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Elevator

ThyssenKrupp Aufzugswerke

ThyssenKrupp

Operating Manual

Oil buffer

Printer's imprint

The responsibility for the content lies with the editor:

THYSSENKRUPP AUFZUGSWERKE GMBH

Preface

We are pleased that you decided to purchase a quality product from THYSSENKRUPP AUFZUGSWERKE GMBH.
This operating manual assists you in getting familiar with the oil buffer and with its intended possibilities of use. Important information concerning safety and hazards helps you to safely use the oil buffer as intended. The oil buffer is subject to technical alterations.

Table of content :

Oil buffer

1.1 Explanation of symbols used

The following pictographs and designations are used in this operating manual:

Danger

This symbol draws attention to an extreme danger to life or risk of injury to persons. Disregard of warning means danger to life!

Danger

This symbol draws attention to an immediate impending danger to life or risk of injury to persons caused by electric current.
Warning notices must always be observed!

Warning

This symbol draws attentionto an impending danger. Disregard can cause injury to persons or extensive damage to property.
Warning notices must always be observed!

Note

This symbol draws attention to important information and instructions for operation. Disregard can lead to damages, hazards or failures.

Inspection

This symbol draws attention to inspection sequence. These inspection notes must be obsered in any case. Disregard can lead to injury to persons or damage to property.

1.2 General safety information

Information about the operating manual

Knowledge of the basic safety requirements is a prerequisite for the safe use and the failure-free operation of this component.
This operating manual comprises the most important information how to safely use the component.
The operating manual and, in particular, the safety information must be observed by all persons who perform any work on the component. In addition the rules and requirements concerning the regulations for prevention of accidents which apply to the installation location must be observed.

Duties of the owner and / or the installer

The owner and / or the installer ensure that only persons are authorized to work at the component, who

- are familiar with the requirements concerning safe working and prevention of accidents and who were trained how to use the component.
- Have read the safety information and the warning notices in this operating manual.

Note: check the compliance of the employees method of working with the safety requirements in regular intervals.

Duties of the employees

Persons who are authorized to perform work at the component are obliged

- to observe the requirements concerning safe working and prevention of accidents;
- to read the safety information and the warning notices in this operating manual prior to start working.

Training of the employeess

Only trained and instructed, technically competent persons shall perform work at the component.
The competence of the employees must be clearly defined for all tasks concerning putting into service, operation, maintenance and repair work.

Organizational measures

The owner or the installer must provide the necessary personal protective gear. All existing safety devices must be checked regularly in accordance with the maintenance plan.

Informal information about safety measures

- The operating manual must always be available at the location of the installation.
- In addition to the operating manual the general and local regulations for the prevention of accidents and environmental regulations must be made available and observed.
- Clearly and easily visible statutory safety instructions must be made available for the users.
- See to it that all information concerning safety and hazards is always visibly and legibly made available on the machine.

Use in line with intended and proper use

The oil buffer has been developed and built according to the state of the art and recognised technical safety regulations. The oil buffer may only

- be used in line with the intended and proper use and
- when it is in undamaged condition with regard to the technical safety features.

The exclusive intended and proper use of the oil buffers is to brake the elevator cabin / counterweight to a standstill after it has passed the last stopping point.

Any other use or use outside this definition is regarded as improper use. THYSSENKRUPP AUFZUGSWERKE GMBH shall not be liable for damage that results from this improper use nor damage that results from operating errors.

The intended and proper use also includes:

- observing all information in the operating instructions and
- observing the commissioning instructions, the system description as well as performing the inspection and maintenance work.

Guarantee and liability

The „General sales and delivery terms“ of THYSSENKRUPP AUFZUGSWERKE GMBH apply generally.
Any claims for guarantee and liability are excluded in the case of injury to persons or damage to property resulting from one or several of the causes below:

- use of oil buffer outside the scope of its intended purpose
- inexpert mounting, putting into service, operating and maintaining of oil buffer
- operating the oil buffer with defective and/or non-operative safety and protective devices
- disregard of instructions of operating manual that apply to transportation, storage, mounting, putting into service, operating and maintaining of oil buffer
- unauthorized constructional modifications of oil buffer
- unsatisfactory supervision of parts which are subject to wear
- inexpert repair work
- catastrophes caused by outside influence and Act of God.

Constructional modifications of oil buffer

The oil buffer is adjusted at the factory and delivered ready for work.
In the case of modifications or removal of the sealing THYSSENKRUPP AUFZUGSWERKE GMBH cannot be hold liable.

