Datasheet

Highly compact gearbox (worm wheel gearbox) for various industrial applications, in particular for automation and robotics; applicable for motorized or manually adjustable rotary movements.

- Housing made of anodized aluminium, shafts made of steel PR80-Pronox with surface hardening treatment (high wear and corrosion resistance).
- Transmission ratios: **1:1 – 1:2 – 1:4 – 1:7,5 – 1:10 – 1:15 – 1:20 – 1:30 – 1:40**
- Hollow shafts in various designs offer a wide range of mounting options.
- Flanges for direct connection to machine, motors, and display with position indicators.

- Available types:
  - **RD40** gearbox
  - **RD40S** with magnetic sensor
  - **RD40M** with permanent magnet motor
  - **RD40MS** with permanent magnet motor and magnetic sensor
  - **RD40MR** with gear motor
  - **RD40MRS** with gear motor and magnetic sensor.

For continuous use, contract our technical service: In this type of application, a grease nipple is fitted which must be refilled according to the operating conditions.

Performance table

Transmission ratio		**1:1**	**1:2**	**1:4**	**1:7,5**	**1:10**	**1:15**	**1:20**	**1:30**	**1:40**
Efficiency	%	**72**	**71**	**67**	**66**	**44** [1)]	**34** [1)]	**44** [1)]	**21** [1)]	**29** [1)]
Input torque	Nm	8,26	4,20	2,24	1,21	1,38	1,16	0,68	0,95	0,52
Output torque	Nm	6	6	6	6	6	6	6	6	6

[1)] Irreversible

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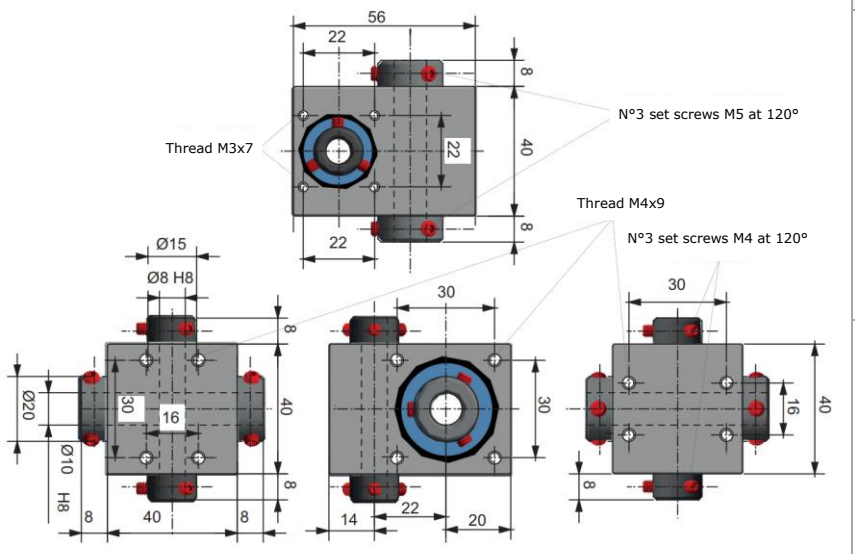
Technical characteristics

FA * = Input axial load	50 N
FR ** = Output axial load	100 N
FA * = Input radial load	500 N
FR ** = Output radial load	1.000 N
Backlash	max. 0,75°
Input rotation speed	max. 5.000 rpm
Transmission ratio	1:1 – 1:2 – 1:4 – 1:7,5 – 1:10 – 1:15 – 1:20 – 1:30 – 1:40
Input torque	see performance table
Output torque	6 Nm
Operating temperature	-20 … 90 °C
Lifetime	10.000 h
Dimensions Housing Hollow shaft	 40 x 40 x 56 mm ∅8H8 (outer diameter ∅15 mm), ∅10H8 (outer diameter ∅20 mm)
Material Housing Hollow- / Solid shaft	 Aluminium, black anodised PR80-Pronox surface hardening
Weight	360 g
Lubrication	Klüber AG 11-462 (grease)

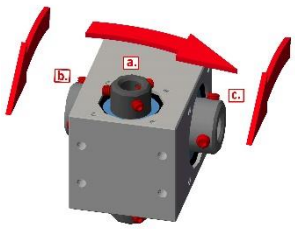
Dimensions

RD40



All dimensions in mm

Transmission ratio



a. Input shaft: fast shaft
b. Output shaft: slow shaft
c. Output shaft: slow shaft

