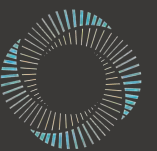# RTF Series

Rotary Indexer

![MOTION INDEX DRIVES logo]

# Reliable, robust, and freely programmable

The RTF rotary indexing table series stands out for its excellent flexibility.

The freely programmable RTF combines flexible movement processes with a robust design, durability, and high torque levels. It differs from the RTX series thanks to a customer supplied AC servo motor which can be attached to the interface of the worm gear.

In addition, the RTF has a drive curve with constant gradient. This allows it to position large loads dynamically, with a freely selectable angle. The drive angle and acceleration can be freely selected along with other parameters, allowing them to be adapted specifically to current loads.
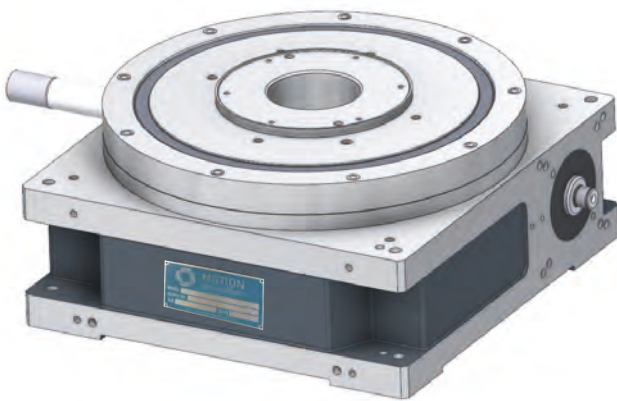
All RTFs are freely programmable, and can be used in almost any application in the production industry, from the small gear sector to heavy-duty applications. They can control any number of stations with the highest level of precision.

Thanks to this flexibility, RTF rotary indexing tables are especially well suited for automated production processes where it is necessary to change the motion sequence (such as in the automotive industry). Currently, RTFs are available in five different sizes.
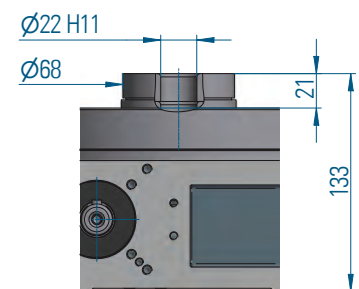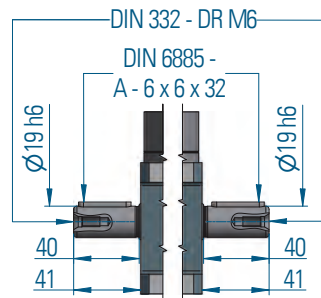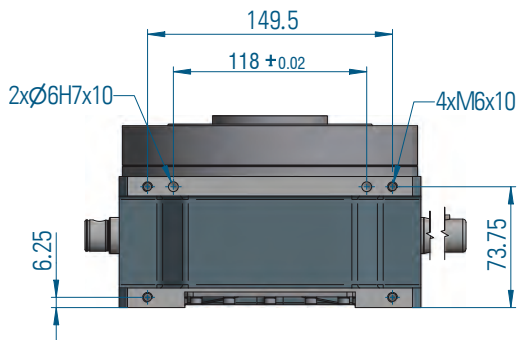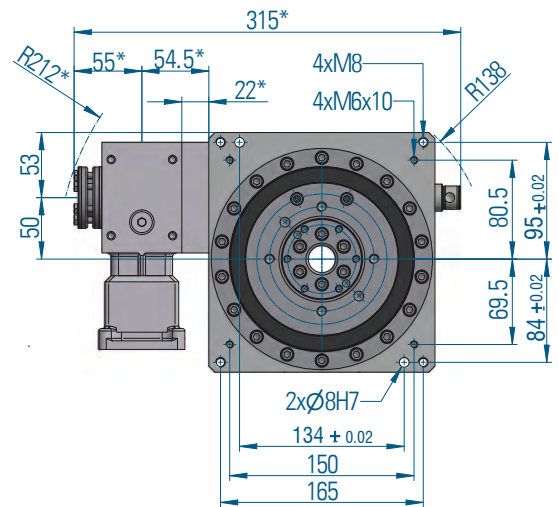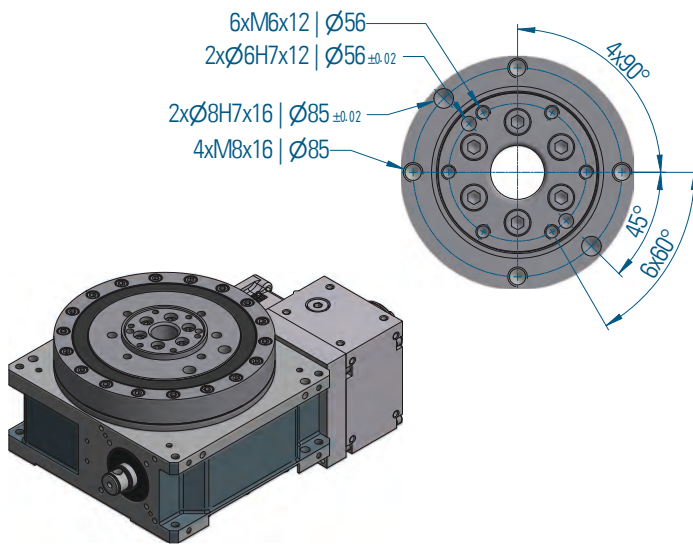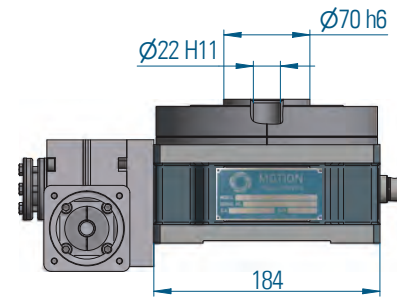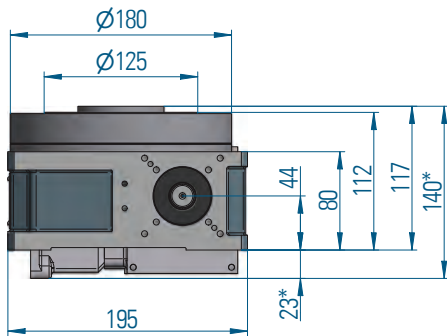
## Advantages of the RTF series:

