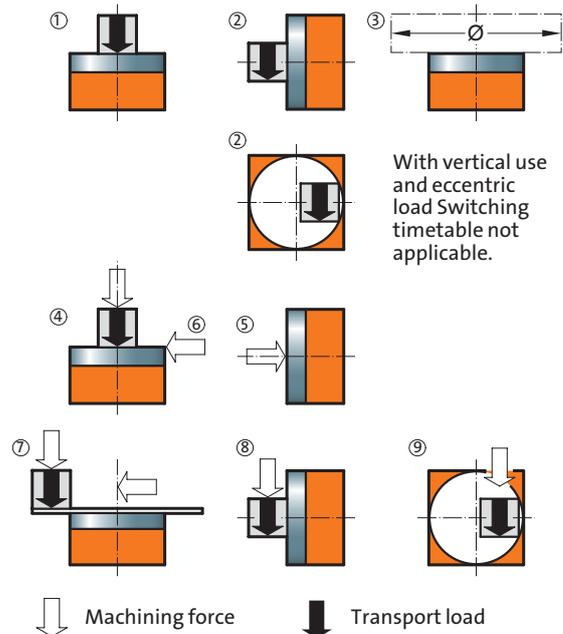


Indexing times FIBROTOR® EM.NC.10

Mass moment of inertia J in kgm ²	0,5	1,0	1,5	4,0
Max. perm. table top speed 1'/min	40	27	20	8
Acceleration time t _a in s	0,2	0,2	0,3	0,3
Overall gear ratio reduction i	60	84	120	360
Motor speed n in 1'/min	2400	2268	2400	2880
Motor torque required in Nm	0,9	0,9	0,8	0,8
Swivel time t _s in s for				
360°	1,9	2,6	3,4	7,9
180°	1,1	1,5	1,9	4,2
120°	0,9	1,1	1,5	2,9
90°	0,75	0,9	1,1	2,3
60°	0,6	0,75	0,9	1,65
45°	0,55	0,65	0,8	1,35
30°	0,5	0,55	0,5	1,05
20°	0,45	0,5	0,55	0,85
10°	0,4	0,45	0,45	0,65
5°	0,4	0,4	0,4	0,5
2°	0,35	0,4	0,4	0,45

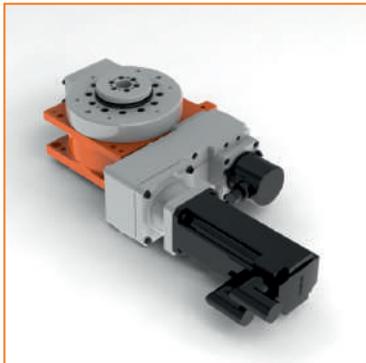
Load data FIBROTOR® EM.NC.10

Perm. transport load	kg	100	①
Horizontal table top	kg	50	②
Vertical table top	kg	50	
Table top, upside down	kg	50	
Perm. add-on diameter	mm	520	③
Perm. axial loading on the table top	N	4000	④
Horizontal	N	1500	⑤
Vertical	N	1500	
Perm. radiale loading on table top	N	1000	⑥
Perm. tilting moment on positioned table top	Nm	350	⑦
Horizontal	Nm	200	⑧
Vertical	Nm	150	
Upside-down	Nm	150	
Perm. tilting moment on rotating table top	Nm	100	⑦+⑧
Upside-down	Nm	50	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric transport load	Nm	25	⑨





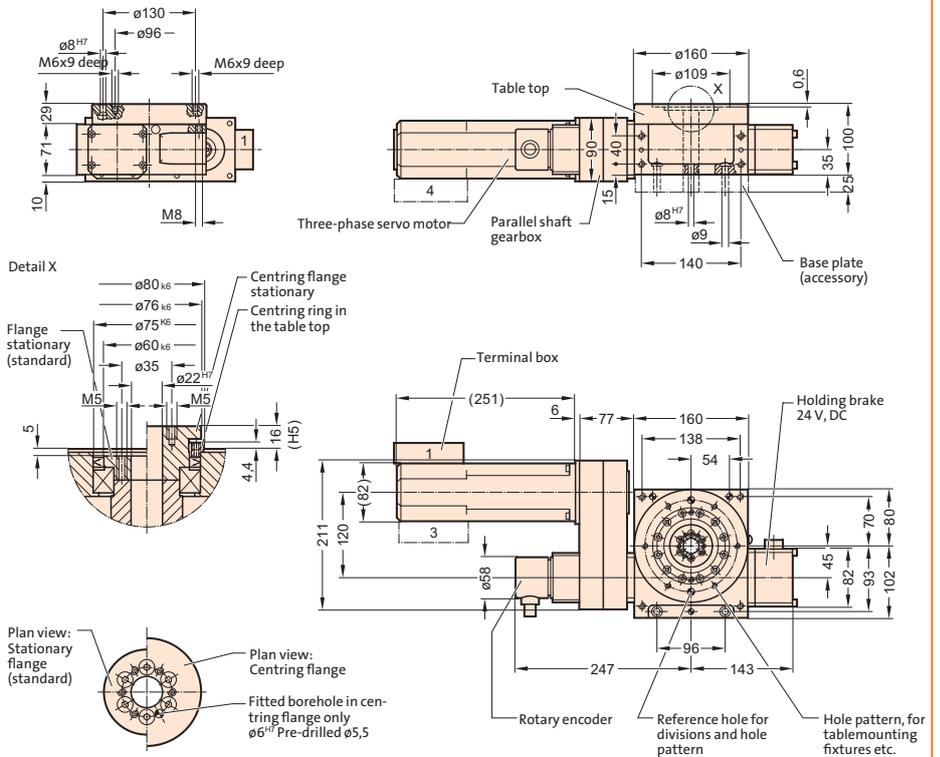
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FIBROTOR EM.NC.11.0160.7.111.00.0.0.3

