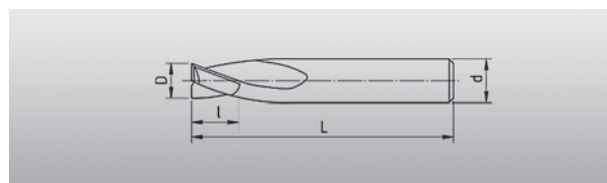
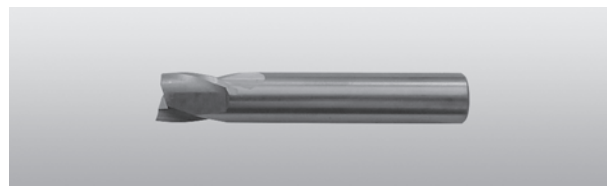


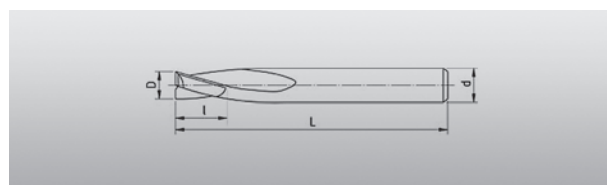
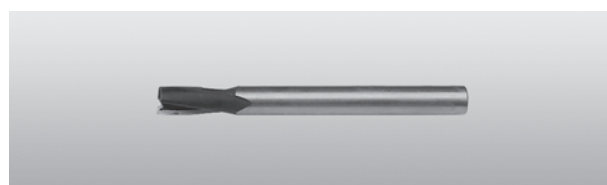
## Фрези за шпонкови канали с цилиндрична опашка, DIN 327, Форма А - DIN 1835

| D e8<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|------------|------------|--------------|---------|-------------------|
| 2          | 6          | 48           | 4       | 2                 |
| 2.5        | 6          | 49           | 5       | 2                 |
| 3          | 6          | 49           | 5       | 2                 |
| 4          | 6          | 51           | 7       | 2                 |
| 5          | 6          | 52           | 8       | 2                 |
| 6          | 6          | 52           | 8       | 2                 |
| 7          | 10         | 60           | 10      | 2                 |
| 8          | 10         | 61           | 11      | 2                 |
| 10         | 10         | 63           | 13      | 2                 |
| 12         | 12         | 73           | 16      | 2                 |
| 14         | 12         | 73           | 16      | 2                 |
| 16         | 16         | 79           | 19      | 2                 |
| 18         | 16         | 79           | 19      | 2                 |
| 20         | 20         | 88           | 22      | 2                 |
| 22         | 20         | 88           | 22      | 2                 |
| 24         | 25         | 102          | 26      | 2                 |
| 25         | 25         | 102          | 26      | 2                 |
| 28         | 25         | 102          | 26      | 2                 |
| 32         | 32         | 112          | 32      | 2                 |
| 36         | 32         | 112          | 32      | 2                 |



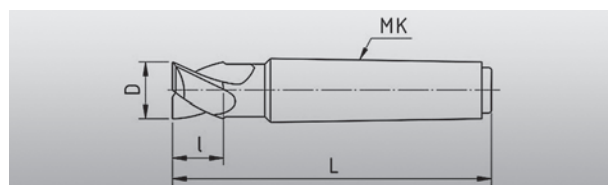
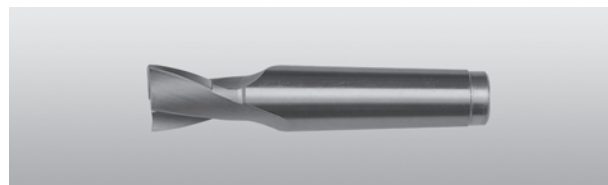
## Фрези удължени за шпонкови канали с цилиндрична опашка, DIN 327, Форма А - DIN 1835

| D e8<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|------------|------------|--------------|---------|-------------------|
| 4          | 6          | 63           | 11      | 2                 |
| 5          | 6          | 68           | 13      | 2                 |
| 6          | 6          | 68           | 13      | 2                 |
| 7          | 10         | 80           | 16      | 2                 |
| 8          | 10         | 88           | 19      | 2                 |
| 10         | 10         | 95           | 22      | 2                 |
| 12         | 12         | 110          | 26      | 2                 |
| 14         | 12         | 110          | 26      | 2                 |
| 16         | 16         | 123          | 32      | 2                 |
| 18         | 16         | 123          | 32      | 2                 |
| 20         | 20         | 141          | 38      | 2                 |
| 22         | 20         | 141          | 38      | 2                 |
| 24         | 25         | 166          | 45      | 2                 |
| 25         | 25         | 166          | 45      | 2                 |
| 28         | 25         | 166          | 45      | 2                 |
| 32         | 32         | 186          | 53      | 2                 |
| 36         | 32         | 186          | 53      | 2                 |



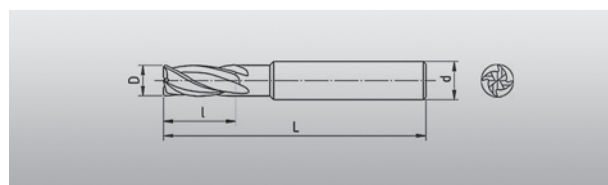
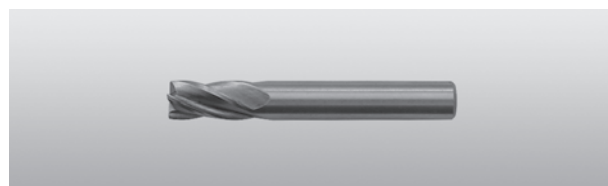
Фрези за шпонкови канали с конусна опашка,  
**DIN 326**, Форма А - **DIN 228**

| D е8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите | МК<br>AT7 |
|------------|--------------|---------|-------------------|-----------|
| 10         | 83           | 13      | 2                 | 1         |
| 12         | 86           | 16      | 2                 | 1         |
| 14         | 101          | 16      | 2                 | 2         |
| 16         | 104          | 19      | 2                 | 2         |
| 18         | 104          | 19      | 2                 | 2         |
| 20         | 107          | 22      | 2                 | 2         |
| 22         | 107          | 22      | 2                 | 2         |
| 24         | 128          | 26      | 2                 | 3         |
| 25         | 128          | 26      | 2                 | 3         |
| 28         | 128          | 26      | 2                 | 3         |
| 32         | 157          | 32      | 2                 | 4         |
| 36         | 157          | 32      | 2                 | 4         |
| 40         | 163          | 38      | 2                 | 4         |