- Reliable, robust barrel cam rotary table for all applications
- Setup diameter 100 mm – 285 mm
- Freely programmable
- High flexibility thanks to NC technology
- Mechanical interface on the worm gear with freely selectable connection for customer servo motor
- Large, vertical continuous hollow shaft
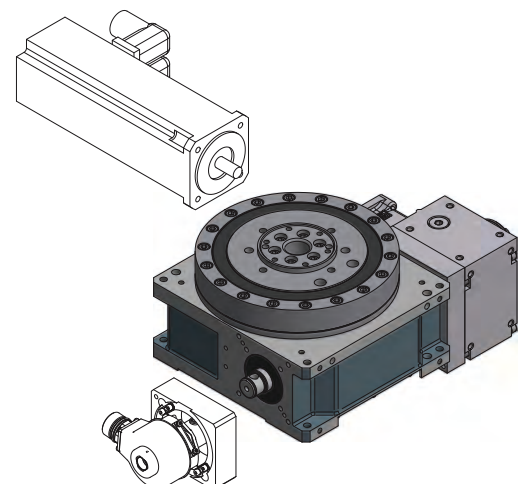
### Technical benefits for users

- High torques
- Ideally suited for high loads
- High precision with and without an absolute encoder (optional)
- Four-point support on the exterior diameter of the star mount
- Low-maintenance thanks to oil-bath lubrication
- Any installation position possible

# RTF450

## Main dimensions

Ø180
Ø125
44
80
112
117
140*
23*
195

Ø22 H11
Ø70 h6
184

6xM6x12 | Ø56
2xØ6H7x12 | Ø56 ±0.02
2xØ8H7x16 | Ø85 ±0.02
4xM8x16 | Ø85
4x90°
45°
6x60°

315*
R212*
55*
54.5*
22*
4xM8
4xM6x10
R138
53
50
80.5
95 +0.02
69.5
84 +0.02
2xØ8H7
134 + 0.02
150
165

149.5
118 + 0.02
2xØ6H7x10
4xM6x10
6.25
73.75

DIN 332 - DR M6
DIN 6885 - A - 6 x 6 x 32
Ø19 h6
Ø19 h6
40
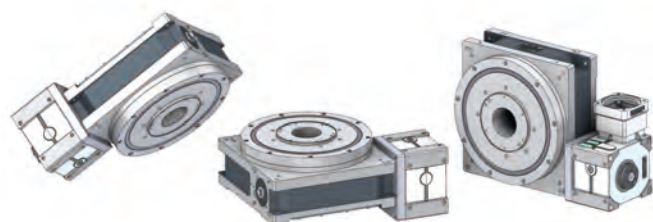41
40
41

Ø22 H11
Ø68
21
133

* Dimensions depend on the used drive
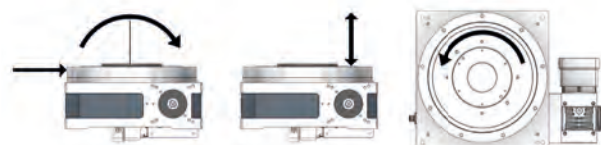
## Fitting position
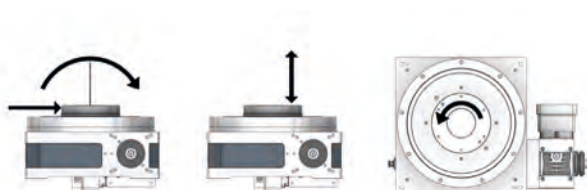
upside down    horizontal    vertical

## Load on output flange

Radial force $F_{rA}$ [kN]  17.5    Axial force $F_{aA}$ [kN]  20    Torque on output flange [Nm]  322

Tilting moment $M_{kA}$ [kNm]  1.3

## Load on central column

Radial force $F_{rM}$ [kN]  2.7    Axial force $F_{aM}$ [kN]  18    Torque on output flange [Nm]  77
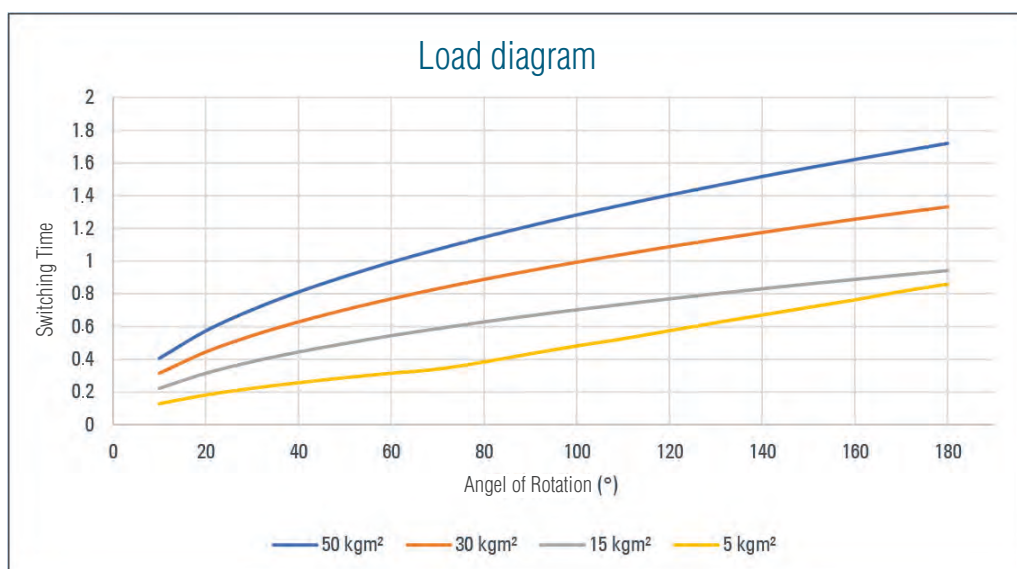
Tilting moment $M_{kM}$ [kNm]  0.36

## Precision

| | |
|---|---|
| Axial runout on the output flange ø [mm] | 0.01 |
| Runout on the output flange ø [mm] | 0.01 |
| Indexing accuracy* in angular seconds ["] without encoder | ± 47 |
| Indexing accuracy* in angular seconds ["] with encoder | ± 18 |

