

## 10. Windows and doors

# Windows and doors

Set of brazed cutters with high speed steel tips (HSS) designed for professional machining of solid soft wood. Sets of brazed cutters with carbide (HM) tips and cutter heads with exchangeable inserts (HM) designed for professional machining of solid soft and hard wood, glued wood and other wood-based materials and plastics. They are used for machining flat surfaces and edge profiling to obtain a given window and door profile. We offer mainly sets as cutter heads with exchangeable inserts.

Single tools and sets are made from the highest quality high speed cutting steel in special heat treatment technology, which has been properly selected for the type of work, parameters and conditions prevailing during the machining, in order to guarantee proper work of the tool, both in standard and extreme conditions.

The tools are designed and manufactured with or without shear angle and optimized chip flow, mounted on sleeves or HSK shanks, designed for professional, very precise machining of solid wood and other wood-based materials. The HSK clamping construction guarantees reduced run-out tolerance. Thanks to using HSK system allowing also for production of arch windows, we obtain high precision and very high quality of the machined surface. The tools work in automatic production process on CNC machines.

All types of tools are manufactured on modern CNC machines of world-renowned producers, which guarantee high accuracy and precision of the produced tools. The construction and production remains in accordance with all points of safety standard EN/PN-847-1 concerning tools for mechanical woodworking.

The *Windows and doors* chapter includes only example types of brazed cutters, cutter heads and sets with basic dimensions. On special request, we can suggest, design and produce a proper tools for the required type of work, material, parameters and conditions during machining. Time of production of catalogue sets marked with "+" usually does not exceed 10-15 working days. Special windows, made on client's request are produced within 15-18 working days after agreeing all technical and sales details.

Orders should include:

- window type or window section drawing,
- drip cap type,
- machine or work scheme,
- diameters and base distances of tools for tenoning and profiling,
- base surfaces position,
- window sill groove position,
- gasket type,
- floating mullion type,
- machined material type,
- profile drawing with dimensions or profile sample – in case of single sets,
- other information relevant for designing and production process.

Drip cap and seal types can be found on pages 10.32-10.35 of the catalogue.



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## Pictograms



solid dry softwood



solid dry hardwood



chipboard



glued wood



MDF



carbide



high-speed cutting steel



steel or aluminium body



HSK 85 clamping



flat surfaces



rebating



grooving



profiling



mechanical feed



quiet and steady work

- available / stock product
- + production time 9–15 working days.

## Window batten cut-off


Set of tools with suitable number of cutting teeth, designed for window batten cut-off with profiling and pre-cutting window frame. The set includes profiling tools (HSS or HM) offered as brazed cutters or cutter heads with exchangeable inserts and cutting saw blades (HM). The set is offered on individual request.


Orders should include:

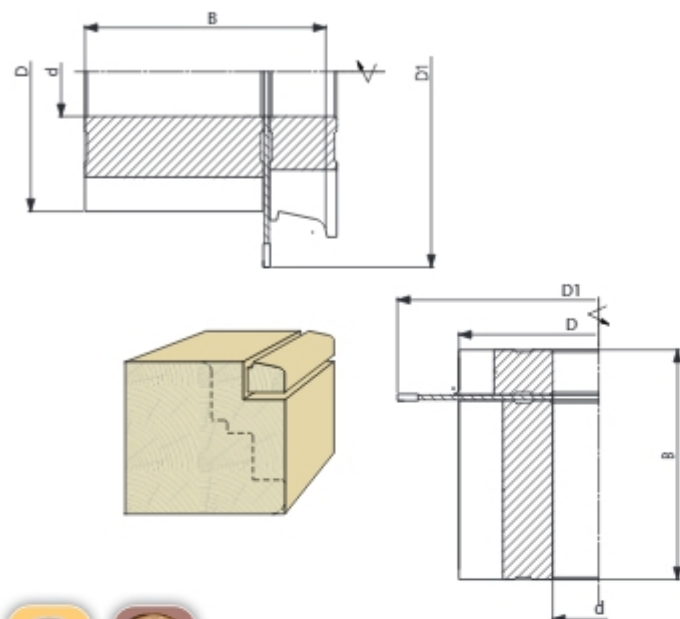
- D – base diameter,
- D1 – cutting saw blade diameter,
- D – bore diameter,
- B – semi-finished product width,
- window batten dimensions.

**Type of work:** window batten cut-off.

**Material:**

 solid softwood

 solid hardwood



## Window batten recovery


Set of tools with suitable number of cutting teeth, designed for window batten cut-off with profiling. The set is used as additional – cutting off set, when longitudinal, inner profile of window frame is used in one operation with window batten profile. The set includes profiling tools (HSS or HM) offered as brazed cutter or cutter head with exchangeable inserts and cutting saw blades (HM). The set is offered on individual request.


Orders should include:

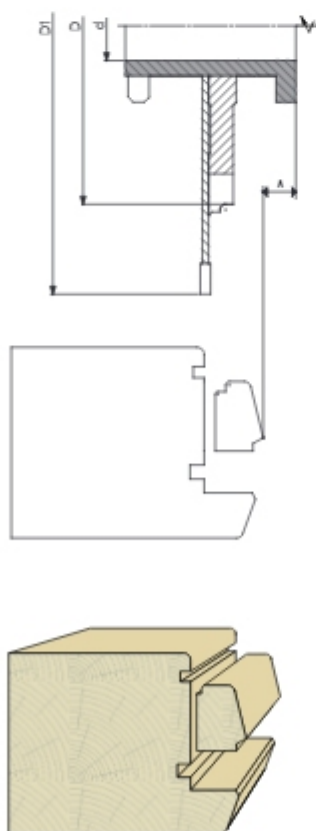
- D – base diameter,
- D1 – cutting saw blade diameter,
- D – bore diameter,
- B – semi-finished product width,
- A – base – set position,
- window batten dimensions.

**Type of work:** window batten cut-off.

**Material:**

 solid softwood

 solid hardwood






Set of profile tools with suitable number of cutting teeth, designed for professional cutting of solid wood. The set is used for window batten finishing. The set includes profiling tools. The set is offered on individual request as brazed cutters or cutter heads. The set works on four-sided machines.


Orders should include:

- D – base diameter,
- D – bore diameter,
- window batten dimensions.

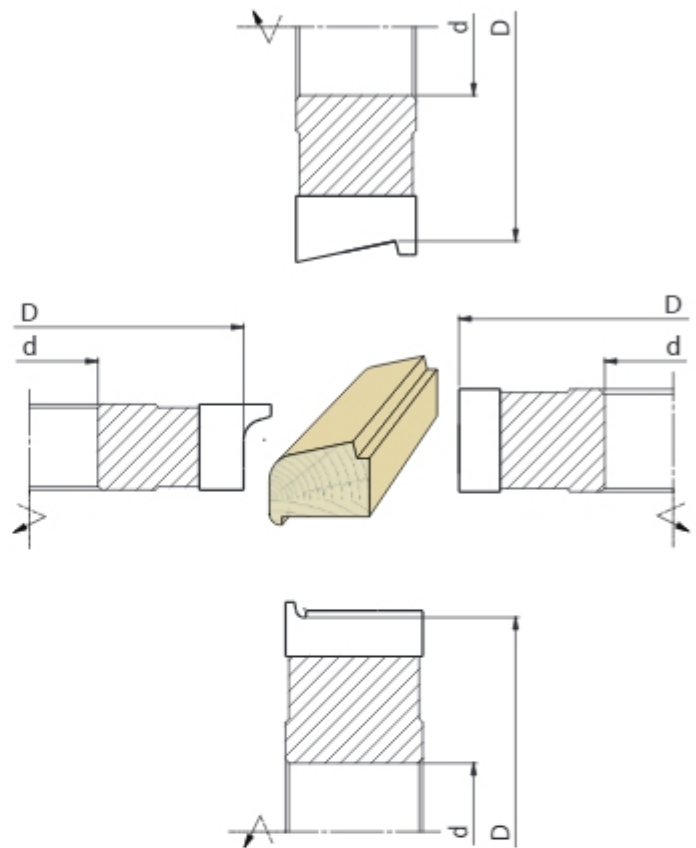
**Type of work:** window batten finishing.

**Material:**

 solid softwood

 solid hardwood

## Direct cutting



## ZFO-02

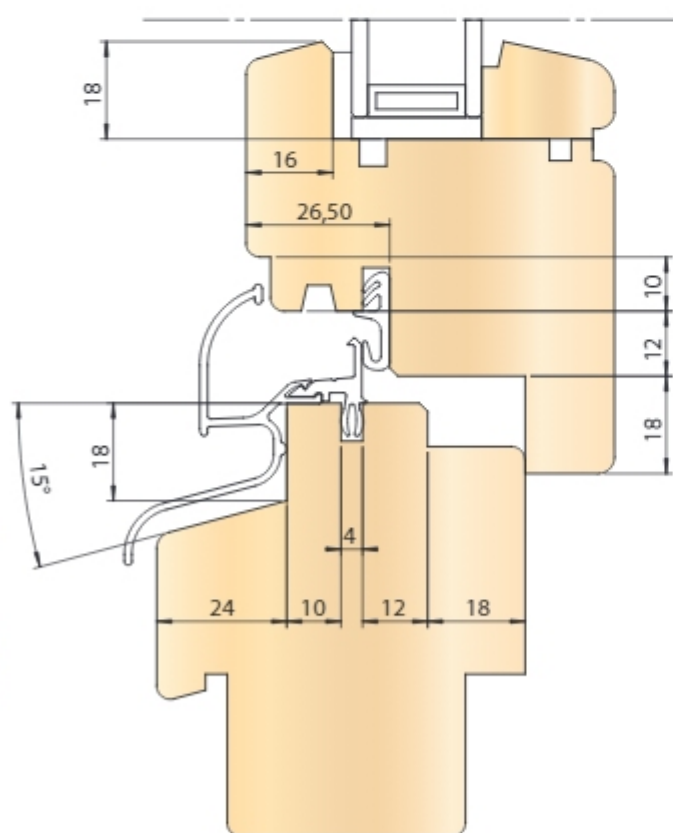
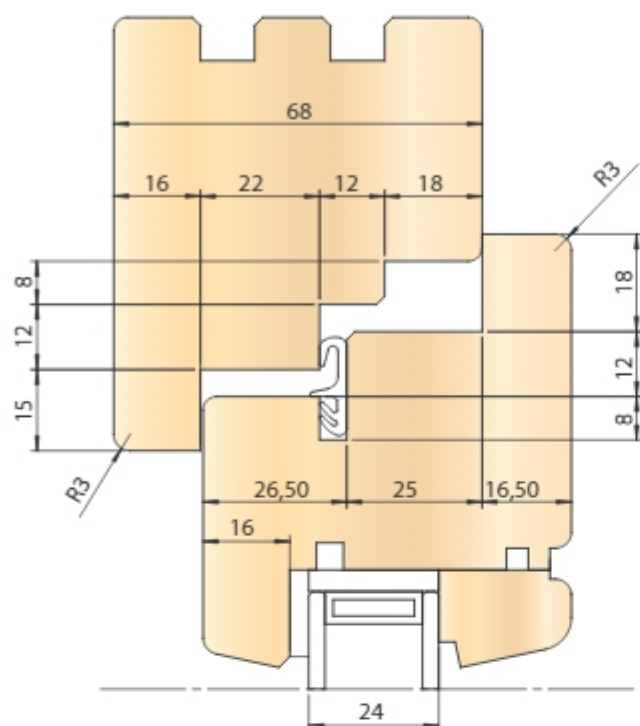
Set of brazed cutters, type **ZFO-02**, with four cutting teeth, designed for production of double-glass, single-sash windows 68 mm wide. The set includes 13 sets mounted on 100 mm long sleeves, without possibility to increase window sash and frame width.

## List of sets

## Basic set:

1. Internal longitudinal window sash profile made with window batten profile.
2. External longitudinal window sash profile.
3. Internal longitudinal side and top window frame profile.
4. Internal longitudinal bottom window frame profile.
5. Window batten cut-off.
6. Window sash tenon.
7. Window sash mortise.
8. Window frame bottom tenon.
9. Window frame top tenon.
10. Window frame mortise.
11. Drip cap profiling.
12. Window sill groove profile.
13. Floating mullion profile.

Standard sets can be extended with additional optional sets, depending on needs.



HSS

HM

Internal longitudinal window sash profile made in one operation with window batten profile (on a sleeve).

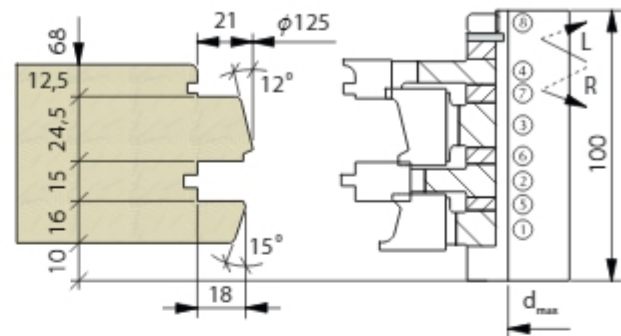
## ZFO-02.01.00-2

| Catalogue number  | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|-------------------|---------|---------|------------------------|-----|
| 1. ZFO-02.01.01-2 | 147     | 23      |                        | 4 + |
| 2. ZFO-02.01.02-2 | 177     | 15      |                        | 4 + |
| 3. ZFO-02.01.03-2 | 142,6   | 31,5    |                        | 4 + |
| 4. ZFO-02.01.04-2 | 177     | 17,5    |                        | 4 + |
| 5. Distance ring  | 1 pc.   | 3       |                        | +   |
| 6. Distance ring  | 1 pc.   | 5       |                        | +   |
| 7. Distance ring  | 1 pc.   | 6       |                        | +   |
| 8. BOX sleeve     |         |         | 50                     | +   |



HSS

HM



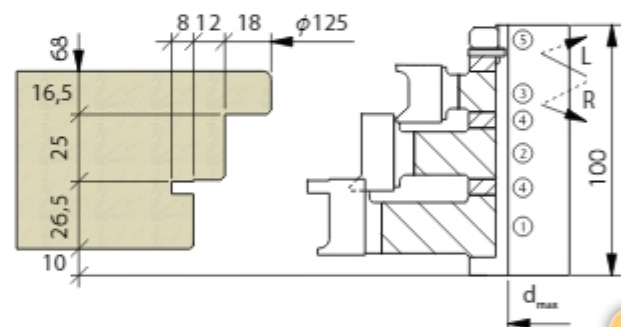
External longitudinal window sash profile (on a sleeve).  
The set consists of 3 HSS brazed cutters.

## ZFO-02.02.00-2

| Catalogue number  | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|-------------------|---------|---------|------------------------|-----|
| 1. ZFO-02.02.01-2 | 201     | 31,5    |                        | 4 + |
| 2. ZFO-02.02.02-2 | 167     | 28      |                        | 4 + |
| 3. ZFO-02.02.03-2 | 135     | 24,5    |                        | 4 + |
| 4. Distance ring  | 2 pcs.  | 9       |                        | +   |
| 5. BOX sleeve     |         |         | 50                     | +   |



HSS



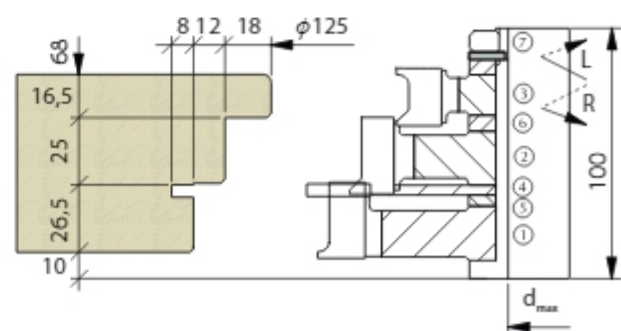
External longitudinal window sash profile (on a sleeve).  
The set consists of 3 HM brazed cutters.

## ZFO-02.02.00-2

| Catalogue number   | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|--------------------|---------|---------|------------------------|-----|
| 1. ZFO-020201Aw01L | 195     | 31,5    |                        | 4 + |
| 2. ZFO-020202w01L  | 167     | 28      |                        | 4 + |
| 3. ZFO-020203w01P  | 135     | 24,5    |                        | 4 + |
| 4. ZFO-020204w01P  | 201     | 5       |                        | 4 + |
| 5. Distance ring   | 1 pc.   | 3,5     |                        | +   |
| 6. Distance ring   | 1 pc.   | 9,1     |                        | +   |
| 7. BOX sleeve      |         |         | 50                     | +   |

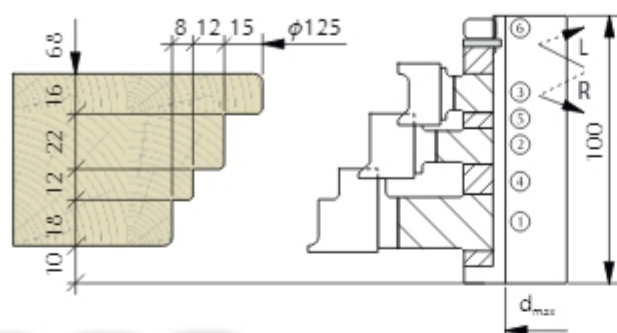


HM



## ZFO-02.03.00-2

Internal longitudinal side and top window frame profile (on a sleeve).

