Quickguide

Mechanical



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Robot designations

KR Quantec	300	R2500	xxx x		К -	С -	F	
KR	210	L180	XXX X	-2	к -	С -	F	xxxx
KUKAROBOT	Payload identification (rated payload) in [kg]	Quantec and Small Robots: Reach (arm length), translational travel Z in [mm] Other. Arm extension (L) with reduced payload in [kg]	Series (e.g. ultra, extra, comp, sixx, scara)	Generation (1st generation without this element)	Design (arc, HA, HW, K, KS, P, PA, SI, SL, spot)	Type of installation (C: Ceiling; W: Wall; F: Floor – not used)	Variant (arctic, CR, EX, F, HO)	Optional nickname (e.g. Titan, Nero)

arc	Arc welding	Arc welding robot
comp	Compact	Series 2000 robot, more compact design
HA	High Accuracy	High-accuracy robot
HW	Hollow Wrist	Energy supply runs through in-line wrist
K	Shelf-mounted	Shelf-mounted robot
KS	Shelf-mounted small	Shelf-mounted robot with low base frame
Р	Press-to-press	Robot for press linking
PA	Palletizing	Palletizing robot
SI	Safe Interaction	Robot without physical safeguards
SL	Stainless steel	Stainless steel robots
spot	Spot welding	Spot welding robot
C	Ceiling	Robot for ceiling mounting
W	Wall	Robot for wall mounting
arctic	Arctic	Robot for deep-freeze environments
CR	Cleanroom	Robots for cleanroom applications
EX	Explosion protection	Robots for potentially explosive environments
F	Foundry	Robots for systems with a high degree of
		fouling and high temperatures
НО	H1 oil	Robot with food-compatible oil



Belt tension – Small Robots



Robot	Axis	Art. no.	Tension [Hz]
	A5 new	00-145-190	198 ±18
KR 5 sixx R650	A5 used	00-145-190	140 ±13
KR 5 sixx R850	A6 new	00-145-192	240 ±25
	A6 used	00-140-192	170 ±18
KR 5 scara R350 KR 5 scara R550	A3 new	00-152-516	228 ±25
	A3 used	00-152-516	191 ±10
	A4-A new	00-152-525	490 ±25
	A4-A used	00-152-525	411 ±21
	A4-B new	00-152-526	507 ±25
	A4-B used	00-152-520	426 ±22
	A4-A new	00-145-524	432 ±48
KD 40 coors B600	A4-A used	00-140-024	348 ±20
KR 10 scara <u>R600</u>	A4-B new	00-145-525	157 ±18
	A4-B used	00-140-020	125 ±8
	A4-A new		432 ±48
KR 10 scara <u>R850</u>	A4-A used	00-145-524	348 ±20
10 30ai a 1000	A4-B new	00-145-530	114 ±14
	A4-B used	00-145-550	91 ±6

<u>Note:</u> Check belts once a year and replace them after five years; new belts have to be checked 100 operating hours after assembly.



