

# Milling heads SEMPUCO for WVM 2600/3600 T machines



**Milling machine manufacturer**  
**TOS VARNSDORF a.s.**



# Milling head KFU-D4/45/X

## Basic technical description:

Automatically indexing universal milling head KFU-D4/45/X consists of three compact sections that may be swiveled against each other so as the required angular position of the head's spindle may be set.

The joint planes of both the swiveling sections of the head are provided with highly precise Hirth-toothed rims. The pitch of the teeth corresponds with the basic positioning increment into which the sections are being clamped. The angular positioning of the head is controlled through the machine spindle.

The body of the head itself contains the complete mechanisms of the drive (by means of tooth wheels) and mounting of the head spindle (in the precise spindle bearings). Further to this it contains, the sensors for measuring the position and also fixing and releasing in both dividing areas.



# Milling head KFU-D4/45/X

## Fastening of milling head on the milling machine:

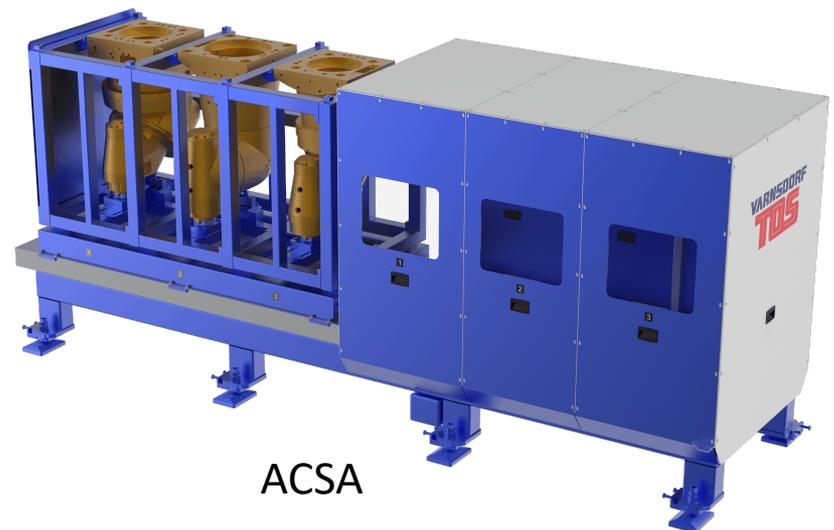
- **Automatic fastening of the head**

Fastening of the head on portal machine WVM 2600/3600 T is also carried out automatically.

The machines must then be equipped with a device for automatic fastening / removal of the head on / from the machine, which consists mainly of a technological accessories magazine (ACSA / SZP) designed according to the specific purpose of use. The headstock of the machine must always be equipped with an adaptation for automatic exchange of special accessories (UPPT).



