

## Blade

It's the part of the needle between the end of the shoulder and the top of the eye. Blades can be distinguished as straight, supplementary shoulder, curved, tapered and reduced.

## Butt

It's the flattened section at the end of the shank. For technical reasons the butt is not chrome plated.

## Butt to Eye length

It's the distance between the butt and the top of the eye which is determined by the construction of the sewing machine and is of great importance for the stitch formation.

## Clearance Above Eye (CAE)

It's the depression in the needle to allow unhampered motion of parts of the machine below and above the throat plate.

## Eye

The exact opening in the needle blade through which the thread is inserted is called the eye of the needle.

## Needle Size

The needle size is the diameter of the needle blade just above the scarf or short groove. The needle size is indicated on the shank of the needle. The Number metric [Nm] unit is conventionally used to designate needle size. 1 Nm equals one hundredth of a millimeter. So an Nm 80 needle will have a blade diameter of 0.80 mm. In the United States, we commonly see needles labeled with two measurements separated by a slash. The first number is the old singer needle sizing standard, the second is NM designation. A 12/80 needle is simply the same needle measured by two different systems.

## Needle System

The needle system describes the needle which belongs to a certain sewing machine class. This consists of numbers, letters or a combination of both.

## Point

A point is the part of the needle between the top of the eye and the end of the needle. Fundamentally, there are round and cutting points.

## Round Point Needles

Sewing machine needles with points ground in a cone shape are round point needles. The tip may be shaped differently depending on the application of the needle. Needles with a round point are predominantly used on textiles. There are centric and eccentric round points.

## Ball Point Needles

These are round points with a ball-shaped tip. Their task is to avoid, or at least reduce damage to the fabric. They are of 5 types – Light Ball Point (notated by SES), Medium Ball Point (notated by SUK), Heavy Ball Point (notated by SKF), Extra Heavy Ball Point (notated by TR) and Special Ball Point (notated by SKL).

## Slim Round Point Needles

Needles with cone-shaped points starting about the middle of the eye. Used for sewing very fine fabrics such as silk. Notated by SPI.

## Cutting Point Needles

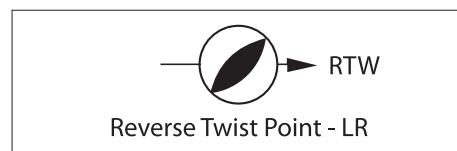
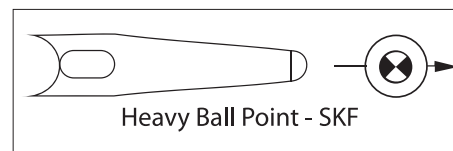
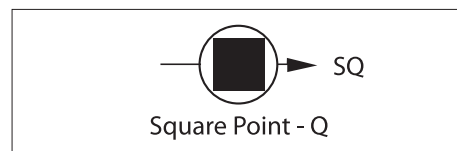
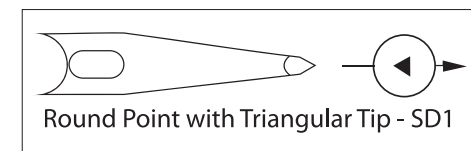
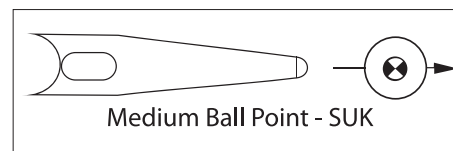
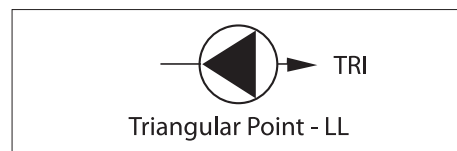
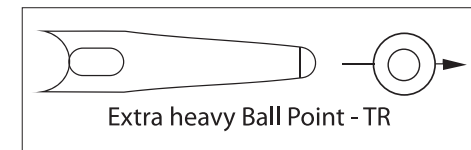
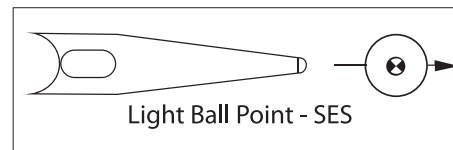
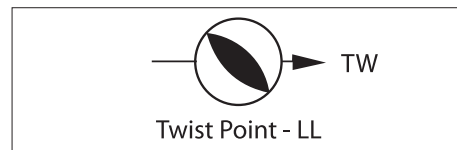
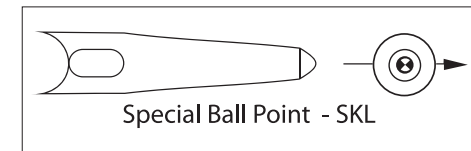
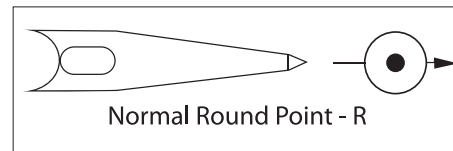
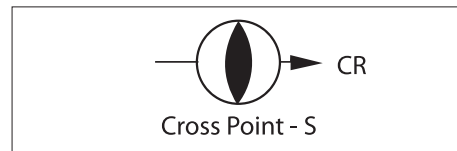
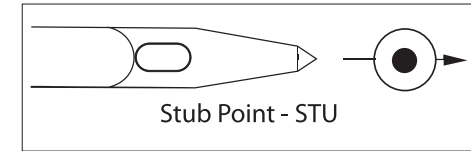
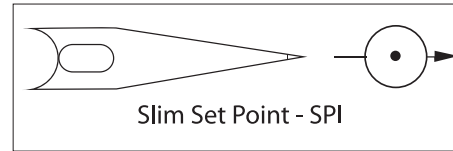
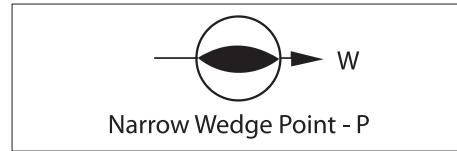
Sewing machine needles with cutting points are predominantly used for sewing leather. A specific seam appearance is achieved by a specially ground shape, at the same time the cutting point reduces the resistance of the sewing material. There are six different types of cutting points – Wedge Point (notated by W), Cross Point (notated by CR), Reverse Twist Point (notated by RTW), Twist Point (notated by TW), Triangular Point (notated by TRI) and Square Point (notated by SQ).