Belt tension – In-line wrists

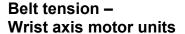


Robot	Axis	Art. no.	Toothed belt	Tension [Hz]	Maintenance interval	
KR 5arc, KR 6, KR 6/1,	A5	00-134-215	8AT3/549E3/5S+Z	250 ±3	10.000 hours	
KR6/2, KR15L6/2	A6	00-134-214	6AT3/450E3/5S+Z	280 ±3	(2 years)	
KR 15/2. KR 30 L15/2	A5	63-121-720	8ATS5/720-E6/8	195 ±3	10.000 hours	
KK 13/2, KK 30 L13/2	A6	63-121-620	8ATS5/620-E6/8	210 ±3	(2 years)	
KR 30 / 45 / 60-2 KR 30-3, KR 60-3	A5	71-053-328	12AT5/920-E5/8	130 ±5	10.000 hours	
KR 60 L45-3 KR 60 L30-3	A6	71-053-329	10AT5/780-E5/8	185 ±5	(2 years)	
KR 60 P/2, KR 100 P/2 KR 100PA, KR 160PA KR 125/1 (/2)(/3)(/4)	A5	63-122-015	18AT5/1050-E5/8	130 ±5	10.000 hours	
KR 125/1 (/2)(/3)(/4) KR 150/1 (/2)(/3)(/4) KR 200/1 (/2)(/3)(/4)	A6	63-122-010	14AT5/860-E5/8	190 ±5	(2 years)	
KR 100 comp (/2)(/3) KR 140 comp (/2)(/3)	A5	63-122-015	18AT5/1050-E5/8	130 ±5	5.000 hours	
KR 200 comp (/2)(/3) KR 220 comp (/2)(/3)	A6	63-122-010	14AT5/860-E5/8	190 ±5	(1 year)	
KR 350/1 (/2)	A5	00-100-267	22AT5/1230-E5/8	140 ±5	10.000 hours	
KK 350/1 (/2)	A6	63-122-015	18AT5/1050-E5/8	220 ±5	(2 years)	
KR 360/1 (/2)	A5	00-100-267	22AT5/1230-E5/8	135 ±5	5.000 hours	
KR 500/1 (/2)	A6	63-122-015	18AT5/1050-E5/8	170 ±5	(1 year)	
KR 500/2	A5	00-100-267	22AT5/1230-E5/8	135 ±5	1 year	
Robocoaster	A6	63-122-015	18AT5/1050-E5/8	170 ±5	i yeai	
KR 360/3	A5	00-100-267	22AT5/1230-E5/8	115 ±5	5.000 hours	
KR 500/3	A6	63-122-015	18AT5/1050-E5/8	140 ±5	(1 year)	

Note: Check belts every 5.000 operating hours (1 year) for tear and wear; belts of FOUNDRY robots have to be replaced after 5.000 operating hours (1 year); repeat measuring & adjustment procedure at least 3 times and check again after 100 operating hours

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Robot	Axis	Art. no.	Toothed belt	Tension [Hz]
KR5 arc HW (/2)	A5	00-157-150	SFX9, 5AT5/780 GEN3	90 -5
KR16L8 arc HW	A6	00-157-150	SFX9, 5AT5/780 GEN3	90 -5
KR 6/2	A4	63-122-001	10ATS5/390-E6/8	255 ±3
KR 15 L6/2	A5	63-122-001	10ATS5/390-E6/8	255 ±3
VD 45/0	A4	63-121-800	10ATS5/375-E6/8	280 ±3
KR 15/2	A5	63-122-001	10ATS5/390-E6/8	255 ±3
KR 16 arc HW	A5	00-133-135	SFX10 AT5/900 GEN3	98 -5
KR 16 alc HW	A6	00-133-135	SFX10 AT5/900 GEN3	98 -5
KR 5arc, KR 6	A4	00-134-217	10AT5/375E6/8S+Z	260 ±3 (or motor 118N)
KR 16	A 5	00-134-217	10AT5/375E6/8S+Z	260 ±3 (or motor 118N)
KR 30/2, KR 45/2 KR 60/2	A4	63-122-169	200-S-8M-560	95 ±3 (or motor 130N)
KR 30-3, KR 60-3 KR 60 L45-3, KR 60 L30-3	A5	63-122-169	200-S-8M-560	95 ±3 (or motor 130N)
KD 00 L 40 (/0)	A4	00-122-486	16AT5/525 Gen III - E5/7,5	179 ±3 (or motor 150N)
KR 30 L16 (/2)	A5	00-122-486	16AT5/525 Gen III - E5/7,5	179 ±3 (or motor 150N)
KR 30 L15/2	A4	61-124-640	200-S-8M-584	95 ±3 (or motor 130N)
NK 30 L 13/2	A5	61-124-640	200-S-8M-584	95 ±3 (or motor 130N)

Note: Check belts every 10.000 operating hours for tear and wear (and replace, if required), replace after 2 years at the latest;

belts of **FOUNDRY** robots have to be replaced after 5.000 operating hours (1 year)