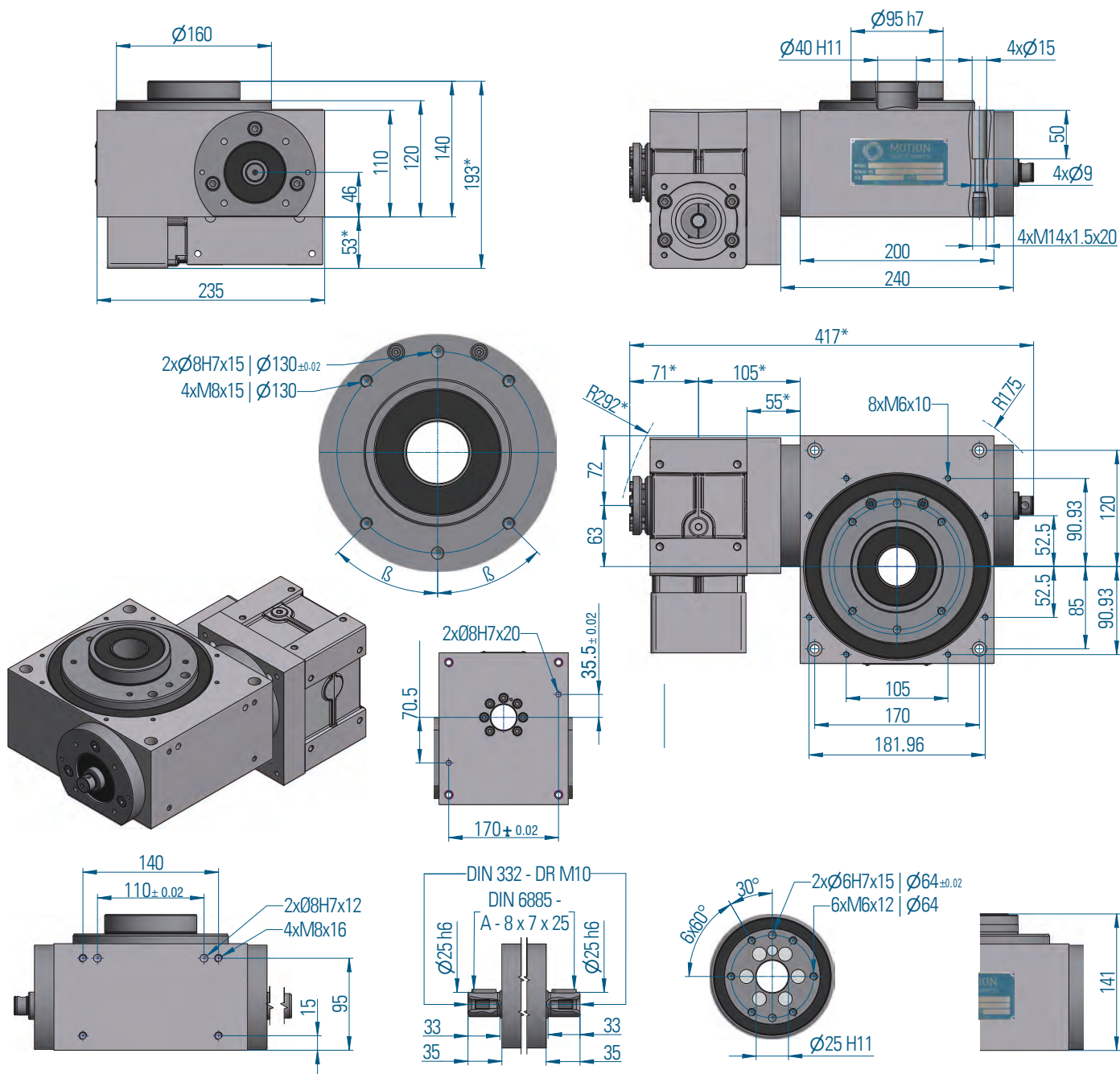Combined loads and possible process forces must be confirmed by Motion Index Drives.

## Dimensions

| | | |
|---|---|---|
| Output flange ø | [mm] | 125 |
| Overall height (output flange screw-on suface) | [mm] | 112 |
| Center opening ø | [mm] | 22 |
| Recommended max. size of rotating plate ø | [mm] | 800 |
| Index table weight | [kg] | 30 |
| Internal gear ratio | [i] | 10 |

### Load diagram

Switching Time vs Angel of Rotation (°)

50 kgm²    30 kgm²    15 kgm²    5 kgm²

# RTF550

Main dimensions

Ø160
110
120
140
193*
46
53*
235

Ø95 h7
Ø40 H11
4xØ15
50
4xØ9
4xM14x1.5x20
200
240

2xØ8H7x15 | Ø130±0.02
4xM8x15 | Ø130
ß
ß

417*
71*
105*
R292*
55*
8xM6x10
R175
72
63
90.93
120
52.5
52.5
85
90.93
105
170
181.96

2xØ8H7x20
35.5±0.02
70.5
170 ± 0.02

140
110± 0.02
2xØ8H7x12
4xM8x16
15
95

DIN 332 - DR M10
DIN 6885 -
A - 8 x 7 x 25
Ø25 h6
Ø25 h6
33          33
35          35
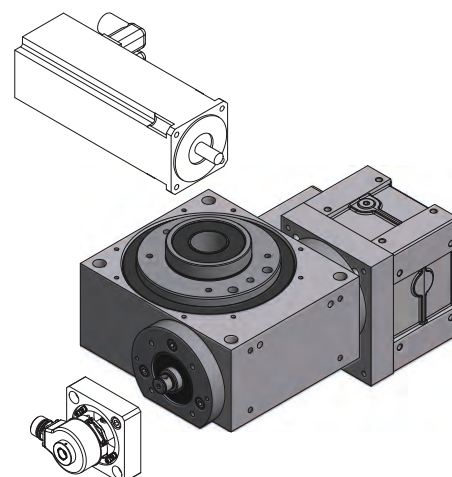
30°
6x60°
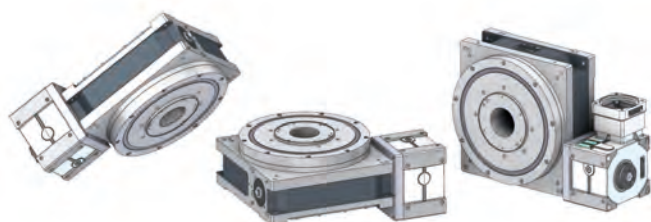2xØ6H7x15 | Ø64±0.02
6xM6x12 | Ø64
Ø25 H11
141

* Dimensions depend on the used drive

## Fitting position



upside down      horizontal      vertical

## Load on output flange
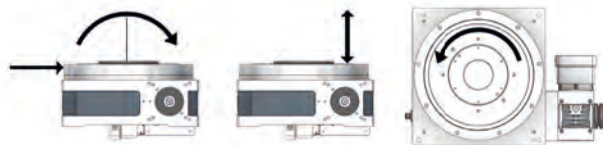


Radial force $F_{rA}$ [kN] 23

Tilting moment $M_{kA}$ [kNm] 1.0

Axial force $F_{aA}$ [kN] 18.4 Torque on
output flange [Nm] 508
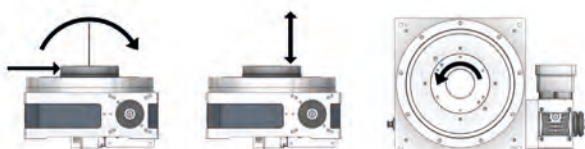
## Load on central column