Installed dimensions FIBROTOR® EM.NC.11

(Drive arrangement 111, for other drive arrangement, drawings or CAD-datas are available)



Technical data FIBROTOR® EM.NC.11		Encoding	
		EM.NC.11	② ③ ④ ⑤ ⑥ ⑦ ⑧
Table top dimensions	Standard dimensions Strengthened table top bearing Table top lock Built-in version	$\phi 160$ mm $\phi 118$ mm $\phi 155$ mm $\phi 160$ mm	.0160 .0118 .0155 .0160
Drive motor	Standard braking motor AC servomotor Special version Without motor		.1 .7 .9 .0
Drive arrangement			.XXX
Division	NC - can be positioned arbitrarily		.00
Additional assemblies	Without additional modules Strengthened table top bearing Hydraulic table top lock Built-in version Built-in version with mounting ring Vertical version Vertical version with base plate Centring ring Centring flange Centring ring and centring flange		.0 .1 .2 .1 .2 .3 .1 .2 .3
Indexing accuracy in arc seconds	Direct measuring system Indirect measuring system Measuring system at motor	$\pm 30''$ $\pm 60''$ $\pm 210''$	
Indexing accuracy in arc length (on $\phi 160$ mm)	Direct measuring system Indirect measuring system Measuring system at motor	$\pm 0,008$ mm $\pm 0,024$ mm $\pm 0,120$ mm	
Axial runout of Table top	(relates to $\phi 160$ mm)	0,01 mm	
Concentricity of the centre hole	(relates to $\phi 75$ mm)	0,01 mm	
Plane parallelism of table top to base on the housing	(relates to $\phi 160$ mm)	0,02 mm	
Direction of rotation	CW - CCW rotation		
Reduction ratio worm /roller gearing		$i = 12$	

Technical Data FIBROTOR® EM.NC.11

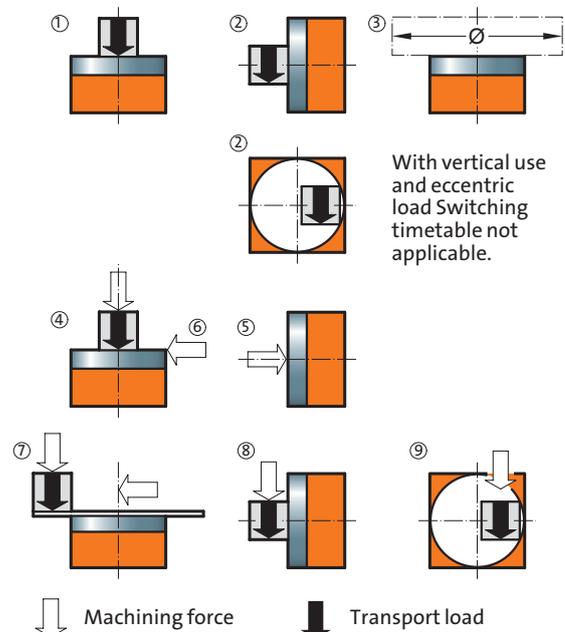
RPM at table top		$n_{max.} = 30' / \text{min}$
Centre hole		$\varnothing 22 \text{ mm}$
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 20 kg

Indexing times FIBROTOR® EM.NC.11

Mass moment of inertia J in kgm^2	1	2	4	8	12
Max. perm. table top speed $' / \text{min}$	30	25	15	10	6
Acceleration time t_a in s	0,2	0,2	0,2	0,2	0,2
Overall gear ratio reduction i	96,000	120,000	179,052	215,208	312,000
Motor speed n in $' / \text{min}$	2880	3000	2686	2152	1872
Motor torque required in Nm	1,0	1,0	1,0	1,0	1,0
Swivel time t_s in s for					
360°	2,30	2,70	4,30	6,30	10,30
180°	1,30	1,50	2,30	3,30	5,30
90°	0,80	0,90	1,30	1,80	2,80
60°	0,63	0,70	0,97	1,30	1,97
45°	0,55	0,60	0,80	1,05	1,55
30°	0,47	0,50	0,63	0,80	1,13
20°	0,41	0,43	0,52	0,63	0,86
10°	0,36	0,37	0,41	0,47	0,58
5°	0,33	0,33	0,36	0,38	0,44
2°	0,31	0,31	0,32	0,33	0,36

