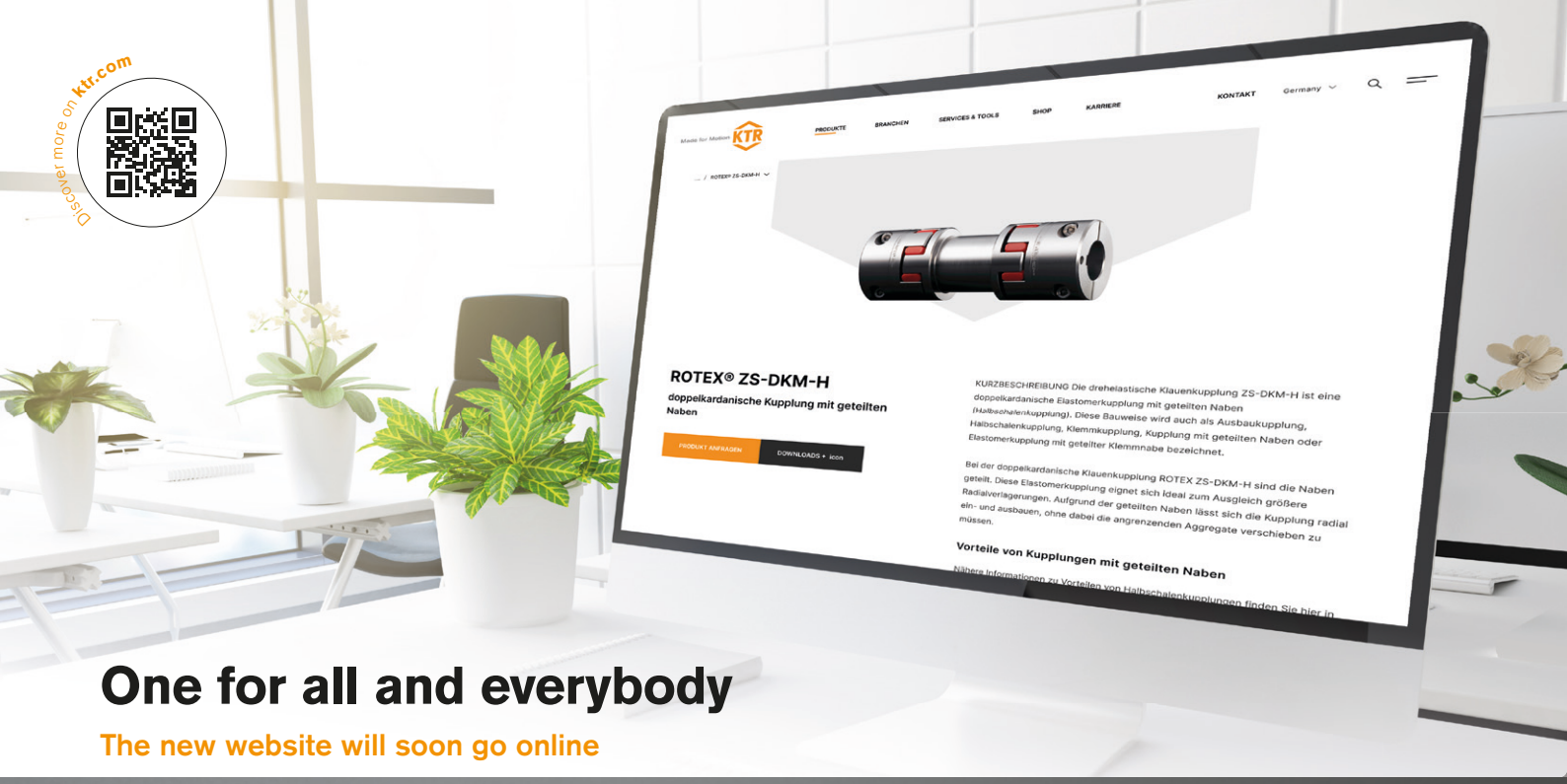
Made for Motion KTR

MONITEX® BT

Torque measuring coupling hub

ktr.com



One for all and everybody

The new website will soon go online

There will be no alteration, no revision, nor merely a facelift: There will rather be a comprehensive relaunch of our website making our company, our products and our services digitally accessible in a more detailed and convenient way than ever before.