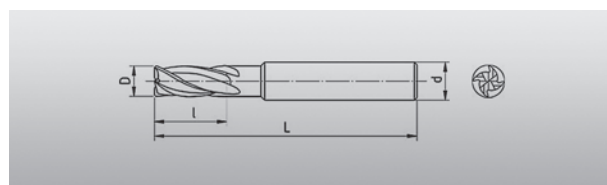
Фрези челно-цилиндрични форма А с цилиндрична опашка тип N,  
**DIN 844**, Форма А - **DIN 1835**

| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 4            | 6          | 55           | 11      | 4                 |
| 5            | 6          | 57           | 13      | 4                 |
| 6            | 6          | 57           | 13      | 4                 |
| 7            | 10         | 66           | 16      | 4                 |
| 8            | 10         | 69           | 19      | 4                 |
| 9            | 10         | 69           | 19      | 4                 |
| 10           | 10         | 72           | 22      | 4                 |
| 11           | 12         | 79           | 22      | 4                 |
| 12           | 12         | 83           | 26      | 4                 |
| 14           | 12         | 83           | 26      | 4                 |
| 16           | 16         | 92           | 32      | 4                 |
| 18           | 16         | 92           | 32      | 4                 |
| 20           | 20         | 104          | 38      | 4                 |
| 22           | 20         | 104          | 38      | 6                 |
| 25           | 25         | 121          | 45      | 6                 |
| 28           | 25         | 121          | 45      | 6                 |



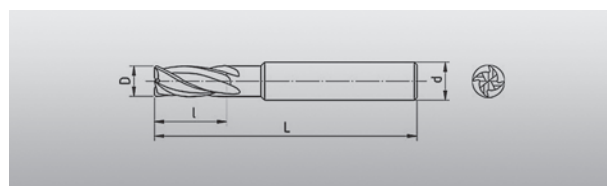
Фрези челно-цилиндрични високопроизводителни форма А с цилиндрична опашка тип NR, **DIN 844**, Форма А - **DIN 1835**

| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 8            | 10         | 69           | 19      | 4                 |
| 9            | 10         | 69           | 19      | 4                 |
| 10           | 10         | 72           | 22      | 4                 |
| 11           | 12         | 79           | 22      | 4                 |
| 12           | 12         | 83           | 26      | 4                 |
| 14           | 12         | 83           | 26      | 4                 |
| 16           | 16         | 92           | 32      | 4                 |
| 18           | 16         | 92           | 32      | 5                 |
| 20           | 20         | 104          | 38      | 5                 |
| 22           | 20         | 104          | 38      | 5                 |
| 25           | 25         | 121          | 45      | 5                 |
| 28           | 25         | 121          | 45      | 6                 |



Фрези челно-цилиндрични високопроизводителни форма А с цилиндрична опашка тип NF, **DIN 844**, Форма А - **DIN 1835**

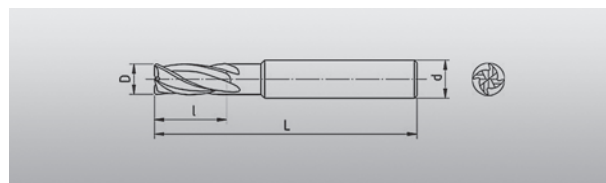
| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 8            | 10         | 69           | 19      | 4                 |
| 9            | 10         | 69           | 19      | 4                 |
| 10           | 10         | 72           | 22      | 4                 |
| 11           | 12         | 79           | 22      | 4                 |
| 12           | 12         | 83           | 26      | 4                 |
| 14           | 12         | 83           | 26      | 4                 |
| 16           | 16         | 92           | 32      | 4                 |
| 18           | 16         | 92           | 32      | 5                 |
| 20           | 20         | 104          | 38      | 5                 |
| 22           | 20         | 104          | 38      | 5                 |
| 25           | 25         | 121          | 45      | 5                 |
| 28           | 25         | 121          | 45      | 6                 |



Фрези удължени челно-цилиндрични високопроизводителни форма А с цилиндрична опашка тип NF, **DIN 844**, Форма А - **DIN 1835**

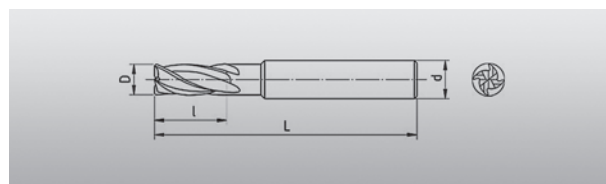
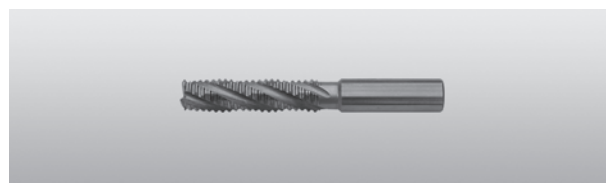
| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 4            | 6          | 63           | 19      | 4                 |
| 5            | 6          | 68           | 24      | 4                 |
| 6            | 6          | 68           | 24      | 4                 |
| 7            | 10         | 80           | 30      | 4                 |
| 8            | 10         | 88           | 38      | 4                 |

| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 9            | 10         | 88           | 38      | 4                 |
| 10           | 10         | 95           | 45      | 4                 |
| 11           | 12         | 102          | 45      | 4                 |
| 12           | 12         | 110          | 53      | 4                 |
| 14           | 12         | 110          | 53      | 4                 |
| 16           | 16         | 123          | 63      | 4                 |
| 18           | 16         | 123          | 63      | 4                 |
| 20           | 20         | 141          | 75      | 4                 |
| 22           | 20         | 141          | 75      | 6                 |
| 25           | 25         | 166          | 90      | 6                 |
| 28           | 25         | 166          | 90      | 6                 |



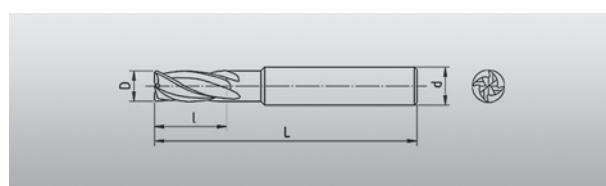
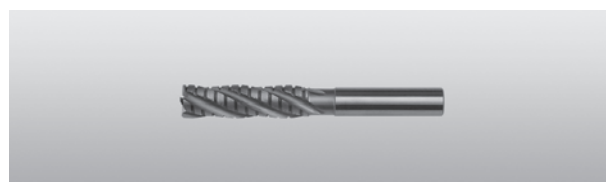
Фрези удължени челно-цилиндрични високопроизводителни форма А с цилиндрична опашка тип NR, **DIN 844**, Форма А - **DIN 1835**

| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 8            | 10         | 88           | 38      | 4                 |
| 9            | 10         | 88           | 38      | 4                 |
| 10           | 10         | 95           | 45      | 4                 |
| 11           | 12         | 102          | 45      | 4                 |
| 12           | 12         | 110          | 53      | 4                 |
| 14           | 12         | 110          | 53      | 4                 |
| 16           | 16         | 123          | 63      | 4                 |
| 18           | 16         | 123          | 63      | 5                 |
| 20           | 20         | 141          | 75      | 5                 |
| 22           | 20         | 141          | 75      | 5                 |
| 25           | 25         | 166          | 90      | 5                 |
| 28           | 25         | 166          | 90      | 6                 |