## Shank

It's the part of the needle which is inserted in the needle bar. It is normally secured with a screw. The manufacturer's name and needle size are usually stamped on the shank.

## Shank Diameter

Most of the needle systems have a constant shank diameter for all sizes. Some of the needle systems have different shank diameters increasing at intervals. While some needle systems, starting from a certain size, have a shank diameter which equals the diameter of the needle blade.



# NEEDLES FOR SEWING MACHINES (INDUSTRIAL)

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE | NEEDLE SIZES                             | SPECIAL FEATURES                                                                     | EQUIVALENT SYSTEMS               |
|--|---------------|--------------|-----------------------|---------|-------------|------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------|
|  | BCX5          | 2.00         | 38.9                  |         |             | 200                                      | Bag closing                                                                          | FD 5R                            |
|  | BQX1          | 1.64         | 37.3                  |         |             | 80, 90, 100, 110                         | Button sewing on skirts, underwear.                                                  | 108 x 1                          |
|  | BQX1          | 1.64         | 37.3                  |         |             | 80                                       | Button sewing on skirts, underwear.                                                  | 108 x 1                          |
|  | BQX1          | 1.64         | 37.3                  |         |             | 90                                       | Button sewing on skirts, underwear.                                                  | 108 x 1                          |
|  | DBX1          | 1.63         | 33.9                  |         |             | 55, 60, 65, 70, 75, 80, 85, 90, 100, 110 | Lock stitch & for general sewing on light and medium woven fabrics.                  | 287 WH, 1738 (A), 16X231, 16X257 |
|  | DBX1          | 1.63         | 33.9                  |         |             | 60, 65, 70, 75, 80, 85, 90, 100, 110     | Lock stitch & for general sewing on light and medium woven/knit fabrics.             | 287 WH, 1738 (A), 16X231, 16X257 |
|  | DBX1          | 1.63         | 33.9                  |         |             | 60, 65, 70, 75, 80, 85, 90, 100, 110     | Lock stitch & for general sewing on light, medium woven/knit and foundation fabrics. | 287 WH, 1738 (A), 16X231, 16X257 |
|  | DBX1          | 2.00         | 33.9                  |         |             | 125, 130, 140, 150, 160, 180, 200        | Heavy sewing materials                                                               | 287 WH, 1738 (A), 16X231, 16X257 |
|  | DBX1 KN       | 1.63         | 33.9                  |         |             | 65, 70, 75, 80, 85, 90                   | Knit fabrics of finer gauge (minimize the penetration resistance)                    | DBX1KN                           |
|  | DBX95         | 1.63         | 33.9                  |         |             | 120, 125, 130, 140, 160                  | Small shank (special applications)                                                   | 287H, 1738A, 16X95, 71 X1        |
|  | DBXK5         | 1.63         | 33.9                  |         |             | 60, 65, 70, 75, 80, 85, 90               | Embroidery application                                                               | DBK5                             |

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|  | NEEDLE SYSTEM | SHANK DIA<br>mm | BUTT TO EYE LENGTH<br>mm | GROOVES | POINT STYLE  | NEEDLE SIZES                                    | SPECIAL FEATURES        | EQUIVALENT SYSTEMS              |
|--|---------------|-----------------|--------------------------|---------|--------------|-------------------------------------------------|-------------------------|---------------------------------|
|  | DBXK5         | 1.63            | 33.9                     |         | <br>R-SPI    | 70, 75, 80, 85, 90                              | Embroidery application  | DBK5                            |
|  | DBXK5         | 1.63            | 33.9                     |         | <br>R-SES    | 60, 65, 70, 75, 80, 85, 90                      | Embroidery application  | DBK5                            |
|  | DBXK5         | 1.63            | 33.9                     |         | <br>R-SUK    | 60, 65, 70, 75, 80, 85, 90                      | Embroidery application  | DBK5                            |
|  | DBXK5 KN      | 1.63            | 33.9                     |         | <br>R-SES    | 65, 70                                          | Fine embroidery work    | DBK5 R-SDI                      |
|  | DBK5 R-SDI    | 1.63            | 33.9                     |         | <br>R-SDI    | 60, 65, 70, 75, 80, 85, 90, 100, 110            | Embroidery with leather | DBXK5 KN                        |
|  | DBK5 KK       | 1.63            | 33.9                     |         | <br>R-SES    | 60, 65, 70, 75, 80, 85, 90, 100, 110            | Embroidery work         | 1738 ES SES                     |
|  | DBK5 KK       | 1.63            | 33.9                     |         | <br>R-SUK    | 60, 65, 70, 75, 80, 85, 90, 100, 110            | Embroidery work         | 1738 ES SUK                     |
|  | DBXF2         | 1.63            | 33.9                     |         | <br>LR POINT | 75, 80, 90, 100, 110                            | Sewing leather goods    | 1738 LR, 16X230 NRTW, 16230 RTW |
|  | DBXF2         | 1.90            | 33.9                     |         | <br>LR POINT | 120                                             | Sewing leather goods    | 1738 LR, 16X230 NRTW, 16230 RTW |
|  | DBXF2         | 2.00            | 33.9                     |         | <br>LR POINT | 125, 130, 140, 150, 160                         | Sewing leather goods    | 1738 LR, 16X230 NRTW, 16230 RTW |
|  | DCXI          | 2.02            | 33.9                     |         | <br>R        | 60, 65, 70, 75, 80, 90, 100, 110, 120, 125, 130 | Overedging (Overlock)   | 1886, 81XI, DMXI,               |

