



Assembly instruction
Digital readout and measuring gauges
for WABECO milling machines



Walter Blombach GmbH
Tool and Machine Factory

D-42899 Remscheid - Am Blaffertsberg 13 - Tel.: (02191) 597-0 - Fax: (02191) 597-40 - E-Mail: info@wabeco-remscheid.de
D-54673 Neuerburg - WABECO Str. 1-10 - Tel.: (06564) 9697-0 - Fax: (06564) 9697-25 - E-Mail: neuerburg@wabeco-remscheid.de
www.wabeco-remscheid.de

Outlay

Dear Customer!

Congratulations on choosing the **digital readout**. This digital readout is a precise system of measuring coordinates.

These operating instructions are to help you to install the digital readout correctly. Therefore we request that you read the respective instructions carefully and follow them exactly.

After unpacking the digital readout, please check to see if any kind of damage has occurred during transportation. Any complaints must be made immediately. Complaints made at a later date **cannot** be accepted.

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1. Delivery range

1.1 for F1200 E, F1200 E high speed, CC-F1200 E and CC-F1200 E high speed

Piece	Designation
1	Measuring system X-axis length of guage 270 mm
1	Measuring system Y-axis length of guage 170 mm
1	Measuring system Z-axis length of guage 320 mm
1	Readout system with bracket and connection cable
3	Protective cover and mounting material for all three axes

1.2 for F1210 E, F1210 E high speed, CC-F1210 E and CC-F1210 E high speed

Piece	Designation
1	Measuring system X-axis length of guage 520mm
1	Measuring system Y-axis length of guage 170mm
1	Measuring system Z-axis length of guage 320mm
1	Readout system with bracket and connection cable
3	Protective cover and mounting material for all three axes

2 Assembly

2.1 Position of the length measuring guages

An assembly sketch is attached to the assembly instructions, in order to show the position of the screw holes which have to be drilled.

2.2 Preliminary drilling before assembly

We know from experience that it is very difficult to locate and drill all the necessary holes according to a sketch, on an assembled machine.

For this reason we recommend that the screw holes for the measuring guage be drilled first.

Having done so, assemble the measuring guage with the measuring head and centre the screw holes for the measuring head through the pre-drilled holes.

Before centering the screw holes bring the measuring head to the middle position of the cross slide and/or the vertical slide respectively.

Centre the holes for the measuring head only after having taken the above mentioned step.

2 Assembly

2.3 Assembly of the measuring guage and measuring head

Washers with a bore diameter of 4.5 mm are part of our delivery package. They may have to be put between the measuring head and/or measuring guage and the machine body in order to compensate unevenness between the finished surfaces and the unfinished surfaces.

- The mounting surfaces must be parallel within 0.15 mm in order to guide the slides of the tool machine.
- mounting surfaces in vertical and horizontal axis must be parallel within 0.10 mm to the mounting surfaces of the length measuring guages.
- distance between the length measuring guage and the scanning head must be 1.5 mm + 0.2 / - 0,5mm.
- Remove the transport safety catch from the measuring head.

2.4 Assembly of the protective covers

The position of the screw holes which are to be drilled for the protective cover are also shown in the sketch.

Here again, you should proceed as for the assembly of the measuring system, i.e. mark the screw holes through the pre-drilled holes for the protective cover.

2.5 Electrical connections

Before connecting the digital readout to the electricity supply, it is absolutely necessary to check the mechanical assembly in order to avoid malfunctions of the electrical parts.

The electrical connections between the scanning head and the digital readout are laid out after the mechanical assembly.

In addition the following must be observed:

- You must be certain that the earthing of the mains lead is fully functioning.
- The lead running from the scanning heads to the digital readout must be laid in such a way that they are free from tension and cannot be pinched or broken.
- Connect to a power supply of 230 V, 50 Hz only.

