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Summary of Description & Claims

Trade Secret:
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eXp6™ – an eXponential Shoe Sizing System – A shoe sizing system that increments sizes by a percentage increase instead of a fixed increment, e.g. $\frac{1}{6}$ " & $\frac{1}{3}$ cm for $\frac{1}{2}$ size increments in the Barleycorn & Paris Point systems and, $\frac{1}{2}$ cm & $\frac{3}{4}$ cm for the 5mm & $7\frac{1}{2}$ mm increments in the MondoPoint system. The increment is **6 steps per inch** around a $10\frac{1}{3}$ ", $262\frac{7}{15}$ mm foot ($9\frac{5}{6}$ " to $10\frac{5}{6}$ ", $249\frac{3}{4}$ to $275\frac{1}{6}$ mm) a non-linear progression that increases the increment value as size increases. Using $6\frac{2}{3}\%$ toe room the increment size at **6 UK** is $\frac{1}{6}$ " ($\frac{1}{2}$ size Barleycorn).

Better Fittings & Manufacturing Efficiency – Since this is a ratio based system it produces a more consistent and usable coverage of the sizes providing better fittings which may also reduce the number of sizes needed to cover the the same size range.

Consistent Widths Across The Size Range Produces Easy Last Scaling – The spacing between the Widths is also a percentage increase offering the same benefits. For the existing sizing systems the width increase step becomes larger in size for the smaller sizes relatively speaking, and vice-versa, smaller width increase step for the larger sizes. By using percentage scaling this problem is eliminated. Instead of using the fixed increment values for length and width of $\frac{1}{6}$ " & $\frac{1}{12}$ " for conventional Barleycorn or $\frac{1}{6}$ " & $\frac{1}{16}$ " for Brannock the relationship between widths is a percentage increment spread over 11 widths from approximately 33% to 44% of length providing a consistent increment between all widths across the size range. The **Length:Width:MetatarsalGirth** ratio percentages associated with the width labels are not fixed on a per label basis instead they reflect the **EU Dorothy** data for the most efficient alignment for manufacturing i.e. the center width is a line through the **Length:Width:MetatarsalGirth** graphs that overlays the data to cover the most popular sizes and the wider and narrower widths/girths are percentage increments on either side of this. Labels: **I X Slim**, **II Slim**, **III Narrow**, **IV MedNar**, **V Medium**, **VI MedWide**, **VII Wide**, **VIII X Wide**, **IX 2X Wide**, **X 3X Wide**, **XI 4X Wide**. This covers the approximate width range of the **US** widths **3A** through **5E** from ~33% to ~44% and could be adjusted to cover a narrower or wider range.

$6\frac{2}{3}\%$ Toe Room, $\frac{2}{3}$ ", for a 10 "/ 254 mm **Foot** and a $10\frac{2}{3}$ "/ $270\frac{14}{15}$ mm **Last**, is used as the Origin and the minimum average amount for Barleycorn & Paris Point sizing but more could be used. For every 1 **eXp6™** size increment there is an ~1.63% length change and an ~1.1% width change. Within the same size width spacing is ~2.92%. The toe room allowance does not limit toe box lengthening for styling purposes rather this is the minimum toe room requirement.

Use of this technology requires that the product's dimensions are faithful to the specifications for the label.