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|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE | NEEDLE SIZES                                    | SPECIAL FEATURES                                                     | EQUIVALENT SYSTEMS                               |
|--|---------------|--------------|-----------------------|---------|-------------|-------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------|
|  | DCXI          | 2.02         | 28.6                  |         |             | 60, 65, 70, 75, 80, 90                          | Overedging (Overlock)                                                | 1886, 8IXI, DMXI,                                |
|  | DCXI          | 2.02         | 28.6                  |         |             | 60, 65, 70, 75, 80, 90                          | Overedging (Overlock)                                                | 1886, 8IXI, DMXI,                                |
|  | DCX27         | 2.02         | 28.6                  |         |             | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140 | High speed Overedging (skip proof)                                   | 3027GS, MY 1023, B27, 191 GS, D100 SY 6120, 1886 |
|  | DCX27         | 2.02         | 28.6                  |         |             | 60, 65, 70, 75, 80, 90                          | High speed Overedging (skip proof)                                   | 3027GS, MY 1023, B27, 191 GS, D100 SY 6120, 1886 |
|  | DCX27         | 2.02         | 28.6                  |         |             | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130      | High speed Overedging (skip proof)                                   | 3027GS, MY 1023, B27, 191 GS, D100 SY 6120, 1886 |
|  | DCX27         | 2.02         | 28.6                  |         |             | 60, 65, 70, 75, 80, 85, 90, 100, 110, 120, 130  | High speed Overedging (skip proof)                                   | 3027GS, MY 1023, B27, 191 GS, D100 SY 6120, 1886 |
|  | DDXI          | 2.02         | 52.0                  |         |             | 90, 100, 110, 120, 130, 140                     | Inter lock                                                           | 328, 214xl                                       |
|  | DMXI3         | 2.02         | 28.6                  |         |             | 65, 75, 80, 90, 100, 110                        | For stitching leather and heavy weight fabrics/shoe broder threading | 82XI3, 1886KK, SY1246                            |
|  | DMXI3         | 2.02         | 28.6                  |         |             | 70, 80                                          | Inter lock                                                           | 82XI3, 1886 KK, SY 1246                          |
|  | DMXI3         | 2.02         | 28.6                  |         |             | 65, 75, 80, 90, 100, 110, 120                   | Inter lock                                                           | 82XI3, 1886 KK, SY 1246                          |
|  | DN XI         | 2.00         | 42.1                  |         |             | 140, 170, 200                                   | Bag closing & gunny closer sewing                                    | UY 143 GS, 92XI, 1286                            |

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|--|---------------|--------------|-----------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------|
|  | DO X5         | 2.04         | 31.2                  |    | <br>R-SUK   | 80, 90, 100, 110, 120                                      | Eyelet button holing                                  | 42x5, SY 1413                                |
|  | DO X 558      | 2.00         | 33.9                  |    | <br>R       | 80, 90, 100, 110, 120                                      | Eyelet button holing                                  | 558                                          |
|  | DO X 558      | 2.00         | 33.9                  |    | <br>R-SES   | 110, 120                                                   | Eyelet button holing                                  | 558                                          |
|  | DO X 558      | 2.00         | 33.9                  |    | <br>R-SUK   | 80, 90, 100                                                | Eyelet button holing                                  | 558                                          |
|  | DP X1         | 2.00         | 31.8                  |    | <br>R       | 65, 75, 80, 90, 100, 110                                   | Stitching shoe tongues and straps, and general sewing | 135X1, 1531, SY 145, 61B, 354, 1673          |
|  | DPX5          | 2.00         | 33.9                  |    | <br>R-SES   | 60, 65, 75, 80, 90, 100, 110, 120, 130, 140, 160, 180, 200 | Lock stitch, button holing zig zag, double needle     | 134R, 797, 135x5, DPX7, 134, PFX134, 135 X25 |
|  | DPX5          | 2.00         | 33.9                  |   | <br>R      | 60, 65, 75, 80, 90, 100, 110                               | Lock stitch, button holing zig zag, double needle     | 134R, 797, 135x5, DPX7, 134, PFX134, 135X25  |
|  | DPX5          | 2.00         | 33.9                  |  | <br>R     | 60, 65, 75, 80, 90, 100, 110                               | Lock stitch, button holing, zig zag, double needle    | 134R, 797, 135x5, DPX7, 134, PFX134, 135X25  |
|  | DPX5 KN       | 2.00         | 33.9                  |  | <br>R-SES | 65, 70, 75                                                 | For knitted fabric                                    | UY 121 GS, 759, MY 1001                      |
|  | DPX17         | 2.00         | 38.9                  |  | <br>R     | 70, 80, 90, 100, 110, 120, 130, 140, 160, 180, 200         | Medium to heavy materials sewing, button sewing       | UY 121 GS [ L ]                              |
|  | DPX17         | 2.00         | 38.9                  |  | <br>R-SES | 70, 80, 90, 100, 110, 120, 130, 140                        | Medium to heavy materials sewing, button sewing       | UY 121 GS, 759, MY 1001                      |

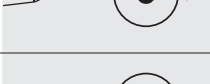
# NEEDLES FOR SEWING MACHINES (INDUSTRIAL)

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE | NEEDLE SIZES                                       | SPECIAL FEATURES                                                        | EQUIVALENT SYSTEMS  |
|--|---------------|--------------|-----------------------|---------|-------------|----------------------------------------------------|-------------------------------------------------------------------------|---------------------|
|  | DPX17         | 2.00         | 38.9                  |         |             | 70, 80, 90, 100, 110, 120, 130, 140                | Medium to heavy materials sewing, button sewing                         | I34 KN, I35X5 KN    |
|  | DPX35R        | 2.00         | 38.1                  |         |             | 70, 80, 90, 100, 110, 120, 130, 140, 160, 180, 200 | For leather sewing (Post bed)                                           | I35X17, SY 3355     |
|  | DPX35 LR      | 2.00         | 38.1                  |         |             | 70, 80, 90, 100, 110, 120, 130, 140                | For leather sewing (Post bed)                                           | I35X17, SY 3355     |
|  | DPX35 S       | 2.00         | 38.1                  |         |             | 70, 80, 90, 100, 110, 120, 130, 140, 160, 180      | For leather sewing (Post bed)                                           | I35X17, SY 3355     |
|  | DPX35 PCL     | 2.00         | 38.1                  |         |             | 100, 110, 120, 130, 140                            | For leather sewing (Post bed)                                           | I34-35R, SY 7225    |
|  | DVXI          | 2.00         | 38.9                  |         |             | 65, 75, 80, 90, 100, 110, 120, 130, 140            | Two needle double chain stitch, inter lock stitching for knitted goods. | I34-35LR, SY 7225   |
|  | DVXI          | 2.00         | 38.9                  |         |             | 70, 75, 80                                         | Two needle double chain stitch, inter lock stitching for knitted goods. | I34-35 S, SY 7225   |
|  | DVXI ( L )    | 2.00         | 38.9                  |         |             | 65, 75, 80, 90, 100                                | Two needle double chain stitch for zipper.                              | I34-35 PCL, SY 7225 |
|  | DVXI ( R )    | 2.00         | 38.9                  |         |             | 65, 75, 80, 90, 100                                | Two needle double chain stitch for zipper.                              | UY 121 GS ( R )     |
|  | DVX57         | 2.00         | 38.6                  |         |             | 75, 80, 90, 100, 110, 120, 130, 140                | For sewing waist band of jeans                                          | B-57, 62X57, 5640   |
|  | DVX57         | 2.00         | 38.6                  |         |             | 100, 110, 120, 130, 140                            | For sewing waist band of jeans                                          | B-57, 62X57, 5640   |