Load data FIBROTOR® EM.NC.11

Perm. transport load			
Horizontal table top	kg	500	①
Vertical table top	kg	200	②
Table top, upside down	kg	200	
Perm. add-on diameter	mm	800	③
Perm. axial loading on the table top			
Horizontal	N	8000	④
Vertical	N	3500	⑤
Perm. radial loading on table top	N	3500	⑥
Perm. tilting moment on positioned table top			
Horizontal	Nm	750	⑦
With strenghtened table top bearing	Nm	2250	⑦
Vertical	Nm	450	⑧
With strenghtened table top bearing	Nm	1350	⑧
Upside-down	Nm	250	⑧
Perm. tilting moment on rotating table top	Nm	200	⑦+⑧
With strenghtened table top bearing	Nm	600	
Upside-down	Nm	100	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric transport load			
With hydraulic table top lock	Nm	125	⑨
	Nm	450	⑨



Technical data FIBROTOR® EM.NC.12

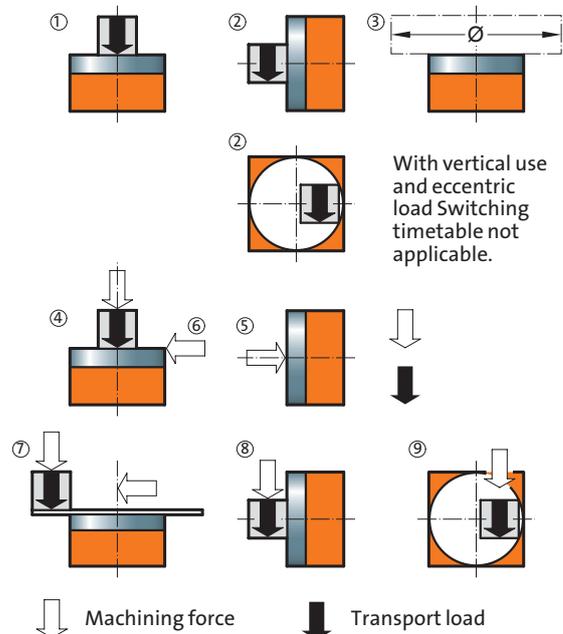
RPM at table top		$n_{max.} = 30^1/min$
Centre hole	with lateral opening in the housing	$\varnothing 35\text{ mm}$
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 35 kg

Indexing times FIBROTOR® EM.NC.12

Mass moment of inertia J in kgm^2	2	6	8	12	16	20	24
Max. perm. table top speed $^1/min$	30	25	23	18	15	12	9
Acceleration time t_a in s	0,1	0,2	0,2	0,2	0,3	0,3	0,3
Overall gear ratio reduction i	96,000	120,000	120,000	148,908	179,052	215,208	312,000
Motor speed n in $^1/min$	2880	3000	2760	2680	2686	2582	2808
Motor torque required in Nm	2,5	2,2	2,2	2,2	2,2	2,2	2,2
Swivel time t_s in s for 360°	2,20	2,70	2,91	3,63	4,40	5,40	7,07
180°	1,20	1,50	1,60	1,97	2,40	2,90	3,73
90°	0,70	0,90	0,95	1,13	1,40	1,65	2,07
60°	0,53	0,70	0,73	0,86	1,07	1,23	1,51
45°	0,45	0,60	0,63	0,72	0,90	1,03	1,23
30°	0,37	0,50	0,52	0,58	0,73	0,82	0,96
20°	0,31	0,43	0,44	0,49	0,62	0,68	0,77
10°	0,26	0,37	0,37	0,39	0,51	0,54	0,59
5°	0,23	0,33	0,34	0,35	0,46	0,47	0,49
2°	0,21	0,31	0,31	0,32	0,42	0,43	0,44

Load data FIBROTOR® EM.NC.12

Perm. transport load	kg	800	①
Horizontal table top	kg	300	②
Vertical table top	kg	300	
Table top, upside down	kg	300	
Perm. add-on diameter	mm	1000	③
Perm. axial loading on the table top			
Horizontal	N	12000	④
Vertical	N	5000	⑤
Perm. radial loading on table top	N	8000	⑥
Perm. tilting moment on positioned table top			
Horizontal	Nm	2000	⑦
With strenghtened table top bearing	Nm	6000	⑦
Vertical	Nm	1500	⑧
With strenghtened table top bearing	Nm	4500	⑦
Upside-down	Nm	600	
Perm. tilting moment on rotating table top			
With strenghtened table top bearing	Nm	600	⑦+⑧
Upside-down	Nm	1800	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric transport load			
With hydraulic table top lock	Nm	200	⑨
	Nm	800	⑨



