

***mapress SÄHKÖSINKITTY***



## 1.2 Teräspanki sähkösinkitty

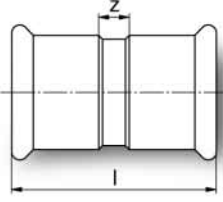
Toimitus 6 m:n putkeina. Normalisoitu. Kylmä taivutus

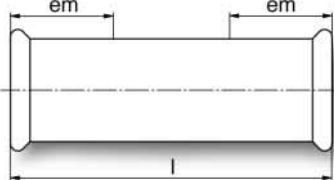
| lv-<br>numero | DN | ulk. halk.<br>x sein.<br>paks.<br>d x s (mm) | sisä<br>halk.<br>di (mm) | vesi<br>tilavuus<br>l/m | paino<br>kg/m | metrejä<br>nipussa |
|---------------|----|----------------------------------------------|--------------------------|-------------------------|---------------|--------------------|
| 047 8123      | 10 | 12 x 1,2                                     | 9,6                      | 0,072                   | 0,311         | 546                |
| 047 8125      | 12 | 15 x 1,2                                     | 12,6                     | 0,125                   | 0,394         | 546                |
| 047 8128      | 15 | 18 x 1,2                                     | 15,6                     | 0,192                   | 0,483         | 546                |
| 047 8130      | 20 | 22 x 1,5                                     | 19,0                     | 0,284                   | 0,771         | 546                |
| 047 8132      | 25 | 28 x 1,5                                     | 25,0                     | 0,491                   | 0,964         | 546                |
| 047 8134      | 32 | 35 x 1,5                                     | 32,0                     | 0,804                   | 1,210         | 366                |
| 047 8136      | 40 | 42 x 1,5                                     | 39,0                     | 1,195                   | 1,498         | 366                |
| 047 8138      | 50 | 54 x 1,5                                     | 51,0                     | 2,043                   | 1,942         | 366                |

*mapress* **SÄHKÖSINKITTY**

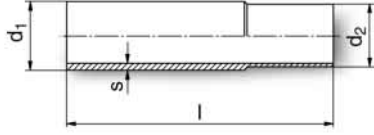


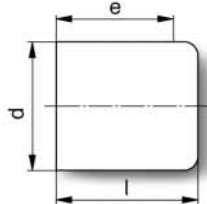
## 2.2 Puristusliittimet sähkösinkitty teräs

| Muhvi                                                                             | lv-numero | DN | putki halk. | l  | z  | määrä pakk. |
|-----------------------------------------------------------------------------------|-----------|----|-------------|----|----|-------------|
|  | 048 0023  | 10 | 12          | 42 | 8  | 20          |
|                                                                                   | 048 0025  | 12 | 15          | 48 | 8  | 20          |
|                                                                                   | 048 0028  | 15 | 18          | 48 | 8  | 20          |
|                                                                                   | 048 0030  | 20 | 22          | 50 | 8  | 20          |
|                                                                                   | 048 0032  | 25 | 28          | 54 | 8  | 20          |
|                                                                                   | 048 0034  | 32 | 35          | 62 | 10 | 10          |
|                                                                                   | 048 0036  | 40 | 42          | 71 | 11 | 4           |
|                                                                                   | 048 0038  | 50 | 54          | 83 | 13 | 4           |

| Liukumuhvi                                                                        | lv-numero | DN | putki halk. | l   | em | määrä pakk. |
|-----------------------------------------------------------------------------------|-----------|----|-------------|-----|----|-------------|
|  | 048 0123  | 10 | 12          | 67  | 25 | 20          |
|                                                                                   | 048 0125  | 12 | 15          | 80  | 25 | 20          |
|                                                                                   | 048 0128  | 15 | 18          | 80  | 25 | 20          |
|                                                                                   | 048 0130  | 20 | 22          | 84  | 25 | 20          |
|                                                                                   | 048 0132  | 25 | 28          | 91  | 30 | 20          |
|                                                                                   | 048 0134  | 32 | 35          | 102 | 30 | 10          |
|                                                                                   | 048 0136  | 40 | 42          | 120 | 40 | 4           |
|                                                                                   | 048 0138  | 50 | 54          | 140 | 40 | 4           |

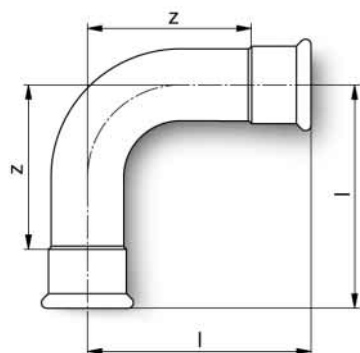
em = minimi sisääntyöntö mitta

| Hitsattava yhde                                                                     | lv-numero | DN | putki halk. $d_1 - d_2$ | l   | s   | määrä pakk. |
|-------------------------------------------------------------------------------------|-----------|----|-------------------------|-----|-----|-------------|
|  | 048 0305  | 10 | 15-12                   | 120 | 2,5 | 10          |
|                                                                                     | 048 0311  | 12 | 17-15                   | 120 | 2,5 | 10          |
|                                                                                     | 048 0322  | 15 | 20-18                   | 120 | 2,5 | 10          |
|                                                                                     | 048 0332  | 20 | 24-22                   | 120 | 2,5 | 10          |
|                                                                                     | 048 0343  | 25 | 31-28                   | 120 | 3,0 | 5           |
|                                                                                     | 048 0356  | 32 | 38-35                   | 120 | 3,0 | 5           |
|                                                                                     | 048 0371  | 40 | 44,5-42                 | 120 | 2,9 | 4           |
|                                                                                     | 048 0389  | 50 | 57-54                   | 120 | 3,6 | 2           |

| Tulppa                                                                              | lv-numero | DN | putki halk. | l  | e  | määrä pakk. |
|-------------------------------------------------------------------------------------|-----------|----|-------------|----|----|-------------|
|  | 048 5623  | 10 | 12          | 30 | 17 | 20          |
|                                                                                     | 048 5625  | 12 | 15          | 33 | 20 | 20          |
|                                                                                     | 048 5628  | 15 | 18          | 33 | 20 | 10          |
|                                                                                     | 048 5630  | 20 | 22          | 34 | 21 | 10          |
|                                                                                     | 048 5632  | 25 | 28          | 36 | 23 | 10          |
|                                                                                     | 048 5634  | 32 | 35          | 40 | 26 | 10          |
|                                                                                     | 048 5636  | 40 | 42          | 44 | 30 | 4           |
|                                                                                     | 048 5638  | 50 | 54          | 49 | 35 | 4           |

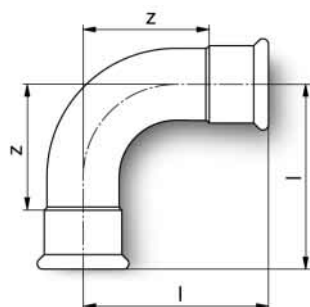
e = työntösyvyys puristusliittimissä

## Pyöristetty käyrä 90



| lv-numero | DN | putki halk. | l   | z   | määrä pakk. |
|-----------|----|-------------|-----|-----|-------------|
| 048 0623  | 10 | 12          | 42  | 25  | 20          |
| 048 0625  | 12 | 15          | 49  | 29  | 20          |
| 048 0628  | 15 | 18          | 53  | 33  | 20          |
| 048 0630  | 20 | 22          | 61  | 40  | 20          |
| 048 0632  | 25 | 28          | 72  | 49  | 10          |
| 048 0634  | 32 | 35          | 122 | 96  | 10          |
| 048 0636  | 40 | 42          | 166 | 136 | 2           |
| 048 0638  | 50 | 54          | 200 | 165 | 2           |

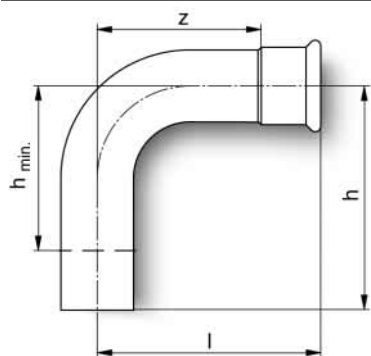
## Käyrä 90



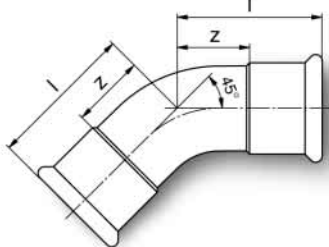
| lv-numero | DN | putki halk. | l   | z   | määrä pakk. |
|-----------|----|-------------|-----|-----|-------------|
| 048 0734  | 32 | 35          | 86  | 60  | 10          |
| 048 0736  | 40 | 42          | 112 | 82  | 2           |
| 048 0738  | 50 | 54          | 138 | 103 | 2           |

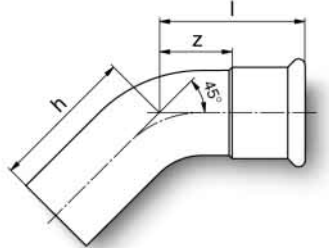
## Pyöristetty käyrä 90

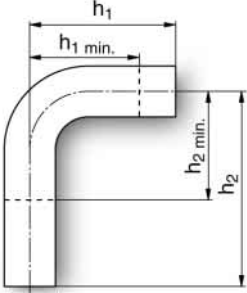
1 muhvi

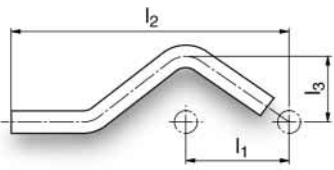


| lv-numero | DN | putki halk. | l   | h   | h <sub>min</sub> * | z   | määrä pakk. |
|-----------|----|-------------|-----|-----|--------------------|-----|-------------|
| 048 0823  | 10 | 12          | 42  | 48  | 48                 | 25  | 20          |
| 048 0825  | 12 | 15          | 49  | 55  | 55                 | 29  | 20          |
| 048 0828  | 15 | 18          | 53  | 59  | 59                 | 33  | 20          |
| 048 0830  | 20 | 22          | 61  | 67  | 67                 | 40  | 20          |
| 048 0832  | 25 | 28          | 72  | 78  | 78                 | 49  | 10          |
| 048 0834  | 32 | 35          | 122 | 130 | 120                | 96  | 10          |
| 048 0836  | 40 | 42          | 166 | 176 | 140                | 136 | 2           |
| 048 0838  | 50 | 54          | 200 | 211 | 165                | 165 | 2           |