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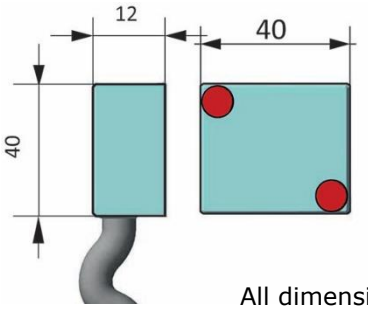
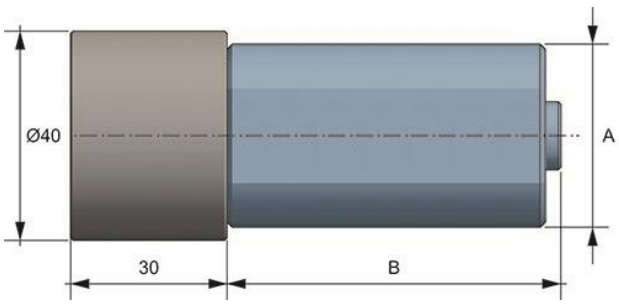
Accessories

Incremental encoder	
	 All dimensions in mm
Dimensions	12 x 40 x 40 mm
Power supply	10 … 30 VDC ±10%, 60 mA_{MAX}
Resolution	256 pulses/revolution
Output signals	Channels A – B Push-Pull output
Output current	20 mA_{MAX} per channel
IP-rating	IP66
Material Housing	 Aluminium, black anodised
Operating temperature	-10 … 70 °C
Relative humidity	10 … 90%
Output	Cable shielded, Cable length 0,5 – 1 – 2 – 5 – 10 m *
Electromagnetic compatibility EMC	2004/108/CE

The incremental encoder for RD40 converts the rotary motion of the gearbox output shaft into two channel quadrature pulses with a resolution of 256 pulses per revolution.

Motors



All dimensions in mm

Motors **M** with coupling [1)]

A	B	rpm*	Torque (Nm)
35	56	2.200	0,06
40	98	5.600	0,2
36	65	1.1000	0,05

[1)] suitable for alternate movements

Gear motors **MR** with coupling [2)]

A	B	rpm*	Torque (Nm)
30	79	450	0,4
42	113	420	0,7

[2)] suitable for continuous movements

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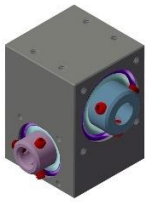
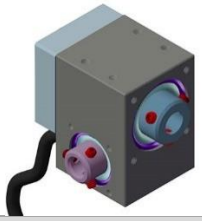
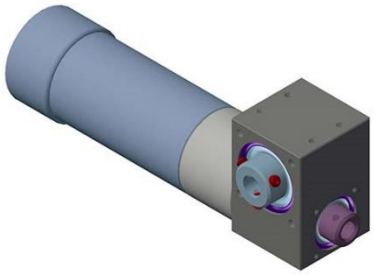
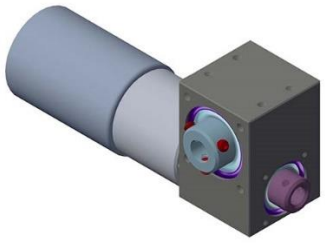
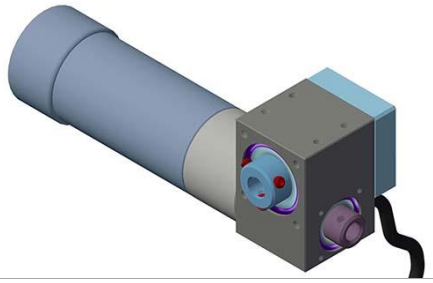
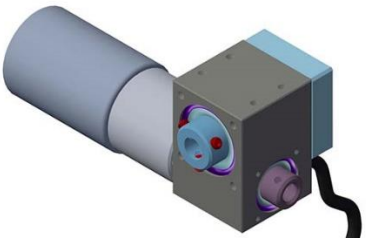
Types

RD40	**RD40S**
gearbox	with magnetic sensor
	
RD40M	**RD40MR**
with permanent magnet motor	with gear motor
	
RD40MS	**RD40MRS**
with permanent magnet motor and magnetic sensor	with gear motor and magnetic sensor
	

Ordering example

Type		RD40S	-	1:10	-	ING
RD40	= gearbox					
RD40S	= with magnetic sensor					
RD40M	= with permanent magnet motor					
RD40MS	= with permanent magnet motor and magnetic sensor					
RD40MR	= with gear motor					
RD40MRS	= with gear motor and magnetic sensor					

Transmission ratios

1:1 – 1:2 – 1:4 – 1:7,5 – **1:10** – 1:15 – 1:20 – 1:30 – 1:40

Operating mode

ING = continuous use (optional), with grease nipple

For the magnetic sensor, specify the cable length, see table: **Technical characteristics** *
For the motors and gear motors, specify the rotation speed (rpm), see table: **Motors** *

Manufacturer: FIAMA since 1913

The manufacturer reserves the right to make changes to the products that it deems necessary for their improvement without prior notice.

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