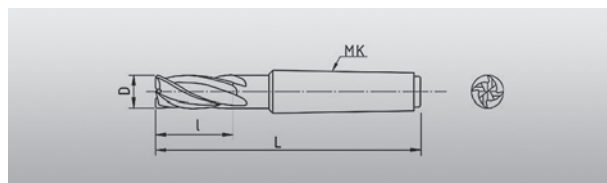
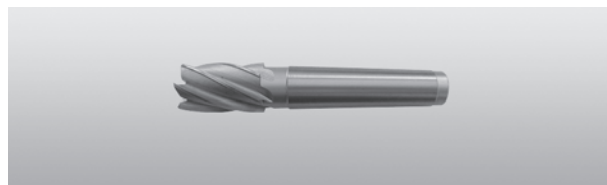
Фрези удължени челно-цилиндрични високопроизводителни форма А с цилиндрична опашка тип NF, **DIN 844**, Форма А - **DIN 1835**

| D js14<br>mm | d h8<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|---------|-------------------|
| 8            | 10         | 88           | 38      | 4                 |
| 9            | 10         | 88           | 38      | 4                 |
| 10           | 10         | 95           | 45      | 4                 |
| 11           | 12         | 102          | 45      | 4                 |
| 12           | 12         | 110          | 53      | 4                 |
| 14           | 12         | 110          | 53      | 4                 |
| 16           | 16         | 123          | 63      | 4                 |
| 18           | 16         | 123          | 63      | 5                 |
| 20           | 20         | 141          | 75      | 5                 |
| 22           | 20         | 141          | 75      | 5                 |
| 25           | 25         | 166          | 90      | 5                 |
| 28           | 25         | 166          | 90      | 6                 |



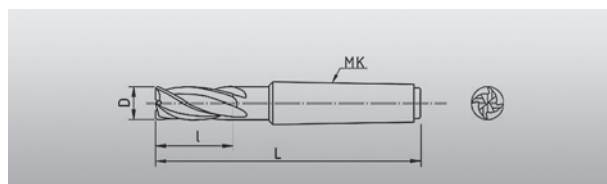
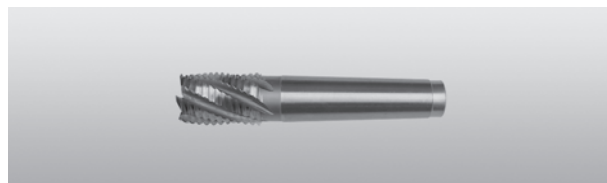
## Фрези челно-цилиндрични с конусна опашка тип N, DIN 845

| D js14<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите | МК<br>AT7 |
|--------------|--------------|---------|-------------------|-----------|
| 10           | 92           | 22      | 4                 | 1         |
| 11           | 92           | 22      | 4                 | 1         |
| 12           | 96           | 26      | 4                 | 1         |
| 14           | 111          | 26      | 4                 | 2         |
| 16           | 117          | 32      | 4                 | 2         |
| 18           | 117          | 32      | 4                 | 2         |
| 20           | 123          | 38      | 4                 | 2         |
| 22           | 123          | 38      | 6                 | 2         |
| 25           | 147          | 45      | 6                 | 3         |
| 28           | 147          | 45      | 6                 | 3         |
| 32           | 178          | 53      | 6                 | 4         |
| 36           | 178          | 53      | 6                 | 4         |
| 40           | 188          | 63      | 6                 | 4         |
| 45           | 188          | 63      | 6                 | 4         |
| 50           | 233          | 75      | 8                 | 5         |
| 56           | 233          | 75      | 8                 | 5         |
| 63           | 248          | 90      | 8                 | 5         |



## Фрези челно-цилиндрични високопроизводителни с конусна опашка тип NR, DIN 845

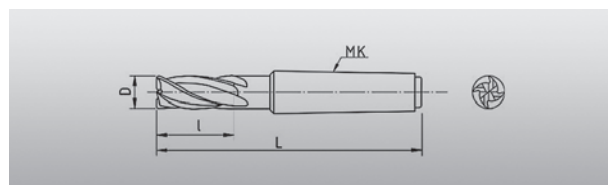
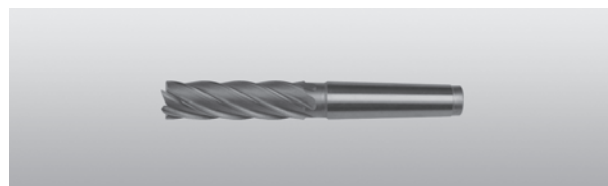
| D js14<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите | МК<br>AT7 |
|--------------|--------------|---------|-------------------|-----------|
| 10           | 92           | 22      | 4                 | 1         |
| 11           | 92           | 22      | 4                 | 1         |
| 12           | 96           | 26      | 4                 | 1         |
| 14           | 111          | 26      | 4                 | 2         |
| 16           | 117          | 32      | 4                 | 2         |
| 18           | 117          | 32      | 5                 | 2         |
| 20           | 123          | 38      | 5                 | 2         |
| 22           | 123          | 38      | 5                 | 2         |
| 25           | 147          | 45      | 5                 | 3         |
| 28           | 147          | 45      | 6                 | 3         |
| 32           | 178          | 53      | 6                 | 4         |
| 36           | 178          | 53      | 6                 | 4         |
| 40           | 188          | 63      | 6                 | 4         |
| 45           | 188          | 63      | 8                 | 4         |
| 50           | 233          | 75      | 8                 | 5         |
| 56           | 233          | 75      | 8                 | 5         |
| 63           | 248          | 90      | 10                | 5         |



## Фрези удължени челно-цилиндрични с конусна опашка тип N,

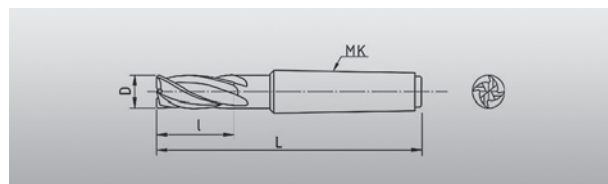
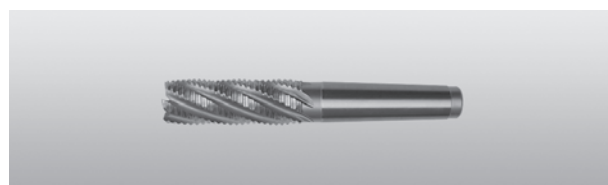
**DIN 845**

| D js14<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите | МК<br>AT7 |
|--------------|--------------|---------|-------------------|-----------|
| 10           | 115          | 45      | 4                 | 1         |
| 11           | 115          | 45      | 4                 | 1         |
| 12           | 123          | 53      | 4                 | 1         |
| 14           | 123          | 53      | 4                 | 2         |
| 16           | 148          | 63      | 4                 | 2         |
| 18           | 148          | 63      | 4                 | 2         |
| 20           | 160          | 75      | 4                 | 2         |
| 22           | 160          | 75      | 6                 | 2         |
| 25           | 192          | 90      | 6                 | 3         |
| 28           | 192          | 90      | 6                 | 3         |
| 32           | 231          | 106     | 6                 | 4         |
| 36           | 231          | 106     | 6                 | 4         |
| 40           | 250          | 125     | 6                 | 4         |
| 45           | 250          | 125     | 6                 | 4         |
| 50           | 308          | 150     | 8                 | 5         |
| 56           | 308          | 150     | 8                 | 5         |
| 63           | 308          | 180     | 8                 | 5         |



