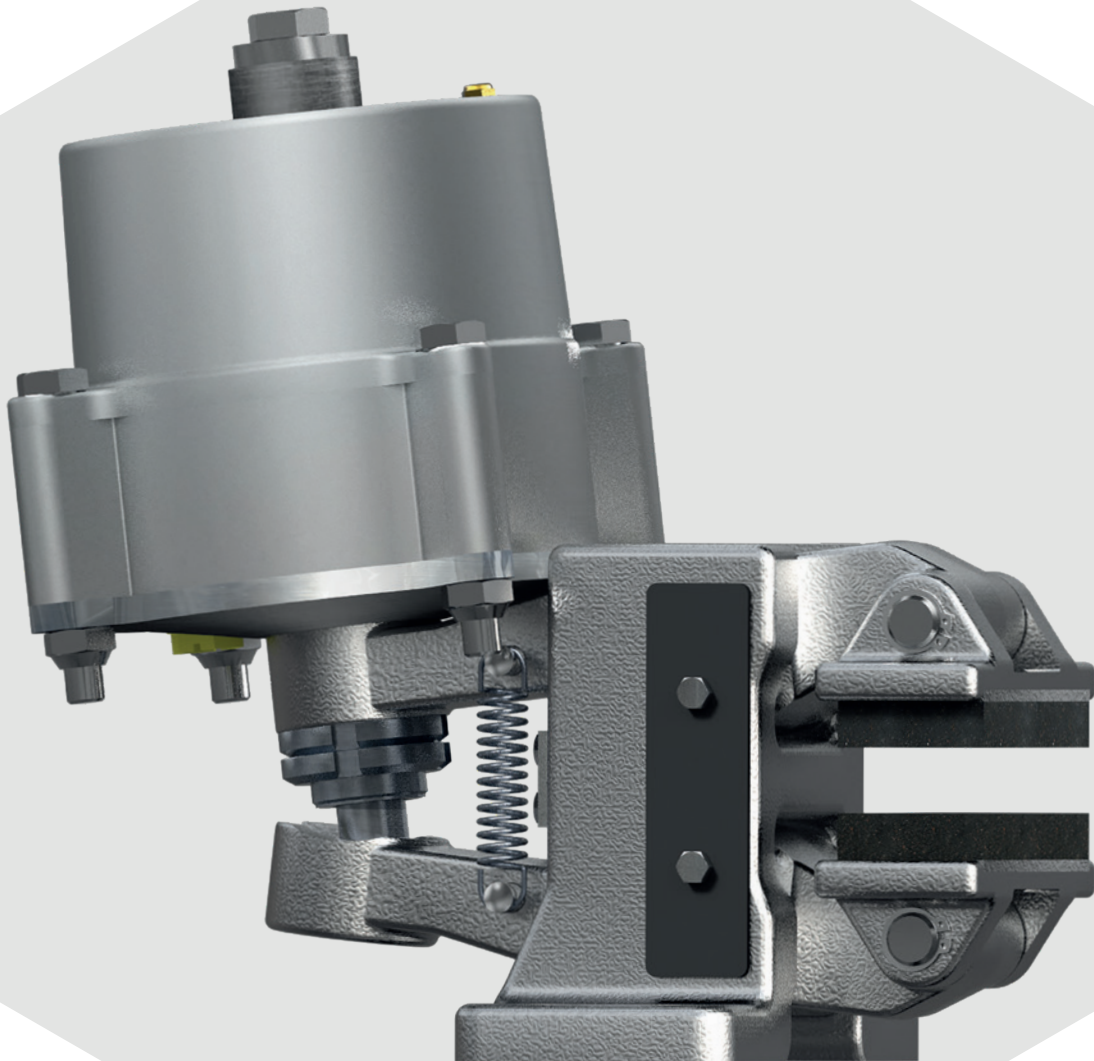


Made for Motion



KTR-STOP PB

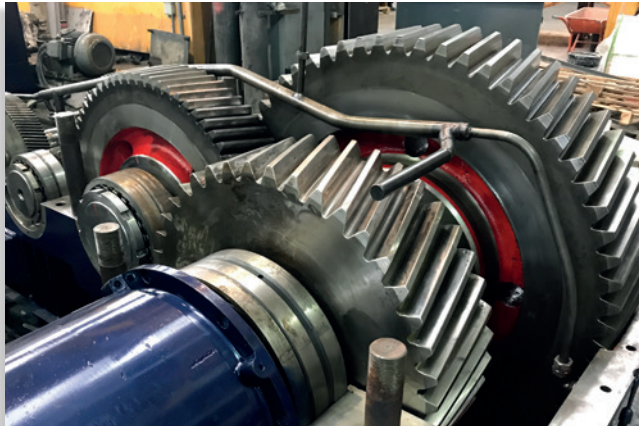
Pneumatic and mechanical caliper brakes

ktr.com

KTR-STOP® PB

PNEUMATIC UND MECHANICAL CALIPER BRAKE

Examples of application



General drive technology



Automation



Packaging machinery



Test bench technology

Pneumatic and mechanical caliper brakes by KTR – the KTR-STOP® PB

We have complemented our portfolio of brakes by pneumatic and mechanical caliper brake turning us into one of the few manufacturers worldwide to supply three different brake systems: the hydraulic KTR-STOP®, the electromechanical EMB-STOP and the pneumatic KTR-STOP® PB. The new KTR-STOP® PB series can be used as a service or holding brake on brake disks for industrial applications being operated either as an active or passive brake. It is designed as a construction kit system and available in six sizes with clamping forces up to 58.5 kN. Main applications are general drive technology, automation, packaging machinery and test bench technology.

Our caliper brakes are made up of each two brake levers and an actuator. Our construction kit system allows to flexibly combine the brake calipers and actuators with each other, the caliper brakes being versatile in use. Depending on the number of brake calipers and the size of brake disk, various braking torques can be generated.

If the pneumatic caliper brake is designed as an active brake, the clamping force is generated applying compressed air on the actuator. The brake is released via the return springs on the brake caliper as soon as the actuator is depressurized. If the pneumatic caliper brake is designed as a passive brake, the clamping force is generated by pressure springs in the actuator. The brake is released by applying compressed air on the actuator. Mechanical actuators are also available for each size. The clamping force is generated using a handwheel.

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PASSIVE CALIPER BRAKES

Pneumatic brake system

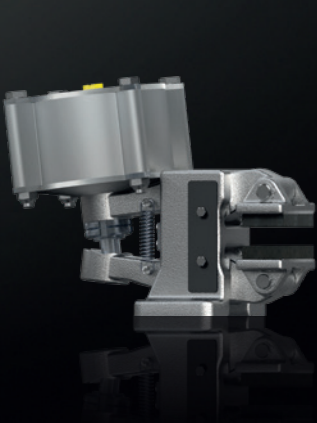
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ACTIVE CALIPER BRAKES

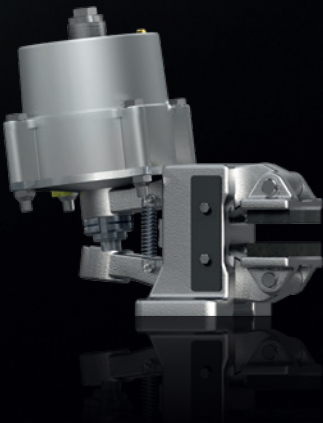
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KTR-STOP® PB ACTIVE
PNEUMATIC



KTR-STOP® PB PASSIVE
PNEUMATIC



KTR-STOP® PB ACTIVE
MECHANICAL



KTR-STOP® PB P-050-Axx-8

ACTIVE CALIPER BRAKES

Pneumatic brake system

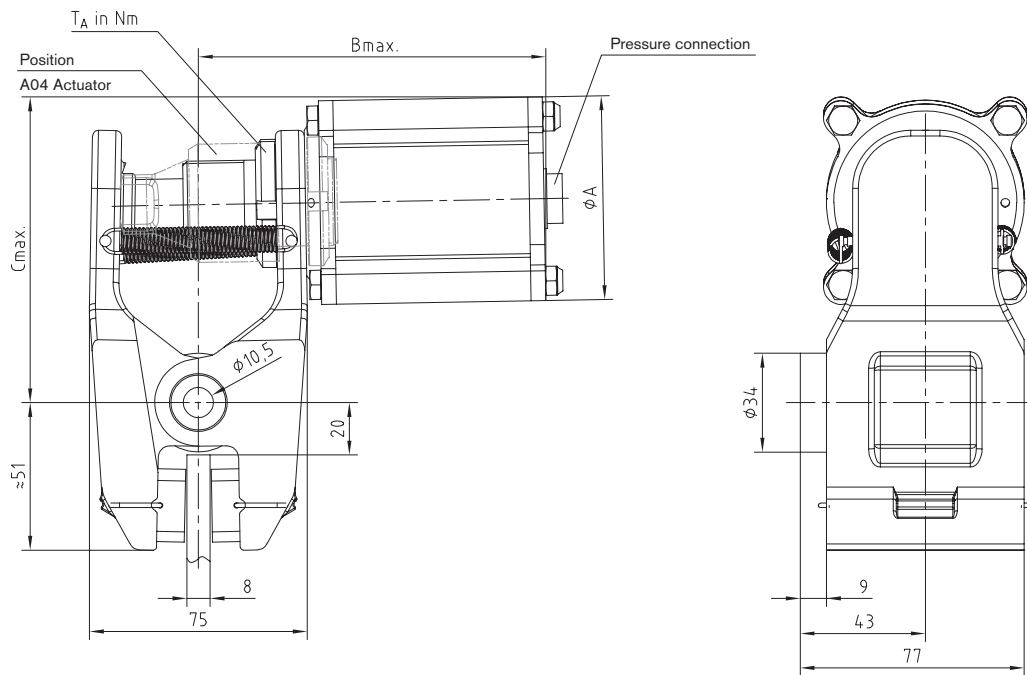
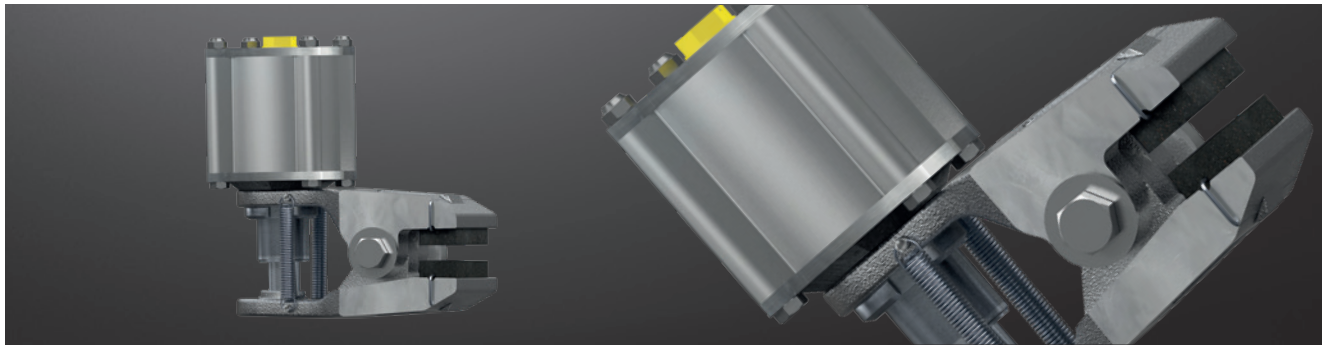