eXponential 6spi Shoe Sizing

Men's Approximate Barleycorn Sizing Overlay

eXp6™	25 UK	24 usM	× 1½ IT / EU	1.016265496 Foot.in	× 25⅔% Foot.mm	1.066666667 Last.in	× 25⅔% Last.mm
7*5	4.52	5.52	37.5	9.225	234.3	9.840	249.9
7*6	5.00	6.00	38.1	9.375	238.1	10.000	254.0
7*7	5.49	6.49	38.7	9.527	242.0	10.163	258.1
7*8	5.98	6.98	39.3	9.682	245.9	10.328	262.3
7*9	6.49	7.49	40.0	9.840	249.9	10.496	266.6
8*0	7.00	8.00	40.6	10.000	254.0	10.667	270.9
8*1	7.52	8.52	41.3	10.163	258.1	10.840	275.3
8*2	8.05	9.05	41.9	10.328	262.3	11.016	279.8
8*3	8.59	9.59	42.6	10.496	266.6	11.196	284.4
8*4	9.13	10.13	43.3	10.667	270.9	11.378	289.0
8*5	9.69	10.69	44.0	10.840	275.3	11.563	293.7
8*6	10.25	11.25	44.7	11.016	279.8	11.751	298.5
8*7	10.83	11.83	45.5	11.196	284.4	11.942	303.3
8*8	11.41	12.41	46.2	11.378	289.0	12.136	308.3
8*9	12.00	13.00	47.0	11.563	293.7	12.334	313.3
9*0	12.60	13.60	47.7	11.751	298.5	12.534	318.4
9*1	13.21	14.21	48.5	11.942	303.3	12.738	323.6
9*2	13.84	14.84	49.3	12.136	308.3	12.945	328.8
9*3	14.47	15.47	50.1	12.334	313.3	13.156	334.2
9*4	15.11	16.11	50.9	12.534	318.4	13.370	339.6
9*5	15.76	16.76	51.7	12.738	323.6	13.587	345.1

Reference values specified in mm (MondoPoint)

$$IT / EU = 1\frac{1}{2} \times Last.cm = 4.064 \times Foot.in$$

$$[UK|usM] = 3 \times Last.in - [25|24]$$

$$= IT / EU \div 1.27 - [25|24]$$

$$+6\frac{2}{3}\% \text{ Toe Room Factor} = 10\frac{2}{3} \div 10 = 1.066666667$$

$$eXp6^{\text{TM}} \text{ Foot Increment Factor} = \sqrt[4]{16 \div 15} = 1.016265496$$

$$eXp6^{\text{TM}} \text{ Width Increment Factor} = \sqrt[10]{4 \div 3} = 1.029186009$$

