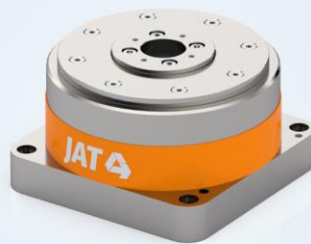


## Rotary Table System Series HRT-78

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:

ECOMODUL

ECOVARIO® 114D

### Field bus interfaces:

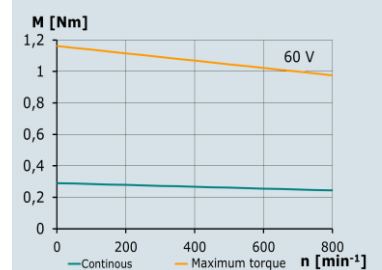
CANopen, EtherCAT, Profibus, Profinet, Ethernet, RS232, RS485

# Rotary Table System Series HRT-78

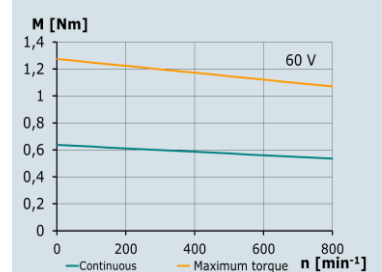
## → Technical data

		Series HRT-78-17	Series HRT-78-25	Series HRT-78-34
<b>Rated Values</b>		<b>(preliminary)</b>	<b>(preliminary)</b>	<b>(preliminary)</b>
Max. rated DC link voltage	V <sub>DC</sub>	560	560	560
Peak torque (c.d.f. 5%) <sup>1)</sup>	Nm	1,15	1,3	2,0
Maximum speed <sup>2)</sup>	min <sup>-1</sup>	800	800	800
Rated torque <sup>1)</sup>	Nm	0,29	0,64	0,97
Max. current (per phase, c.d.f. 5%) <sup>1)</sup>	A <sub>RMS</sub>	14,0	14,0	14,0
Rated current (per phase) <sup>1)</sup>	A <sub>RMS</sub>	3,5	7,0	7,0
Repeatability <sup>2)</sup> with encoder incremental / absolute	arcsec	±3 / ±5	±3 / ±5	±3 / ±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.
<b>Technical Data Motor</b>				
Torque constant	Nm/A	0,083	0,091	0,14
Voltage constant	V/1000min <sup>-1</sup>	7,1	7,9	12,0
Winding resistance	Ω	1,7	0,7	0,9
Winding inductivity	mH	2,7	1,5	2,1
Number of pole pairs	2p	6	6	6
Motor inertia	kgm <sup>2</sup> x10 <sup>-3</sup>	0,072	0,087	0,102
Max. axial load	N	100 <sup>3)</sup>	100 <sup>3)</sup>	100 <sup>3)</sup>
Max. radial load	N	75 <sup>3)</sup>	75 <sup>3)</sup>	75 <sup>3)</sup>
Topple torque	Nm	5 <sup>4)</sup>	5 <sup>4)</sup>	5 <sup>4)</sup>
<b>Incremental Encoder</b>				
Resolution (standard) <sup>2)</sup>	inc/rev	435 000	435 000	435 000
Resolution (maximum) <sup>2)</sup>	inc/rev	t.b.d.	t.b.d.	t.b.d.
Operating voltage	V <sub>DC</sub>	5 (±10%)		
Signal specification		RS422		
<b>Absolute Value Encoder</b>				
Resolution (standard)		18 Bit	18 Bit	18 Bit
Resolution (maximum) <sup>5)</sup>		19 Bit	19 Bit	19 Bit
Operating voltage	V <sub>DC</sub>	5 (±5%)		
Protocol		BiSS C		
<b>Environmental Conditions</b>				
Ambient temperature		0 ... 40 °C		
Protection class		IP40		
<ol style="list-style-type: none"> <li>Mounting flange 250 mm x 250 mm / thickness 20 mm</li> <li>Depends on the measuring system</li> <li>speed: 300 min<sup>-1</sup>, a higher individual load leads to a limitation of the bearing life</li> <li>speed: 300 min<sup>-1</sup> with maximum load, different application must be calculated</li> <li>under preparation</li> </ol>				