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-050-Axx-8			
Width of brake pad	25 mm	Max. operating pressure	8 bars
Surface of each brake pad - organic	1,400 mm²	Thickness of brake disk	8 mm
Max. wear per brake pad	5 mm	Min. diameter of brake disk ØDA	150 mm
Rated Coefficient of friction	$\mu = 0.4$	Pressure connection	G1/4
Operating temperature	-20 °C to +50 °C	Tightening torque T _A	60 Nm

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								150	200	250
P-050-A0.4-8	1.5	40	68	96	0.7	7.1	0.7	32	46	60
P-050-A1.8-8	2.4	70	150	108	3.3	31	3.1	151	217	283

Calculation of braking force/braking torque $F_b = F_C \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 35 \text{ mm}$$

F_b = Braking force [kN]

F_C = Clamping force [kN]

M_b = Braking torque [kNm]

z = Number of brakes per brake pad

D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	050	-	A	1.8	-	8
KTR brake	Pneumatic		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-100-Axx-xx

ACTIVE CALIPER BRAKES

Pneumatic brake system

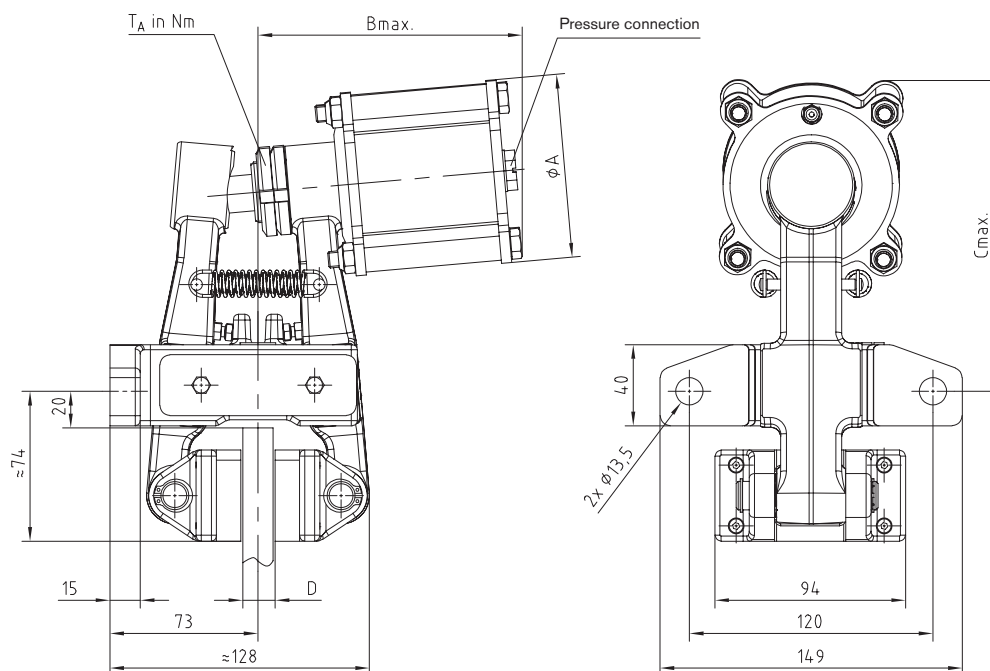
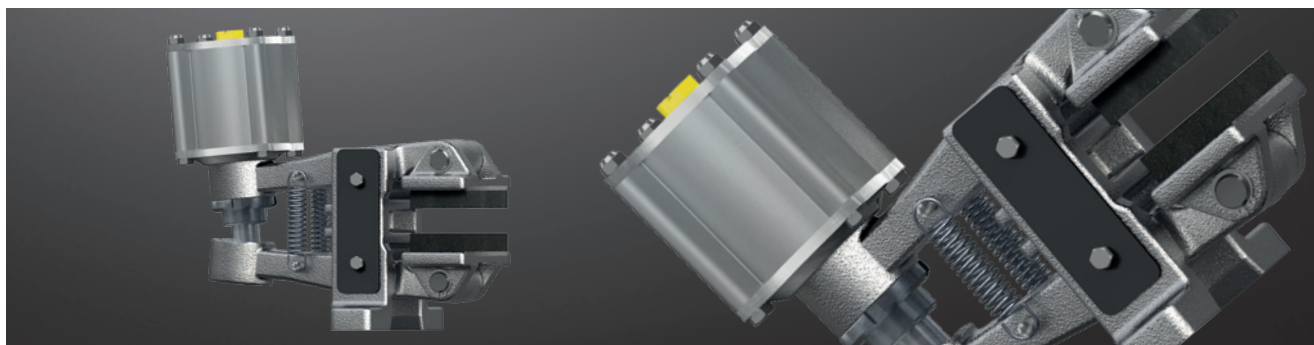


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-100-Axx-xx			
Width of brake pad	45 mm	Max. operating pressure	8 bars
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12 - 15 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	$\mu = 0.4$	Pressure connection:	
Operating temperature	-20 °C to +50 °C	P-100-A1.8-xx	G1/4
Tightening torque TA	60 Nm	P-100-A3-xx	

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-100-A1.8-xx	5.9	70	158	146	3.1	31	3.1	165	351	537
P-100-A3-xx	6.2	90	157	156	5.2	50	5	277	589	901

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 67 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	100	-	A	3	-	15
KTR brake	Pneumatic		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-200-Axx-xx

ACTIVE CALIPER BRAKES

Pneumatic brake system

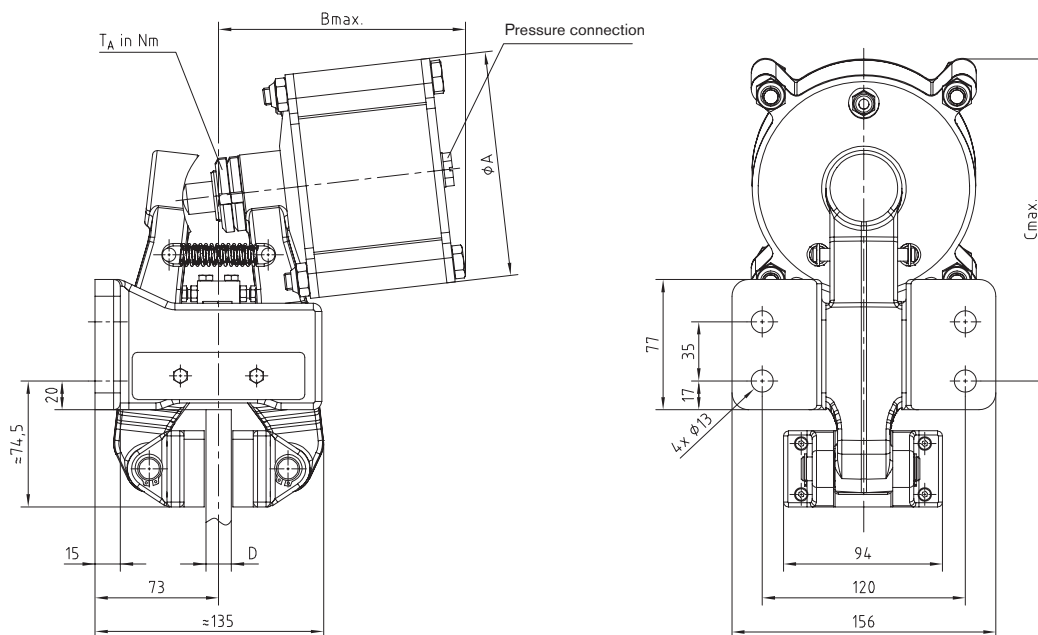
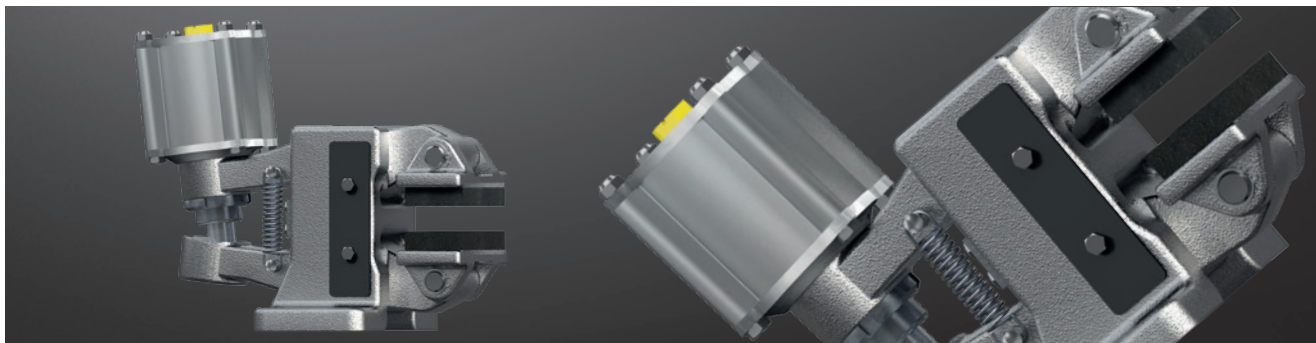


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-200-Axx-xx			
Width of brake pad	45 mm	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm, 40 mm
Surface of each brake pad - organic	3,535 mm²	Min. diameter of brake disk ØDA	200 mm
Max. wear per brake pad	10 mm	Pressure connection:	
Rated Coefficient of friction	$\mu = 0.4$	P-200-A1.8-xx	
Operating temperature	-20 °C to +50 °C	P-200-A3-xx	G1/4
Tightening torque TA	60 Nm	P-200-A7.3-xx	
Max. operating pressure	8 bars	P-200-A12-xx	G3/8

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-200-A1.8-xx	8.9	70	159	161	3.4	31	3.1	185	389	593
P-200-A3-xx	9.3	90	159	170	5.8	50	5	316	664	1,012
P-200-A7.3-xx	10.7	133	174	193	14.4	122	12.2	783	1,647	2,511
P-200-A12-xx	13.6	172	197	215	23.8	201	20.1	1,295	2,723	4,151

