



**FMT**®

Tooling Systems

# **SPEEDONE**

High Speed Face Milling Cutter With PCD Inserts

**THE POWER OF  
ENGINEERING**

**FREZITE**  
Group

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# A HIGH PRODUCTIVITY SYSTEM

The SPEED ONE face milling cutter from FMT is the ideal choice for machining of non-ferrous materials such as aluminium alloys. With its aluminium body and PCD inserts, this tool provides less power consumption and offers high productivity due to higher cutting speeds and feed rates.

FMT offers a wide range of standard Speed One cutters. Due to the innovative cartridge design, several other diameters are possible in FMT's special tool programme.

## FMT SERVICE

With its global presence around the world and the commitment for a close proximity strategy, FMT guarantees a quick insert replacement service, wherever the customer is located.

- > High rentability
- > High cutting speeds and feed rates
- > Increased operating safety
- > Easy assembly and fine tuning



**A****Tool Body**

The tool body is made of a special hard aluminium alloy. It provides sufficient stiffness while simultaneously allowing for a perfect operation with less power consumption.

**B****PCD Cartridge**

The innovative round design of the steel cartridge allows for a quick and easy replacement. The cartridge is kept completely inside the tool body, allowing a safe handling.

**C****Steel Ring**

For maximum tool body protection, a clever designed steel ring is supplied to avoid contact of the chips with the aluminium body.

**D****Adjustment System**

Simple and effective, allows for a fine longitudinal setting of the PCD cartridges by radially adjusting a screw inside the tool. All adjusting accessories are located inside the tool body. Therefore higher cutting speeds can be achieved with safety.

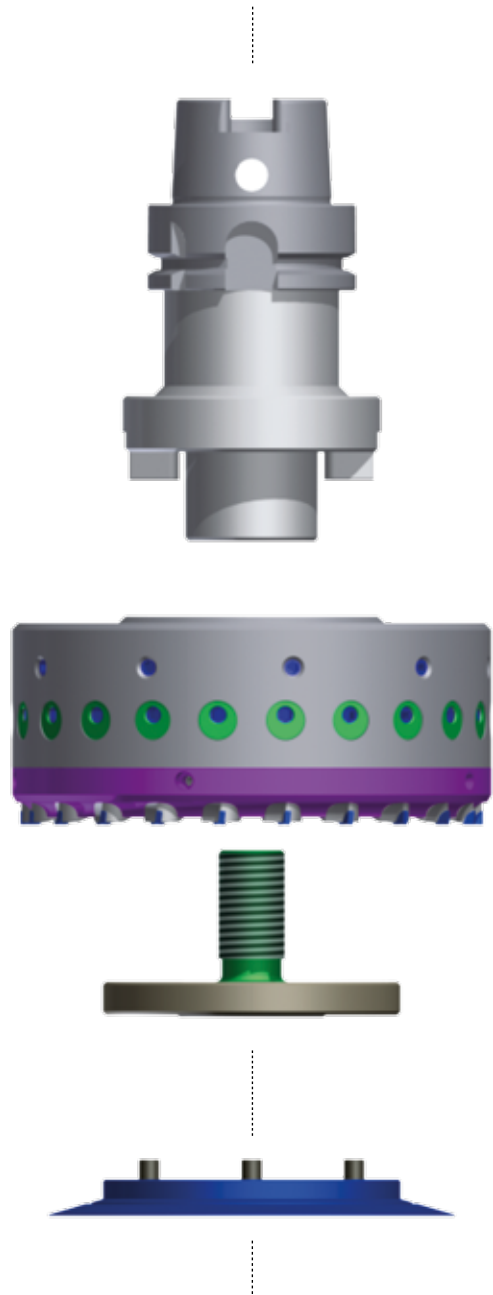
**E****Cooling System**

Through a conical tool holding screw the coolant is radially sprayed, efficiently removing the chips away from the cutting zone.



## TOOL CLAMPING SYSTEM

A central screw with different screw threads assures maximum clamping force.



