60	33.85	13.50
TF X 6		PCR		1.90	33.85	12.50
		PCR		2.02	33.85	12.50 ~ 11.50
TF X 287D		D		1.62	33.90	13.50
TL X 1		R		≠2.00	29.60	13.00
TQ X 1		STU		1.75	37.20	11.50
TQ X 1F		STU		≠1.75	37.20	11.50
TQ X 3		STU		1.75	41.50	11.50
TQ X 7		STU		1.75	47.00	17.50
TQ X 9		STU		1.75	47.00	10.00
TQ X B7		STU		1.75	47.00	14.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
10 **12** **14** **16** **18** 70 80 90 100 110	16 X 2TRI: 34D: 563D	**TF X 2D**
11 **12** **14** **16** **18** 75 80 90 100 110		
19 120	16 X 2TW: 34LL: 287LL	**TF X 2LL**
20 **21** **22** 125 130 140		
11 **12** **14** **16** **18** 75 80 90 100 110		
19 120	16 X 2(LR): 34LR: 16 X 2RTW: 563LR	**TF X 2LR**
20 **21** **22** 125 130 140		
11 **12** **13** **14** **16** **18** 75 80 85 90 100 110		
19 120	16 X 6	**TF X 6**
20 **21** 125 130		
16 **18** **19** **20** **21** **22** 100 110 120 125 130 140	287D	**TF X 287D**
10 **11** **12** **14** **16** **18** 70 75 80 90 100 110	151 X 1	**TL X 1**
9 **10** **11** **12** **13** **14** **16** **18** **19** **21** 65 70 75 80 85 90 100 110 120 130	29-S: 175 X 1: 1661: 1985	**TQ X 1**
16 **18** 100 110	175 X 1F	**TQ X 1F**
14 **16** **18** **19** **20** 90 100 110 120 125	175 X 3: 1661LG: 2018	**TQ X 3**
9 **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** **22** 65 70 75 80 85 90 100 110 120 125 130 140	29-L: 175 X 7: 2091	**TQ X 7**
14 **16** **18** 90 100 110	29-LSS: 175 X 9: 1661ELG: 1987	**TQ X 9**
16 100		**TQ X B7**

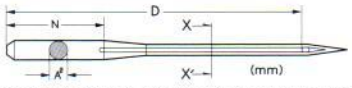
SEWING MACHINE NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
TV X 1		R		1.98	37.00	13.50
TV X 3		R		1.98	39.00	13.50
TV X 5		R		1.98	41.40	13.50
TV X 7		R		1.98	37.00	13.50
TV X 64		R		1.98	36.60	13.50
TV X 934		J Ball		2.00	37.00	14.00
TV X C44		R		ø1.98	37.00	13.50
TV X C45		R		ø1.98	37.00	13.50
UN X 154		R		ø2.02	31.40	14.50
UO X 113GS		R		1.98	36.60	13.50
UO X 154		R		ø2.02	31.40	14.50
UO X 163GAS		R		2.00	37.50	13.50
UY X 121GBS		B Ball		1.98	39.00	14.50 ~ 13.50
UY X 128GAS		R		1.98	39.00	14.50 ~ 13.50
UY X 154GBS		J Ball		ø2.02	31.60	14.50
UY X 154GFS		B Ball		ø2.02	31.60	14.50
1717SRUE		EM		ø2.02	36.00	10.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
9 **11** **12** **14** **16** **18** **21** 65 75 80 90 100 110 130	149 X 1	**TV X 1**
9 **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** **22** **23** 65 70 75 80 85 90 100 110 120 125 130 140 160	UY124GS: 149 X 3	**TV X 3**
11 **12** **14** **16** **18** **19** **20** **21** **22** **23** **24** 75 80 90 100 110 120 125 130 140 160 180	149 X 5	**TV X 5**
9 **10** **11** **12** **14** **16** **18** **19** **20** **21** **22** 65 70 75 80 90 100 110 120 125 130 140	149 X 7: MY1002A	**TV X 7**
10 **11** **12** **14** **16** **18** **19** **20** **21** **22** 70 75 80 90 100 110 120 125 130 140	B-64	**TV X 64**
14 90	934	**TV X 934**
14 90		**TV X C44**
14 90		**TV X C45**
9 **10** **11** **12** **14** **16** **18** 65 70 75 80 90 100 110	UY8454GS	**UN X 154**
9 **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** **22** 025 027 032 034 036 040 044 049 054 Union Special No.	UY113GS	**UO X 113GS**
9 **10** **11** **12** **13** **14** **16** **18** **20** **22** 65 70 75 80 85 90 100 110 125 140	UY154GAS: 151 X 21	**UO X 154**
10 **11** **12** **14** **16** 027 032 036 040 Union Special No.	UY163GAS	**UO X 163GAS**
10 **11** **12** **14** **16** **18** 027 032 036 040 044 Union Special No.	UY121GBS	**UY X 121GBS**
7 **8** **9** **10** **11** **12** **13** **14** **16** **18** **19** **20** **21** **22** **23** 022 025 027 032 034 036 040 044 049 054 Union Special No.	UY128GAS: MY1040:1280	**UY X 128GAS**
9 **10** **11** **12** 025 027 032 Union Special No.	UY154GBS	**UY X 154GBS**
9 **10** **11** 025 027 Union Special No.	UY154GFS	**UY X 154GFS**
16 **18** 100 110		**1717SRUE**

