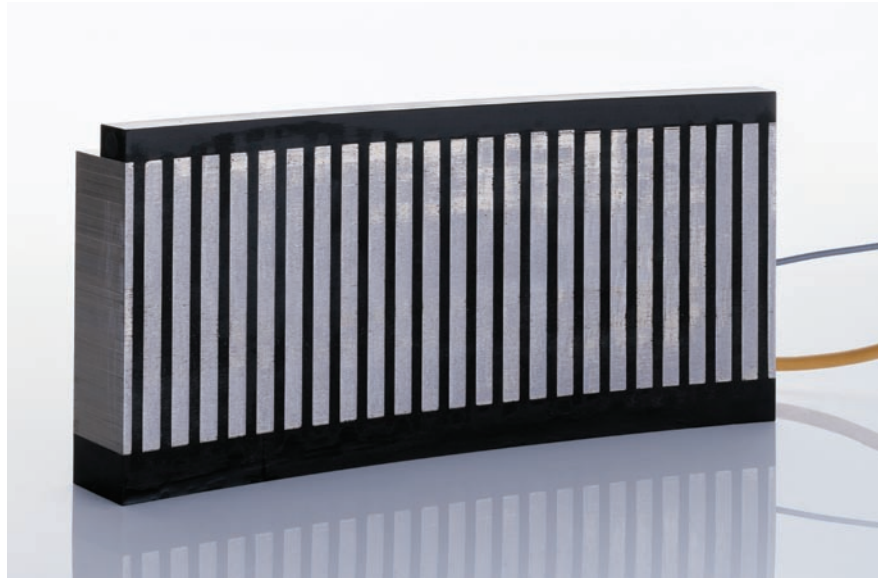




- **RDDM**  
**Rotary Direct Drive Motors**
- **Segmented Motors**

The torque motor has established itself as the drive of rotary axes for machine tools. The advantages of the torque motor against transmission solutions have significantly improved the dynamics and control quality of these machine tool axes. No abrasive wear and the extensive range of sizes makes the torque motor versatile. The segmented design of the motor components in a drive system is in larger diameters also an economical solution.



## Design

Rotary direct drives, also known as torque motors, consist of a primary and a secondary part. The primary part contains an active winding system, while the secondary part features a permanent magnet system. In concentric systems, the rotor can be either the internal or the external ring (internal or external rotor).

Coil winding systems that are grouped and installed in individual motor housings represent the specific feature of a segmented motor. Every individual segment/motor housing has its own cable connection and is wired to the other segments externally in cable terminal boxes. All individual segments combined add up to the entire motor (primary part).

The basic structure of these segments is identical. Each segment generates a feed power appropriate to its magnet height. This height can be adjusted between 25 mm and 200 mm in steps of 25 mm, so that the smallest segment generates a power of about 560 N and the largest one 4500 N.

## Features

- Segmented design of primary and secondary part
- Number of used primary part segments according to the requirements
- Ease of handling and assembly

## Advantages

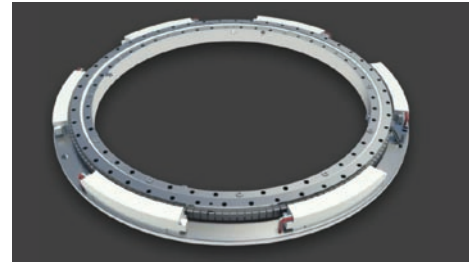
- Scalable torque by variegate the number of segments
- Very large diameters can be realized economically
- Exchange of single segments without failure of the motor

## Applications

- Rotary tables in automation and packaging technology
- NC rotary tables for turning, grinding or milling

