

Technical Description FIBROTOR® EM. and EM.NC.



6. Accessories for EM. and EM.NC.

6.1 Additional table top

To suit the individual sizes additional table tops up to \varnothing 2800 mm are available.
Material: Steel; for weight reduction grey cast iron or aluminium.

6.2 Stationary upper table top

To mount or support fixtures or machining units from \varnothing 160 mm up to \varnothing 1250 mm.

6.3 Stationary lower table top

The stationary lower table top is mounted on the machine stand.
Available up to \varnothing 2800 mm.

6.4 Seal for additional table top/stationary upper table top

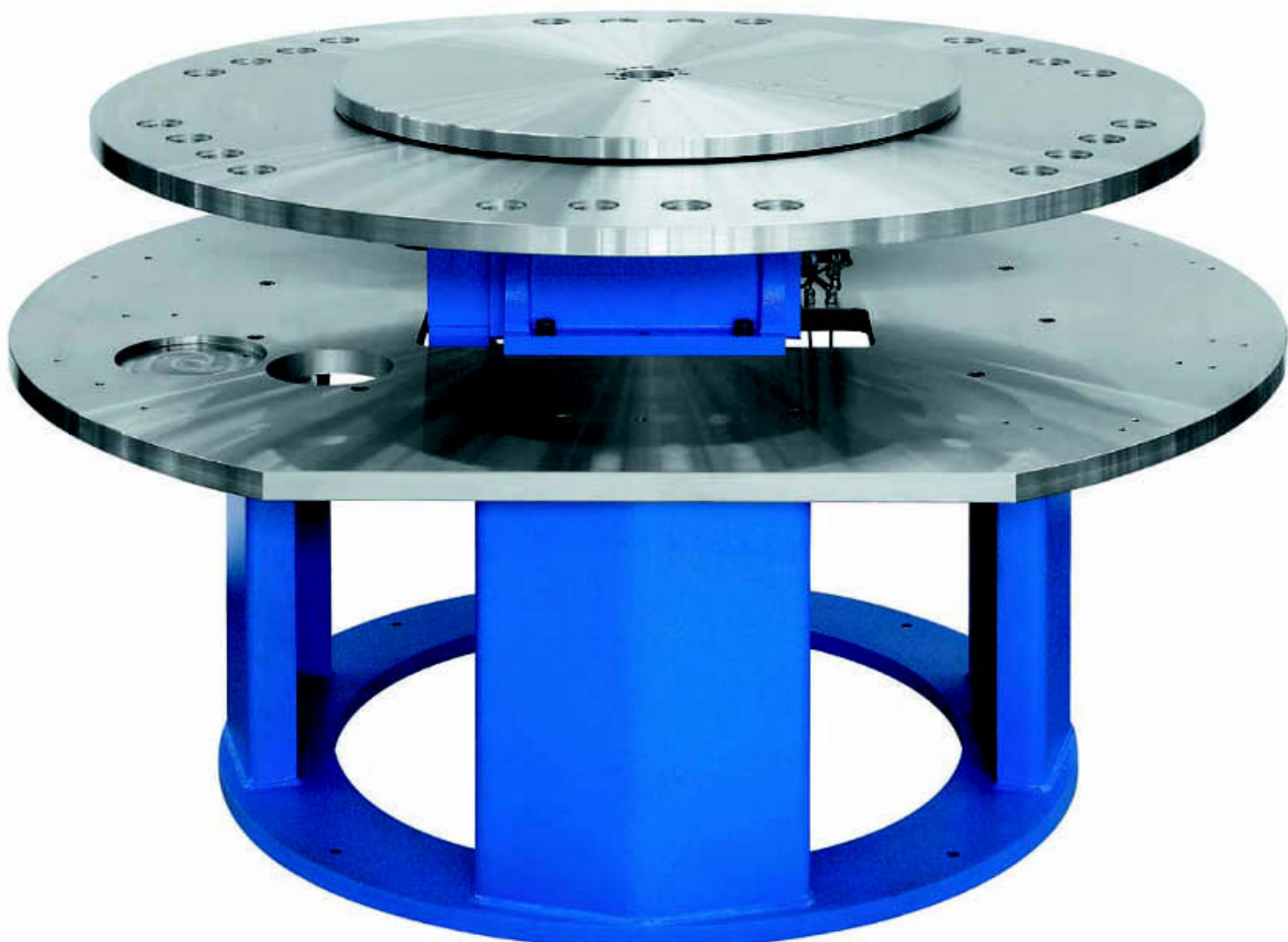
If there is a 1 mm gap (H6-H3) a seal can be added between the additional and stationary upper table tops.