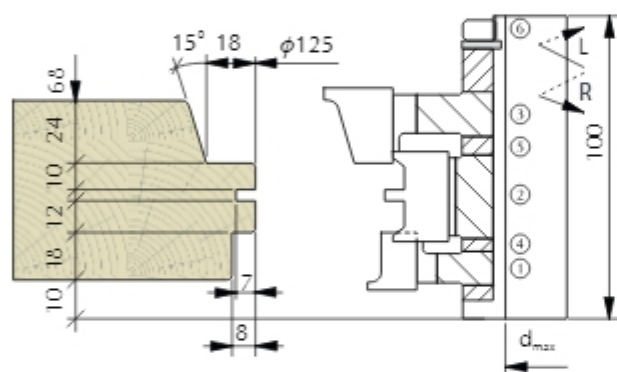


| Catalogue number  | D mm  | B mm | d <sub>max</sub> mm | z |
|-------------------|-------|------|---------------------|---|
| 1. ZFO-02.03.01-2 | 205   | 35   | 4                   | + |
| 2. ZFO-02.03.02-2 | 161   | 25   | 4                   | + |
| 3. ZFO-02.03.03-2 | 135   | 24   | 4                   | + |
| 4. Distance ring  | 1 pc. | 7    |                     | + |
| 5. Distance ring  | 1 pc. | 4    |                     | + |
| 6. BOX sleeve     |       |      | 50                  | + |



## ZFO-02.04.00-2

Internal longitudinal bottom window frame profile (on a sleeve).

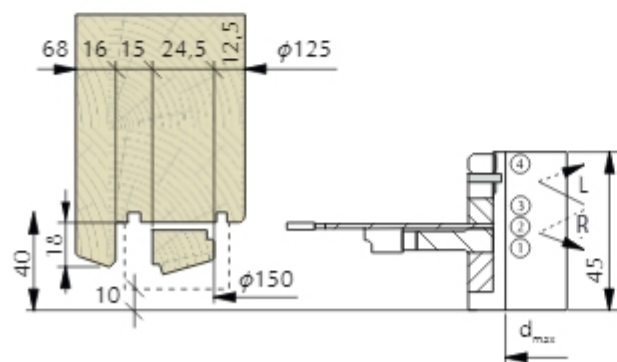


| Catalogue number  | D mm  | B mm | d <sub>max</sub> mm | z |
|-------------------|-------|------|---------------------|---|
| 1. ZFO-02.04.01-2 | 151   | 23   | 4                   | + |
| 2. ZFO-02.04.02-2 | 139   | 32   | 4                   | + |
| 3. ZFO-02.04.03-2 | 183   | 29   | 4                   | + |
| 4. Distance ring  | 1 pc. | 4    |                     | + |
| 5. Distance ring  | 1 pc. | 6    |                     | + |
| 6. BOX sleeve     |       |      | 50                  | + |



## ZFO-02.05.00-2

Window batten cut-off (on a sleeve).



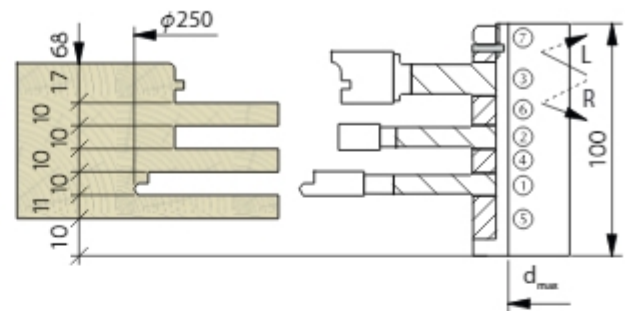
| Catalogue number  | D mm  | B mm | d <sub>max</sub> mm | z |
|-------------------|-------|------|---------------------|---|
| 1. ZFO-02.05.01-2 | 156   | 11,7 | 4                   | + |
| 2. PI-402 z=24    | 210   | 3    | 4                   | + |
| 3. Distance ring  | 1 pc. | 10   |                     | + |
| 5. BOX sleeve     |       |      | 50                  | + |



Window sash tenon (on a sleeve).

**ZFO-02.06.00-2**

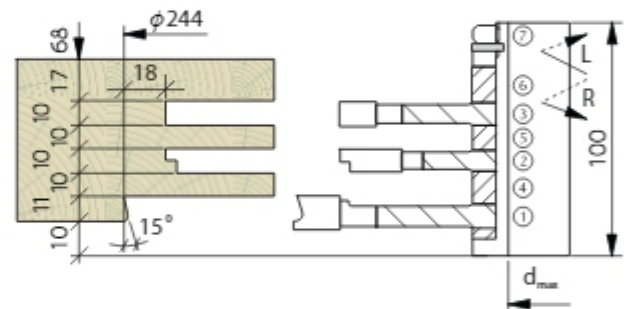
| Catalogue number |                | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|------------------|----------------|---------|---------|------------------------|-----|
| 1.               | ZFO-02.06.01-2 | 250     | 10      |                        | 4 + |
| 2.               | ZFO-02.06.02-2 | 214     | 10      |                        | 4 + |
| 3.               | ZFO-02.06.03-3 | 224     | 22      |                        | 4 + |
| 4.               | Distance ring  | 1 pc.   | 10      |                        | +   |
| 5.               | Distance ring  | 1 pc.   | 17      |                        | +   |
| 6.               | Distance ring  | 1 pc.   | 16      |                        | +   |
| 7.               | BOX sleeve     |         |         | 50                     | +   |



Window sash mortise (on a sleeve).

**ZFO-02.07.00-2**

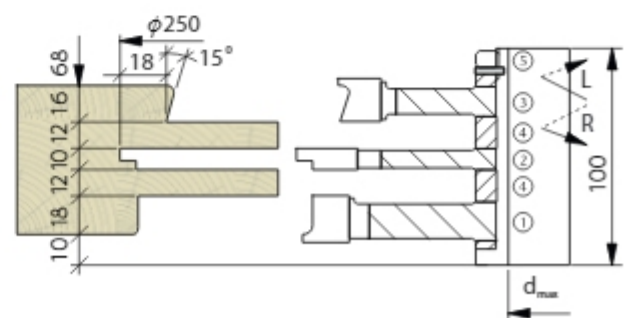
| Catalogue number |                | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|------------------|----------------|---------|---------|------------------------|-----|
| 1.               | ZFO-02.07.01-2 | 254,4   | 16      |                        | 4 + |
| 2.               | ZFO-02.07.02-2 | 214     | 10      |                        | 4 + |
| 3.               | ZFO-02.07.03-2 | 214     | 10      |                        | 4 + |
| 4.               | Distance ring  | 1 pc.   | 14      |                        | +   |
| 5.               | Distance ring  | 1 pc.   | 10      |                        | +   |
| 6.               | Distance ring  | 1 pc.   | 22      |                        | +   |
| 7.               | BOX sleeve     |         |         | 50                     | +   |



Window frame bottom tenon (on a sleeve).

**ZFO-02.08.00-2**

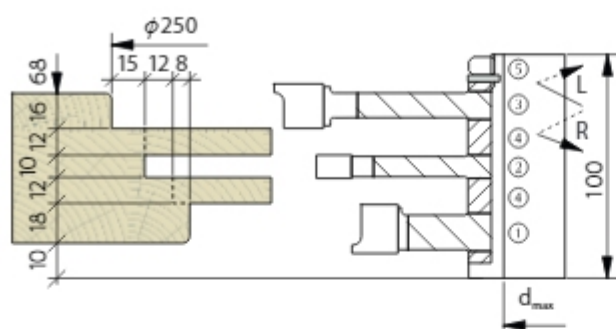
| Catalogue number |                | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|------------------|----------------|---------|---------|------------------------|-----|
| 1.               | ZFO-02.08.01-2 | 244     | 23      |                        | 4 + |
| 2.               | ZFO-02.08.02-2 | 250     | 10      |                        | 4 + |
| 3.               | ZFO-02.08.03-2 | 212     | 21      |                        | 4 + |
| 4.               | Distance ring  | 2 pcs.  | 17      |                        | +   |
| 5.               | BOX sleeve     |         |         | 50                     | +   |





**ZFO-02.09.00-2**

Window frame top tenon (on a sleeve).

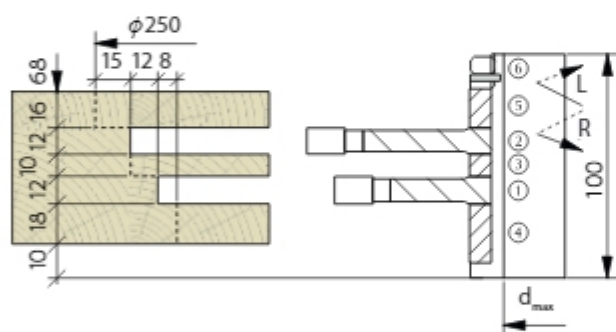


| Catalogue number  | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z |   |
|-------------------|---------|---------|------------------------|---|---|
| 1. ZFO-02.09.01-2 | 190     | 23      |                        | 4 | + |
| 2. ZFO-02.09.02-2 | 220     | 10      |                        | 4 | + |
| 3. ZFO-02.09.03-2 | 260     | 21      |                        | 4 | + |
| 4. Distance ring  | 2 pcs.  | 17      |                        |   | + |
| 5. BOX sleeve     |         |         | 50                     |   | + |



**ZFO-02.10.00-2**

Window frame mortise (on a sleeve).

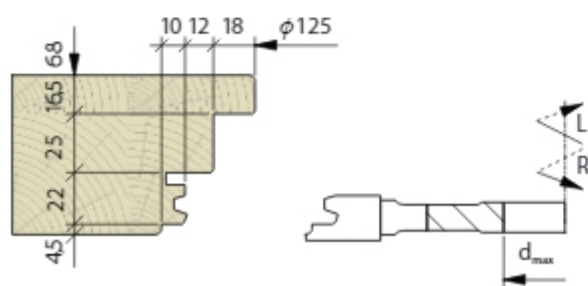


| Catalogue number |                | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z   |
|------------------|----------------|---------|---------|------------------------|-----|
| 1.               | ZFO-02.10.01-2 | 196     | 12      |                        | 4 + |
| 2.               | ZFO-02.10.02-2 | 220     | 12      |                        | 4 + |
| 3.               | Distance ring  | 1 pc.   | 10      |                        | +   |
| 4.               | Distance ring  | 1 pc.   | 23      |                        | +   |
| 5.               | Distance ring  | 1 pc.   | 21      |                        | +   |
| 6.               | BOX sleeve     |         |         | 50                     | +   |



**ZFO-02.11.00-2**

Drip cap profile.



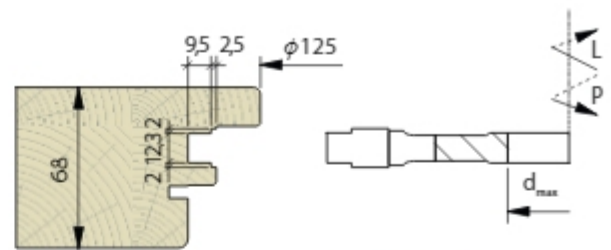
| Catalogue number  | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z |   |
|-------------------|---------|---------|------------------------|---|---|
| 1. ZFO-02.11.01-2 | 215     | 22,5    | 50                     | 4 | + |



Window sill groove profile.

**ZFO-02.12.00-2**

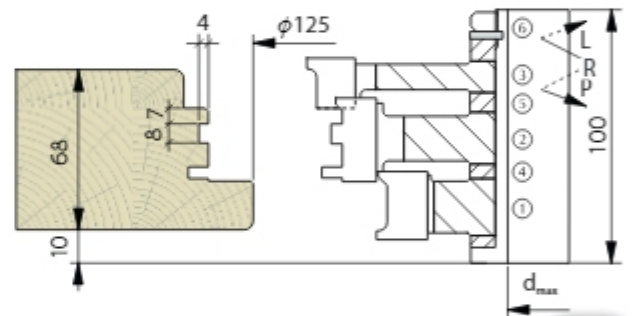
| Catalogue number  | D<br>mm | B<br>mm   | d <sub>max</sub><br>mm | z |   |
|-------------------|---------|-----------|------------------------|---|---|
| 1. ZFO-02.12.01-2 | 185     | 16,3/12,3 | 50                     | 4 | + |

**HSS****HM**

Internal longitudinal profile of floating mullion (on a sleeve). The set consists of 3 HSS brazed cutters.

**ZFO-02.13.00-2**

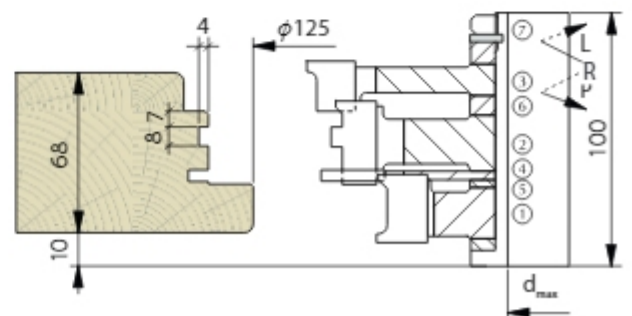
| Catalogue number  | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z |   |
|-------------------|---------|---------|------------------------|---|---|
| 1. ZFO-02.00.13-2 | 135     | 29      |                        | 4 | + |
| 2. ZFO-02.00.13-2 | 180     | 33,5    |                        | 4 | + |
| 3. ZFO-02.00.13-2 | 195     | 21,5    |                        | 4 | + |
| 4. Distance ring  | 1 pc.   | 6,4     |                        |   | + |
| 5. Distance ring  | 1 pc.   | 9,1     |                        |   | + |
| 6. BOX sleeve     |         |         | 50                     |   | + |

**HSS**

Internal longitudinal profile of floating mullion (on a sleeve). The set consists of 3 HM brazed cutters.

**ZFO-02.13.00-2**

| Catalogue number  | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | z |   |
|-------------------|---------|---------|------------------------|---|---|
| 1. ZFO-021301w01L | 135     | 29      |                        | 4 | + |
| 2. ZFO-021302w01P | 172     | 33,5    |                        | 4 | + |
| 3. ZFO-021303w01P | 195     | 21,5    |                        | 4 | + |
| 4. ZFO-021304w01L | 180     | 5       |                        | 4 | + |
| 5. Distance ring  | 1 pc.   | 3,5     |                        |   | + |
| 6. Distance ring  | 1 pc.   | 9,1     |                        |   | + |
| 7. BOX sleeve     |         |         | 50                     |   | + |

**HM**

Sets of cutter heads, type **GO-01**, with three cutting teeth for tenoning and two cutting teeth for profiling, designed for professional machining of solid wood. The sets are used for double-glass, single-sash windows 68 mm wide. The set includes 11 basic sets and 5 optional ones, mounted on 100 mm long sleeves.

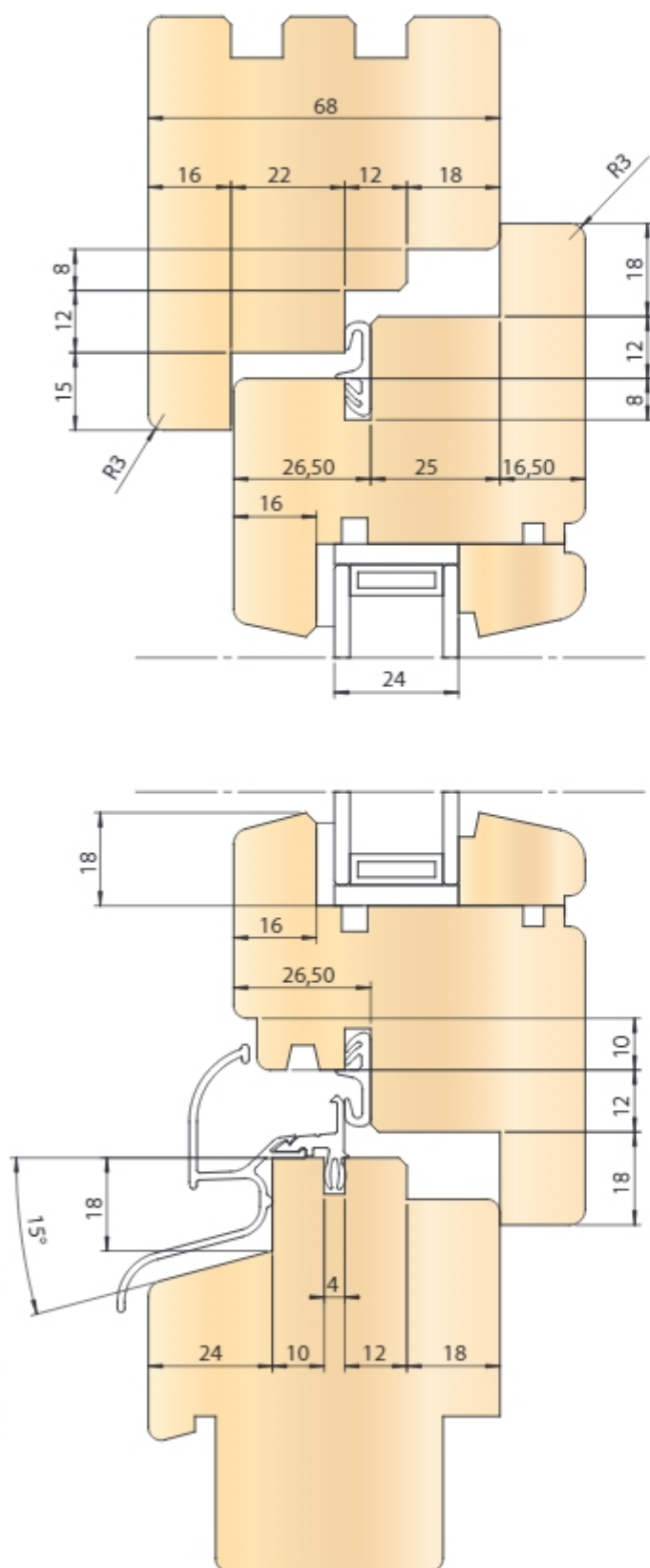
**Material:** solid hardwood

**Basic sets** (page 10.14):

1. Window frame mortise.
2. Window frame bottom tenon.
3. Window frame top tenon.
4. Window sash tenon.
5. Window sash mortise.
6. Internal longitudinal bottom window frame profile.
7. Internal longitudinal side and top window frame profile.
8. Internal longitudinal window sash profile.
9. External longitudinal window sash profile.
10. Drip cap profiling.
11. Window sill groove profiling.