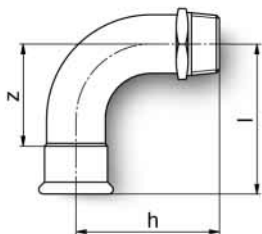
| Käyrä 45                                                                          | lv-numero | DN | putki halk. | l   | z  | määrä pakk. |
|-----------------------------------------------------------------------------------|-----------|----|-------------|-----|----|-------------|
|  | 048 0925  | 12 | 15          | 36  | 16 | 20          |
|                                                                                   | 048 0928  | 15 | 18          | 37  | 17 | 20          |
|                                                                                   | 048 0930  | 20 | 22          | 42  | 21 | 20          |
|                                                                                   | 048 0932  | 25 | 28          | 48  | 25 | 10          |
|                                                                                   | 048 0934  | 32 | 35          | 72  | 46 | 10          |
|                                                                                   | 048 0936  | 40 | 42          | 89  | 59 | 4           |
|                                                                                   | 048 0938  | 50 | 54          | 115 | 80 | 2           |

| Käyrä 45<br>1 muhvi                                                                | lv-numero | DN | putki halk. | l   | h   | z  | määrä pakk. |
|------------------------------------------------------------------------------------|-----------|----|-------------|-----|-----|----|-------------|
|  | 048 1025  | 12 | 15          | 36  | 41  | 16 | 20          |
|                                                                                    | 048 1028  | 15 | 18          | 37  | 42  | 17 | 20          |
|                                                                                    | 048 1030  | 20 | 22          | 42  | 48  | 21 | 20          |
|                                                                                    | 048 1032  | 25 | 28          | 48  | 54  | 25 | 10          |
|                                                                                    | 048 1034  | 32 | 35          | 72  | 81  | 46 | 10          |
|                                                                                    | 048 1036  | 40 | 42          | 89  | 99  | 59 | 4           |
|                                                                                    | 048 1038  | 50 | 54          | 115 | 127 | 80 | 2           |

| Sovituskäyrä 90                                                                     | lv-numero | DN | putki halk. | h <sub>1</sub> | h <sub>1min.</sub> | h <sub>2</sub> | h <sub>2min.</sub> | määrä pakk. |
|-------------------------------------------------------------------------------------|-----------|----|-------------|----------------|--------------------|----------------|--------------------|-------------|
|  | 048 1123  | 10 | 12          | 70             | 53                 | 120            | 53                 | 20          |
|                                                                                     | 048 1125  | 12 | 15          | 70             | 58                 | 120            | 58                 | 20          |
|                                                                                     | 048 1128  | 15 | 18          | 70             | 63                 | 120            | 63                 | 20          |
|                                                                                     | 048 1130  | 20 | 22          | 70             | 71                 | 120            | 71                 | 10          |
|                                                                                     | 048 1132  | 25 | 28          | 80             | 83                 | 120            | 83                 | 10          |
|                                                                                     | 048 1135  | 32 | 35          | 120            | 100                | 200            | 100                | 4           |
|                                                                                     | 048 1136  | 40 | 42          | 150            | 116                | 250            | 116                | 2           |
|                                                                                     | 048 1138  | 50 | 54          | 200            | 145                | 300            | 145                | 2           |

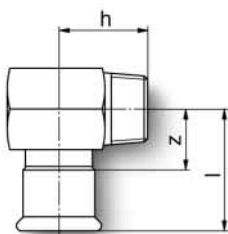
| Ylimenokappale                                                                      | lv-numero | DN | putki halk. | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | määrä pakk. |
|-------------------------------------------------------------------------------------|-----------|----|-------------|----------------|----------------|----------------|-------------|
|  | 048 1323  | 10 | 12          | 55             | 154            | 35             | 10          |
|                                                                                     | 048 1325  | 12 | 15          | 57             | 158            | 37             | 10          |
|                                                                                     | 048 1328  | 15 | 18          | 60             | 165            | 40             | 10          |
|                                                                                     | 048 1330  | 20 | 22          | 65             | 178            | 44             | 10          |
|                                                                                     | 048 1332  | 25 | 28          | 74             | 210            | 50             | 10          |

## Käyrä 90 muhvi ulkokierre



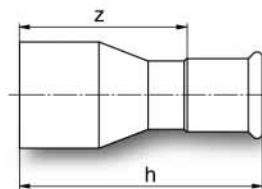
| lv-numero | DN    | putkihalk./<br>ulkokierre | l   | h   | z   | määrä<br>pakk. |
|-----------|-------|---------------------------|-----|-----|-----|----------------|
| 048 1654  | 10/12 | 12-R 3/8                  | 42  | 34  | 25  | 20             |
| 048 1658  | 12    | 15-R 3/8                  | 49  | 37  | 29  | 20             |
| 048 1659  | 12    | 15-R 1/2                  | 49  | 40  | 29  | 20             |
| 048 1665  | 15    | 18-R 1/2                  | 53  | 47  | 33  | 20             |
| 048 1671  | 20    | 22-R 3/4                  | 61  | 54  | 40  | 10             |
| 048 1677  | 25    | 28-R 1                    | 72  | 66  | 49  | 10             |
| 048 1683  | 32    | 35-R 1 1/4                | 86  | 82  | 60  | 10             |
| 048 1688  | 40    | 42-R 1 1/2                | 112 | 105 | 82  | 2              |
| 048 1694  | 50    | 54-R 2                    | 138 | 129 | 103 | 2              |

## Kulma muhvi ulkokierre



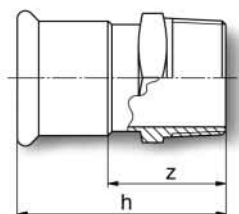
| lv-numero | DN    | putkihalk./<br>ulkokierre | l  | h  | z  | määrä<br>pakk. |
|-----------|-------|---------------------------|----|----|----|----------------|
| 048 2054  | 10/12 | 12-R 3/8                  | 32 | 21 | 15 | 20             |
| 048 2058  | 12    | 15-R 3/8                  | 36 | 21 | 16 | 20             |
| 048 2059  | 12/15 | 15-R 1/2                  | 37 | 26 | 17 | 20             |
| 048 2065  | 15    | 18-R 1/2                  | 37 | 26 | 17 | 20             |
| 048 2071  | 20    | 22-R 3/4                  | 41 | 29 | 20 | 20             |

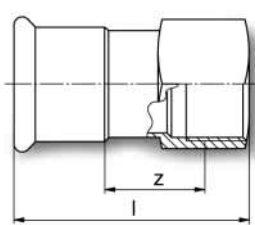
## Supistusyhte

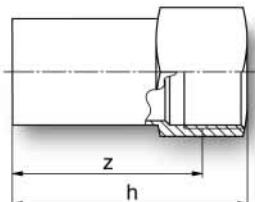


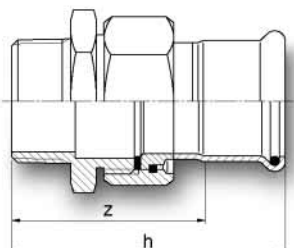
| lv-numero | DN    | putki<br>halk.<br>d <sub>1</sub> - d <sub>2</sub> | h  | z  | määrä<br>pakk. |
|-----------|-------|---------------------------------------------------|----|----|----------------|
| 048 3705  | 12-10 | 15-12                                             | 51 | 34 | 20             |
| 048 3714  | 15-10 | 18-12                                             | 53 | 36 | 20             |
| 048 3716  | 15-12 | 18-15                                             | 57 | 37 | 20             |
| 048 3723  | 20-10 | 22-12                                             | 60 | 43 | 20             |
| 048 3725  | 20-12 | 22-15                                             | 59 | 39 | 20             |
| 048 3728  | 20-15 | 22-18                                             | 58 | 38 | 20             |
| 048 3733  | 25-12 | 28-15                                             | 66 | 46 | 20             |
| 048 3736  | 25-15 | 28-18                                             | 64 | 44 | 20             |
| 048 3738  | 25-20 | 28-22                                             | 61 | 40 | 20             |
| 048 3749  | 32-20 | 35-22                                             | 73 | 52 | 10             |
| 048 3751  | 32-25 | 35-28                                             | 68 | 45 | 10             |
| 048 3766  | 40-32 | 42-35                                             | 72 | 46 | 4              |
| 048 3777  | 50-20 | 54-22                                             | 95 | 74 | 4              |
| 048 3779  | 50-25 | 54-28                                             | 95 | 72 | 4              |
| 048 3783  | 50-40 | 54-42                                             | 89 | 59 | 4              |