Technical data FIBROTOR® EM.NC.13

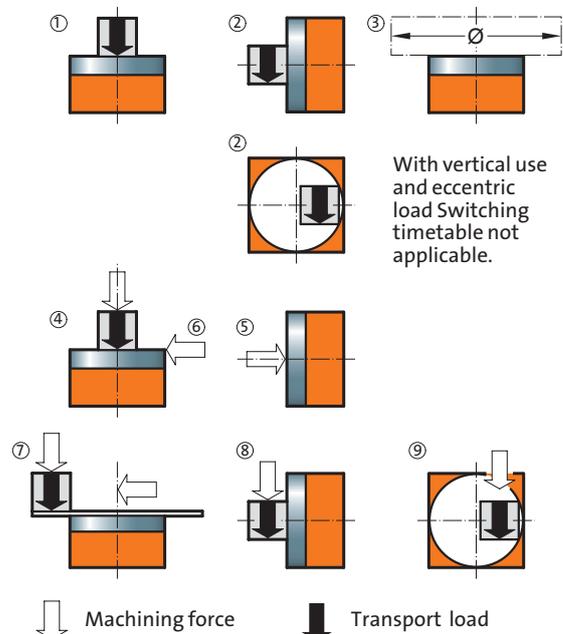
RPM at table top		$n_{max.} = 30^1/min$
Centre hole	With lateral opening in the housing	$\varnothing 35\text{ mm}$
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 70 kg

Indexing times FIBROTOR® EM.NC.13

Mass moment of inertia J in kgm^2	4	8	16	24	32
Max. perm. table top speed $^1/min$	30	25	23	18	15
Acceleration time t_a in s	0,2	0,2	0,3	0,4	0,5
Overall gear ratio reduction i	96,000	120,000	120,000	155,784	182,064
Motor speed n in $^1/min$	2880	3000	2760	2804	2731
Motor torque required in Nm	3,4	3,4	3,4	3,4	3,4
Swivel time t_s in s for 360°	2,30	2,70	3,01	3,83	4,60
180°	1,30	1,50	1,70	2,17	2,60
90°	0,80	0,90	1,05	1,33	1,60
60°	0,63	0,70	0,83	1,06	1,27
45°	0,55	0,60	0,73	0,92	1,10
30°	0,47	0,50	0,62	0,78	0,93
20°	0,41	0,43	0,54	0,69	0,82
10°	0,36	0,37	0,47	0,59	0,71
5°	0,33	0,33	0,44	0,55	0,66
2°	0,31	0,31	0,41	0,52	0,62

Load data FIBROTOR® EM.NC.13

Perm. transport load	kg	1500	①
Horizontal table top	kg	400	②
Vertical table top	kg	400	
Table top, upside down	kg	400	
Perm. add-on diameter	mm	1400	③
Perm. axial loading on the table top	N	16000	④
Horizontal	N	6000	⑤
Vertical	N	10000	⑥
Perm. radial loading on table top	N	10000	⑥
Perm. tilting moment on positioned table top	Nm	3000	⑦
Horizontal	Nm	9000	⑦
With strenghtened table top bearing	Nm	1500	⑧
Vertical	Nm	4500	⑦
With strenghtened table top bearing	Nm	800	
Upside-down	Nm	800	
Perm. tilting moment on rotating table top	Nm	1000	⑦+⑥
With strenghtened table top bearing	Nm	3000	
Upside-down	Nm	400	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric trabsport load	Nm	250	⑨
With hydraulic table top lock	Nm	900	⑨

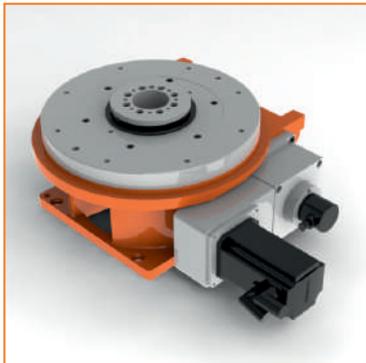
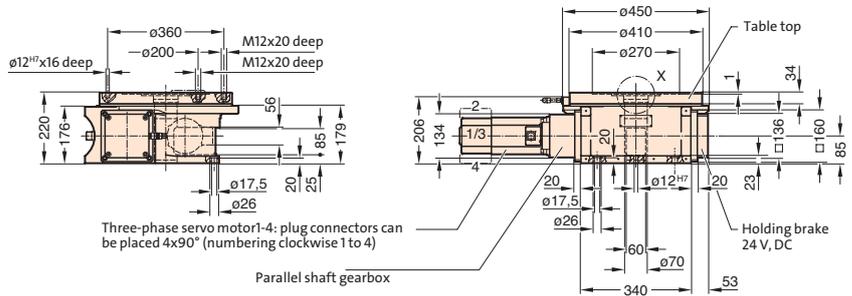




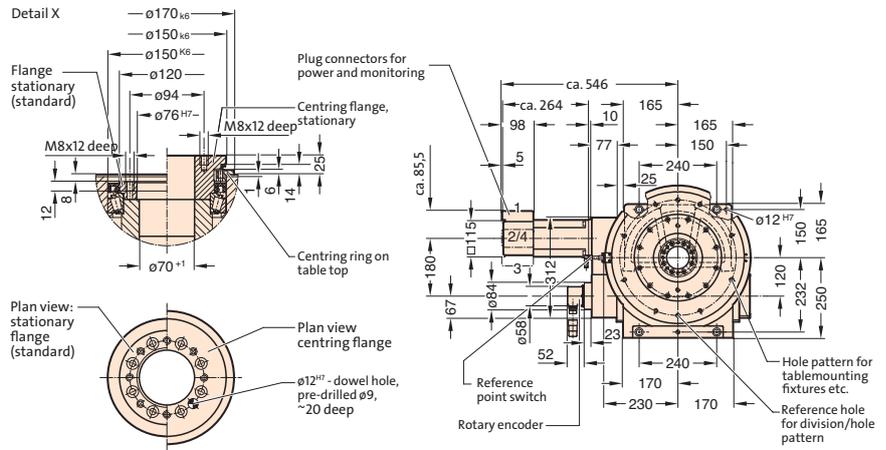
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Installed dimensions FIBROTOR® EM.NC.15