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	200	-	A	7.3	-	15
KTR brake	Pneumatic		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-215-Axx-xx

ACTIVE CALIPER BRAKES

Pneumatic brake system

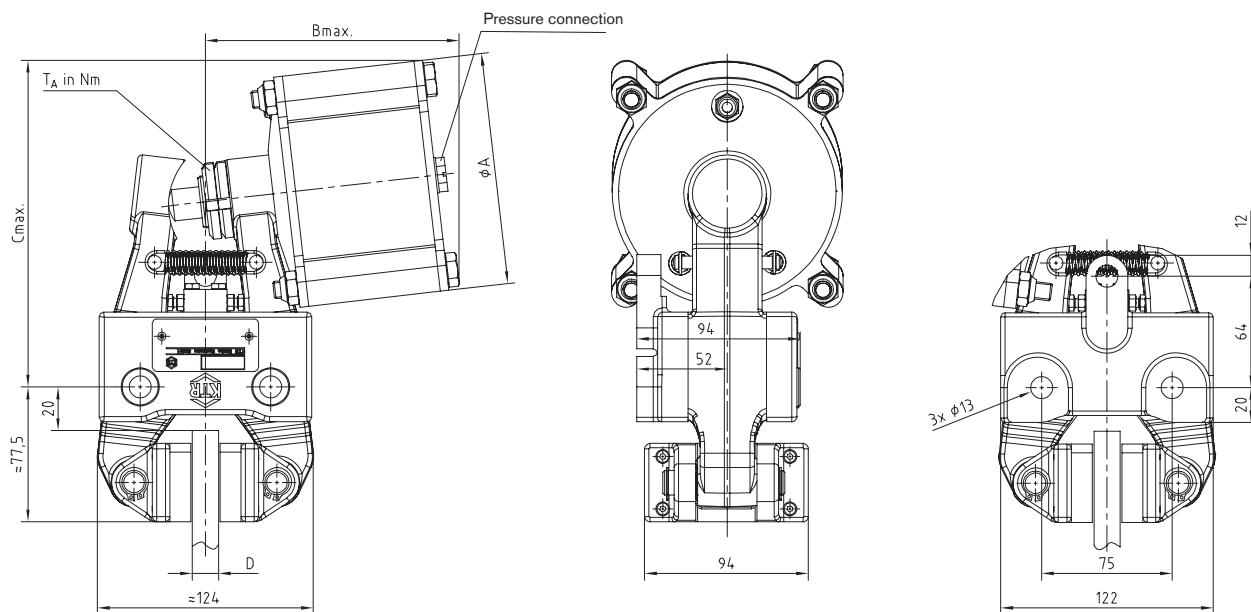
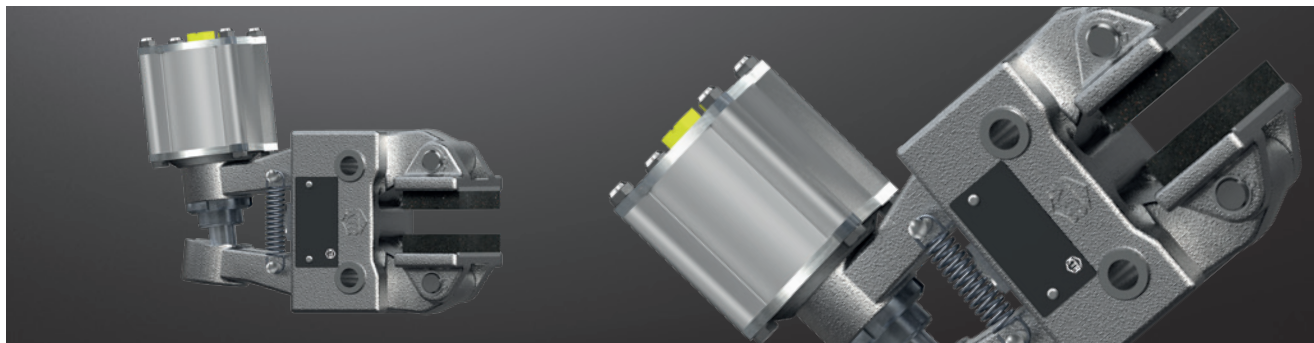


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-215-Axx-xx			
Width of brake pad	45 mm	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm, 40 mm
Surface of each brake pad - organic	3,535 mm²	Min. diameter of brake disk ØDA	200 mm
Max. wear per brake pad	10 mm	Pressure connection:	
Rated Coefficient of friction	$\mu = 0.4$	P-215-A1.8-xx	
Operating temperature	-20 °C to +50 °C	P-215-A3-xx	G1/4
Tightening torque T _A	60 Nm	P-215-A7.3-xx	
Max. operating pressure	8 bars	P-215-A12-xx	G3/8

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force F _C [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-215-A1.8-xx	8.9	70	159	158	3.4	31	3.1	185	389	593
P-215-A3-xx	9.3	90	159	167	5.8	50	5	316	664	1,012
P-215-A7.3-xx	10.7	133	174	190	14.4	122	12.2	783	1,647	2,511
P-215-A12-xx	13.6	172	197	212	23.8	201	20.1	1,295	2,723	4,151

Calculation of braking force/braking torque $F_b = F_C \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]
 F_C = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	215	-	A	7.3	-	15
KTR brake	Pneumatic		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-250-Axx-xx ACTIVE CALIPER BRAKES

Pneumatic brake system

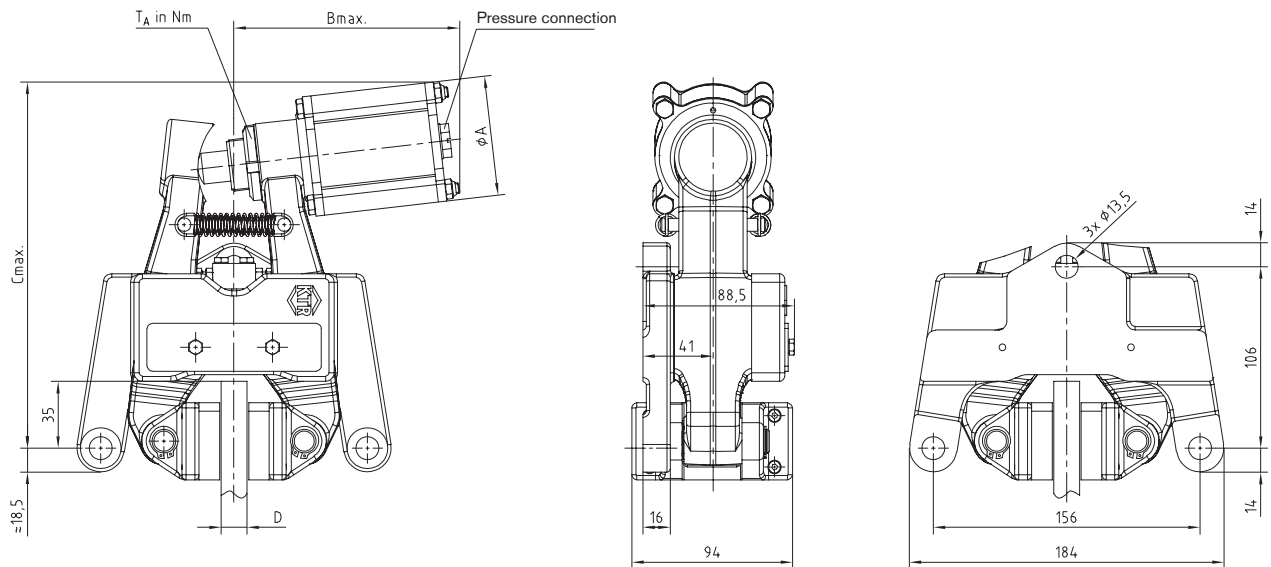
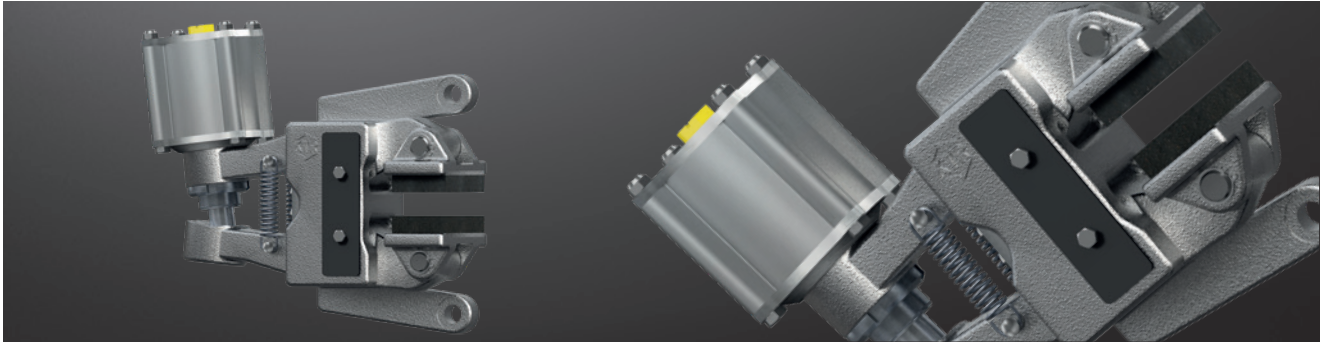


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-250-Axx-xx			
Width of brake pad	45 mm	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm
Surface of each brake pad - organic	3,535 mm²	Min. diameter of brake disk ØDA	200 mm
Max. wear per brake pad	10 mm	Pressure connection:	
Rated Coefficient of friction	$\mu = 0.4$	P-250-A1.8-xx	G1/4
Operating temperature	-20 °C to +50 °C	P-250-A3-xx	
Tightening torque T _A	60 Nm	P-250-A7.3-xx	
Max. operating pressure	8 bars		

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-250-A1.8-xx	8.5	70	159	217	3.4	31	3.1	185	389	593
P-250-A3-xx	8.9	90	159	226	5.8	50	5	316	664	1,012
P-250-A7.3-xx	10.2	133	174	250	14.4	122	12.2	783	1,647	2,511

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]

F_c = Clamping force [kN]

M_b = Braking torque [kNm]

z = Number of brakes per brake pad

D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	250	-	A	3	-	15
KTR brake	Pneumatic		Size	Active	Actuator	Thickness of brake disk in mm		