# mapress SÄHKÖSINKITTY

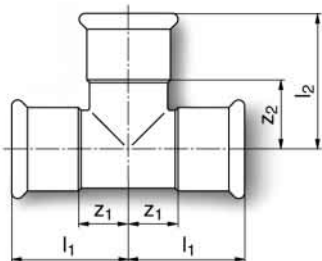
| Liitin<br>muhvi - ulkokierre                                                      | lv-<br>numero | DN    | putkihalk./<br>ulkokierre | h  | z  | määrä<br>pakk. |
|-----------------------------------------------------------------------------------|---------------|-------|---------------------------|----|----|----------------|
|  | 048 2454      | 10/12 | 12-R 3/8                  | 38 | 21 | 20             |
|                                                                                   | 048 2458      | 12    | 15-R 3/8                  | 42 | 22 | 20             |
|                                                                                   | 048 2459      | 12/15 | 15-R 1/2                  | 45 | 25 | 20             |
|                                                                                   | 048 2465      | 15    | 18-R 1/2                  | 45 | 25 | 20             |
|                                                                                   | 048 2466      | 15/20 | 18-R 3/4                  | 48 | 28 | 20             |
|                                                                                   | 048 2471      | 20    | 22-R 3/4                  | 49 | 28 | 20             |
|                                                                                   | 048 2477      | 25    | 28-R 1                    | 55 | 32 | 20             |
|                                                                                   | 048 2483      | 32    | 35-R 1 1/4                | 61 | 35 | 10             |
|                                                                                   | 048 2488      | 40    | 42-R 1 1/2                | 66 | 36 | 4              |
|                                                                                   | 048 2494      | 50    | 54-R 2                    | 77 | 42 | 4              |

| Liitin<br>muhvi - sisäkierre                                                       | lv-<br>numero | DN    | putkihalk./<br>sisäkierre | l  | z  | määrä<br>pakk. |
|------------------------------------------------------------------------------------|---------------|-------|---------------------------|----|----|----------------|
|  | 048 2555      | 10/12 | 12-Rp 1/2                 | 47 | 17 | 20             |
|                                                                                    | 048 2559      | 12/15 | 15-Rp 1/2                 | 51 | 18 | 20             |
|                                                                                    | 048 2565      | 15    | 18-Rp 1/2                 | 51 | 18 | 20             |
|                                                                                    | 048 2566      | 15/20 | 18-Rp 3/4                 | 53 | 19 | 20             |
|                                                                                    | 048 2571      | 20    | 22-Rp 3/4                 | 54 | 19 | 20             |
|                                                                                    | 048 2575      | 25    | 28-Rp 1/2                 | 53 | 17 | 20             |
|                                                                                    | 048 2577      | 25    | 28-Rp 1                   | 60 | 20 | 20             |

| Liitin<br>sisäkierre                                                                | lv-<br>numero | DN    | putkihalk./<br>sisäkierre | h  | z  | määrä<br>pakk. |
|-------------------------------------------------------------------------------------|---------------|-------|---------------------------|----|----|----------------|
|  | 048 2855      | 10/15 | 12-Rp 1/2                 | 58 | 45 | 20             |
|                                                                                     | 048 2859      | 12/15 | 15-Rp 1/2                 | 61 | 48 | 20             |
|                                                                                     | 048 2865      | 15    | 18-Rp 1/2                 | 61 | 48 | 20             |
|                                                                                     | 048 2866      | 15/20 | 18-Rp 3/4                 | 64 | 50 | 20             |
|                                                                                     | 048 2870      | 20/15 | 22-Rp 1/2                 | 62 | 49 | 20             |
|                                                                                     | 048 2871      | 20    | 22-Rp 3/4                 | 65 | 51 | 20             |

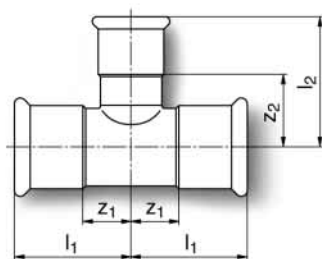
| Yhdistäjä,<br>muhvi - ulkokierre                                                    | lv-<br>numero | DN    | putkihalk./<br>ulkokierre | h   | z  | määrä<br>pakk. |
|-------------------------------------------------------------------------------------|---------------|-------|---------------------------|-----|----|----------------|
|  | 048 3059      | 12/15 | 15-R 1/2                  | 76  | 56 | 2              |
|                                                                                     | 048 3071      | 20/20 | 22-R 3/4                  | 81  | 60 | 2              |
|                                                                                     | 048 3077      | 25/25 | 28-R 1                    | 90  | 67 | 2              |
|                                                                                     | 048 3083      | 32/32 | 35-R 1 1/4                | 99  | 73 | 2              |
|                                                                                     | 048 3088      | 40/40 | 42-R 1 1/2                | 105 | 75 | 2              |
|                                                                                     | 048 3094      | 50/40 | 54-R 2                    | 118 | 83 | 2              |

## T-Haara muhvi



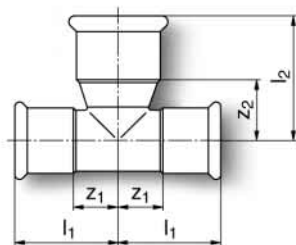
| lv-numero | DN | putki halk. | l <sub>1</sub> | l <sub>2</sub> | z <sub>1</sub> | z <sub>2</sub> | määrä pakk. |
|-----------|----|-------------|----------------|----------------|----------------|----------------|-------------|
| 048 4023  | 10 | 12          | 28             | 33             | 11             | 16             | 20          |
| 048 4025  | 12 | 15          | 32             | 36             | 12             | 16             | 20          |
| 048 4028  | 15 | 18          | 34             | 39             | 14             | 19             | 20          |
| 048 4030  | 20 | 22          | 37             | 42             | 16             | 21             | 20          |
| 048 4032  | 25 | 28          | 42             | 48             | 19             | 25             | 10          |
| 048 4034  | 32 | 35          | 50             | 56             | 24             | 30             | 10          |
| 048 4036  | 40 | 42          | 57             | 63             | 27             | 33             | 4           |
| 048 4038  | 50 | 54          | 69             | 75             | 34             | 40             | 2           |

## T-Haara muhvi - supistus



| lv-numero | DN    | putki halk. | l <sub>1</sub> | l <sub>2</sub> | z <sub>1</sub> | z <sub>2</sub> | määrä pakk. |
|-----------|-------|-------------|----------------|----------------|----------------|----------------|-------------|
| 048 4209  | 12/10 | 15-12-15    | 32             | 35             | 12             | 18             | 20          |
| 048 4225  | 15/10 | 18-12-18    | 34             | 41             | 14             | 20             | 20          |
| 048 4227  | 15/12 | 18-15-18    | 34             | 41             | 14             | 21             | 20          |
| 048 4239  | 20/10 | 22-12-22    | 37             | 40             | 16             | 23             | 20          |
| 048 4241  | 20/12 | 22-15-22    | 37             | 43             | 16             | 23             | 20          |
| 048 4244  | 20/15 | 22-18-22    | 37             | 44             | 16             | 22             | 20          |
| 048 4253  | 25/12 | 28-15-28    | 42             | 45             | 19             | 25             | 10          |
| 048 4256  | 25/15 | 28-18-28    | 42             | 45             | 19             | 25             | 10          |
| 048 4258  | 25/20 | 28-22-28    | 42             | 47             | 19             | 26             | 10          |
| 048 4266  | 32/12 | 35-15-35    | 50             | 49             | 24             | 29             | 10          |
| 048 4269  | 32/15 | 35-18-35    | 50             | 50             | 24             | 30             | 10          |
| 048 4271  | 32/20 | 35-22-35    | 50             | 51             | 24             | 30             | 10          |
| 048 4273  | 32/25 | 35-28-35    | 50             | 52             | 24             | 29             | 10          |
| 048 4280  | 40/20 | 42-22-42    | 57             | 53             | 27             | 32             | 4           |
| 048 4282  | 40/25 | 42-28-42    | 57             | 56             | 27             | 33             | 4           |
| 048 4284  | 40/32 | 42-35-42    | 57             | 61             | 27             | 35             | 4           |
| 048 4292  | 50/20 | 54-22-54    | 69             | 59             | 34             | 38             | 2           |
| 048 4294  | 50/25 | 54-28-54    | 69             | 61             | 34             | 38             | 2           |
| 048 4296  | 50/32 | 54-35-54    | 69             | 67             | 34             | 41             | 2           |
| 048 4298  | 50/40 | 54-42-54    | 69             | 70             | 34             | 40             | 2           |

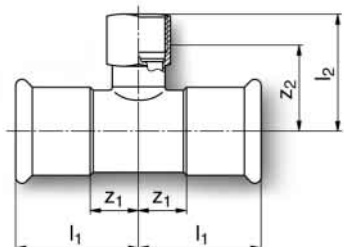
## T-Haara muhvi - laajennus



| lv-numero | DN    | putki halk. | l <sub>1</sub> | l <sub>2</sub> | z <sub>1</sub> | z <sub>2</sub> | määrä pakk. |
|-----------|-------|-------------|----------------|----------------|----------------|----------------|-------------|
| 048 4204  | 10/12 | 12-15-12    | 28             | 35             | 11             | 15             | 20          |
| 048 4211  | 12/15 | 15-18-15    | 32             | 36             | 12             | 16             | 20          |
| 048 4213  | 12/20 | 15-22-15    | 32             | 42             | 12             | 21             | 20          |
| 048 4231  | 15/20 | 18-22-18    | 34             | 41             | 14             | 20             | 20          |
| 048 4247  | 20/25 | 22-28-22    | 37             | 45             | 16             | 22             | 20          |

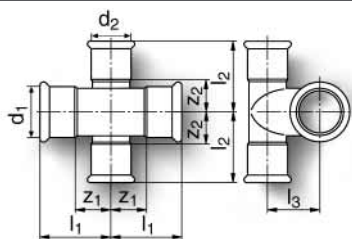
# mapress SÄHKÖSINKITTY

## T-Haara muhvi - sisäkierre



| lv-numero | DN    | putki halk./<br>sisäkierre | l <sub>1</sub> | l <sub>2</sub> | z <sub>1</sub> | z <sub>2</sub> | määrä<br>pakk. |
|-----------|-------|----------------------------|----------------|----------------|----------------|----------------|----------------|
| 048 4904  | 10/12 | 12-Rp 3/8-12               | 28             | 30             | 11             | 20             | 20             |
| 048 4905  | 10/15 | 12-Rp 1/2-12               | 28             | 36             | 11             | 21             | 20             |
| 048 4909  | 12/15 | 15-Rp 1/2-15               | 32             | 36             | 12             | 21             | 20             |
| 048 4915  | 15    | 18-Rp 1/2-18               | 34             | 41             | 14             | 26             | 20             |
| 048 4920  | 20/15 | 22-Rp 1/2-22               | 37             | 40             | 16             | 25             | 20             |
| 048 4925  | 25/15 | 28-Rp 1/2-28               | 42             | 42             | 19             | 27             | 10             |
| 048 4932  | 32/15 | 35-Rp 1/2-35               | 50             | 48             | 24             | 33             | 10             |
| 048 4933  | 32/20 | 35-Rp 3/4-35               | 50             | 54             | 24             | 38             | 10             |
| 048 4939  | 40/15 | 42-Rp 1/2-42               | 57             | 52             | 27             | 37             | 4              |
| 048 4940  | 40/20 | 42-Rp 3/4-42               | 57             | 57             | 27             | 41             | 4              |
| 048 4947  | 50/15 | 54-Rp 1/2-54               | 69             | 57             | 34             | 42             | 2              |
| 048 4948  | 50/20 | 54-Rp 3/4-54               | 69             | 64             | 34             | 48             | 2              |