(Drive arrangement 111, for other drive arrangement, drawings or CAD-datas are available)



FIBROTOR EM.NC.15.0410.7.111.00.0.0.3



Technical data FIBROTOR® EM.NC.15

Encoding

EM.NC.15

Table top dimensions	Standard dimensions Strengthened table top bearing Table top lock Built-in version	Ø 0410 mm Ø 0380 mm Ø 0410 mm Ø 0410 mm	.0410 .0380 .0410 .0410	②
Drive motor	Standard brake motor AC servomotor Special version Without motor		.1 .7 .9 .0	③
Drive arrangement			.XXX	④
Division	NC - can be positioned arbitrarily		.00	⑤
Additional assemblies	Without additional modules		.0	⑥
	Strengthened table top bearing		.1	
	Hydraulic table top lock		.2	
	Built-in version Built-in version with mounting ring Vertical version Vertical version with base plate		.1 .2 .3 .4	
Indexing accuracy in arc seconds	Centring ring		.1	⑧
	Centring flange		.2	
	Centring ring and centring flange		.3	
Indexing accuracy in arc length (on Ø 410 mm)	Indirect measuring system Direct measuring system Measuring system at motor		± 45" ± 10" ± 80"	
Indexing accuracy in arc length (on Ø 410 mm)	Indirect measuring system Direct measuring system Measuring system at motor		± 0,045 mm ± 0,010 mm ± 0,080 mm	
Axial runout of Table top	(relates to Ø 410 mm)		0,015 mm	
Concentricity of the centre hole	(relates to Ø 150 mm)		0,015 mm	
Plane parallelism of table top to base on the housing	(relates to Ø 410 mm)		0,040 mm	
Direction of rotation	CW - CCW rotation			
Reduction ratio worm /roller gearing			i = 12	

Technical data FIBROTOR® EM.NC.15

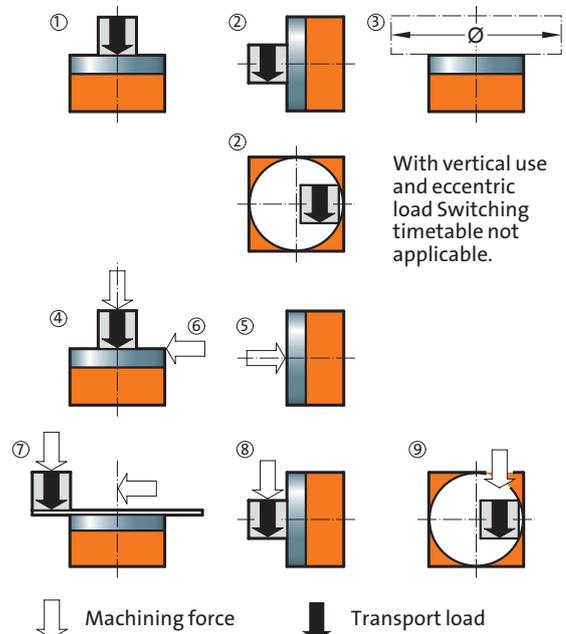
RPM at table top		$n_{max.} = 30^1/min$
Centre hole	With lateral opening in the housing	$\varnothing 70\text{ mm}$
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 150 kg

Indexing times FIBROTOR® EM.NC.15

Mass moment of inertia J in kgm^2	4	25	50	100	150	200	300	400
Max. perm. table top speed $^1/min$	30	30	20	15	12	10	8	6
Acceleration time t_a in s	0,1	0,2	0,2	0,3	0,4	0,4	0,5	0,5
Overall gear ratio reduction i	96,000	96,000	120,000	120,000	213,684	213,684	213,684	256,980
Motor speed n in $^1/min$	2880	2880	2400	1800	2564	2137	1710	1542
Motor torque required in Nm	8	8	8	8	6	5	5	4
Swivel time t_s in s for								
360°	2,20	2,30	3,30	4,40	5,50	6,50	8,10	10,6
180°	1,20	1,30	1,80	2,40	3,00	3,50	4,35	5,60
90°	0,70	0,80	1,05	1,40	1,75	2,00	2,48	3,10
60°	0,53	0,63	0,80	1,07	1,33	1,50	1,85	2,27
45°	0,45	0,55	0,68	0,90	1,13	1,25	1,54	1,85
30°	0,37	0,47	0,55	0,73	0,92	1,00	1,23	1,43
20°	0,31	0,41	0,47	0,62	0,78	0,83	1,02	1,16
10°	0,26	0,36	0,38	0,51	0,64	0,70	0,85	0,88
5°	0,23	0,33	0,34	0,46	0,57	0,58	0,70	0,74

