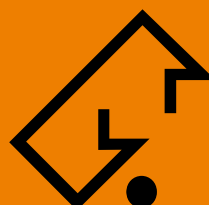


# PRODUCT OVERVIEW

## R5NC Tilting Dividing Units



WERKZEUGSYSTEME  
MÜLLER GMBH  
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## Technical data of RSNC Dividing Units

### Main characteristics

- Tilting dividing units **RSNC** are specially designed for operation on machine tools and machining centres.
- By using precision dividing units **RSNC** as tilting axis and rotary axis it is possible to meet flexible and cost-efficient different customer's requirements.
- Compact, space saving design for heavy duty machining operation.
- Fast and accurate positioning of rotary axis indexing spindle and tilting axis.
- High machining efficiency possible through integrated hydraulic clamping bushings for rotary and tilting axis. The hydraulic clamping pressure has to be supplied either by the machining centre hydraulics or an optional hydraulic power pack.
- Worm gearing with reduced backlash in rotary axis and tilting axis.
- Eccentric worm shaft bearing for backlash adjustment after prolonged service life.
- Low maintenance requirements due to lifetime lubrication for worm gearing.
- Attractive price to performance ratio.

### Designs

#### RSNC-xxx/xxxS

- cost-efficient standard design
- compact size and footprint
- rotary axis and tilting axis with offset

#### RSNC-xxx/xxxZ

- compact size and footprint
- rotary axis and tilting axis without any offset

#### RSNC-xxx/xxxL

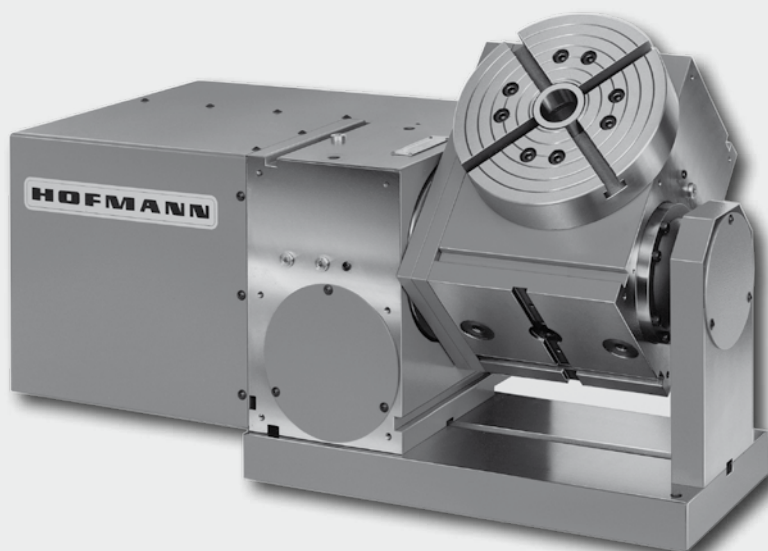
- suitable for smaller operational forces
- large tilting range

#### RS-M-xxx/xxx

- rotary axis with servo motor
- tilting axis with hand wheel and micrometer dial

#### RSNC-xxx/xxx/x

- multi-spindle rotary axis
- customized design



Tilting Dividing Unit RSNC-160/160 S

## Interface to machine control

There are the following choices to interface a tilting dividing unit into a machine control:

- **Rotating and tilting axis** as true 4<sup>th</sup> and 5<sup>th</sup> axis with AC servo motors suitable for customer's machine control.
- **Rotating axis** as true 4<sup>th</sup> axis with AC servo motor suitable for customer's machine control, **tilting axis** as positioning axis with HOFMANN single-axis controller, M-code from machine control triggers next indexing program step for tilting axis.
- **Rotating and tilting axis** both as positioning axis with HOFMANN dual-axis controller, M-code from machine control triggers next indexing program step, also available as stand alone version with hydraulic power pack for independent use on any machine tool.
- **Rotating axis** as true 4<sup>th</sup> axis with AC servo motor suitable for customer's machine control, **tilting axis** with hand wheel and micrometer dial manually operated on type RSM or RSMS.

## Options

Easy application to customer's requirements due to modular design using standard dividing units for rotating and tilting axis.