The conception stage of the relaunch project managed by Melanie Gunka and Julian Birich already started in September 2021. Initially numerous international specifications of requirements as well as in-house and external surveys were executed. The target was to provide only one digital platform for all in the future - accordingly for example integrate the platforms ktr360.com and ktr-events.com completely in the new website.

„The focus is definitely on improving the services and usability of the website for visitors", Melanie Gunka underlines. „All contents are concentrated in one place and the performance is significantly increased. The objective is to raise the user experience to a new level.“ For that purpose a new, comfortable and quick search function is integrated, as an example. The streamlined structure as well as links to products and services facilitate navigation and consequently locating the numerous offers of KTR. Besides, its responsive design makes the new website equally easy to access for all terminal devices. The login area is significantly facilitated as well: In the future customers only have to log in once to have access to all contents and applications, from miscellaneous downloads and services to 3D-CAD drawings.

After launching both the KTR configuration tools are to be natively embedded in the website and all national versions of the website are to be adapted in the course of 2023 - to make sure all customers are able to benefit from the advantages of our retreated website in the respective national language step by step worldwide.

Our 2D/3D publishers as an extension of our online tools

Having calculated the right product by means of the coupling configurator, you can be provided with the result as a 2D, 3D, dimensional drawing or as a 3D-PDF file as of now. What is special: Clicking the download the requested drawings and models are generated in real time in the background.

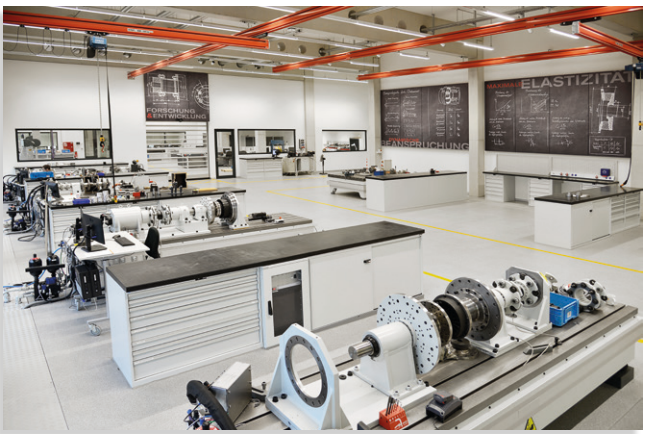
Discover more on ktr.com

Online tools

Tailor-made to your specifications - make use of our online tools

Examples of application

Machine monitoring



Test bench technology

Process management

Quality assurance

Mounted with a few steps, the new MONITEX® BT is a precise tool for daily measuring tasks in test bench technology. With the help of the apps or the PC software, torque and speed data can be displayed and saved in a matter of seconds.

Thanks to its compact dimensions it can also be used for machine monitoring and process control where integration of measuring shafts in a long version have previously failed.

The outputs of our analogue gateway directly supply the voltages for the PLC and the control. Furthermore, the data can be saved to a cloud via an edge device so that there is nothing impeding more complex monitoring.

Especially in quality assurance, it is often an advantage to not only save data, but also read them directly for setting purposes. The integrated display of the MONITEX® BT informs the user immediately and at any time about the current load on the drive.