Use of oil buffer and possible hazards

The design of the oil buffer complies with the state-of-the-art and the safety requirements in force. See to it that the oil buffer is only used as intended and only used if correct functioning is ensured.
In the case of incorrect use there will be danger to life for the user or third parties resp. impairment of the component or material property. Failures which possibly impair the correct functioning shall be eliminated immediately.

2.1 Description of oil buffer

(Illustration of functional principle)

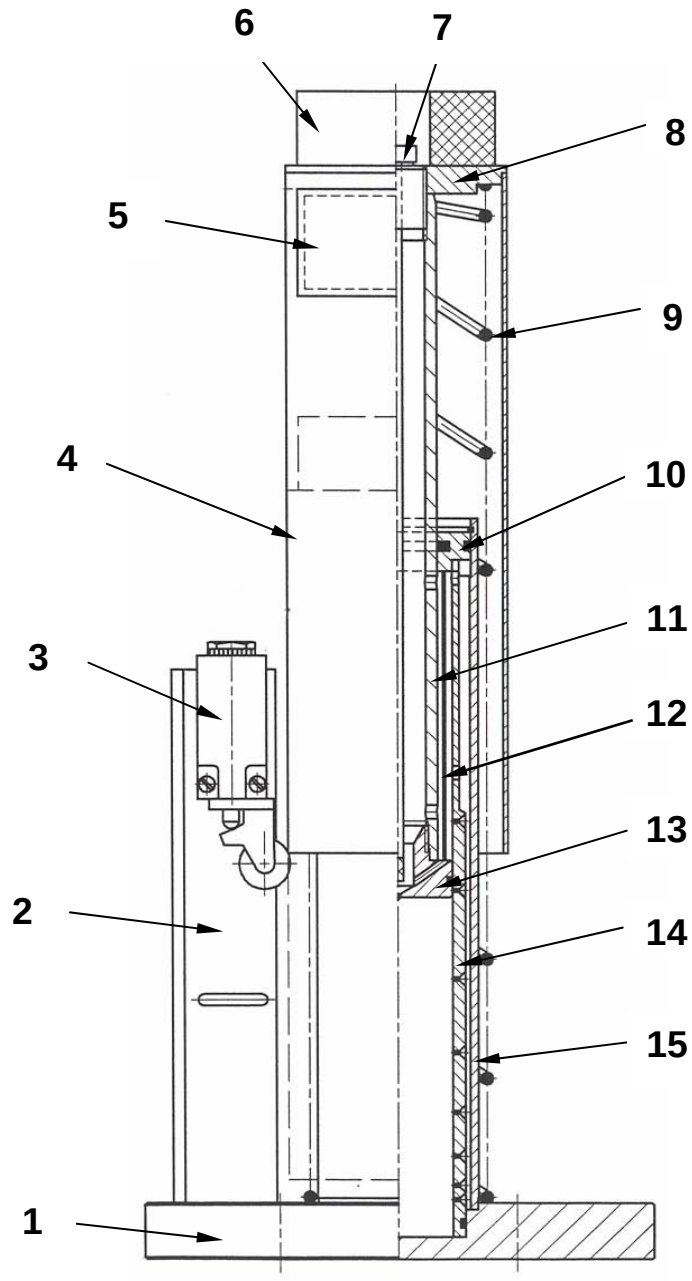


Fig. 1

1	Buffer base	**9**	Pressure spring
2	Angle bracket for switch	**10**	Bush
3	Switch	**11**	Ram tube
4	Contact tube	**12**	Spacer tube
5	Name plate	**13**	Ram ring
6	Rubber spring	**14**	Control tube
7	Oil dipstick	**15**	External tube
8	Contact tube cover		

The THYSSENKRUPP „energy dissipation“ type oil buffer is designed for use in lift installations. It is mounted below car and counterweight and can be used for all lift types within the range of use indicated.
It shall comply with the requirements of EN 81-98.

Selection of the oil buffer is subject to two criteria:

1. **Type (O1 – O5):** shall be selected dependent on respective *speed*. Note that different car and counterweight speeds shall be considered dependent on the type of installation.
2. **Version, (A;B;C):** which depends on the *impact mass*. Distinguish between max. total mass of car (F´+ Q´) and mass of counterweight (G´).

Use of several buffers of the same type: use of several buffers is permissible.

Please note: only use buffers of the same type (stroke) and same version (load level). If several buffers are used the range of permissible total load is multiplied accordingly. The maximum speed does not change.

Note: use of **deceleration c**ontrol **c**ircuit (**VKS**) allows for extending the range of use of the buffer types O3 – O5 in accordance with EN81-98. See table 1 (for definition of VKS see chapter 2.2).

