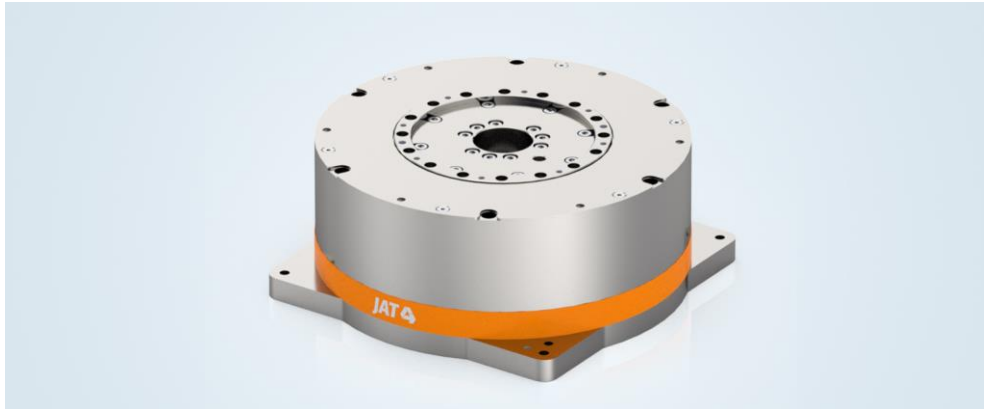


Rotary Table System Series HRT-210

Innovative design for highest dynamic and precision



Compact design



Highest torque density

Smaller packing means lowering footprint



Low cogging value

Smooth motion and positioning accuracy



No backlash

Highest stiffness



Integrated measuring system

Incremental or absolute value encoder, different types

Rotary table - ready to install

Mechanically & electrically ready for connection

M17 connectors

Direct drive

Precise & no backlash

Innovative design

Reduced moving mass for low inertia

Low cogging value

Smooth running characteristics

Customer specific modifications possible

Use with servo amplifiers:

ECOVARIO® 616(D)

Field bus interfaces:

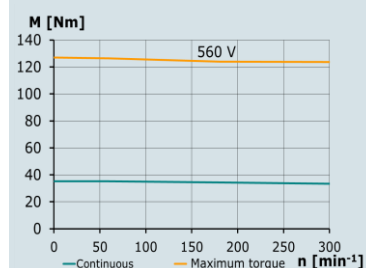
CANopen, EtherCAT, Profibus, Profinet, Ethernet, RS232, RS485