MONITEX® BT 28/200, 42/800
TORQUE MEASURING COUPLING HUB

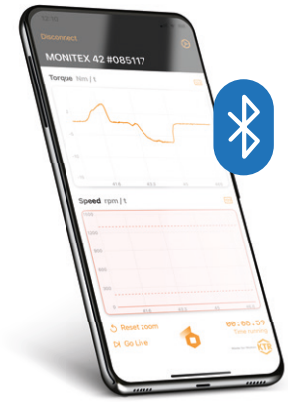
Description of product

ROTEX® goes digital – MONITEX® BT, the coupling hub that measures torque

MONITEX® BT is a backlash-free coupling hub that can measure torque and speeds. In contrast to classical torque measurement, the torque is no longer measured via an intermediate shaft or intermediate flange, but the measurement takes place inside the measurement hub. Thanks to this, the new measurement coupling can be integrated into the drive in a few simple steps, even when there is little space available.

The energy is transmitted contactlessly and permits a permanent operation of the measurement hub. To this end, the inductive energy transmitter is installed with a clearance of about max. 10 mm radially of the coupling.

As soon as the inductive head is switched on, the actual torque and speed data are sent by MONITEX® BT using Bluetooth and, using the free MONITEX® app, they can be received by a smart phone or a PC and saved. The "MONITEX® BT“ app is available for Android and iOS Smartphone and can be downloaded from the app stores.



The data can be displayed in the app either as a curve progression or as numeric numbers. Minimum, maximum and average values are continuously calculated. The data is recorded during the measurement and can then be analysed afterwards. A visual and acoustic alert informs the user once the set limit values are exceeded or fallen below.

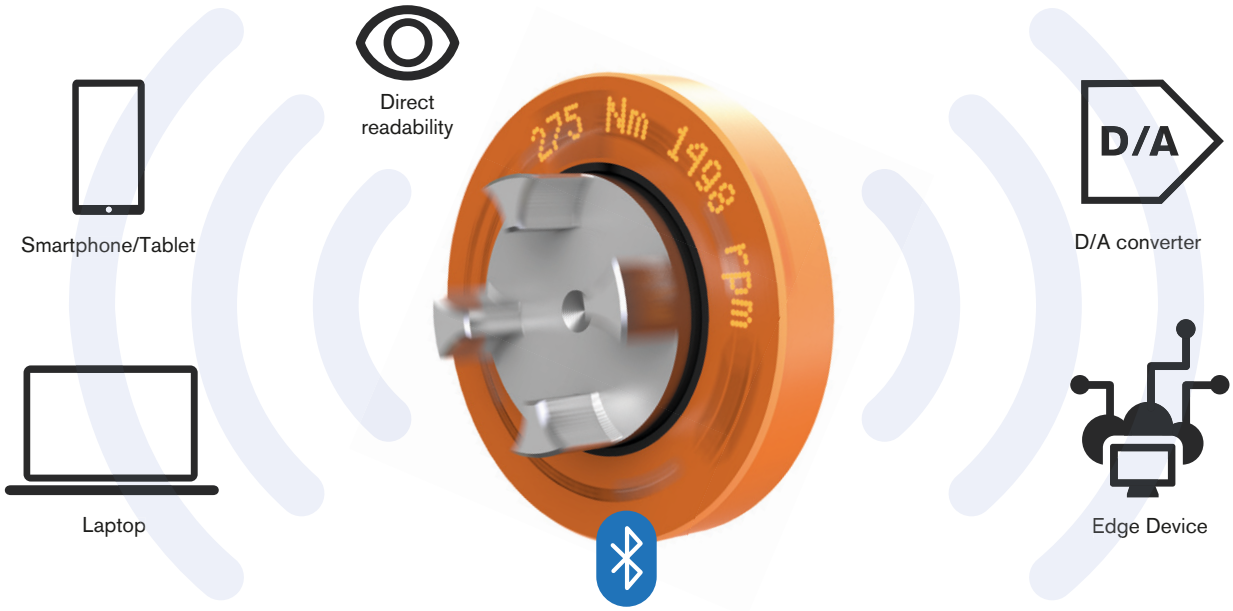
If you have a PC or laptop with Bluetooth connection, you can download the free KTR Windows software from our homepage. It permits a high scanning frequency of the torque signal of 500 Hz and provides the opportunity to save the data in a CSV file.