MULTI-HEADED EMBROIDERY NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	A Ø	D	N
DB X 287WKH					33.90	16.00
DB X K5					33.80	16.00
DB X K13					33.80	13.50



DB X 1	DB X K5
	
Standard needle eye	Large needle eye

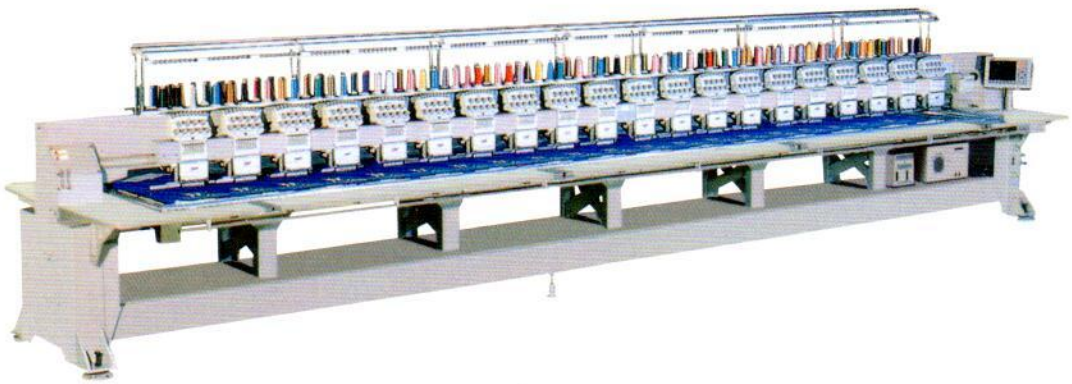
CHARACTERISTICS OF DB X K5

1. The eye is longer by one or two sizes and wider by two or four sizes compared with the eye of DB X 1. The larger eye size makes thread fitting easier and reduces the friction between the needle and the thread because the thread can move smoothly in the needle eye.

2. The groove is wider by two or four sizes than that of DB X 1. Thanks to the protection from thread's friction, thread breakage or fraying is naturally reduced.