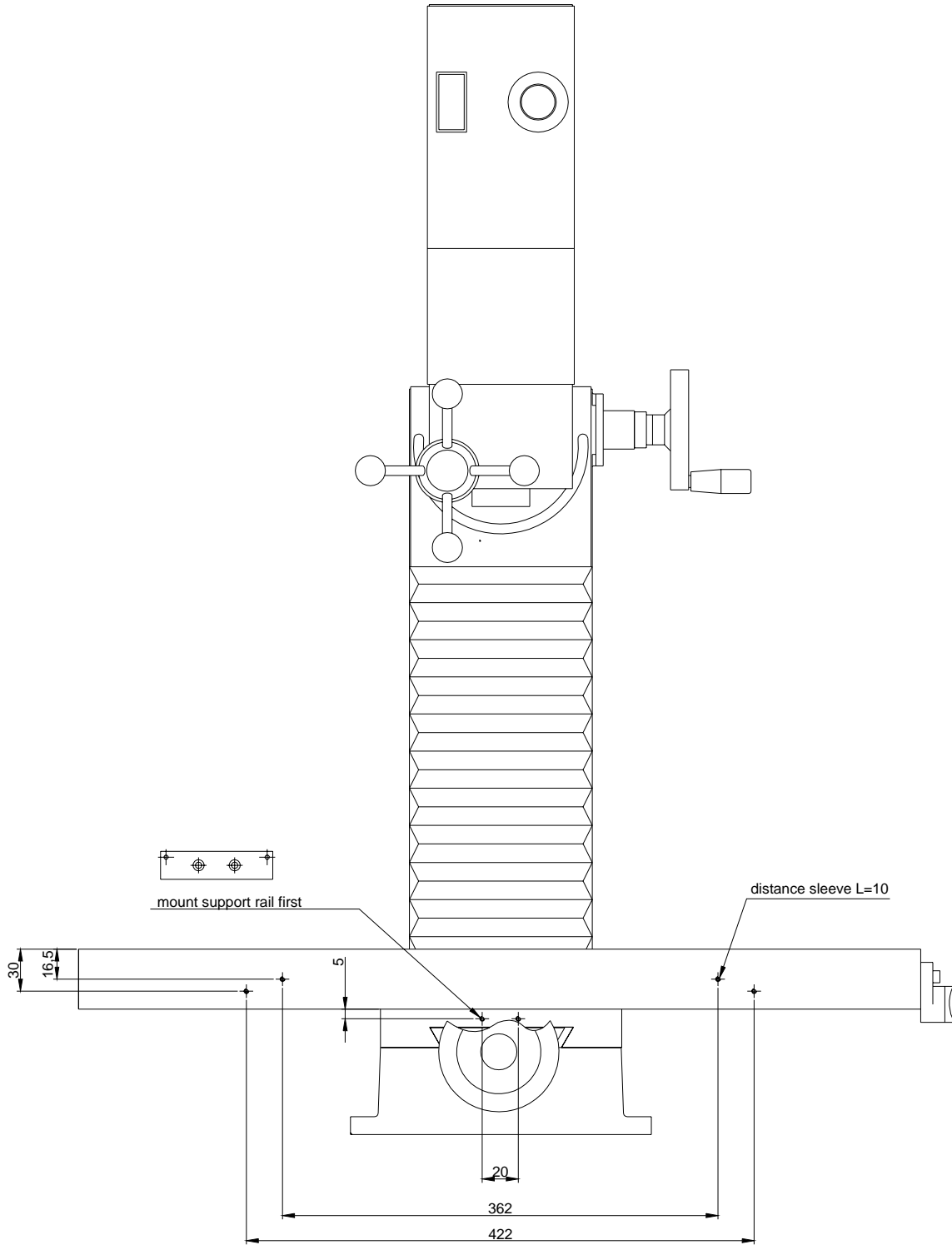
2 Assembly

2.6 Final inspection

- The digital readout must be mounted in such a way that a clear view of and free access to the operation controls is in **no way restricted**.
- Check the slides for smooth running.
- Tighten up all assembly screws.
- Check that the supply cables can move freely, i.e. **the cables should at no point be taut, regardless of the position of the table.**