Limitless connectivity

In many cases, the user requires live data to feed into the system control for monitoring or controlling the drive train.

This can either be done by means of a DAC (digital-to-analogue converter), which establishes the connection to MONITEX® BT and outputs the torque and speed values as analogue voltage signals, or by means of an edge device, which connects the MONITEX® BT with the big data world.

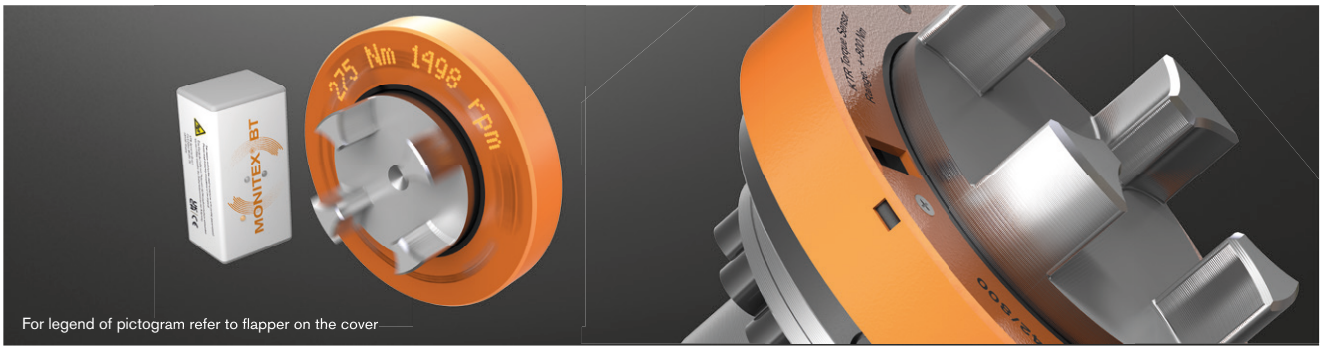
In addition to smartphone, edge device and analogue outputs, MONITEX® BT also has a display that shows the current torque and speed when in rotation. Like this, the data is also available even if you do not have your smartphone at hand or simple monitoring of the load is sufficient.

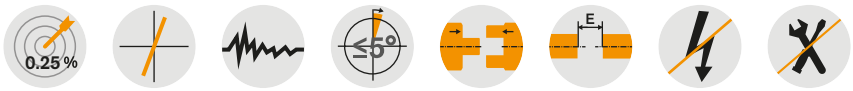


Connectivity				
Terminal device	**Direct connection to MONITEX® BT**	**Preconditions**	**Measuring frequency torque/speed in Hz**	**Reference source**
Android				
Smartphone	•	from Android Version 6	60 / 3	
Tablet	•			
iOS				
Smartphone	•	from iOS Version 15.5	60 / 3	
Tablet	•			
Windows				
PC	•	Windows 10, hardware with Bluetooth connection	500 / 5	www.ktr.com
Laptop	•			
Analogue gateway (DAC)	•	–	500 / 5	Contacting KTR
Edge gateway	•	Programming on consultation	500 / 5	Contacting KTR