SZP



ACSA

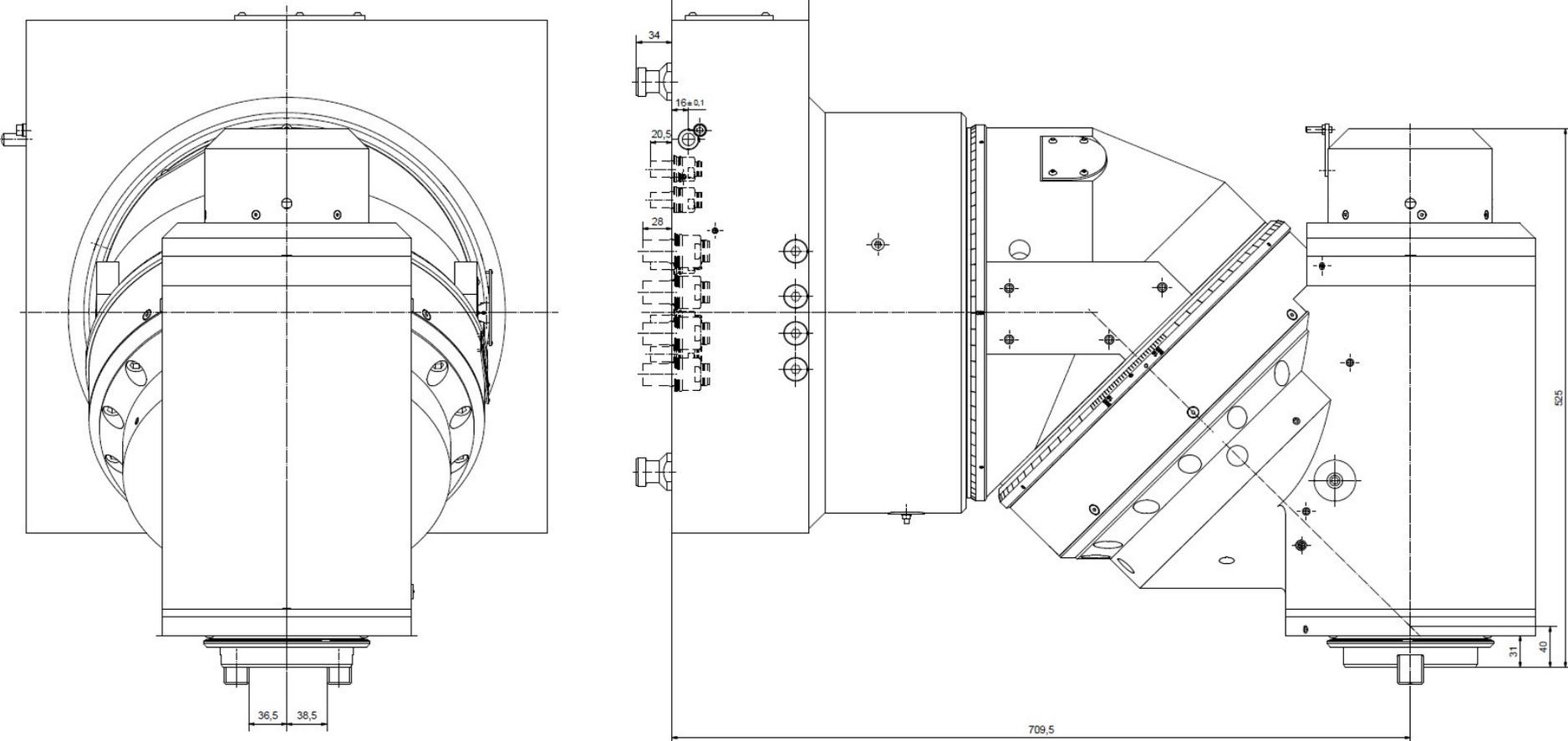
# Milling head KFU–D4/45/X

## **Basic technical parameters:**

Spindle taper		ISO 50 / ISO 50 BIG+
Taper standards available		DIN 69871/A (without tool cooling kit) DIN 69871/AD (with tool cooling kit) BT 50 MAS 403 CAT ANSI/ASME B5.50
Spindle speed max.	1/min	5 000
Power transmitted max.	kW	40
Spindle torque max.	Nm	1 200
Basic positioning increment of both the swiveling sections	Deg	1°
Transmission ratio		1:1
Rotation range – A axis	Deg	±180°
Rotation range – C axis	Deg	±180°
Accuracy of positioning of A and C axes	Deg	±3''
Distance of the spindle axis from the machine quill face	mm	709,5
Coolant supply via the external nozzles	MPa	0,3
Coolant supply through the tool axis	MPa	1 - 8
Tool clamping force	kN	20
Required pressure for release of the tool	MPa	8
Total weight	kg	850

# Milling head KFU-D4/45/X

## General design and arrangement:



# Milling head KFU–D4/90/X

## Basic technical description:

The head consists of three basic joint parts, which can rotate in the A and C axes in order to achieve the general position of the head's working spindle. In both dividing planes, the moveable parts of the head are fitted with precise rings with Hirth tothing whose division corresponds to the basic positioning increment and into which the rotary parts of the head are fixed (indexed). Positioning of the rotary parts is ensured by mechanical drive from the machine's spindle and allows positioning  $\pm 180^\circ$  in the C axis (vertical),  $\pm 180^\circ$  in the A axis (horizontal). The head's internal areas contain the complete driving mechanisms (cogwheels) and housing of the head's working spindle (in precise spindle bearings), as well as the releasing and fixing in both dividing planes. They also contain position-gauging sensors and a mechanism for chucking and releasing the tool.



# Milling head KFU-D4/90/X

## Fastening of milling head on the milling machine:

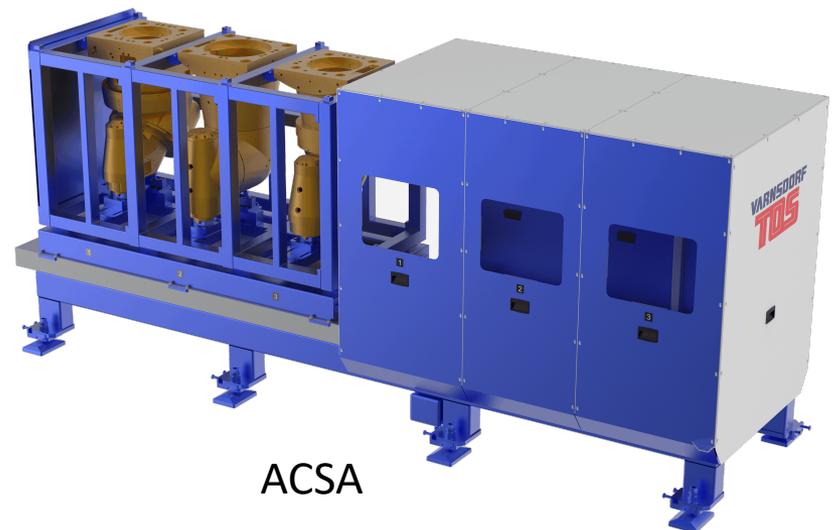
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SZP