## APPLICATION EXAMPLES

**Gearbox Housings**



**Engine Boxes**

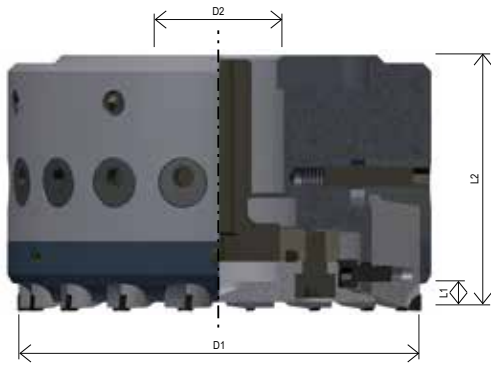


**Cylinder Blocks**



**Braking Systems**





### Cutting Material



### Tool Details



|                           |                                 |                              |                              |                                   |                  |           |          |         |          |        |           |           |       |        |        |     |      |
|---------------------------|---------------------------------|------------------------------|------------------------------|-----------------------------------|------------------|-----------|----------|---------|----------|--------|-----------|-----------|-------|--------|--------|-----|------|
| Alloy Steels<br>HB225-325 | Prehardened Steels<br>HRc 30-40 | Hardened Steels<br>HRc 40-50 | Hardened Steels<br>HRc 50-60 | High Hardened Steels<br>HRc 60-70 | Stainless Steels | Cast Iron | Titanium | Inconel | Graphite | Copper | Aluminium | Magnesium | Brass | Nickel | Carbon | HPL | Wood |
|                           |                                 |                              |                              |                                   |                  |           |          |         |          | ●      | ●         | ●         | ●     |        |        |     |      |

● EXCELLENT ● GOOD

### FACE MILLING HEAD ROUGHING

| Art. N°    | Ø D1 | Ø D2  | L1 | L2 | Weight (kg) | Z  |
|------------|------|-------|----|----|-------------|----|
| 9396.08002 | 80   | 27 H7 | 8  | 50 | 0.8         | 12 |
| 9396.11002 | 100  | 32 H7 | 8  | 50 | 1           | 18 |
| 9396.12502 | 125  | 40 H7 | 8  | 63 | 1.3         | 20 |
| 9396.14002 | 140  | 40 H7 | 8  | 63 | 1.5         | 22 |
| 9396.16002 | 160  | 40 H7 | 8  | 63 | 1.8         | 26 |
| 9396.25002 | 250  | 60 H7 | 8  | 63 | 3.5         | 36 |

### FACE MILLING HEAD FINISHING

| Art. N°    | Ø D1 | Ø D2  | L1 | L2 | Weight (kg) | Z  |
|------------|------|-------|----|----|-------------|----|
| 9396.08001 | 80   | 27 H7 | 4  | 50 | 0.8         | 12 |
| 9396.11001 | 100  | 32 H7 | 4  | 50 | 1           | 18 |
| 9396.12501 | 125  | 40 H7 | 4  | 63 | 1.3         | 20 |
| 9396.14001 | 140  | 40 H7 | 4  | 63 | 1.5         | 22 |
| 9396.16001 | 160  | 40 H7 | 4  | 63 | 1.8         | 26 |
| 9396.25001 | 250  | 60 H7 | 4  | 63 | 3.5         | 36 |