KTR-STOP® PB P-350-Axx-25

ACTIVE CALIPER BRAKES

Pneumatic brake system

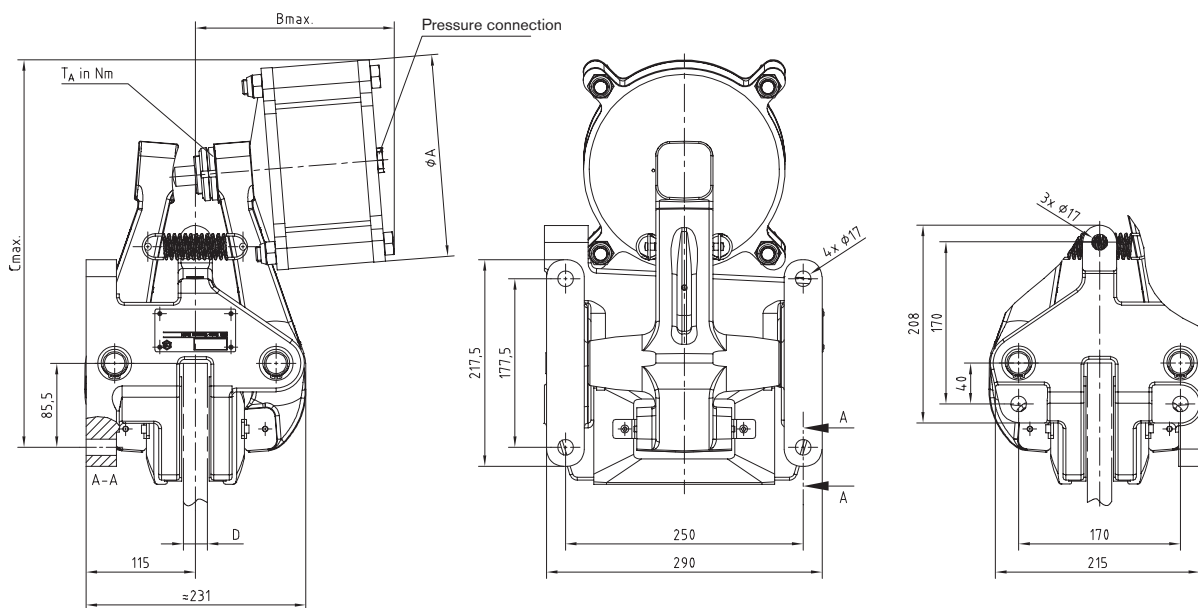
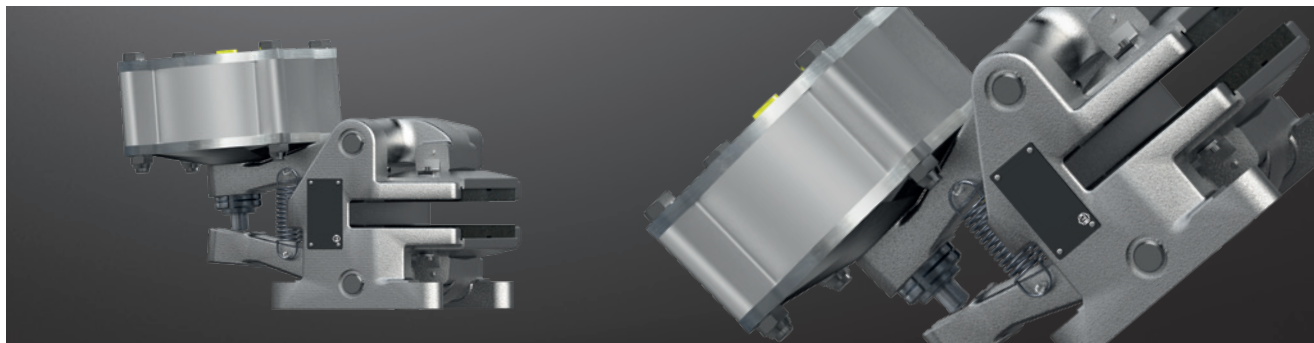


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-350-Axx-25			
Width of brake pad	110 mm	Max. operating pressure	8 bars
Surface of each brake pad - organic	20,591 mm²	Thickness of brake disk	25.4 mm
Max. wear per brake pad	14 mm	Min. diameter of brake disk ØDA	610 mm
Rated Coefficient of friction	$\mu = 0.4$	Pressure connection	G1/2
Operating temperature	-20 °C to +50 °C	Tightening torque TA	60 Nm

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								610	800	1,000
P-350-A18.5-25	58	213	258	410	55.2	314	31.4	10.554	14.749	19.165

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 132 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	350	-	A	18.5	-	25
KTR brake	Pneumatic		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-050-Pxx-8 PASSIVE CALIPER BRAKES

Pneumatic brake system

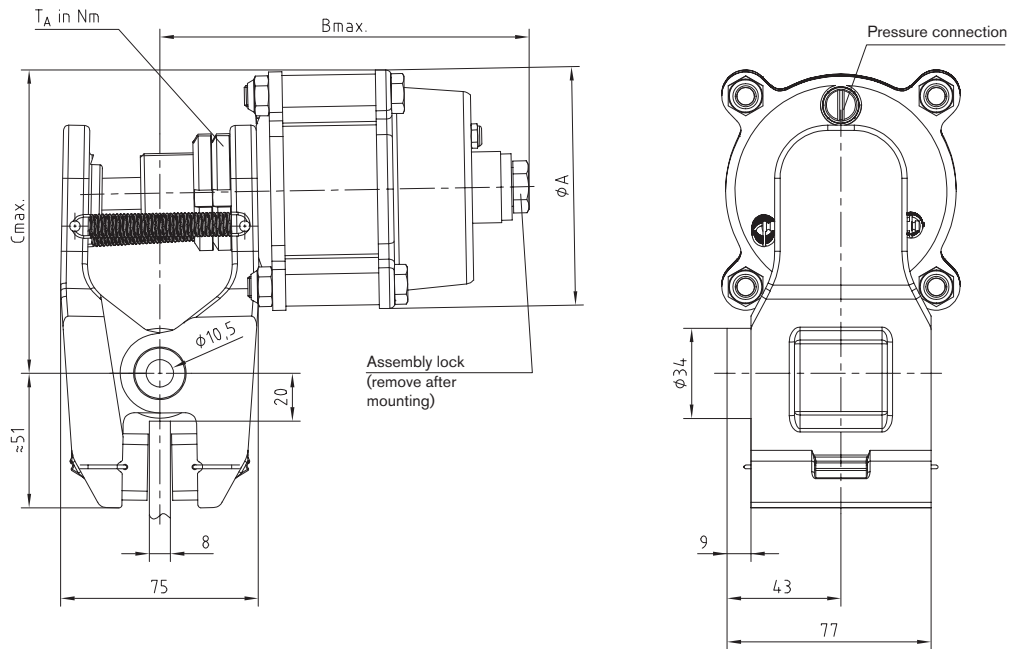
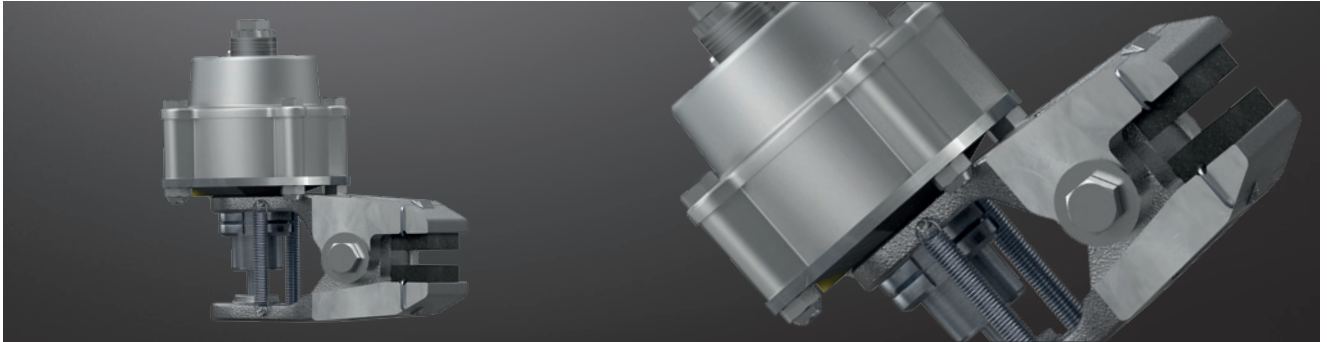


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-050-Pxx-8			
Width of brake pad	25 mm	Max. operating pressure	10 bars
Surface of each brake pad - organic	1,400 mm²	Opening pressure	6 bars
Max. wear per brake pad	5 mm	Thickness of brake disk	8 mm
Rated Coefficient of friction	$\mu = 0.4$	Min. diameter of brake disk ØDA	150 mm
Operating temperature	-20 °C to +50 °C	Pressure connection	G1/8
Tightening torque T _A	60 Nm		

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								150	200	250
P-050-P2-8	3.2	90	157	117	3.7	50	5	170	244	318

Calculation of braking force/braking torque $F_b = F_C \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 35 \text{ mm}$$

F_b = Braking force [kN]
F_C = Clamping force [kN]
M_b = Braking torque [kNm]
z = Number of brakes per brake pad
D_{av} = Effective diameter of brake [m]

Ordering example:	KTR-STOP® PB	P	-	050	-	P	2	-	8
	KTR brake	Pneumatic		Size		Passive	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-100-Pxx-xx PASSIVE CALIPER BRAKES