12. External longitudinal bottom window frame profile.
13. External longitudinal side and top window frame profile.
14. External longitudinal window sash profile with additional gasket.
15. Floating mullion profile.
16. Window batten profile.

Standard sets can be extended with additional optional sets, depending on needs.



Sets of brazed cutters, type **ZFO-02 Softline**, with four cutting teeth and sets of cutter heads, type **GO-01 Softline**, with three cutting teeth for tenoning and two cutting teeth for profiling, designed for professional machining of solid wood. The sets are used for double-glass, single-sash windows 68 mm wide. The set includes 11 basic sets and 5 optional ones, mounted on 100 mm long sleeves.

**Type of work:** tenoning, internal and external window profiling.

**Material:** solid wood

#### List of sets

**Basic sets** (page 10.14):

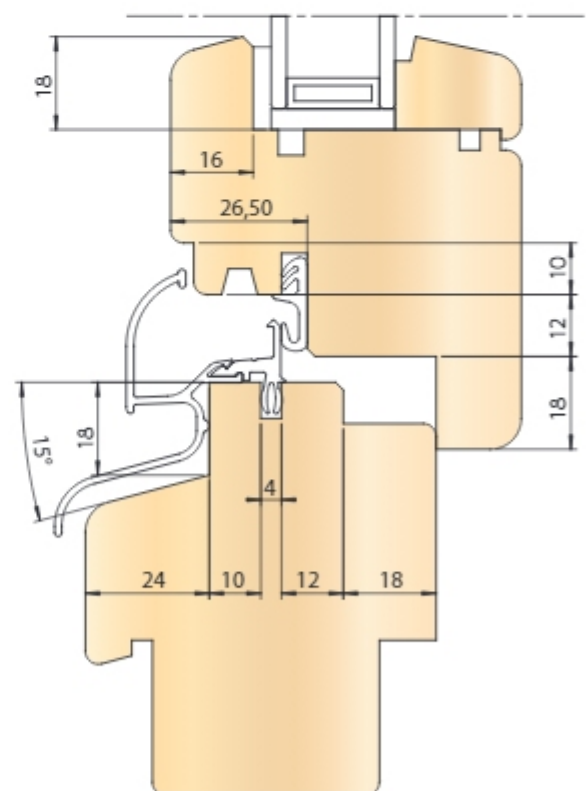
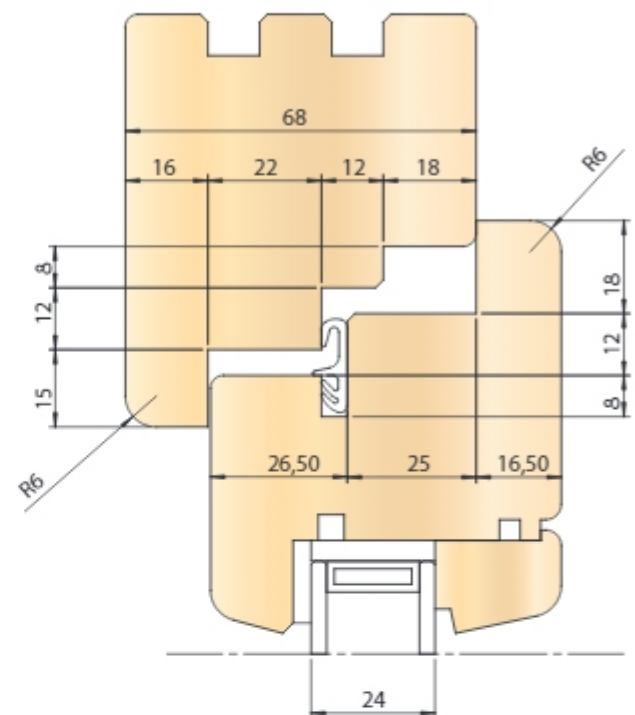
1. Window frame mortise.
2. Window frame bottom tenon.
3. Window frame top tenon.
4. Window sash tenon.
5. Window sash mortise.
6. Internal longitudinal bottom window frame profile.
7. Internal longitudinal side and top window frame profile.
8. Internal longitudinal window sash profile.
9. External longitudinal window sash profile.
10. Drip cap profiling.
11. Window sill groove profiling.

**Optional sets** (page 10.15):

12. External longitudinal bottom window frame profile.
13. External longitudinal side and top window frame profile.
14. External longitudinal window sash profile with additional gasket.
15. Floating mullion profile.
16. Window batten profile.

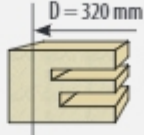

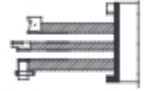
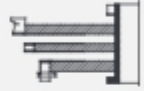







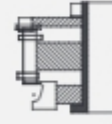

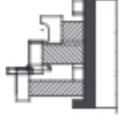




Standard sets can be extended with additional optional sets, depending on needs.

## ZFO-02/GO-01 Softline



# Basic set

Basic set for production of double-glass, single-sash windows 68 mm wide for cutter heads GO-01 or GO-01 Softline with number of cutting teeth given in the chart and for brazed cutters ZFO-02 Softline with four cutting teeth ( $z=4$ ).

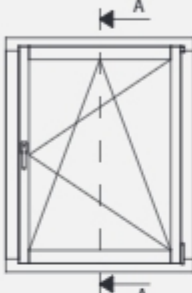



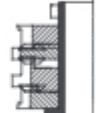

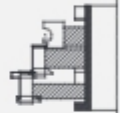
| Profile number | Profile   | Name  | Tool  | z |
|----------------|---|---|---|---|
| 1.             |   | Window frame mortise                                    |    | 3 |
|                |   | Window frame bottom tenon                               |    | 3 |
|                |   | Window frame top tenon                                  |    | 3 |
|                |   | Window sash tenon                                       |   | 3 |
|                |   | Window sash mortise                                     |  | 3 |
| 6.             |  | Internal longitudinal bottom window frame profile       |  | 2 |
| 7.             |  | Internal longitudinal side and top window frame profile |  | 2 |
| 8.             |  | Internal longitudinal window sash profile               |  | 2 |
| 9.             |  | External longitudinal window sash profile               |  | 2 |
| 10.            |  | Drip cap profiling                                      |  | 2 |
| 11.            |  | Window sill groove profiling                            |  | 2 |

Optionally, it is possible to make window sill groove and drip cap in one operation with external longitudinal window sash profile, as window type GOD or GON.

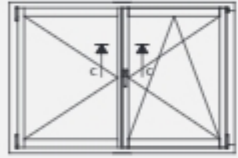

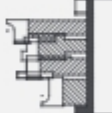


Additional sets for cutter heads GO-01 or GO-01 Softline with number of cutting teeth given in the chart and for brazed cutters ZFO-02 Softline with four cutting teeth ( $z=4$ ).

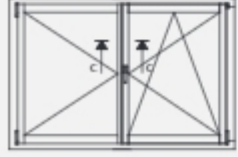

## Additional sets

|   | Profile number | Profile   | Name   | Tool  | z |
|---|----------------|---|--|---|---|
|  | 12.            | <br>$D = 140 \text{ or } 125 \text{ mm}$ | External longitudinal bottom window frame profile                |  | 2 |
|   | 13.            |    | External longitudinal side and top window frame profile          |  | 2 |
|   | 14.            |    | External longitudinal window sash profile with additional gasket |  | 2 |

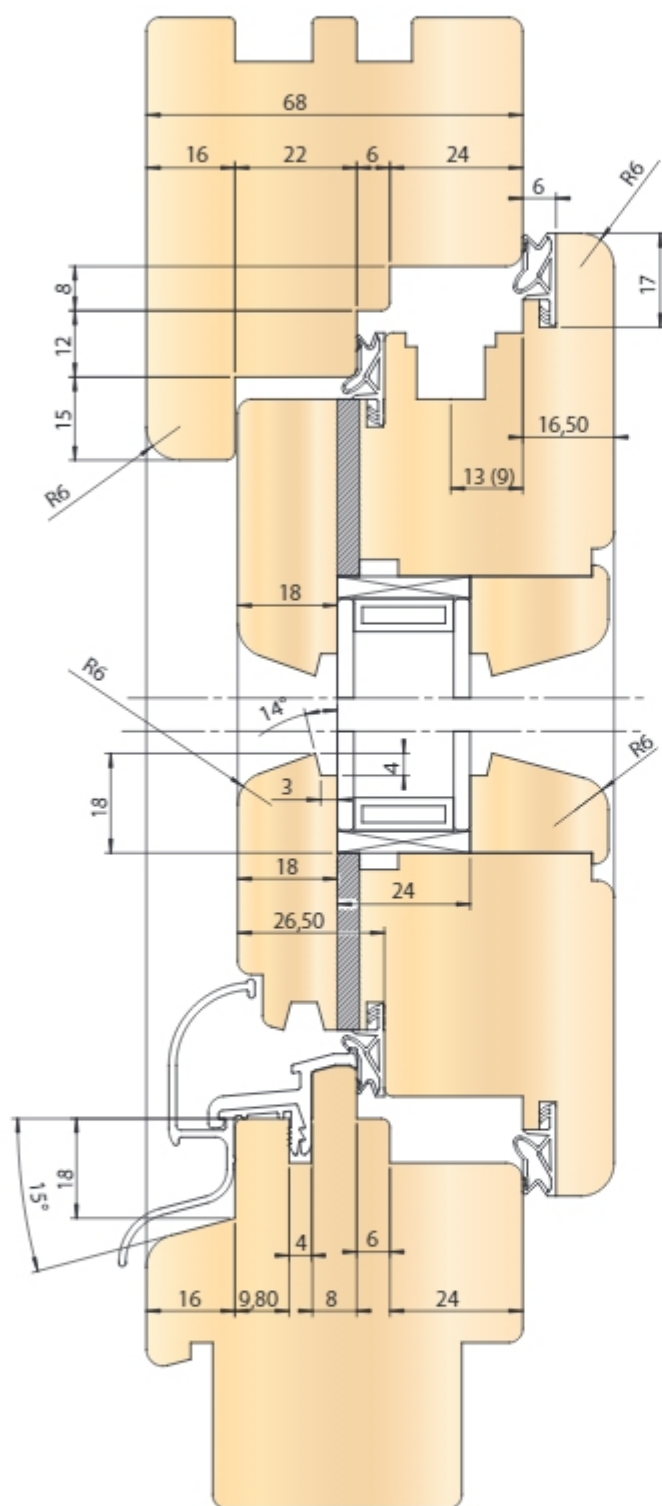
## Floating mullion

|   | Profile number | Profile   | Name                     | Tool  | z |
|---|----------------|---|--------------------------|---|---|
|  | 15.            | <br>$D = 140 \text{ or } 125 \text{ mm}$ | Floating mullion profile |  | 2 |

## Window batten

|   | Profile number | Profile   | Name                  | Tool                            | z |
|---|----------------|---|-----------------------|---------------------------------|---|
|  | 16.            |  | Window batten profile | Types of profiling on page 10.4 |   |

## GOD



Sets of cutter heads, type **GOD**, with three cutting teeth for tenoning and two cutting teeth for profiling, designed for professional machining of solid wood soft and hard. The basic set GOD 68 2U is used for production of windows 68 mm wide with two gaskets, including one optionally on internal window sash edge. The set GOD 68 2U can be easily and at little cost extended to width 78 mm (GOD 78 2U), 88 mm (GOD 88 2U) and 92 mm (GOD 92 2U). The abovementioned sets can be additionally extended to width 88 mm (GOD 88 3U), 92 mm (GOD 92 3U) and 98 mm (GOD 98 3U) with three gaskets including one optionally on internal window sash edge.

Sets of cutter heads or single cutter heads are mounted on sleeves of small height enabling for adjustment of the set together with the produced window width. The window profile corresponds with pressed aluminum drip cap. Window sill groove and drip cap profile are made in one operation together with external longitudinal window sash profile or optionally in separate operations. The set includes 9 basic sets and additionally 11 optional ones.

## List of sets

## Basic sets (page 10.17):

1. Window frame mortise.
2. Window frame bottom tenon.
3. Window frame top tenon.
4. Window sash tenon.
5. Window sash mortise.
6. Internal longitudinal bottom window frame profile.
7. Internal longitudinal side and top window frame profile.
8. Internal longitudinal window sash profile.
9. External longitudinal window sash profile.

## Additional sets (page 10.18):

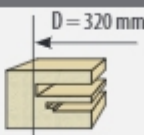

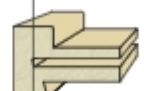

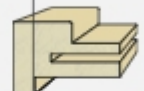
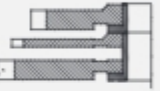
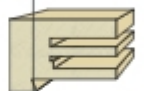
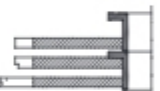



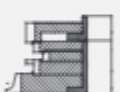

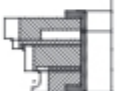

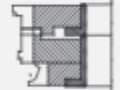

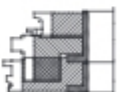

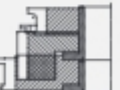


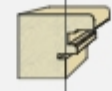

10. External bottom window frame profile.
11. External side and top window frame profile.
12. Floating mullion profile.
13. Fixed mullion longitudinal profile.
14. Top frame counterprofile.
15. Bottom frame counterprofile.
16. Window batten profile.
17. Internal tenoning sash counterprofile.
18. Muntin profile.
19. Internal tenoning sash counterprofile.
20. Internal profiling sash counterprofile.



Basic set of cutter head sets with given base diameter for universal GOD system for production of window 68 mm wide (GOD 68 2U).

With little additional cost and time, we easily expand the set to 78/88/92 (2U system) and 88/92/98 (3U system)

# GOD basic set

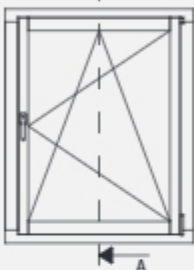


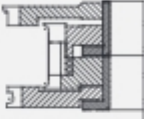

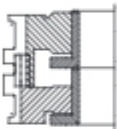
| Profile number | Profile  | Name   | Tool  | z |
|----------------|--|--|---|---|
| 1.             |    | Window frame mortise   |    | 3 |
| 2.             |    | Window frame bottom tenon  |    | 3 |
| 3.             |    | Window frame top tenon   |    | 3 |
| 4.             |   | Window sash tenon  |   | 3 |
| 5.             |  | Window sash mortise  |  | 3 |
| 6.             |   | Internal longitudinal bottom window frame profile                              |  | 2 |
| 7.             |   | Internal longitudinal side and top window frame profile                        |  | 2 |
| 8.             |   | Internal longitudinal window sash profile                                      |  | 2 |
| 9.             |   | External longitudinal window sash profile with drip cap and window sill groove |  | 2 |
| 9a-1.          |   | External longitudinal window sash profile*                                     |  | 2 |
| 9a-2.          |   | Drip cap profiling*  |  | 2 |
| 9a-3.          |   | Window sill groove profiling*  |  | 2 |

\* Profiles made optionally in separate operations.

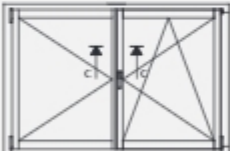
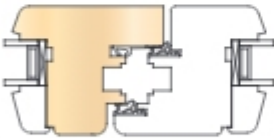

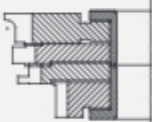
## GOD additional sets

Additional sets with given base diameter for universal GOD system for production of supplemental profiles. Extending the window width to 78/88/92 (system 2U) and 88/92/98 (system 3U) requires retooling or buying additional tools.