6.5 Hydraulic unit for table top clamping

6.6 Pneumo-hydraulic clamping unit for table top clamping



FIBROTOR® EM.15, division 6,
Accessories:
additional table top diam. 1400 mm
fixed table plate diam. 1100 mm,
machine column





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6.5 Machine columns

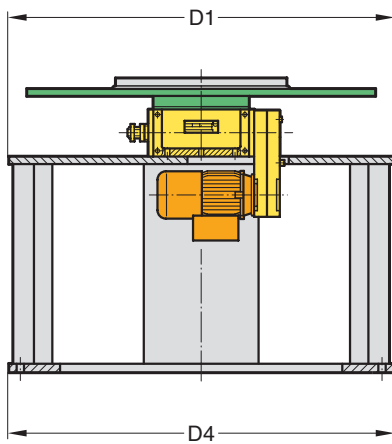
Machine columns are available in different variants and sizes.
Special versions and machined finishes can be supplied to customer specifications.
Preferred range: $D4 = \varnothing 600 / \varnothing 800 / \varnothing 1100 / \varnothing 1400$ mm

Variant I – Standard

Machine column,

Welded construction, consisting of:
Base ring, spacer profiles, table top.
 $D1 = D4$ fixing holes and thread in base ring.
Fixed overall height.

End face machined at the top.

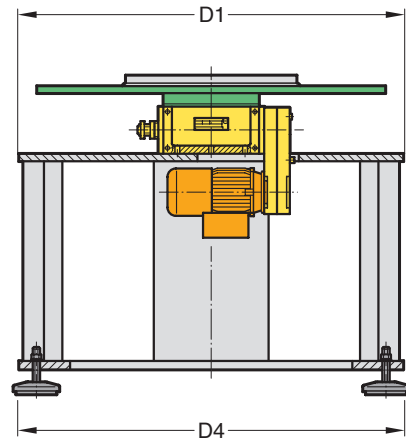


Variant I – Standard

Machine column, with levelling elements

Welded construction, consisting of:
Base ring, spacer profiles, table top.
 $D1 = D4$ levelling elements bolted to base ring.
Overall height 20mm, adjustable.

End face machined at the top.

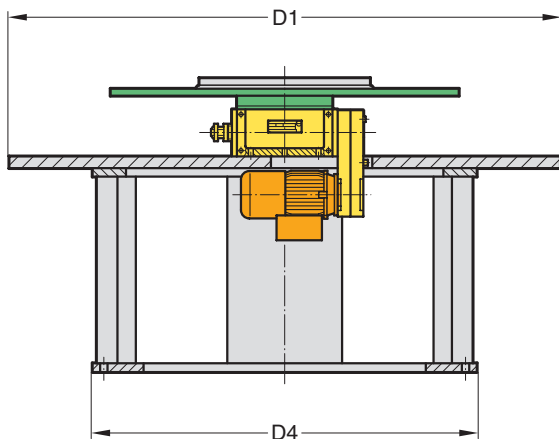


Variant II

Machine column,

Welded construction, consisting of:
Base ring, spacer profiles, mounting ring.
Mounting ring machined at the top.
Fixing holes and thread in base ring.
Fixed overall height.

Lower table top, machined on all sides, bolted and pinned to machine column.