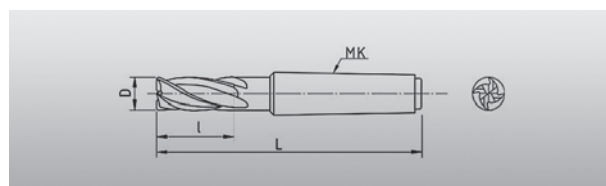
## Фрези удължени челно-цилиндрични високопроизводителни с конусна опашка тип NR, **DIN 845**

| D js14<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите | МК<br>AT7 |
|--------------|--------------|---------|-------------------|-----------|
| 10           | 115          | 45      | 4                 | 1         |
| 11           | 115          | 45      | 4                 | 1         |
| 12           | 123          | 53      | 4                 | 1         |
| 14           | 123          | 53      | 4                 | 2         |
| 16           | 148          | 63      | 4                 | 2         |
| 18           | 148          | 63      | 5                 | 2         |
| 20           | 160          | 75      | 5                 | 2         |
| 22           | 160          | 75      | 5                 | 2         |
| 25           | 192          | 90      | 5                 | 3         |
| 28           | 192          | 90      | 6                 | 3         |
| 32           | 231          | 106     | 6                 | 4         |
| 36           | 231          | 106     | 6                 | 4         |
| 40           | 250          | 125     | 6                 | 4         |
| 45           | 250          | 125     | 8                 | 4         |
| 50           | 308          | 150     | 8                 | 5         |
| 56           | 308          | 150     | 8                 | 5         |
| 63           | 308          | 180     | 10                | 5         |



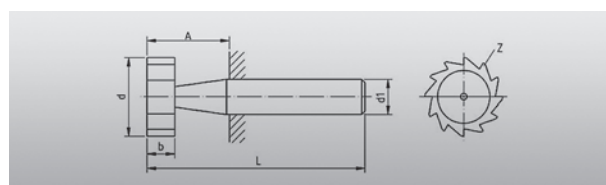
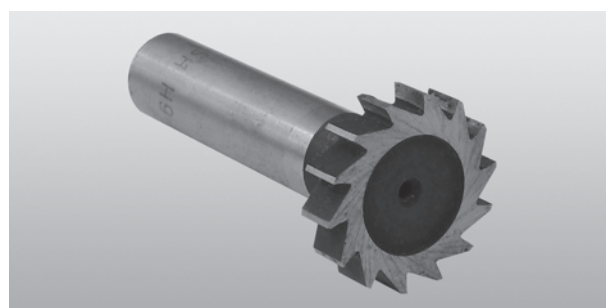
Фрези удължени челно-цилиндрични високопроизводителни с конусна опашка тип NF, **DIN 845**

| D js14<br>mm | L js17<br>mm | l<br>mm | Брой на<br>зъбите | МК<br>AT7 |
|--------------|--------------|---------|-------------------|-----------|
| 10           | 115          | 45      | 4                 | 1         |
| 11           | 115          | 45      | 4                 | 1         |
| 12           | 123          | 53      | 4                 | 1         |
| 14           | 123          | 53      | 4                 | 2         |
| 16           | 148          | 63      | 4                 | 2         |
| 18           | 148          | 63      | 5                 | 2         |
| 20           | 160          | 75      | 5                 | 2         |
| 22           | 160          | 75      | 5                 | 2         |
| 25           | 192          | 90      | 5                 | 3         |
| 28           | 192          | 90      | 6                 | 3         |
| 32           | 231          | 106     | 6                 | 4         |
| 36           | 231          | 106     | 6                 | 4         |
| 40           | 250          | 125     | 6                 | 4         |
| 45           | 250          | 125     | 8                 | 4         |
| 50           | 308          | 150     | 8                 | 5         |
| 56           | 308          | 150     | 8                 | 5         |
| 63           | 308          | 180     | 10                | 5         |



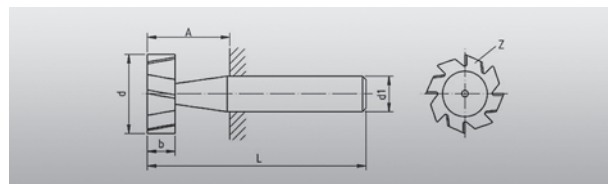
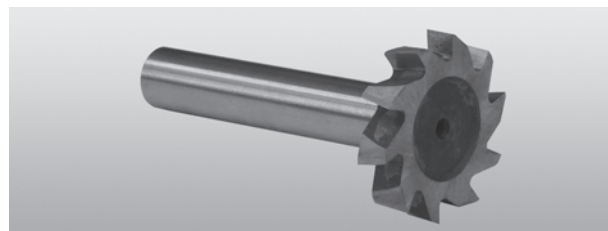
Фрези форма А с прави зъби за канали на сегментни шпонки с цилиндрична опашка тип Н, **DIN 850**, Форма А - **DIN 1835**

| d<br>mm | b<br>mm | L<br>mm | d <sub>1</sub><br>mm | ≈A<br>mm | Z  |
|---------|---------|---------|----------------------|----------|----|
| 16.5    | 3       | 56      | 10                   | 16       | 12 |
| 16.5    | 4       | 56      | 10                   | 16       | 12 |
| 16.5    | 5       | 56      | 10                   | 16       | 12 |
| 19.5    | 4       | 63      | 10                   | 23       | 12 |
| 19.5    | 5       | 63      | 10                   | 23       | 12 |
| 19.5    | 6       | 63      | 10                   | 23       | 12 |
| 22.5    | 5       | 63      | 10                   | 23       | 12 |
| 22.5    | 6       | 63      | 10                   | 23       | 12 |
| 22.5    | 8       | 63      | 10                   | 23       | 12 |
| 25.5    | 6       | 63      | 10                   | 23       | 14 |
| 28.5    | 6       | 63      | 10                   | 23       | 16 |
| 28.5    | 8       | 63      | 10                   | 23       | 16 |
| 28.5    | 10      | 71      | 12                   | 26       | 16 |
| 32.5    | 8       | 71      | 12                   | 26       | 18 |
| 32.5    | 10      | 71      | 12                   | 26       | 18 |
| 45.5    | 10      | 71      | 12                   | 26       | 20 |