Radial force $F_{rM}$[kN] 2.7    Axial force $F_{aM}$ [kN] 18    Torque on output
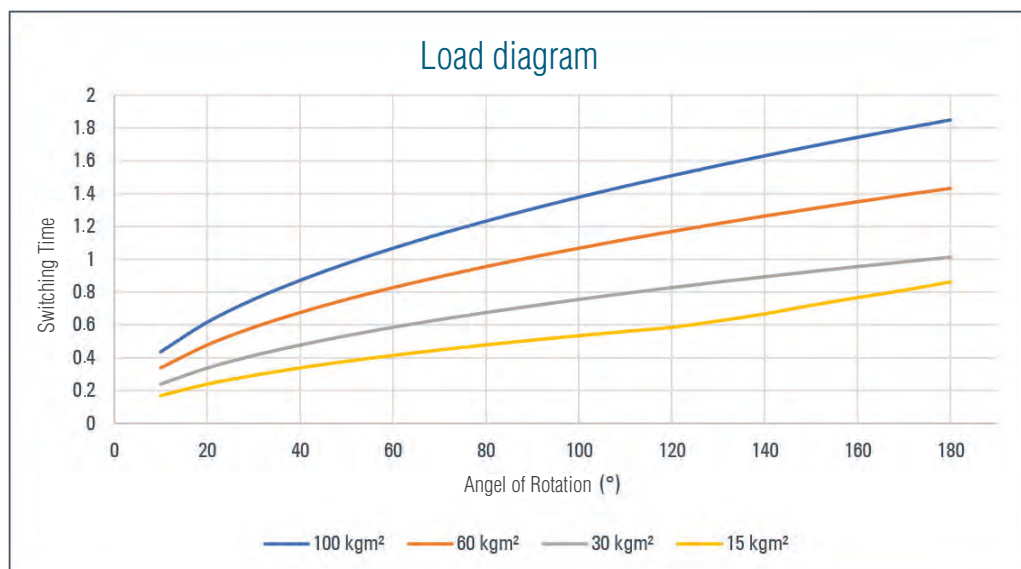flange [Nm] 77

Tilting moment $M_{kM}$ [kNm] 0.36

## Precision

| | |
|---|---|
| Axial runout on the output flange ø [mm] | 0.015 |
| Runout on the output flange ø [mm] | 0.015 |
| Indexing accuracy* in angular seconds ["] without encoder | ± 43 |
| Indexing accuracy* in angular seconds ["] with encoder | ± 16 |

**Combined loads and possible process forces must be
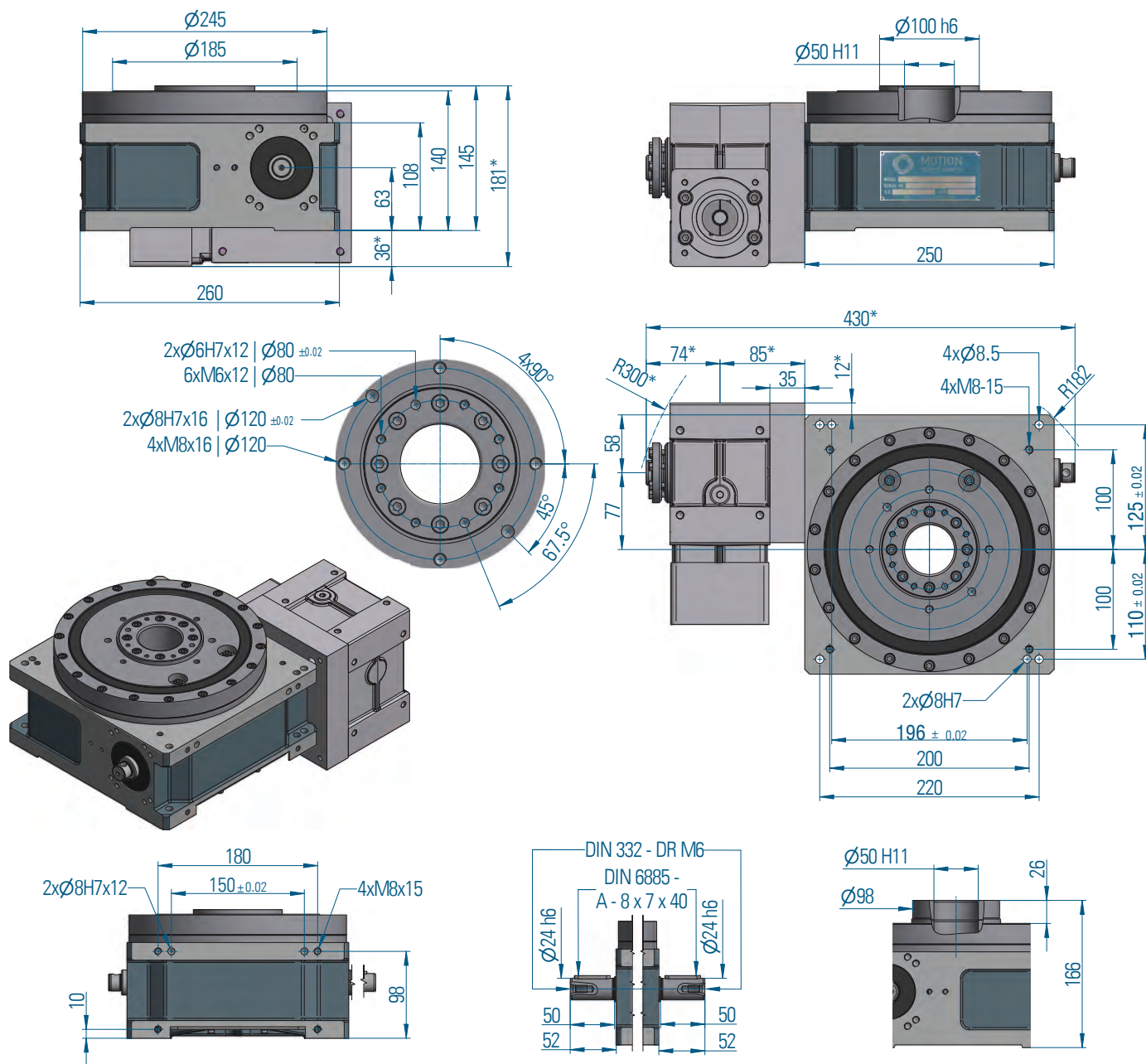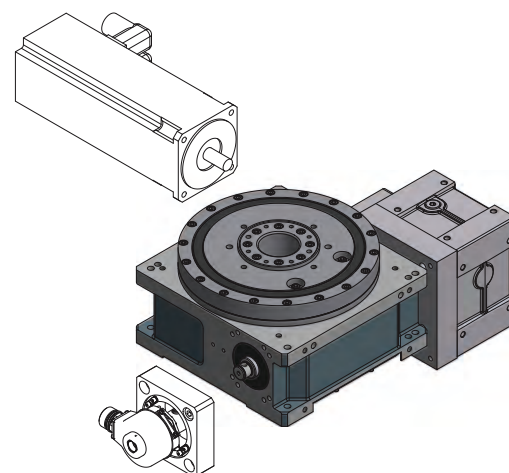confirmed by Motion Index Drives.**