3. Its supplementary shoulder solves the problem of needle deflection by reinforcing the needle blade.

SIZE	EQUIVALENT SYSTEM	SYSTEM
10 **11** **12** **14** **16** **18** **21** 70 75 80 90 100 110 130	287WKH: SY6633	**DB X 287WKH**
8 **9** **10** **11** **12** **13** **14** 60 65 70 75 80 85 90		**DB X K5**
9 **10** 65 70	1738ES: PF1738ES	**DB X K13**

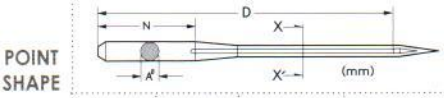


SHUTTLE EMBROIDERY NEEDLE

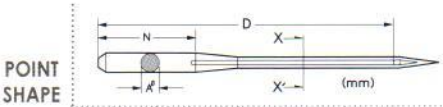
SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	A Ø	D	N
SH X 1		R		≠1.42	43.40	20.50
SH X 1SP		R		≠1.42	43.40	18.00
SH X 1TOP		R		≠1.56	47.50	20.50
SH X 1TOP/TR		TR		≠1.56	47.50	20.50
SH X 3		R		≠1.56	43.40	21.00
SH X 3TOP		R		≠1.56	47.50	20.50
SH X 3TOP/TR		TR		≠1.56	47.50	20.00
SH X C25		R		≠1.42	43.40	20.50
SH X C25TOP		R		≠1.56	47.50	20.50
SH X C25 3TOP		R		≠1.56	47.50	20.50
SH X C75SP		R		≠1.42	43.40	18.00
SH X C92		R		≠1.42	47.50	21.00
SH X E56		R		≠1.42	47.50	21.00
SH X E75		R		≠1.42	44.40	20.50
SH X E75SP		R		≠1.42	44.40	18.00
SM X 854		R		≠1.98	43.50	17.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
00 70 · 0 80 · 1 90 · 2 3 100 110 · 4 5 130 140 · 8 Shiffli No. 190(24.5)	854S	SH X 1
1 90 · 2 3 100 110 · Shiffli No.		SH X 1SP
0 80 · 1 90 · 2 3 100 110 · 5 Shiffli No. 140	854S TOP	SH X 1TOP
1 90 · 2 3 100 110 · Shiffli No.	854S TOP TR	SH X 1TOP/TR
1 90 · 2 3 100 110 · 4 Shiffli No. 130	110S	SH X 3
00 70 · 0 80 · 1 90 · 2 3 100 110 · 4 Shiffli No. 130	110S TOP	SH X 3TOP
1 90 · 2 3 100 110 · 4 Shiffli No. 130	110S TOP TR	SH X 3TOP/TR
2 3 100 110 · Shiffli No.		SH X C25
3 110 · Shiffli No.		SH X C25TOP
3 110 · Shiffli No.		SH X C25 3TOP
3 110 · 4 Shiffli No. 130		SH X C75SP
2 3 100 110 · 4 Shiffli No. 130		SH X C92
2 100 · Shiffli No.		SH X E56
3 110 · Shiffli No.		SH X E75
3 110 · Shiffli No.		SH X E75SP
0 80 · 1 90 · 2 3 100 110 · 4 Shiffli No. 130	0854	SM X 854

LINKING NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
PYE - 2					28.95	13.00
PYN - 2					28.95	12.00
PYN - 3					28.95	12.00

BOOK BINDING NEEDLE

SYSTEM	NEEDLE FIGURE (ACTUAL SIZE)	POINT SHAPE	X-X'	AØ	D	N
BOM - 1					34.60	9.00
BOY - 7					37.40	16.00
BOZ - 3						7.00

SIZE	EQUIVALENT SYSTEM	SYSTEM
11 85 **14** 90 **16** 100 **18** 110 **19** 120 **21** 130 **22** 140 **23** 160		**PYE - 2**
14 90		**PYN - 2**
11 85 **14** 90 **16** 100		**PYN - 3**