Rotary Table System Series HRT-210

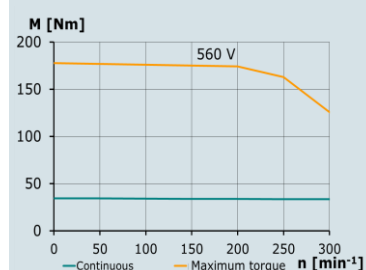
→ Technical data

		Series HRT-210-65	Series HRT-210-85	Series HRT-210-105
Rated Values			(preliminary)	(preliminary)
Max. rated DC link voltage	V_{DC}	560	560	560
Peak torque (c.d.f. 5%) ¹⁾	Nm	127	180	235
Maximum speed ²⁾	min ⁻¹	300	300	300
Rated torque ¹⁾	Nm	33	34	47
Max. current (per phase, c.d.f. 5%) ¹⁾	A_{RMS}	16,0	16,0	16,0
Rated current (per phase) ¹⁾	A_{RMS}	4,5	3,1	3,2
Repeatability ²⁾ with encoder incremental / absolute	arcsec	±2 / ±2,5	±2 / ±2,5	±2 / ±2,5
Radial eccentricity	standard	µm	t.b.d.	t.b.d.
	optional	µm	t.b.d.	t.b.d.
Axial eccentricity	standard	µm	t.b.d.	t.b.d.
	optional	µm	t.b.d.	t.b.d.
Technical Data Motor				
Torque constant	Nm/A	7,4	11,1	14,8
Voltage constant	V/1000min ⁻¹	508	795	1060
Winding resistance	Ω	6,2	8,5	10,6
Winding inductivity	mH	32	45	58
Number of pole pairs	2p	13	13	13
Motor inertia	kgm ² x10 ⁻³	18,9	t.b.d.	t.b.d.
Max. axial load	N	1250 ³⁾	t.b.d.	t.b.d.
Max. radial load	N	750 ³⁾	t.b.d.	t.b.d.
Topple torque	Nm	120 ⁴⁾	t.b.d.	t.b.d.
Holding brake	Nm	18	t.b.d.	t.b.d.
Incremental Encoder				
Resolution (standard) ²⁾	inc/rev	795 200	795 200	795 200
Resolution (maximum) ²⁾	inc/rev	2 908 160	2 908 160	2 908 160
Operating voltage	V_{DC}	5 (±10%)		
Signal specification		RS422		
Absolute Value Encoder				
Resolution		21 Bit	21 Bit	21 Bit
Operating voltage	V_{DC}	5 (±5%)		
Protocol		BiSS C		
Environmental Conditions				
Ambient temperature		0 ... 40 °C		
Temperature switch-off sensor		PTC , 105 °C		
Protection class		IP40		
<ol style="list-style-type: none"> Mounting flange 250 mm x 250 mm / thickness 20 mm Depends on the measuring system speed: 300 min⁻¹, a higher individual load leads to a limitation of the bearing life speed: 300 min⁻¹ with maximum load, different application must be calculated 				

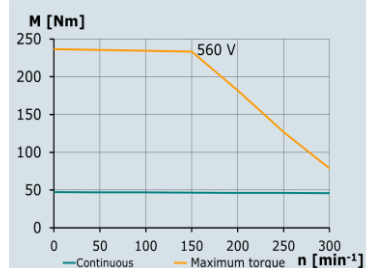
Characteristic HRT-210-65/
ECOVARIO® 616(D)



Characteristic HRT-210-85/
ECOVARIO® 616(D)



Characteristic HRT-210-105/
ECOVARIO® 616(D)