## Dimensions

| | | |
|---|---|---|
| Output flange ø | [mm] | 160 |
| Overall height (output flange screw-on suface) | [mm] | 120 |
| Center opening ø | [mm] | 40 |
| Recommended max. size of rotating plate ø | [mm] | 1000 |
| Index table weight | [kg] | 24 |
| Internal gear ratio | [i] | 10 |



Load diagram

# RTF650

## Main dimensions

Ø245
Ø185
140
145
181 *
108
63
36 *
260

Ø100 h6
Ø50 H11
250

2xØ6H7x12 | Ø80 ±0.02
6xM6x12 | Ø80
2xØ8H7x16 | Ø120 ±0.02
4xM8x16 | Ø120

4x90°
45°
67.5°

430*
R300*
74*
85*
35
12*
4xØ8.5
4xM8-15
R182
58
77
100
125 ±0.02
100
110 ±0.02
2xØ8H7
196 ± 0.02
200
220

180
150 ±0.02
2xØ8H7x12
4xM8x15
10
98

DIN 332 - DR M6
DIN 6885 -
A - 8 x 7 x 40
Ø24 h6
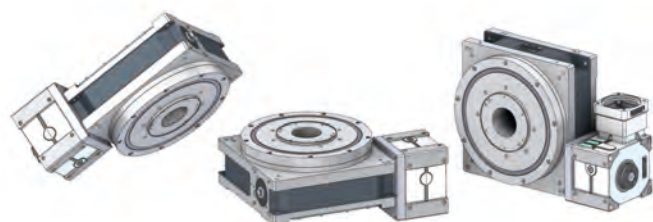Ø24 h6
50
52
50
52

Ø50 H11
Ø98
26
166

* Dimensions depend on the used drive

## Fitting position



upside down      horizontal      vertical

## Load on output flange



Radial force $F_{rA}$ [kN]  20

Tilting moment $M_{kA}$ [kNm]  2.3

Axial force $F_{aA}$ [kN]  22.5  Torque on output flange [Nm]  833

## Load on central column
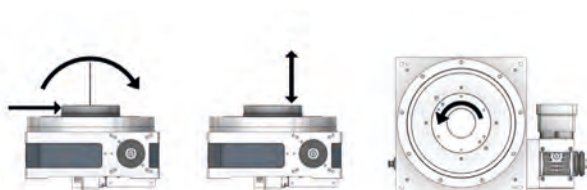


Radial force $F_{rM}$[kN]  4.1    Axial force $F_{aaM}$ [kN]  14    Torque on output
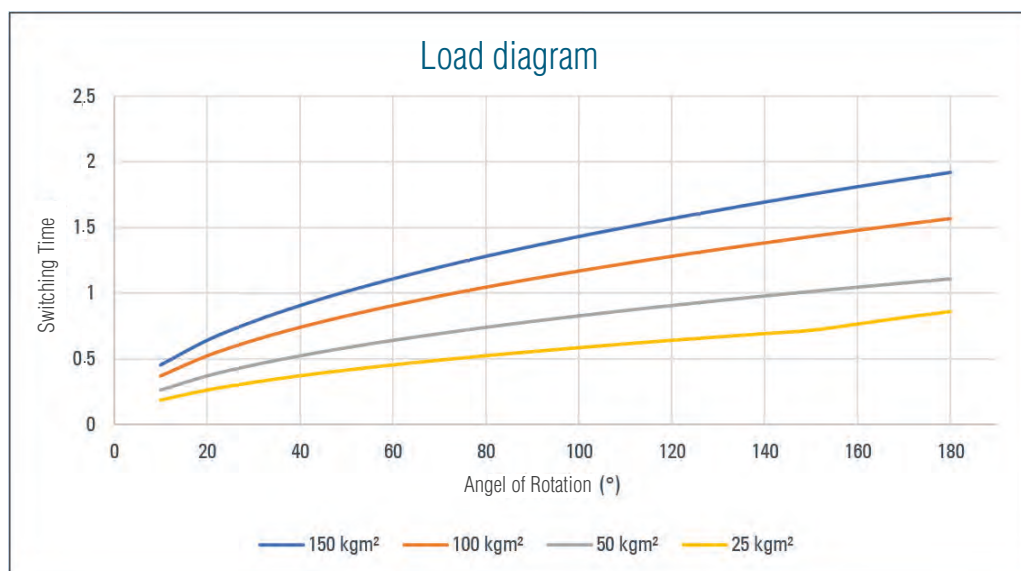Tilting moment MkM [kNm]  0.85                     flange[Nm]170

## Precision

| Axial runout on the output flange ø [mm] | 0.01 |
|---|---|
| Runout on the output flange ø [mm] | 0.01 |
| Indexing accuracy* in angular seconds ["] without encoder | ± 39 |
| Indexing accuracy* in angular seconds ["] with encoder | ± 14 |