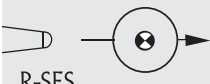
# NEEDLES FOR SEWING MACHINES (INDUSTRIAL)

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                             | POINT STYLE                                                                               | NEEDLE SIZES                        | SPECIAL FEATURES                                                   | EQUIVALENT SYSTEMS            |
|--|---------------|--------------|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------|-------------------------------|
|  | DVX57         | 2.00         | 38.6                  |    |  R-SUK   | 110, 120, 130                       | For sewing waist band of jeans                                     | B-57, 62X57, 5640             |
|  | DVX63         | 2.00         | 38.9                  |    |  R       | 75, 80, 90, 100, 110, 120, 130, 140 | 2-needle, 3-needle double chain stitch for elastic tape attaching. | B- 63                         |
|  | DVX63         | 2.00         | 38.9                  |    |  R-SES   | 75, 80, 90, 100, 110                | 2-needle, 3-needle double chain stitch for elastic tape attaching. | B- 63                         |
|  | DVX63         | 2.00         | 38.9                  |    |  R-SUK   | 75, 80, 90, 100, 110                | 2-needle, 3-needle double chain stitch for elastic tape attaching. | B- 63                         |
|  | DVX63         | 2.00         | 38.9                  |    |  R-SPI   | 70, 75, 80                          | 2-needle, 3-needle double chain stitch for elastic tape attaching. | B- 63                         |
|  | EBXI          | 2.02         | 49.0                  |    |  R       | 90, 100, 110, 120, 130              | Quilting needle, for bed covering sewing                           | 48, 51, 490, 2331             |
|  | EBX755        | 1.63         | 33.0                  |  |  R     | 75, 80, 90, 100, 110, 120, 130      | Eyelet button holing                                               | 501, 755H, 1807               |
|  | EBX755        | 1.63         | 33.0                  |  |  R-SES | 100, 110, 120                       | Eyelet button holing                                               | 501, 755H, 1807               |
|  | LW 2 T        | 2.02         | NA                    |  |  R     | 65, 75, 80, 90, 100, 110            | Felled seam, blind stitch                                          | 29-34, 29-49, 29-BL           |
|  | LW 3 T        | 2.02         | NA                    |  |  R     | 80, 90, 100, 110                    | Felled seam, blind stitch                                          | 29-C -300, 251, 1715 F, LWX4T |
|  | LW 5 T        | 2.02         | NA                    |  |  R     | 80, 90                              | Felled seam, blind stitch                                          | 29-300 LG, 251 LG, 300        |

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BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                             | POINT STYLE                                                                                  | NEEDLE SIZES                            | SPECIAL FEATURES                             | EQUIVALENT SYSTEMS    |
|--|---------------|--------------|-----------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------|-----------------------|
|  | LW 6 T        | 2.02         | NA                    |    | <br>R-SES   | 65, 70, 75, 80                          | Felled seam, blind stitch                    | 29-34, 29-49, 29-BL   |
|  | TQX1          | 1.75         | 37.1                  |    | <br>STU     | 70, 75, 80, 90, 100, 110, 120, 130      | Button sewing                                | 175xl, 1985, 29-s     |
|  | TQX1          | 1.75         | 37.1                  |    | <br>R-SES   | 70, 75, 80, 90, 100, 110                | Button sewing                                | 175xl, 1985, 29-s     |
|  | TQX1          | 1.75         | 37.1                  |    | <br>R-SUK   | 80, 90, 100                             | Button sewing                                | 175xl, 1985, 29-s     |
|  | TQX7          | 1.75         | 47.0                  |    | <br>R       | 75, 80, 90, 100, 110, 120, 130          | Button sewing and snaps on clothes           | 175x7, 29-l, 209l     |
|  | TQX7          | 1.75         | 47.0                  |    | <br>R-SES   | 75, 80, 90, 100, 110                    | Button sewing and snaps on clothes           | 175x7, 29-l, 209l     |
|  | TQX7          | 1.75         | 47.0                  |  | <br>R-SUK | 75, 80, 90, 100                         | Button sewing and snaps on clothes           | 175x7, 29-l, 209l     |
|  | TQX9          | 1.75         | 47.0                  |  | <br>R     | 75, 80, 90, 100, 110                    | Button sewing (short shank)                  | 29-lss, 175x9, 1987   |
|  | TVX1          | 2.00         | 37.0                  |  | <br>R     | 65, 75, 80, 90, 100, 110                | Double chain stitch, hemming, felled seam    | 149xl, sy 2774        |
|  | TVX1          | 2.00         | 37.0                  |  | <br>R-SES | 80, 90                                  | Hemming, felled seam, for elastic tap, jeans | 149xl, sy 2774        |
|  | TVX5          | 2.00         | 41.4                  |  | <br>R     | 65, 75, 80, 90, 100, 110, 120, 130, 140 | Hemming, felled seam, for elastic tap, jeans | 62x53, 149x5, SY 415l |