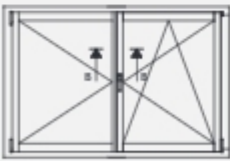
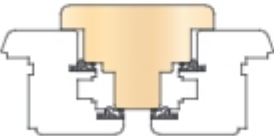

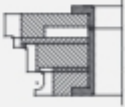
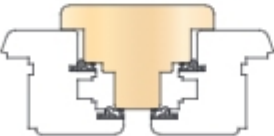

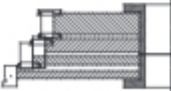
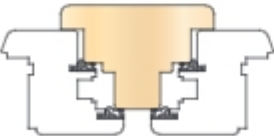
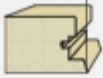
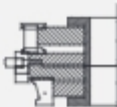
## Window frame profiles

|   | Profile number | Profile  | Name  | Tool  | z |
|---|----------------|--|---|---|---|
|  | 10.            |   | D = 140 or 125 mm<br>External bottom window frame profile |  | 2 |
|   | 11.            |   | External top and side window frame profile                |  | 2 |

## Floating mullion

|   | Profile number | Profile   | Name   | Tool  | z |
|---|----------------|---|--|---|---|
|  | 12.            |   | D = 140 or 125 mm<br>Internal longitudinal profile of floating mullion |  | 2 |


## Fixed mullion

|   | Profile number | Profile   | Name  | Tool  | z |
|---|----------------|---|---|---|---|
|  | 13.            |   | D = 140 or 125 mm<br>Fixed mullion longitudinal profile |  | 2 |
|   | 14.            |   | D = 320 mm<br>Top frame counterprofile                  |  | 2 |
|   | 15.            |   | D = 140 or 125 mm<br>Bottom frame counterprofile        |  | 2 |

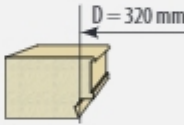
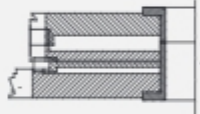




Additional sets with given base diameter for universal GOD system for production of supplemental profiles. Extending the window width to 78/88/92 (system 2U) and 88/92/98 (system 3U) requires retooling or buying additional tools.

## GOD additional sets

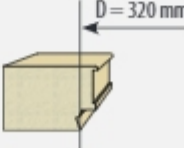
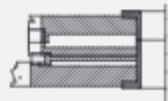
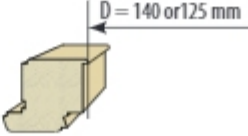
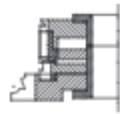
## Window batten

| Profile number | Profile  | Name                  | Tool                            | z |
|----------------|--|-----------------------|---------------------------------|---|
| 16.            |  | Window batten profile | Types of profiling on page 10.4 |   |

## Muntin

| Profile number | Profile  | Name  | Tool  | z |
|----------------|--|---|---|---|
| 17.            |  | Internal tenoning sash counterprofile                     |  | 2 |
| 18a.           |   | Internal longitudinal counterprofile of structural muntin |  | 4 |
| 18b.           |   | Internal longitudinal profile of structural muntin        |  | 4 |

## Balcony

| Profile number | Profil   | Nazwa                                  | Tool  | z |
|----------------|--|--|---|---|
| 19.            |  | Internal tenoning sash counterprofile  |  | 2 |
| 20.            |  | Internal profiling sash counterprofile |  | 2 |

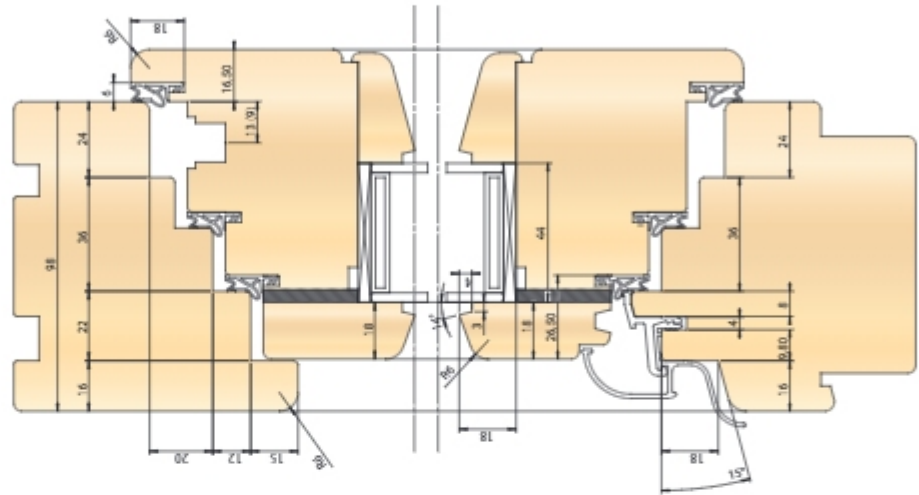


**GOD 2U – Universal system for production of window 68/78/88/92 extendable to various width easily and at little cost.**

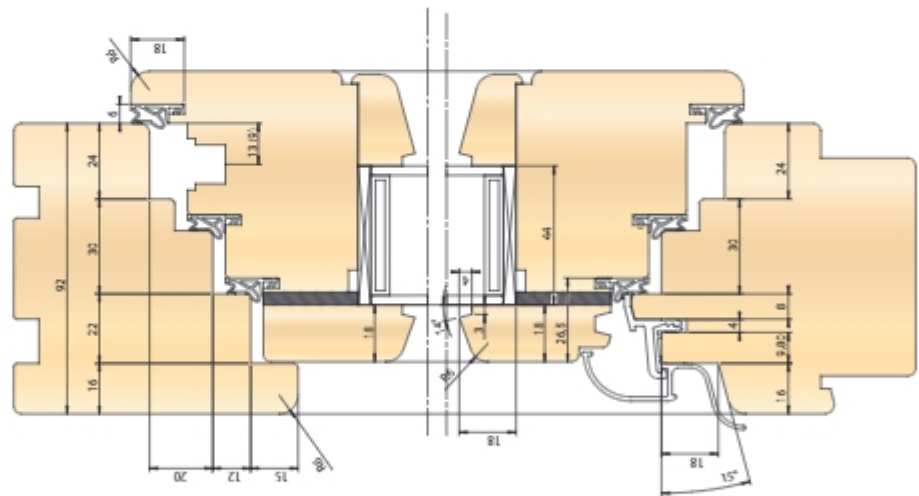
[illegible]

**GOD**  
**system 3U**

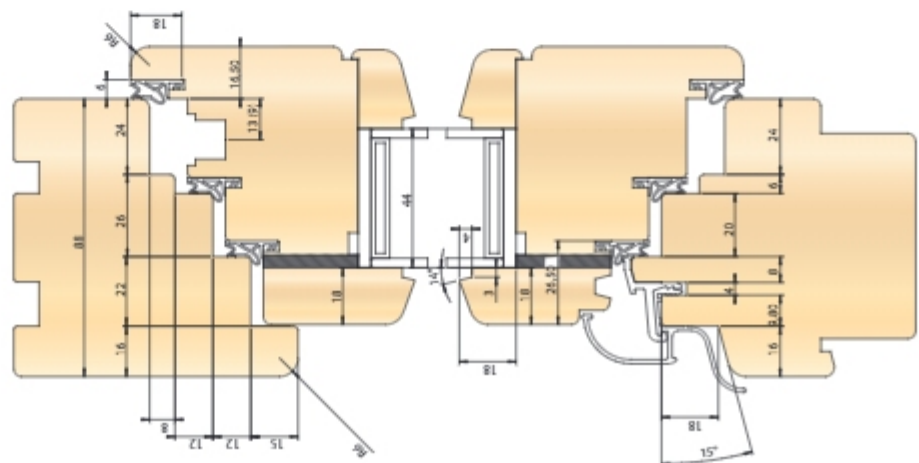
**GOD 98 3U**  
**width 98 mm**



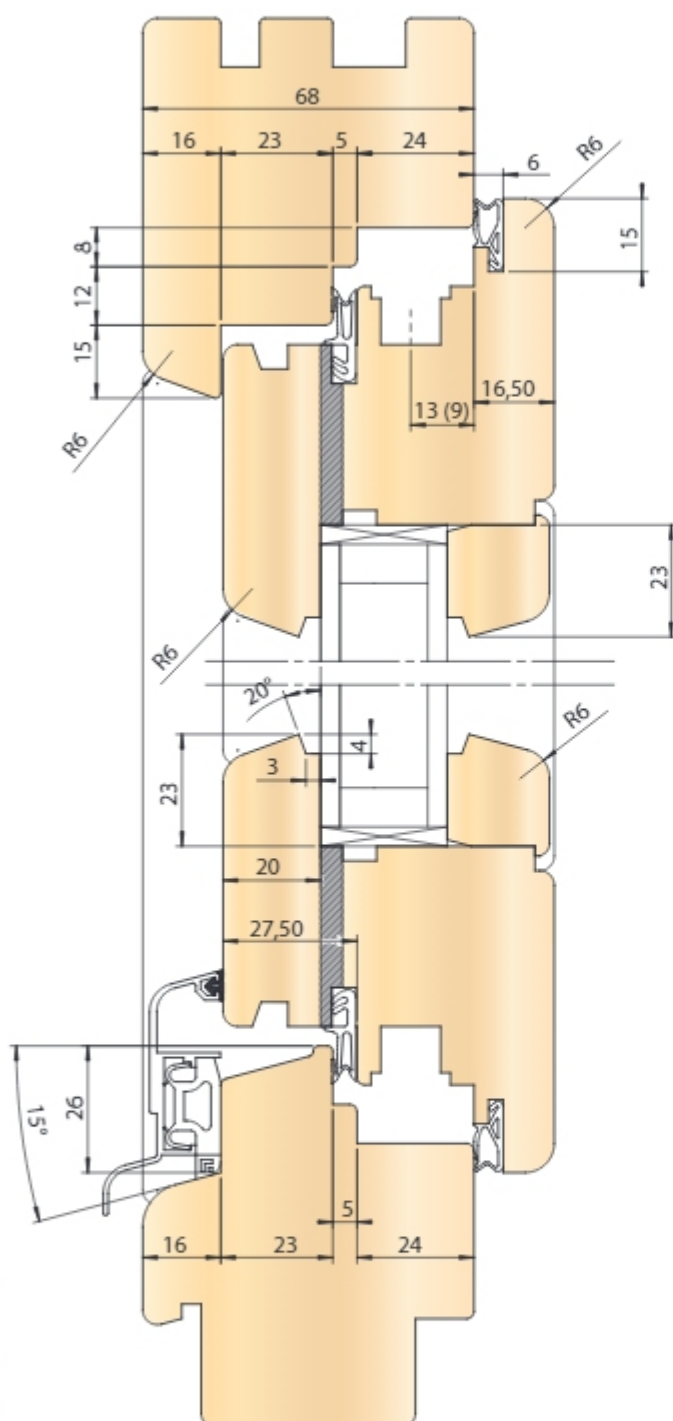
**GOD 92 3U**  
**width 92 mm**



**GOD 88 3U**  
**width 88 mm**



## GON



Sets of cutter heads, type **GON**, with three cutting teeth for tenoning and two cutting teeth for profiling, designed for professional machining of solid wood soft and hard. The basic set GOD 68 2U is used for production of windows 68 mm wide with two gaskets, including one optionally on internal window sash edge. The set GON 68 2U can be easily and at little cost extended to width 78 mm (GON 78 2U), 88 mm (GON 88 2U). There is possibility to extend the abovementioned sets to width 88 mm (GON 88 3U) and 98 mm (GON 98 3U) with three gaskets including one optionally on internal window sash edge.

Sets of cutter heads or single cutter heads are mounted on sleeves of small height enabling for adjustment of the set with the produced window width. The window profile corresponds with bolt-on aluminum drip cap. Window sill groove and drip cap profile are made in one operation together with external longitudinal window sash profile or optionally in separate operations. The set includes 9 basic sets and additionally 11 optional ones.

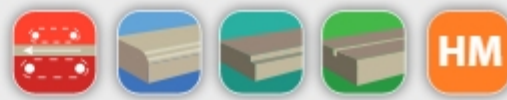
## List of sets

## Basic sets (page 10.23):

1. Window frame mortise.
2. Window frame bottom tenon.
3. Window frame top tenon.
4. Window sash tenon.
5. Window sash mortise.
6. Internal longitudinal bottom window frame profile.
7. Internal longitudinal side and top window frame profile.
8. Internal longitudinal window sash profile.
9. External longitudinal window sash profile.

## Additional sets (page 10.24):

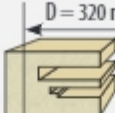

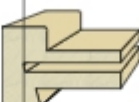

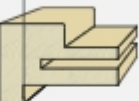

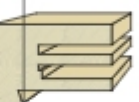
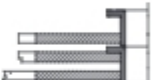
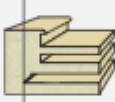










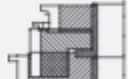
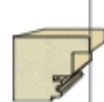



10. External bottom window frame profile.
11. External side and top window frame profile.
12. Floating mullion profile.
13. Fixed mullion longitudinal profile.
14. Top frame counterprofile.
15. Bottom frame counterprofile.
16. Window batten profile.
17. Internal tenoning sash counterprofile.
18. Muntin profile.
19. Internal tenoning sash counterprofile.
20. Internal profiling sash counterprofile.



Basic set of cutter head sets with given base diameter for universal **GON** system for production of window 68 mm wide (GON 68 2U).

With little additional cost and time, we easily expand the set to 78/88 (2U system) and 88/98 (3U system).

# GON basic set

| Profile number | Profile   | Name   | Tool  | z |
|----------------|---|--|---|---|
| 1.             |    | Window frame mortise   |    | 3 |
| 2.             |   | Window frame bottom tenon  |    | 3 |
| 3.             |   | Window frame top tenon   |    | 3 |
| 4.             |   | Window sash tenon  |    | 3 |
| 5.             |   | Window sash mortise  |  | 3 |
| 6.             |  | Internal longitudinal bottom window frame profile                              |  | 2 |
| 7.             |  | Internal longitudinal side and top window frame profile                        |  | 2 |
| 8.             |  | Internal longitudinal window sash profile                                      |  | 2 |
| 9.             |  | External longitudinal window sash profile with drip cap and window sill groove |  | 2 |
| 9a-1.          |  | External longitudinal window sash profile*                                     |  | 2 |
| 9a-2.          |  | Drip cap profiling*  |  | 2 |
| 9a-3.          |  | Window sill groove profiling*  |  | 2 |

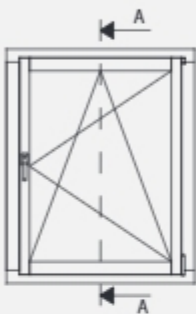

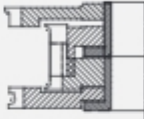
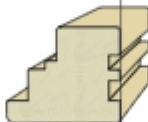
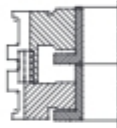
\* Profiles made optionally in separate operations.



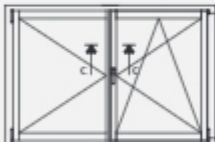

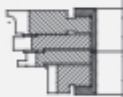
# GON additional sets

Additional sets with given base diameter for universal **GON** system for production of supplemental profiles. Extending the window width to 78/88 (system 2U) and 88/98 (system 3U) requires retooling or buying additional tools.

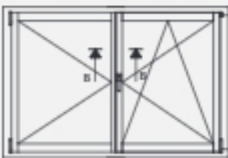

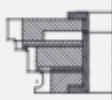
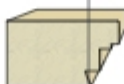
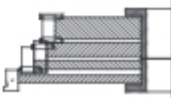

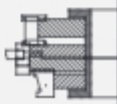
## Window frame profiles

|   | Profile number | Profil  | Nazwa                                      | Tool   | z |
|---|----------------|---|--|--|---|
|  | 10.            | <br>D = 140 or 125 mm  | External bottom window frame profile       |   | 2 |
|   | 11.            | <br>D = 140 or 125 mm | External top and side window frame profile |  | 2 |

## Floating mullion

|   | Profile number | Profile  | Name  | Tool  | z |
|---|----------------|--|---|---|---|
|  | 12.            | <br>D = 140 or 125 mm | Internal longitudinal profile of floating mullion |  | 2 |

## Fixed mullion


|   | Profile number | Profile  | Name                               | Tool  | z |
|---|----------------|--|------------------------------------|---|---|
|  | 13.            | <br>D = 140 or 125 mm | Fixed mullion longitudinal profile |  | 2 |
|   | 14.            | <br>D = 320 mm        | Top frame counterprofile           |  | 2 |
|   | 15.            | <br>D = 140 or 125 mm | Bottom frame counterprofile        |  | 2 |



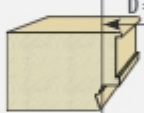
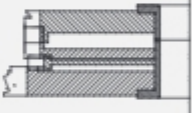




Each order is treated individually. Produce tools are adapted to client's needs, his technical requirements and machine park.

