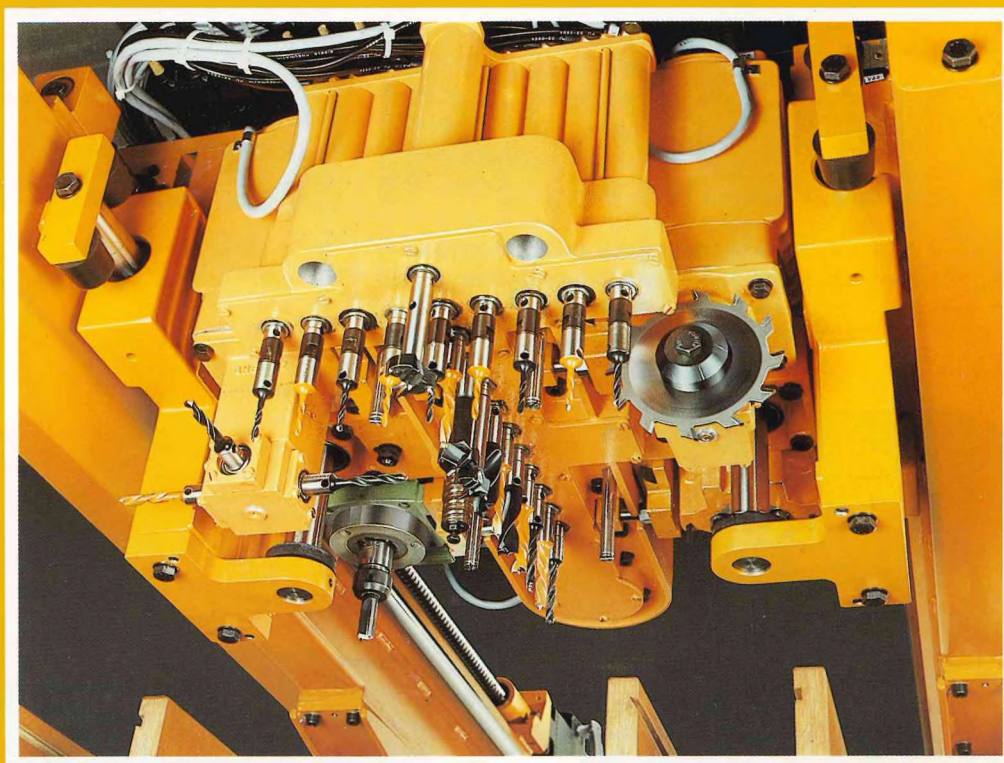


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boring and routing centre



BFC 1000



BFC 1000 Boring and Routing Centre

with dialog-oriented multi-microprocessor control

Modern furniture manufacturing is unimaginable without borings for dowel pins, fittings and hinges. Until now, setting up for boring has required more or less time-consuming adjustments; in addition, there is now a strong trend toward individual furniture, which reduces the number of items in mass production runs. With these developments, the use of NC-controlled machines is coming more into the foreground. Finally, there is the desire to be able to perform not only drilling but also groove cutting and surface routing operations in only one set-up.

These practical needs, especially the requirements for quality and repeatable accuracy, are met with the new Boring and Routing Centre BFC1000, developed by SCHEER.

It permits the efficient

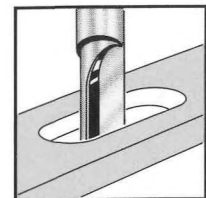
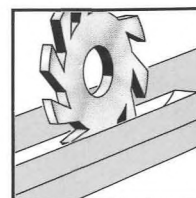
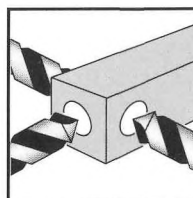
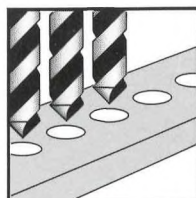
- boring of dowel holes vertically and horizontally,
- boring of rows or groups of holes,
- boring of furniture fittings,
- cutting of grooves and
- routing of cutouts and contours

in furniture sides, bottoms and doors

- without changing tools and
- without repositioning the workpiece

in a single set-up for the manufacture of

- individual items and orders for short series in the furniture industry as well as in interior finishing and supplier companies.



To do this

- 20 individually controlled boring spindles are available for vertical boring and
- boring in the horizontal direction is possible on 3 sides with a special unit,
- separate units for cutting grooves and routing are also available.