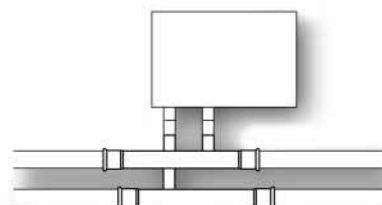
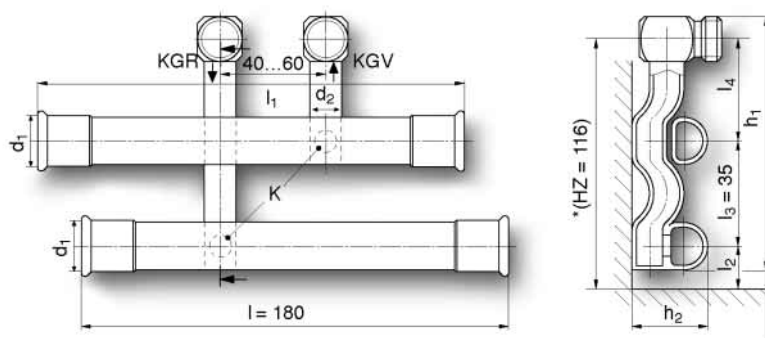
## Ristiyhde muhvi



| lv-numero | DN    | putki<br>halk.<br>d <sub>1</sub> - d <sub>2</sub> | l <sub>1</sub> | l <sub>2</sub> | A  | z <sub>1</sub> | z <sub>2</sub> | määrä<br>pakk. |
|-----------|-------|---------------------------------------------------|----------------|----------------|----|----------------|----------------|----------------|
| 048 5262  | 12    | 15-15                                             | 32             | 32             | 24 | 12             | 12             | 10             |
| 048 5271  | 15/12 | 18-15                                             | 42             | 34             | 24 | 22             | 14             | 10             |
| 048 5278  | 20/12 | 22-15                                             | 42             | 37             | 26 | 22             | 16             | 10             |
| 048 5288  | 25/12 | 28-15                                             | 42             | 42             | 29 | 22             | 19             | 10             |
| 048 5281  | 20/15 | 22-18                                             | 42             | 37             | 26 | 22             | 16             | 10             |
| 048 5291  | 25/15 | 28-18                                             | 42             | 42             | 29 | 22             | 19             | 10             |
| 048 5293  | 25/20 | 28-22                                             | 42             | 42             | 31 | 21             | 19             | 10             |

## Putkiristipari

esimerkki

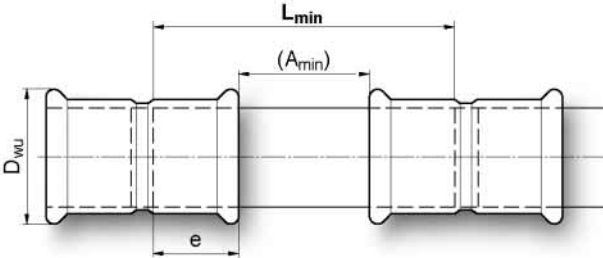


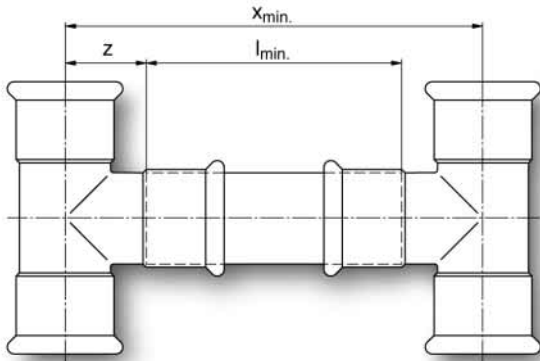
| lv-numero | DN    | putki<br>halk.<br>d <sub>1</sub> -d <sub>2</sub> | l <sub>2</sub> | h <sub>1</sub> | h <sub>2</sub> | määrä<br>pakk. |
|-----------|-------|--------------------------------------------------|----------------|----------------|----------------|----------------|
| 048 5423  | 12    | 15-15                                            | 16             | 152            | 27             | 1              |
| 048 5425  | 15/12 | 18-15                                            | 16             | 153            | 29             | 1              |
| 048 5428  | 20/12 | 22-15                                            | 19             | 154            | 33             | 1              |

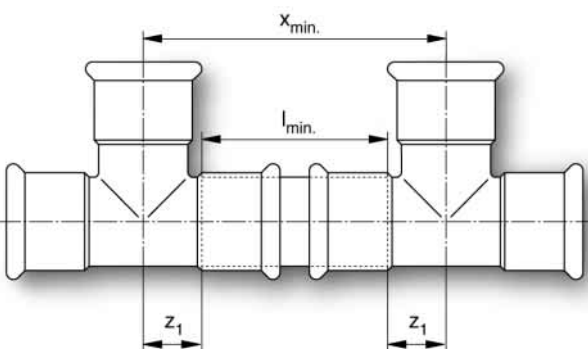
# Asennusmitat



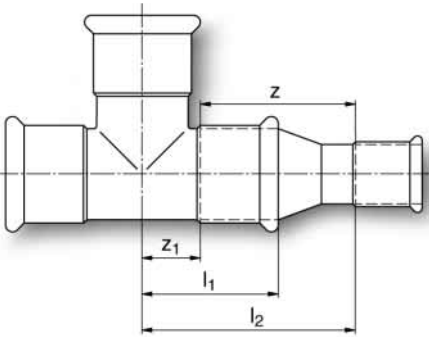
# Asennusmitat

| Minimimitta kahden liittimen välillä                                              | DN  | putki halk. (mm) | etäisyys $A_{min}$ (mm) | putken pituus $L_{min}$ (mm) | sisään työntö $e$ (mm) |
|-----------------------------------------------------------------------------------|-----|------------------|-------------------------|------------------------------|------------------------|
|  | 10  | 12 x 1,2         | 10                      | 44                           | 17                     |
|                                                                                   | 12  | 15 x 1,0/1,2     | 10                      | 50                           | 20                     |
|                                                                                   | 15  | 18 x 1,0/1,2     | 10                      | 50                           | 20                     |
|                                                                                   | 20  | 22 x 1,2/1,5     | 10                      | 52                           | 21                     |
|                                                                                   | 25  | 28 x 1,2/1,5     | 10                      | 56                           | 23                     |
|                                                                                   | 32  | 35 x 1,5         | 10                      | 62                           | 26                     |
|                                                                                   | 40  | 42 x 1,5         | 20                      | 80                           | 30                     |
|                                                                                   | 50  | 54 x 1,5         | 20                      | 90                           | 35                     |
|                                                                                   | 65  | 76,1 x 2,0       | 20                      | 135                          | 53                     |
|                                                                                   | 80  | 88,9 x 2,0       | 20                      | 150                          | 60                     |
|                                                                                   | 100 | 108,0 x 2,0      | 20                      | 180                          | 75                     |

| T-Haara                                                                            | DN  | putki halk. (mm) | $x_{min}$ (mm) | $z_2$ (mm) | $L_{min}$ (mm) |
|------------------------------------------------------------------------------------|-----|------------------|----------------|------------|----------------|
|  | 10  | 12               | 76             | 16         | 44             |
|                                                                                    | 12  | 15               | 88             | 19         | 50             |
|                                                                                    | 15  | 18               | 94             | 22         | 50             |
|                                                                                    | 20  | 22               | 100            | 24         | 52             |
|                                                                                    | 25  | 28               | 114            | 29         | 56             |
|                                                                                    | 32  | 35               | 126            | 32         | 62             |
|                                                                                    | 40  | 42               | 146            | 33         | 80             |
|                                                                                    | 50  | 54               | 176            | 43         | 90             |
|                                                                                    | 65  | 76,1             | 241            | 53         | 135            |
|                                                                                    | 80  | 88,9             | 276            | 63         | 150            |
|                                                                                    | 100 | 108,0            | 322            | 71         | 180            |

| minimimitta kahden T - haaran välillä                                               | DN  | putki halk. | $x_{min}$ [mm] | $l_{min}$ [mm] | $z_1$ [mm] |
|-------------------------------------------------------------------------------------|-----|-------------|----------------|----------------|------------|
|  | 10  | 12          | 66             | 44             | 11         |
|                                                                                     | 12  | 15          | 74             | 50             | 12         |
|                                                                                     | 15  | 18          | 78             | 50             | 14         |
|                                                                                     | 20  | 22          | 84             | 52             | 16         |
|                                                                                     | 25  | 28          | 94             | 56             | 19         |
|                                                                                     | 32  | 35          | 110            | 62             | 24         |
|                                                                                     | 40  | 42          | 134            | 80             | 27         |
|                                                                                     | 50  | 54          | 158            | 90             | 34         |
|                                                                                     | 65  | 76,1        | 259            | 135            | 62         |
|                                                                                     | 80  | 88,9        | 290            | 150            | 70         |
|                                                                                     | 100 | 108,0       | 340            | 180            | 80         |