## GON additional sets

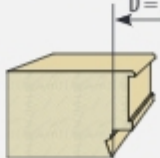
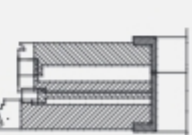
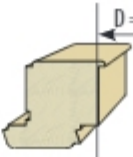
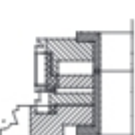
### Window batten

| Profile number | Profile  | Name                  | Tool                            | z |
|----------------|--|-----------------------|---------------------------------|---|
| 16.            |  | Window batten profile | Types of profiling on page 10.4 |   |

### Muntin

| Profile number | Profile  | Name  | Tool  | z |
|----------------|--|---|---|---|
| 17.            |  | Internal tenoning sash counterprofile                     |  | 2 |
| 18a.           |  | Internal longitudinal counterprofile of structural muntin |  | 4 |
| 18b.           |  | Internal longitudinal profile of structural muntin        |  | 4 |

### Balcony

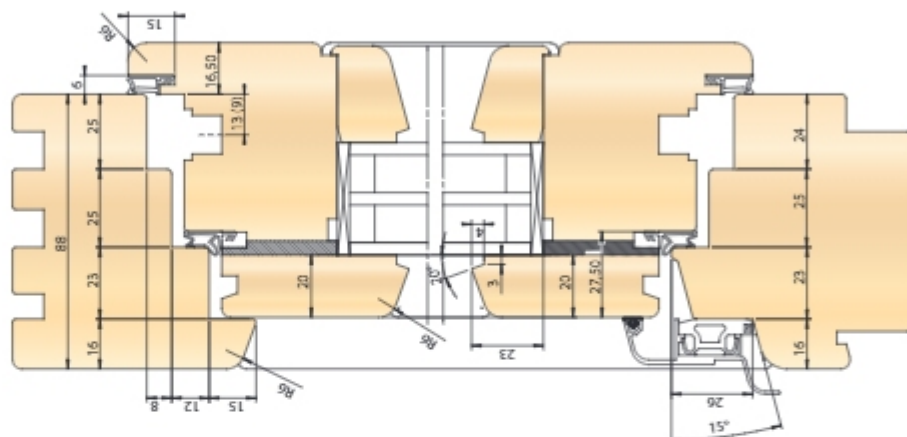
| Profile number | Profile  | Name                                   | Tool  | z |
|----------------|--|--|---|---|
| 19.            |  | Internal tenoning sash counterprofile  |  | 2 |
| 20.            |  | Internal profiling sash counterprofile |  | 2 |

# GON system 2U

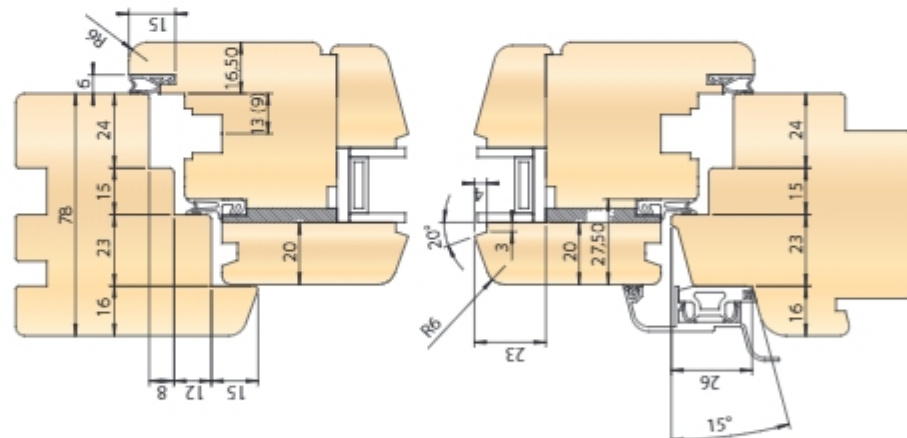
Universal **GON 2U** for production of windows 68/78/88 with two gaskets, including one optionally on internal window sash edge. The system is designed to enable production of windows of various width: 68 mm, 78 mm and 88 mm. This can be done easily and at little cost, by extending sets of cutter heads mounted on sleeves allowing for profiles width adjustment. In 2U system profiles double gasketing has been used which significantly increases windows' tightness.

**GON 2U – Universal system for production of window 68/78/88**  
extendable to various width easily and at little cost.

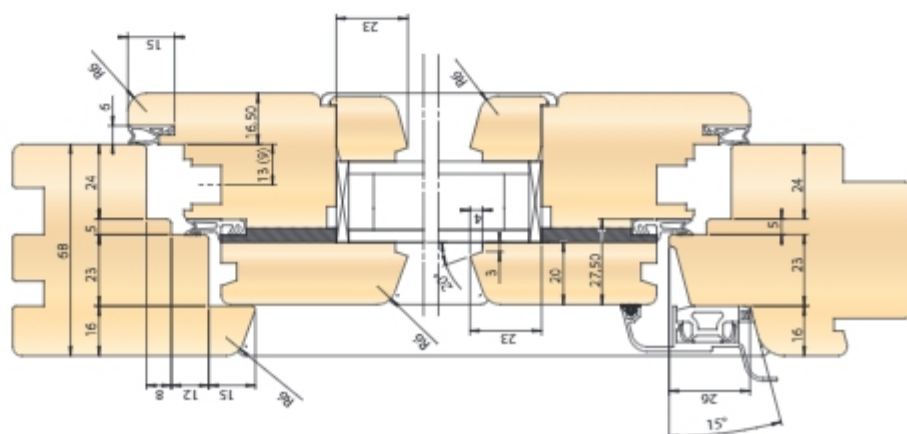
**GON 88 2U**  
width 88 mm



**GON 78 2U**  
width 78 mm

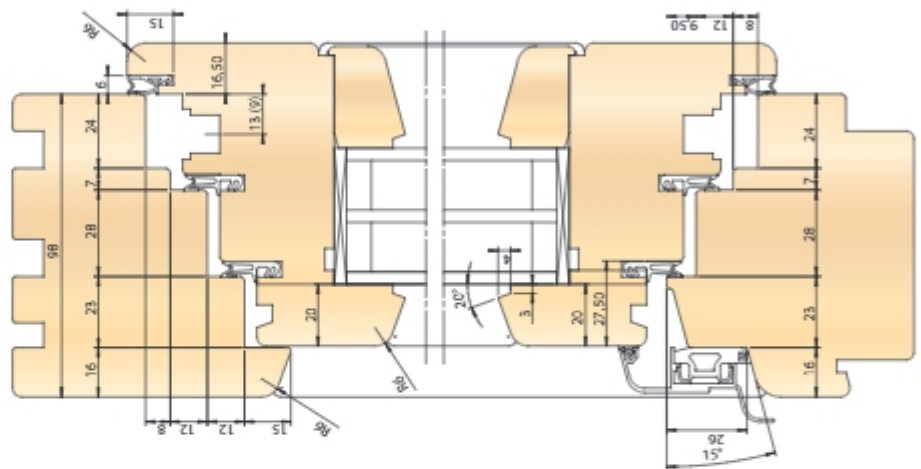


**GON 68 2U**  
width 68 mm

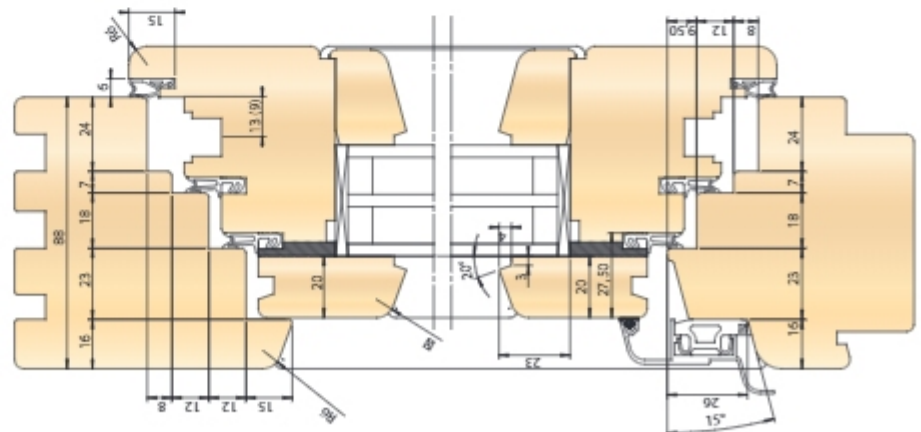


# GON system 3U

**GON system 3U  
width 98 mm**



**GON system 3U  
width 88 mm**



## GO-16

Sets of cutter heads, type **GO-16** with three cutting teeth for tenoning and two cutting teeth for profiling, designed for professional machining of solid wood. The sets are used for double-glass, single-sash windows 111 mm wide – SCANDINAVIAN type. The set includes 11 basic sets and 5 optional ones, mounted on sleeves L=140 mm for window frame and L=90 for window sash.

## List of sets

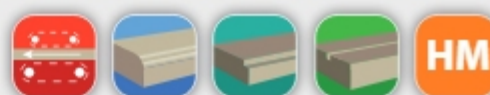
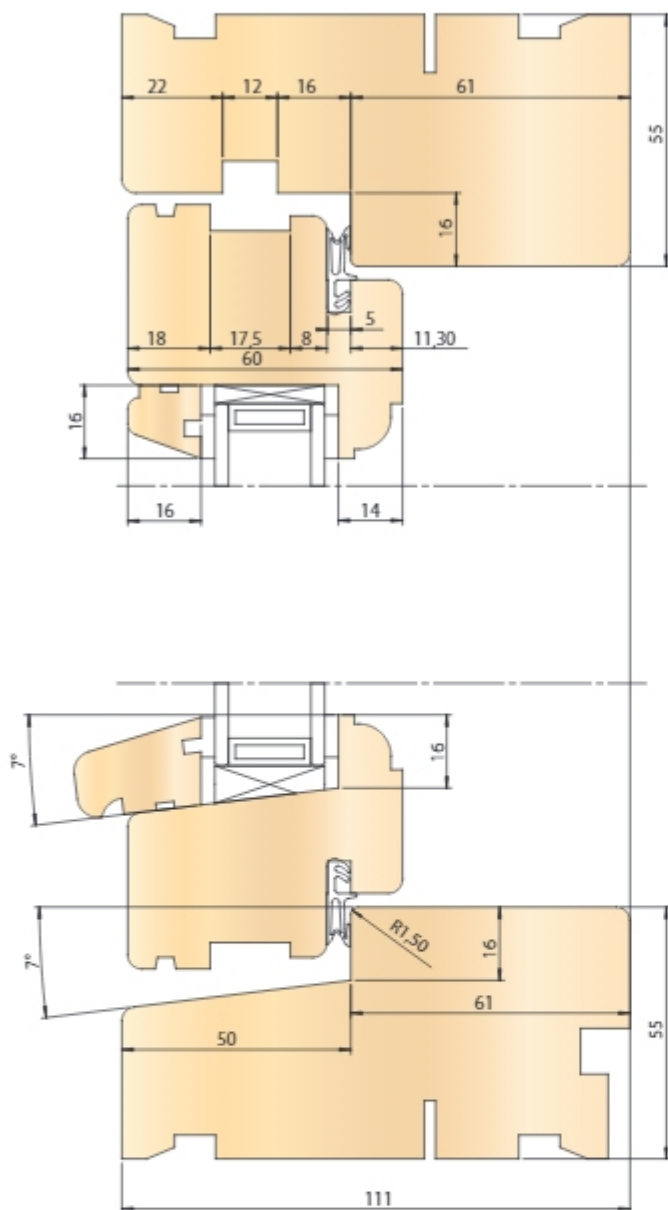
## Basic sets (page 10.29):

1. Window frame mortise.
2. Window frame bottom tenon.
3. Window frame top tenon.
4. Window sash top mortise.
5. Window sash bottom mortise.
6. Window sash tenon.
7. Internal longitudinal bottom window frame profile.
8. Internal longitudinal top window frame profile.
9. Bottom internal longitudinal window sash profile.
10. Top and side internal longitudinal window sash profile.
11. External longitudinal window sash profile.

## Optional sets (page 10.30):

12. External longitudinal window frame profile.
13. Internal longitudinal side window frame profile.
14. Cutting for internal window sill.
15. Bottom window batten profile.
16. Top window batten profile.

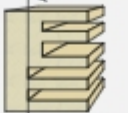
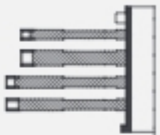
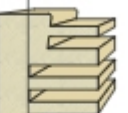
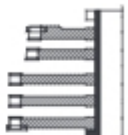
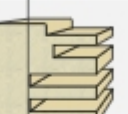
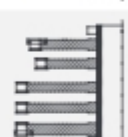
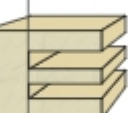

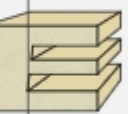
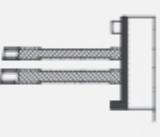
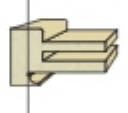
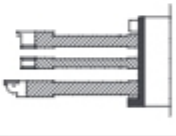
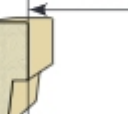






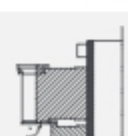


Standard sets can be extended with additional optional sets, depending on needs.





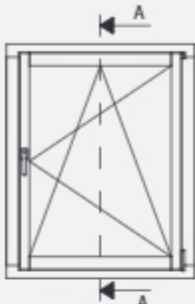
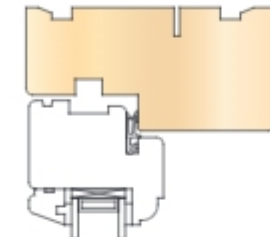


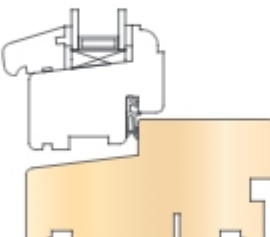
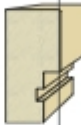
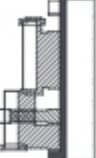

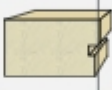
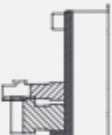
Basic set for production of double-glass, single-sash windows 111 mm wide for cutter heads GO-16 with number of cutting teeth given in the chart.

# GO-16 basic set

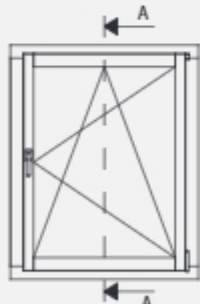
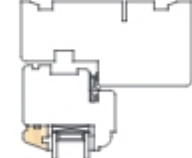



| Profile number | Profile  | Name   | Tool  | z |
|----------------|--|--|---|---|
| 1.             |    | Window frame mortise                                   |    | 3 |
|                |  |  |   |   |
|                |  |  |   |   |
|                |  |  |   |   |
|                |  |  |   |   |
|                |  |  |   |   |
| 2.             |    | Window frame bottom tenon                              |    | 3 |
|                |  |  |   |   |
| 3.             |    | Window frame top tenon                                 |    | 3 |
|                |  |  |   |   |
| 4.             |    | Window sash top mortise                                |    | 3 |
|                |  |  |   |   |
| 5.             |  | Window sash bottom mortise                             |  | 3 |
|                |  |  |   |   |
| 6.             |  | Window sash tenon                                      |  | 3 |
|                |  |  |   |   |
| 7.             |  | Internal longitudinal bottom window frame profile      |  | 2 |
|                |  |  |   |   |
|                |  |  |   |   |
|                |  |  |   |   |
|                |  |  |   |   |
| 8.             |  | Internal longitudinal top window frame profile         |  | 2 |
|                |  |  |   |   |
| 9.             |  | Bottom internal longitudinal window sash profile       |  | 2 |
|                |  |  |   |   |
| 10.            |  | Top and side internal longitudinal window sash profile |  | 2 |
|                |  |  |   |   |
| 11.            |  | External longitudinal window sash profile              |  | 2 |
|                |  |  |   |   |

# GO-16 additional sets

Additional sets for cutter heads GO-16 with number of cutting teeth given in the chart. Each order is treated individually. Produced tools are adapted to client's needs, his technical requirements and machine park.

|   | Profile number | Profile  | Name   | Tool   | z |
|---|----------------|--|--|--|---|
|  | 12.            |   | <br>D = 125 or 140 mm<br>External longitudinal window frame profile |   | 3 |
|   | 13.            |  | <br>Internal longitudinal side window frame profile                 |   | 3 |
|   | 14.            |  | <br>Cutting for internal window sill                               |  | 3 |

## Window batten

|   | Profile number | Profile   | Name  | Tool | z |
|---|----------------|---|---|------|---|
|  | 15.            |  | <br>Bottom window batten profile |      | 4 |
|   | 16.            |  | <br>Top window batten profile    |      | 4 |

Sets of profile cutter heads with two cutting teeth, designed for professional machining of solid wood. The sets are used for making internal and external window frame and window sash profiles. The sets are mounted on HSK shanks and work on CNC machines.