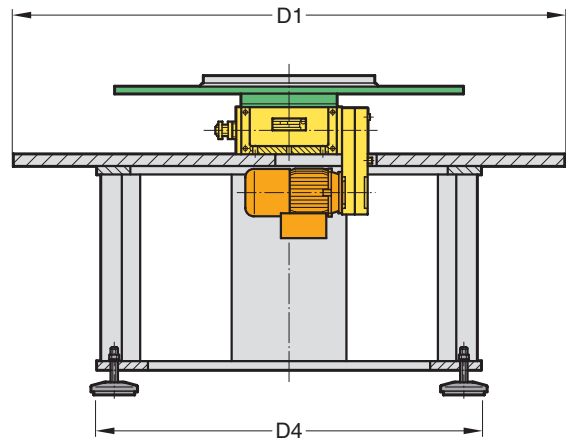


Variant II

Machine column, with levelling elements

Welded construction, consisting of:
Base ring, spacer profiles, mounting ring.
Mounting ring machined at the top.
Levelling elements bolted to base ring.
Overall height 20 mm, adjustable.

Lower table top, machined on all sides, bolted and pinned to machine column.



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7. Additional and stationary table tops

At FIBRO, we keep circular blanks in stock enabling us to guarantee short delivery times for special stationary and additional table tops.

Material: Aluminium, AlMg4,5Mn W28/F27, drawn

Dimensions	Weight	Moment of inertia
∅ 160 × 15	0,84 kg	0,003 kgm ²
∅ 200 × 15	1,32 kg	0,007 kgm ²
∅ 250 × 15	2,06 kg	0,016 kgm ²
∅ 320 × 15	3,30 kg	0,042 kgm ²
∅ 400 × 15	5,10 kg	0,102 kgm ²
∅ 500 × 20	11,00 kg	0,344 kgm ²
∅ 630 × 20	17,14 kg	0,85 kgm ²
∅ 700 × 25	26,46 kg	1,62 kgm ²
∅ 800 × 22	30,41 kg	2,43 kgm ²
∅ 800 × 25	34,56 kg	2,47 kgm ²
∅ 1000 × 22	47,52 kg	5,94 kgm ²
∅ 1000 × 25	54,00 kg	6,75 kgm ²
∅ 1250 × 25	84,37 kg	16,50 kgm ²

The additional table top respectively the stationary table top is bolted and pinned to the indexing table.

The surfaces of both additional table tops and stationary table tops are precision turned.

Surface treatment available upon request (additional cost): Natural anodised finish EV 1 (0.017–0.020 mm), not pickled.

Drilling patterns and other machined finishes can be supplied to customers' drawings using high-precision NC rotary tables and jig drilling machines.

Accuracies:

Concentricity of centring hole

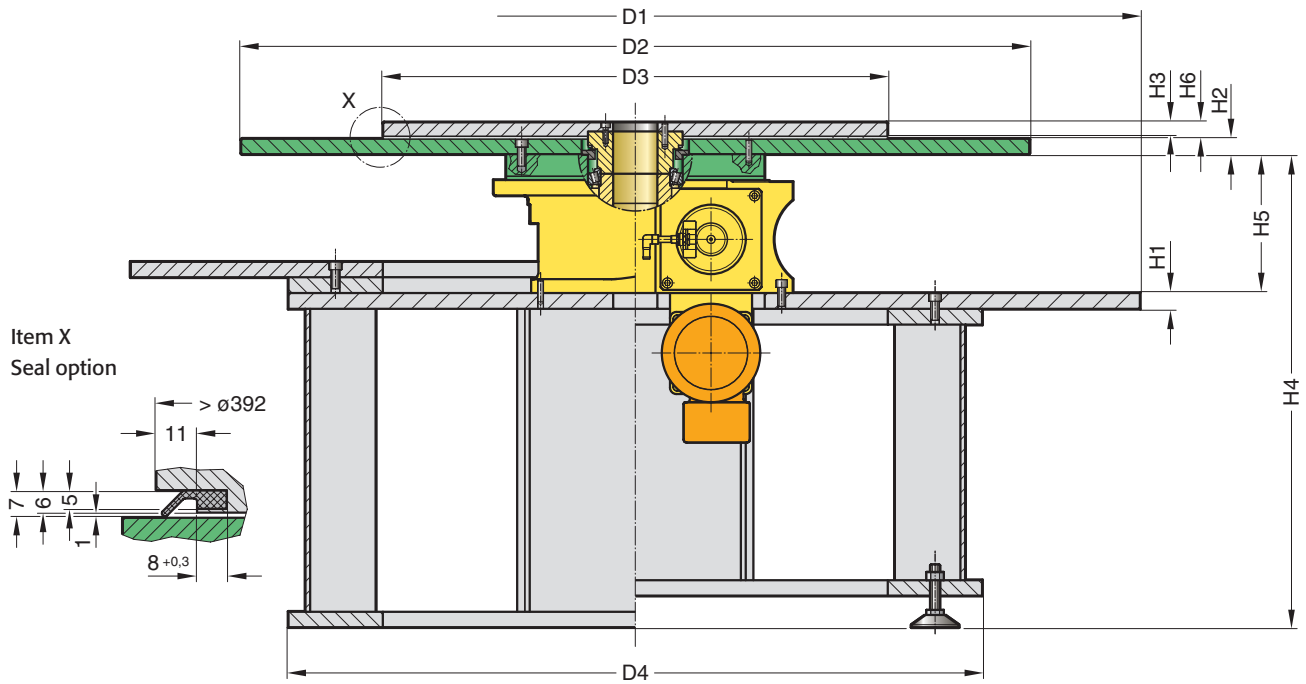
Type	Concentricity without centring ring		Concentricity centring ring	Total-concentricity	Concentricity additional table top
EM.10/EM.NC.10	0,02	∅ 40	0,02	0,04	0,05
EM.11/EM.NC.11	0,01	∅ 75	0,02	0,03	0,04
EM.12/EM.NC.12	0,01	∅ 110	0,02	0,03	0,04
EM.13/EM.NC.13	0,01	∅ 110	0,02	0,03	0,04
EM.13/EM.NC.13	0,01	∅ 150	0,02	0,03	0,04
EM.15/EM.NC.15	0,015	∅ 150	0,02	0,035	0,05
EM.16/EM.NC.16	0,015	∅ 220	0,02	0,035	0,05
EM.17/EM.NC.17	0,02	∅ 260	0,02	0,04	0,06
EM.18/EM.NC.18	0,02	∅ 300	0,02	0,04	0,06
EM.19/EM.NC.19	0,02	∅ 300	0,02	0,04	0,06
EM.20/EM.NC.20	0,02	∅ 300	0,02	0,04	0,06

Run-out:

Additional table top	↗ 0,01/100 mm
Upper table top	↗ 0,02/100 mm
Lower table top	↗ 0,02/100 mm



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Size 10 11 12 13 15 16 17 18 19 20

Additional table top D 2 × H 2

Ø 160 × 15	●									
Ø 200 × 15	●	●								
Ø 250 × 15	●	●								
Ø 320 × 15	●	●	●							
Ø 400 × 15	●	●	●	●						
Ø 500 × 20	○	●	●	●						
Ø 630 × 20		●	●	●	●	●				
Ø 700 × 25		●	●	●	●	●	●			
Ø 800 × 22	○	●	●	●	●	●	●			
Ø 800 × 25	○	●	●	●	●	●	●			
Ø 1000 × 22		○	●	●	●	●	●	●		
Ø 1250 × 25			●	●	●	●	●	●	●	
Ø 1400 × 30			○	●	●	●	●	●	●	●
Ø 1600 × 30				●	●	●	●	●	●	●
Ø 1800 × 30				○	●	●	●	●	●	●
Ø 2000 × 40					○	●	●	●	●	●

Size 10 11 12 13 15 16 17 18 19 20

Stationary upper table top D 3 × H 3

Ø 160 × 20	●	●	●	●	●					
Ø 200 × 20	●	●	●	●	●					
Ø 250 × 20		●	●	●	●	●				
Ø 320 × 20		●	●	●	●	●	●	●		
Ø 400 × 20			●	●	●	●	●	●	●	●
Ø 500 × 20				●	●	●	●	●	●	●
Ø 630 × 20					●	●	●	●	●	●
Ø 800 × 22						●	●	●	●	●
Ø 1000 × 30							●	●	●	●
Ø 1250 × 30								●	●	●