Pneumatic brake system

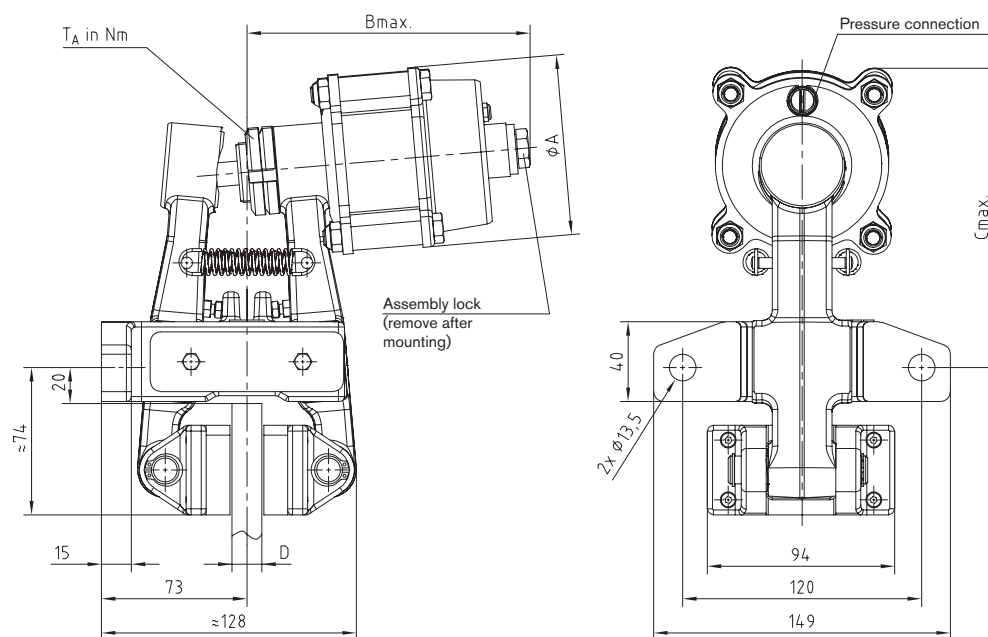
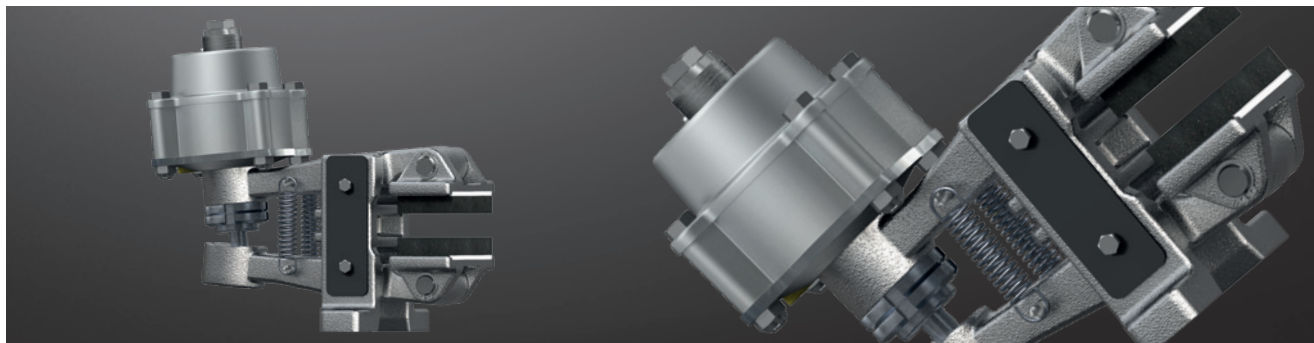


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-100-Pxx-xx			
Width of brake pad	45 mm	Max. operating pressure	10 bars
Surface of each brake pad - organic	3,535 mm²	Opening pressure	6 bars
Max. wear per brake pad	10 mm	Thickness of brake disk	12 - 15 mm
Rated Coefficient of friction	$\mu = 0.4$	Min. diameter of brake disk ØDA	200 mm
Operating temperature	-20 °C to +50 °C	Pressure connection	G1/8
Tightening torque TA	60 Nm		

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-100-P2-xx	6.7	90	167	151	3.4	50	5	181	385	589

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 67 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	100	-	P	2	-	15
KTR brake	Pneumatic		Size		Passive	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-200-Pxx-xx PASSIVE CALIPER BRAKES

Pneumatic brake system

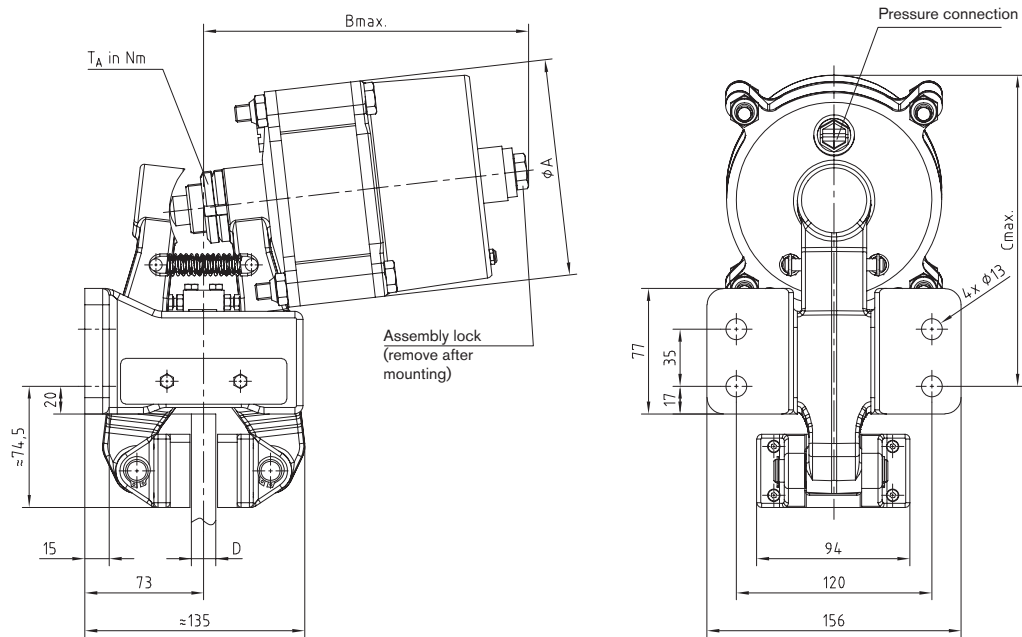


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-200-Pxx-xx			
Width of brake pad	45 mm	Opening pressure	6 bars
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm, 40 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	$\mu = 0.4$	Pressure connection:	
Operating temperature	-20 °C to +50 °C	P-200-P2-xx	G1/8
Tightening torque TA	60 Nm	P-200-P6-xx	G1/4
Max. operating pressure	10 bars	P-200-P11-xx	

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-200-P2-xx	9.7	90	169	167	3.8	50	5	206	435	663
P-200-P6-xx	13.3	133	227	194	11.8	120	12	642	1,350	2,058
P-200-P11-xx	16.0	172	240	211	21.7	199	19.9	1,180	2,482	3,784

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]

F_c = Clamping force [kN]

M_b = Braking torque [kNm]

z = Number of brakes per brake pad

D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	200	-	P	6	-	15
KTR brake	Pneumatic		Size		Passive	Actuator		Thickness of brake disk in mm

KTR-STOP® PB P-215-Pxx-xx

PASSIVE CALIPER BRAKES

Pneumatic brake system

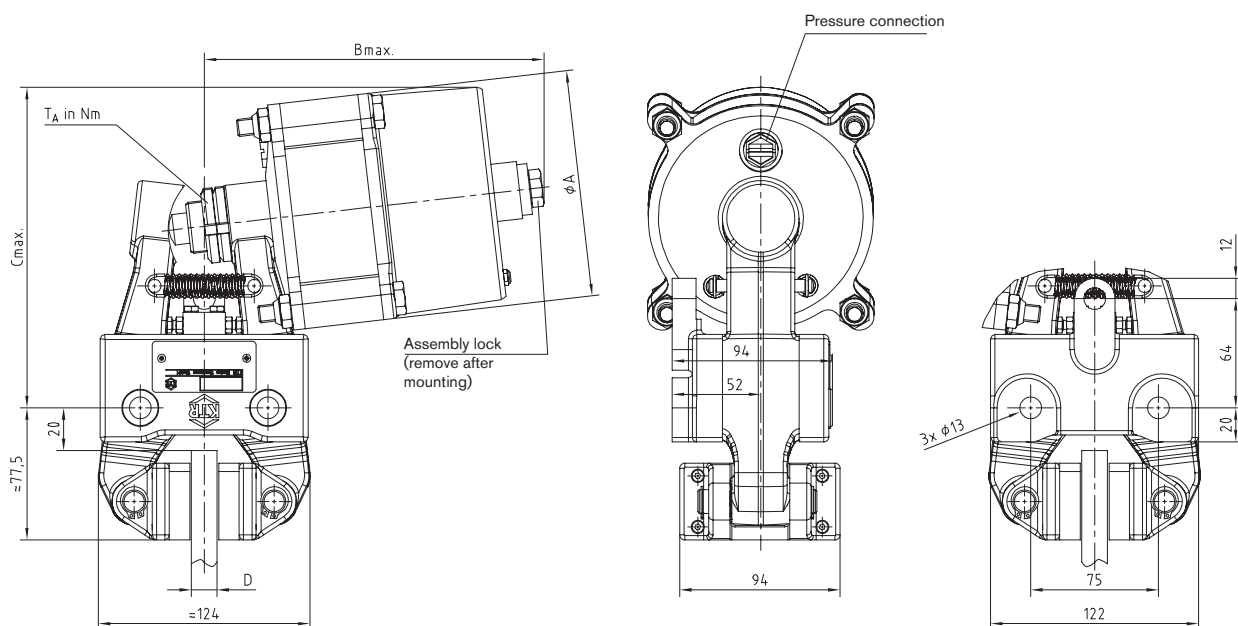
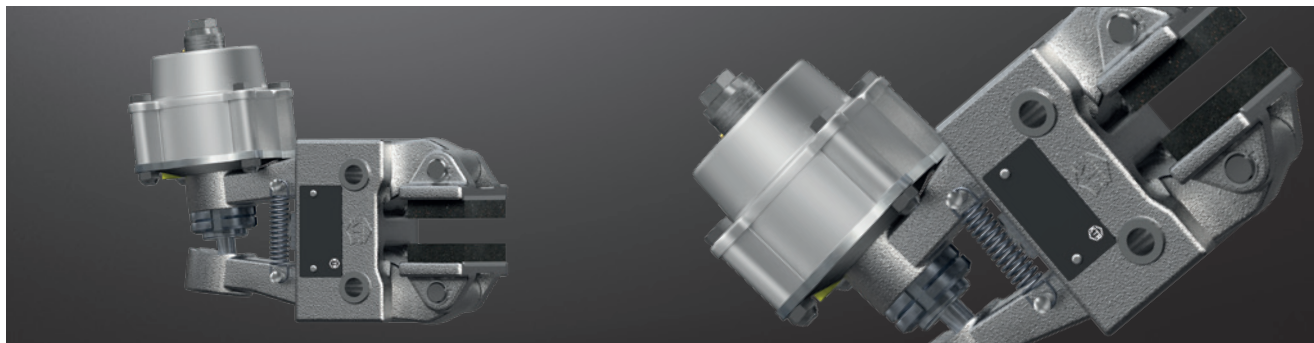


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-215-Pxx-xx			
Width of brake pad	45 mm	Opening pressure	6 bars
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm, 40 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	$\mu = 0.4$	Pressure connection:	
Operating temperature	-20 °C to +50 °C	P-215-P2-xx	G1/8
Tightening torque T_A	60 Nm	P-215-P6-xx	G1/4
Max. operating pressure	10 bars	P-215-P11-xx	

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force F_c [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-215-P2-xx	9.7	90	169	164	3.8	50	5	206	435	663
P-215-P6-xx	13.3	133	227	187	11.8	120	12	642	1,350	2,058
P-215-P11-xx	16.0	172	240	208	21.7	199	19.9	1,180	2,482	3,784