Gearbox oil

Robot	Axis	Oil quantity * approx. [liters]	Interval [hours]	Oil
KR 5 arc HW (/2) main axes	A1	0.25		
	A2	0.25		
	A3	0.16		
	A4	0.05	20,000	
KR 5 arc HW (/2) KR 16 L8 arc HW	A4/A5	0.12		
wrist axes	A5	0.01		
	A5/A6	0.10		
	A1	0.25	30,000	
	A2	0.25		
KR 5 arc (/2)	A3	0.16		RO 150
	A4	0.10		
	A5/A6	0.10	20,000	
KR 6/1 (/2)	A1	0.32		
KR 15/1 (/2)	A2	0.32		
main axes	A3	0.17		
KR 6/1 (/2) KR 15 L6/1 (/2)	A4	0.09		
wrist axes	A5/A6	0.09	10,000	
KR 15/1 (/2) KR 30 L15/1 (/2)	A4	0.10	10,000	
wrist axes	A5/A6	0.35		

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)

<u>Note:</u> Irrespective of the number of operating hours, the gear oil should be changed after 5 years at the latest; with **FOUNDRY** robots, after 2 years or half of the above shown operating hours.

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Robot	Axis	Oil quantity * approx. [liters]	Interval [hours]	Oil
KR 6 (/2)	A1	0.54		
KR 16 (/2)	A2	0.54		
main axes	A3	0.22		
KR 6 (/2)	A4	0.10		
wrist axes	A5/A6	0.10		
KR 16 (/2)	A4	0.32		
KR 30 L16 (/2)	A5	0.16	20,000	RO 150
wrist axes	A6	0.18		
KR 16 arc HW	A1	0.54		
KR 16 L8 arc HW	A2	0.54		
main axes	A3	0.22		
	A4	0.11		
KR 16 arc HW	A4/A5	0.30		
wrist axes	A5	0.16		
	A5/A6	0.38		
KR 30/2, KR 30	A1	3.30		
L15/2 KR 45/2, KR 60/2 main axes	A2	2.70		
	A3	1.00		
KR 30/2, KR 45/2 KR 60/2	A4	0.55	10,000	
KR 60/2 wrist axes	A5/A6	0.75	10,000	

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)



Robot	Axis	Oil quantity * approx. [liters]	Interval [hours]	Oil
KR 30/3	A1	3.30		
KR 60/3 KR 30 L16 (/2)	A2	1.00		
main axes	A3	1.00		
KR 30/3 KR 60/3	A4	0.55		
wrist axes	A5/A6	0.75		
	A1	6.30		
KR 40 PA	A2	1.50	20,000	RO 150
KK 40 FA	A3	1.50	20,000	
KR 50 PA	A6	0.30		
	A2	1.00		
	A3	1.50		
	A1	3.00		
	A2	2.00		
KR 60/1 P KR 100/1 P	A3	0.90		
	A4	1.00	6,000	
	A5/A6	1.30	0,000	
	A1	5.25		
KR 60/2 P ZF KR 100/2 P ZF	A2	5.25	20,000	
	A3	1.70		Optigear 320
	A4	1.00	6,000	
	A5/A6	1.30	0,000	

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)



Robot	Axis	Oil quantity * approx. [liters]	Interval [hours]	Oil
	A1	5.80		
	A2	5.40	20,000	
KR 60/2 P TJ KR 100/2 P TJ	A3	1.00		
	A4	1.00	6 000	
	A5/A6	1.30	6,000	
	A1	5.80		
	A2	5.40	20,000	RO 150
KR 100 PA KR 160 PA	A3	1.00		
	A4	1.30	6,000	
	A5/A6	1.50	6,000	
	A1	6.70		
KR 100 comp (/2)(/3)	A2	2.60		
KR 140 comp (/2)(/3) KR 200 comp (/2)(/3)	A3	1.00		
KR 220 comp (/2)(/3)	A4	1.50		
	A5/A6	1.30	20,000	
	A1	2.00	20,000	
KR 125/1	A2	1.80		
KR 150/1	A3	0.90		
KR 200/1	A4	1.00		
	A5/A6	1.30		

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)