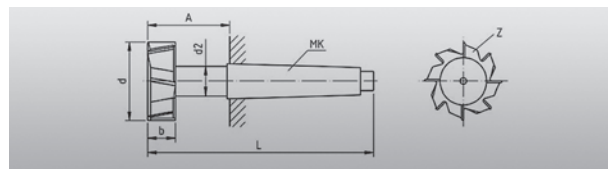
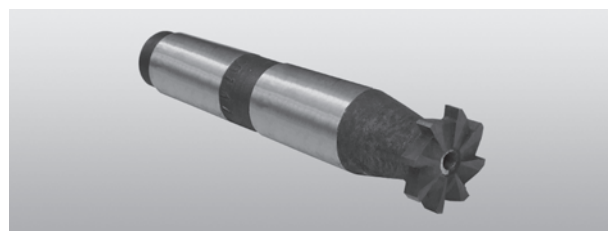
Фрези форма В с кръстосани зъби за канали на сегментни шпонки с цилиндрична опашка тип N, **DIN 850**, Форма А - **DIN 1835**

| d<br>mm | b<br>mm | L<br>mm | d <sub>1</sub><br>mm | ≈A<br>mm | Z  |
|---------|---------|---------|----------------------|----------|----|
| 22.5    | 5       | 63      | 10                   | 23       | 12 |
| 22.5    | 6       | 63      | 10                   | 23       | 12 |
| 22.5    | 8       | 63      | 10                   | 23       | 12 |
| 25.5    | 6       | 63      | 10                   | 23       | 14 |
| 28.5    | 6       | 63      | 10                   | 23       | 16 |
| 28.5    | 8       | 63      | 10                   | 23       | 16 |
| 28.5    | 10      | 71      | 12                   | 26       | 16 |
| 32.5    | 8       | 71      | 12                   | 26       | 18 |
| 32.5    | 10      | 71      | 12                   | 26       | 18 |
| 45.5    | 10      | 71      | 12                   | 26       | 20 |



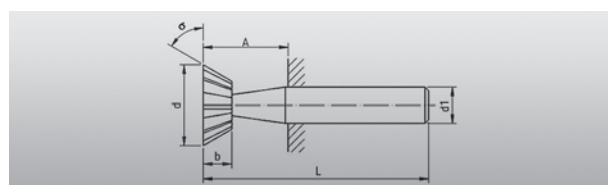
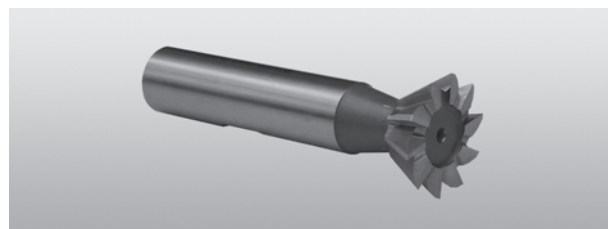
Фрези форма В с кръстосани зъби за Т-канали с конусна опашка тип N, **DIN 851**, Форма А - **DIN 1835**

| d<br>mm | b<br>mm | L<br>mm | МК | ≈A<br>mm | Z  |
|---------|---------|---------|----|----------|----|
| 18      | 8       | 82      | 1  | 28       | 6  |
| 21      | 9       | 102     | 2  | 38       | 6  |
| 25      | 11      | 104     | 2  | 40       | 8  |
| 32      | 14      | 111     | 2  | 47       | 8  |
| 40      | 18      | 140     | 3  | 59       | 8  |
| 50      | 22      | 187     | 4  | 84       | 10 |



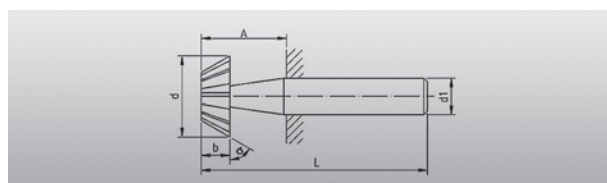
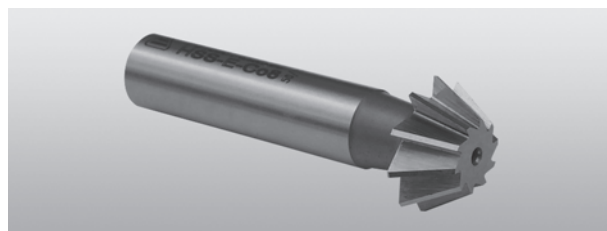
Фрези ъглови форма А с цилиндрична опашка, **DIN 1833**, Форма А - **DIN 1835**

| σ   | d<br>mm | b<br>mm | L<br>mm | d <sub>1</sub><br>mm | ≈A<br>mm | Z  |
|-----|---------|---------|---------|----------------------|----------|----|
| 45° | 20      | 5       | 63      | 12                   | 18       | 10 |
| 45° | 25      | 6.3     | 67      | 12                   | 22       | 10 |
| 45° | 32      | 8       | 71      | 12                   | 25       | 12 |
| 50° | 20      | 6.3     | 63      | 12                   | 18       | 10 |
| 50° | 25      | 8       | 67      | 12                   | 22       | 10 |
| 50° | 32      | 10      | 71      | 12                   | 25       | 12 |
| 55° | 20      | 7.1     | 63      | 12                   | 18       | 10 |
| 55° | 25      | 9       | 67      | 12                   | 22       | 10 |
| 55° | 32      | 11.2    | 71      | 12                   | 25       | 12 |
| 60° | 20      | 8       | 63      | 12                   | 18       | 10 |
| 60° | 25      | 10      | 67      | 12                   | 22       | 10 |
| 60° | 32      | 12.5    | 71      | 12                   | 25       | 12 |



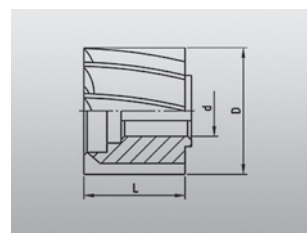
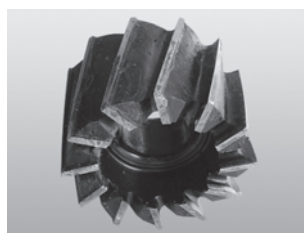
## Фрези ъглови форма В с цилиндрична опашка, DIN 1833, Форма А - DIN 1835

| $\sigma$ | d<br>mm | b<br>mm | L<br>mm | d <sub>1</sub><br>mm | ≈A<br>mm | Z  |
|----------|---------|---------|---------|----------------------|----------|----|
| 45°      | 20      | 5       | 63      | 12                   | 18       | 10 |
| 45°      | 25      | 6.3     | 67      | 12                   | 22       | 10 |
| 45°      | 32      | 8       | 71      | 12                   | 25       | 12 |
| 60°      | 20      | 8       | 63      | 12                   | 18       | 10 |
| 60°      | 25      | 10      | 67      | 12                   | 22       | 10 |
| 60°      | 32      | 12.5    | 71      | 12                   | 25       | 12 |



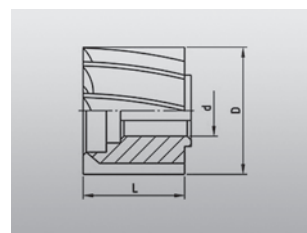
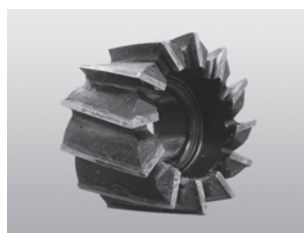
## Фрези челно-цилиндрични с надлъжен шпонков канал, DIN 1880, Тип N

| D js16<br>mm | d H7<br>mm | L js16<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|-------------------|
| 40           | 16         | 32           | 8                 |
| 50           | 22         | 36           | 8                 |
| 63           | 27         | 40           | 10                |
| 80           | 27         | 45           | 10                |
| 100          | 32         | 50           | 12                |
| 125          | 40         | 56           | 14                |