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BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                             | POINT STYLE                                                                         | NEEDLE SIZES                            | SPECIAL FEATURES                                                       | EQUIVALENT SYSTEMS       |
|--|---------------|--------------|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------|--------------------------|
|  | TVX7          | 2.00         | 37.0                  |    |    | 65, 75, 80, 90, 100, 110, 120, 130, 140 | Double chain stitch for elastic tape knit wears hemming or felled seam | 149x7, MY 1002 A         |
|  | TVX7          | 2.00         | 37.0                  |    |    | 65, 75, 80, 90                          | Double chain stitch for elastic tape knit wears hemming or felled seam | 149x7, MY 1002 A         |
|  | TVX64         | 2.00         | 36.6                  |    |    | 70, 75, 80, 90, 100, 110, 120, 130      | Double chain stitch for elastic tape knit wears hemming or felled seam | B64                      |
|  | TVX64         | 2.00         | 36.6                  |    |    | 70, 75, 80                              | Double chain stitch for elastic tape knit wears hemming or felled seam | B64                      |
|  | UOX113 GS     | 2.00         | 36.6                  |    |    | 65, 75, 80, 90, 100, 110, 120, 130, 140 | Waist banding, shirt fronting, tapes, shrring sewing                   | UY 113 GS, SY 7090, 2055 |
|  | UOX113 GS     | 2.00         | 36.6                  |    |    | 65, 75, 80, 90, 100, 110, 120           | Waist banding, shirt fronting, tapes, shrring sewing                   | UY 113 GS, SY 7090, 2055 |
|  | UYX121 GBS    | 2.00         | 38.9                  |  |  | 90, 100, 110, 120, 130, 140             | Double chain stitch                                                    | UYX121 GBS               |
|  | UYX128 GAS    | 2.00         | 38.9                  |  |  | 65, 75, 80, 90, 100, 110, 120, 130, 140 | 2 needle double chain stitch for attaching elastic tapes, rings etc    | MY 1040, MY 1044, 1280   |
|  | UYX128 GAS    | 2.00         | 38.9                  |  |  | 65, 75, 80, 90, 100, 110, 120, 130, 140 | 2 needle double chain stitch for attaching elastic tapes, rings etc    | MY 1040, MY 1044, 1280   |
|  | 134 D         | 2.00         | 33.9                  |  |  | 70, 75, 80, 90, 100, 110                | Triangular cutting point (for leather)                                 | PFX 134 D                |
|  | 134 LL        | 2.00         | 33.9                  |  |  | 90, 100                                 | Twist cutting point (for leather)                                      | PFX 134 LL, 135X8 NTW    |

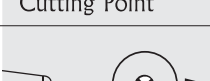
# NEEDLES FOR SEWING MACHINES (INDUSTRIAL)

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE  | NEEDLE SIZES                        | SPECIAL FEATURES                                                         | EQUIVALENT SYSTEMS     |
|--|---------------|--------------|-----------------------|---------|--------------|-------------------------------------|--------------------------------------------------------------------------|------------------------|
|  | 134 LR        | 2.00         | 33.9                  |         | <br>LR-POINT | 70, 75, 80, 90, 100, 110            | Reverse twist cutting point (for leather)                                | PFX 134 LR, 135X8 RTW  |
|  | 134 LR        | 2.00         | 33.9                  |         | <br>LR-POINT | 120, 130, 140, 160, 180             | Reverse twist cutting point (for leather)                                | PFX 134 LR, 135X8 RTW  |
|  | 134 PCL       | 2.00         | 33.9                  |         | <br>PCL      | 70, 80, 90, 100, 110, 120, 130, 140 | Wedge cutting point (with left twisted point groove)                     | PFX 134 PCL, 797 PCL   |
|  | 134 S         | 2.00         | 33.9                  |         | <br>S        | 70, 80, 90, 100, 110, 120, 130, 140 | Cross cutting point (for leather)                                        | PF 134 KS, 135 X 8 NCR |
|  | 134-35 R      | 2.00         | 38.1                  |         | <br>R        | 70, 80, 90, 100, 110, 120, 130, 140 | Lock stitch flat bed sewing for heavy material (shoes, bags, seats etc)  | 134-35 R               |
|  | 134-35 LR     | 2.00         | 38.1                  |         | <br>LR POINT | 70, 80, 90, 100, 110, 120, 130, 140 | Reverse twist cutting point (for leather)                                | 134-35 LR              |
|  | 134-35 LL     | 2.00         | 38.1                  |         | <br>LL       | 70, 80, 90, 100, 110, 120, 130, 140 | Twist cutting point (for leather)                                        | 134-35 LL              |
|  | 134-35 S      | 2.00         | 38.1                  |         | <br>S        | 70, 80, 90, 100, 110, 120, 130, 140 | Cross cutting point, long (for leather)                                  | 134-35 S               |
|  | 134-35 D      | 2.00         | 38.1                  |         | <br>TRI      | 70, 80, 90, 100, 110, 120, 130      | Triangular cutting point (for leather)                                   | 134-35 D               |
|  | 134-35 PCL    | 2.00         | 38.1                  |         | <br>PCL      | 70, 80, 90, 100, 110, 120, 130, 140 | Wedge cutting point (with left twisted point groove) longer type 134 pCL | 134-35 PCL             |