Size 10 11 12 13 15 16 17 18 19 20

Stationary lower table top D 1 × H 1/D 4

Ø 800×22/Ø 600	●	●	●	●	●					
Ø 1000×22/Ø 600	●	●	●	●	●	●				
Ø 1250×25/Ø 800	●	●	●	●	●	●	●	●		
Ø 1400×30/Ø 800	●	●	●	●	●	●	●	●	●	
Ø 1600×30/Ø 1100		●	●	●	●	●	●	●	●	●
Ø 1800×30/Ø 1100			●	●	●	●	●	●	●	●
Ø 2000×40/Ø 1400				●	●	●	●	●	●	●

Machine column

Size 10 11 12 13 15 16 17 18 19 20

Machine column

Stand. height H 4	800	800	800	800	800	800	800	800	800	800
Min. height	320	320	320	400	500	600	650	800	800	800
Stand. height H 5	100	100	150	175	220	270	380	420	520	600
Min. height	0	0	0	0	0	0	0	0	0	0

Reinforced machine column on request.

Height H 6 to customer's specification.
In case of supplementary seal between upper table top and additional table top H 6 = H 3 + 1 mm.

○ Subject to confirming load details!

Special versions on request.

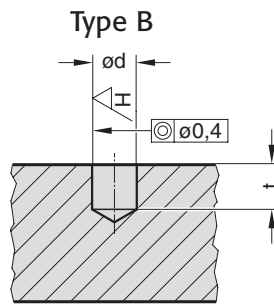
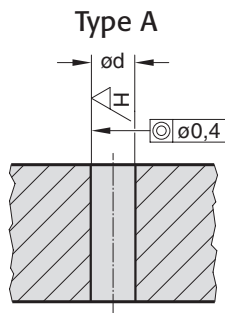
8. Guidelines for drilling patterns in additional and stationary table tops

The fit and thread depths should be as short as possible in order to avoid unnecessary costs. Core holes can be drilled right through the additional and lower table top. The holes in the upper table top should be blind holes. FIBRO provides suitable shipping threads in the additional and stationary table tops.

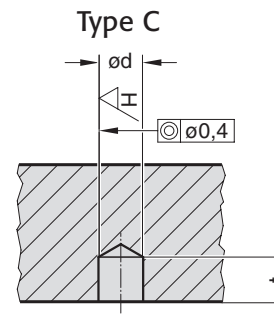
General recommendation:

Fit length = 2 × nominal diameter, thread length = 2 × thread diameter!

Type B Hole



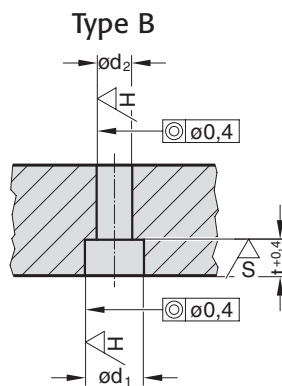
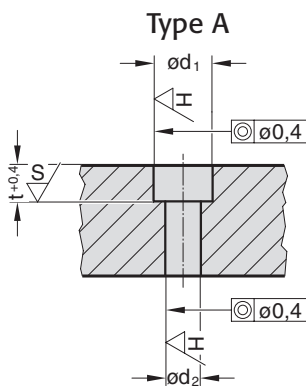
in exceptional cases only



d/t	∅ 5,5	∅ 6,6	∅ 9	∅ 11	∅ 13,5	∅ 17,5	∅ 22	∅ 26	∅ 33
Use	M 5	M 6	M 8	M 10	M 12	M 16	M 20	M 24	M 30