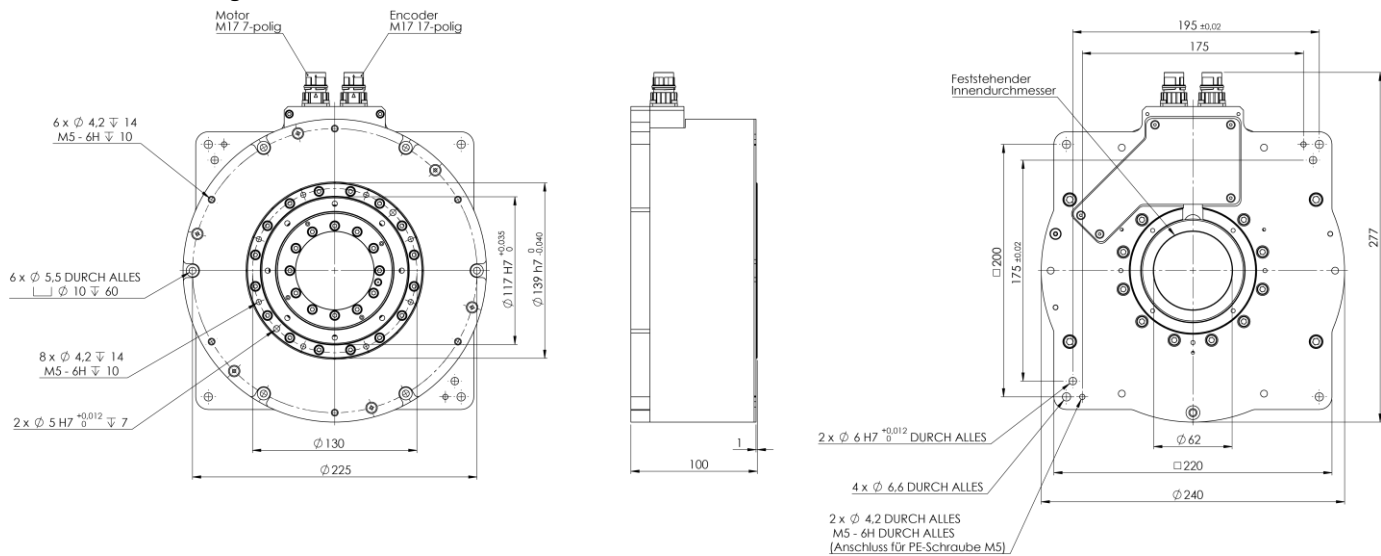
Rotary Table System Series HRT-210

→ Dimensions

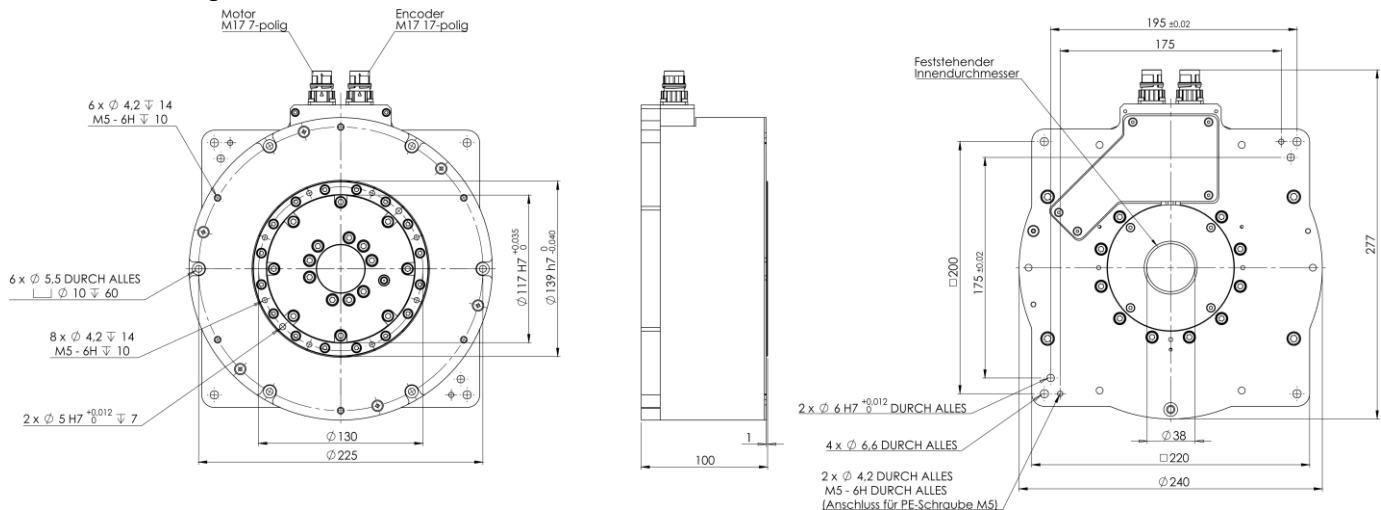
		Series HRT-210-65	Series HRT-210-85	Series HRT-210-105
Outer diameter	mm	240	240	240
Height	mm	100	120	140
Weight without brake	kg	13,5 / 14,7*	t.b.d.	t.b.d.
Weight with brake	kg	14,2 / 15,4*	t.b.d.	t.b.d.

*) with option "Improved radial and axial run-out"

HRT-210-65 without holding brake:

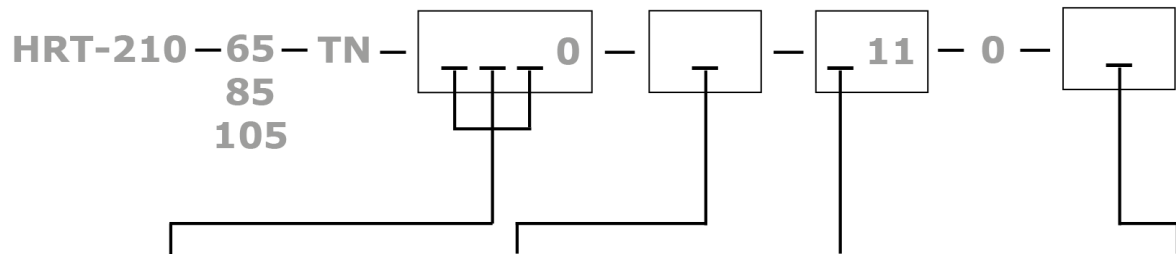


HRT-210-65 with holding brake:



Rotary Table System Series HRT-210

→ Ordering key



Measuring system	
511	Incremental 795 200 inc/rev
Exx	Absolute xx bit

Holding brake	
0	Without brake
P	Holding brake 18 Nm

Connector outlet	
R	Radial (default)
A	Axial

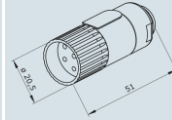
Option	
2	Default
4	Improved radial and axial run-out

Rotary Table System Series HRT-210

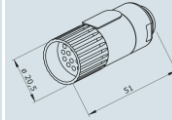
→ Accessories

Mating connector set 70.070 (for cables made by customer)

Motor mating connector M17



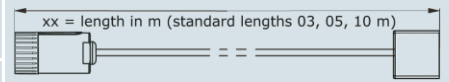
Encoder mating connector M17



Cable assemblies

Motor cable (for ECOVARIO® 414)
MOT61-133-523-0xx-100

Ø 8,9 mm; trailing capability from bend radius > 90 mm



Motor cable (for ECOVARIO® 616)
MOT67-133-523-0xx-100

Ø ca. 8,9 mm; trailing capability from bend radius > 90 mm

Motor/brake cable (for ECOVARIO® 414)
MOT63-134-523-0xx-100

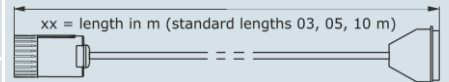
Ø 10,8 mm; trailing capability from bend radius > 105 mm

Motor/brake cable (for ECOVARIO® 616)
MOT68-134-523-0xx-100

Ø ca. 10,8 mm; trailing capability from bend radius > 105 mm

Incremental encoder cable (ECOVARIO® 414)
INK65-491-525-0xx-000

Ø 9,5 mm; trailing capability from bend radius > 90 mm



Incremental encoder cable (ECOVARIO® 616)
INK65-305-525-0xx-000

Ø 9,5 mm; trailing capability from bend radius > 90 mm

Absolute encoder cable
ABS65-300-525-0xx-000

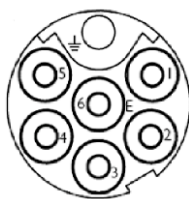
Ø 9,5 mm; trailing capability from bend radius > 90 mm

→ Connector and cable assignment

Motor connector M17 assignment

Pin	Signal
1	Phase U
2	-
3	Brake + (option)
4	Phase V
5	Phase W
6	Brake - (option)
7	PE

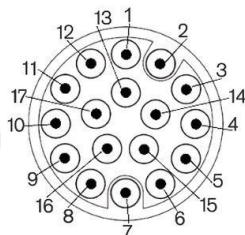
Motor connector:



Encoder connector M17 assignment (Ink/SinCos encoder)

Pin	Signal	Pin	Signal
1	A+ / Sin+	10	-
2	A- / Sin-	11	-
3	B+ / Cos+	12	-
4	B- / Cos-	13	-
5	Z+	14	-
6	Z-	15	+5 V
7	PTC*	16	GND
8	PTC*	17	-
9	-		

Encoder connector:



Encoder connector M17 assignment (Absolute value encoder)

Pin	Signal	Pin	Signal
1	-	10	Channel /DAT
2	-	11	Channel CLK
3	-	12	Channel /CLK
4	-	13	+U _p
5	-	14	Sens S+
6	-	15	-
7	PTC*	16	GND
8	PTC*	17	Sens S-
9	Channel DAT		

*) not 2nd measuring system connector

*) not 2nd measuring system connector