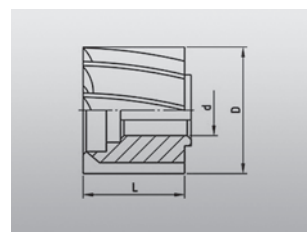
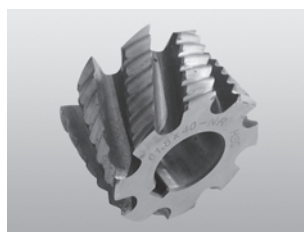
## Фрези челно-цилиндрични с надлъжен шпонков канал, DIN 1880, Тип H

| D js16<br>mm | d H7<br>mm | L js16<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|-------------------|
| 40           | 16         | 32           | 12                |
| 50           | 22         | 36           | 12                |
| 63           | 27         | 40           | 14                |
| 80           | 27         | 45           | 16                |
| 100          | 32         | 50           | 18                |
| 125          | 40         | 56           | 22                |



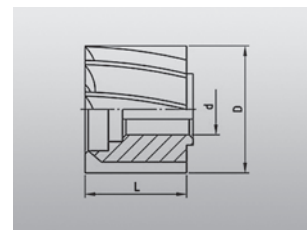
## Фрези челно-цилиндрични високопроизводителни с надлъжен шпонков канал, DIN 1880, Тип NR

| D js16<br>mm | d H7<br>mm | L js16<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|-------------------|
| 40           | 16         | 32           | 8                 |
| 50           | 22         | 36           | 8                 |
| 63           | 27         | 40           | 10                |
| 80           | 27         | 45           | 10                |
| 100          | 32         | 50           | 12                |
| 125          | 40         | 56           | 14                |



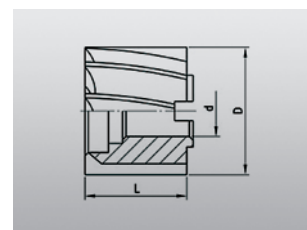
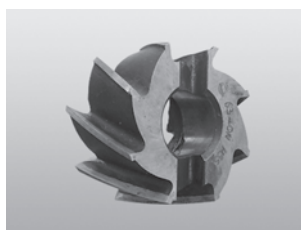
## Фрези челно-цилиндрични високопроизводителни с надлъжен шпонков канал, **DIN 1880**, Тип NF

| D js16 mm | d H7 mm | L js16 mm | Брой на зъбите |
|-----------|---------|-----------|----------------|
| 40        | 16      | 32        | 8              |
| 50        | 22      | 36        | 8              |
| 63        | 27      | 40        | 10             |
| 80        | 27      | 45        | 10             |
| 100       | 32      | 50        | 12             |
| 125       | 40      | 56        | 14             |



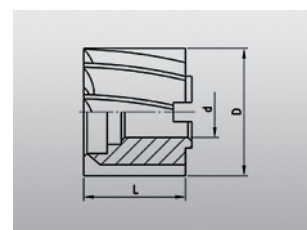
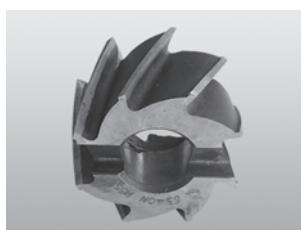
## Фрези челно-цилиндрични с челен шпонков канал, **DIN 1880**, Тип N

| D js16 mm | d H7 mm | L js16 mm | Брой на зъбите |
|-----------|---------|-----------|----------------|
| 40        | 16      | 32        | 8              |
| 50        | 22      | 36        | 8              |
| 63        | 27      | 40        | 10             |
| 80        | 27      | 45        | 10             |
| 100       | 32      | 50        | 12             |
| 125       | 40      | 56        | 14             |



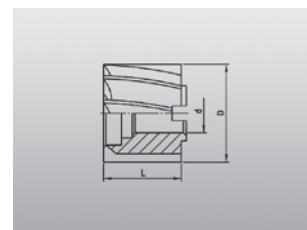
## Фрези челно-цилиндрични с челен шпонков канал, **DIN 1880**, Тип H

| D js16 mm | d H7 mm | L js16 mm | Брой на зъбите |
|-----------|---------|-----------|----------------|
| 40        | 16      | 32        | 12             |
| 50        | 22      | 36        | 12             |
| 63        | 27      | 40        | 14             |
| 80        | 27      | 45        | 16             |
| 100       | 32      | 50        | 18             |
| 125       | 40      | 56        | 22             |



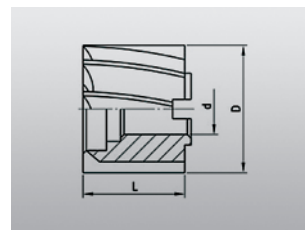
## Фрези челно-цилиндрични високопроизводителни с челен шпонков канал, **DIN 1880**, Тип NR

| D js16 mm | d H7 mm | L js16 mm | Брой на зъбите |
|-----------|---------|-----------|----------------|
| 40        | 16      | 32        | 8              |
| 50        | 22      | 36        | 8              |
| 63        | 27      | 40        | 10             |
| 80        | 27      | 45        | 10             |
| 100       | 32      | 50        | 12             |
| 125       | 40      | 56        | 14             |



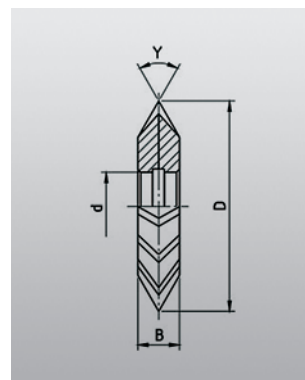
## Фрези челно-цилиндрични високопроизводителни с челен шпонков канал, **DIN 1880**, Тип NF

| D js16<br>mm | d H7<br>mm | L js16<br>mm | Брой на<br>зъбите |
|--------------|------------|--------------|-------------------|
| 40           | 16         | 32           | 8                 |
| 50           | 22         | 36           | 8                 |
| 63           | 27         | 40           | 10                |
| 80           | 27         | 45           | 10                |
| 100          | 32         | 50           | 12                |
| 125          | 40         | 56           | 14                |



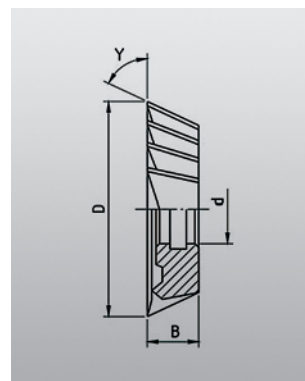
## Фрези двуъглови симетрични, **DIN 847**

| D js16<br>mm | d H7<br>mm | B js16<br>mm | Y° | Брой на<br>зъбите |
|--------------|------------|--------------|----|-------------------|
| 50           | 16         | 8            | 45 | 20                |
| 50           | 16         | 10           | 60 | 18                |
| 50           | 16         | 14           | 90 | 16                |
| 63           | 22         | 10           | 45 | 22                |
| 63           | 22         | 14           | 60 | 20                |
| 63           | 22         | 20           | 90 | 18                |
| 80           | 27         | 12           | 45 | 24                |
| 80           | 27         | 18           | 60 | 22                |
| 80           | 27         | 22           | 90 | 20                |
| 100          | 32         | 18           | 45 | 26                |
| 100          | 32         | 25           | 60 | 24                |
| 100          | 32         | 32           | 90 | 22                |