# NEEDLES FOR SEWING MACHINES (DOMESTIC)

BEISSEL

|  | NEEDLE SYSTEM      | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                             | POINT STYLE                                                                                     | NEEDLE SIZES                  | SPECIAL FEATURES                                                                                  | EQUIVALENT SYSTEMS      |
|--|--------------------|--------------|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------|-------------------------|
|  | 130 N (or) 130 MET | 2.03         | 33.9                  |    |  R SES         | 70, 80, 90, 100               | Top stitch needles (with longer eye) for metallic embroidery threads.                             | 130 N, 130/705 HM       |
|  | 130/705 H          | 2.03         | 33.9                  |    |  R SES         | 60, 70, 80, 90, 100, 110, 120 | Universal needle, slightly rounded point for all fabric types.                                    | 15 XI, 130/705 H, HA XI |
|  | 130/705 H-J        | 2.03         | 33.9                  |    |  SPI           | 70, 80, 90, 100, 110          | J = Jeans , For Heavy /dense fabrics like denim and canvas, More rigid shank for less deflection. | 130/705 H-J             |
|  | 130/705 H-LL       | 2.03         | 33.9                  |    |  Cutting Point | 70, 80, 90, 100, 110, 120     | Needle with cutting point (with left twist) for sewing on leather, suited for decorative seams.   | 130/705 H-LL            |
|  | 130/705 H-LR       | 2.03         | 33.9                  |    |  Cutting Point | 70, 80, 90, 100, 110, 120     | Needle with cutting point (with right twist) for sewing on leather, suited for decorative seams.  | 130/705 H-LR            |
|  | 130/705 HM         | 2.03         | 33.9                  |    |  R SES         | 60, 70, 80, 90                | Application on M-Micro fibre, Silks, Foils etc.                                                   | 130/705 HM              |
|  | 130/705 HQ         | 2.03         | 33.9                  |   |  R SES        | 75, 90                        | Needles for quilting and patch work - slightly rounded point.                                     | 130/705 HQ              |
|  | 130/705 H-S        | 2.03         | 33.9                  |  |  SUK         | 75, 90                        | For elastic materials, T-shirt knits (Jersey) knitted and warpknits -Medium ball point.           | 130/705 H-S             |
|  | 130-705 H SUK      | 2.03         | 33.9                  |  |  SUK         | 70, 80, 90, 100               | For knitted fabrics lycra, medium ball point.                                                     | 130-705 H SUK           |
|  | 130-705 H E        | 2.03         | 33.9                  |  |  R SES       | 75, 90                        | Large eye for special effect or metallic embroidery threads. Light ball point to avoid shredding. | 130-705 H E             |

# NEEDLES FOR SEWING MACHINES (DOMESTIC)

BEISSEL

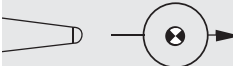
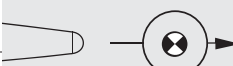
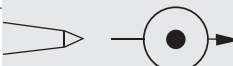
|  | NEEDLE SYSTEM             | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE | NEEDLE SIZES | SPECIAL FEATURES                                                                                     | EQUIVALENT SYSTEMS   |
|--|---------------------------|--------------|-----------------------|---------|-------------|--------------|------------------------------------------------------------------------------------------------------|----------------------|
|  | I30-705 H E<br>ZWI NE 2,0 | 2.03         | 33.9                  |         |             | 75           | Large eye for special effect or metallic embroidery threads.<br>Light ball point to avoid shredding. | I30-705 H E          |
|  | I30-705 H E<br>ZWI NE 3,0 | 2.03         | 33.9                  |         |             | 75           | Large eye for special effect or metallic embroidery threads.<br>Light ball point to avoid shredding. | I30-705 H E          |
|  | I30/705 H-S<br>ZWI 2, 5   | 2.03         | 33.9                  |         |             | 75           | Twin needle for elastic material -<br>distance between points: 2.5mm                                 | I30/705 H-S ZWI 2, 5 |
|  | I30/705 H-J<br>ZWI 4,0    | 2.03         | 33.9                  |         |             | 100          | Twin needle for jeans - distance<br>between points: 4mm                                              | I30/705 H-S ZWI 4,0  |
|  | I30/705<br>H-ZW II, 6     | 2.03         | 33.9                  |         |             | 70, 80       | Twin needle for universal point -<br>distance between points: 1.6mm                                  | I30/705 H-ZW II, 6   |
|  | I30/705<br>H-ZW I2, 0     | 2.03         | 33.9                  |         |             | 80           | Twin needle for universal point -<br>distance between points: 2.0mm                                  | I30/705 H-ZW I2, 0   |
|  | I30/705<br>H-SZW I2, 5    | 2.03         | 33.9                  |         |             | 80           | Twin needle for universal point -<br>distance between points: 2.5mm                                  | I30/705 H-SZW I2, 5  |
|  | I30/705<br>H-SZW I3 ,0    | 2.03         | 33.9                  |         |             | 90           | Twin needle for universal point -<br>distance between points: 3.0mm                                  | I30/705 H-SZW I3, 0  |
|  | I30/705<br>H-SZW I4, 0    | 2.03         | 33.9                  |         |             | 80, 90, 100  | Twin needle for universal point -<br>distance between points: 4mm                                    | I30/705 H-SZW I4, 0  |
|  | I30/705<br>H-BR NE 6, 0   | 2.03         | 33.9                  |         |             | 100          | Twin needle for waist band sewing -<br>universal point distance between<br>points: 6mm               | I30/705H-BRNE 6, 0   |

# NEEDLES FOR SEWING MACHINES (DOMESTIC)

BEISSEL

|  | NEEDLE SYSTEM         | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                           | POINT STYLE                                                                                | NEEDLE SIZES | SPECIAL FEATURES                                                                           | EQUIVALENT SYSTEMS    |
|--|-----------------------|--------------|-----------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------|-----------------------|
|  | 130/705 H-BR NE 8, 0  | 2.03         | 33.9                  |  | <br>R SES | 100          | Twin needle for waist band sewing - universal point distance between points: 8mm           | 130/705H-BRNE 8, 0    |
|  | 130-705 H DRI NE 3, 0 | 2.03         | 33.9                  |  | <br>SPI   | 80           | Three needles on a cross bar from a single shaft, sews three rows of decorative stitching. | 130-705 H DRI NE 3, 0 |
|  | 130-705 H ZWIHO       | 2.03         | 33.9                  |  | <br>R SES | 100          | 1 x Wing needle + 1 x Universal needle as twin.                                            | 130-705 H ZWIHO       |
|  | 130/705 H-WING        | 2.03         | 33.9                  |  | <br>R SES | 100, 120     | 1 Wing needle for decorative hem stitch seams.                                             | 130/705 H-WING        |

