

HPR50

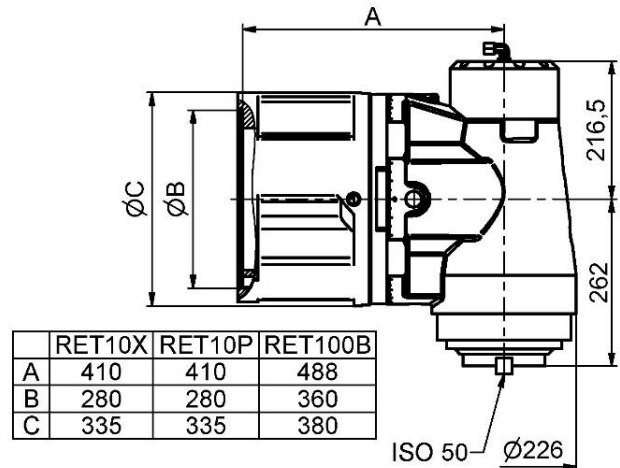
FEATURES

Vertical milling head HPR50 is designed for RET10X, RET10P, RET100B horizontal milling and boring machines as an optional technological accessory.

HPR50 milling head allows milling in parallel planes or drilling in perpendicular planes in relation to the spindle axis.

Milling head is mounted manually on the headstock (centring hole of the spindle housing).

Milling head is positioned manually.



MAIN PARAMETERS

Clamping taper	50	ISO
Tool shank	69871	DIN
Max. spindle speed	3 000	rpm
Max. transmitted power	25	kW
Max. spindle speed torque	1 200	Nm
Speed transmission from machine spindle to milling head spindle	1:1	
Angle range of the rotary part	±180	deg
Hydraulic power supply to the front of the headstock	min. 8	MPa
Total milling head weight (inclusive connecting flange)	ca. 250	kg

BRIEF TECHNICAL DESCRIPTION

Milling head consists of two compactly connected basic parts, which can be rotated against each other to achieve the required position of the milling head spindle.

The angle of rotation in the milling head intersection surface is set by means of a socket handle after releasing the rotary part of the milling head. The rotary part of the head is fastened with screws on the periphery of the dividing plane. The angle setting can be read on the peripheral nonius scale. For precise setting of basic positions 4x90 °, the milling head is equipped with a lock. For more precise setting of the general position of the milling head spindle, it is necessary to use appropriate check and measuring tools.



SPINDLE

Milling head spindle is driven by the machine spindle and the direction of its rotation is identical with the direction of rotation of the machine spindle.

Milling head interior includes the complete drive mechanisms (gear wheels) and bearing (in precision spindle bearings) of the head spindle.

Tool is mechanically clamped to the milling head spindle using a set of disc springs. Tool unclamping is provided hydromechanically with the supply of oil pressure from the machine.

Tool is inserted into and removed from the conical cavity of the milling head spindle manually. (This is applied also to machines equipped with an automatic tool changer in the machine spindle.)

Control of clamping/unclamping a manually inserted tool is identical with the control of the machine clamping system.

LUBRICATION

Lubrication of the milling head spindle bearing and bearings of the individual parts of the drive mechanism is permanent with grease.

TOOL COOLING

Milling head is standardly adapted for tool cooling with the supply of coolant by distribution jets and/or cooling through the spindle axis. In the version with both cooling circuits, it is not possible to use both functions at once. The circuit with supply through the spindle axis does not provide the option of blowing the spindle cavity with compressed air.

MOUNTING OF MILLING HEAD ON MACHINE

MANUAL MILLING HEAD MOUNTING

Milling head is mounted manually on the headstock with the assistance of lifting equipment.

SEMI-AUTOMATIC MILLING HEAD MOUNTING

A semiautomatic milling head mounting is provided from an additional milling head rack with the mean of fastening screws and other manipulation means and equipment.

Procedure of semiautomatic milling head mounting on the machine:

- putting the additional rack with the milling head onto the worktable / clamping plate of the machine
- automatic machine travel to the semiautomatic head changing (SHC) position
- automatic headstock travel and mounting of the milling head
- manual fastening screws and attaching the connectors (hydraulic and tool cooling)

AUTOMATIC MILLING HEAD MOUNTING – VERSION WITH HIRTH SERRATION

An automatic milling head mounting is possible on RET10X and RET10P machines. In this case, the machines have to be equipped with a device for automatic head changing (AHC) with a PICK-UP system, which



particularly consists of a rack for technological accessories customized according to the specific purpose of use and a cover plate for the headstock front, which protects the elements for clamping and connecting a milling head against contamination and damage, while the milling head is deposited in the rack.

STANDARDLY DELIVERED ACCESSORIES

- connecting flange
- tool clamping adapters – 5 pcs
- tool kit for operation and maintenance
- accompanying technical documentation including operating manual