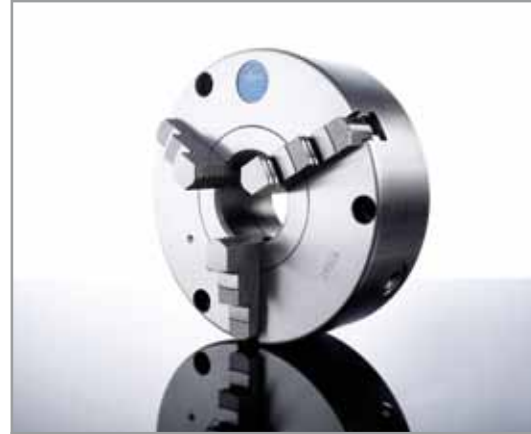
- Standard dividing units available with center heights 75, 100, 125, 220, 300 and 450 mm.
- Support trunnion available with hydraulic clamping bushing for increased tilting axis clamping moment.
- Indirect position feedback for standard indexing accuracy requirements.
- Direct position feedback with rotary encoders available for increased indexing accuracy.
- Type of AC servo motor selectable to customer's controller requirements.
- Indexing spindle available with:
  - Cylindrical through bore and external centering
  - Morse taper
  - Short taper KK
  - ISO taper SK
  - Hollow shank taper HSK
  - Custom made special spindle designs
- Increased axial and radial runout of indexing spindle available
- Rotating axis available in multi-spindle design



Tilting Dividing Unit RSN-160

## Accessories

- Face plates with T-slots (according to DIN 650)
- 3- and 4-jaw chucks
- Power chucks
- Collet chucks
- Special clamping systems like EROWA, Mecatool, System 3R or Hirschmann
- Tailstock manual, pneumatic or hydraulic
- Supports with or without clamping
- HOFMANN single axis or two-axis controller
- Hydraulic power pack for axis clamping system
- Pressure booster pneumatic / hydraulic



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# Technical data of **R2SNC** Dividing Units

## Accuracies

Size		100/100	125/125	160/160	220/220
Dividing unit rotary axis		RWNC-100	RWNC-125	RWNC-160	RWNC-200
Dividing unit tilting axis		RWNC-100	RWNC-125	RWNC-160	RWNC-200
Tilting range, standard		0° - 90°	0° - 90°	0° - 90°	0° - 90°
<b>Indexing accuracy with indirect feedback</b>					
- rotary axis	(sec)	± 45	± 20	± 15	± 10
- tilting axis	(sec)	± 60	± 30	± 25	± 20
<b>Indexing accuracy with direct feedback (option) *</b>					
- rotary axis with RON 2xx	(sec)	± 7.5	± 7.5	± 7.5	± 7.5
- rotary axis with RON 7xx/ RON 287	(sec)	-/ ± 5	-/ ± 5	-/ ± 5	-/ ± 5
- rotary axis with RON 8xx	(sec)	-	± 2.5	± 2.5	± 2.5
- tilting axis with RON 2xx	(sec)	± 15	± 15	± 15	± 15
- tilting axis with RON 7xx/ RON 287	(sec)	-/ ± 10	± 10	± 10	± 10
- tilting axis with RON 8xx	(sec)	-	± 7	± 7	± 7
Radial runout of indexing spindle centering	(mm)	0.01	0.01	0.01	0.01
Axial runout of indexing spindle face	(mm)	0.01	0.01	0.01	0.01
Gear ratio of worm gearing	(i)	45:1	60:1	90:1	90:1
Gear ratio of timing belt/ bevel gear	(i)	2:1	2:1	2:1	2:1
Maximum load capacity for tilting	(kg)	40	80	125	200
<b>Clamping moment of spindle clamping</b>					
- Rotating axis	(Nm)	200	400	1,000	2,000
- Tilting axis, trunnion without clamping	(Nm)	200	400	1,000	2,000
- Tilting axis, trunnion with standard clamping	(Nm)	400	800	1,400	3,000
- Tilting axis, trunnion with increased clamping	(Nm)	-	1,400	2,000	4,000
Tilting moment with clamping, maximum	(Nm)	220	450	1,125	2,200
Weight (without motors)	(kg)	40	60	140	350



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