Special versions:

SA 1 oil buffer for intermediate speeds.
SA 2 oil buffer to be directly mounted on the counterweight
For detailed information and description see chapter 8

Range of use and designations of the standard oil buffer range

Table 1

Rated speed $v_{Nenn.}$ [m/s] as distinctive feature :					
Buffer type	**O1**	**O2**	**O3**	**O4**	**O5**
without VKS	**v** ≤1.6	**v** ≤2.0	**v** ≤ 2.5	**v** ≤ 3.09	**v** ≤ 3.7
with VKS	-	-	**v** ≤ 3.55	**v** ≤ 5.35	**v** ≤ 6.41

Table 2

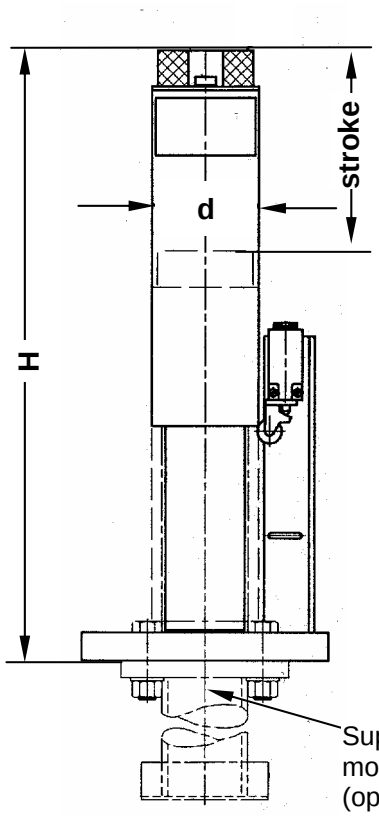
Buffer types and maximum total load (F´+ Q´ or G´) [kg]					
Type	**Version**	**Load**	**Type**	**Version**	**Load**
O1/ O2/ O3	A	430 - 1370	O4 / O5	A	620 – 1480
	B	620 - 2000		B	780 – 2700
	C	970 - 3020		C	1360 - 4130

Load: when selecting the buffers see to it that the load does not exceed the limit values indicated in table 2. For buffers with overlapping range of use select the buffer version the max. possible total mass of which differs least from the max. permissible total load of the buffer.

Example how to select buffers:
operating speed v = 1.6 m/s ⇒ acc. to table 1 buffer type = O1
total mass (F´+ Q´) = 1250 kg ⇒ acc. to table 2 version = A
Buffer designation in full: **O1 A**.

Buffer data Standard version

Oil buffer type O1 - O3



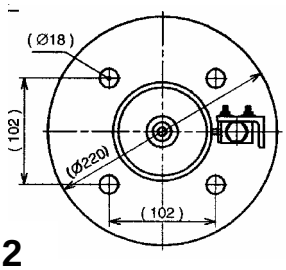
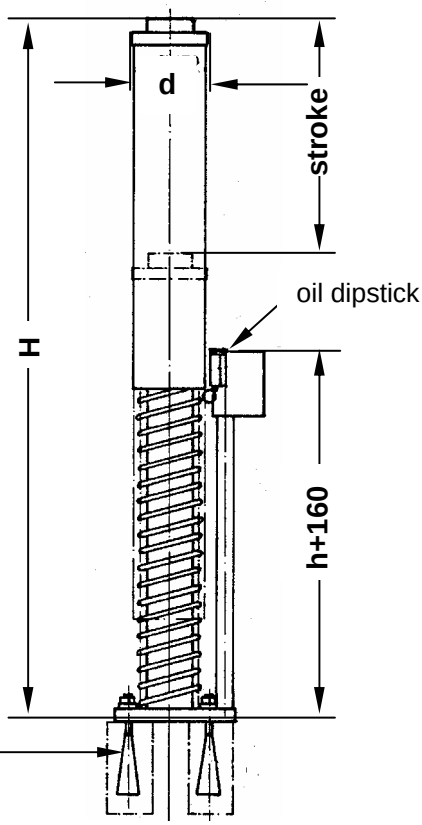


Fig. 2

Oil buffer type O4 - O5



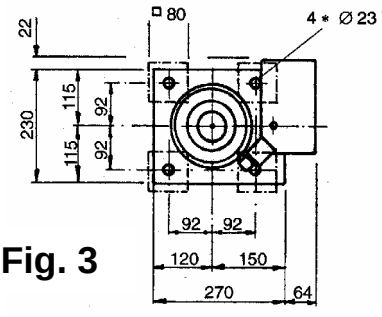


Fig. 3

Table 3

Buffer type		O1	O2	O3	O4	O5
Height H	mm	540	790	1180	1554	2114
Stroke h	mm	175	275	430	645	925
Weight	kg	14.3	18.2	23.5	64	79
Oil quantity	l	0.4	0.61	0.94	5.1	7.3
d	mm	95	95	95	170	170

Oil type: hydraulic oil P1 (can be ordered and supplied by THYSSENKRUPP AUFZUGSWERKE GmbH)

Note: for descriptions and data of **special versions** see chapter 8

2.2 Functional description:

Oil buffers **have been provided for** definitely stopping the car travelling at rated speed or the counterweight after runby of the terminal landing.