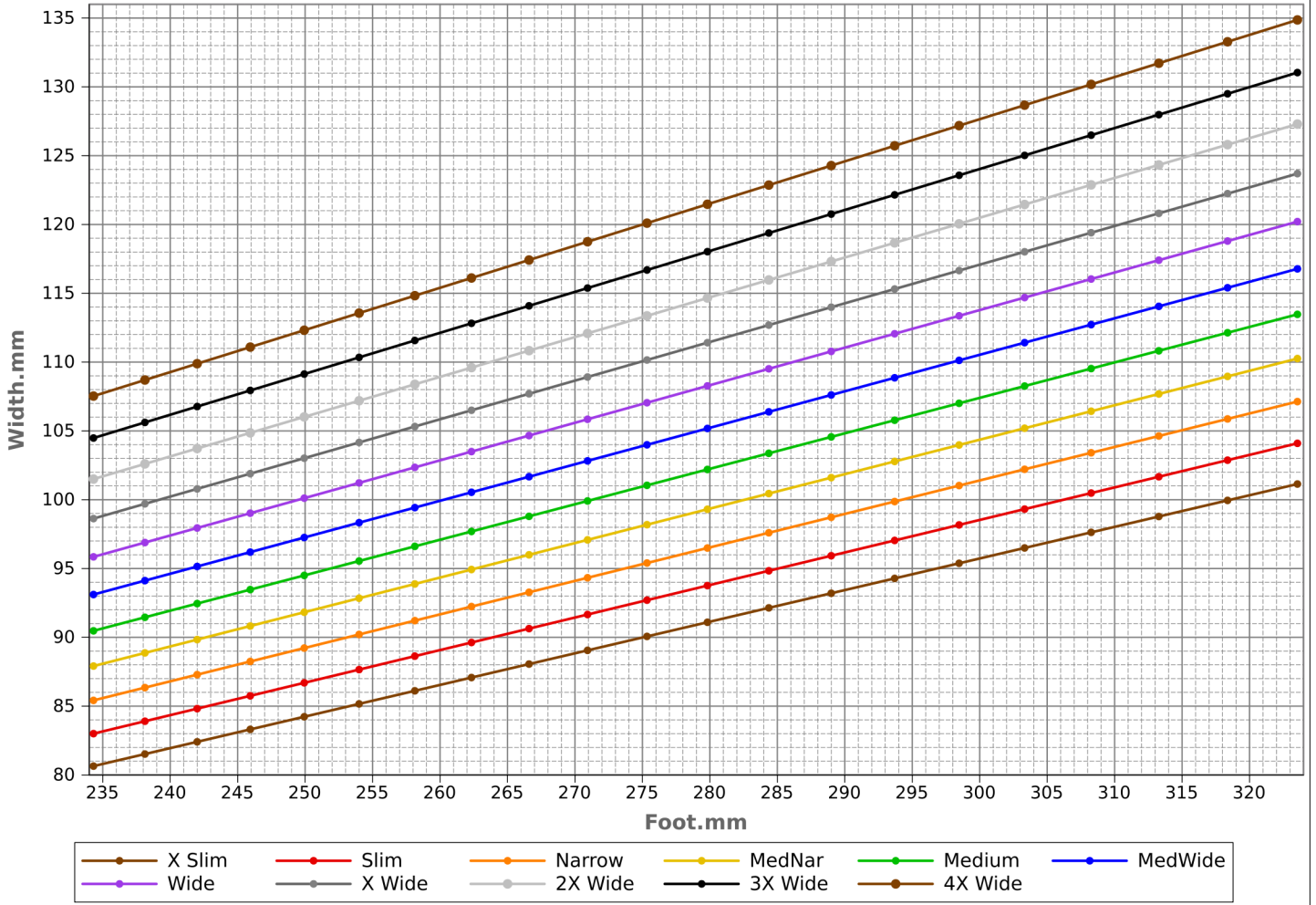
eXp6™ Width

I	II	III	IV	V	VI	VII	VIII	IX	X	XI
XS	S	N	MN	M	MW	W	XW	2XW	3XW	4XW
X Slim	Slim	Narrow	Medium Narrow	Medium	Medium Wide	Wide	X Wide	2X Wide	3X Wide	4X Wide
80.6	83.0	85.4	87.9	90.5	93.1	95.8	98.6	101.5	104.5	107.5
81.5	83.9	86.3	88.9	91.5	94.1	96.9	99.7	102.6	105.6	108.7
82.4	84.8	87.3	89.8	92.5	95.1	97.9	100.8	103.7	106.8	109.9
83.3	85.7	88.2	90.8	93.5	96.2	99.0	101.9	104.9	107.9	111.1
84.2	86.7	89.2	91.8	94.5	97.3	100.1	103.0	106.0	109.1	112.3
85.2	87.7	90.2	92.8	95.5	98.3	101.2	104.2	107.2	110.3	113.6
86.1	88.6	91.2	93.9	96.6	99.4	102.3	105.3	108.4	111.6	114.8
87.1	89.6	92.2	94.9	97.7	100.5	103.5	106.5	109.6	112.8	116.1
88.1	90.6	93.3	96.0	98.8	101.7	104.7	107.7	110.8	114.1	117.4
89.1	91.7	94.3	97.1	99.9	102.8	105.8	108.9	112.1	115.4	118.7
90.1	92.7	95.4	98.2	101.0	104.0	107.0	110.2	113.4	116.7	120.1
91.1	93.8	96.5	99.3	102.2	105.2	108.3	111.4	114.7	118.0	121.5
92.1	94.8	97.6	100.4	103.4	106.4	109.5	112.7	116.0	119.4	122.9
93.2	95.9	98.7	101.6	104.6	107.6	110.8	114.0	117.3	120.8	124.3
94.3	97.0	99.9	102.8	105.8	108.9	112.1	115.3	118.7	122.2	125.7
95.4	98.2	101.0	104.0	107.0	110.1	113.4	116.7	120.0	123.6	127.2
96.5	99.3	102.2	105.2	108.3	111.4	114.7	118.0	121.5	125.0	128.7
97.6	100.5	103.4	106.4	109.5	112.7	116.0	119.4	122.9	126.5	130.2
98.8	101.7	104.6	107.7	110.8	114.1	117.4	120.8	124.3	128.0	131.7
99.9	102.9	105.9	109.0	112.1	115.4	118.8	122.2	125.8	129.5	133.3
101.1	104.1	107.1	110.3	113.5	116.8	120.2	123.7	127.3	131.0	134.9