3 Assembly sketch

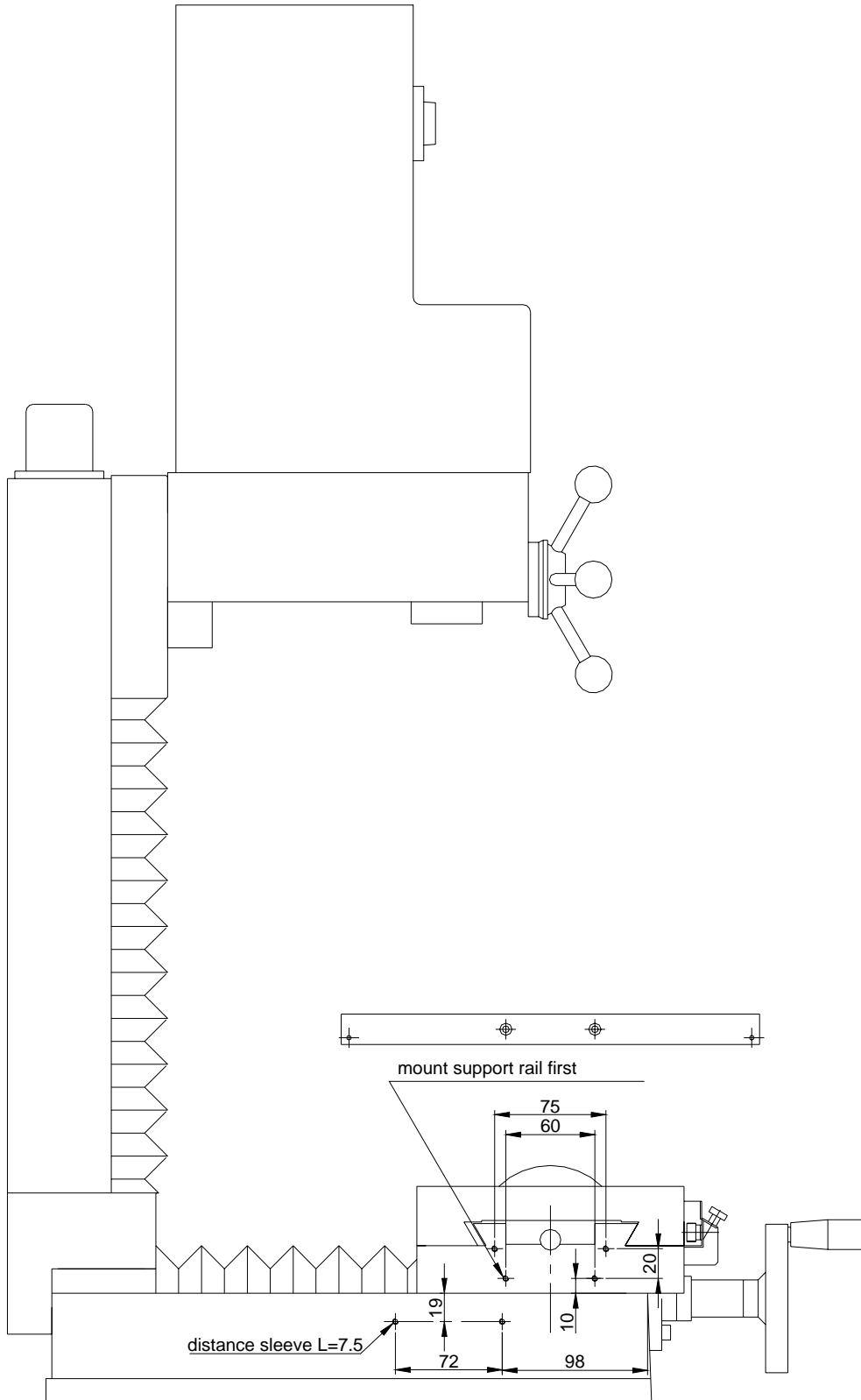
3.1 Attachment of digital readout with glass scale X-axis for F1200 E, F1200 E high speed, CC-F1200 E and CC-F1200 E high speed



