

# Willtec

Messtechnik



## Angular gearbox and mechanical accessories



**Mechanics**

Measure

Indicate

Control

Sensors

Accessory



## Willtec Messtechnik

The company Willtec Messtechnik eK is a family business in the Black Forest, where precision is well known all over the world for many decades. Our main principles are:

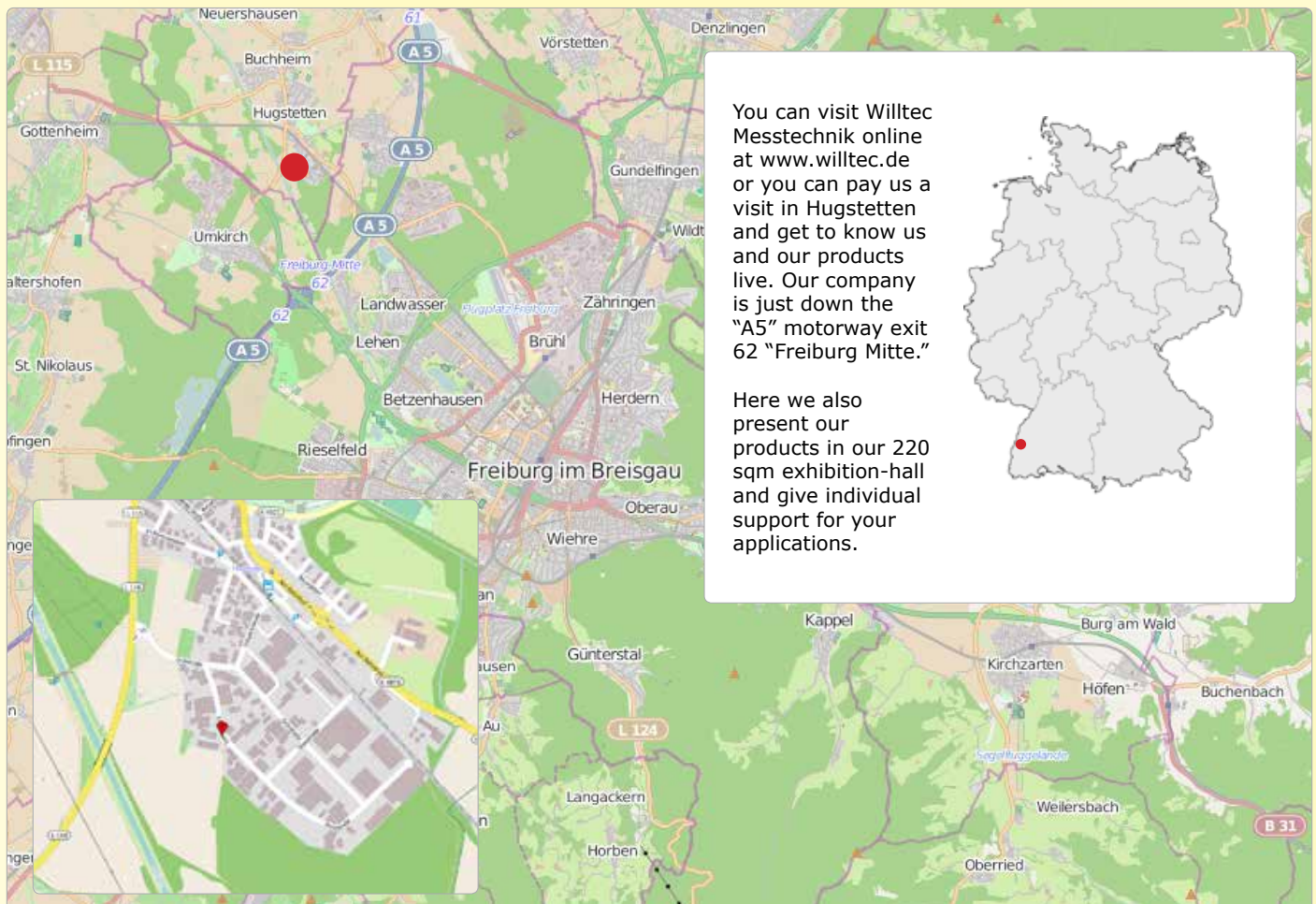
- Proximity to our customers and delivery reliability
- Practice oriented solutions with mature technique
- Complete packages with selected components
- Convenient price-performance ratio through an economic administrative process

„...all around mechanical engineering“

We provide solutions for measurement technology all around mechanical engineering and distinguish ourselves through fast and flexible solutions for our local customers.