The Boring and Routing Centre

- saves time and labour costs as well;
- makes it possible to reduce the inventory of finished parts to a minimum;
- replaces special boring machines which are often not fully utilised,
- avoids damage to workpieces with fragile surfaces;
- can be programmed, thanks to a highly functional man-machine dialog, effectively and quickly; even as the machine runs!
- an on-line connection to a suitable personal computer (AT) is possible on request.

It serves equally well to promote

- manufacturing efficiency
- quality improvements.

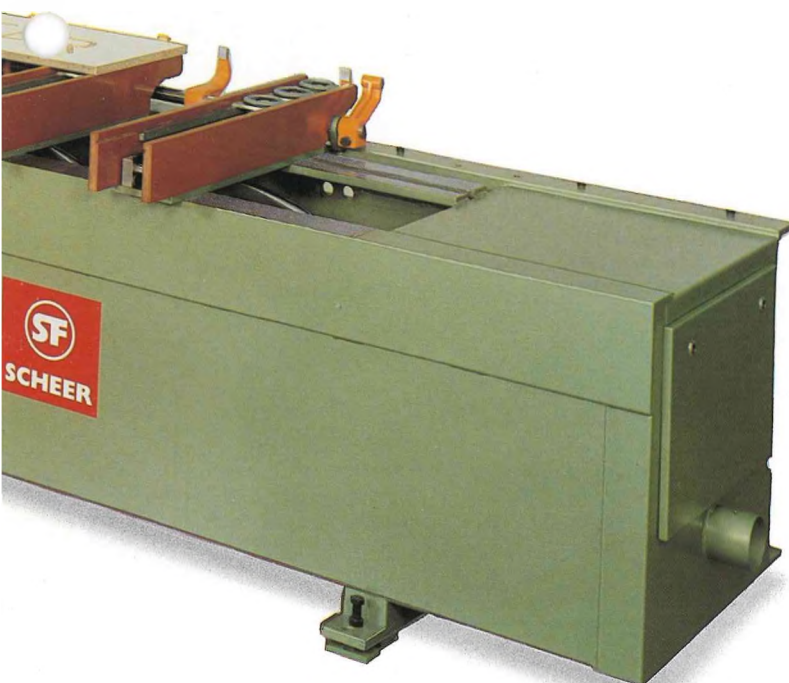
The working centre has a frame which consists of an exceptionally stable ribbed welded structure with hardened and ground lengthwise guides located on the back side. The multi-purpose support moves on ball bushings in the X-direction on these guides. Boring and routing units move in the Y and Z directions, also on hardened and ground circular guides within the support.

All axes (X, Y and Z) are driven with ball screws, which means the highest precision. State-of-the-art brushless feed motors, which are driven by a 4-quadrant controller, serve as drive motors.

Standard equipment includes 8 support groups, each with 3 built-in vacuum suction grips. To provide the best possible gripping even for shaped workpieces, each group can be swivelled up to 30 degrees to the left and right.

Stops which can be swivelled back pneumatically are located along the edge of the X-axis guide. Left and right angle guides as well as the middle fence system which is included as standard equipment for double use on smaller workpieces are connected with this swivel system. Independent guide groups can be supplied on request so that one workpiece can be loaded on the left while another workpiece is handled on the right, and vice-versa.

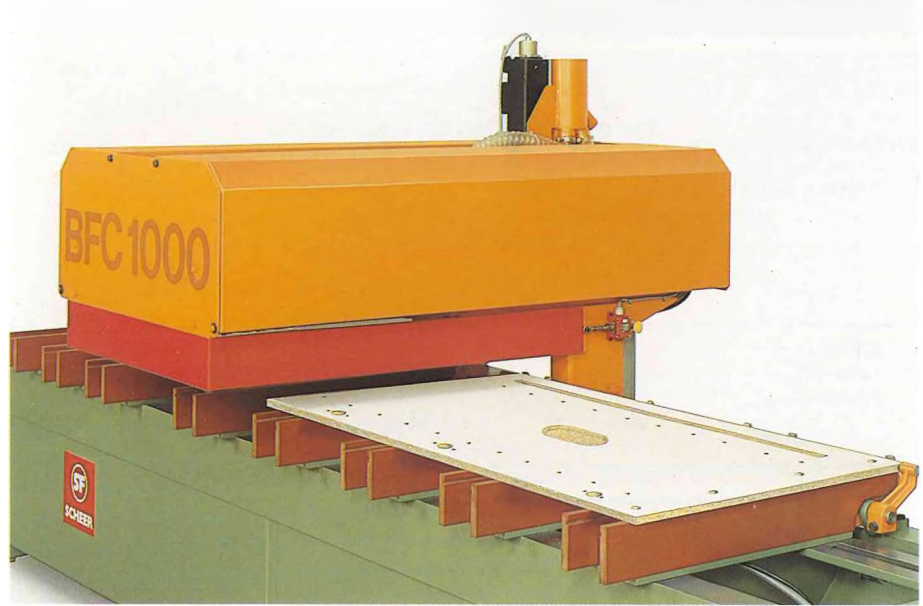
The High-Tech CNC Position Control Type NUM 750 F with an integrated programmable memory control unit (SPS) and with a 14" colour monitor with a dialog program, represents the state-of-art in electronics. The operator's guide via monitor and the graphical presentation of the working sequence supports the operator and facilitates program inputs, which are also possible during production operations.