Load data FIBROTOR® EM.NC.15

Perm. transport load	kg	2500	①
Horizontal table top	kg	600	②
Vertical table top	kg	600	
Table top, upside down	kg	600	
Perm. add-on diameter	mm	2000	③
Perm. axial loading on the table top			
Horizontal	N	25000	④
Vertical	N	9000	⑤
Perm. radial loading on table top	N	15000	⑥
Perm. tilting moment on positioned table top			
Horizontal	Nm	6000	⑦
With strenghtened table top bearing	Nm	18000	⑦
Vertical	Nm	3000	⑧
With strenghtened table top bearing	Nm	10000	⑦
Upside-down	Nm	1500	
Perm. tilting moment on rotating table top			
With strenghtened table top bearing	Nm	2000	⑦+⑧
Upside-down	Nm	6000	
Upside-down	Nm	700	
Perm. tangential moment on positioned table top, from Machining force and in vertical position additionally from eccentric transport load			
With hydraulic table top lock	Nm	320	⑨
	Nm	1800	⑨



Technical data FIBROTOR® EM.NC.16

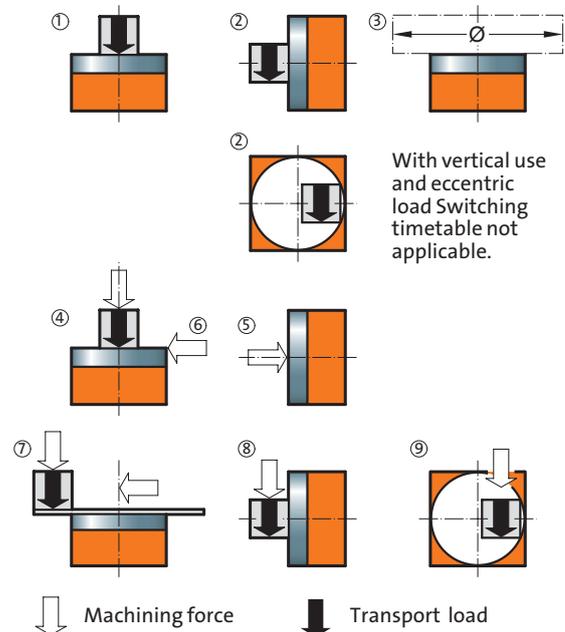
RPM at table top		$n_{max.} = 20'/min$
Centre hole	With lateral opening in the housing	Ø 110 mm
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 220 kg

Indexing times FIBROTOR® EM.NC.16

Mass moment of inertia J in kgm ²	60	100	150	225	300	600
Max. perm. table top speed ν' /min	20	16	12	10	9	8
Acceleration time t_a in s	0,2	0,2	0,3	0,4	0,5	0,6
Overall gear ratio reduction i	120,000	120,000	162,000	252,571	315,556	342,804
Motor speed n in ν' /min	2400	1920	1944	2526	2840	2742
Motor torque required in Nm	20	20	12	10	8	6
Swivel time t_s in s for						
360°	3,30	4,05	5,40	6,50	7,27	8,20
180°	1,80	2,18	2,90	3,50	3,93	4,45
90°	1,05	1,24	1,65	2,00	2,27	2,58
60°	0,80	0,93	1,23	1,50	1,71	1,95
45°	0,68	0,77	1,03	1,25	1,43	1,64
30°	0,55	0,61	0,82	1,00	1,16	1,33
20°	0,47	0,51	0,68	0,83	0,97	1,12
10°	0,38	0,40	0,54	0,67	0,79	0,91
5°	0,34	0,35	0,47	0,58	0,69	0,80

Load data FIBROTOR® EM.NC.16

Perm. transport load			
Horizontal table top	kg	4000	①
Vertical table top	kg	800	②
Table top, upside down	kg	800	
Perm. add-on diameter	mm	2400	③
Perm. axial loading on the table top			
Horizontal	N	32000	④
Vertical	N	11000	⑤
Perm. radial loading on table top	N	20000	⑥
Perm. tilting moment on positioned table top			
Horizontal	Nm	9000	⑦
With strenghtened table top bearing	Nm	27000	⑦
Vertical	Nm	4200	⑧
With strenghtened table top bearing	Nm	12600	⑦
Upside-down	Nm	2300	
Perm. tilting moment on rotating table top			
With strenghtened table top bearing	Nm	3000	⑦+⑧
Upside-down	Nm	9000	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric transport load			
With hydraulic table top lock	Nm	500	⑨
	Nm	1900	⑨