all bore holes M4

3 Assembly sketch

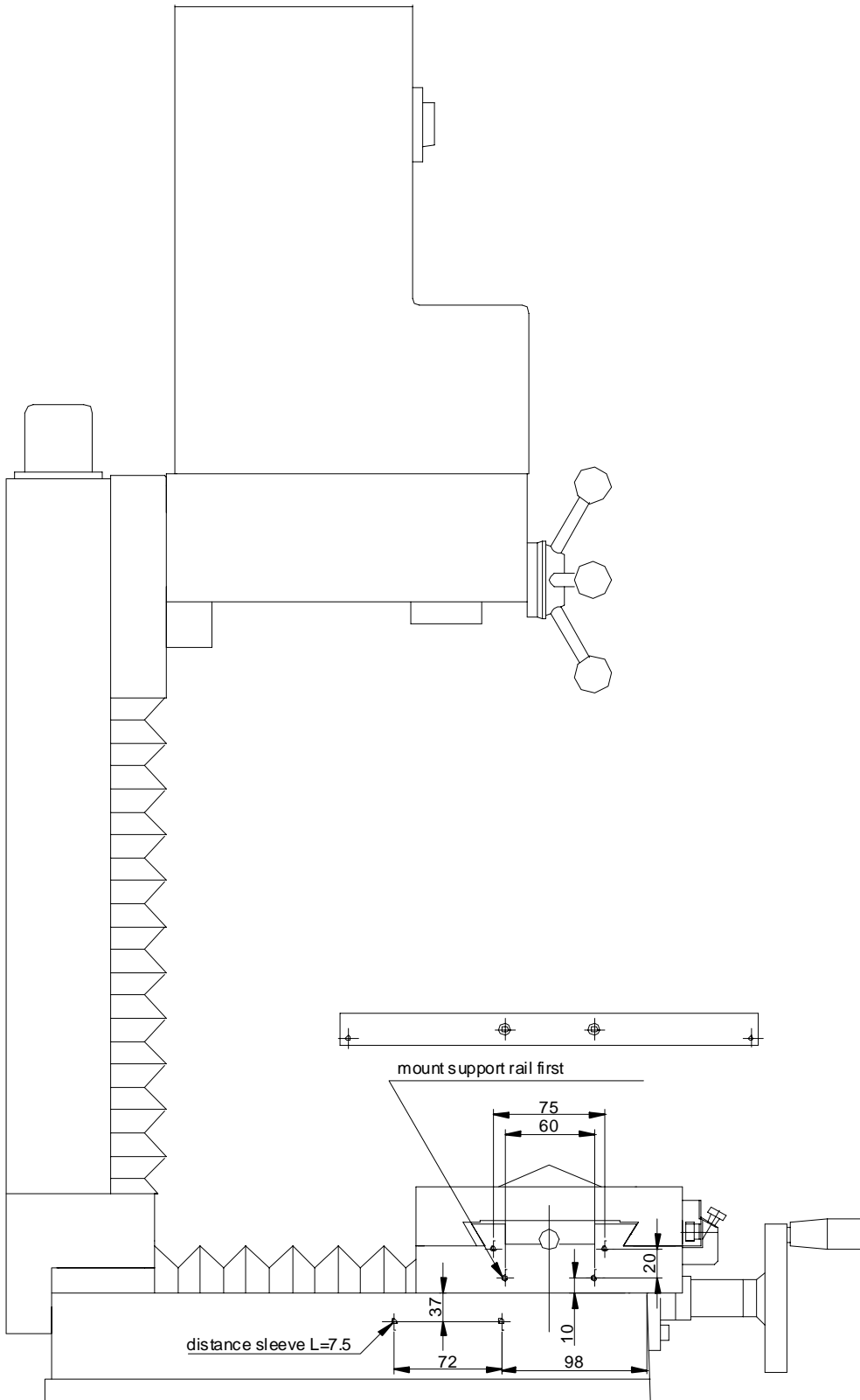
3.2 Attachment of digital readout with glass scale Y-axis with trapezoidal thread for F1200 E, F1200 E high speed, CC-F1200 E and CC-F1200 E high speed



all bore holes M4

3 Assembly sketch

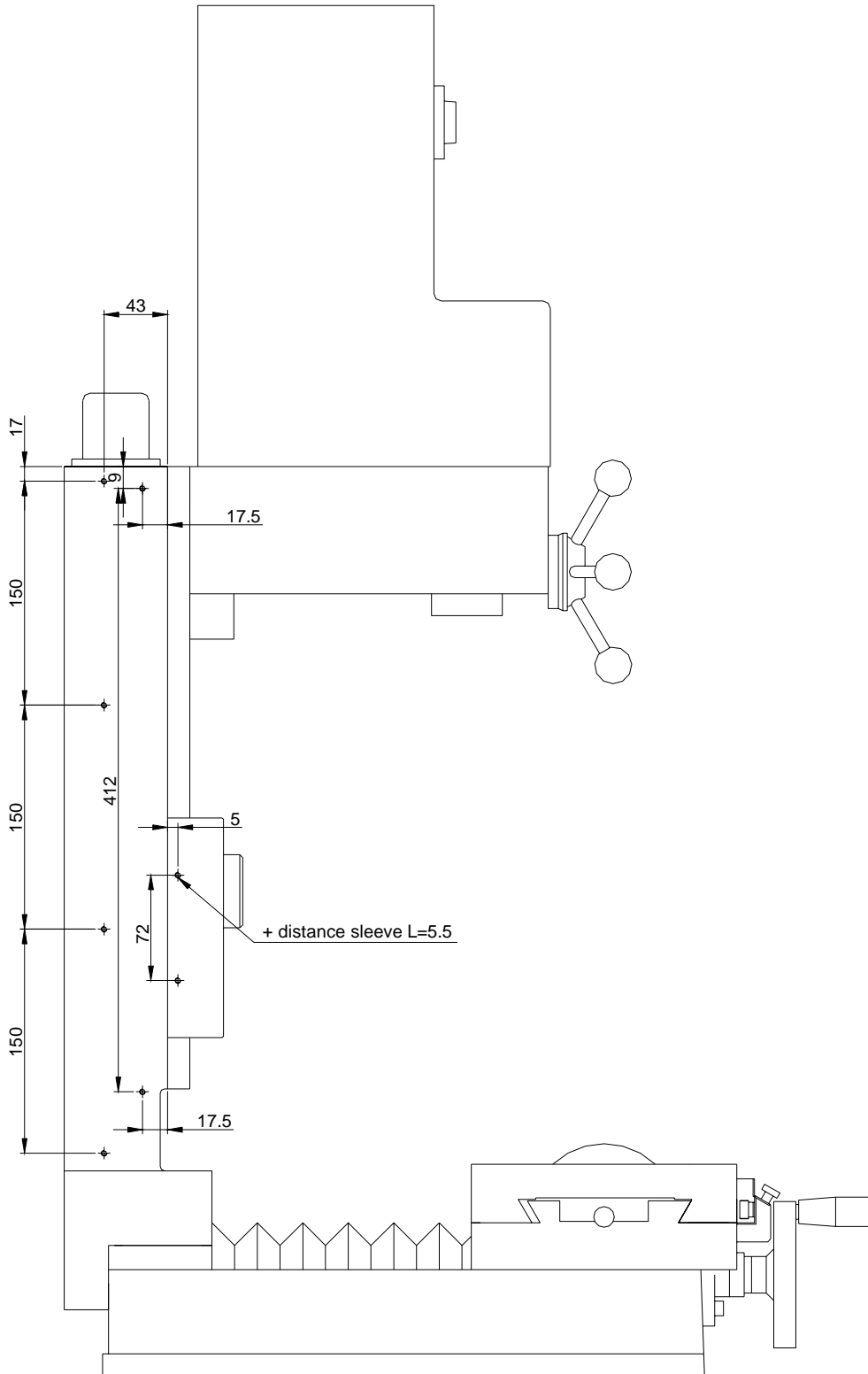
3.3 Attachment of digital readout with glass scale Y-axis with ball bearing spindle for F1200 E, F1200 E high speed, CC-F1200 E and CC-F1200 E high speed