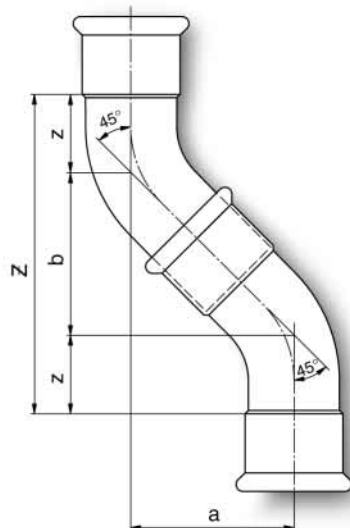
# Asennusmitat

| Supistus                                                                          | DN     | putki halk. (mm) | y (mm) | l <sub>1</sub> (mm) | z <sub>1</sub> (mm) | z (mm) |
|-----------------------------------------------------------------------------------|--------|------------------|--------|---------------------|---------------------|--------|
|  | 12-10  | 15-12            | 46     | 32                  | 12                  | 34     |
|                                                                                   | 15-10  | 18-12            | 50     | 34                  | 14                  | 36     |
|                                                                                   | 15-12  | 18-15            | 51     | 34                  | 14                  | 37     |
|                                                                                   | 20-10  | 22-12            | 59     | 37                  | 16                  | 43     |
|                                                                                   | 20-12  | 22-15            | 55     | 37                  | 16                  | 39     |
|                                                                                   | 20-15  | 22-18            | 53     | 37                  | 16                  | 37     |
|                                                                                   | 25-12  | 28-15            | 65     | 42                  | 19                  | 46     |
|                                                                                   | 25-15  | 28-18            | 63     | 42                  | 19                  | 44     |
|                                                                                   | 25-20  | 28-22            | 57     | 42                  | 19                  | 38     |
|                                                                                   | 32-12  | 35-15            | 77     | 50                  | 24                  | 53     |
|                                                                                   | 32-15  | 35-18            | 75     | 50                  | 24                  | 51     |
|                                                                                   | 32-20  | 35-22            | 74     | 50                  | 24                  | 50     |
|                                                                                   | 32-25  | 35-28            | 69     | 50                  | 24                  | 45     |
|                                                                                   | 40-12  | 42-15            | 88     | 57                  | 27                  | 61     |
|                                                                                   | 40-15  | 42-18            | 87     | 57                  | 27                  | 60     |
|                                                                                   | 40-20  | 42-22            | 85     | 57                  | 27                  | 58     |
|                                                                                   | 40-25  | 42-28            | 83     | 57                  | 27                  | 56     |
|                                                                                   | 40-32  | 42-35            | 73     | 57                  | 27                  | 46     |
|                                                                                   | 50-12  | 54-15            | 111    | 69                  | 34                  | 77     |
|                                                                                   | 50-15  | 54-18            | 110    | 69                  | 34                  | 76     |
|                                                                                   | 50-20  | 54-22            | 108    | 69                  | 34                  | 74     |
|                                                                                   | 50-25  | 54-28            | 106    | 69                  | 34                  | 72     |
|                                                                                   | 50-32  | 54-35            | 103    | 69                  | 34                  | 69     |
|                                                                                   | 50-40  | 54-42            | 93     | 69                  | 34                  | 59     |
|                                                                                   | 65-50  | 76,1-54,0        | 174    | 115                 | 62                  | 112    |
|                                                                                   | 80-50  | 88,9-54,0        | 198    | 130                 | 70                  | 128    |
|                                                                                   | 100-50 | 108,0-54,0       | 187    | 155                 | 80                  | 107    |
|                                                                                   | 80-65  | 88,9-76,1        | 207    | 130                 | 70                  | 137    |
|                                                                                   | 100-65 | 108,0-76,1       | 211    | 155                 | 80                  | 131    |
|                                                                                   | 100-80 | 108,0-88,9       | 224    | 155                 | 80                  | 144    |

# Asennusmitat

## Käyrä 45

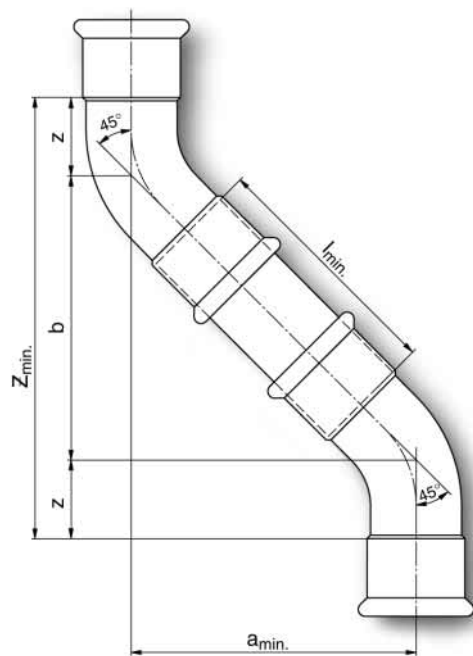
Käyrä 45 / käyrä 45, 1 muhvi



| DN  | putki halk. (mm) | a (mm) | z (mm) | b (mm) | z (mm) |
|-----|------------------|--------|--------|--------|--------|
| 12  | 15               | 40     | 72     | 40     | 16     |
| 15  | 18               | 42     | 76     | 42     | 17     |
| 20  | 22               | 49     | 91     | 49     | 21     |
| 25  | 28               | 56     | 106    | 56     | 25     |
| 32  | 35               | 90     | 182    | 90     | 46     |
| 40  | 42               | 112    | 230    | 112    | 59     |
| 50  | 54               | 146    | 306    | 146    | 80     |
| 65  | 76,1             | 223    | 477    | 223    | 127    |
| 80  | 88,9             | 266    | 568    | 266    | 151    |
| 100 | 108,0            | 324    | 690    | 324    | 183    |

## Käyrä 45

Käyrä 45 / käyrä 45

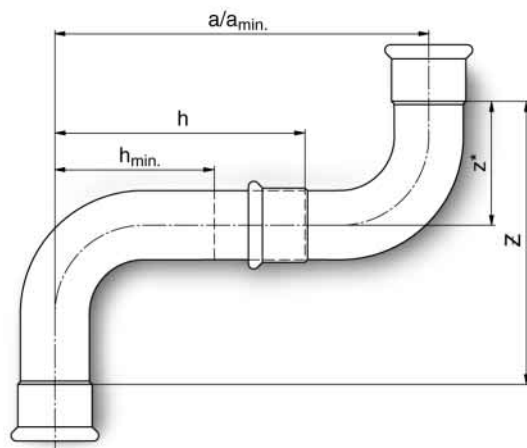


| DN  | putki halk. (mm) | a <sub>min</sub> (mm) | l <sub>min</sub> (mm) | z <sub>min</sub> (mm) | b <sub>min</sub> (mm) | z (mm) |
|-----|------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------|
| 12  | 15               | 58                    | 50                    | 90                    | 58                    | 16     |
| 15  | 18               | 60                    | 50                    | 94                    | 60                    | 17     |
| 20  | 22               | 66                    | 52                    | 108                   | 66                    | 21     |
| 25  | 28               | 75                    | 56                    | 125                   | 75                    | 25     |
| 32  | 35               | 109                   | 62                    | 201                   | 109                   | 46     |
| 40  | 42               | 140                   | 80                    | 258                   | 140                   | 59     |
| 50  | 54               | 177                   | 90                    | 337                   | 177                   | 80     |
| 65  | 76,1             | 275                   | 135                   | 529                   | 275                   | 127    |
| 80  | 88,9             | 320                   | 150                   | 622                   | 320                   | 151    |
| 100 | 108,0            | 386                   | 180                   | 752                   | 386                   | 183    |

# Asennusmitat

## Käyrä 90

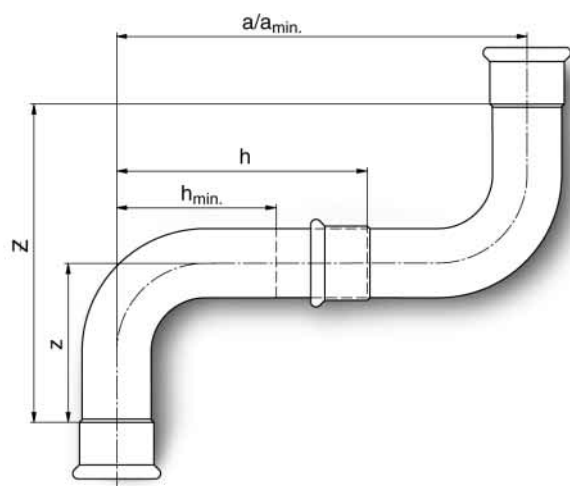
Käyrä 90 / pyöristetty käyrä 90, 1 muhvi



| DN | putki halk. (mm) | h (mm) | $h_{min}$ (mm) | a (mm) | $a_{min}$ (mm) | z (mm) | $z^*$ (mm) |
|----|------------------|--------|----------------|--------|----------------|--------|------------|
| 32 | 35               | 130    | 120            | 190    | 180            | 156    | 60         |
| 40 | 42               | 176    | 140            | 258    | 222            | 218    | 82         |
| 50 | 54               | 211    | 165            | 314    | 268            | 268    | 103        |

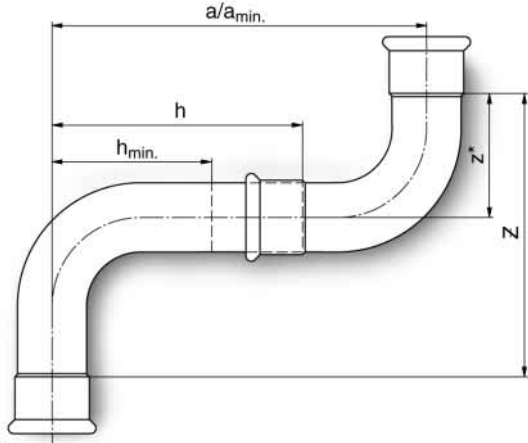
## Käyrä 90

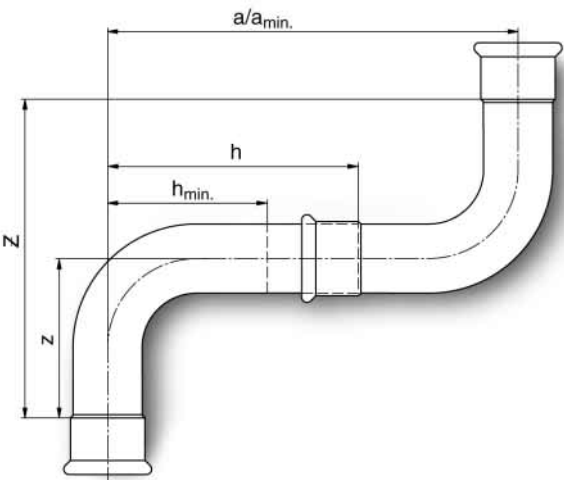
Pyöristetty käyrä 90 / pyöristetty käyrä 90, 1 muhvi



| DN  | putki halk. (mm) | h (mm) | $h_{min}$ (mm) | $a_{min}$ (mm) | a (mm) | z (mm) | z (mm) |
|-----|------------------|--------|----------------|----------------|--------|--------|--------|
| 10  | 12               | 48     | 48             | 73             | 73     | 50     | 25     |
| 12  | 15               | 55     | 55             | 84             | 84     | 58     | 29     |
| 15  | 18               | 59     | 59             | 92             | 92     | 66     | 33     |
| 20  | 22               | 67     | 67             | 107            | 107    | 80     | 40     |
| 25  | 28               | 78     | 78             | 127            | 127    | 98     | 49     |
| 32  | 35               | 130    | 120            | 216            | 226    | 192    | 96     |
| 40  | 42               | 176    | 140            | 276            | 312    | 272    | 136    |
| 50  | 54               | 211    | 165            | 330            | 376    | 330    | 165    |
| 65  | 76,1             | 247    | 247            | 429            | 429    | 364    | 182    |
| 80  | 88,9             | 292    | 292            | 509            | 509    | 434    | 217    |
| 100 | 108,0            | 358    | 358            | 624            | 624    | 532    | 266    |