**Combined loads and possible process forces must be
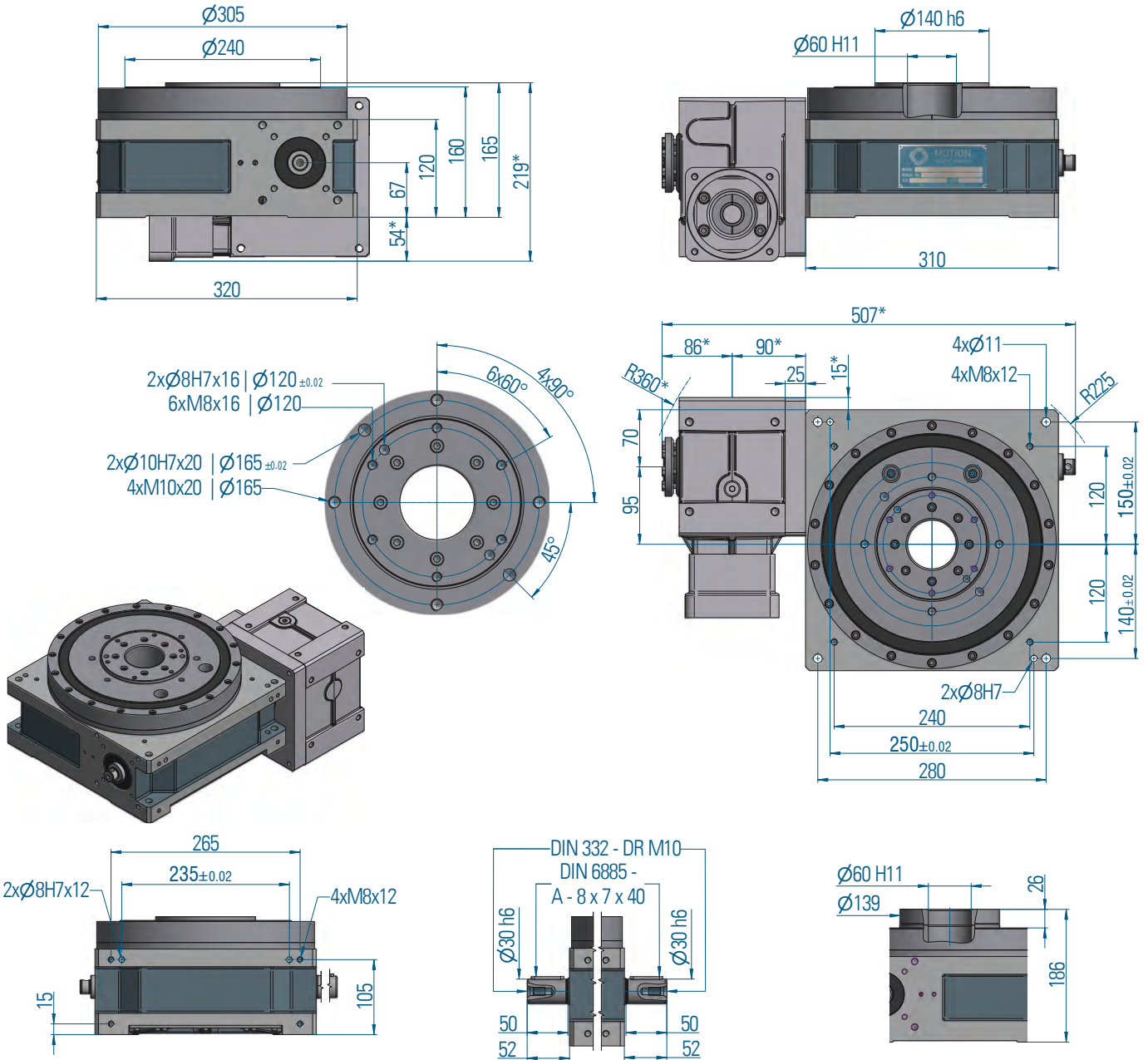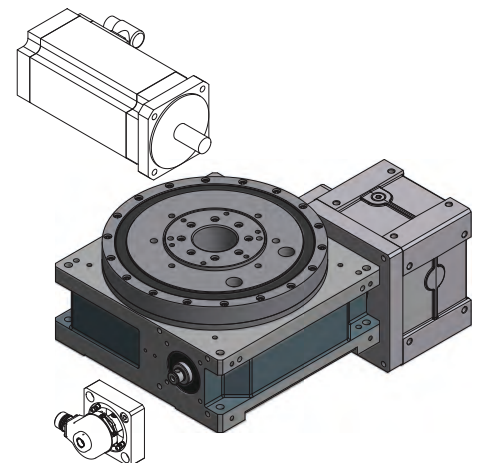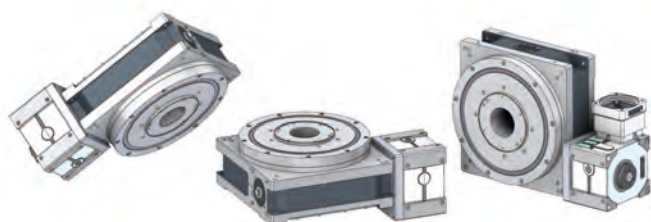confirmed by Motion Index Drives.**

## Dimensions

| Output flange ø | [mm] | 185 |
|---|---|---|
| Overall height (output flange screw-on suface) | [mm] | 140 |
| Center opening ø | [mm] | 50 |
| Recommended max. size of rotating plate ø | [mm] | 1300 |
| Index table weight | [kg] | 38 |
| Internal gear ratio | [i] | 10 |



Load diagram

# RTF750

## Main dimensions

Ø305
Ø240
165
219*
160
120
67
54*
320

Ø140 h6
Ø60 H11
310

2xØ8H7x16 | Ø120 ±0.02
6xM8x16 | Ø120
2xØ10H7x20 | Ø165 ±0.02
4xM10x20 | Ø165

6x60°
4x90°
45°

507*
86*
90*
25
15*
R360*
4xØ11
4xM8x12
R225
70
95
150 ±0.02
120
140 ±0.02
120
2xØ8H7
240
250 ±0.02
280

265
235 ±0.02
2xØ8H7x12
4xM8x12
15
105

DIN 332 - DR M10
DIN 6885 -
A - 8 x 7 x 40
Ø30 h6
Ø30 h6
50
52
50
52

Ø60 H11
Ø139
26
186

\* Dimensions depend on the used drive

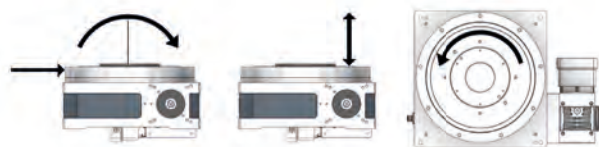## Fitting position

upside down          horizontal          vertical
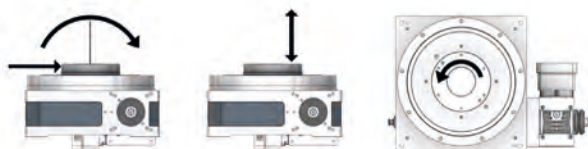
## Load on output flange

Radial force $F_{rA}$ [kN]  20     Axial force $F_{aA}$ [kN]  25     Torque on output
flange [Nm]  1063