Robot	Axis	Oil quantity * approx. [liters]	Interval [hours]	Oil
	A1	2.40		Optigear
KR 125/1A	A2	2.40	20,000	320
KR 150/1A	A3	0.90		
KR 200/1A	A4	1.00	10,000	RO 150
	A5/A6	1.30	10,000	
	A1	2.40		
KR 125/2 ZF	A2	2.40	20,000	Optigear 320
KR 125/2 ZF KR 150/2 ZF KR 200/2 ZF	A3	1.85		
	A4	1.00	10,000	RO 150
	A5/A6	1.30	10,000	
	A1	3.30		
KR 125/2 (/3) (/4) TJ	A2	2.70	20,000	
KR 150/2 (/3) (/4) TJ	A3	1.00		
KR 200/2 (/3) (/4) TJ	A4	1.00	10,000	
	A5/A6	1.30	10,000	
	A1	6.70		
Series 2000:	A2	3.00		
KR 150 (/2) KR 180 (/2) KR 210 (/2) KR 240 (/2)	A3	1.90	20,000	
	A4	2.80	20,000	
KR 270 (/2)	A5	1.80		
	A6	2.40		

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)



Robot	Axis	Oil quantity * approx. [liters]	Interval [hours]	Oil
	A1	6.50 (ceiling: 7,80)		
Quantec series: KR 90 R2700 pro KR 120 R2500 pro KR 90 R3100 extra	A2	2.40		
	A3	1.90		
KR 120 R2900 extra KR 150 R2700 extra	A4	2.10		
KR 180 R2500 extra (KR 210 R2700 extra)	A5	0.90		
	A6	1.0		
	A1	6.50 (ceiling: 7,80)		RO 150
	A2	2.70	20,000	
Quantec series:	A3	1.80		
KR 150 R3100 prime KR 180 R2900 prime	A4	2.10		
	A5	0.90		
	A6	1.0		
Quantec series:	A1	6.50 (ceiling: 7,80)		
KR 210 R2700 prime KR 240 R2500 prime KR 210 R3100 ultra KR 240 R2900 ultra KR 270 R2700 ultra KR 300 R2500 ultra KR 120 R3900 press KR 150 R3700 press	A2	2.70		
	А3	1.80		
	A4	2.10		
KR 180 R3500 press KR 210 R3300 press KR 240 R3100 press	A5	1.10		
KR 270 R2900 press	A6	1.20		

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)



2		Oil quantity *	Interval	011	
Robot	Axis	approx. [liters]	[hours]	Oil	
	A1	2,20			
	A2	2,45			
KR 175 spot	A3	1,90			
	A4	1,50	20.000		
	A5/A6	1,50	20.000	RO 150	
	A1	6,70			
KR 100 PA (/2) KR 180 PA (/2) (Serie 2000)	A2	3,00			
	A3	1,90			
	A4	0,53	8.000		
	A1	6,70		RO 32	
KR 180 PA arctic	A2	3,00	20.000		
(Serie 2000)	A3	1,90		10 32	
	A4	0,55	8.000		
	A1	6,50			
	A2	2,40			
Quantec Serie: KR 120 R3200 palletizing	A3	1,90			
3	A5	0,80			
	A6	1,20	20.000	RO 150	
	A1	6,50	20.000	KO 150	
Quantec Serie:	A2	2,90			
KR 180 R3200 palletizing	A3	1,80			
KR 240 R3200 palletizing	A5	0,80			
	A6	1,20			

* Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)

<u>Note:</u> Irrespective of the number of operating hours, the gear oil should be changed after 5 years at the latest; with **FOUNDRY** robots, after 2 years or half of the above shown operating hours.

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Dahat	Auda	Oil quantity *	Interval	0.11			
Robot	Axis	approx. [liters]	[hours]	Oil			
	A1	5,80					
	A2	5,40					
KR 350/2	A3	1,80					
	A4	1,80					
	A5/A6	3,50					
	A1	6,70					
	A2	7,10					
KR 360/1 (/2) (/3) KR 500/1 (/2) (/3)	A3	3,00					
14 (555) 1 (/2) (/5)	A4	2,30	20.000	RO 150			
KR 300 PA KR 470 PA	A5/A6	4,20	20.000	RO 150			
	A1	7,10					
	A2	7,10					
	A3	3,00					
	A4	1,65					
	A1	13,55					
KD 700 DA	A2	10,00					
KR 700 PA	A3	8,00					
	A4	1,70					
	A1	13,55					
KD 700 DA	A2	10,00	00.000	DO 00			
KR 700 PA arctic	A3	8,00	20.000	RO 32			
	A4	1,70					
	A1	25,00		Optigear 320			
	A2	24,00					
KR 1000	A3	12,00	20.000				
KK 1000	A4	10,00	20.000	RO 150			
	A4/A5	3,00					
	A6	10,00					