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering example:	KTR-STOP® PB P - 215 - P 6 - 15					
	KTR brake	Pneumatic	Size	Passive	Actuator	Thickness of brake disk in mm

KTR-STOP® PB P-250-Pxx-xx PASSIVE CALIPER BRAKES

Pneumatic brake system

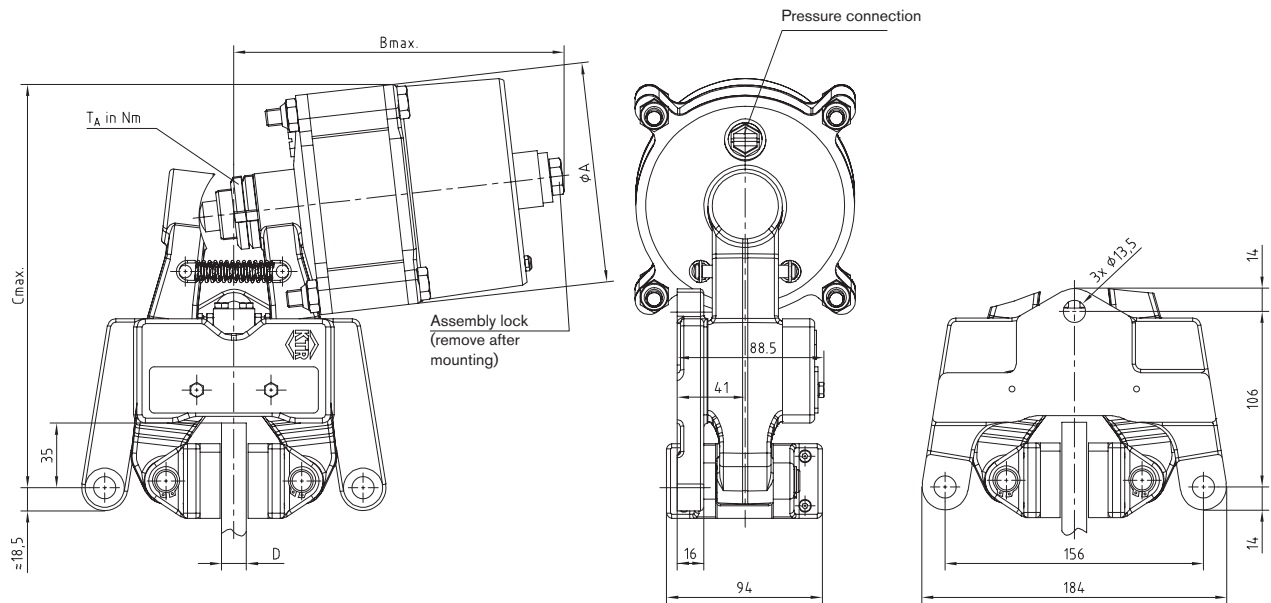
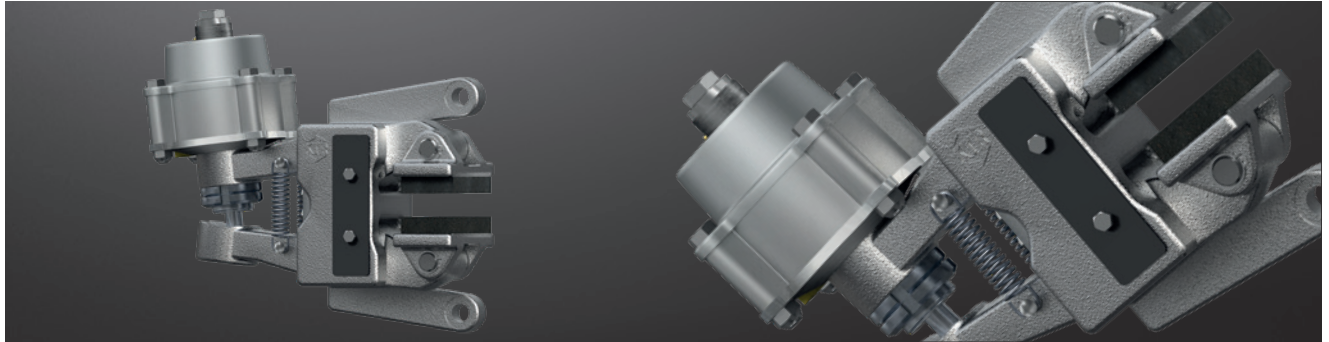


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-250-Pxx-xx			
Width of brake pad	45 mm	Opening pressure	6 bars
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	$\mu = 0.4$	Pressure connection:	
Operating temperature	-20 °C to +50 °C	P-250-P2-xx	G1/8
Tightening torque T _A	60 Nm	P-250-P6-xx	G1/4
Max. operating pressure	10 bars		

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								200	350	500
P-250-P2-xx	9.3	90	169	223	3.8	50	5	206	435	663
P-250-P6-xx	12.8	133	227	250	11.8	120	12	642	1,350	2,058

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]

F_c = Clamping force [kN]

M_b = Braking torque [kNm]

z = Number of brakes per brake pad

D_{av} = Effective diameter of brake [m]

Ordering example:	KTR-STOP® PB P - 250 - P 6 - 15					
	KTR brake	Pneumatic	Size	Passive	Actuator	Thickness of brake disk in mm

KTR-STOP® PB P-350-Pxx-25

PASSIVE CALIPER BRAKES

Pneumatic brake system

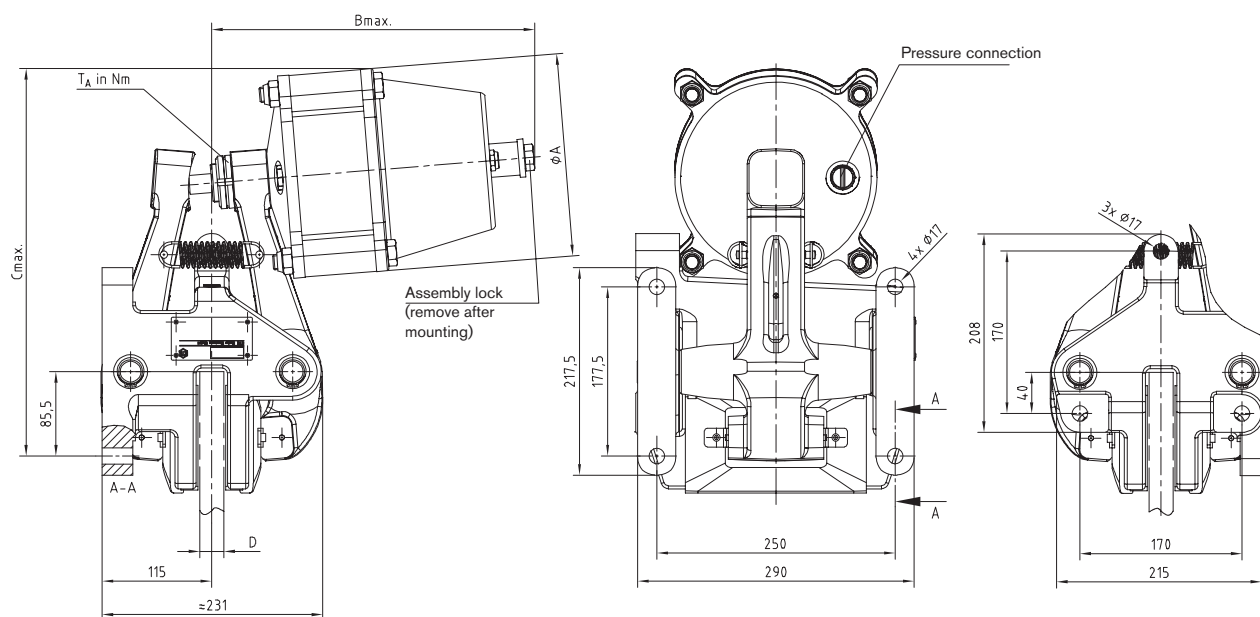
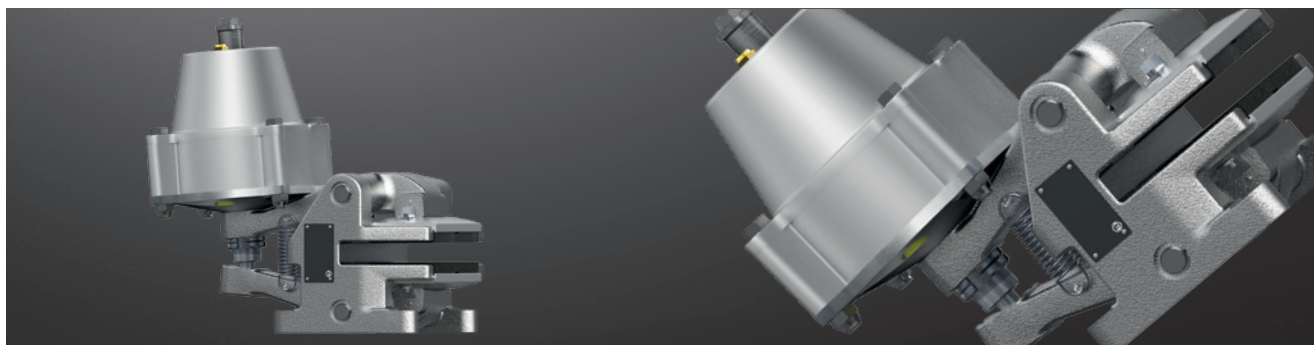


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB P-350-Pxx-25			
Width of brake pad	110 mm	Max. operating pressure	10 bars
Surface of each brake pad - organic	20,591 mm²	Opening pressure	6 bars
Max. wear per brake pad	14 mm	Thickness of brake disk	25.4 mm
Rated Coefficient of friction	$\mu = 0.4$	Min. diameter of brake disk ØDA	610 mm
Operating temperature	-20 °C to +50 °C	Pressure connection	G1/2
Tightening torque TA	60 Nm		

Brake types										
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force Fc [kN] at 6 bar operating pressure	brake piston surface [cm²]	Volume with 1 mm stroke [cm³]	Braking torque [Nm] at 6 bar operating pressure with brake disk Ø [mm]		
								610	800	1,000
P-350-P16-25	67	213	384	410	47.5	311	31.1	9,082	12,692	16,492

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 132 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	P	-	350	-	P	16	-	25
KTR brake	Pneumatic		Size		Passive	Actuator		Thickness of brake disk in mm