SIZE	EQUIVALENT SYSTEM	SYSTEM
23 160		**BOM - 1**
23 160		**BOY - 7**
23 160		**BOZ - 3**

EQUIVALENT SYSTEM

OTHER SYSTEM	ORANGE SYSTEM
7 X 3	DY X 3
7 X 3F	DY X 3F
7 X 3KSP FL	DY X 3F
15 X 1	HA X 1
16 X 1	TF X 1
16 X 2 (LR)	TF X 2LR
16 X 2RTW	TF X 2LR
16 X 2TW	TF X 2LL
16 X 6	TF X 6
16 X 87	TB X 1
16 X 95	DB X 95
16 X 230RTW	DB X F2
16 X 231	DB X 1
16 X 257	DB X 1
24 X 1	DH X 1
29 X 1	DI X 1
29 X 3	DI X 3
29 X 4 (TW)	DI X 4LL
29-12	LW X 1T
29-34	LW X 2T
29-49	LW X 6T
29-BA	LW X 6T
29-BC	LW X 1T
29-C-300	LW X 3T
29-C-300LG	LW X 5T
29-L	TQ X 7
29-LSS	TQ X 9
29-S	TQ X 1
34 (R)	TF X 1
34D	TF X 2D
34LL	TF X 2LL
34LR	TF X 2LR
52 X 7	PV X 7
60M	MR X R9
61B	DP X 1
62 X 21	DV X 1

OTHER SYSTEM	ORANGE SYSTEM
62 X 43	DV X 43
62 X 57	DV X 57
62 X 57NW	DV X 57P
62 X 59	DV X 59
68 X 5	LQ X 5
71 X 1	DL X 1
81 X 1	DC X 1
81 X 5	DC X 5
81 X 27	DC X 27
82 X 1	DM X 1
82 X 13	DM X 13
88 X 1	DA X 1
92 X 1	DN X 1
108 X 1	BQ X 1
110S	SH X 3
110S TOP	SH X 3TOP
123-14LGPT	DV X 123QCL
124 X 2	DR X 2
128 X 20	EY X 1
130 (R)	HA X 1
134 (R)	DP X 5
134D	PF X 134D
134K	PF X 797
134KKS	PF X 134KS
134LL	PF X 134LL
134LR	PF X 134LR
134P	PF X 134P
134PCL	MT X 134PCL
134S	PF X 134KS
134-35 (R)	DP X 35R
134-35K	DP X 35K
134-35LR	DP X 35LR
134-35PCL	DP X 35PCL
134-35S	DP X 35S
134-35TRI	DP X 35D
135 X 1	DP X 1

OTHER SYSTEM	ORANGE SYSTEM
135 X 5	DP X 5
135 X 7	DP X 5
135 X 8NCR	PF X 134KS
135 X 8NW	PF X 134P
135 X 8RTW	PF X 134LR
135 X 8TRI	PF X 134D
135 X 8TW	PF X 134LL
135 X 16	DP X 16P
135 X 16DIA	DP X 16DI
135 X 16NW	DP X 16P
135 X 16TRI	DP X 16D
135 X 17	DP X 17
135 X 39	DP X 39
135 X 53	SG X 1906
142 X 5	DO X 5
149 X 1	TV X 1
149 X 3	TV X 3
149 X 5	TV X 5
149 X 7	TV X 7
151 X 1	TL X 1
151 X 21	UO X 154
175 X 1	TQ X 1
175 X 1F	TQ X 1F
175 X 3	TQ X 3
175 X 7	TQ X 7
175 X 9	TQ X 9
176 X 1	AI X 1
190 (R)	MT X 190
190K	MT X 190K
214 X 1	DD X 1
214 X 2RTW	DD X 2LR
214 X 2TW	DD X 2LL
251	LW X 3T
251LG	LW X 5T
262A	AI X 1
287	TF X 1