^{*} Oil quantities for first filling (for oil change, refill the same amount of oil as was drained)



Counterbalancing systems

Hydropneumatic			Gas pressure P ₀ in [bar]	Oil pressure P _{setting} in [bar]
	KR 125/1 (/2)(/4)		70	88
	KR 150/1 (/2)(/4) KR 200/1 (/2)(/4)		98	123
	KR 125/1 C		50	73
	KR 150/1 C KR 200/1 C		79	105
	KR 125/1 W KR 125/2 W		68	85
500	KR 125/2 C	(/4)	62	88
KR125/150/200		(/4) (/4)	55	78
125/	KR 150/2 C	(/4)	90	130
KR	KR 150 L150/2 C	(/4)	88	126
	KR 150 L120/2 C	(/4)	77	110
	KR 200/2 C		94	135
	KR 125/3 C		65	105
	KR 150/3 C		90	140
	KR 200/3 C		95	145
	Bas	is for the table of CB	S settings:	
Robot position in A2 (exceptions for ceiling-mounted robots must be observed) Temperature			Lower limit value	Nitrogen is only checked and filled when the oil has
-90° (mech. zero) 20° C		5 bar below specified value	been drained	

<u>Note:</u> Check Counterbalancing Systems every 5.000 operating hours (1 year) for leakages, pressure loss and damages, etc.



	Hydropneum	atic	Gas pressure P ₀ in [bar]	Oil pressure P _{setting} in [bar]
000	Series 2000 press C (ceiling mounted A2= -120°)	KR 100-2 P C KR 120-2 P C	30	47
Series 2000	Series 2000 C (ceiling mounted A2= -133°)	KR 150 (/2) C KR 180 (/2) C KR 210 (/2) C KR 240 (/2) C KR 270 (/2) C	75	95
	KR QUANTEC press	KR 100 R3500 press KR 120 R3500 press	162	182
	KR QUANTEC K prime	KR 120 R3500 prime K KR 150 R3300 prime K KR 180 R3100 prime K KR 210 R2900 prime K		
ies	KR QUANTEC K ultra	KR 120 R3900 ultra K KR 150 R3700 ultra K KR 180 R3500 ultra K KR 210 R3300 ultra K KR 240 R3100 ultra K KR 270 R2900 ultra K	162	182
sei	KR QUANTEC pro	KR 90 R2700 pro KR120 R2500 pro	100	115
QUANTEC series	KR QUANTEC extra	KR 90 R3100 extra KR 120 R2900 extra KR 150 R2700 extra KR 180 R2500 extra	120	141
		(KR 210 R2700 extra)	156	176
	KR QUANTEC prime	KR 150 R3100 prime KR 180 R2900 prime KR 210 R2700 prime KR 240 R2500 prime		
	KR QUANTEC ultra	KR 210 R3100 ultra KR 240 R2900 ultra KR 270 R2700 ultra KR 300 R2500 ultra	156	176
	KR QUANTEC palettizing	KR 120 R3200 palettizing KR 180 R3200 palettizing KR 240 R3200 palettizing		

Basis for the table of CBS settings:

Robot position in A2 (exceptions for ceiling-mounted robots must be observed)	Temperature	Lower limit value	Nitrogen is only checked and filled when the oil has
-90° (mech. zero)	20° C	5 bar below specified value	been drained

Note: Check Counterbalancing Systems every 5.000 operating hours (1 year) for leakages, pressure loss and damages, etc.



	Hydropneum	Gas pressure P ₀ in [bar]	Oil pressure P _{setting} in [bar]	
	KR QUANTEC prime C (ceiling mounted A2= -140°)	KR 210 R2700 prime C	120	205
eries	KR QUANTEC extra C	KR 150 R2700 extra C KR 180 R2500 extra C	120	205
EC s	(ceiling mounted A2= -140°)	KR 90 R3100 extra C KR 120 R2900 extra C		
QUANTEC series	KR QUANTEC ultra C (ceiling mounted A2= -140°)	KR 210 R3100 ultra C KR 240 R2900 ultra C KR 270 R2700 ultra C KR 300 R2500 ultra C	156	252
	KR QUANTEC press C (ceiling mounted A2= -120°)	KR 100 R3500 press C KR 120 R3500 press C	162	239
zers	KR 350/2		80	88
lletiz	KR 350/2 C		50	73
ed pa	KR 360/1 (/2)(/3) KR 500/1 (/2)(/3)		138	151
ts an	KR 360L150P/1 (/2)		95	108
opo.	KR 360/1 (/2)(/3) C KR 500/1 (/2)(/3) C		85	155
uty i	KR 300 PA KR 470 PA		70	115
Heavy-duty robots and palletizers	KR 700 PA		115	138
Не	KR1000		100	130
	Basi	s for the table of Cl	3S settings:	