# 1, 2 & 3 NEEDLE GROUP

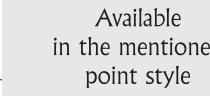
|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                             | POINT STYLE                                                                         | NEEDLE SIZES                                         | SPECIAL FEATURES                            | EQUIVALENT SYSTEMS                          |
|--|---------------|--------------|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------|---------------------------------------------|
|  | DVXI          | 2.00         | 38.9                  |    | Available in the mentioned point style                                              | 60, 65, 70, 75, 80, 90, 100, 110, 120, 125, 130, 140 | Double chain stitch                         | 1628, 62X21, UY121GS, MY1001, DVX21, UYX121 |
|  | UYX128 GAS    | 2.00         | 38.9                  |    |                                                                                     | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | With scarf 2 & 3 needle                     | 1280, UY128GAS, MY1040, MY1044, DVXG9       |
|  | DVX43         | 2.00         | 38.9                  |    |                                                                                     | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Tv x3 from #19                              | 62X3, 62X43                                 |
|  | DVX63         | 2.00         | 38.9                  |    |    | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Skip proof                                  | B63                                         |
|  | TVXI          | 2.00         | 37.0                  |    |                                                                                     | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Hem stitching & felling                     | 149X1                                       |
|  | DVX57         | 2.00         | 38.6                  |    |                                                                                     | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Twisted groove                              | 62X57                                       |
|  | TVX3          | 2.00         | 38.9                  |  |  | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Side stitching dvx43 from #18               | 149X3, UY124GS                              |
|  | TVX5          | 2.00         | 41.4                  |  |                                                                                     | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | 2 needle felling<br>3 needle heavy material | 62X 45, 149X5                               |
|  | TVX7          | 2.00         | 37.0                  |  |                                                                                     | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Hem stitch & felling                        | 149 X7MY1002A, 149X25, TVX25                |
|  | TVX64         | 2.00         | 36.6                  |  |  | 60, 65, 70, 75, 80, 90, 100, 110, 120, 130, 140      | Skip proof                                  | B64                                         |

# BLIND STITCH NEEDLE GROUP

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                            | POINT STYLE                                                                                                                 | NEEDLE SIZES                       | SPECIAL FEATURES                        | EQUIVALENT SYSTEMS                                                      |
|--|---------------|--------------|-----------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------|-------------------------------------------------------------------------|
|  | LW X 1T       | 2.02         | NA                    |   | Available in the mentioned point style<br> | 65, 75, 80, 90, 100, 110, 120, 130 | Felling                                 | 29-BC, 29 BD, 29-12, 1717 BE, 1717TP                                    |
|  | LW X 2T       | 2.02         | NA                    |   |                                                                                                                             | 65, 75, 80, 90, 100, 110, 120, 130 | For blind chain stitching & felling     | 29 BA, 29 BL, 29-20, 29-34, 29-35, 2140 BE, 2140TP LW X 6T              |
|  | LW X 3T       | 2.02         | NA                    |   |                                                                                                                             | 65, 75, 80, 90, 100, 110, 120, 130 | For blind chain stitching & felling     | 29-CA, 29-C-300, 25I, 1715F, BLIND STITCH, LW X4T                       |
|  | LW X C 5      | 2.02         | NA                    |   |                                                                                                                             | 65, 75, 80, 90, 100                | Bluff edging and felling                | 29 BK, 29-38L, 29-39, 2186 TP                                           |
|  | LW X 6T       | 2.02         | NA                    |   |                                            | 2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5    | For attaching shoulder pads and basting | 29-BA, 29-BL, 29-20, 29-34, 2935, 29-49, 2140BE, 2140TP, 3140TP, LWX 2T |
|  | LW X7T        | 2.02         | NA                    |   |                                                                                                                             | 75, 80, 90, 100, 110               | Felling                                 | 29 BB, 29-6, 29-63, 1717 DC, 1828E                                      |
|  | LW X1669E     | 2.02         | NA                    |  |                                                                                                                             | 65, 75, 80, 90, 100, 110, 120, 130 | Lapel padding                           | 1669 E, 1715E, 2669E, 3669E                                             |

## BUTTON SEWING NEEDLE GROUP

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                           | POINT STYLE                                                                                                                     | NEEDLE SIZES                            | SPECIAL FEATURES                            | EQUIVALENT SYSTEMS                |
|--|---------------|--------------|-----------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------|-----------------------------------|
|  | BQXI          | 1.63         | 37.3                  |  | <p>Available in the mentioned point style</p>  | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Button (2 or 4 holes) of skirts, under wear | 108 XI                            |
|  | TQXI          | 1.75         | 37.1                  |  |                                                                                                                                 | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Button sewing                               | 175 XI, 175 XI, 29-S, 1661, 1985  |
|  | TQX3          | 1.75         | 41.4                  |  |                                                                                                                                 | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Sewing button and snaps on clothes          | 175 X3 2018                       |
|  | TQX7          | 1.75         | 47.0                  |  |                                                                                                                                 | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Button sewing longer length                 | 175 X 7, 29 -L, 2091, 2091 LGK    |
|  | TQX9          | 1.75         | 47.0                  |  |                                                                                                                                 | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Button sewing with short shank              | 175 X9, LS X 18, 29-LSS, 1661 ELG |

# LEATHER NEEDLE GROUP

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm     | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE | NEEDLE SIZES                                            | SPECIAL FEATURES      | EQUIVALENT SYSTEMS                         |
|--|---------------|------------------|-----------------------|---------|-------------|---------------------------------------------------------|-----------------------|--------------------------------------------|
|  | TF X2         | 1.63, 1.90, 2.02 | 33.9                  |         |             | 60, 70, 80, 90, 100, 110, 120, 125, 130, 140, 160       | For stitching leather | 34LL, 287LL, 563LL, 690LL, 16X2NTW, TFX2LL |
|  | DP X16 N      | 2.00             | 38.9                  |         |             | 80, 90, 100, 110, 120, 125, 130, 140, 160, 180          |                       | 135X 16 NTW, 135 X16 TW,                   |
|  | MT X 134PCL   | 2.00             | 33.9                  |         |             | 70, 80, 90, 100, 110, 120, 125, 130, 140                |                       | 134 PCL, 797 PCL, PF 134 PCL               |
|  | PF 134LL      | 2.00             | 33.9                  |         |             | 70, 80, 90, 100, 110, 120, 125, 130, 140, 160, 180, 200 |                       | 134LL, 7697LL, 135 X8NTW, 135X8TW          |
|  | DBXF2         | 1.63, 1.90, 2.02 | 33.9                  |         |             | 70, 80, 90, 100, 110, 120, 125, 130, 140, 160, 180, 200 |                       | 1738LR, 16X230NRTW: 16X230RTW              |
|  | PFX 134LR     | 2.00             | 33.9                  |         |             | 70, 80, 90, 100, 110, 120, 125, 130, 140, 160, 180, 200 |                       | 134 LR, 797 LR, 135X8 NRTW, 135X8 RTW      |
|  | DPX35LR       | 2.00             | 38.1                  |         |             | 70, 80, 90, 100, 110, 120, 125, 130, 140, 160, 180, 200 |                       | 135-35 LR, 2134-35 LR                      |
|  | DPXF22        | 2.00             | 33.9                  |         |             | 60, 70, 80, 90, 100, 110                                |                       | 134KKS, 797 KKS                            |
|  | PF X134KS     | 2.00             | 33.9                  |         |             | 70, 80, 90, 100, 110, 120, 125, 130, 140, 160, 180, 200 |                       | 134S, 797S, 1345X8 CR, 135X8 NCR,          |