KTR-STOP® PB M-050-Axx-8

ACTIVE CALIPER BRAKES

Mechanical braking system

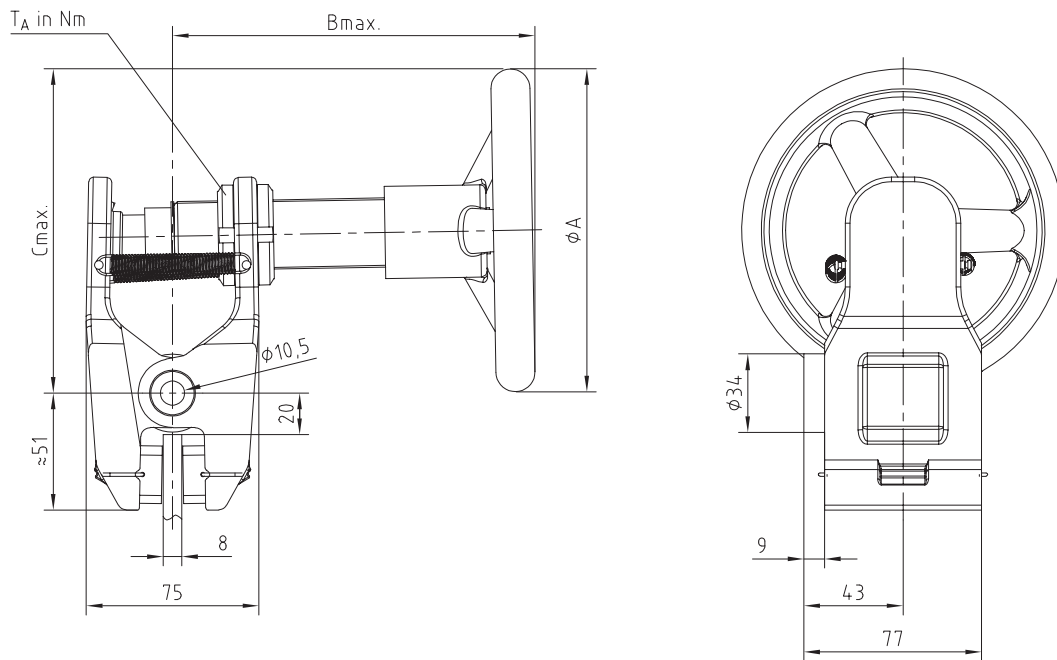


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB M-050-Axx-8			
Width of brake pad	25 mm	Operating temperature	-20 °C to +50 °C
Surface of each brake pad - organic	1,400 mm²	Thickness of brake disk	8 mm
Max. wear per brake pad	5 mm	Min. diameter of brake disk ØDA	150 mm
Rated Coefficient of friction	$\mu = 0.4$	Tightening torque T_A	60 Nm

Brake types								
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force F_C [kN]	Max. braking torque [Nm] with brake disk Ø [mm]		
						150	200	250
M-050-A1.6-8	2.4	140	185	143	3	138	198	258

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 35 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	M	-	050	-	A	1.6	-	8
KTR brake	Mechanical		Size	Active	Actuator	Thickness of brake disk in mm		

KTR-STOP® PB M-100-Axx-xx

ACTIVE CALIPER BRAKES

Mechanical braking system

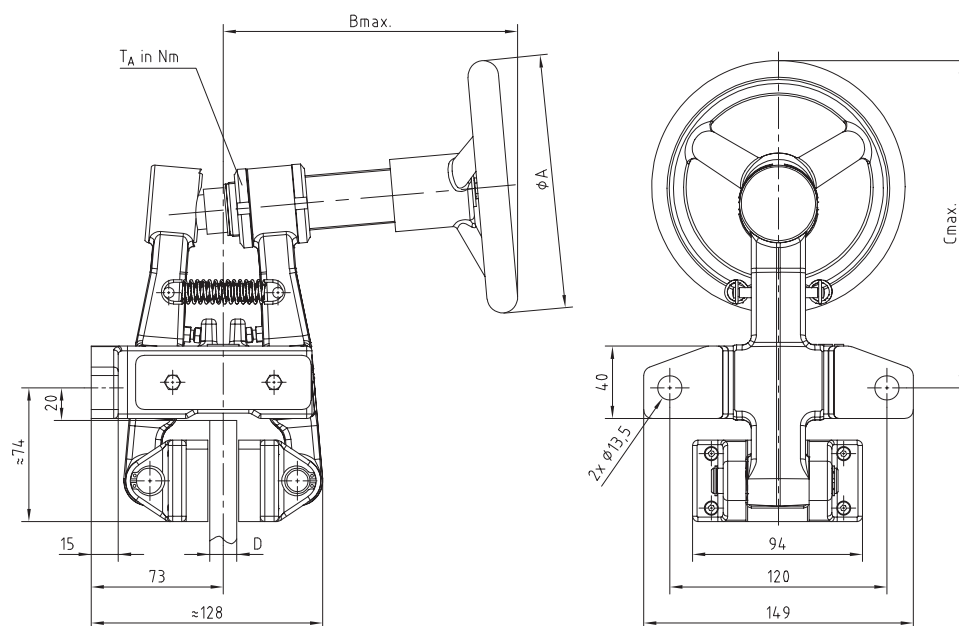


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB M-100-Axx-xx			
Width of brake pad	45 mm	Operating temperature	-20 °C to +50 °C
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12 - 15 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	μ = 0.4	Tightening torque T _A	60 Nm

Brake types								
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force F _C [kN]	Max. braking torque [Nm] with brake disk Ø [mm]		
						200	350	500
M-100-A1.6-8	5.9	140	190	183	2.9	154	328	502

Calculation of braking force/braking torque $F_b = F_C \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 67 \text{ mm}$$

F_b = Braking force [kN]
F_C = Clamping force [kN]
M_b = Braking torque [kNm]
z = Number of brakes per brake pad
D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	M	-	100	-	A	1.6	-	15
KTR brake	Mechanical		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB M-200-Axx-xx

ACTIVE CALIPER BRAKES

Mechanical braking system

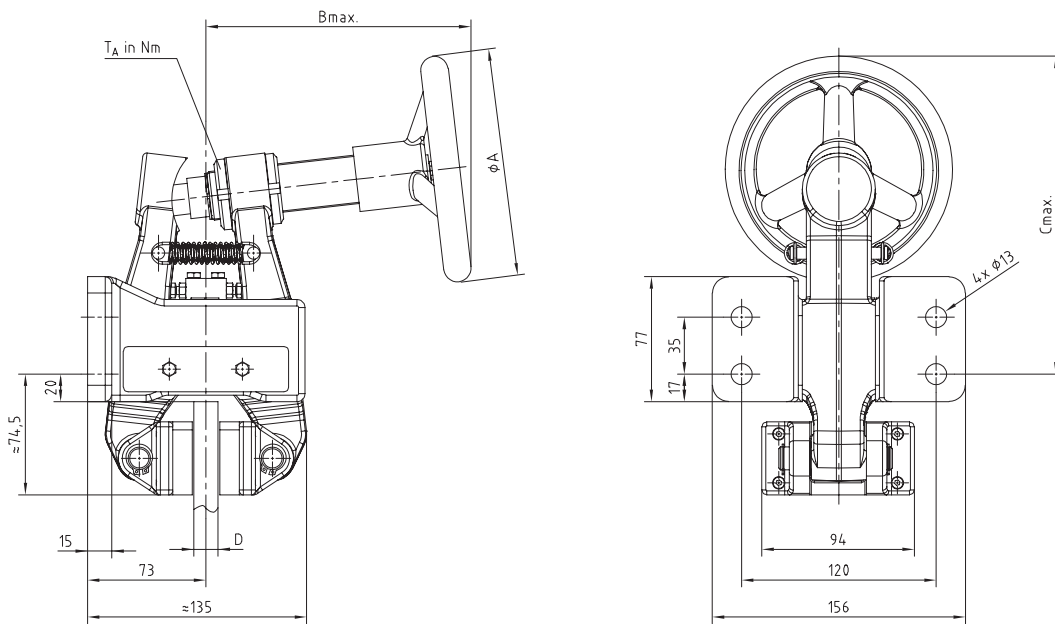


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB M-200-Axx-xx			
Width of brake pad	45 mm	Operating temperature	-20 °C to +50 °C
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm, 40 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	$\mu = 0.4$	Tightening torque TA	60 Nm

Brake types								
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force F _C [kN]	Max. braking torque [Nm] with brake disk Ø [mm]		
						200	350	500
M-200-A1.6-xx	8.9	140	191	199	3.2	174	366	558
M-200-A4.2-xx	9.6	200	217	230	8.4	457	960	1,465

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering example:	KTR-STOP® PB M - 200 - A 4.2 - 15					
	KTR brake	Mechanical	Size	Active	Actuator	Thickness of brake disk in mm

KTR-STOP® PB M-215-Axx-xx

ACTIVE CALIPER BRAKES

Mechanical braking system

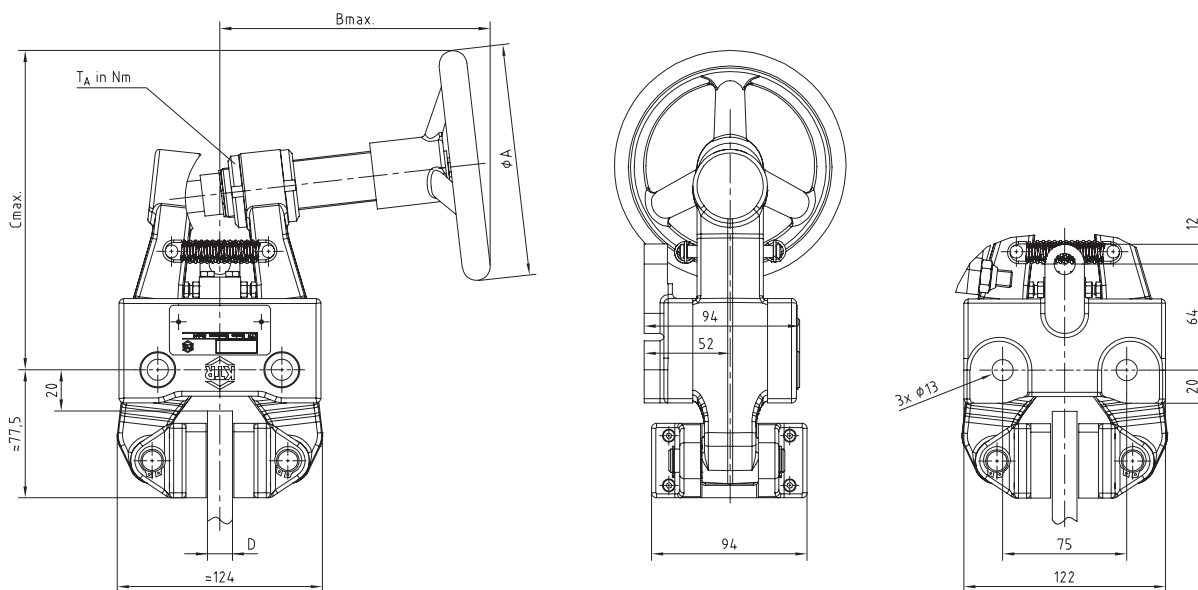
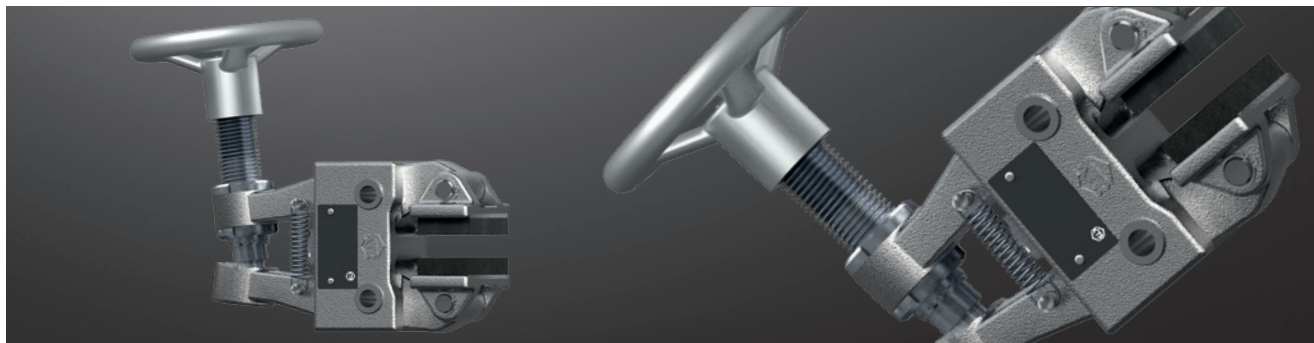