MONITEX BT® 28/200, 42/800
TORQUE MEASURING COUPLING HUB

For torque ranges from 200 to 800 Nm





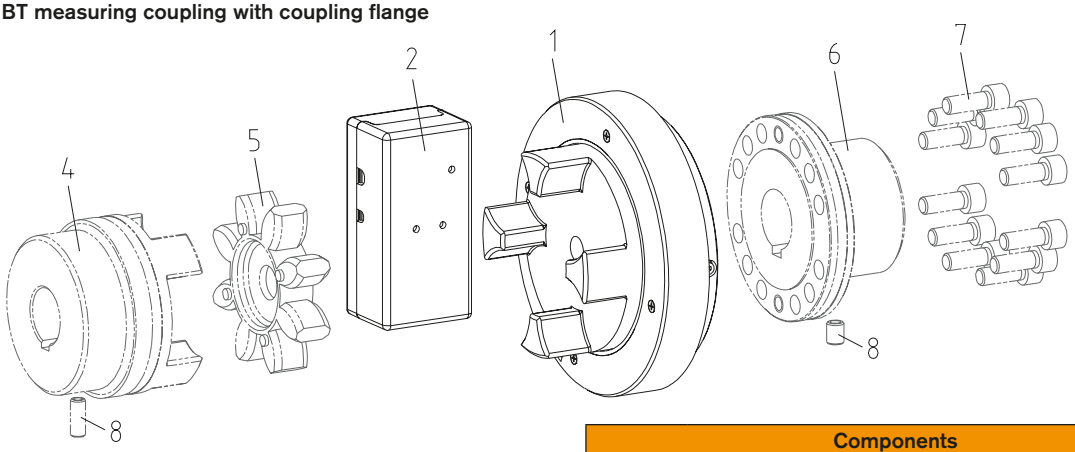
General properties				
MONITEX BT® type	Coupling type	Supply voltage in V [2]	Current consumption in mA [2]	Operating temperature range in °C
28/200	ROTEX® GS 28	24 ±4	<200	0 ... 55
42/800	ROTEX® GS 42			

Technical data of torque signal					Technical data of speed signal			Technical data of display		
MONITEX BT® type	Measuring range T_{KN} in Nm	Inaccuracy in % von T_{KN}	Measuring frequency of app/Windows software in Hz	Influence of temperature [1] in %/10 °C	Measuring range T_{KN} in 1/min	Resolution in rpm	Measuring frequency of app/Windows software in Hz	Number of digits of torque	Number of digits of speed	Turn-on threshold in rpm
28/200	-200 ... +200	±0.25	60 / 500	0.05	30-3500	1	5/3	3+1 decimals + ± sign	4	300
42/800	-800 ... +800									

Mechanical data of the coupling hub										
MONITEX BT® type	Static load limit [1] T_K max in %	Breaking load T_K Bruch [1] in %	Max. bending torque in Nm	Max. radial force in N	Max. axial force in kN	Weight in kg	Torsion spring stiffness C_T in Nm/rad	Torsion angle with T_{KN} in degrees	Mass moment of inertia in kgmm²	Max. speed in rpm
28/200	150	300	22	250	8	0.84	46000	0.25	765	3500
42/800			86	700	20	1.72	194000	0.24	2690	

[1] Referring to rated torque T_{KN}
[2] MONITEX® BT inductive head

MONITEX® BT measuring coupling with coupling flange



Components		
Component	Quantity	Subassembly
1	1	MONITEX® BT measuring hub
2	1	MONITEX® BT inductive head (inductive current transmission)
3 [1]	1	MONITEX® BT connection cable
4 [2]	1	ROTEX® GS coupling hub
5 [2]	1	ROTEX® GS spider
6 [2]	1	ROTEX® GS flange hub
7 [2]	see page 7	Cap screws DIN EN ISO 4762 - 12.9
8 [2]	2	Setscrew DIN EN ISO 4029

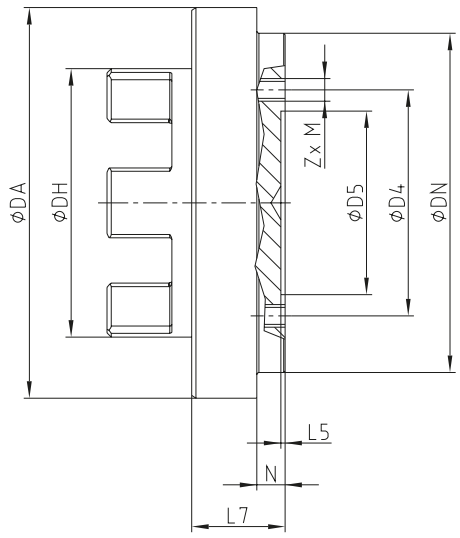
[1] not shown graphically in the left image
[2] Optionally available