With us the experience of many years of measurement technology in mechanical engineering is successfully continued and expanded. The focus is both mechanical as well as electronic measurement systems. Through self-production, supplemented with leading industry representatives, Willtec measurement eK offers varied solutions for standard or customer-specific measuring tasks.

Our new spacious premises in March / Hugstetten enable next to a large warehouse and a large 220sqm showroom. Here, customers can get an idea of our products and applications locally. The excellent transport links right on the A5 in the border region near Freiburg, employees as well as suppliers offers a perfect connection.



# Table of contents

<b>Angular gearboxes</b>	4
--------------------------	---

<b>Couplings</b>	6
------------------	---

<b>Articulated shafts</b>	7
---------------------------	---

<b>Flexible shafts</b>	8
------------------------	---

# Angular gearboxes


This is a right angle head with bevel gears suitable for rotary transmission between horizontally and vertically oriented/arranged shafts.

Our angular gearboxes are available in 5 basic versions:

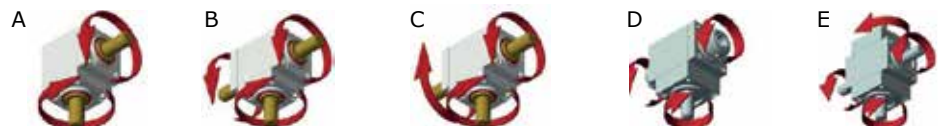
## Features:

- different ratios are available
- Aluminium case, anodised.
- Steel shafts
- Steel bevel gears are case-hardened. Minimum angular backlash, minimum axial backlash
- Movements on ball-bearings



Product	Revolutions	Torque	Ratio	Dimensions	Shaft	Hollow shaft	Types
 66/22	max. 1400 1/ min	2 - 6 Nm	1:1, 1:2; 2:1	56 x 42 x 28 mm	8 x 16 mm	8 mm oder blind hole 14 mm	A, B, C
 66/4	max. 1400 1/ min.	2 - 6 Nm	1:1, 1:2; 2:1	56 x 42 x 28 mm	8 x 16 mm	8 mm oder blind hole 14 mm	A, B, C, D, E
 66/5	max. 1400 1/ min.	4 - 12 Nm	1:1, 1:2; 2:1	80 x 60 x 40 mm	10 x 25 mm, slotted	10 mm oder blind hole 14 mm	A, B, C, D, E
 66/6	max. 1400 1/ min.	15 - 45 Nm	1:1, 1:2; 2:1	104 x 80 x 56 mm	14 x 30 mm, slotted	14 mm oder blind hole 20 mm	A, B, C, D
 66/8	max. 1400 1/ min.	30 - 90 Nm	1:1, 1:2; 2:1	124 x 95 x 70 mm	20 x 40 mm, slotted	20 mm	A, B, C, D

Types of our angular gearboxes:





# Angular gearboxes



RINV-OP64

The RINV-OP64 is a flanged angular gearbox that combined with a position indicator type „OP3“ allows to carry out a visualized adjustment, angular or linear, even if the shaft is in an uncomfortable position.

Revolution: max. 1400 1/min.

Torque: 2 - 6 Nm

Ratios: 1:1, 1:2; 2:1

Dimension: 56 x 42 x 28 mm

Hollow shaft: 8 - 14 mm, blind hole 14 mm



RINV-OP65

The RINV-OP65 is a flanged angular gearbox that combined with a mechanical position indicator type „OP7“ or an electronic position indicator type „EP7“ allows to carry out a visualized adjustment, angular or linear, even if the shaft is in an uncomfortable position.

Revolution: max. 1400 1/min.

Torque: 2 - 6 Nm

Ratios: 1:1, 1:2; 2:1

Dimension: 56 x 42 x 28 mm

Hollow shaft: 8 - 14 mm, blind hole 14 mm



RD26

Angular gearbox with spur gear wheel RD 26- precise and with a extremely compact design indispensable for a large range of applications in industry. Particularly in automation technology, robotics and handling technology the extremely compact design with shafts or hollow shafts offers you advantageous solutions.