Technical data FIBROTOR® EM.NC.17

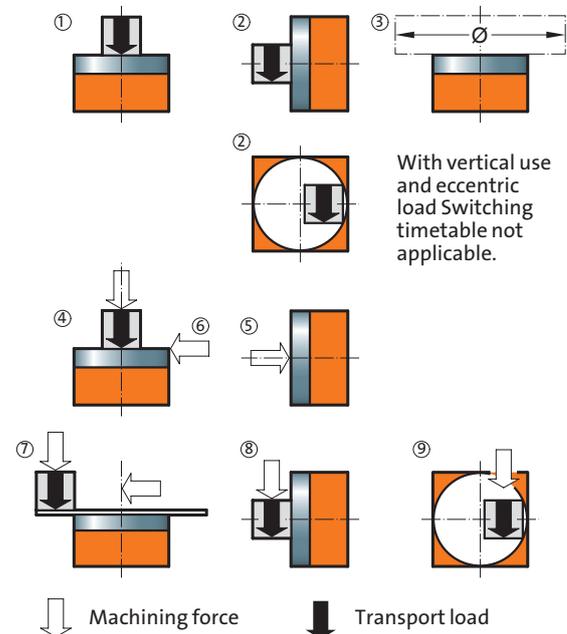
RPM at table top		$n_{max.} = 15'/min$
Centre hole	With lateral opening in the housing	Ø 130 mm
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 450 kg

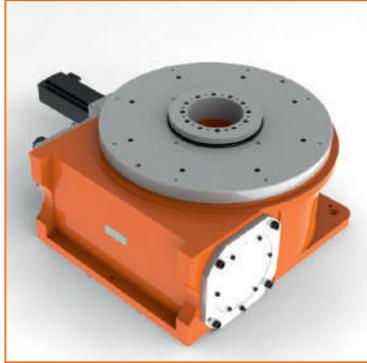
Indexing times FIBROTOR® EM.NC.17

Mass moment of inertia J in kgm ²	150	225	300	600	1000	1500
Max. perm. table top speed ¹ /min	16	14	12	10	9	8
Acceleration time t _a in s	0,3	0,3	0,4	0,4	0,5	0,6
Overall gear ratio reduction i	120,000	120,000	162,000	252,571	315,556	342,804
Motor speed n in ¹ /min	1920	1680	1944	2526	2840	2742
Motor torque required in Nm	22	22	18	18	14	12
Swivel time t _s in s for						
360°	4,15	4,69	5,50	6,50	7,27	8,20
180°	2,28	2,54	3,00	3,50	3,93	4,45
90°	1,34	1,47	1,75	2,00	2,27	2,58
60°	1,03	1,11	1,33	1,50	1,71	1,95
45°	0,87	0,94	1,13	1,25	1,43	1,64
30°	0,71	0,76	0,92	1,00	1,16	1,33
20°	0,61	0,64	0,78	0,83	0,97	1,12
10°	0,50	0,52	0,64	0,67	0,79	0,91
5°	0,45	0,46	0,57	0,58	0,69	0,80

Load data FIBROTOR® EM.NC.17

Perm. transport load	kg	5500	①
Horizontal table top	kg	1000	②
Vertical table top	kg	1000	
Table top, upside down	kg	1000	
Perm. add-on diameter	mm	2800	③
Perm. axial loading on the table top	N	70000	④
Horizontal	N	12000	⑤
Vertical	N	12000	
Perm. radial loading on table top	N	25000	⑥
Perm. tilting moment on positioned table top	Nm	12000	⑦
Horizontal	Nm	36000	⑦
With strenghtened table top bearing	Nm	5000	⑧
Vertical	Nm	15000	⑦
With strenghtened table top bearing	Nm	3000	
Upside-down	Nm	3000	
Perm. tilting moment on rotating table top	Nm	4000	⑦+⑧
With strenghtened table top bearing	Nm	12000	
Upside-down	Nm	1100	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric transport load	Nm	700	⑨
With hydraulic table top lock	Nm	2500	⑨