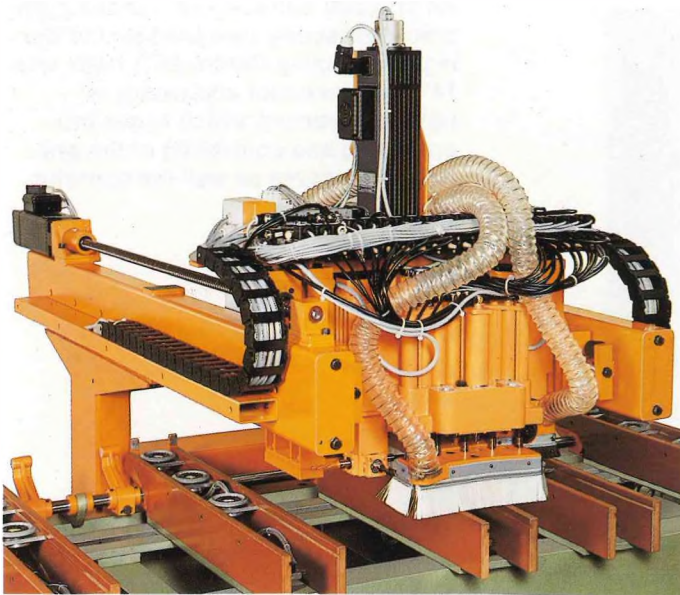


An operator surface with assisting graphics, especially designed for the Boring and Routing Centre BFC 1000, with 14" colour monitor and clearly arranged keyboard, which eases programming and controlling of the system and relieves as well the operator.

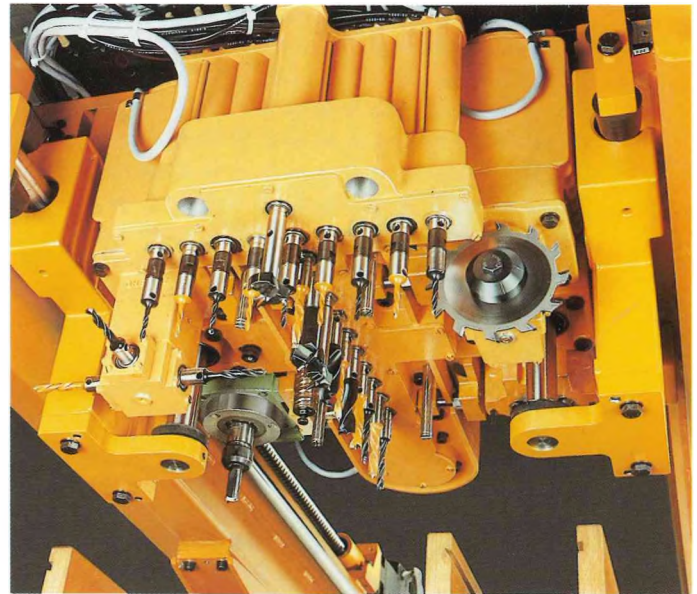
The supporting groups, with 3 vacuum-suction grips in each group, can be displaced and swiveled by 30° to the left and right side. Therefore an optimal gripping, even for shaped workpieces, is guaranteed.