> MILLING HEAD COMPLETE ASSEMBLED AND ADJUSTED WITH PROTECTION CAP, CLAMPING SCREW AND KEY FOR CARTRIDGE

### PCD CARTRIDGE

9394.1250/1251



### ADJUSTING ACCESSORY

9395.0035



### ADJUSTING SCREW

9395.0036



### CLAMPING SCREW

9899



### CLAMPING DISC

9899



### PROTECTION RING

9899



## ACCESSORIES / SPARE PARTS

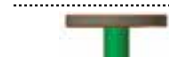
### PROTECTION CAP



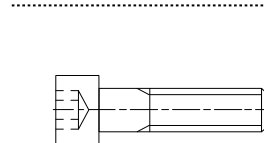
### CLAMPING DISC



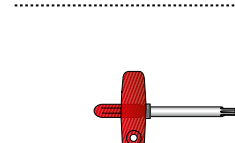
### CLAMPING SCREW



### CLAMPING SCREW FOR INSERT



### KEY FOR CARTRIDGE

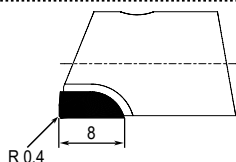


| Ø   | Art. N°     | Ø   | Art. N°     | Ø   | Art. N°     |
|-----|-------------|-----|-------------|-----|-------------|
| 80  | 9899.0801.3 | 80  | 9899.0801.2 | 80  | 9899.0801.1 |
| 100 | 9899.1101.3 | 100 | 9899.1101.2 | 100 | 9899.1101.1 |
| 125 | 9899.1251.3 | 125 | 9899.1251.2 | 125 | 9899.1251.1 |
| 140 | 9899.1401.3 | 140 | 9899.1401.2 | 140 | 9899.1251.1 |
| 160 | 9899.1601.3 | 160 | 9899.1601.2 | 160 | 9899.1601.1 |
| 250 | 9899.2501.3 | 250 | 9899.2501.2 | 250 | 9899.2501.1 |

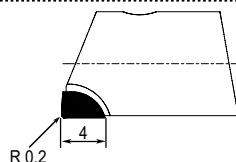
|         |           |         |          |
|---------|-----------|---------|----------|
| Art. N° | PF001.228 | Art. N° | CH001.03 |
|---------|-----------|---------|----------|

### ACCESSORIES ROUGHING VERSION

#### CARTRIDGE PCD



|         |           |         |           |
|---------|-----------|---------|-----------|
| Art. N° | 9394.1251 | Art. N° | 9394.1250 |
|---------|-----------|---------|-----------|



### ACCESSORIES FINISHING VERSION

#### ADJUSTABLE CLAMP PCD



|         |           |         |           |
|---------|-----------|---------|-----------|
| Art. N° | 9395.0035 | Art. N° | 9395.0036 |
|---------|-----------|---------|-----------|

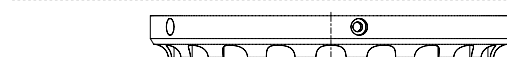


### WEAR PROTECTION



| Ø   | Art. N°     |
|-----|-------------|
| 80  | 9899.0801.5 |
| 100 | 9899.1101.5 |
| 125 | 9899.1251.5 |
| 140 | 9899.1401.5 |
| 160 | 9899.1601.5 |
| 250 | 9899.2501.5 |

### WEAR PROTECTION



| Ø   | Art. N°     |
|-----|-------------|
| 80  | 9899.0801.4 |
| 100 | 9899.1101.4 |
| 125 | 9899.1251.4 |
| 140 | 9899.1401.4 |
| 160 | 9899.1601.4 |
| 250 | 9899.2501.4 |