all bore holes M4

3 Assembly sketch

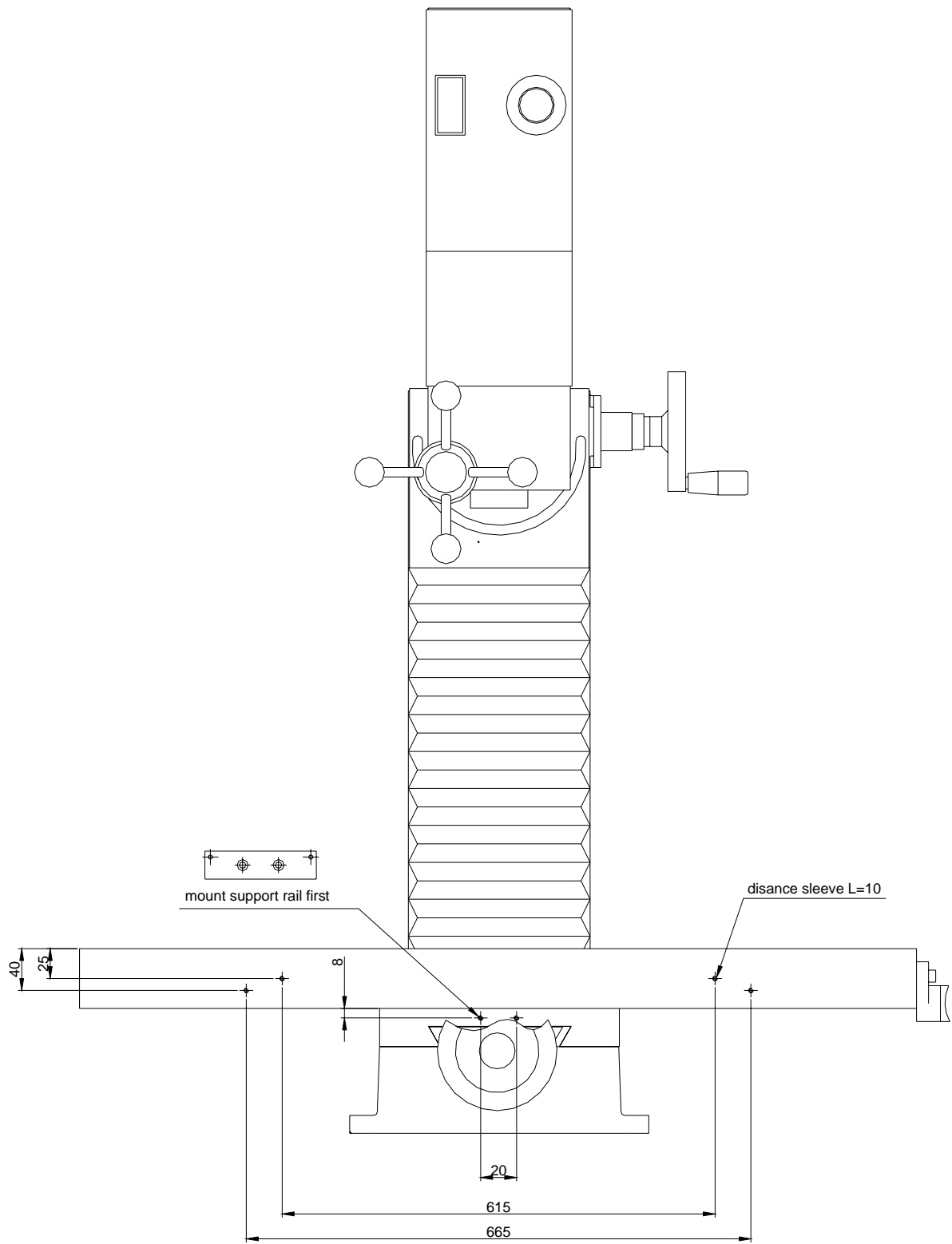
3.4 Attachment of digital readout with glass scale Z-axis for F1200 E, F1200 E high speed, CC-F1200 E and CC-F1200 E high speed