Ordering example:

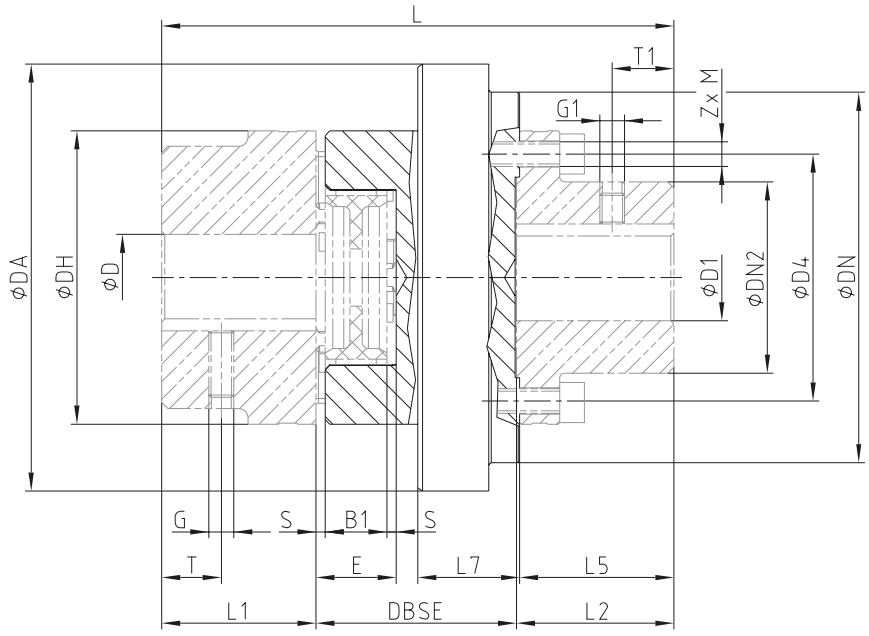
MONITEX BT® 42/800	Inductive head	2 m	ROTEX® GS	ROTEX® GS spider
Coupling hub with measurement range	Inductive power supply	Connection cable	See catalogue "Drive Technology" on page 123	See catalogue "Drive Technology" on page 127

Components

MONITEX® BT measuring coupling



Dimensions [mm]									
MONITEX® BT type	DA	DH	DN	D4	D5	L5	L7	N	Z x M
28/200	112.4	65	90	54	44	1.5	28	10	8 x M6
42/800	138.4	95	120	80	65	1.5	33	10	12 x M8



Dimensions in mm								
MONITEX® BT type	ROTEX® GS size	Max. finish bore		DA	DH	DBSE	DN	DN2	D4
		D	D						
28/200	28	35	30	112.4	65	54.5	90	42	54
42/800	42	55	45	138.4	95	65.0	120	62	80

Dimensions in mm											
MONITEX® BT type	L	L1	L2	L5	L7	E	B1	S	Cap screws DIN EN ISO 4762		
									Number Z	M	T_A in Nm
28/200	125	35	35.5	35	28	20	15	2.5	8	M6	17
42/800	166	50	51.0	50	33	24	18	3.0	12	M8	41

Setscrew DIN EN ISO 4029		
Size	28	42
Dimension G, G1 in mm	M8	M8
Dimension T, T1 in mm	15	20
Tightening torque T_A in Nm	10	10