# LOCK STITCH NEEDLE GROUP

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES | POINT STYLE                                   | NEEDLE SIZES                                                       | SPECIAL FEATURES                                                                             | EQUIVALENT SYSTEMS               |
|--|---------------|--------------|-----------------------|---------|-----------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------|
|  | DB XI         | 1.63, 2.00   | 33.9                  |         | <p>Available in the mentioned point style</p> | 60, 65, 70, 75, 80, 85, 90, 100, 110, 120, 130, 140, 160, 180, 200 | Sewing on light and medium woven fabrics.                                                    | 16 X231, 16 X 257, 1738, SY 2254 |
|  | DBXI KN       | 1.63         | 33.9                  |         |                                               | 65, 70, 75, 80, 85, 90                                             | Application on knit fabrics of finer gauge.                                                  | DBXI KN                          |
|  | DBX K5        | 1.63         | 33.9                  |         |                                               | 60, 65, 70, 75, 80, 85, 90, 100, 110                               | For multi head embroidery.                                                                   | DBX K5                           |
|  | DPX 5         | 2.00         | 33.9                  |         |                                               | 60, 65, 70, 75, 80, 85, 90, 100, 110                               | Double lock stitch sewing on light and medium fabrics.                                       | 134 R, 135 X 5, 135 X17, SY 1955 |
|  | DA XI         | 1.63         | 29.6                  |         |                                               | 60, 65, 70, 75, 80, 85, 90, 100, 110                               | High speed straight sewing for medium weight fabrics such as shirts, knit wear, aprons, etc. | 88 XI, 1128                      |
|  | DPXI7         | 2.00         | 38.9                  |         |                                               | 60, 65, 70, 75, 80, 85, 90, 100, 110, 120, 130, 140, 160, 180, 200 | Lock stitch on leather sewing.                                                               | 135XI7                           |

## ZIG - ZAG NEEDLE GROUP

BEISSEL

|  | NEEDLE SYSTEM | SHANK DIA mm     | BUTT TO EYE LENGTH mm | GROOVES                                                                           | POINT STYLE                                                                                                                                                                                                                                                                                                                                                                                | NEEDLE SIZES                            | SPECIAL FEATURES     | EQUIVALENT SYSTEMS                           |
|--|---------------|------------------|-----------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------|----------------------------------------------|
|  | DPX5          | 2.00             | 33.9                  |  | Available in the mentioned point style<br><br><br><br> | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Zig zag              | I34R, 797, I35x5, DPX7, I34, PFXI34, I35 X25 |
|  | DPX5 KN       | 2.00             | 33.9                  |  |                                                                                                                                                                                                                                                                                                                                                                                            | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Knit                 | I34KN, I35X5 KN                              |
|  | PFX34R        | 1.63, 1.90, 2.02 | 33.9                  |  |                                                                                                                                                                                                                                                                                                                                                                                            | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Bartack              | I34R, 797, I35x5, DPX7, I34, PFXI34, I35 X25 |
|  | PFXI34        | 2.00             | 33.9                  |  |                                                                                                                                                                                                                                                                                                                                                                                            | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Lock stich           | I34R, 797, I35x5, DPX7, I34, PFXI34, I35 X25 |
|  | PFX797        | 2.00             | 33.9                  |  |                                                                                                                                                                                                                                                                                                                                                                                            | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Buttoning and holing | I34K, 556KH, 797KH, I35X9, PFXK              |

## OVER LOCK NEEDLE GROUP

|  | NEEDLE SYSTEM | SHANK DIA mm | BUTT TO EYE LENGTH mm | GROOVES                                                                           | POINT STYLE                                                                                                                                                                                                                                                                                                                                                                               | NEEDLE SIZES                            | SPECIAL FEATURES                                                                | EQUIVALENT SYSTEMS           |
|--|---------------|--------------|-----------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------|------------------------------|
|  | DC XI         | 2.02         | 28.6                  |  | <div>Available in the mentioned point style</div>     | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Over lock for overedging hoisery goods, underwear and joining knit wear pieces. | 81 XI, 621, MY 1023A         |
|  | DC XI KN      | 2.02         | 28.6                  |  |                                                                                                                                                                                                                                                                                                                                                                                           | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Over lock for overedging hoisery goods, underwear and joining knit wear pieces. | DC XIKN                      |
|  | DC X27        | 2.02         | 28.6                  |  |                                                                                                                                                                                                                                                                                                                                                                                           | 70, 75, 80, 90, 100, 110, 120, 130, 140 | High speed overedging                                                           | B -27, 81 X27, 1886, MY 1023 |
|  | DM XI         | 2.02         | 28.6                  |  |                                                                                                                                                                                                                                                                                                                                                                                           | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Inter lock                                                                      | 82 XI                        |
|  | DM XI3        | 2.02         | 28.6                  |  |                                                                                                                                                                                                                                                                                                                                                                                           | 70, 75, 80, 90, 100, 110, 120, 130, 140 | Inter lock                                                                      | 82 XI3, 1886 KK              |