all bore holes M4

4 Assembly sketch

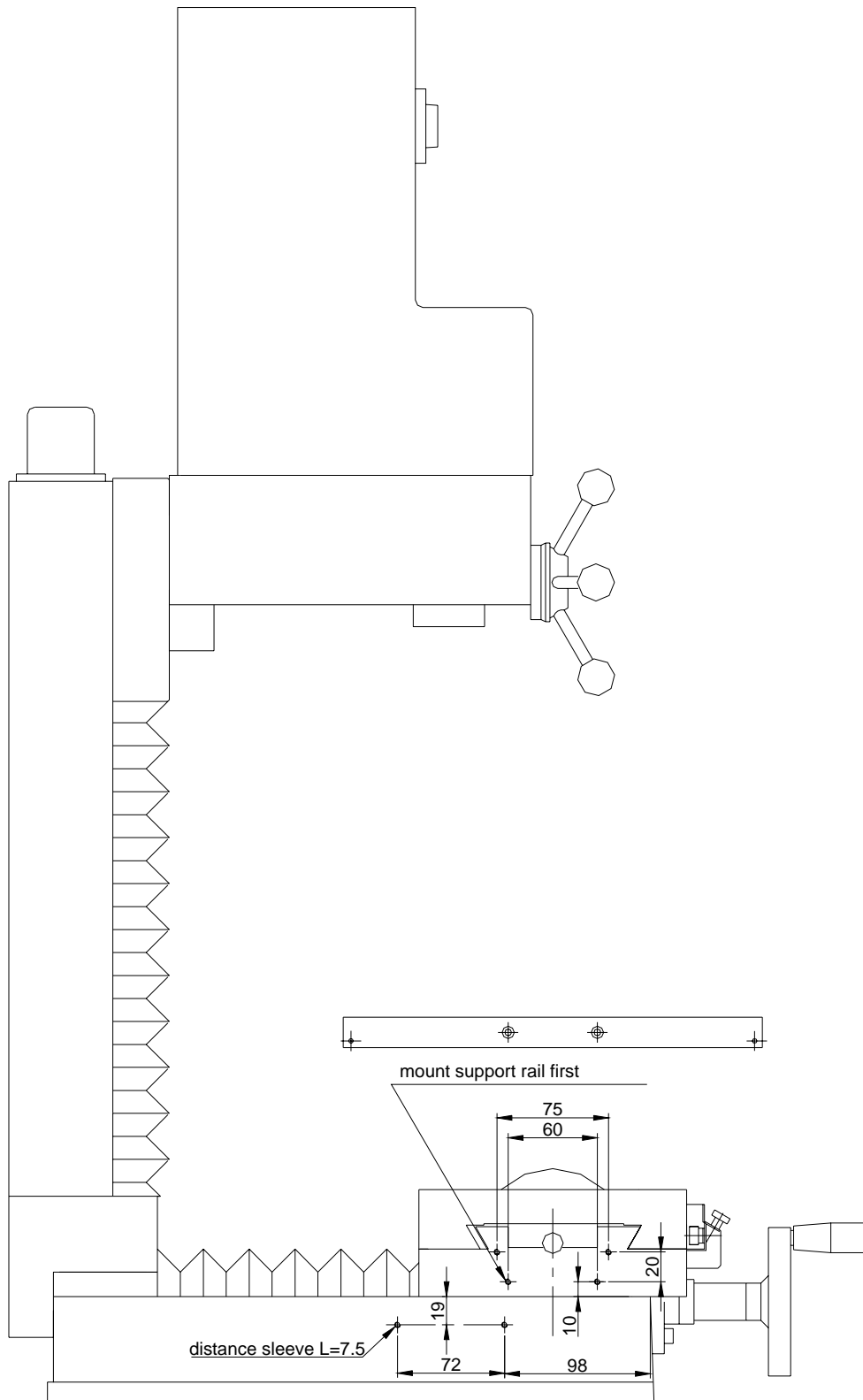
4.1 Attachment of digital readout with glass scale X-axis for F1210 E, F1210 E high speed, CC-F1210 E and CC-F1210 E high speed