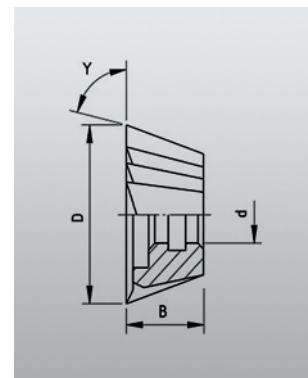
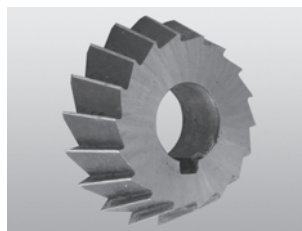
## Фрези едноъглови форма А за прави канали, **DIN 1823**, Изпълнение R /дяснорежещи/

| D js16<br>mm | d H7<br>mm | B js16<br>mm | Y° | Брой на<br>зъбите |
|--------------|------------|--------------|----|-------------------|
| 50           | 16         | 12           | 60 | 16                |
| 50           | 16         | 12           | 65 | 16                |
| 50           | 16         | 12           | 75 | 16                |
| 63           | 22         | 18           | 60 | 18                |
| 63           | 22         | 18           | 70 | 18                |
| 63           | 22         | 18           | 75 | 16                |
| 63           | 22         | 18           | 80 | 16                |



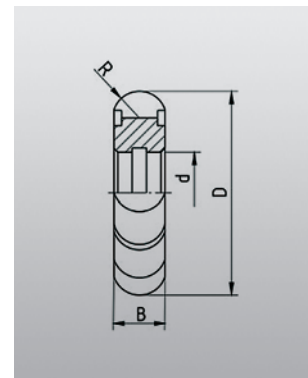
## Фрези ъглови за направляващи тип Н, **DIN 842**, Изпълнение R /дяснорежещи/

| D js16<br>mm | d H7<br>mm | B js16<br>mm | Y° | Брой на<br>зъбите |
|--------------|------------|--------------|----|-------------------|
| 40           | 10         | 10           | 45 | 14                |
| 40           | 10         | 13           | 50 | 14                |
| 40           | 10         | 13           | 55 | 14                |
| 40           | 10         | 13           | 60 | 14                |
| 50           | 13         | 13           | 45 | 16                |
| 50           | 13         | 16           | 50 | 16                |
| 50           | 13         | 16           | 55 | 16                |
| 50           | 13         | 16           | 60 | 16                |
| 63           | 16         | 18           | 45 | 18                |
| 63           | 16         | 20           | 50 | 18                |
| 63           | 16         | 20           | 55 | 18                |
| 63           | 16         | 20           | 60 | 18                |
| 80           | 22         | 22           | 45 | 20                |
| 80           | 22         | 25           | 50 | 20                |
| 80           | 22         | 25           | 55 | 20                |
| 80           | 22         | 25           | 60 | 20                |
| 100          | 27         | 28           | 45 | 22                |
| 100          | 27         | 32           | 50 | 22                |
| 100          | 27         | 32           | 55 | 22                |
| 100          | 27         | 32           | 60 | 22                |
| 125          | 32         | 36           | 45 | 24                |
| 125          | 32         | 40           | 50 | 24                |
| 125          | 32         | 40           | 55 | 24                |
| 125          | 32         | 40           | 60 | 24                |



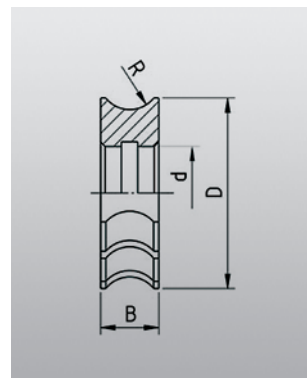
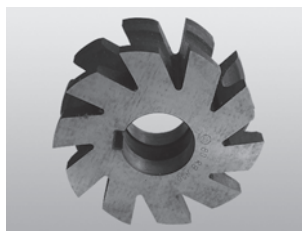
## Фрези полукръгли изпъкнали, **DIN 856**, Тип N

| R h11<br>mm | D js16<br>mm | d H7<br>mm | B<br>mm | Брой на<br>зъбите |
|-------------|--------------|------------|---------|-------------------|
| 1           | 50           | 16         | 2       | 16                |
| 1.25        | 50           | 16         | 2.5     | 16                |
| 1.6         | 50           | 16         | 3.2     | 16                |
| 2           | 50           | 16         | 4       | 14                |
| 2.5         | 63           | 22         | 5       | 14                |
| 3           | 63           | 22         | 6       | 14                |
| 3.15        | 63           | 22         | 6.3     | 14                |
| 4           | 63           | 22         | 8       | 14                |
| 5           | 63           | 22         | 10      | 12                |
| 6           | 80           | 27         | 12      | 14                |
| 6.3         | 80           | 27         | 12.6    | 12                |
| 8           | 80           | 27         | 16      | 12                |
| 10          | 100          | 32         | 20      | 12                |
| 12          | 100          | 32         | 24      | 10                |
| 12.5        | 100          | 32         | 25      | 10                |
| 16          | 125          | 32         | 32      | 12                |
| 20          | 125          | 32         | 40      | 10                |



## Фрези полукръгли вдлъбнати, **DIN 855**, Тип N

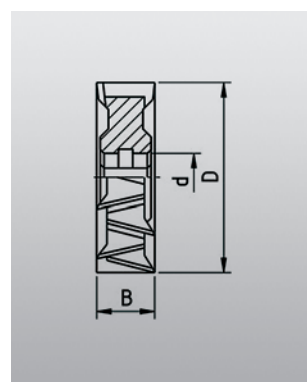
| R h11<br>mm | D js16<br>mm | d H7<br>mm | B<br>mm | Брой на<br>зъбите |
|-------------|--------------|------------|---------|-------------------|
| 1           | 50           | 16         | 6       | 14                |
| 1.25        | 50           | 16         | 6       | 14                |
| 1.6         | 50           | 16         | 8       | 14                |
| 2           | 50           | 16         | 9       | 14                |
| 2.5         | 63           | 22         | 10      | 14                |
| 3           | 63           | 22         | 12      | 12                |
| 3.15        | 63           | 22         | 12      | 12                |
| 4           | 63           | 22         | 16      | 12                |
| 5           | 63           | 22         | 20      | 12                |
| 6           | 80           | 27         | 24      | 12                |
| 6.3         | 80           | 27         | 24      | 10                |
| 8           | 80           | 27         | 32      | 10                |
| 10          | 100          | 32         | 36      | 10                |
| 12          | 100          | 32         | 40      | 10                |
| 12.5        | 100          | 32         | 40      | 10                |
| 16          | 125          | 32         | 50      | 10                |
| 20          | 125          | 32         | 60      | 10                |