# Asennusmitat

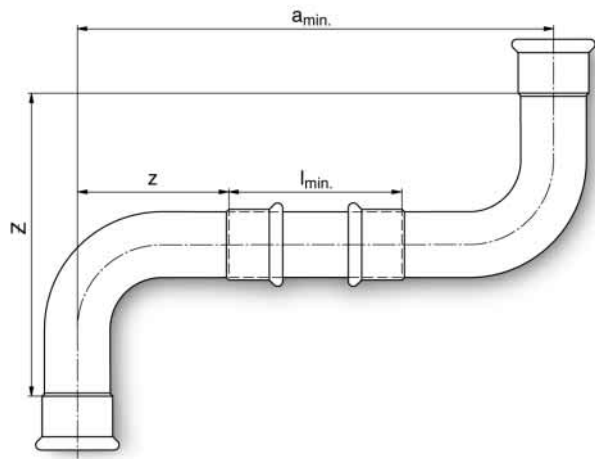
| Käyrä 90<br>Pyöristetty käyrä 90 / pyöristetty käyrä 90, 1 muhvi                  |  | DN | putki<br>halk.<br>(mm) | h<br>(mm) | h <sub>min</sub><br>(mm) | a<br>(mm) | a <sub>min</sub><br>(mm) | Z<br>(mm) | z*<br>(mm) |
|-----------------------------------------------------------------------------------|--|----|------------------------|-----------|--------------------------|-----------|--------------------------|-----------|------------|
|  |  | 32 | 35                     | 130       | 120                      | 190       | 180                      | 156       | 60         |
|                                                                                   |  | 40 | 42                     | 176       | 140                      | 258       | 222                      | 218       | 82         |
|                                                                                   |  | 50 | 54                     | 211       | 165                      | 314       | 268                      | 268       | 103        |

| Käyrä 90<br>Pyöristetty käyrä 90 / pyöristetty käyrä 90, 1 muhvi                    |  | DN  | putki<br>halk.<br>(mm) | h<br>(mm) | h <sub>min</sub><br>(mm) | a <sub>min</sub><br>(mm) | a<br>(mm) | Z<br>(mm) | z<br>(mm) |
|-------------------------------------------------------------------------------------|--|-----|------------------------|-----------|--------------------------|--------------------------|-----------|-----------|-----------|
|  |  | 10  | 12                     | 48        | 48                       | 73                       | 73        | 50        | 25        |
|                                                                                     |  | 12  | 15                     | 55        | 55                       | 84                       | 84        | 58        | 29        |
|                                                                                     |  | 15  | 18                     | 59        | 59                       | 92                       | 92        | 66        | 33        |
|                                                                                     |  | 20  | 22                     | 67        | 67                       | 107                      | 107       | 80        | 40        |
|                                                                                     |  | 25  | 28                     | 78        | 78                       | 127                      | 127       | 98        | 49        |
|                                                                                     |  | 32  | 35                     | 130       | 120                      | 216                      | 226       | 192       | 96        |
|                                                                                     |  | 40  | 42                     | 176       | 140                      | 276                      | 312       | 272       | 136       |
|                                                                                     |  | 50  | 54                     | 211       | 165                      | 330                      | 376       | 330       | 165       |
|                                                                                     |  | 65  | 76,1                   | 247       | 247                      | 429                      | 429       | 364       | 182       |
|                                                                                     |  | 80  | 88,9                   | 292       | 292                      | 509                      | 509       | 434       | 217       |
|                                                                                     |  | 100 | 108,0                  | 358       | 358                      | 624                      | 624       | 532       | 266       |

# Asennusmitat

## Käyrä 90

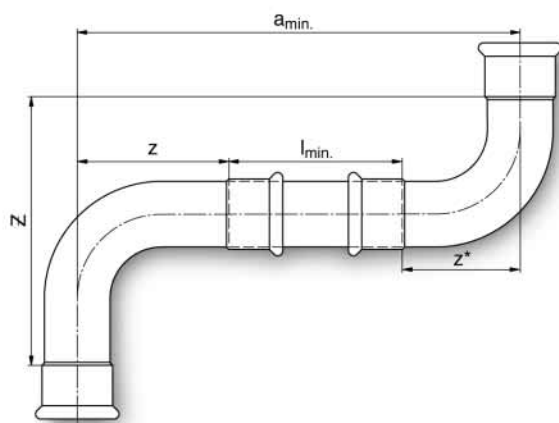
Pyörästetty käyrä 90 / pyörästetty käyrä 90



| DN  | putki halk. (mm) | a <sub>min</sub> (mm) | l <sub>min</sub> (mm) | Z (mm) | z (mm) |
|-----|------------------|-----------------------|-----------------------|--------|--------|
| 10  | 12               | 94                    | 44                    | 50     | 25     |
| 12  | 15               | 108                   | 50                    | 58     | 29     |
| 15  | 18               | 116                   | 50                    | 66     | 33     |
| 20  | 22               | 132                   | 52                    | 80     | 40     |
| 25  | 28               | 154                   | 56                    | 98     | 49     |
| 32  | 35               | 254                   | 62                    | 192    | 96     |
| 40  | 42               | 352                   | 80                    | 272    | 136    |
| 50  | 54               | 420                   | 90                    | 330    | 165    |
| 65  | 76,1             | 499                   | 135                   | 364    | 182    |
| 80  | 88,9             | 584                   | 150                   | 434    | 217    |
| 100 | 108,0            | 712                   | 180                   | 532    | 266    |

## Käyrä 90

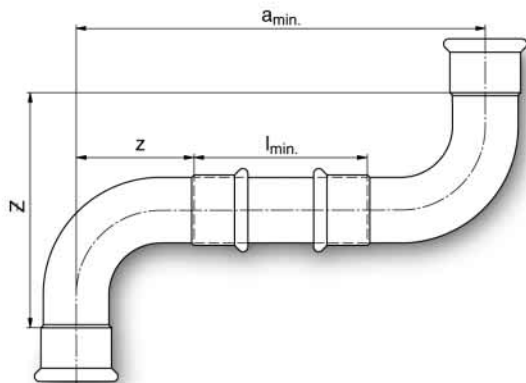
Pyörästetty käyrä 90 / käyrä 90



| DN | putki halk. (mm) | a <sub>min</sub> (mm) | l <sub>min</sub> (mm) | Z (mm) | z (mm) | z* (mm) |
|----|------------------|-----------------------|-----------------------|--------|--------|---------|
| 32 | 35               | 218                   | 62                    | 156    | 96     | 60      |
| 40 | 42               | 298                   | 80                    | 218    | 136    | 82      |
| 50 | 54               | 353                   | 90                    | 268    | 165    | 103     |

## Käyrä 90

Pyörästetty käyrä 90 / käyrä 90

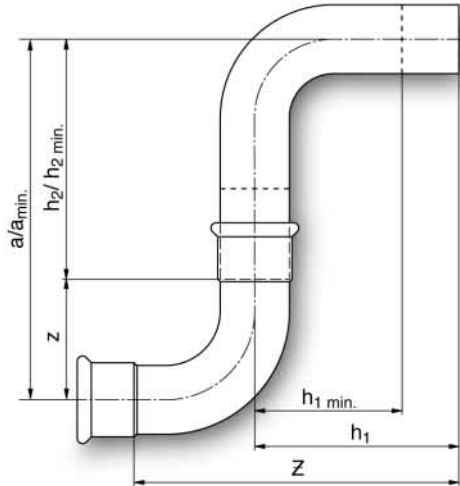


| DN | putki halk. (mm) | a <sub>min</sub> (mm) | l <sub>min</sub> (mm) | Z (mm) | z (mm) |
|----|------------------|-----------------------|-----------------------|--------|--------|
| 32 | 35               | 182                   | 62                    | 120    | 60     |
| 40 | 42               | 244                   | 80                    | 164    | 82     |
| 50 | 54               | 296                   | 90                    | 206    | 103    |

# Asennusmitat

## Käyrä 90

Käyrä 90 / sovituskäyrä 90



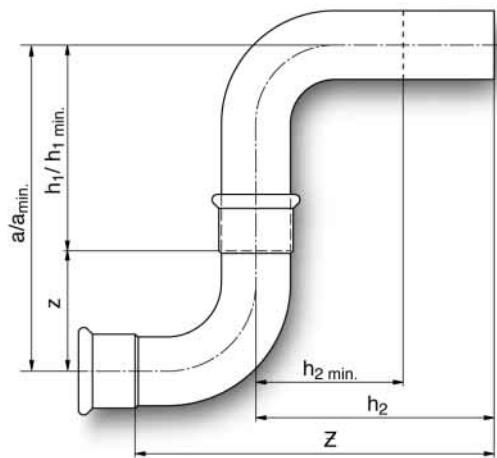
| DN | putki halk. (mm) | z (mm) | h <sub>1</sub> (mm) | h <sub>1min</sub> (mm) | h <sub>2</sub> (mm) | z* (mm) | a (mm) |
|----|------------------|--------|---------------------|------------------------|---------------------|---------|--------|
| 32 | 35               | 180    | 120                 | 100                    | 200                 | 60      | 260    |
| 40 | 42               | 232    | 150                 | 120                    | 250                 | 82      | 332    |
| 50 | 54               | 303    | 200                 | 145                    | 300                 | 103     | 403    |