Tilting moment $M_{kA}$ [kNm]  2.9

## Load on central column

Radial force $F_{rM}$ [kN]  3.8     Axial force $F_{aM}$ [kN]  15     Torque on output
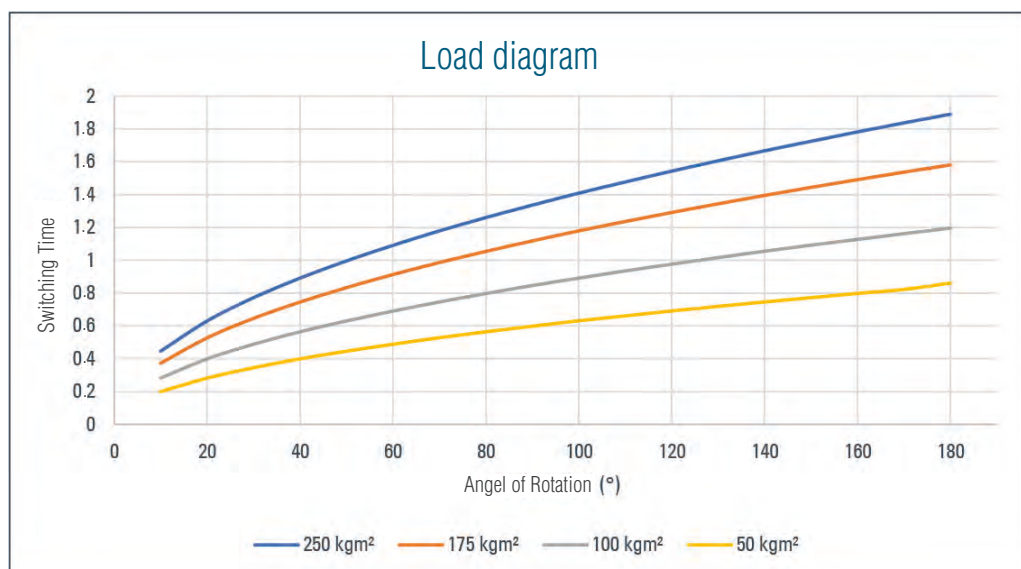flange [Nm]  200

Tilting moment $M_{kM}$ [kNm]  0.95

## Precision

| | |
|---|---|
| Axial runout on the output flange ø [mm] | 0.01 |
| Runout on the output flange ø [mm] | 0.01 |
| Indexing accuracy* in angular seconds ["] without encoder | ± 35 |
| Indexing accuracy* in angular seconds ["] with encoder | ± 12 |

Combined loads and possible process forces must be
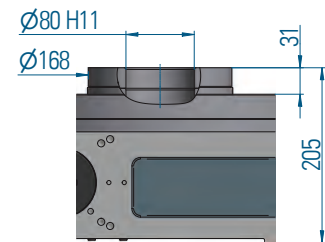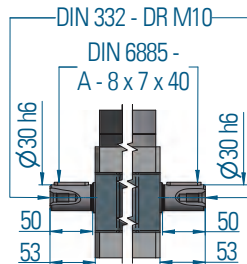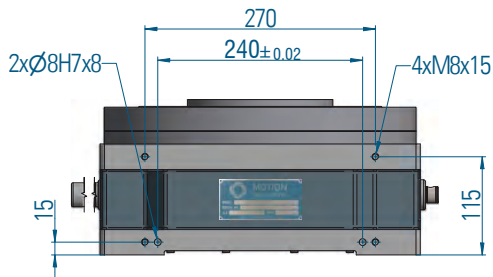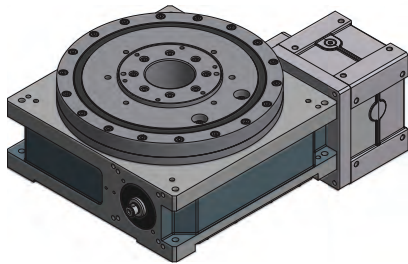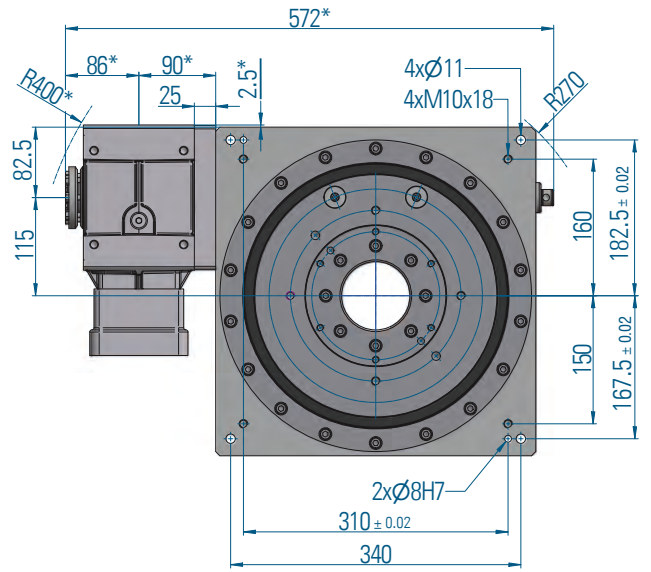confirmed by Motion Index Drives.

## Dimensions

| | | |
|---|---|---|
| Output flange ø | [mm] | 240 |
| Overall height (output flange screw-on suface) | [mm] | 160 |
| Center opening ø | [mm] | 60 |
| Recommended max. size of rotating plate ø | [mm] | 1800 |
| Index table weight | [kg] | 85 |
| Internal gear ratio | [i] | 10 |
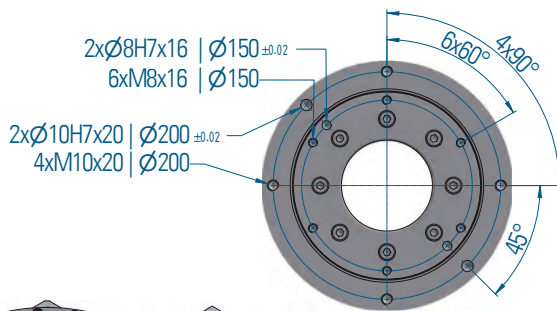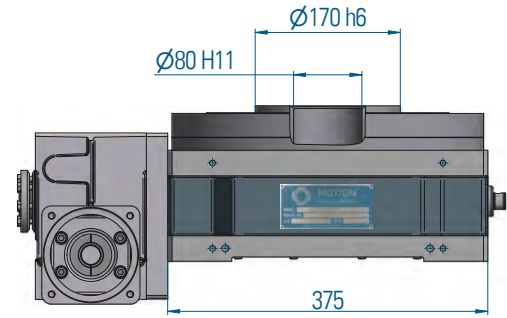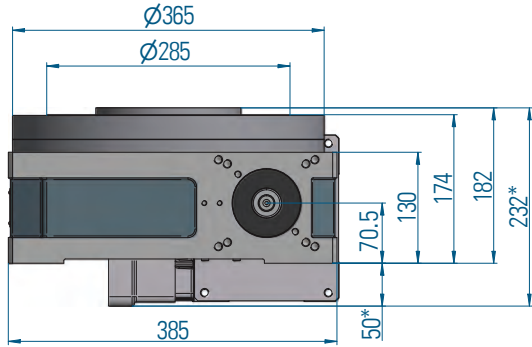
### Load diagram