Type S Countersink

DIN 74 – KM countersink
for DIN 912 cheese head screws

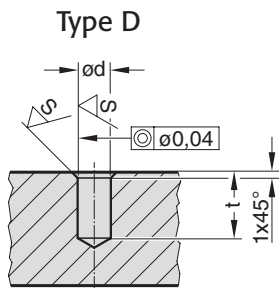
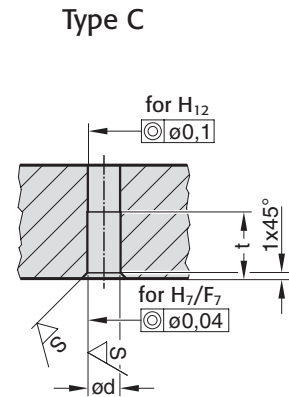
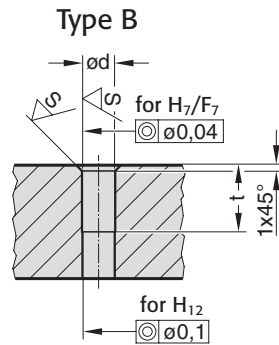
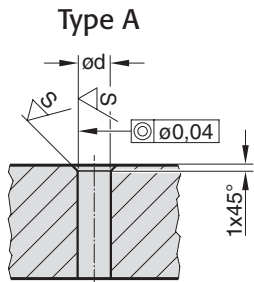


d ₁ /t/d ₂	∅ 10/5,7/5,5	∅ 11/6,6/6,6	∅ 15/9/9	∅ 18/11/11	∅ 20/13/13,5	∅ 26/17,5/17,5
Use	M 5	M 6	M 8	M 10	M 12	M 16

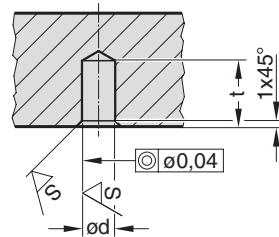


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Type P Fitting hole
Standard: Depth $t = 2 \times d$



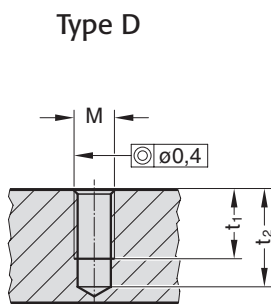
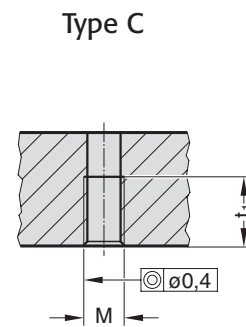
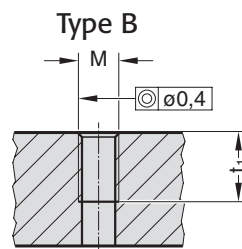
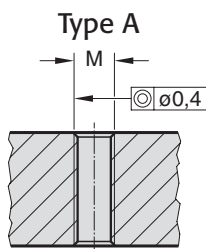
Type E
in exceptional cases only



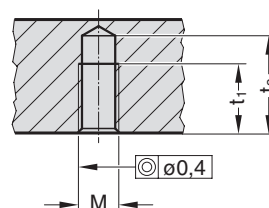
max. fit length

Diameter (d)	Depth (t)
$\varnothing 4 - \varnothing 7,7$	14 mm
$\varnothing 7,8 - \varnothing 9,7$	27 mm
$\varnothing 9,8 - \varnothing 11,7$	30 mm
$\varnothing 11,8 - \varnothing 13,7$	38 mm
$\varnothing 13,8 - \varnothing 15,7$	45 mm
$\varnothing 15,8 - \varnothing 19,7$	53 mm
$\varnothing 19,8$ or more	60 mm

Type G Thread
Standard: Depth (t_1) = $2 \times M$



Type E
in exceptional cases only



max. thread depth

M	Depth (t_1)
M4	10 mm
M5	12 mm
M6	15 mm
M8	20 mm
M10	25 mm
M12	28 mm
M16	35 mm
M20	40 mm
M24	48 mm

d/ t_1 / t_2 M4/8/12 M5/10/13 M6/12/17 M8/16/22 M10/18/25 M12/20/28 M16/24/33 M20/30/41 M24/36/48