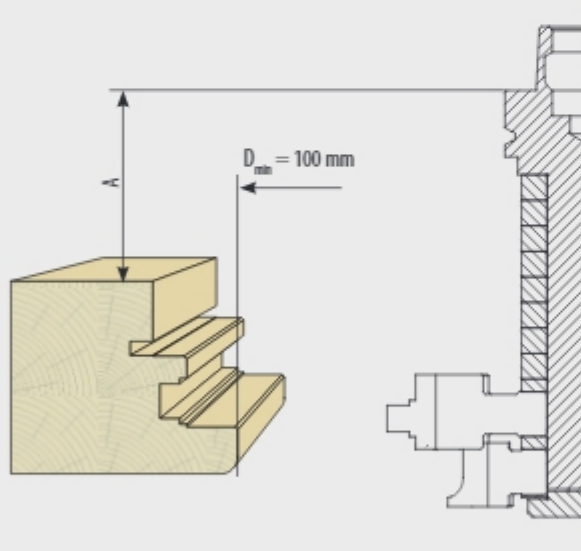
Minimum base diameter is  $D_{min} = 100$  mm (in special cases it is possible to use  $D_{min} = 80$  mm). The sets are offered on client's individual request.

Orders should include:

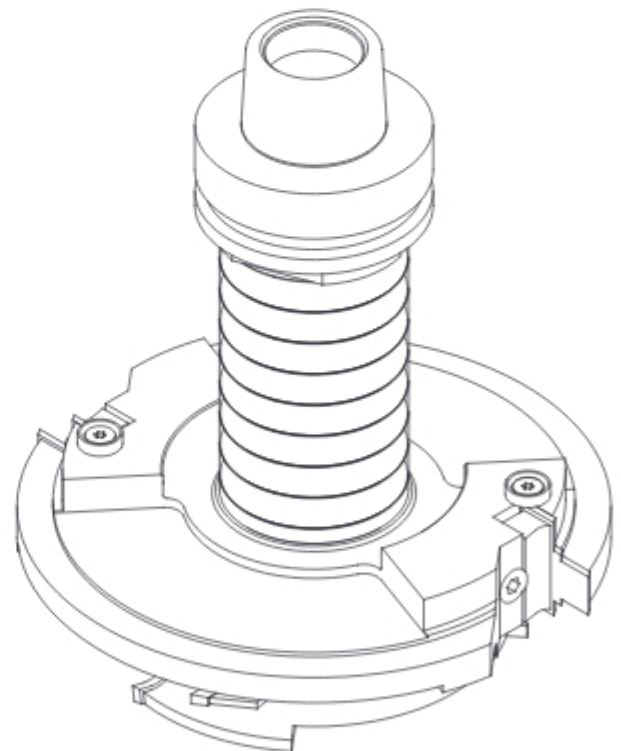
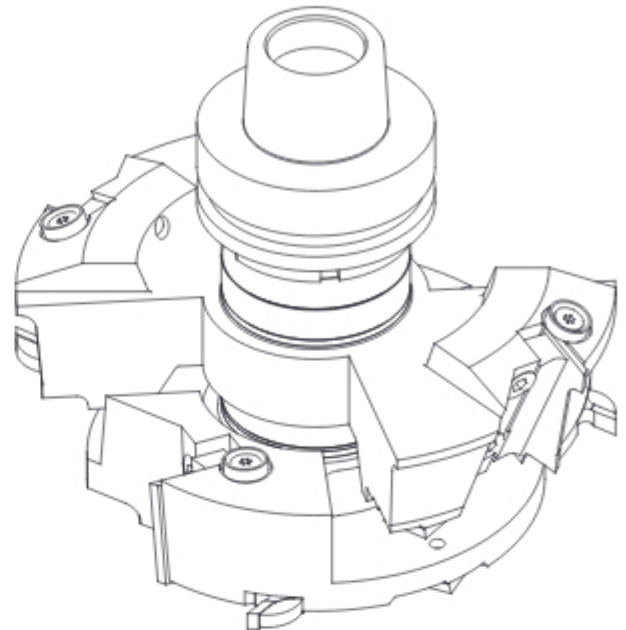
- machine or work scheme,
- maximum set weight installed on the spindle,
- base diameters of tools for profiling,
- A – base – set position,
- type of machined material,
- other information relevant for designing and production process.

**Type of work:** window profiles making.

**Material:** solid wood, hard and soft.



## HSK sets



10

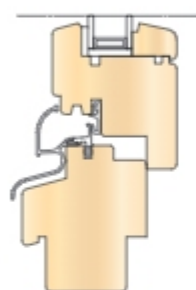


## Drip caps GO-01/GOE

Aluminum pressed drip caps, type **GO**, installed in bottom window frame profile of ZFO-02, ZFO-02 Softline, GO-01, GO-01 Softline and **GOE** windows. Used with window frame with a cut in window sash.

Below are presented example drip cap types used with given window profile. When ordering set of cutters or cutter heads, please give drip cap type.

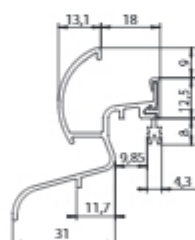
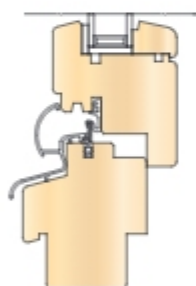
## With cut in window sash



### ALURON

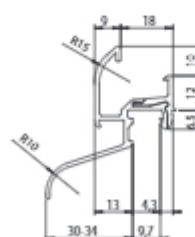
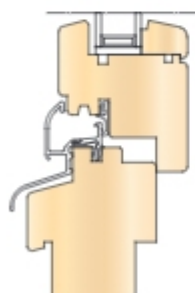
ATW 22 / 30

ATW 22 / 34



### EFEKTOR

LPTOS 31 / 31 W



### GUTMANN

Neckar 22 / 30 F-TXL

Neckar 22 / 34 F-TXL



Aluminum pressed drip caps, type **GOD**, installed in bottom window frame profile of GOD windows. Used with window frame with a cut in window sash. Used with two types of window frames with and without a cut in window sash. Below are presented example drip cap types used with given window profile. When ordering set of cutters or cutter heads, please give drip cap type.

## Drip caps GOD

### With cut in window sash

#### ALURON

ATW 22 / 21 / 18

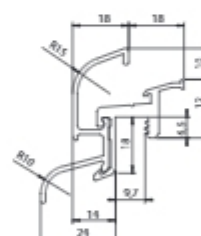
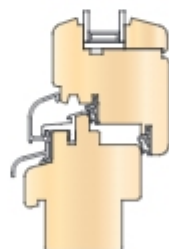
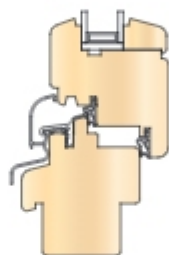
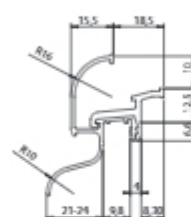
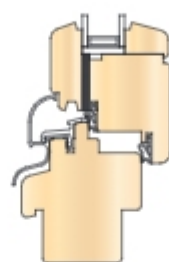
ATW 22 / 24 / 18

#### EFEKTOR

LPTOS 33 / 22 W

#### GUTMANN

Donau 22 / 24 F-TI



### Without cut in window sash

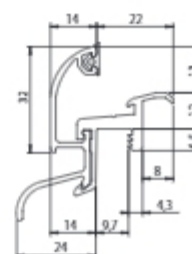
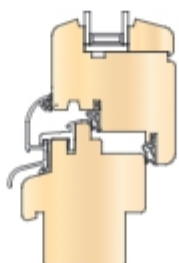
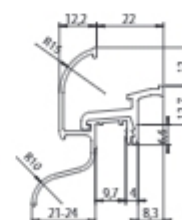
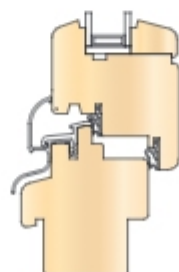
#### ALURON

ATW 22 / 21 / 22

ATW 22 / 24 / 22

#### GUTMANN

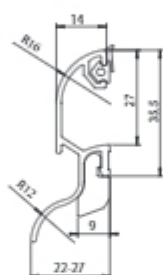
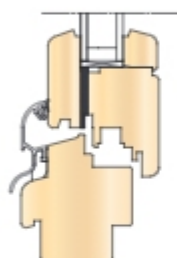
Main 22 / 24 F-TI



## Drip caps GON

Aluminum bolt-on drip caps, type **GON**, installed in bottom window frame profile of GON windows. Used with window frame without a cut in window sash. Below are presented example drip cap types used with given window profile. When ordering set of cutters or cutter heads, please give drip cap type.

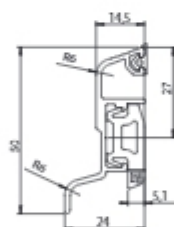
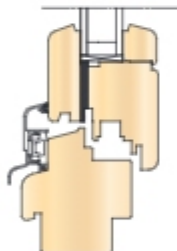
## Without cut in window sash



### ALURON

AWZ 14 / 22

AWZ 14 / 27

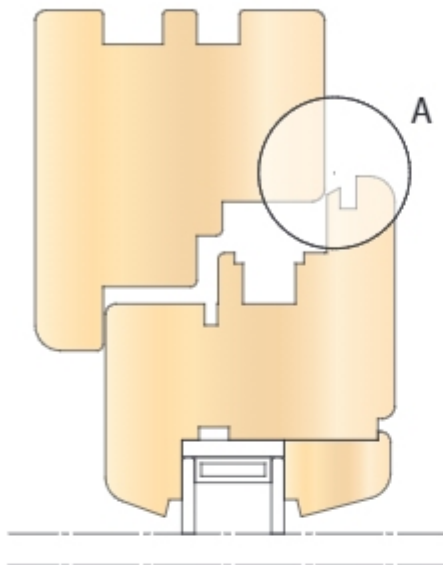


### GUTMANN

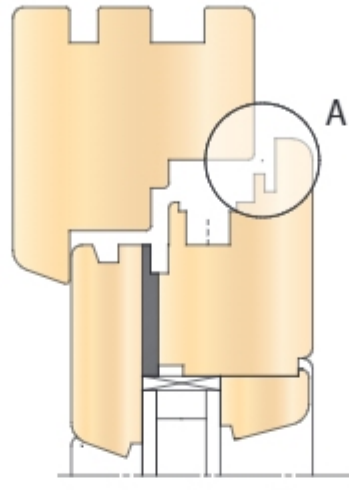
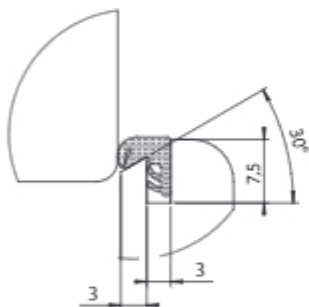
Spree 24 OF

Pressed gaskets, type **UK** designed for precise sealing of window profiles. When ordering sets for window production, please give type of gasket and profile type.

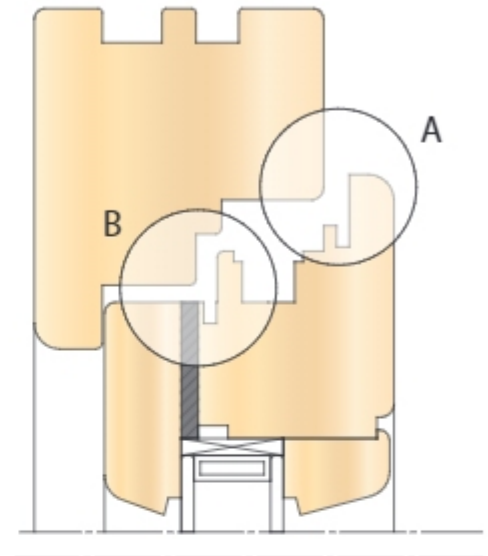
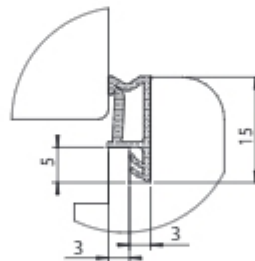
# Gaskets



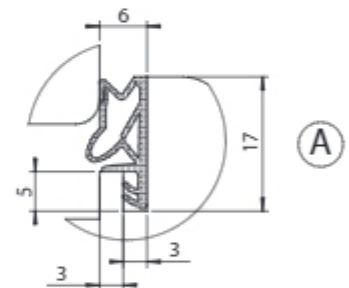
SP 33b



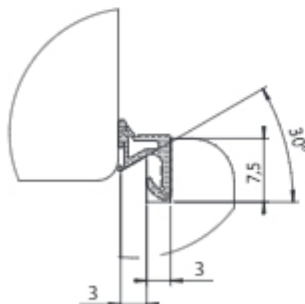
SP 103a



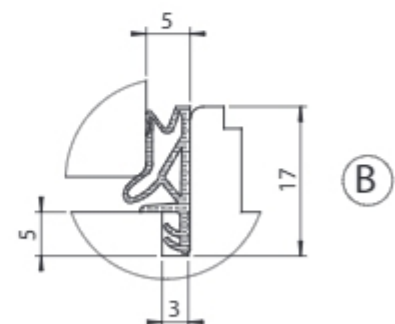
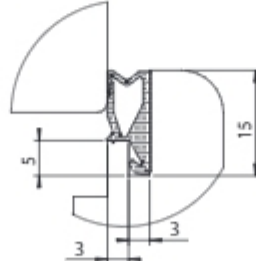
S 7503



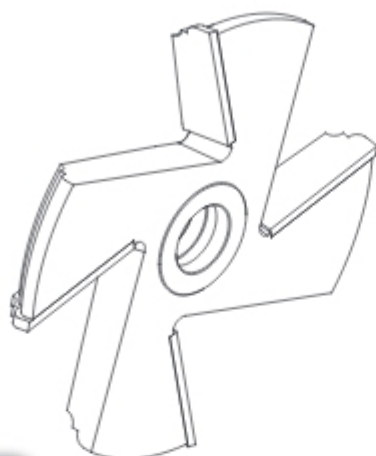
SV 33



SV 103b



Universal, deformable gasket used for external and internal profiles of window frame. In case of optional gasket (element B) gasketing width is 5 mm.



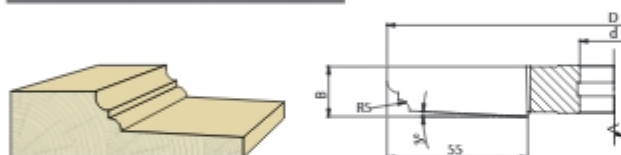
Brazed profile cutter with four cutting teeth and shear angle, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for panel raising.

**Type of work:** panel raising.

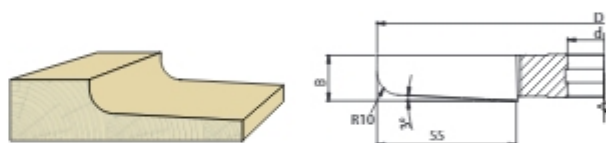
**Material:** solid wood, chipboard, MDF.



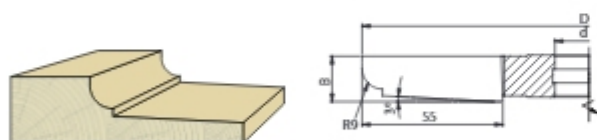
### P-201 4.1 P or L



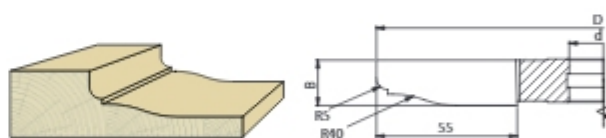
### P-202 4.1 P or L



### P-203 4.1 P or L



### P-204 4.1 P or L



|                  | D<br>n<br>d<br>z | 140<br>9000<br>30<br>4 | 160<br>6000<br>30<br>4 | 180<br>6000<br>40<br>4 | 200<br>6000<br>50<br>4 |
|------------------|------------------|------------------------|------------------------|------------------------|------------------------|
| Profile          | B mm             | HSS                    | HM                     | HSS                    | HM                     |
| P201             | 22               | +                      | +                      | +                      | +                      |
| P202, P203, P204 | 20               | +                      | +                      | +                      | +                      |

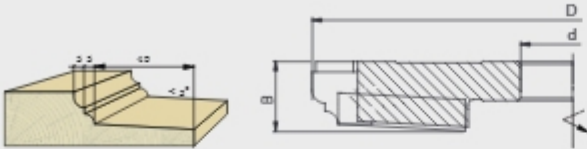
| Catalogue number<br>right |   | Catalogue number<br>left |   | Type | D<br>mm | B<br>mm | d<br>mm | R<br>mm | z |     | n <sub>max</sub> |
|---------------------------|---|--------------------------|---|------|---------|---------|---------|---------|---|-----|------------------|
| P201S200P0001             | + | P201S200L0001            | + | P201 | 200     | 22      | 30      | 5       | 4 | HSS | 6000             |
| P201W200P0001             | + | P201W200L0001            | + | P201 | 200     | 22      | 30      | 5       | 4 | HM  | 6000             |
| P202S200P0001             | • | P202S200L0001            | + | P202 | 200     | 20      | 30      | 10      | 4 | HSS | 6000             |
| P202W200P0006             | + | P202W200L0006            | + | P202 | 200     | 20      | 30      | 10      | 4 | HM  | 6000             |
| P203S200P0001             | • | P203S200L0001            | + | P203 | 200     | 20      | 30      | 9       | 4 | HSS | 6000             |
| P203W200P0001             | + | P203W200L0001            | + | P203 | 200     | 20      | 30      | 9       | 4 | HM  | 6000             |
| P204S200P0001             | • | P204S200L0001            | + | P204 | 200     | 20      | 30      | 5       | 4 | HSS | 6000             |
| P204W200P0002             | • | P204W200L0002            | + | P204 | 200     | 20      | 30      | 5       | 4 | HM  | 6000             |



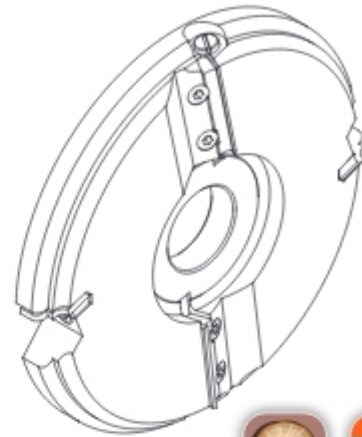
Profile cutter head type **GDP-01** with suitable number of cutting teeth and shear angle, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter head is used for panel raising.