all bore holes M4

4 Assembly sketch

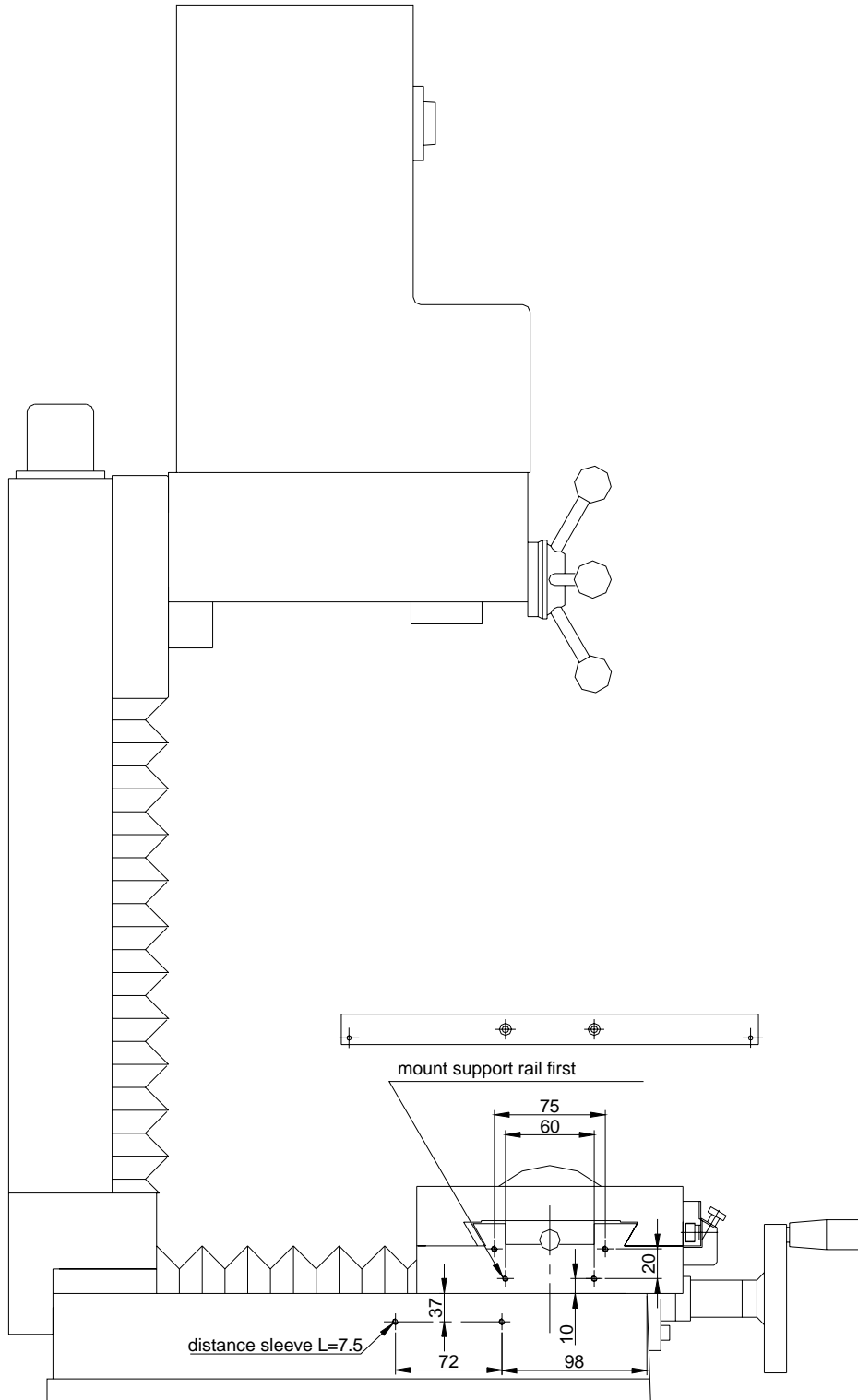
4.2 Attachment of digital readout with glass scale Y-axis with trapezoidal spindle for F1210 E, F1210 E high speed, CC-F1210 E and CC-F1210 E high speed



