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# OvalFlex HubStar

Hub machining reinvented



hard material matters

CERATIZIT



hard material matters

# OvalFlex

## Hub machining with HubStar

One of the special fields of CERATIZIT is aluminium wheel machining. For this type of machining the completely new tooling system OvalFlex has been introduced. And now the programme is extended by **HubStar**, the tool for hub machining.

### Strategy

The most substantial time saving in the field of aluminium wheel machining is possible for hubs with diameters >60 mm. The rough diameter after counterboring, stamping etc. is normally between 40 and 45 mm. In order to achieve a larger diameter normally a V-insert is used to bore the requested diameter in various steps (in some cases counterboring is applied, tool change necessary).

The **HubStar** programme has been designed to counterbore the necessary diameter with one cut at a maximum feed rate and to turn the location face and profile of the hub with the **same tool**. Up to 65 seconds can be saved per aluminium wheel.



# Conventional machining

several passes necessary



# OvalFlex HubStar

Now in one pass



## Divided cutting force

Thanks to the special position of the insert the cut during counterboring is stepped, which causes also a division of the forces. The stress on the single insert is reduced and enables vibration-free production of the hole at maximum feed rate.



# Insert

## HUB 1507QR-27

For the OvalFlex hub tool a completely new insert concept was developed. The extremely stable **HUB 1507QR-27** insert was specifically developed for the hub machining of aluminium wheels. The insert has a suitable geometry and radii for all specific applications:

- Radius R 0.8 mm: machining of the cap seat
- Radius R 1.2 mm: machining of the internal profile
- Radius R 1.6 mm: turning of the location face (higher feed rate possible)

Each of these radii has a Masterfinish which produces perfect surfaces at high feed rates.

**R 1.2 mm**  
**Internal profile**

**R 0.8 mm**  
**Cap seat**



**R 1.6 mm**  
**Location face**

# Programme

The assembly sizes are included in the standard programme

- OC50-HUB60R15K: counterboring in one cut from 40 to 60 mm
- OC50-HUB65R15K: counterboring in one cut from 45 to 65 mm
- OC50-HUB70R15K: counterboring in one cut from 45 to 70 mm (at present only upon request)

And the specifically developed insert HUB 1507QR-27 (appropriate for all HubStar tools).

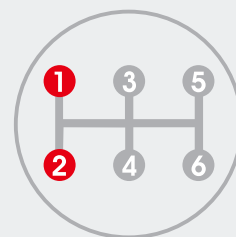
# Application **advantages** of OvalFlex HubStar

- Substantial time saving (up to 50% per wheel)
- Maximum stability through oval and tapered construction
- Tool life increased up to 100%
- Optimised tool, particularly for the requirements in hub machining
- Reduced stock-keeping (complex special tools are no longer necessary)
- Maximum application security and economy

**Result:** The special 'highlight' is that the number of cuts is essentially reduced compared to conventional tools. Good economy thanks to the optimum price / performance ratio is therefore guaranteed for our customers.

The **OvalFlex HubStar** from CERATIZIT is the long awaited special tool for the machining of aluminium wheel hubs.

# CERATIZIT CORPORATE VALUES



- 1** The views and focus of our business partners matter
  - Instead of talking product with customers, we work on real solutions for business partners.
- 2** Innovative and flexible thinking matters
  - We have the power to challenge state-of-the-art technologies and the courage to develop intelligent alternatives.
  - Our speed of thought and decisive actions give us a leading edge.