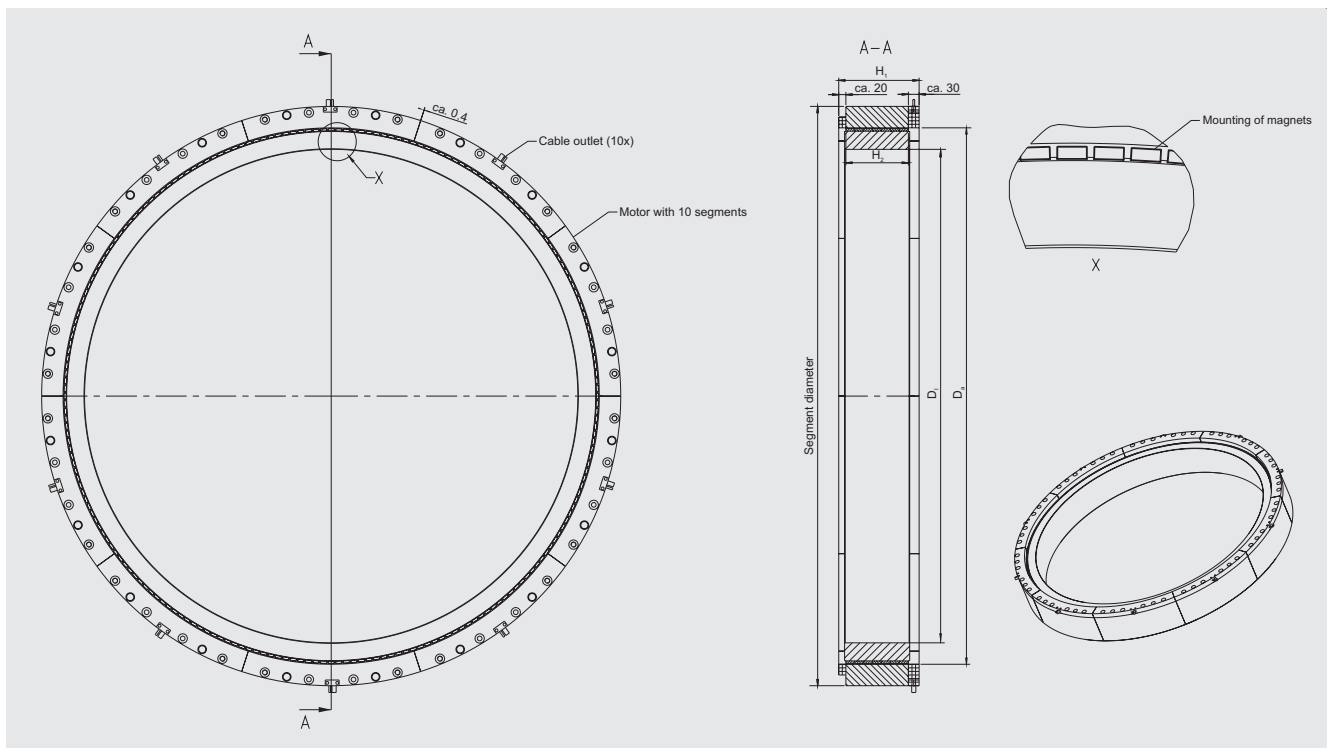
# Technical Data and Drawing

The following 3 sizes are the base for scalable performance by variegate the motor height.



Technical data	Symbol	Unit	RI11-3P 1500x175	RI11-3P 1920x200	RI11-3P 3250x175
Average diameter air gap	$D_a$	mm	1500	1920	3250
Inner diameter	$D_I$	mm	1350	1750	3000
Outer diameter	$D_A$	mm	1750	2150	3500
Height primary part	$H_1$	mm	235	260	260
Height secondary part	$H_2$	mm	175	200	175
Peak torque	$T_p$	Nm	36506	73514	182575
Continuous torque - cooled $I_{cw}$	$T_{cw}$	Nm	29959	56061	135739
Continuous current - cooled	$I_{cw}$	$A_{rms}$	203.1	134.0	180.9
Motor constant	$k_m$	$Nm/\sqrt{W}$	244.0	416.0	494.9
Max. speed at $I_{cw}$	$n_{max}$	rpm	29	11	6
Number of segments		pcs.	10	12	21

Subject to modification without previous notice. • IDAM will provide additional specifications, drawings and tolerance ranges per customer request. • IDAM recommends that all motor applications be reviewed by an IDAM specialist. • Other sizes on request.



Drawing: RDDM-RI11-1500-175



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