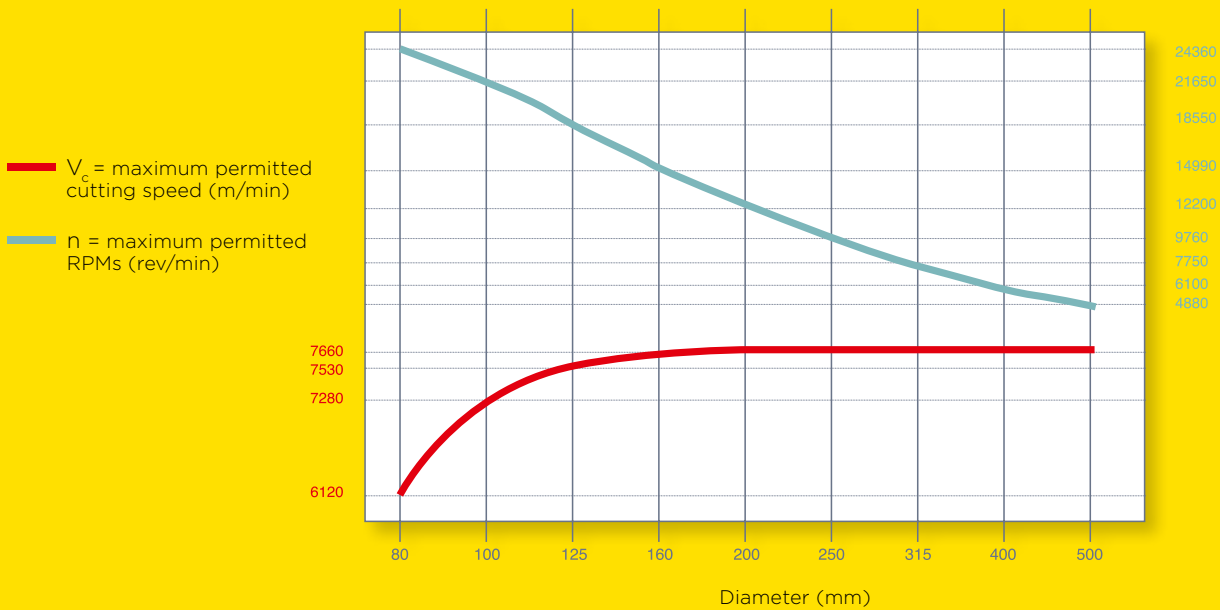


## **DIVERSIFIED AND SAFE USE**

The main application for the SPEED ONE is face milling of aluminium components for the automotive industry. To be able to offer you the highest performance for your production, these face milling tools are equipped with the maximum number of cutting teeth, allowing superior feed rates. A cost effective cartridge design, a highly engineered axial adjusting system and a reliable clamping screw are some of the interesting features of this last generation of face milling tools.

### **PCD INSERTS REPLACEMENT PROGRAMME**

FMT offers a quick insert replacement service anywhere in the world. Finishing and roughing cartridges are available from stock, to guarantee an effective delivery time. Repair or resharpen of these inserts is also possible and can be done within a short period of time.



## ASSEMBLING INSTRUCTIONS



1 > Make sure all cartridge pockets are free from oil or debris using an air pressure gun to avoid unwanted interference.



2 > Assemble the selected ring and clamp it with the appropriate screws. There are two different rings, one optimized for roughing and another for finishing purposes.



3 > Insert the cartridges into each pocket.



4 > Using a torque wrench tighten the cartridge screws to 3 Nm.



5 > Assemble the tool in the measuring machine.  
> Measure all cartridges and find the cartridge sitting higher.



6 > Presetting - Adjust all other cartridges to a difference of 10  $\mu\text{m}$  from highest.  
> Tighten all cartridge screws with a torque wrench of 4 Nm.  
> Fine tune all cartridge to  $\pm 1 \mu\text{m}$  from highest.



7 > Assemble the fixture screw to the disc.



8 > Use the fixture screw to clamp the speed one to the tool holder.



9 > Place the cover on top and screw all four holding screws.

# FMT ADVANTAGES



**1**  
**IDEAL PARTNERS**

**2**  
**EASY TO WORK WITH**

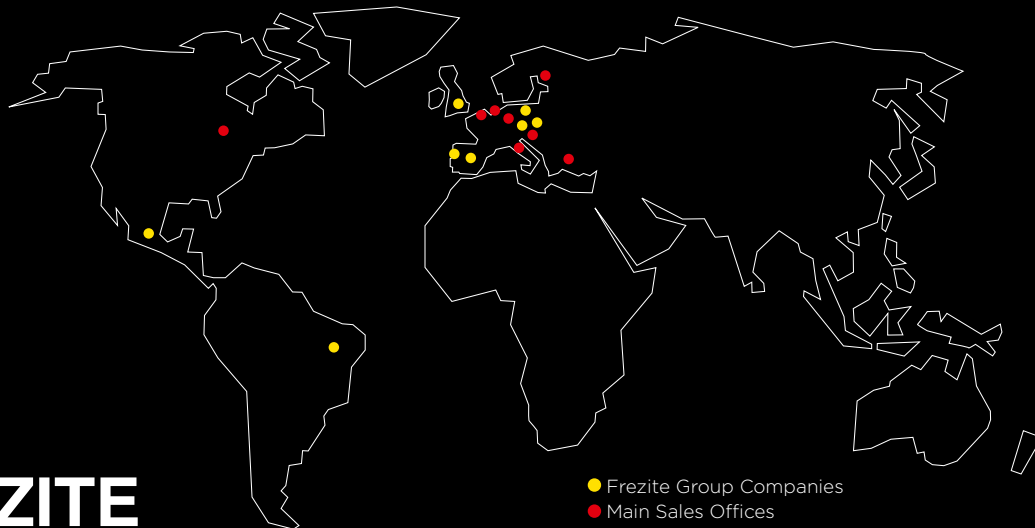
**3**  
**DYNAMIC TEAM**

**4**  
**RESEARCH & DEVELOPMENT**

**5**  
**ENLARGED PORTFOLIO**

**6**  
**FOCUS ON PERFORMANCE**

**7**  
**GLOBAL PRESENCE**



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