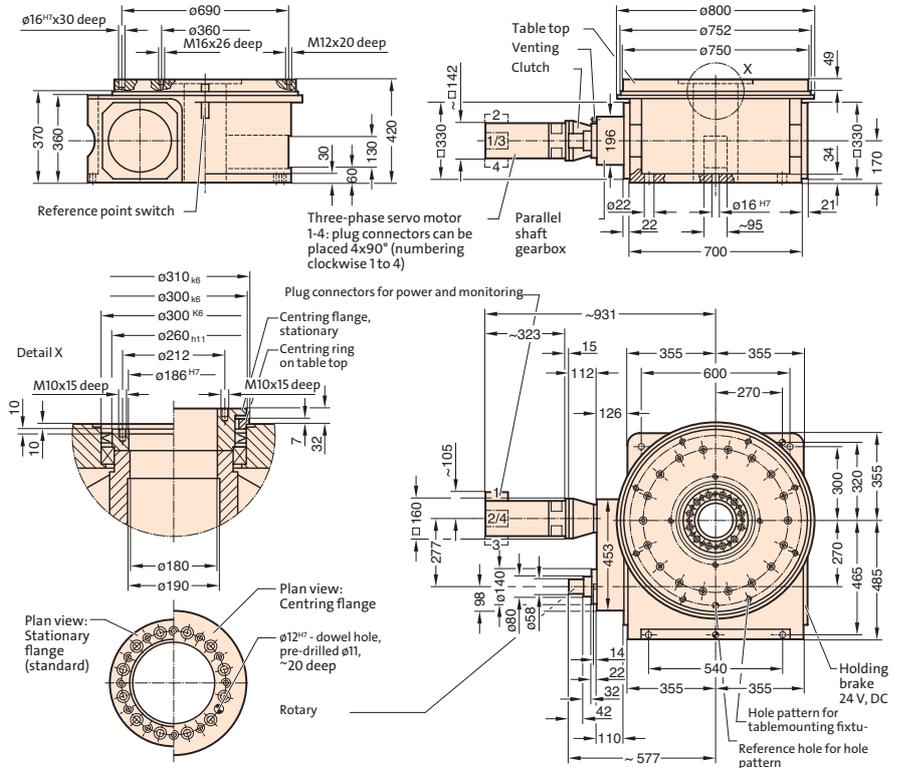
FIBROTOR EM.NC.18.0750.7.111.00.0.0.3



FIBROTOR EM.NC.18.0750.7.111.00.0.0.3

Installed dimensions FIBROTOR® EM.NC.18

(Drive arrangement 111, for other drive arrangement, drawings or CAD-datas are available)



Technical data FIBROTOR® EM.NC.18 **Encoding** EM.NC.18 . [] [] [] [] [] [] [] []

Table top dimensions	Standard dimensions Strengthened table top bearing Table top lock Built-in version	Ø 750 mm Ø 660 mm Ø 735 mm Ø 750 mm	.0750 .0660 .0735 .0750	②
Drive motor	Standard brake motor AC servomotor Special version Without motor		.1 .7 .9 .0	③
Drive arrangement			.XXX	④
Division	NC - can be positioned arbitrarily		.00	⑤
Additional assemblies	Without additional modules		.0	⑥
	Strengthened table top bearing		.1	
	Hydraulic table top lock		.2	
	Built-in version Built-in version with mounting ring Vertical version Vertical version with base plate		.1 .2 .3 .4	
Indexing accuracy in arc seconds	Centring ring Centring flange Centring ring and centring flange		.1 .2 .3	⑧
	Indirect measuring system Direct measuring system Measuring system at motor		± 30" ± 10" ± 40"	
	Indexing accuracy in arc length (on Ø 750 mm)	Indirect measuring system Direct measuring system Measuring system at motor		± 0,055 mm ± 0,018 mm ± 0,073 mm
Axial runout of Table top	(relates to Ø 750 mm)		0,02 mm	
Concentricity of the centre hole	(relates to Ø 300 mm)		0,02 mm	
Plane parallelism of table top to base on the housing	(relates to Ø 750 mm)		0,04 mm	
Direction of rotation	CW - CCW rotation			
Reduction ratio worm /roller gearing			i = 12	

Technical data FIBROTOR® EM.NC.18

RPM at table top		$n_{max.} = 15'/min$
Centre hole	With lateral opening in the housing	Ø 180 mm
Working position	Any, standard: Horizontal table top, (please specify other mounting positions when ordering)	
Weight		approx. 850 kg

Indexing times FIBROTOR® EM.NC.18

Mass moment of inertia J in kgm ²	200	300	500	800	1200	2000
Max. perm. table top speed n' /min	16	14	12	10	9	8
Acceleration time t_a in s	0,3	0,3	0,4	0,4	0,5	0,6
Overall gear ratio reduction i	120,000	120,000	162,000	252,571	315,556	342,804
Motor speed n in n' /min	1920	1680	1944	2526	2840	2742
Motor torque required in Nm	30	30	25	28	25	22
Swivel time t_s in s for						
360°	4,15	4,69	5,50	6,50	7,27	8,20
180°	2,28	2,54	3,00	3,50	3,93	4,45
90°	1,34	1,47	1,75	2,00	2,27	2,58
60°	1,03	1,11	1,33	1,50	1,71	1,95
45°	0,87	0,94	1,13	1,25	1,43	1,64
30°	0,71	0,76	0,92	1,00	1,16	1,33
20°	0,61	0,64	0,78	0,83	0,97	1,12
10°	0,50	0,52	0,64	0,67	0,79	0,91
5°	0,45	0,46	0,57	0,58	0,69	0,80

Load data FIBROTOR® EM.NC.18

Perm. transport load			
Horizontal table top	kg	6400	①
Vertical table top	kg	1200	②
Table top, upside down	kg	1200	
Perm. add-on diameter	mm	3500	③
Perm. axial loading on the table top			
Horizontal	N	100000	④
Vertical	N	16000	⑤
Perm. radial loading on table top	N	36000	⑥
Perm. tilting moment on positioned table top			
Horizontal	Nm	18000	⑦
With strenghtened table top bearing	Nm	54000	⑦
Vertical	Nm	7000	⑧
With strenghtened table top bearing	Nm	21000	⑦
Upside-down	Nm	4000	
Perm. tilting moment on rotating table top			
With strenghtened table top bearing	Nm	6000	⑦+⑧
Upside-down	Nm	18000	
Perm. tangential moment on positioned table top, from machining force and in vertical position additionally from eccentric transport load			
With hydraulic table top lock	Nm	800	⑨
	Nm	4000	⑨