## Фрези дискови тристранни форма A с кръстосани зъби, **DIN 885**, Тип N

| D js16<br>mm | d H7<br>mm | B k11<br>mm | Брой на<br>зъбите |
|--------------|------------|-------------|-------------------|
| 50           | 16         | 5           | 10                |
| 50           | 16         | 6           | 10                |
| 50           | 16         | 8           | 10                |
| 50           | 16         | 10          | 10                |
| 63           | 22         | 5           | 10                |
| 63           | 22         | 6           | 10                |
| 63           | 22         | 8           | 10                |
| 63           | 22         | 10          | 10                |
| 63           | 22         | 12          | 10                |
| 63           | 22         | 14          | 10                |
| 63           | 22         | 16          | 10                |
| 80           | 27         | 6           | 12                |
| 80           | 27         | 8           | 12                |
| 80           | 27         | 10          | 12                |
| 80           | 27         | 12          | 12                |
| 80           | 27         | 14          | 12                |
| 80           | 27         | 16          | 12                |
| 80           | 27         | 18          | 12                |

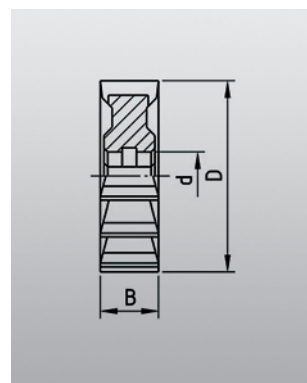
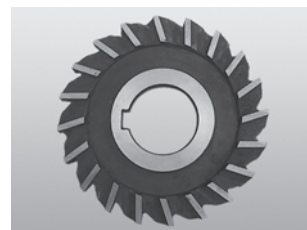
| D js16<br>mm | d H7<br>mm | B k11<br>mm | Брой на<br>зъбите |
|--------------|------------|-------------|-------------------|
| 80           | 27         | 20          | 12                |
| 100          | 32         | 8           | 14                |
| 100          | 32         | 10          | 14                |
| 100          | 32         | 12          | 14                |
| 100          | 32         | 14          | 14                |
| 100          | 32         | 16          | 14                |
| 100          | 32         | 18          | 14                |
| 100          | 32         | 20          | 14                |
| 100          | 32         | 22          | 14                |
| 100          | 32         | 25          | 14                |
| 125          | 32         | 10          | 16                |
| 125          | 32         | 12          | 16                |
| 125          | 32         | 14          | 16                |
| 125          | 32         | 16          | 16                |
| 125          | 32         | 18          | 16                |
| 125          | 32         | 20          | 16                |
| 125          | 32         | 22          | 16                |
| 125          | 32         | 25          | 16                |



## Фрези дискови тристранни форма В с прави зъби, **DIN 885**, Тип Н

| D js16<br>mm | d H7<br>mm | B k11<br>mm | Брой на<br>зъбите |
|--------------|------------|-------------|-------------------|
| 50           | 16         | 5           | 10                |
| 50           | 16         | 6           | 10                |
| 50           | 16         | 8           | 10                |
| 50           | 16         | 10          | 10                |
| 63           | 22         | 5           | 10                |
| 63           | 22         | 6           | 10                |
| 63           | 22         | 8           | 10                |
| 63           | 22         | 10          | 10                |
| 63           | 22         | 12          | 10                |
| 63           | 22         | 14          | 10                |
| 63           | 22         | 16          | 10                |
| 80           | 27         | 6           | 12                |
| 80           | 27         | 8           | 12                |
| 80           | 27         | 10          | 12                |
| 80           | 27         | 12          | 12                |
| 80           | 27         | 14          | 12                |
| 80           | 27         | 16          | 12                |
| 80           | 27         | 18          | 12                |

| D js16<br>mm | d H7<br>mm | B k11<br>mm | Брой на<br>зъбите |
|--------------|------------|-------------|-------------------|
| 80           | 27         | 20          | 12                |
| 100          | 32         | 8           | 14                |
| 100          | 32         | 10          | 14                |
| 100          | 32         | 12          | 14                |
| 100          | 32         | 14          | 14                |
| 100          | 32         | 16          | 14                |
| 100          | 32         | 18          | 14                |
| 100          | 32         | 20          | 14                |
| 100          | 32         | 22          | 14                |
| 100          | 32         | 25          | 14                |
| 125          | 32         | 10          | 16                |
| 125          | 32         | 12          | 16                |
| 125          | 32         | 14          | 16                |
| 125          | 32         | 16          | 16                |
| 125          | 32         | 18          | 16                |
| 125          | 32         | 20          | 16                |
| 125          | 32         | 22          | 16                |
| 125          | 32         | 25          | 16                |



## ФРЕЗИ СЪС ЗАПОЕНИ ТВЪРДОСПЛАВНИ ПЛАСТИНИ

### Фрези дискови тристранни, **DIN 8047**

| Код    | D js16<br>mm | d H7<br>mm | B k11<br>mm | d1<br>mm |
|--------|--------------|------------|-------------|----------|
| 63x8   | 63           | 22         | 8           | 30       |
| 63x10  | 63           | 22         | 10          | 30       |
| 63x12  | 63           | 22         | 12          | 30       |
| 63x14  | 63           | 22         | 14          | 30       |
| 63x16  | 63           | 22         | 16          | 30       |
| 63x18  | 63           | 22         | 18          | 30       |
| 63x20  | 63           | 22         | 20          | 30       |
| 80x10  | 80           | 27         | 10          | 40       |
| 80x12  | 80           | 27         | 12          | 40       |
| 80x14  | 80           | 27         | 14          | 40       |
| 80x16  | 80           | 27         | 16          | 40       |
| 80x18  | 80           | 27         | 18          | 40       |
| 80x20  | 80           | 27         | 20          | 40       |
| 100x12 | 100          | 32         | 12          | 60       |
| 100x14 | 100          | 32         | 14          | 60       |

| Код    | D js16<br>mm | d H7<br>mm | B k11<br>mm | d1<br>mm |
|--------|--------------|------------|-------------|----------|
| 100x16 | 100          | 32         | 16          | 60       |
| 100x18 | 100          | 32         | 18          | 60       |
| 100x20 | 100          | 32         | 20          | 60       |
| 100x22 | 100          | 32         | 22          | 60       |
| 125x12 | 125          | 40         | 12          | 60       |
| 125x14 | 125          | 40         | 14          | 60       |
| 125x16 | 125          | 40         | 16          | 60       |
| 125x18 | 125          | 40         | 18          | 60       |
| 125x20 | 125          | 40         | 20          | 60       |
| 125x22 | 125          | 40         | 22          | 60       |
| 160x16 | 160          | 50         | 16          | 75       |
| 160x18 | 160          | 50         | 18          | 75       |
| 160x20 | 160          | 50         | 20          | 75       |
| 160x22 | 160          | 50         | 22          | 75       |
| 160x24 | 160          | 50         | 24          | 75       |