Switching Time vs. Angel of Rotation (°)

— 250 kgm²    — 175 kgm²    — 100 kgm²    — 50 kgm²

# RTF900

## Main dimensions



Ø365
Ø285
174
182
232*
130
70.5
50*
385

Ø170 h6
Ø80 H11
375

2xØ8H7x16 | Ø150 ±0.02
6xM8x16 | Ø150
2xØ10H7x20 | Ø200 ±0.02
4xM10x20 | Ø200

6x60°   4x90°
45°

572*
86*   90*   2.5*
25
R400*
82.5
115
4xØ11
4xM10x18
R270
160
182.5 ± 0.02
150
167.5 ± 0.02
2xØ8H7
310 ± 0.02
340

270
240 ± 0.02
2xØ8H7x8
4xM8x15
15
115

DIN 332 - DR M10
DIN 6885 -
A - 8 x 7 x 40
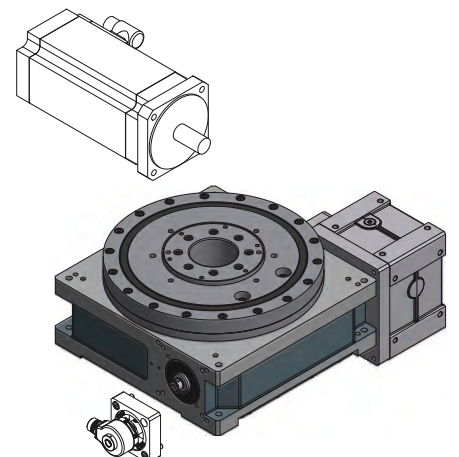Ø30 h6        Ø30 h6
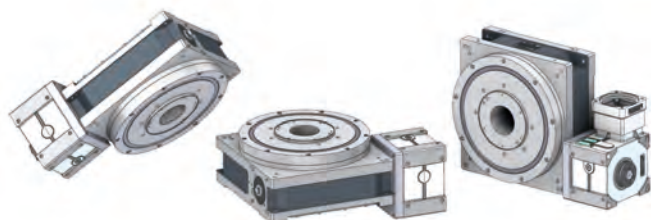50        50
53        53

Ø80 H11
Ø168
31
205

* Dimensions depend on the used drive
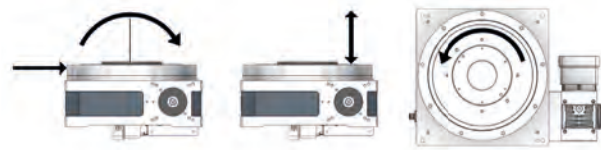
## Fitting position

upside down | horizontal | vertical
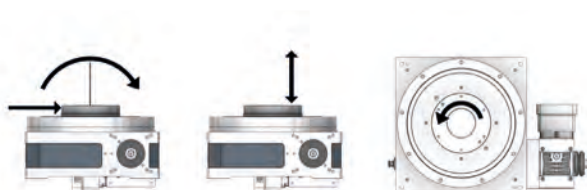
## Load on output flange

Radial force $F_{rA}$ [kN]  22.5    Axial force $F_{aA}$ [kN]  25    Torque on output flange[Nm]1572

Tilting moment $M_{kA}$ [kNm]  3.5

## Load on central column

Radial force $F_{rM}$ [kN]  7    Axial force $F_{aM}$ [kN]  25    Torque on output flange [Nm]  450
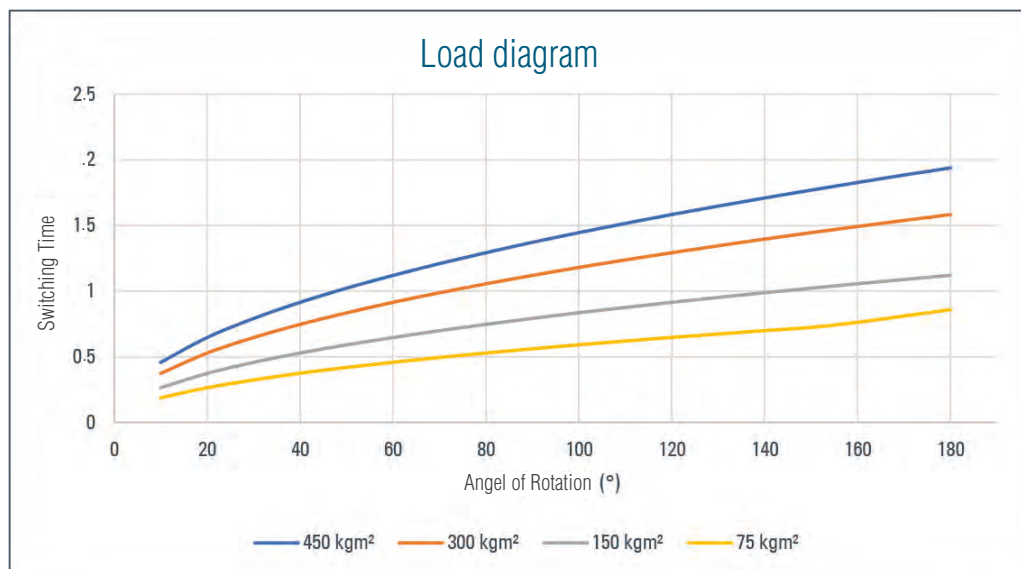
Tilting moment $M_{kM}$ [kNm]  2.2

## Precision

| Axial runout on the output flange ø [mm] | 0.01 |
|---|---|
| Runout on the output flange ø [mm] | 0.01 |
| Indexing accuracy* in angular seconds ["] without encoder | ± 32 |
| Indexing accuracy* in angular seconds ["] with encoder | ± 10 |

Combined loads and possible process forces must be confirmed by Motion Index Drives.

## Dimensions

| Output flange ø | [mm] | 285 |
|---|---|---|
| Overall height (output flange screw-on suface) | [mm] | 174 |
| Center opening ø | [mm] | 80 |
| Recommended max. size of rotating plate ø | [mm] | 2200 |
| Index table weight | [kg] | 125 |
| Internal gear ratio | [i] | 10 |

## Load diagram

Switching Time vs Angel of Rotation (°)

Curves: 450 kgm² — 300 kgm² — 150 kgm² — 75 kgm²

MOTION
INDEX DRIVES