all bore holes M4

4 Assembly sketch

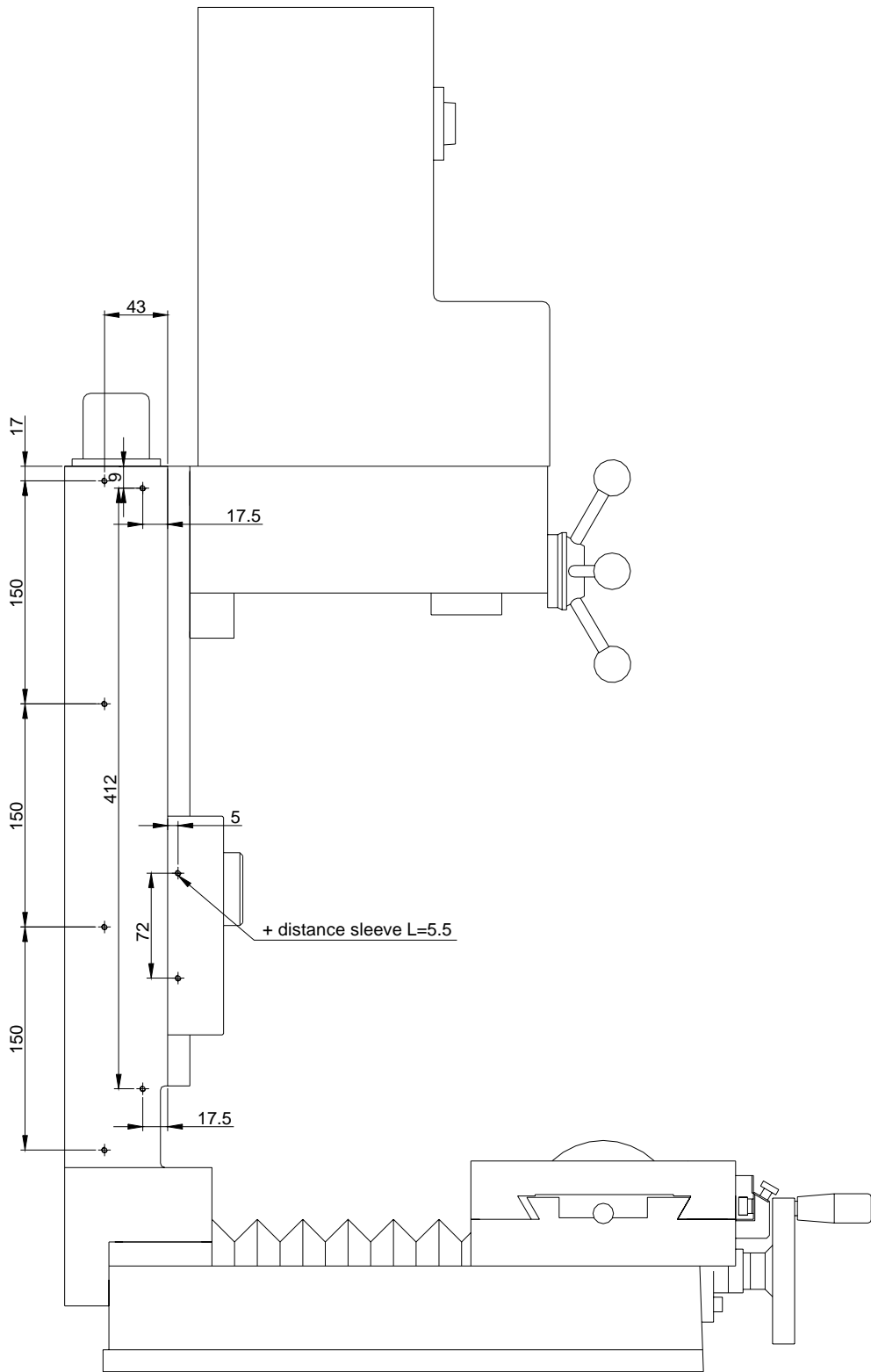
4.3 Attachment of digital readout with glass scale Y-axis with ball bearing spindle for F1210 E, F1210 E high speed, CC-F1210 E and CC-F1210 E high speed



all bore holes M4

4 Assembly sketch

4.4 Attachment of digital readout with glass scale Z-axis for F1210 E, F1210 E high speed, CC-F1210 E and CC-F1210 E high speed



all bore holes M4