П			· · · · · · · · · · · · · · · · ·	
	Robot position in A2 (exceptions for ceiling-mounted robots must be observed)	Temperature	Lower limit value	Nitrogen is only checked and filled when the oil has
	-90° (mech. zero)	20° C	5 bar below specified value	been drained

 $\underline{\textbf{Note:}} \ \textbf{Check Counterbalancing Systems every 5.000 operating hours (1 year) for leakages, pressure loss and damages, etc.}$

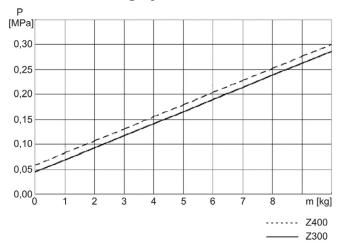


	Gas cylinder	Gas pressure P ₀ in [bar]
//200	KR 125/3	100
KR 125/150/200	KR 150/3	125
KR 1	KR 200/3	135

	Mechanical	Number of springs
	KR 150, KR 150-2 (Series 2000)	2
00	KR 180, KR 180-2 (Series 2000)	3
ries 20	KR 210, KR 210-2 (Series 2000)	3
Se	KR 240-2 (Series 2000)	3
	KR 270-2 (Series 2000)	3



Counterbalancing system on KR 10 scara



Remarks on the settings:		
	(using the compressed air characteristic)	
\$curr_act[3]	- Robot must be under servo-control (enabling switch and jogging) - Variable must be continuously updated (SHIFT and ENTER) - Limit value 0.05% (setting on the pressure regulator)	
\$compensated_load	Enter the total weight on flange in kg (tool and workpiece)	



Assignment of motor types (selection)

				•		
		Main axes		W	rist axes	
	1	2	3	4	5	6
Quantec series						
KR QUANTEC pro		G1 : 00-117-606				
KR QUANTEC extra	G1 : 00-117- 606	12: 00	-179-161			
KR QUANTEC prime		I2: 00-179-161				
KR QUANTEC ultra	I2 : 00-179-161	K2 : 00	-188-018	D01:	00-179-1	59
KR QUANTEC press		K2: 00-188-018	1			
KR QUANTEC K prime		I2 : 00-179-161		1		
KR QUANTEC K ultra	I2 : 00-179-161 K2 : 00-18 I2 : 00-179-161				-	
For the Quantec series, the comprises: motor (see about ticle numbers of the series).	ove), assembly gre	ease, Allen scre		parts pa	ackage. Th	nis
D01	G1		12		K2	
00-192-297	00-192-296	00	-192-295	00	-192-293	
Series 2000 and co						
Ceries 2000 and C	omp					
KR 100 comp	omp	G1 : 00 117 60	6	Т		
		G1 : 00-117-60	6	H:	00-122-2	09
KR 100 comp	G1 : 00-117-606		6	H:	00-122-2	09
KR 100 comp KR 140 comp	G1 : 00-117-	l: 00	-119-766	Н:	00-122-2	09
KR 100 comp KR 140 comp KR 200 comp	G1 : 00-117-		-119-766			
KR 100 comp KR 140 comp KR 200 comp KR 100/2 comp (/3)	G1 : 00-117-	I: 00 G1 : 00-117-60	6		00-122-2	
KR 100 comp KR 140 comp KR 200 comp KR 100/2 comp (/3) KR 140/2 comp (/3)	G1 : 00-117- 606	I: 00 G1 : 00-117-60	-119-766			
KR 100 comp KR 140 comp KR 200 comp KR 100/2 comp (/3) KR 140/2 comp (/3) KR 200/2 comp (/3)	G1 : 00-117-606 G1 : 00-117-606	I: 00 G1 : 00-117-60	6	— н:		
KR 100 comp KR 140 comp KR 200 comp KR 100/2 comp (/3) KR 140/2 comp (/3) KR 200/2 comp (/3)	G1 : 00-117-606	I: 00 G1: 00-117-60 I: 00 I: 00-104- 897	-119-766 6 119-766	— H:		25