**Type of work:** panel raising.

**Material:** solid wood, chipboard, MDF



## GDP-01 P or L

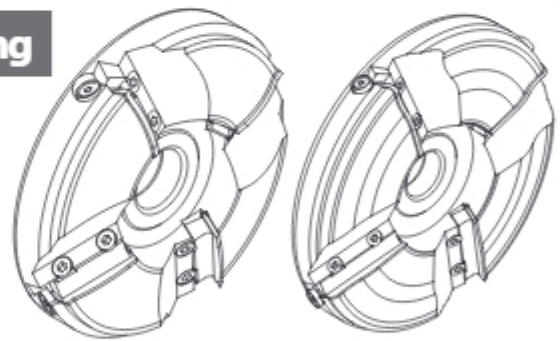
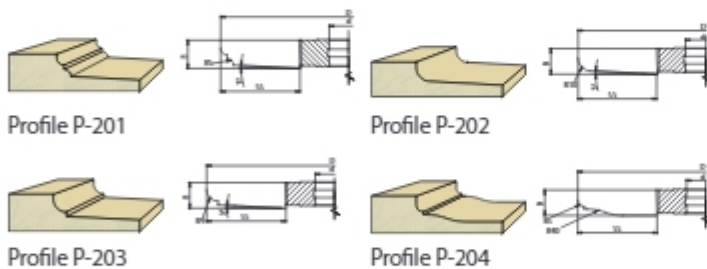


| Catalogue number | Type   | Profile | D mm | B mm | d mm | z   | n <sub>max</sub> |        |
|------------------|--------|---------|------|------|------|-----|------------------|--------|
| GDP-0001P-0      | GDP-01 | GDP-01  | 200  | 26,6 | 40   | 2+2 | HM               | 6000 + |

### Spare parts for cutter head GDP-0001P-0

| Cat. nr              | Name              | Dimensions  |  | Cat. nr   | Name           | Dimensions |  |
|----------------------|-------------------|-------------|--|-----------|----------------|------------|--|
| N0000816             | Straight knife    | 49,5x12x1,5 |  | WHAK00149 | Clamping wedge | 46x11,5x6  |  |
| N0000939<br>N0000940 | Profile knife R/L | 20x24,5x2   |  | WHAS00011 | Screw TOR 1011 | M7x20      |  |
| WHAK00150            | Clamping wedge    | 17x11,5x5,5 |  | WHAS00009 | Screw TOR 1024 | M5x7       |  |

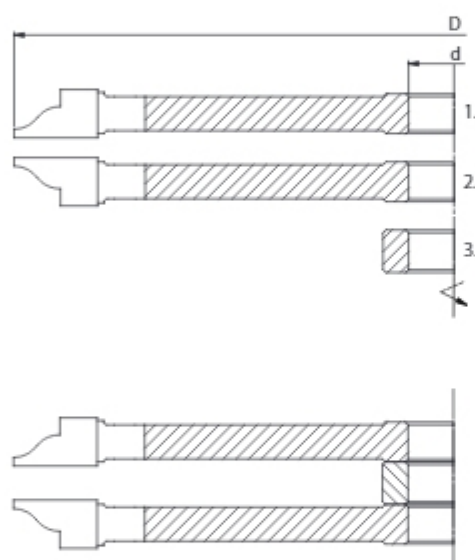
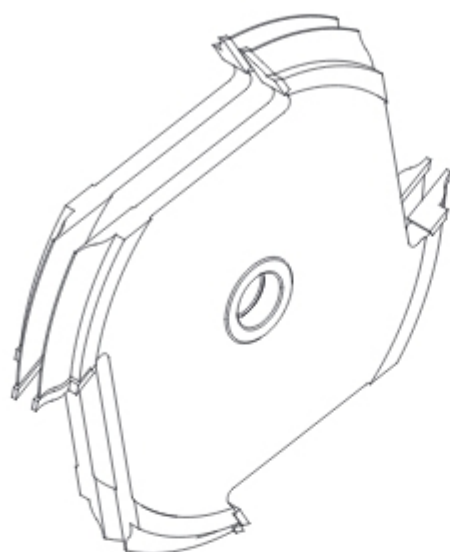
## Other types of cutter heads for panel raising



| D<br>n<br>d <sub>max</sub><br>z | 140<br>9000<br>30<br>4 |    | 160<br>6000<br>30<br>4 |    | 180<br>6000<br>40<br>6 |    | 215<br>6000<br>40<br>6 |    | 250<br>4500<br>50<br>6 |    |
|---------------------------------|------------------------|----|------------------------|----|------------------------|----|------------------------|----|------------------------|----|
| B mm                            | ST                     | AL | ST                     | AL | ST                     | AL | ST                     | AL | ST                     | AL |
| 26,6                            | +                      | +  | +                      | +  | +                      | +  | +                      | +  | +                      | +  |
| 35,8                            | +                      | +  | +                      | +  | +                      | +  | +                      | +  | +                      | +  |
| 36,5                            | +                      | +  | +                      | +  | +                      | +  | +                      | +  | +                      | +  |
| 37,5                            | +                      | +  | +                      | +  | +                      | +  | +                      | +  | +                      | +  |

| Catalogue number | Type   | Profile | D mm | B mm | d mm | z | n <sub>max</sub> |        |
|------------------|--------|---------|------|------|------|---|------------------|--------|
| GDP-0065P-0      | GDP-01 | P-201   | 200  | 35   | 30   | 4 | HM               | 6000 + |
| GDP-0034P-0      | GDP-01 | P-202   | 200  | 35,8 | 30   | 4 | HM               | 6000 + |
| GDP-0011P-0      | GDP-01 | P-203   | 200  | 36,5 | 30   | 4 | HM               | 6000 + |
| GDP-0005P-0      | GDP-01 | P-204   | 200  | 37,5 | 30   | 4 | HM               | 6000 + |

## IL-A.00

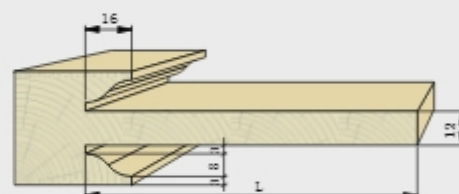


Set of profile brazed cutters type **IL-A.00** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon profiles with radius R10.

**Type of work:** door internal tenon profiling.

**Material:** solid wood, chipboard, MDF.

| Nr | D<br>mm | B<br>mm | d <sub>min</sub><br>mm | n <sub>max</sub>    | ↗ |   |
|----|---------|---------|------------------------|---------------------|---|---|
| 1. | 310     | 17      | 40                     | 4500                | L | + |
| 2. | 310     | 17      | 40                     | 4500                | R | + |
| 3. | 60      | 15      | 40                     | Distance ring 1 pc. |   | + |



|                                 |                        |  |                        |  |                        |  |                        |  |                        |  |                        |  |
|---------------------------------|------------------------|--|------------------------|--|------------------------|--|------------------------|--|------------------------|--|------------------------|--|
| D<br>n<br>d <sub>max</sub><br>z | 148<br>9000<br>40<br>4 |  | 160<br>9000<br>40<br>4 |  | 180<br>6000<br>40<br>4 |  | 280<br>6000<br>50<br>4 |  | 310<br>4500<br>60<br>4 |  | 330<br>4500<br>60<br>4 |  |
|                                 | Profile                |  | HSS    HM              |  | HSS    HM              |  | HSS    HM              |  | HSS    HM              |  | HSS    HM              |  |
|                                 | IL-A                   |  | +    +                 |  | +    +                 |  | +    +                 |  | +    +                 |  | +    +                 |  |
|                                 |                        |  |                        |  |                        |  |                        |  |                        |  |                        |  |

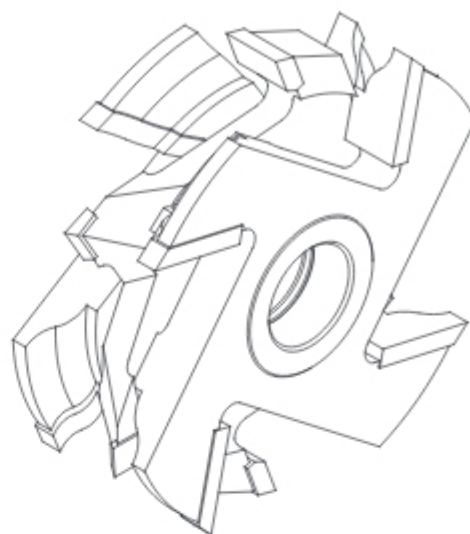
| Catalogue number | Type | D<br>mm | d<br>mm | L<br>mm | z |       |
|------------------|------|---------|---------|---------|---|-------|
| ILA00S200-001    | IL-A | 200     | 30      | 70      | 4 | HSS + |
| ILA00W200-001    | IL-A | 200     | 30      | 70      | 4 | HM +  |
| ILA00S310-001    | IL-A | 310     | 30      | 117     | 4 | HSS + |
| ILA00W310-001    | IL-A | 310     | 30      | 117     | 4 | HM +  |
| ILA00S310-002    | IL-A | 310     | 40      | 117     | 4 | HSS + |
| ILA00W310-002    | IL-A | 310     | 40      | 117     | 4 | HM +  |

Set of profile brazed cutters type **IL-R.00** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon counterprofiles.

**Type of work:** door internal tenon counterprofiling.

**Material:** solid wood, chipboard, MDF.

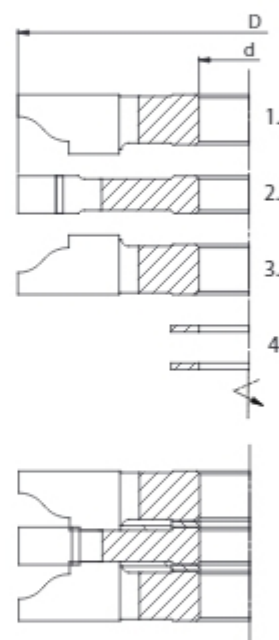
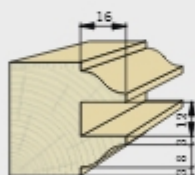
## IL-R.00



| Nr | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | n <sub>mm</sub>      | ↗           |   |
|----|---------|---------|------------------------|----------------------|-------------|---|
| 1. | 108     | 19      | 30                     | 9000                 | R           | + |
| 2. | 108     | 12      | 30                     | 9000                 | Symmetrical | + |
| 3. | 108     | 19      | 30                     | 9000                 | L           | + |
| 4. | 60      | 2       | 30                     | Distance ring 2 pcs. |             | + |

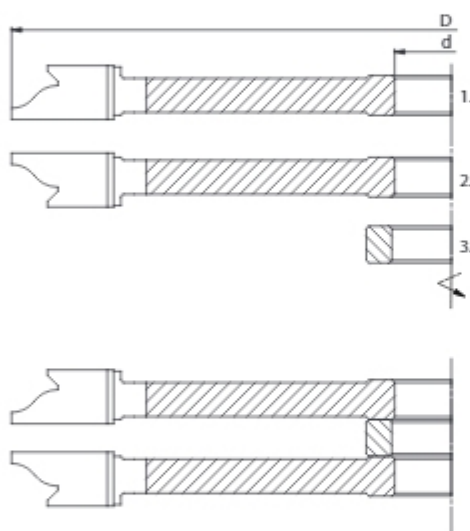
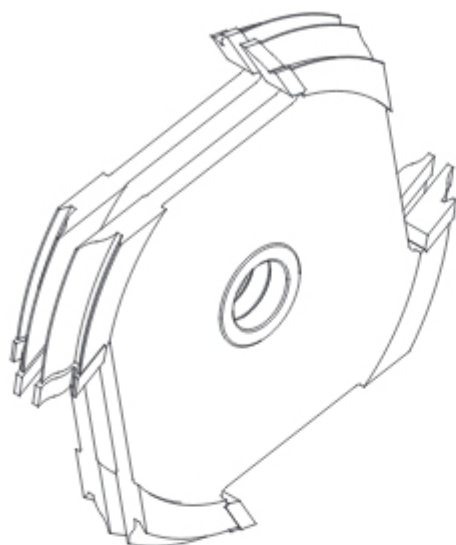
|    |     |    |    |                      |             |   |
|----|-----|----|----|----------------------|-------------|---|
| 1. | 148 | 19 | 50 | 9000                 | R           | + |
| 2. | 148 | 12 | 50 | 9000                 | Symmetrical | + |
| 3. | 148 | 19 | 50 | 9000                 | L           | + |
| 4. | 60  | 2  | 50 | Distance ring 2 pcs. |             | + |



| D<br>n<br>d<br>z | 108<br>9000<br>50<br>4 |     | 148<br>9000<br>50<br>4 |     |    |
|------------------|------------------------|-----|------------------------|-----|----|
|                  | Profile                | HSS | HM                     | HSS | HM |
| IL-R             |                        | +   | +                      | +   | +  |

| Catalogue number | Type | D<br>mm | d<br>mm | z |     |   |
|------------------|------|---------|---------|---|-----|---|
| ILR0100S108-002  | IL-R | 108     | 30      | 4 | HSS | + |
| ILR0100W108-002  | IL-R | 108     | 30      | 4 | HM  | + |
| ILR0200S148-007  | IL-R | 148     | 30      | 4 | HSS | + |
| ILR0200W148-009  | IL-R | 148     | 30      | 4 | HM  | + |
| ILR0200S148-008  | IL-R | 148     | 40      | 4 | HSS | + |
| ILR0200S148-009  | IL-R | 148     | 50      | 4 | HSS | + |

## IL-M.00

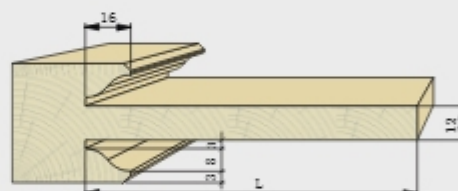


Set of profile brazed cutters type **IL-M.00** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon profiles.

**Type of work:** door internal tenon profiling.

**Material:** solid wood, chipboard, MDF.

| Nr | D mm | B mm | d mm | n                   | ↺ |   |
|----|------|------|------|---------------------|---|---|
| 1. | 310  | 18   | 40   | 4500                | L | + |
| 2. | 310  | 18   | 40   | 4500                | R | + |
| 3. | 60   | 15   | 40   | Distance ring 1 pc. |   | + |



| D<br>n<br>z | 180<br>6000<br>40<br>4 | 240<br>6000<br>40<br>4 | 290<br>4500<br>40<br>4 | 310<br>4500<br>50<br>4 |
|-------------|------------------------|------------------------|------------------------|------------------------|
| Profile     | HSS                    | HM                     | HSS                    | HM                     |
| IL-M        | +                      | +                      | +                      | +                      |

| Catalogue number | Type | D mm | d mm | L mm | z |       |
|------------------|------|------|------|------|---|-------|
| ILM0400S180-01   | IL-M | 180  | 30   | 50   | 4 | HSS + |
| ILM0100W180-01   | IL-M | 180  | 40   | 50   | 4 | HM +  |
| ILM0400S240-01   | IL-M | 240  | 30   | 80   | 4 | HSS + |
| ILM0100W240-01   | IL-M | 240  | 30   | 80   | 4 | HM +  |
| ILM0400S310-01   | IL-M | 310  | 40   | 105  | 4 | HSS + |
| ILM0100W310-01   | IL-M | 310  | 40   | 105  | 4 | HM +  |



Set of profile brazed cutters type **IL-N.00** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon counterprofiles.