OTHER SYSTEM	ORANGE SYSTEM
287D	TF X 287D
287LL	TF X 2LL
287WH	DB X 95
287WKH	DB X 287WKH
328	DD X 1
328LL	DD X 2LL
328LR	DD X 2LR
332	DI X 3
332LL	DI X 4LL
354	DP X 1
490	EB X 1
490F	EB X 1F
501 (SC)	EB X 755
556KH	PF X 797
558	DO X 558
563	TF X 1
563D	TF X 2D
563LL	TF X 2LL
563LR	TF X 2LR
705 (H)	HA X 1
705KH	BK X 705KD
750 (SC)	EB X 750
755H	EB X 755H
759	DV X 1
794F	DY X 3F
797D	PF X 134D
797KH	PF X 797
797LL	PF X 134LL
797LR	PF X 134LR
797P	PF X 134P
797PCL	MT X 134PCL
797S	PF X 134S
854S	SH X 1
854S TOP	SH X 1TOP
0854	SM X 854
1128	DA X 1

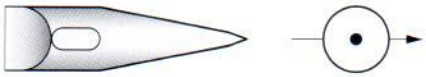
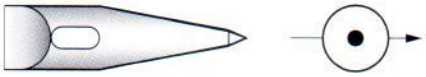
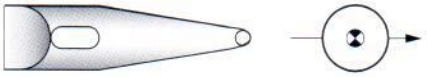
OTHER SYSTEM	ORANGE SYSTEM
1280	UY X 128GAS
1286	DN X 1
1567	EB X 1567
1628	DV X 1
1647	TB X 1
1661	TQ X 1
1661ELG	TQ X 9
1661LG	TQ X 3
1669E	LW X 1669E
1717TP	LW X 1T
1738	DB X 1
1738A	DB X 95
1738AK	DB X A20
1738ES	DB X K13
1738KK	DB X N20
1738LR	DB X F2
1788	DO X 5
1807D	EB X 755
1881	DH X 1
1886	DC X 27
1886KK	DM X 13
1985	TQ X 1
1987	TQ X 9
2018	TQ X 3
2091	TQ X 7
2134-35 (R)	DP X 35R
2134-35K	DP X 35K
2134-35LR	DP X 35LR
2134-35PCL	DP X 35PCL
2134-35S	DP X 35S
2134-35TRI	DP X 35D
2140BE	LW X 6T
2167	DP X 17
2331	EB X 1
2331F	EB X 1F
3201	LQ X 5

OTHER SYSTEM	ORANGE SYSTEM
3669E	LW X 1669E
5640	DV X 57
5640NW	DV X 57P
B-27	DC X 27
B-29	RM X 29
B-63	DV X 63
B-64	TV X 64
B-155	BB X 155
HOWE D	EB X 1
MERROW	MR X R9
MY1002A	TV X 7
MY1013	DN X 1
MY1014B	SM X 1014B
MY1023	DC X 27
MY1023A	DC X 1
MY1040	UY X 128GAS
PF1738ES	DB X K13
SY1902	CP X 1
SY1955	DP X 5
SY2254	DB X 1
SY6633	DB X 287WKH
SY8160	SY X 8160
UY113GS	UO X 113GS
UY118GAS	FL X 118A
UY118GBS	FL X 118B
UY121GBS	UY X 121GBS
UY121GS	DV X 1
UY124GS	TV X 3
UY128GAS	UY X 128GAS
UY143GS	DN X 1
UY154GAS	UO X 154
UY154GBS	UY X 154GBS
UY154GFS	UY X 154GFS
UY163GAS	UO X 163GAS
UY8454GS	UN X 154

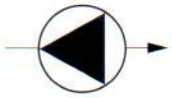
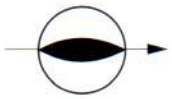
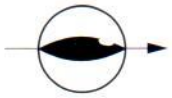
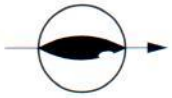
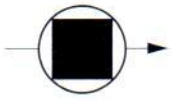
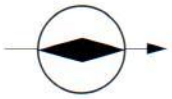
EQUIVALENT SIZE

