

(1) **Statement of Conformity**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**



(3) **Statement of Conformity Number: TÜV CY 20 ATEX 0206333 X**

(4) for the equipment: Hydraulic cylinders
Type CKA series

(5) of the manufacturer: **ATOS S.p.A.**

(6) Address: Via alla Piana, 57
21018 Sesto Calende (VA) – ITALY

Order number: 0206333

Date of issue: 2020-07-02

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this statement of conformity and the documents therein referred to.

(8) TÜV CYPRUS Ltd certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 20 0206333.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN ISO 80079-36:2016

EN ISO 80079-37:2016

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This statement of conformity relates only to the design, examination and tests of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

 **II 2G Ex h IIC T6, T4 Gb and/or**
II 2D Ex h IIIC T85°C, T135°C Db

TÜV CYPRUS Ltd (TÜV NORD Group),

The head of the notified body,

D. Demosthenous

Member of
TUV Nord
2261

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Excerpts or changes shall be allowed by the TÜV CYPRUS Ltd

(13) **SCHEDULE**

(14) **Statement of Conformity No. TÜV CY 20 ATEX 0206333 X**

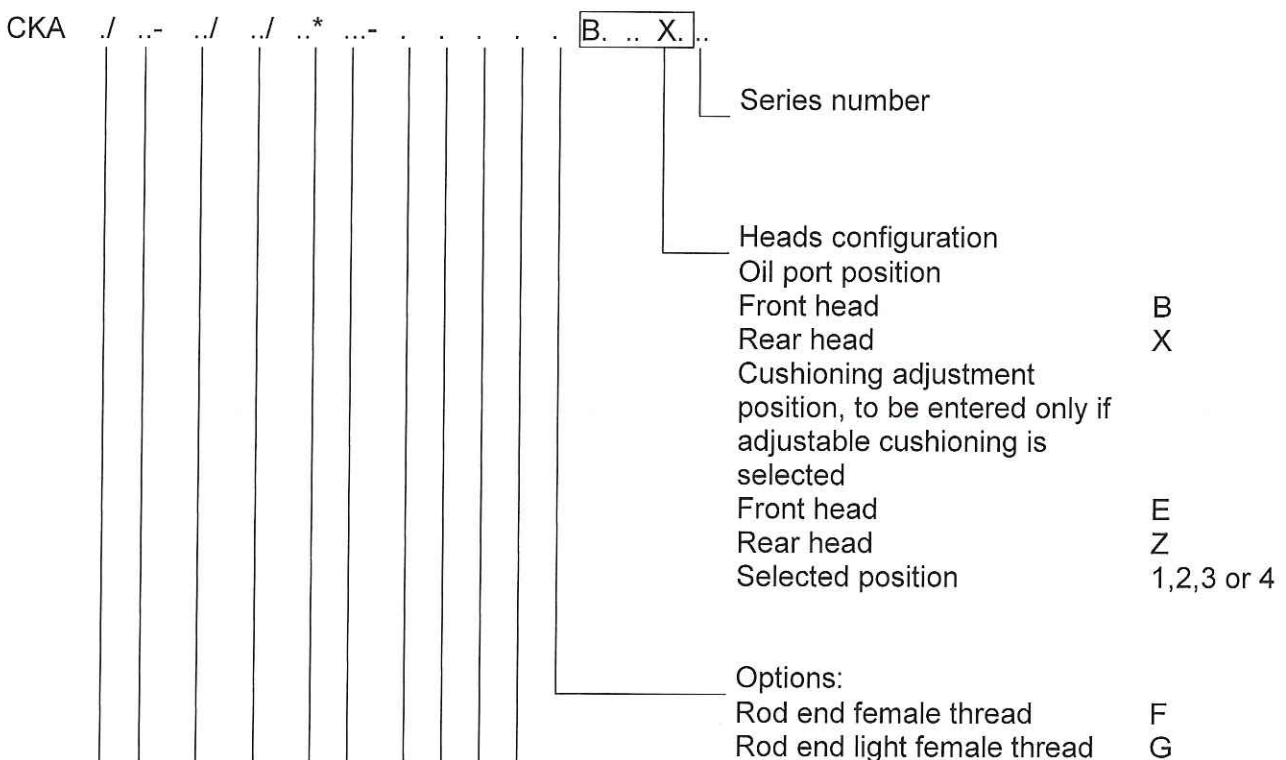
(15) Description of equipment

The equipment is a hydraulic cylinder designed for use in places where a source of release of flammable materials gives rise to a potentially explosive atmosphere. It's designed to work with mineral oils and fire resistant fluids. The hydraulic cylinder is designed and built to convert hydraulic energy into linear movements. The driving force is determined by the hydraulic pressure in the cylinder chamber. The rod, connected to the piston, is free to move and can convert the fluid pressure (p) operating alternatively on the two piston surface (A) to a force (F) whose value is given by $F = p \times A$. The two chambers are defined by the cylinder housing and two heads (front and rear) kept together by four tie rods and eight nuts with defined tightening torque. The rod bearing for better rod guide is screwed into the front head. External oil leakage is avoided by the rod-seals on the rod guide bushing and by the OR between cylinder housing and the two heads. The piston is equipped with one seal and two guide rings to prevent oil leakage between the two chambers and to guide the piston. Cylinders are available with front and rear cushioning piston, designed to dissipate the energy of the mass connected to the cylinder rod, progressively reducing its speed before the mechanical stroke end.