For motor-adjustable or manually-adjustable rotary motion FIAMA angular gearboxes RD 26 offer you individual mechanical options up to 2Nm.

Aluminum case, black anodized, hardened steel shafts PR80-Pronox guarantee a high wear resistance and a high fatigue strength all at a reasonable price.

Basic ratios: 1:1 - 1:2 - 1:3 - 1:4 - 1:5 - 1:7,5 - 1:10 - 1:12,5 - 1:15 - 1:30.

Available are shafts or hollow shafts, with universal flanges "FL-U" for a direct fixing on machines and motors.

Available versions: RD26 angular gearbox with spur gear, RD26F output shaft with windings, RD26S with magnet sensor, RD26M with magnet permanent motor, RD26MS with magnet permanent motor and magnet sensor.

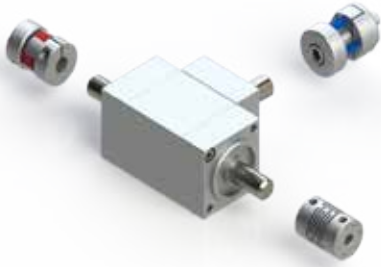


RD50

The RD50 is the extension of our until now very successful RD26 angular gearbox with spur gear wheel. This version also is precise and has a extremely compact design and therefore it is indispensable for a large range of applications in industry. Particularly in automation technology, robotics and handling technology the extremely compact design with shafts or hollow shafts offers you advantageous solutions.

For motor-adjustable or manually-adjustable rotary motion FIAMA angular gearboxes RD 50 offer you individual mechanical options up to 2Nm. Aluminum case, black anodized, hardened steel shafts PR80-Pronox guarantee a high wear resistance and a high fatigue strength all at a reasonable price.

# Couplings



Manufacturing tolerances, as well as bearing and thermal influences may cause misalignment between shafts in drive technology. The consequences are increased wear and premature failure of the machines and installations. By using shaft couplings the misalignment can be compensated and the bearing load can be reduced to a minimum.

Product	Model	Torque	max. Revolution	Dimension	Drilling D1/D2	Material
 DKPS 2928	Double-loop coupling	100 Ncm	3.000 1/min	29 x 29 mm	4 - 10 mm / 4 - 10 mm	galvanised steel
 DKPS 3835	Double-loop coupling	200 Ncm	3.000 1/min	35 x 38 mm	6 - 12 mm / 6 - 12 mm	galvanised steel
 DKPS 4848	Double-loop coupling	200 Ncm	3.000 1/min	46 x 48 mm	8 - 14 mm / 8 - 14 mm	galvanised steel
 DKPS 5658	Double-loop coupling	300 Ncm	3.000 1/min	56 x 58 mm	12 - 19 mm / 12 - 19 mm	galvanised steel
 SKSS 2022	Helical gear couplings	80 Ncm	8.000 1/min	20 x 22 mm	6 - 10 mm / 6 - 10 mm	steel
 KKAS 1500	Claw coupling	800 - 2500 Ncm	19.000 1/min	28,5 x 26,5 mm	6 - 10 mm / 6 - 12 mm	Alu / polyurethane
 KKA 1500	Claw coupling	800 - 2500 Ncm	19.000 1/min	28,5 x 26,5 mm	6 - 10 mm / 6 - 12 mm	Alu / polyurethane
 FKZS 1635	Spring coupling	50 Ncm	3.000 1/min	35 x 16 mm	4 - 8 mm / 4 - 8 mm	steel
 FKZS 2650	Spring coupling	150 Ncm	3.000 1/min	50 x 26 mm	6 - 12 mm / 6 - 12 mm	steel
 Countex 12	Shaft coupling	50 - 100 Ncm	8.000 1/min	22 x 15,5 mm	2 - 12 mm / 2 - 12 mm	Alu / plastic
 Countex 14	Shaft coupling	100 - 200 Ncm	8.000 1/min	30 x 20 mm	5 - 14 mm / 5 - 14 mm	Alu / plastic

## Articulated shafts



With articulated shafts it is possible to transmit over a distance two shaft ends easily and precisely. Due to telescopic length adjustment it is possible to compensate shaft misalignment and to transmit rotary motion free from backlash.