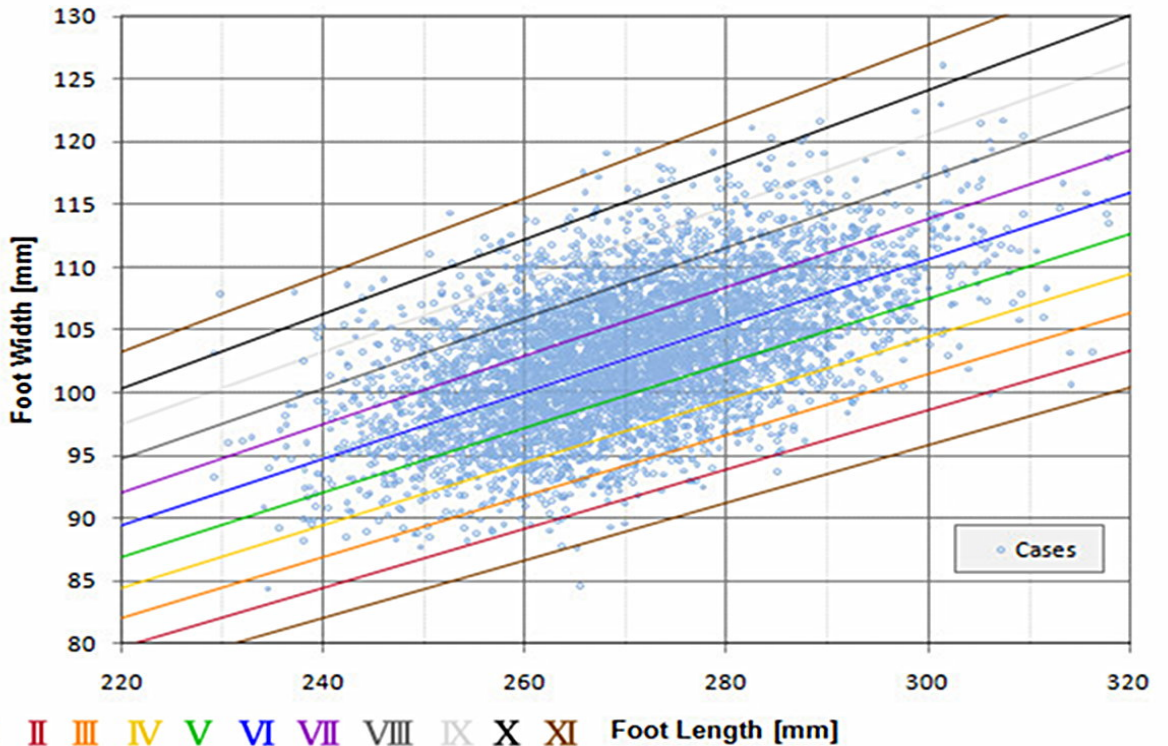
All values are in mm (MondoPoint)

All **Foot** measurements are taken Barefoot, or with Thin Dress Socks. If thicker socks are intended to be worn with a particular type of shoe or boot then the **Lasts** from which they are made from should have a slight increase in size made to them to compensate. A given percentage increase should be established for the type of sock to be worn for each shoe or boot design. Different increases in the **Length, Width & MetatarsalGirth** will be needed, most for the **MetatarsalGirth** and least for the **Length**.

eXp6™ Width



Foot Length vs. Foot Width (male)