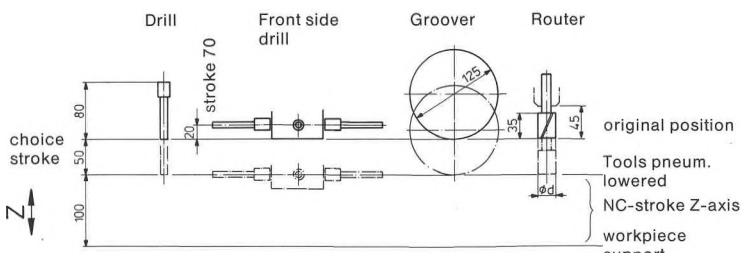
The workpiece shows the versatility of the Boring and Routing Centre BFC 1000. Whether it is necessary to do borings for hole rows, furniture fittings, construction holes, or to cut grooves, or even routing of difficult contours; – the intelligent CNC-Position Control makes it easy!



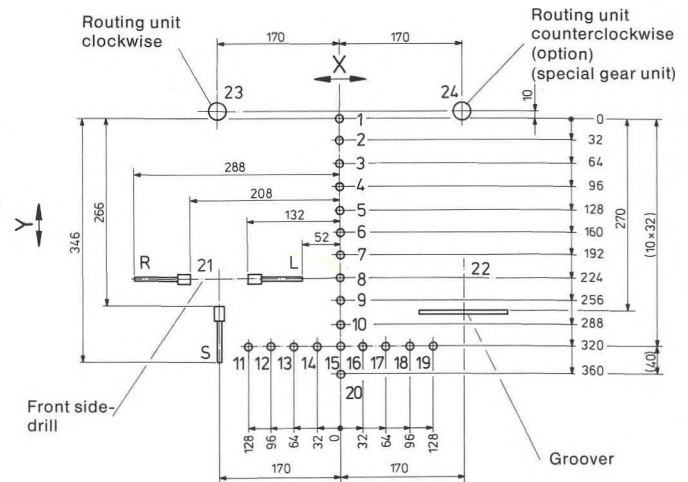
View at the multiple use support, without protecting cover. Dust and chipping are effective exhausted where they occur: at the tools!



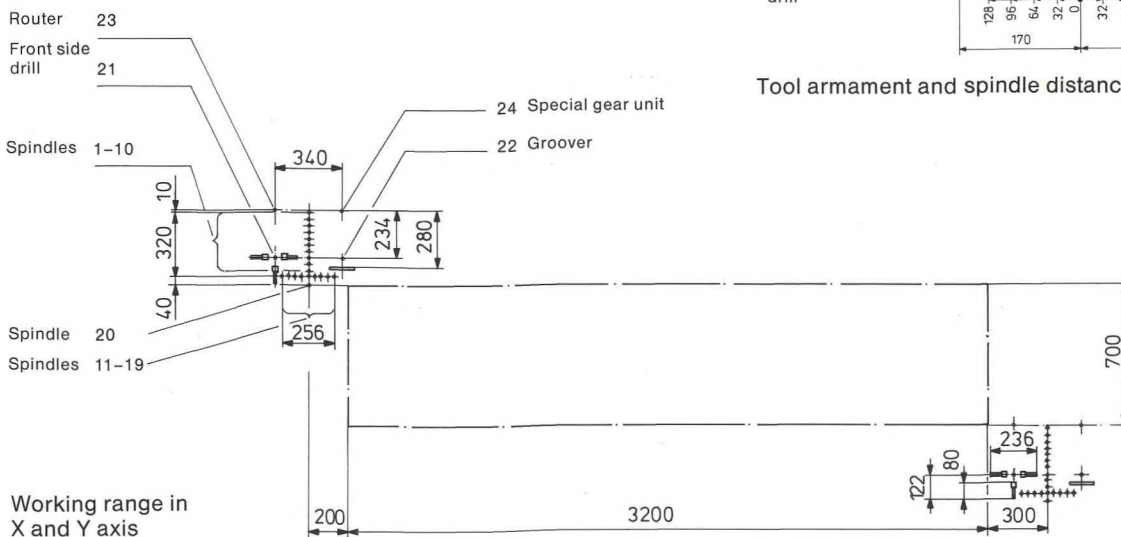
The support is here additionally equipped with a routing unit, clockwise, a groover head and a horizontal boring head with 3 spindles for left, right and rear edge boring. Each spindle can be controlled individually.