METRIC NUMBER (Nm)	BLADE DIAMETER (mm)	SYSTEM								
		ORANGE	COLUMBIA		LEWIS		MERROW	SCHIFFLI	UNION SPECIAL	292 BONIS
			OLD NO.	NEW NO.	CURVED	STRAIGHT				
55	0.55	**7**					000		022	18
60	0.60	**8**			2		00			16
65	0.65	**9**			2½		0		025	14
70	0.70	**10**	0	5		10	1	00	027	13
75	0.75	**11**	1	10	3				029:030	12
80	0.80	**12**	1½	15		12	2	0	032	11
85	0.85	**13**	2	20					034	10
90	0.90	**14**	2½	25	3½	14	3	1	036	9
95	0.95	**15**	3	30						8
100	1.00	**16**	3½	35	4	16	4	2	040	7
105	1.05	**17**								
110	1.10	**18**	4	45	4½	18	5	3	044	6
120	1.20	**19**			5	19	6		047:048	4
125	1.25	**20**	4½			20			049	
130	1.30	**21**	5				7	4		3
140	1.40	**22**	5½		5½			5	054	2
150	1.50	**22½**			6		8		060	1
160	1.60	**23**						6		0
170	1.70						9	7	067	
180	1.80	**24**			7				078	
190	1.90							8		
200	2.00	**25**					10		079:080	
230	2.30	**26**							090	
250	2.50	**27**							100	
280	2.80	**28**								
300	3.00	**29**							120	
330	3.30	**30**								
350	3.50	**31**							140	
380	3.80	**32**								
400	4.00	**33**							156	
430	4.30	**34**							172	

ROUND POINT

SYMBOL OF ORANGE	SYMBOL OF OTHERS	SHAPE OF POINT	DESCRIPTION
SPI	SHASPI, R-SPI, S SET, RS		slim set point
R	SET		normal round point
STU	H SET, R-STU, STUB		heavy blunt round point
S			extra light ball point
J	NYR, SIN, SES, L BALL, FFG, BPL		light ball point
B	LAC, SI, SUK, M BALL, FG, BPM		medium ball point
U	CAL, G, SKU, H BALL, G, BPH		heavy ball point
Y	BIL, TR, SKF, C, EX H BALL, BPEH		extra heavy ball point
EL	EXEL, EL, LF ECC SET, SEL		left eccentric round point
ER	RT ECC SET		right eccentric round point

LEATHER POINT

SYMBOL OF ORANGE	SYMBOL OF OTHERS	SHAPE OF POINT	DESCRIPTION
D	TRI		triangular point
DI	DIA		diamond point
LL	TW		twist point
LR	R TW, N R TW, B2RS		reverse twist point
P	W		wedge point
PCL	NW, TW GR		narrow wedge point with left twist groove
PCR	NW, R TW GR		narrow wedge point with right twist groove
Q	SQ, QRK		square point
S	CR		cross point
SP			spear point

THREAD PROPERTIES

PROPERTIES \ THREAD	NYLON	POLYESTER	COTTON	SILK	LINEN	REMARK
Tensile Strength	1	2	4	3	3	
Elastic Recovery	1	2	5	5	5	
Flex Life	2	3	5	3	4	
Sunlight Resistance	3	3	5	4	5	
Abrasion Resistance	1	2	5	4	4	
Mildew Resistance	1	1	5	3	5	
Heat Resistance	3	3	3	2	3	
Acid Resistance	4	2	5	5	5	
Alkali Resistance	3	4	5	5	5	
Specific Gravity	1.14	1.38	1.50	1.31	1.50	