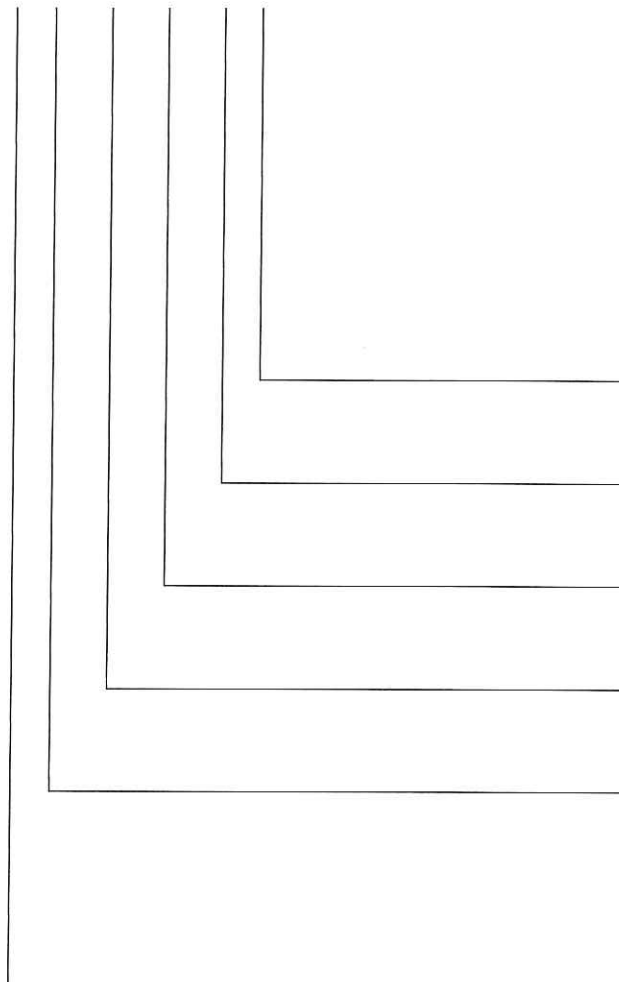
Identification code:

The hydraulic cylinder identification code is composed as follow:

Type Key



						Rod end light male thread	H	
						Oversized oil ports front	D	
						Oversized oil ports rear	Y	
						Proximity sensors front sensor	R	
						Proximity sensors rear sensor	S	
						Rod treatment nickel and chrome plating	K	
						Rod treatment induction surface hardening and chrome plating	T	
						Front air bleed	A	
						Rear air bleed	W	
						Rod side draining	L	
						Sealing System		
						NBR + POLYURETANE	1	
						FKM + PTFE	2	
						NBR + PTFE	4	
						NBR + PTFE	6	
NBR + PTFE	7							
Spacer								
None	0							
50mm	2							
100mm	4							
150mm	6							
200mm	8							
Cushioning								
none	0							
Fast adjustable rear only	1							
Fast adjustable front only	2							
Fast adjustable front and rear	3							
Slow adjustable rear only	4							
Slow adjustable front only	5							
Slow adjustable front and rear	6							
Fast fixed rear only	7							
Fast fixed front only	8							
Fast fixed front and rear	9							
Mounting Style								
fixed clevis	C							
fixed eye	D							
feet	E							
front trunnion	G							
rear trunnion	H							
intermediate trunnion	L							
front flange	N							
rear flange	P							



fixed eye + spherical bearing	S
threaded hole + tie rods	T
extended	
rear tie rods extended	V
both end tie rods extended	W
basic execution	X
front tie rods extended	Y
front threaded holes	Z
Stroke	Up to 5000mm
Second Rod Diameter Size for double rod	12+140mm
Rod Diameter Size	12+140mm
Bore Size	25+200mm
Incorporated subplate	
10	Size 06
20	Size 10
30	Size 16
40	Size 25
Ex-proof Position Transducer	
-	Omit if not required
M	Digital magnetostrictive

Ratings:

Main Characteristics

Permitted range of ambient temperature	$-20^{\circ}\text{C} < T_{\text{amb}} < +70^{\circ}\text{C}$
Fluid temperature	$-20^{\circ}\text{C} < T_{\text{fluid}} < +70^{\circ}\text{C}$ $-20^{\circ}\text{C} < T_{\text{fluid}} < +120^{\circ}\text{C}$ for seals type 2
Max working pressure	16 MPa (160 bar)
Max pressure (peak)	25 MPa (250 bar)
Max frequency	5 Hz
Max speed	1 m/s for seal type 2, 4, 6, 7 0.5 m/s for seal type 1
Max Fluid contamination level	ISO 4406 20/18/15 NAS1638 class 9
Recommended oil viscosity	15+100 mm ² /s

Sealing system features

Sealing system	Material	Features	Max speed (m/s)	Maximum oil temperature	Temperature Class
1	NBR + POLYURETHANE	high static and dynamic sealing	0,5	+70°C	T6; T85°C
2	FKM + PTFE	very low friction and high temperatures	1	+120°C	T4; T135°C
2	FKM + PTFE	very low friction and high temperatures	1	+70°C	T6; T85°C
4	NBR + PTFE	very low friction and high speeds	1	+70°C	T6; T85°C
6-7	NBR + PTFE	very low friction single acting- pushing/pulling	1	+70°C	T6; T85°C

Warning labels:

None.

Operating and maintenance manual No. BX900-0/E.

(16) Test documents are listed in the test report No. 20 0206333.

Routine test:

None.

(17) Special conditions for safe use

- It is responsibility of the user to verify that the maximum inlet fluid temperature does not exceed the value reports in the technical data.
- The maximum surface temperature has been calculated without taking into account a dust layer on the equipment and a safety factor.
- The cylinder shall be grounded using the threaded hole on the rear head, evidenced by the nameplate with ground symbol. The hydraulic cylinder must be put at the same electric potential of the machine
- For info regarding ex-proof sensors to be mounted on the cylinders, see manufacturer technical datasheets and Ex-instructions

(18) Essential Health and Safety Requirements

No additional ones. Assured by compliance with the standards set out in the [9].