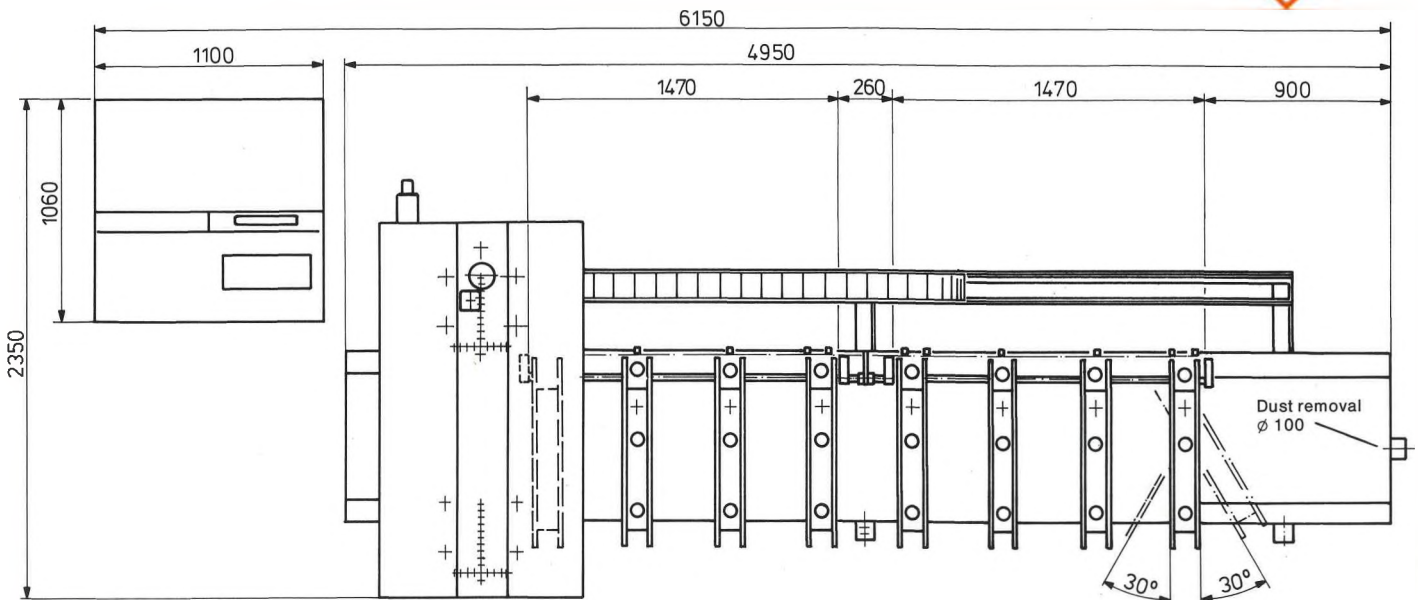
Adjustable depth for drills, groover and router



Tool armament and spindle distances



Working range in X and Y axis



We reserve the right to make changes in design and implementation.

Travel range X-axis: 3700 mm
 Working length X-axis: 3200 mm
 Travel range Y-axis: 1070 mm

Working width
 - Vertical boring: max. 1100 mm
 - Horizontal boring: max. 925 mm
 - Groove cutting: max. 970 mm
 - Routing: max. 700 mm

In general, each of the spindles on the support can reach any point on a surface of 3200 x 700 mm.

Travel range Z-axis: 100 mm
 Working height: 80 mm

Drive motors:

a) for 20-spindle standard boring head vertical 2.2 kW 4000 rpm
 b) for horizontal boring unit 1.65 kW 3800 rpm

c) for groove cutting unit 1.65 kW 100 Hz 5700 rpm
 d) for routing unit 3.0 kW 300 Hz approx. 12000 rpm adjustable

Feed motors:

X-axis: 1.3 kW V = 60 m
 Y-axis: 0.75 kW V = 50 m
 Z-axis: 0.75 kW V = 20 m

Vacuum-pump:

Nominal suction capacity: 20 m³/h
 Power: 0.75 kW
 Final pressure: 20 mbar

Total connected power: 9 kW
 Nominal voltage: 3 ~ 380 V, 50 Hz
 Total fusing: 36 A slow blow
 Netconnection: 4 x 6 qmm

Scope of supply:

BFC 1000 Boring and Routing Centre consisting of a machine bed with integrated exhaust, with 8 support groups each with 3 vacuum suction grips, with centrally controlled lowerable guides, ball screws on all 3 axes, machine support on ball bushings, with 20-spindle vertical boring head with powerful vacuum pump, with CNC control unit NUM 750 F with SPS and 14" colour monitor

On Special Order:

- 3-spindle horizontal boring unit (for 1 lengthwise, 2 crosswise sides)
- Groove cutting unit without saw blade
- Routing unit for clockwise rotation, complete with powerful frequency generator
- Routing unit for counter-clockwise rotation
- Special mono-spindle unit for special requirements
- 3-spindle boring gearhead for cylinder hinges "Häfele"