ACSA

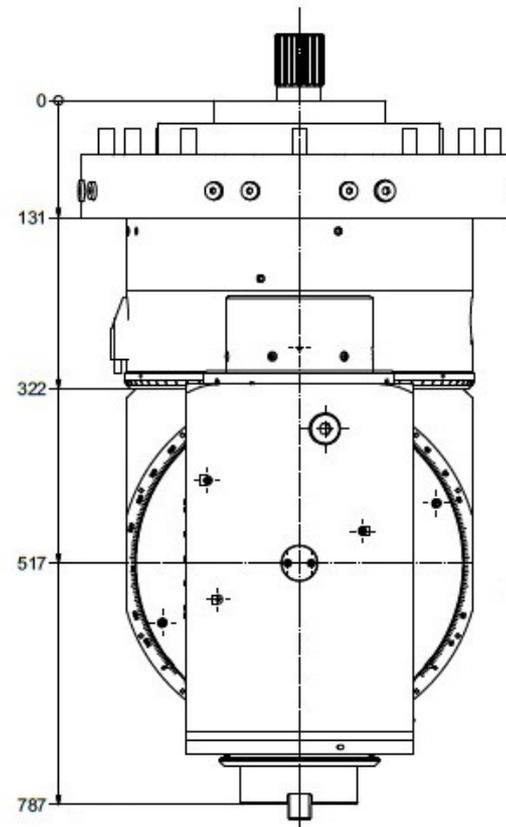
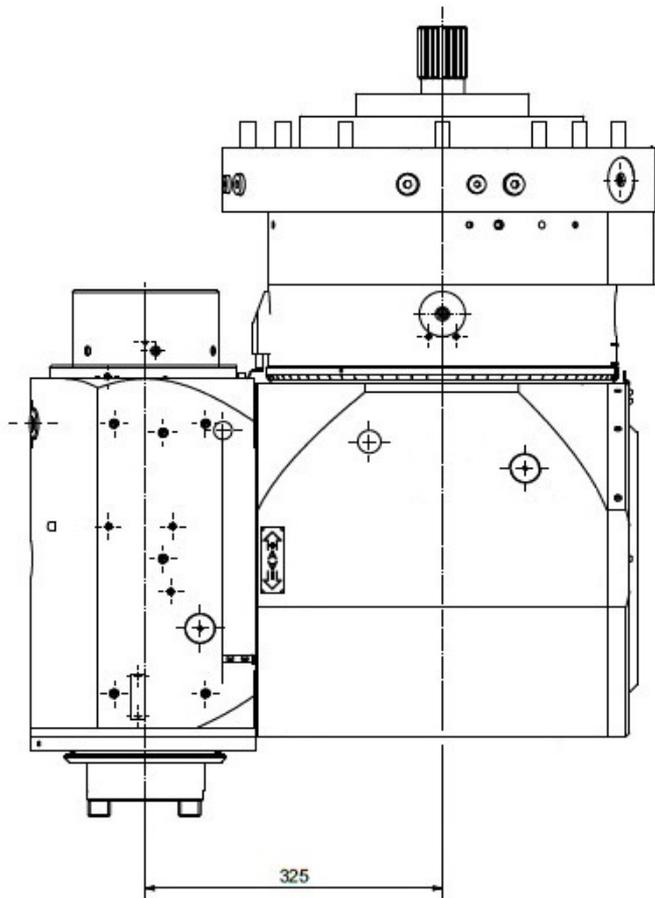
# Milling head KFU–D4/90/X

## **Basic technical parameters:**

Spindle taper		ISO 50 / ISO 50 BIG+
Taper standards available		DIN 69871/A (bez chlazení osou vřetena) DIN 69871/AD (chlazení osou vřetena) BT 50 MAS 403 CAT ANSI/ASME B5.50
Spindle speed max.	1/min	5 000
Power transmitted max.	kW	40
Spindle torque max.	Nm	1 200
Basic positioning increment of both the swiveling sections	Deg	1°
Transmission ratio		1:1
Rotation range – A axis	Deg	±180°
Rotation range – C axis	Deg	±180°
Accuracy of positioning of A and C axes	Deg	±3''
Distance of the spindle axis from the machine quill face	mm	325
Coolant supply via the external nozzles	MPa	1
Coolant supply through the tool axis	MPa	1 - 8
Tool clamping force	kN	25
Required pressure for release of the tool	MPa	8 - 12
Total weight	kg	575

# Milling head KFU-D4/90/X

## General design and arrangement:



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