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		Main axes			rist ax	es
	1	2	3	4	5	6
Series 2000						
KR 150-2		I: 00-119-766	G1 : 00-117-606			
KR 180-2	G1 : 00-117-	I: 00-1	119-766			
KR 210-2	606	I1 : 00-	119-767	H: (00-115-	925
KR 240-2		I: 00-1	119-766			
KR 270-2		I: 00-119-766				
KR 150 K	I: 00-1	104-897	G1 : 00-104-692			
KR 180 K	I: 00-104-	I1 : 00-109- 450	I: 00-104-897	H: (00-104-	695
KR 210 K	897	I1 : 00-	109-450			
KR 150-2 K	I: 00-1	119-766	G1 : 00-117-606			
KR 180-2 K	I: 00-119-	I1 : 00-119- 767	I: 00-119-766	H: (00-115-	925
KR 210-2 K	766	I1: 00-	119-767			
KR 100-2 P	K : 00-	119-768	I: 00-119-766	H: (00-115-	925
KR 180 PA		G1 : 00-104-692	2	H: (00-104-	695
KR 100-2 PA		04: 00 447 00	•	H : 00-115-925		005
KR 180-2 PA		G1 : 00-117-606	0			925
KR 125/150/200						
KR 125/1 (/2)(/3)(/4)						
KR 150/1 (/2)(/3)(/4)		B : 69-225-463	;	C: (00-100-	596
KR 200/1 (/2)(/3)(/4)						
KR 125 K/1	A : 69-225-468					
KR 125/1 W	A0: 00	000 570	B. 60 225 422	C: (00-100-	596
KR 125/2 W	A0 : 69	-000-579	B : 69-225-463			

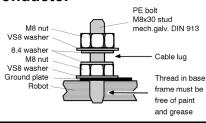


Tightening torque for screws

	Wrench size		Strength class		
Matria	e.g. ISO 4014	e.g. ISO 4762			
Metric thread		0	8.8	10.9	12.9
M3	5.5	2.5	1.2	1.6	2.0
M4	7	3	2.8	3.7	4.4
M5	8	4	5.6	7.5	9.0
M6	10	5	9.5	12.5	15.0
M8	13	6	23.0	31.0	36.0
M10	17	8	45.0	60.0	70.0
M12	19	10	78.0	104.0	125.0
M14	22	12	113.0	165.0	195.0
M16	24	14	195.0	250.0	305.0
M20	30	17	370.0	500.0	600.0
M24	36	19	640.0	860.0	1030.0

All torque ratings specified in [Nm]

Ground conductor





Tightening torque for eccentric shaft				
Metric thread	Wrench size in [mm]	Robot examples	Tightening torque in [Nm]	
M4	7	KR 6	3,3	
M8	13	KR 15, KR 30, KR 125	18	
M10	17	KR 350, KR 500	36	

Oil drain plug					
Plug screw		Tightening torque in [Nm]			
00-157-378	M8 x 1	5			
00-122-802	M10 x 1	7,5			
62-440-539	VSTI M10 x 1-ED	10			
62-440-543	VSTI M18 x 1,5-ED	20			
00-157-850	M20 x 1,5 Ms	20			
62-440-546	VSTI M22 x 1,5-ED	25			
00-101-805	VSTI M27 x 2-ED	30			
00-101-365	VSTI M33 x 2-ED	70			
Magnetic plug screw		Tightening torque in [Nm]			
00-190-265	M16 x 1,5	20			
00-109-023 00-104-963	M18 x 1	20			
Magnetic plug screw and gasket ring		Tightening torque in [Nm]			
00-101-660	M18 x 1,5-Typ 9118	40			

Tightening torque for CBS allen key bolt (nitrogen)		
e. g.: KR 125/150/200 and KR Quantec	20 Nm	