**Type of work:** door internal tenon counterprofiling.

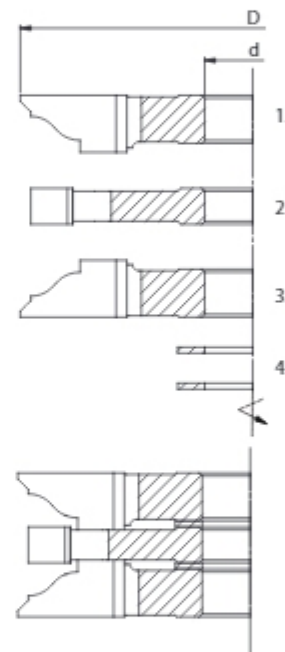
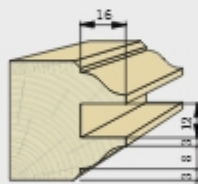
**Material:** solid wood, chipboard, MDF

## IL-N.00



| Nr | D mm | B mm | d <sub>max</sub> mm | n <sub>max</sub>     | ↗           |   |
|----|------|------|---------------------|----------------------|-------------|---|
| 1. | 115  | 19   | 30                  | 9000                 | R           | + |
| 2. | 108  | 12   | 30                  | 9000                 | Symmetrical | + |
| 3. | 115  | 19   | 30                  | 9000                 | L           | + |
| 4. | 50   | 2    | 30                  | Distance ring 2 pcs. |             | + |

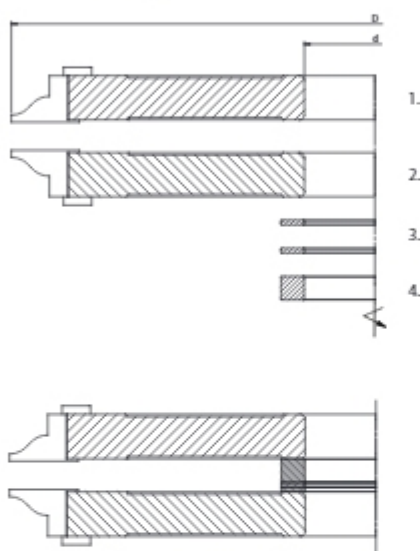
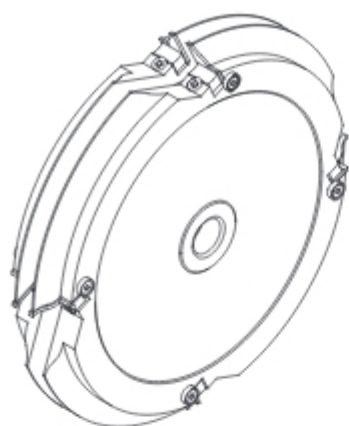
| Nr | D mm | B mm | d <sub>max</sub> mm | n <sub>max</sub>     | ↗           |   |
|----|------|------|---------------------|----------------------|-------------|---|
| 1. | 155  | 19   | 30                  | 6000                 | R           | + |
| 2. | 148  | 12   | 30                  | 6000                 | Symmetrical | + |
| 3. | 155  | 19   | 30                  | 6000                 | L           | + |
| 4. | 50   | 2    | 30                  | Distance ring 2 pcs. |             | + |



|                                 |                        |  |                        |  |
|---------------------------------|------------------------|--|------------------------|--|
| D<br>n<br>d <sub>max</sub><br>z | 115<br>9000<br>30<br>4 |  | 155<br>6000<br>40<br>4 |  |
|                                 |                        |  |                        |  |
|                                 |                        |  |                        |  |
|                                 |                        |  |                        |  |
| Profile                         | HSSHM                  |  | HSSHM                  |  |
| IL-N                            | + +                    |  | + +                    |  |

| Catalogue number | Type | D mm | d mm | z |     |   |
|------------------|------|------|------|---|-----|---|
| ILN0200S155-02   | IL-N | 155  | 30   | 4 | HSS | + |
| ILN0200W155-02   | IL-N | 155  | 30   | 4 | HM  | + |
| ILN0200S155-03   | IL-N | 155  | 40   | 4 | HSS | + |
| ILN0200W155-01   | IL-N | 155  | 40   | 4 | HM  | + |

# GD-01

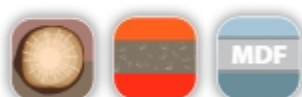
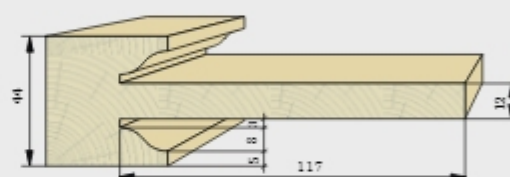


Set of profile cutter heads type **GD-01** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon profiles. Width regulated with spacers included in the set.

**Type of work:** door internal tenon profiling.

**Material:** solid wood, chipboard, MDF.

| Nr | D<br>mm | B<br>mm | d<br>mm | n <sub>max</sub>     | ↺ |   |
|----|---------|---------|---------|----------------------|---|---|
| 1. | 310     | 19,8    | 50      | 4500                 | L | + |
| 2. | 310     | 19,8    | 50      | 4500                 | R | + |
| 3. |         | 2       |         | Distance ring 2 pcs. |   | + |
| 4. |         | 10      |         | Distance ring 1 pc.  |   | + |



| D<br>mm          | 148  | 160  | 180  | 280  | 310  | 330  |
|------------------|------|------|------|------|------|------|
| n <sub>max</sub> | 9000 | 9000 | 6000 | 4500 | 4500 | 4500 |
| d<br>mm          | 50   | 40   | 40   | 50   | 60   | 60   |
| z                | 4    | 4    | 4    | 4    | 4    | 4    |
| Profile          | ST   | AL   | ST   | AL   | ST   | AL   |
| GD-01            | +    | +    | +    | +    | +    | +    |

| Catalogue number | Type  | Body | D<br>mm | d<br>mm | z | n <sub>max</sub> |
|------------------|-------|------|---------|---------|---|------------------|
| GD01-0001-00     | GD-01 | ST   | 310     | 30      | 4 | 4500             |
| GD01-0002-00     | GD-01 | ST   | 310     | 40      | 4 | 4500             |
| GD01-0003-00     | GD-01 | ST   | 310     | 50      | 4 | 4500             |

## Spare parts for cutter head GD-01

| Cat. nr              | Name              | Dimensions |  |   |
|----------------------|-------------------|------------|--|---|
| N0000901<br>N0000900 | Profile knife L/P | 19,8x32x2  |  | + |
| WHAK00034            | Clamping wedge    | 17x10,9x9  |  | + |

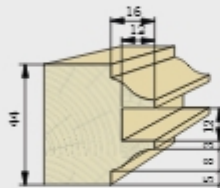
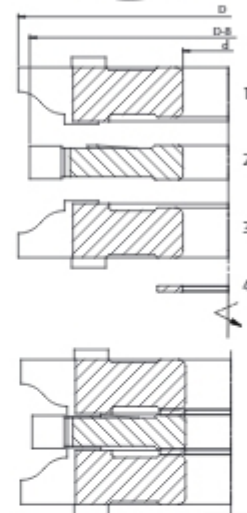
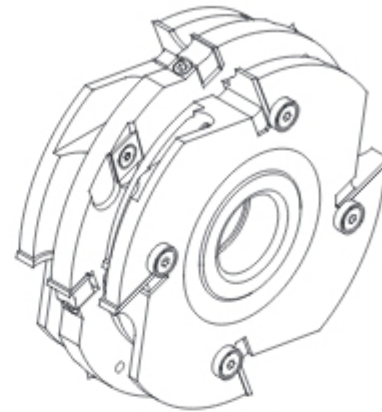
| Cat. nr   | Name            | Dimensions |  |   |
|-----------|-----------------|------------|--|---|
| WHAT00044 | Locating sleeve | 12x3,6x6,5 |  | + |
| WHAS00011 | Screw TOR 1011  | M7x20      |  | • |
| WHAS00006 | Screw TOR 1128  | M6x10      |  | • |

Set of profile cutter heads type **GD-02** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon counterprofiles. Width regulated with spacers included in the set.

**Type of work:** door internal tenon counterprofiling.

**Material:** solid wood, chipboard, MDF.

## GD-02



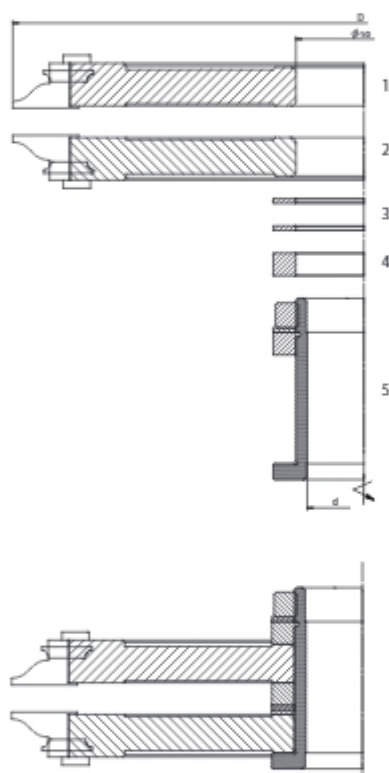
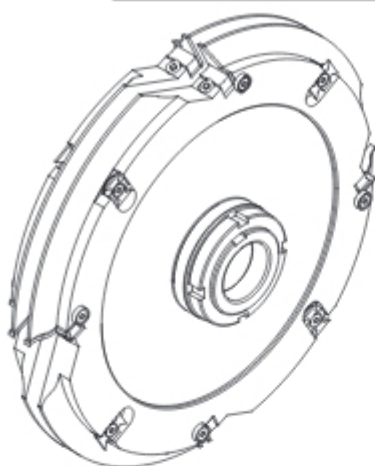
| D<br>n<br>d<br>z | 122<br>9000<br>40<br>4 | 125<br>9000<br>40<br>4 | 148<br>9000<br>60<br>4 | 164<br>6000<br>60<br>4 |
|------------------|------------------------|------------------------|------------------------|------------------------|
| Profile          | ST                     | AL                     | ST                     | AL                     |
| GD-02            | +                      | +                      | +                      | +                      |

| Catalogue number | Type  | Body | D<br>mm | d<br>mm | z | n <sub>max</sub> |
|------------------|-------|------|---------|---------|---|------------------|
| GD02-0001-00     | GD-02 | ST   | 148     | 30      | 4 | 9000             |
| GD02-0002-00     | GD-02 | ST   | 148     | 40      | 4 | 9000             |
| GD02-0003-00     | GD-02 | ST   | 148     | 50      | 4 | 9000             |
| GD02-0005-00     | GD-02 | ST   | 148     | 60      | 4 | 9000             |

### Spare parts for cutter head GD-02

| Cat. nr   | Name              | Dimensions  |  |   |  |
|-----------|-------------------|-------------|--|---|--|
| N0000803  | Stright knife     | 11,6x12x1,5 |  | • |  |
| N0000935  | Profile knife L/P | 20x30x2     |  | + |  |
| N0000936  |                   |             |  | • |  |
| N0000818  | Spur              | 14x14x2     |  | • |  |
| WHAK00049 | Clamping wedge    | 18x11,5x5,5 |  | + |  |
| WHAK00026 | Clamping wedge    | 10x10x9     |  | + |  |
| Cat. nr   | Name              | Dimensions  |  |   |  |
| WHAT00044 | Locating sleeve   | 12x3,6x6,5  |  | + |  |
| WHAS00006 | Screw TOR 1128    | M6x10       |  | • |  |
| WHAS00008 | Screw TOR 1064    | M5x6,5      |  | • |  |
| WHAW00005 | Push screw        | M8x16       |  | • |  |
| WHAS00007 | Screw TOR 1262    | M5x23       |  | • |  |

## GD-03

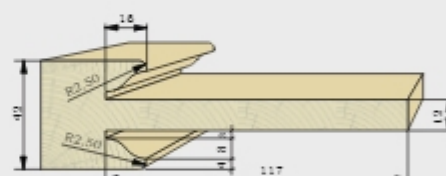


Set of profile cutter heads type **GD-03** with four cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for making door internal tenon profiles. Width regulated with spacers included in the set. The set mounted on a sleeve (for  $d_{max} = 40$  mm).

**Type of work:** door internal tenon profiling.

**Material:** solid wood, chipboard, MDF.

| Nr | D mm | B mm | $d_{max}^*$ mm | $n_{mm}$             | ↺ |   |
|----|------|------|----------------|----------------------|---|---|
| 1. | 310  | 19,8 | 50             | 4500                 | L | + |
| 2. | 310  | 19,8 | 50             | 4500                 | R | + |
| 3. | 70   | 2    | 50             | Distance ring 2 pcs. |   | + |
| 4. | 70   | 10   | 50             | Distance ring 1 pc.  |   | + |
| 5. | 50   | 80   | 40             | Sleeve 1 pc.         |   | + |



| Catalogue number | Type  | Body | D mm | d mm | z |    | $n_{mm}$ |   |
|------------------|-------|------|------|------|---|----|----------|---|
| GD03-0001P-00    | GD-03 | ST   | 310  | 30   | 4 | HM | 4500     | + |
| GD03-0002P-00    | GD-03 | ST   | 310  | 40   | 4 | HM | 4500     | + |

## Spare parts for cutter head GD-03

| Cat. nr   | Name            | Dimensions |   | Cat. nr   | Name           | Dimensions |   |
|-----------|-----------------|------------|---|-----------|----------------|------------|---|
| N0000874  | Knife FKB-R     | 22x16x5    | • | WHAS00011 | Screw TOR 1011 | M7x20      | • |
| N0000901  | Profile knife   | 19,8x32x2  | + | WHAS00006 | Screw TOR 1128 | M6x10      | • |
| N0000900  | L/P             |            |   |           | Sleeve         | 50/dx80    | + |
| WHAK00034 | Clamping wedge  | 17x10,5x9  | + |           |                |            |   |
| WHAT00044 | Locating sleeve | 12x3,6x6,5 | + |           |                |            |   |

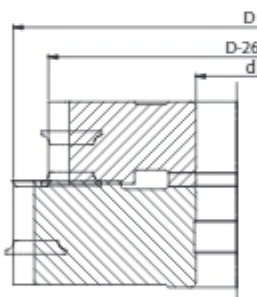
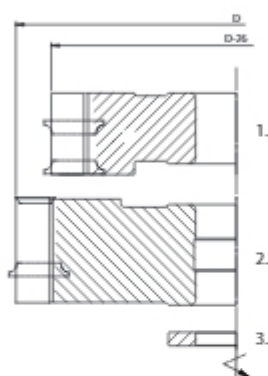
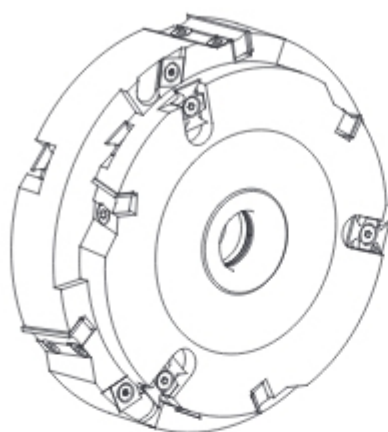
\*  $d_{max} = 50$  mm - for set without a sleeve. For set with a sleeve  $d_{max} = 40$  mm (45 mm).

On request, we offer the set without a sleeve.





# GD-10

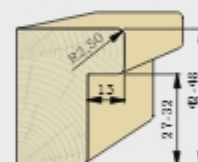


Set of profile cutter heads type **GD-10** with suitable number of cutting teeth, designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The cutter is used for rebating door internal profiles. Width regulated with spacers included in the set.

**Type of work:** door internal tenon profiling.

**Material:** solid wood, chipboard, MDF.

| Nr | D<br>mm | B<br>mm | d <sub>max</sub><br>mm | n <sub>max</sub>    | ↗ |   |
|----|---------|---------|------------------------|---------------------|---|---|
| 1. | 200     | 40      | 60                     | 6000                | R | + |
| 2. | 174     | 20      | 60                     | 6000                | L | + |
| 3. |         | 6       |                        | Distance ring 1 pc. |   | + |



| Catalogue number | Type  | Body | D<br>mm | d<br>mm | z |    | n <sub>max</sub> |   |
|------------------|-------|------|---------|---------|---|----|------------------|---|
| GD10-0001P-00    | GD-10 | ST   | 200     | 30      | 3 | HM | 6000             | + |
| GD10-0002P-00    | GD-10 | ST   | 200     | 40      | 3 | HM | 6000             | + |
| GD10-0003P-00    | GD-10 | ST   | 200     | 50      | 3 | HM | 6000             | + |

## Spare parts for cutter head GD-04

| Cat. nr   | Name           | Dimensions |  |   | Cat. nr   | Name           | Dimensions |  |   |
|-----------|----------------|------------|--|---|-----------|----------------|------------|--|---|
| N0000809  | Straight knife | 40x12x1,5  |  | + | WHAK00034 | Clamping wedge | 17x10x9    |  | + |
| N0000805  | Straight knife | 20x12x1,5  |  | + | WHAS00011 | Screw TOR 1011 | M7x20      |  | • |
| N0000874  | Knife FKB-R    | 16x22x5    |  | • | WHAS00006 | Screw TOR 1128 | M6x10      |  | • |
| WHAK00009 | Clamping wedge | 37x10x9    |  | + |           |                |            |  |   |