Product	Description	Fit example	Torque	max. Length	Material
 EZ2	Coupling free from backlash, fatigue durable & torsionally flexible	0,01 up to 0,05 mm	12,5 up to 2.150 Nm	4 m	high-strength aluminum/steel. flexible coupling element made of thermoplastic polyurethane (TPU)
 EZV	Length extension is variable. Coupling free from backlash, fatigue durable & torsionally flexible.	0,01 up to 0,05 mm	12,5 up to 2.150 Nm	4 m	6- 12 mm / 6 - 12 mm
 ZA	Coupling free from backlash, fatigue durable & torsionally rigid. With gimballed pipe support.	0,01 up to 0,05 mm	1,500 up to 6.000 Nm	6 m CFK-Rohr bis 8 m	steel/aluminum & CFK. stainless steel: on request
 ZAE	Half-shell construction, Coupling free from backlash, fatigue durable & torsionally rigid, with gimballed pipe support.	0,01 up to 0,05 mm	10 up to 800 Nm	6 m	steel/aluminum & CFK. stainless steel: on request
 MKH	Half-shell construction, simple assembly. Coupling free from backlash, fatigue durable & torsionally rigid.	0,01 up to 0,05 mm	0,05 up to 10 Nm		steel/stainless steel on request highly elastic stainless steel bellow

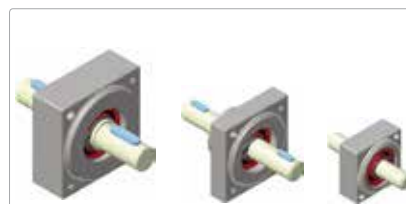
## Accessory



mechanical position indicators



electronic position indicators



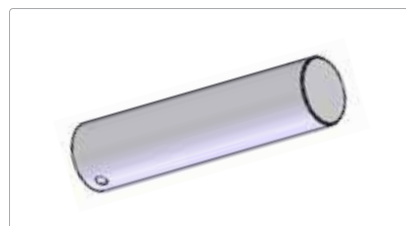
bearing blocks



handwheel / crank handle



flexible shafts










shaft adapter

## Flexible shafts



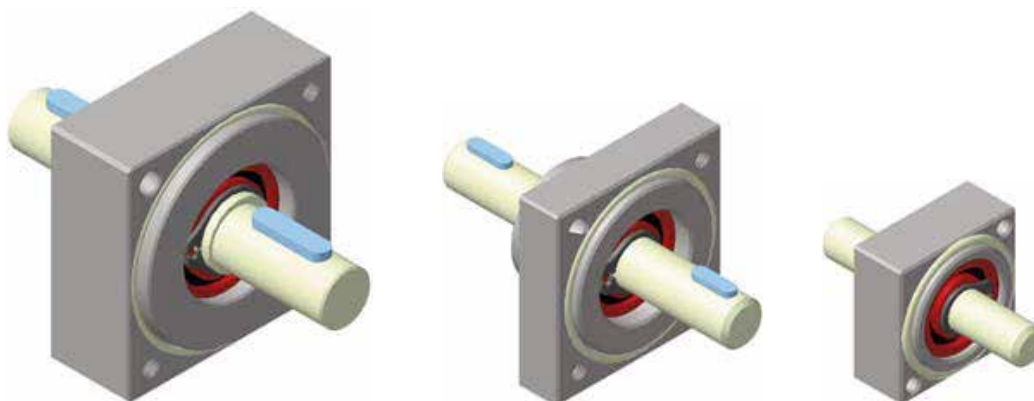
Flexible shafts are mechanical fasteners suitable for joining two axes or shafts, that are not aligned. Depending on the torque it is possible to obtain a rotary motion by changing the direction with a precision of 90 °. The models are available with or without bearings and in different lengths.