NOTES

NOTES

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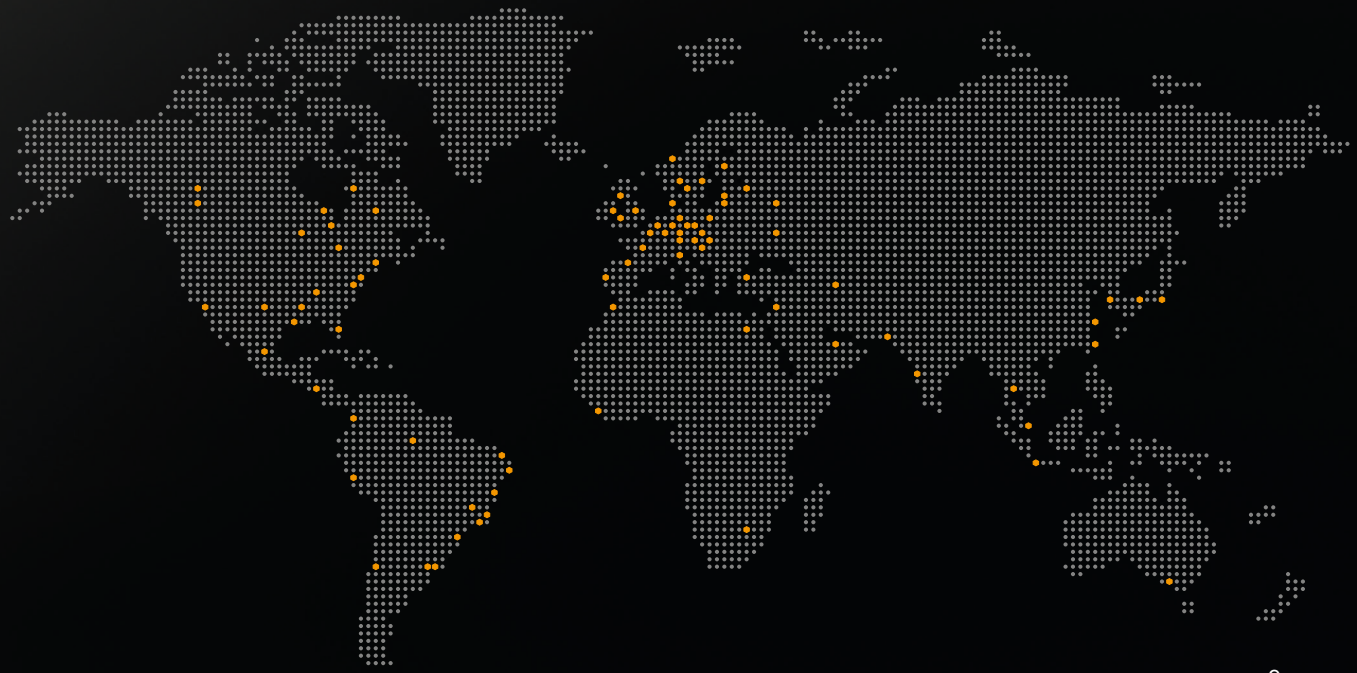

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Made for Motion KTR

Certificates and approvals of our varied products

Being one of the first companies in the field of drive technology, KTR was certified in accordance with DIN EN ISO 9001 already in 1993, including the plants in Poland, China, India and USA.

Currently KTR products have been approved by numerous internationally renowned societies for standardization and classification. Individual approvals by other societies can be implemented on request without fail.

Legend of pictograms

torsionally stiff

torsionally flexible

highly flexible


damping vibrations


axial plug-in

consider shaft distance

relatively short shaft distance

maximum operating temperature


high speeds

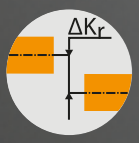

backlash-free


shear type, separating, slipping


light-weight

axial compensation

angular compensation



radial compensation


shiftable at standstill


double-cardanic


radial disassembly, ease of service


standard drop-out centre lengths available

available in accordance with API

complying with ATEX for details refer to our ATEX leaflet

certified in accordance with ABS


maintenance-free


protected against corrosion


electrically insulating

maximum speed


no eddy current losses

torque limiter slipping

torque limiter with synchronous ratcheting

torque limiter with idle rotation type


hardened surface

accuracy X %


consider axial displacement


additional features compared to standard version