### Käyrä 90 / sovituskäyrä 90 (lyhennetty)

| DN | putki halk. (mm) | z (mm) | h <sub>1</sub> (mm) | h <sub>1min</sub> (mm) | h <sub>2min</sub> (mm) | z* (mm) | a <sub>min</sub> (mm) |
|----|------------------|--------|---------------------|------------------------|------------------------|---------|-----------------------|
| 32 | 35               | 180    | 120                 | 100                    | 100                    | 60      | 160                   |
| 40 | 42               | 232    | 150                 | 120                    | 120                    | 82      | 202                   |
| 50 | 54               | 303    | 200                 | 145                    | 145                    | 103     | 148                   |

## Käyrä 90

Käyrä 90 / sovituskäyrä 90 (lyhennetty)



| DN | putki halk. (mm) | z (mm) | h <sub>2</sub> (mm) | h <sub>2min</sub> (mm) | h <sub>1</sub> (mm) | z (mm) | a (mm) |
|----|------------------|--------|---------------------|------------------------|---------------------|--------|--------|
| 32 | 35               | 260    | 200                 | 100                    | 100                 | 60     | 180    |
| 40 | 42               | 332    | 250                 | 120                    | 150                 | 82     | 232    |
| 50 | 54               | 403    | 300                 | 145                    | 200                 | 103    | 303    |

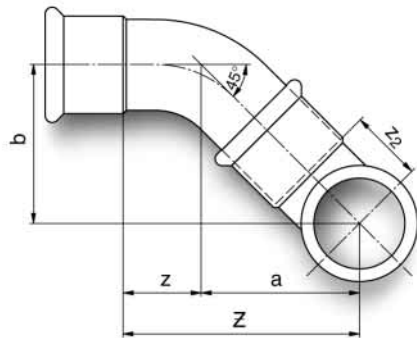
### Käyrä 90 / sovituskäyrä 90 (lyhennetty)

| DN | putki halk. (mm) | z (mm) | h <sub>2</sub> (mm) | h <sub>2min</sub> (mm) | h <sub>1min</sub> (mm) | z (mm) | a <sub>min</sub> (mm) |
|----|------------------|--------|---------------------|------------------------|------------------------|--------|-----------------------|
| 32 | 35               | 260    | 200                 | 100                    | 100                    | 60     | 160                   |
| 40 | 42               | 332    | 250                 | 120                    | 120                    | 82     | 202                   |
| 50 | 54               | 403    | 300                 | 145                    | 145                    | 103    | 248                   |

# Asennusmitat

## Haaroitus

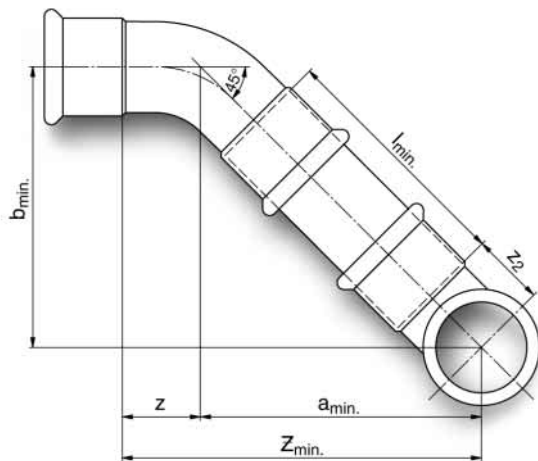
Haara / käyrä 45, 1 muhvi



| DN  | putki halk. (mm) | z (mm) | a (mm) | z (mm) | z <sub>2</sub> (mm) | b (mm) |
|-----|------------------|--------|--------|--------|---------------------|--------|
| 12  | 15               | 58     | 42     | 16     | 19                  | 42     |
| 15  | 18               | 62     | 45     | 17     | 22                  | 45     |
| 20  | 22               | 72     | 51     | 21     | 24                  | 51     |
| 25  | 28               | 84     | 59     | 25     | 29                  | 59     |
| 32  | 35               | 126    | 80     | 46     | 32                  | 80     |
| 40  | 42               | 152    | 93     | 59     | 33                  | 93     |
| 50  | 54               | 200    | 120    | 80     | 43                  | 120    |
| 65  | 76,1             | 290    | 170    | 127    | 53                  | 163    |
| 80  | 88,9             | 355    | 204    | 151    | 63                  | 204    |
| 100 | 108,0            | 428    | 245    | 183    | 71                  | 245    |

## Haaroitus

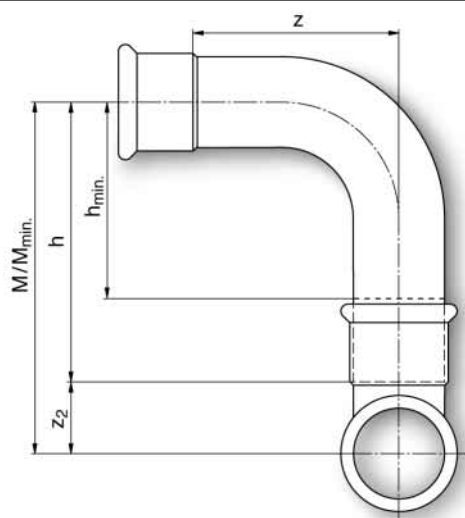
Haara / käyrä 45



| DN  | putki halk. (mm) | z <sub>min</sub> (mm) | a <sub>min</sub> (mm) | z (mm) | l <sub>min</sub> (mm) | z <sub>2</sub> (mm) | b <sub>min</sub> (mm) |
|-----|------------------|-----------------------|-----------------------|--------|-----------------------|---------------------|-----------------------|
| 12  | 15               | 76                    | 60                    | 16     | 50                    | 19                  | 60                    |
| 15  | 18               | 80                    | 63                    | 17     | 50                    | 22                  | 63                    |
| 20  | 22               | 90                    | 69                    | 21     | 52                    | 24                  | 69                    |
| 25  | 28               | 103                   | 78                    | 25     | 56                    | 29                  | 78                    |
| 32  | 35               | 145                   | 99                    | 46     | 62                    | 32                  | 99                    |
| 40  | 42               | 181                   | 122                   | 59     | 80                    | 33                  | 122                   |
| 50  | 54               | 231                   | 151                   | 80     | 90                    | 43                  | 151                   |
| 65  | 76,1             | 350                   | 223                   | 127    | 135                   | 53                  | 223                   |
| 80  | 88,9             | 408                   | 257                   | 151    | 150                   | 63                  | 257                   |
| 100 | 108,0            | 490                   | 307                   | 183    | 180                   | 71                  | 307                   |

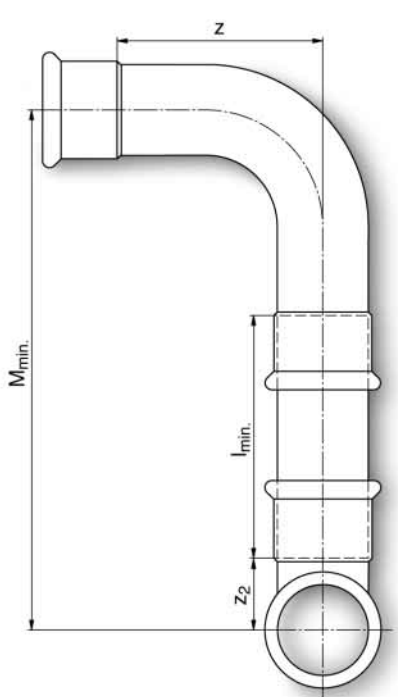
## Haaroitus

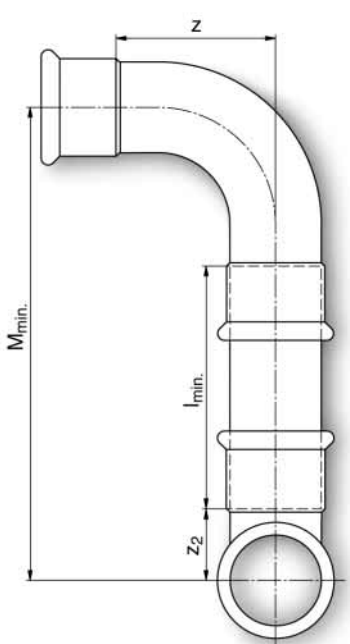
pyörästetty käyrä 90, 1 muhvi



| DN  | putki halk. (mm) | h (mm) | h <sub>min</sub> (mm) | z <sub>2</sub> (mm) | z (mm) | M (mm) | M <sub>min</sub> (mm) |
|-----|------------------|--------|-----------------------|---------------------|--------|--------|-----------------------|
| 10  | 12               | 48     | 48                    | 16                  | 25     | 64     | 64                    |
| 12  | 15               | 55     | 55                    | 19                  | 29     | 74     | 74                    |
| 15  | 18               | 59     | 59                    | 22                  | 33     | 81     | 81                    |
| 20  | 22               | 67     | 67                    | 24                  | 40     | 91     | 91                    |
| 25  | 28               | 78     | 78                    | 29                  | 49     | 107    | 107                   |
| 32  | 35               | 130    | 120                   | 32                  | 96     | 162    | 152                   |
| 40  | 42               | 176    | 140                   | 33                  | 136    | 209    | 173                   |
| 50  | 54               | 211    | 165                   | 43                  | 165    | 254    | 208                   |
| 65  | 76,1             | 247    | 247                   | 53                  | 182    | 300    | 300                   |
| 80  | 88,9             | 292    | 292                   | 63                  | 217    | 355    | 355                   |
| 100 | 108,0            | 358    | 358                   | 71                  | 266    | 429    | 429                   |