Product	Diameter	Bend radius	Max. torsion angle	Torque
 AF	Ø4 mm, Ø5 mm, Ø6 mm, Ø8 mm, Ø10 mm, Ø12 mm, Ø15 mm, Ø20 mm	55 mm up to 400 mm	max. 90°	max. 18,5 Nm
 AF-M	Ø4 mm, Ø5 mm, Ø6 mm, Ø8 mm, Ø10 mm, Ø12 mm, Ø15 mm, Ø20 mm	90 mm up to 400 mm	max. 90°	max. 18,5 Nm
 FAP-V1	Ø4 mm, Ø5 mm, Ø6 mm, Ø8 mm, Ø10 mm, Ø12 mm, Ø15 mm, Ø20 mm	55 mm up to 400 mm	max. 90°	max. 18,5 Nm
 FAP-V2	Ø8 mm, Ø10 mm, Ø12 mm	70 mm up to 130 mm	max. 40°	max. 9 Nm
 FAP-V3	Ø6 mm, Ø10 mm	70 mm up to 130 mm	max. 55°	max. 7,5 Nm
 FAP-V4	Ø5 mm, Ø6 mm, Ø8 mm, Ø10 mm, Ø12 mm, Ø15 mm, Ø20 mm	55 mm up to 400 mm	max. 90°	max. 18,5 Nm
 FAP-M	Ø4 mm, Ø5 mm, Ø6 mm, Ø8 mm, Ø10 mm, Ø12 mm, Ø15 mm, Ø20 mm	90 mm up to 400 mm	max. 30°	max. 18,5 Nm



# Accessory/applications

Bearing blocks

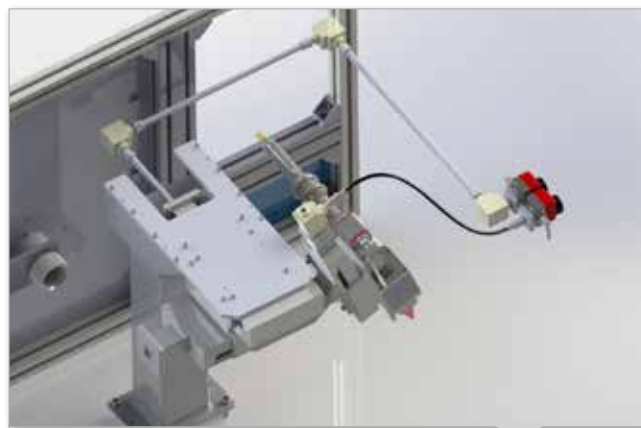


Articulated shaft with EP7



Angular gearbox with flexible shaft and OP3

Position indicator OP6 / angular gearbox 66/5



Manual remote at welding machine



Position indicator OP3 and angular gearbox 66/4

Motorbrush with angular gearbox 66/5



# Our product range:

<b>Measure</b> <ul style="list-style-type: none"> <li>Magnetic length and angle measuring systems</li> <li>Optical scales</li> <li>Micropulse transducers</li> <li>Rotary encoders</li> <li>Distance sensors</li> <li>Draw-wire encoders</li> </ul>	<b>Indicate</b> <ul style="list-style-type: none"> <li>Electronical displays</li> <li>Position indicators</li> <li>Displays 3-Axis</li> <li>Touchscreen displays</li> </ul>	<b>Control</b> <ul style="list-style-type: none"> <li>Measuring tables</li> <li>Calipers small</li> <li>Calipers medium</li> <li>Calipers big</li> <li>Presets</li> <li>Meter counter</li> </ul>
<b>Sensors</b> <ul style="list-style-type: none"> <li>Inductive sensors</li> <li>capacitive sensors</li> <li>Optical sensors</li> <li>Magnetic/cylindric sensors</li> <li>Ultrasonic sensors</li> <li>Inclinometers</li> <li>Pressure sensors</li> </ul>	<b>Mechanics</b> <ul style="list-style-type: none"> <li>Angular gearbox</li> <li>Flexible shafts</li> <li>Couplings</li> <li>Friction clutches</li> <li>Articulated shafts</li> </ul>	<b>Accessory</b> <ul style="list-style-type: none"> <li>Display housings</li> <li>Angular flanges</li> <li>Measuring wheels</li> <li>Power supply units</li> </ul>



Willtec Messtechnik eK  
Eschenweg 4  
79232 March-Hugstetten

Fon +49 7665 93465-0  
Fax +49 7665 93465-22

info@willtec.de  
www.willtec.de



05-2014