EU
Dorothy
Width
Graph
with
Overlay

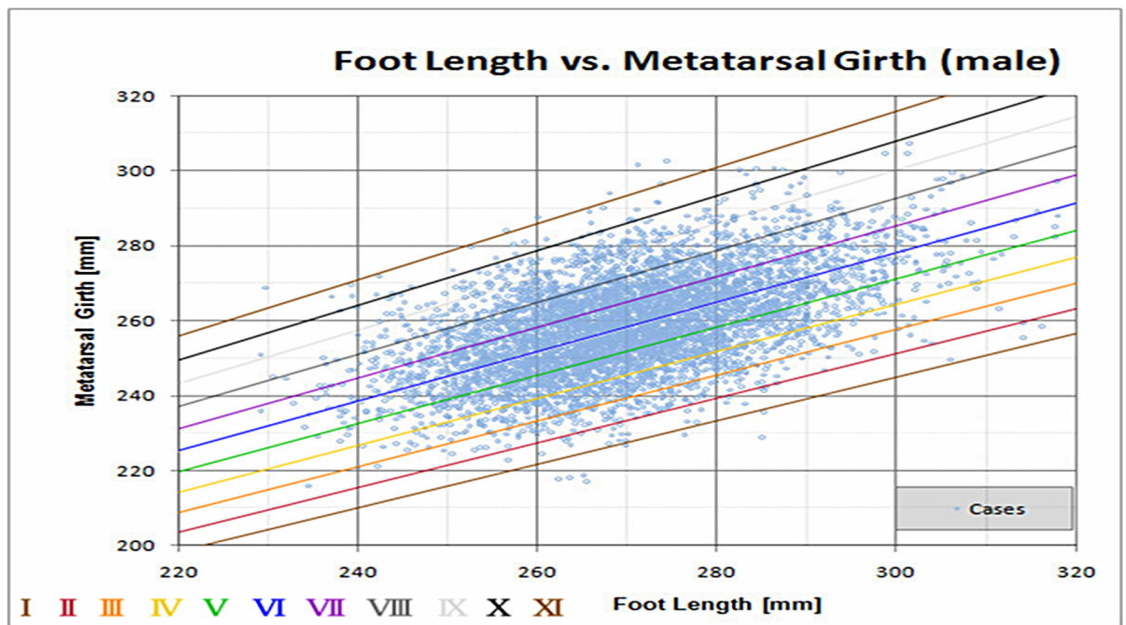
I II III IV V VI VII VIII IX X XI Foot Length [mm]