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB M-215-Axx-xx			
Width of brake pad	45 mm	Operating temperature	-20 °C to +50 °C
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm, 40 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	μ = 0.4	Tightening torque T _A	60 Nm

Brake types								
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force F _C [kN]	Max. braking torque [Nm] with brake disk Ø [mm]		
						200	350	500
M-215-A1.6-xx	8.0	140	191	196	3.2	174	366	558
M-215-A4.2-xx	8.7	200	217	228	8.4	457	960	1,465

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 64 \text{ mm}$$

F_b = Braking force [kN]
F_c = Clamping force [kN]
M_b = Braking torque [kNm]
z = Number of brakes per brake pad
D_{av} = Effective diameter of brake [m]

Ordering example:

KTR-STOP® PB	M	-	215	-	A	4.2	-	15
KTR brake	Mechanical		Size		Active	Actuator		Thickness of brake disk in mm

KTR-STOP® PB M-250-Axx-xx

ACTIVE CALIPER BRAKES

Mechanical braking system

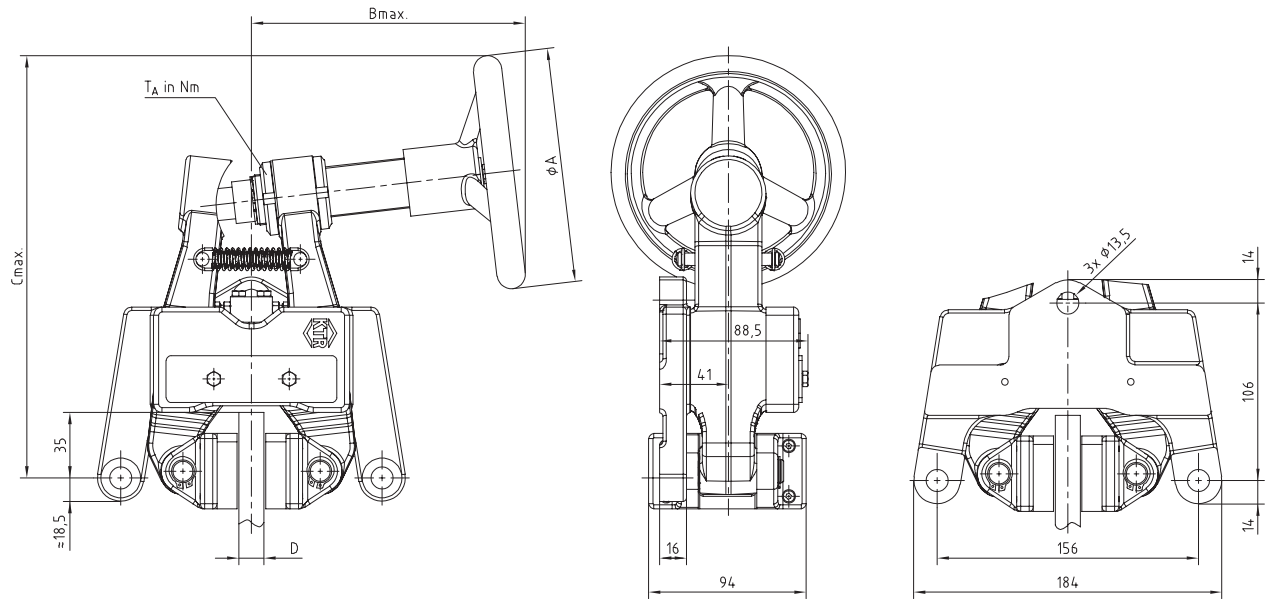


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB M-250-Axx-xx			
Width of brake pad	45 mm	Operating temperature	-20 °C to +50 °C
Surface of each brake pad - organic	3,535 mm²	Thickness of brake disk	12-15 mm, 25.4 mm, 30 mm
Max. wear per brake pad	10 mm	Min. diameter of brake disk ØDA	200 mm
Rated Coefficient of friction	μ = 0.4	Tightening torque TA	60 Nm

Brake types								
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force FC [kN]	Max. braking torque [Nm] with brake disk Ø [mm]		
						200	350	500
M-250-A1.6-xx	8.5	140	191	255	3.2	174	366	558
M-250-A4.2-xx	9.2	200	217	287	8.4	457	960	1,465

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk $D_{av} = D_A - 64 \text{ mm}$

$$F_b = \text{Braking force [kN]}$$
$$F_c = \text{Clamping force [kN]}$$
$$M_b = \text{Braking torque [kNm]}$$
$$z = \text{Number of brakes per brake pad}$$
$$D_{av} = \text{Effective diameter of brake [m]}$$

Ordering example:	KTR-STOP® PB	M	-	250	-	A	4.2	-	15
	KTR brake	Mechanical		Size		Active	Actuator		Thickness of brake disk in mm

20

For other sizes and for continuously updated data refer to www.ktr.com

KTR-STOP® PB M-350-Axx-25

ACTIVE CALIPER BRAKES

Mechanical braking system

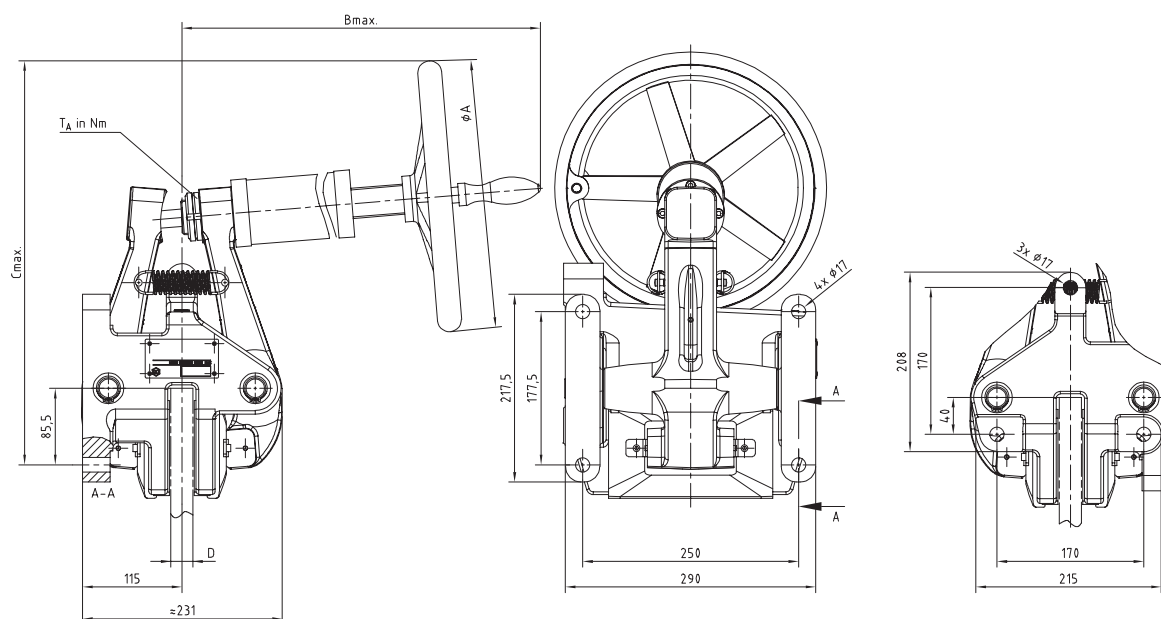


Illustration exemplary. The actuator design may vary depending on the combination.
Horizontal mounting position. Please consult with us in case of deviations.
The standard is a cylinder mounted on the right - for mounting on the left please specify in your order.

KTR-STOP® PB M-350-Axx-25			
Width of brake pad	110 mm	Operating temperature	-20 °C to +50 °C
Surface of each brake pad - organic	20,591 mm ²	Thickness of brake disk	25.4 mm
Max. wear per brake pad	14 mm	Min. diameter of brake disk ØDA	610 mm
Rated Coefficient of friction	μ = 0.4	Tightening torque TA	60 Nm

Brake types								
Brake type KTR-STOP® PB	Weight [kg]	ØA [mm]	Bmax [mm]	Cmax [mm]	Clamping force FC [kN]	Max. braking torque [Nm] with brake disk Ø [mm]		
						610	800	1,000
M-350-A19.5-xx	57.0	315	595	481	58.5	11,185	15,631	20,311

Calculation of braking force/braking torque $F_b = F_c \cdot 2 \cdot \mu$

$$M_b = z \cdot F_b \cdot \frac{D_{av}}{2}$$

Calculation of brake disk

$$D_{av} = D_A - 132 \text{ mm}$$

F_b = Braking force [kN]
 F_c = Clamping force [kN]
 M_b = Braking torque [kNm]
 z = Number of brakes per brake pad
 D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP® PB	M	-	350	-	A	19.5	-	25
KTR brake	Mechanical		Size	Active	Actuator	Thickness of brake disk in mm		

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