1 : Superior
2 : Excellent
3 : Good
4 : Fair
5 : Poor

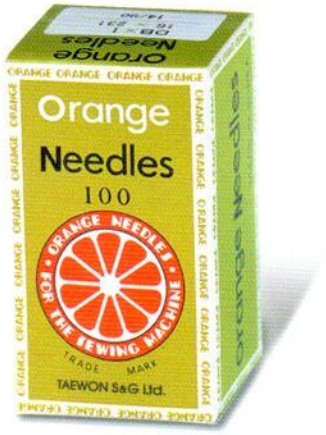
THREAD & NEEDLE

NEEDLE SIZE (orange/numeric)			POLYESTER				NYLON		COTTON		SILK	
			MULTIFILAMENT		SPUN		MULTIFILAMENT					
			Nm	tex	Nm	tex	Nm	tex	Neβ	tex	Nm	tex
6/ 50	8/ 60	10/ 70			120/3	8/3			80/3	7/3		
8/ 60	10/ 70	12/ 80	80/3	12/3	100/3	10/3	100/3	10/3	70/3	8/3	120/3	8/3
10/ 70	12/ 80	14/ 90			70/3	14/3	70/3	14/3	50/3	12/3	100/3	10/3
12/ 80	14/ 90	16/100	60/3	16/3	60/3	16/3	60/3	16/3	40/3	15/3	70/3	14/3
14/ 90	16/100	18/110	40/3	25/3	50/3	20/3	50/3	20/3	30/3	20/3	60/3	16/3
16/100	18/110	19/120			40/3	25/3	40/3	25/3	20/3	30/3	50/3	20/3
18/110	19/120	21/130	30/3	33/3							40/3	25/3
19/120	21/130	22/140			30/3	33/3	30/3	33/3	12/3	49/3	30/3	33/3
21/130	22/140	23/160	20/3	50/3	20/3	50/3						
22/140	23/160	24/180	10/3	100/3							20/3	50/3
23/160	24/180	25/200			10/3	100/3					10/3	100/3

Nm (Metric number) : the length of a thread weighing 1.00g
Neβ (English number for cotton) : the length of a thread weighing 0.59g
den (denier) : the weight of a thread in gram per 9.000m
tex : the weight of a thread in gram per 1.000m

PACKING

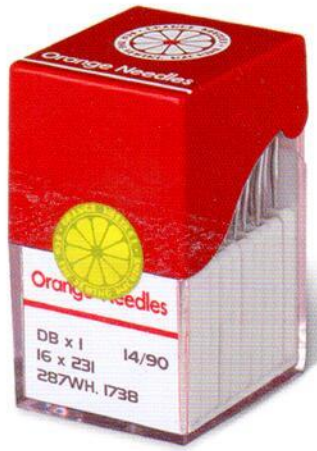
PACKING IN PAPER ENVELOPE

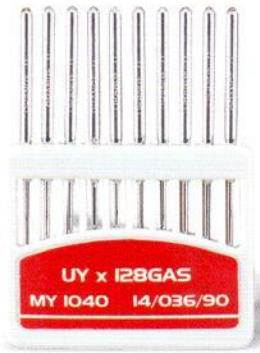


10 X 10 = 100 needles

100 X 5 = 500 needles

PACKING IN PLASTIC HOLDER





PACKING

CURVED NEEDLES IN PLASTIC CONTAINER

50 X 10 = 500 needles

5 X 10 = 50 needles

5 needles

CONVENIENT STRUCTURE

In terms of packaging, convenience of storage as well as the easy use of the end users was taken into consideration. The re-designed medium plastic container has the following advantages.

- It is very easy for users to uncover the flap.
- The hinge is very strong.
- The design and color is very modern.
- The dimension is smaller than that of former one.

SHUTTLE EMBROIDERY NEEDLES

100 X 10 = 1,000 needles

100 needles

COLOR CODE

The color(s) will be painted on tapered blade and on part of the shank (point direction). The color on tapered blade signs **point type** such as regular point (no coating), U ball point (red), TR ball point (yellow), while the color on shank does **needle size** such as 00/75(green), 0/80 (orange), 1/90 (blue), 2/100 (purple), 3/110 (yellow), 4/130 (red), and 5/140 (black). Our color code is same as that of Swiss embroidery machine makers (refer to the right page). Color code can prevent even unskilled workers in embroidery factories from inserting wrongly chosen needles to the machines or from mixing them in custody boxes.

Color by ball shapes	
SKU(U)	W(TR)
RED	YELLOW

Color per size						
00	0	1	2	3	4	5
GREEN	ORANGE	BLUE	PURPLE	YELLOW	RED	BLACK