eXp6™ Girth

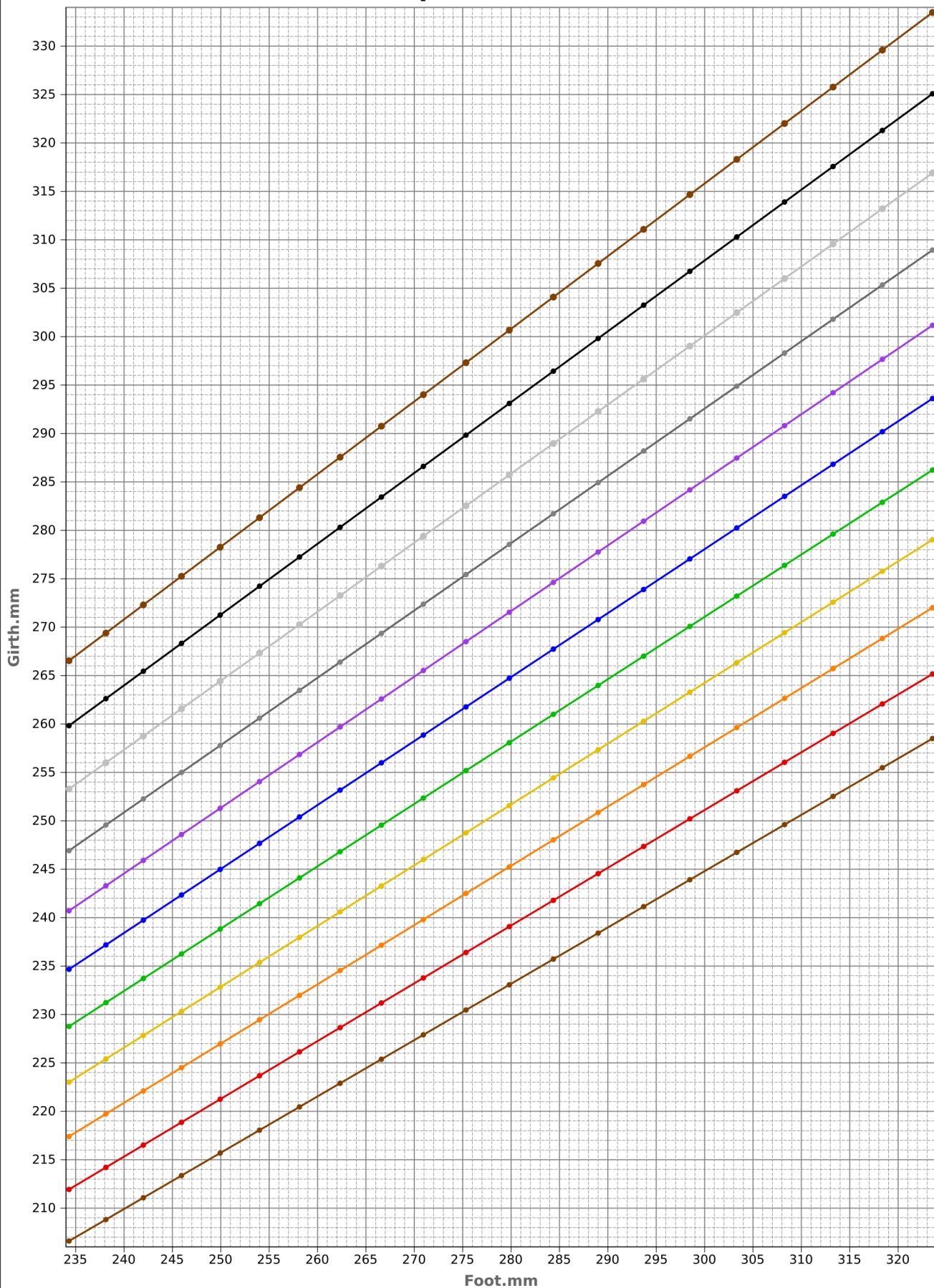
I	II	III	IV	V	VI	VII	VIII	IX	X	XI
XS	S	N	MN	M	MW	W	XW	2XW	3XW	4XW
X			Medium	Medium	Medium	Wide	X	2X	3X	4X
Slim	Slim	Narrow	Narrow		Wide	Wide	Wide	Wide	Wide	Wide
206.6	211.9	217.4	223.0	228.8	234.7	240.7	246.9	253.3	259.8	266.5
208.8	214.2	219.7	225.4	231.2	237.2	243.3	249.6	256.0	262.6	269.4
211.1	216.5	222.1	227.8	233.7	239.7	245.9	252.3	258.8	265.4	272.3
213.4	218.9	224.5	230.3	236.2	242.3	248.6	255.0	261.6	268.3	275.3
215.7	221.2	227.0	232.8	238.8	245.0	251.3	257.8	264.4	271.2	278.3
218.1	223.7	229.4	235.4	241.4	247.7	254.0	260.6	267.3	274.2	281.3
220.5	226.1	232.0	238.0	244.1	250.4	256.8	263.5	270.3	277.2	284.4
222.9	228.6	234.5	240.6	246.8	253.2	259.7	266.4	273.3	280.3	287.6
225.4	231.2	237.2	243.3	249.6	256.0	262.6	269.4	276.3	283.4	290.8
227.9	233.8	239.8	246.0	252.3	258.9	265.5	272.4	279.4	286.6	294.0
230.5	236.4	242.5	248.8	255.2	261.8	268.5	275.4	282.5	289.8	297.3
233.1	239.1	245.2	251.6	258.1	264.7	271.5	278.5	285.7	293.1	300.7
235.7	241.8	248.0	254.4	261.0	267.7	274.6	281.7	289.0	296.4	304.1
238.4	244.5	250.9	257.3	264.0	270.8	277.8	284.9	292.3	299.8	307.6
241.1	247.3	253.7	260.3	267.0	273.9	280.9	288.2	295.6	303.3	311.1
243.9	250.2	256.7	263.3	270.1	277.0	284.2	291.5	299.0	306.7	314.7
246.7	253.1	259.6	266.3	273.2	280.2	287.5	294.9	302.5	310.3	318.3
249.6	256.0	262.6	269.4	276.4	283.5	290.8	298.3	306.0	313.9	322.0
252.5	259.0	265.7	272.6	279.6	286.8	294.2	301.8	309.6	317.6	325.8
255.5	262.1	268.8	275.8	282.9	290.2	297.7	305.3	313.2	321.3	329.6
258.5	265.2	272.0	279.0	286.2	293.6	301.2	308.9	316.9	325.1	333.5

All values are in mm (MondoPoint)

EU
Dorothy
Metatarsal
Girth
Graph
with
Overlay



eXp6™ Girth



- X Slim
- Slim
- Narrow
- MedNar
- Medium
- MedWide
- Wide
- X Wide
- 2X Wide
- 3X Wide
- 4X Wide