# Asennusmitat

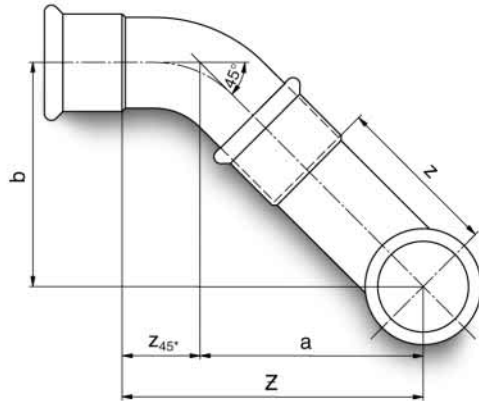
| Haaroitus<br>Haara / pyöristetty käyrä 90                                          |  | DN  | putki<br>halk.<br>(mm) | $l_{min}$<br>(mm) | $z_2$<br>(mm) | $z$<br>(mm) | $M_{min}$<br>(mm) |
|------------------------------------------------------------------------------------|--|-----|------------------------|-------------------|---------------|-------------|-------------------|
|  |  | 10  | 12                     | 44                | 16            | 25          | 85                |
|                                                                                    |  | 12  | 15                     | 50                | 19            | 29          | 98                |
|                                                                                    |  | 15  | 18                     | 50                | 22            | 33          | 105               |
|                                                                                    |  | 20  | 22                     | 52                | 24            | 40          | 116               |
|                                                                                    |  | 25  | 28                     | 56                | 29            | 49          | 134               |
|                                                                                    |  | 32  | 35                     | 62                | 32            | 96          | 190               |
|                                                                                    |  | 40  | 42                     | 80                | 33            | 136         | 249               |
|                                                                                    |  | 50  | 54                     | 90                | 43            | 165         | 298               |
|                                                                                    |  | 65  | 76,1                   | 135               | 53            | 182         | 370               |
|                                                                                    |  | 80  | 88,9                   | 150               | 63            | 217         | 430               |
|                                                                                    |  | 100 | 108,0                  | 180               | 71            | 266         | 517               |

| Haaroitus<br>Haara / käyrä 90                                                       |  | DN | putki<br>halk.<br>(mm) | $l_{min}$<br>(mm) | $z_2$<br>(mm) | $z$<br>(mm) | $M_{min}$<br>(mm) |
|-------------------------------------------------------------------------------------|--|----|------------------------|-------------------|---------------|-------------|-------------------|
|  |  | 32 | 35                     | 62                | 32            | 60          | 154               |
|                                                                                     |  | 40 | 42                     | 80                | 33            | 82          | 195               |
|                                                                                     |  | 50 | 54                     | 90                | 43            | 103         | 236               |

# Asennusmitat

## Käyrä 90 / käyrä 45

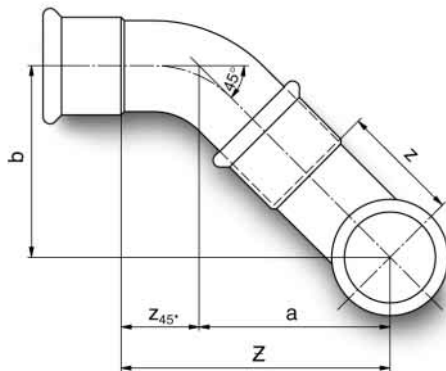
Pyöristetty käyrä 90 / käyrä 45, 1 muhvi



| DN  | putki halk. (mm) | Z (mm) | a (mm) | Z <sub>45°</sub> (mm) | z (mm) | b (mm) |
|-----|------------------|--------|--------|-----------------------|--------|--------|
| 12  | 15               | 66     | 50     | 16                    | 29     | 50     |
| 15  | 18               | 70     | 53     | 17                    | 33     | 53     |
| 20  | 22               | 83     | 62     | 21                    | 40     | 62     |
| 25  | 28               | 98     | 73     | 25                    | 49     | 73     |
| 32  | 35               | 171    | 125    | 46                    | 96     | 125    |
| 40  | 42               | 225    | 166    | 59                    | 136    | 166    |
| 50  | 54               | 286    | 206    | 80                    | 165    | 206    |
| 65  | 76,1             | 389    | 262    | 127                   | 182    | 262    |
| 80  | 88,9             | 464    | 313    | 151                   | 217    | 313    |
| 100 | 108,0            | 566    | 383    | 183                   | 266    | 383    |

## Käyrä 90 / käyrä 45

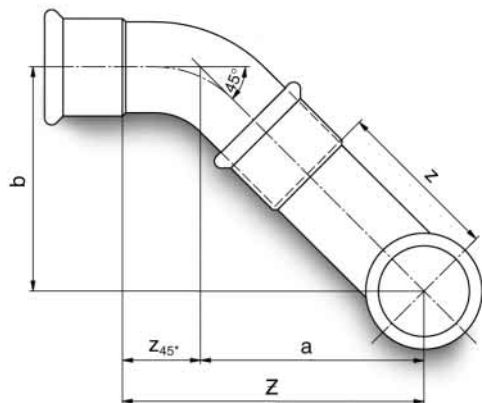
Käyrä 90 / käyrä 45, 1 muhvi



| DN | putki halk. (mm) | Z (mm) | a (mm) | Z <sub>45°</sub> (mm) | z (mm) | b (mm) |
|----|------------------|--------|--------|-----------------------|--------|--------|
| 32 | 35               | 146    | 100    | 46                    | 60     | 100    |
| 40 | 42               | 187    | 128    | 59                    | 82     | 128    |
| 50 | 54               | 243    | 163    | 80                    | 103    | 163    |

**Käyrä 90 / käyrä 45**

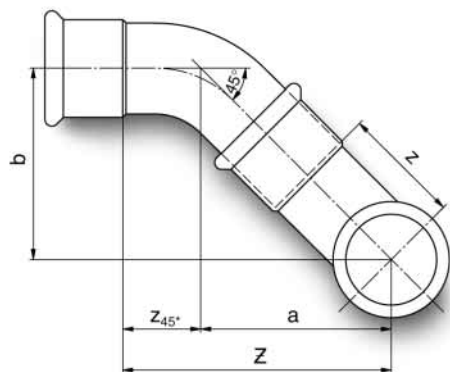
Pyöristetty käyrä 90 / käyrä 45, 1 muhvi



| DN  | putki<br>halk.<br>(mm) | Z<br>(mm) | a<br>(mm) | Z <sub>45*</sub><br>(mm) | z<br>(mm) | b<br>(mm) |
|-----|------------------------|-----------|-----------|--------------------------|-----------|-----------|
| 12  | 15                     | 66        | 50        | 16                       | 29        | 50        |
| 15  | 18                     | 70        | 53        | 17                       | 33        | 53        |
| 20  | 22                     | 83        | 62        | 21                       | 40        | 62        |
| 25  | 28                     | 98        | 73        | 25                       | 49        | 73        |
| 32  | 35                     | 171       | 125       | 46                       | 96        | 125       |
| 40  | 42                     | 225       | 166       | 59                       | 136       | 166       |
| 50  | 54                     | 286       | 206       | 80                       | 165       | 206       |
| 65  | 76,1                   | 389       | 262       | 127                      | 182       | 262       |
| 80  | 88,9                   | 464       | 313       | 151                      | 217       | 313       |
| 100 | 108,0                  | 566       | 383       | 183                      | 266       | 383       |

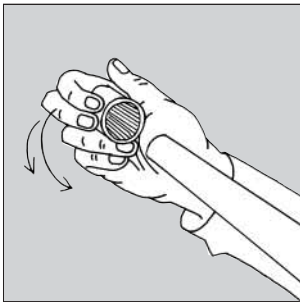
**Käyrä 90 / käyrä 45**

Käyrä 90 / käyrä 45, 1 muhvi

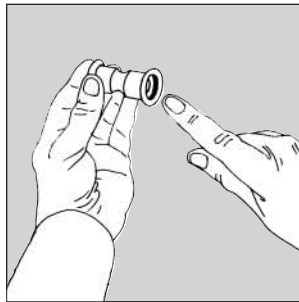


| DN | putki<br>halk.<br>(mm) | Z<br>(mm) | a<br>(mm) | Z <sub>45*</sub><br>(mm) | z<br>(mm) | b<br>(mm) |
|----|------------------------|-----------|-----------|--------------------------|-----------|-----------|
| 32 | 35                     | 146       | 100       | 46                       | 60        | 100       |
| 40 | 42                     | 187       | 128       | 59                       | 82        | 128       |
| 50 | 54                     | 243       | 163       | 80                       | 103       | 163       |

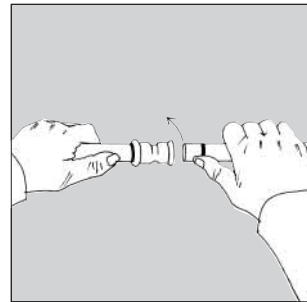
## Lyhyt asennusohje



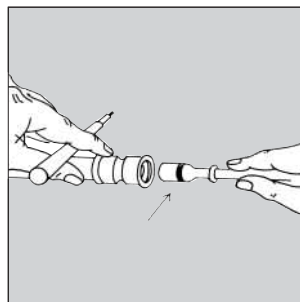
Poista jäysteet putkesta  
huolellisesti



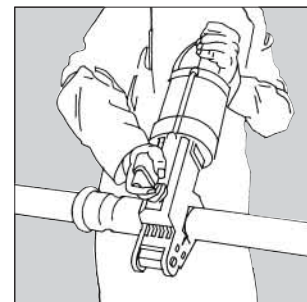
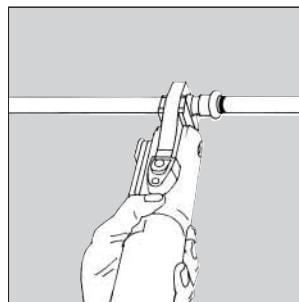
Tarkista O-rengas



Työnnä liittimeen kiertämällä



Merkitse tussilla puristus-  
kohta putken ollessa  
paikallaan



**purista!**

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*Toimittaa parhaat*  
*tuotteet kilpailu-*  
*kykyiseen hintaan.*  
*Autamme mielellämme*  
*kaikissa teknisissä*  
*kysymyksissä.*

*Mapress GmbH & Co. KG*  
*edustaja Suomessa.*

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