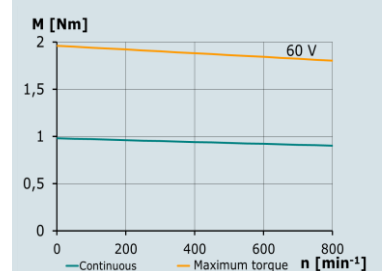
Characteristic HRT-78-17/ECOVARIO® 114D



Characteristic HRT-78-25/ECOVARIO® 114D



Characteristic HRT-78-34/ECOVARIO® 114D

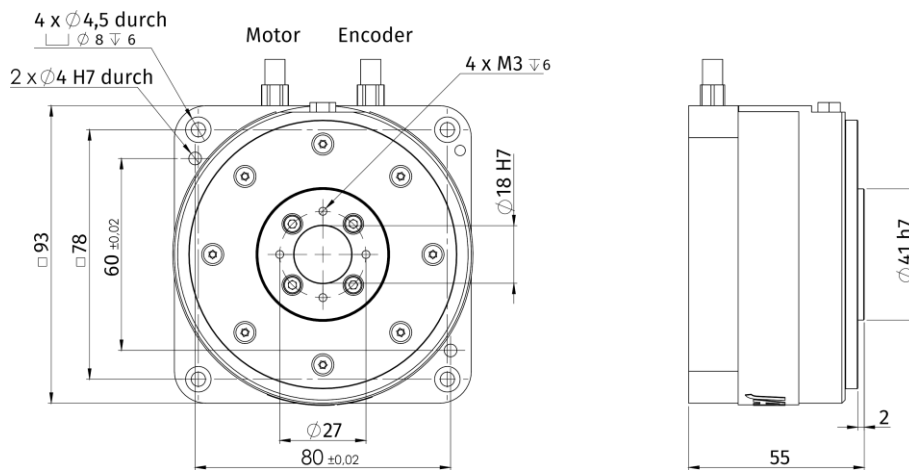


# Rotary Table System Series HRT-78

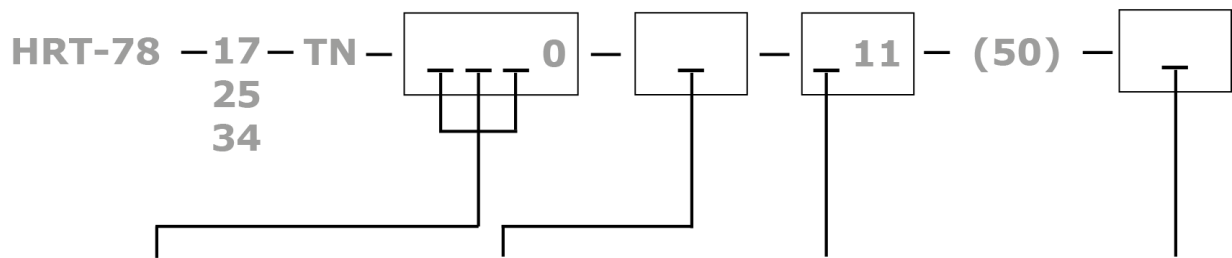
→ Dimensions

		Series HRT-78-17	Series HRT-78-25	Series HRT-78-34
Outer diameter	mm	93	93	93
Height	mm	55	63	72
Weight	kg	1,3	1,5	1,8

**HRT-78-17:**



→ Ordering key



Measuring system	
506	Incremental 435 000 inc/rev
E04	Absolute 18 bit
E13	Absolute 19 bit *
*) under preparation	

Holding brake	
0	Without brake

Connector outlet	
R	Radial (default)

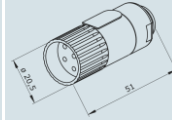
Option	
2	Default

# Rotary Table System Series HRT-78

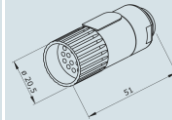
→ Accessories

Mating connector set 70.070 (for cables made by customer)

Motor mating connector M17



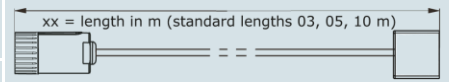
Encoder mating connector M17



Cable assemblies

Motor cable (for ECOVARIO® 114D)  
MOT43-135-523-0xx-100

Ø 6,4 mm;  
trailing capability from bend radius > 35 mm

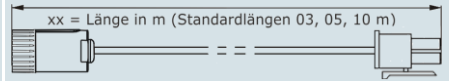


Motor cable (for ECOVARIO® 414)  
MOT61-133-523-0xx-100

Ø 8,2 mm;  
trailing capability from bend radius > 80 mm

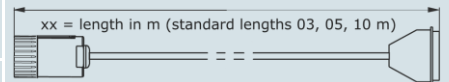
Motor cable (for ECOMODUL)  
MOT43-853-523-0xx-000

Ø 6,4 mm;  
trailing capability from bend radius > 35 mm



Incremental encoder cable (for ECOVARIO®)  
ENC47-305-525-0xx-000

Ø approx. 6,2 mm;  
trailing capability from bend radius > 35 mm

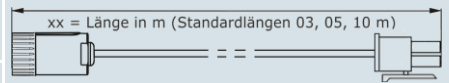


Absolute value encoder cable (for ECOVARIO®)  
ABS47-300-525-0xx-000

Ø approx. 6,2 mm;  
trailing capability from bend radius > 35 mm

Incremental encoder cable (for ECOMODUL)  
ENC55-861-525-0xx-000

Ø 6,9 mm;  
trailing capability from bend radius > 52 mm



Absolute value encoder cable (for ECOMODUL)  
ABS55-862-525-0xx-000

Ø 6,9 mm;  
trailing capability from bend radius > 52 mm

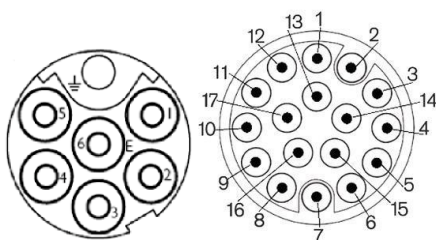
→ Connector and cable assignment

Cable assignment motor

Connection	Pin motor connector M17	Wire MOT61	Wire MOT43
Phase U	4	3	black
Phase V	1	1	orange
Phase W	5	4	red
PE	7	PE	gn/ye

Motor connector:

Encoder connector:



Encoder connector M17 assignment (Incremental encoder)

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

Encoder connector M17 assignment (Absolute value encoder)

Pin	Signal	Pin	Signal
1	-	10	/DAT
2	-	11	CLK
3	-	12	/CLK
4	-	13	+U <sub>p</sub>
5	-	14	Sens S+
6	-	15	-
7	-	16	GND
8	-	17	Sens S-
9	DAT		