Functional principle:
The oil buffer consists of a hollow cylinder filled with hydraulic oil and a ram moving up and down in this cylinder. A spring has been provided for keeping the ram in ready position when the car travels without load.
When the damper is burdened the mass hitting on the ram presses the oil of the cylinder through the drilled holes in the cylinder wall into the enclosing external cylinder. The ram speed and consequently the deceleration are determined by the velocity of the oil flowing out of the internal cylinder.
The number of drilled holes, their diameters and arrangement are coordinated in such a way that the average deceleration of the decelerated mass does not exceed the value „g“ (9.81m/s²) during braking.
Consequently the car or the counterweight is stopped within the ram stroke and the required values are complied with.

Electrical monitoring: as soon as the buffer is compressed a mechanically operated monitoring switch is operated (fig. 1 pos.3). It interrupts the safety circuit and thus disconnects normal operation. As soon as the buffer is relieved it is re-set into working position by the spring (fig. 1 pos. 9). The monitoring switch closes the safety circuit at the same time.

Definition:
VKS The **d**eceleration **c**ontrol **s**witch is a device which ensures that the speed of the car or the counterweight when hitting the oil buffer does not exceed the maximum permissible impact speed of the buffers.

2.3 Name plate of oil buffer

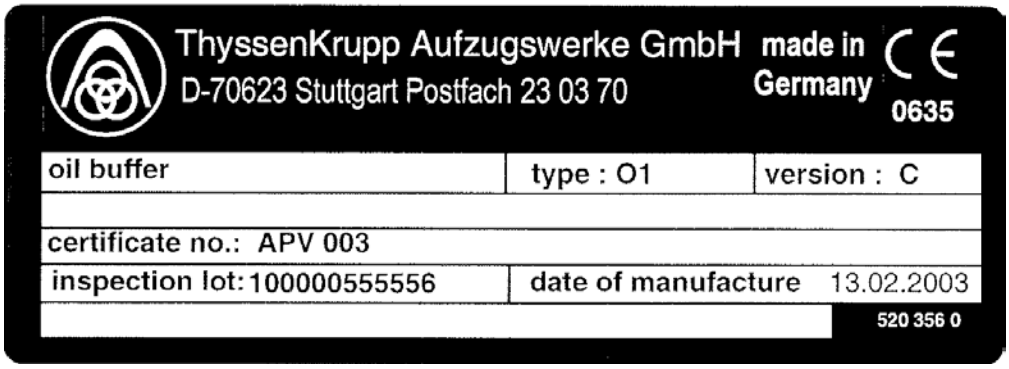


Fig. 4 **Standard version**

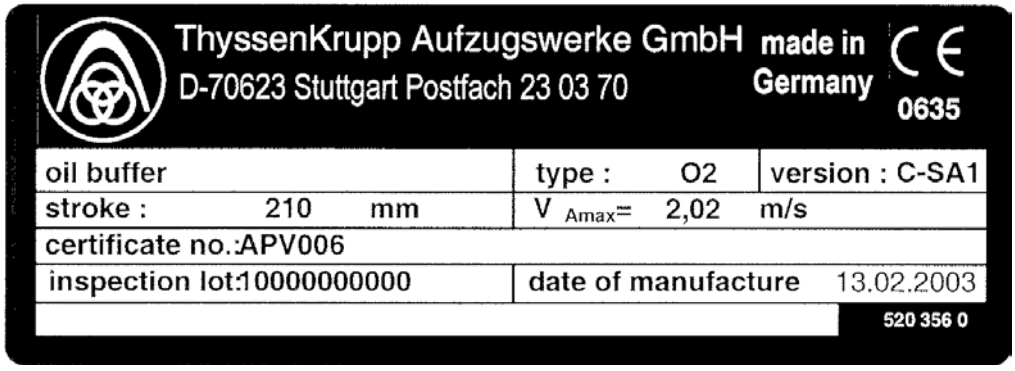


Fig. 5 **SA1 reduced buffer stroke**

From above name plate data the following range of use can be deduced:
Based on the data indicated in pos.09. (type No.) and pos. 5 (version) the range of use of the buffer can be deduced in accordance with tables 1 and 2 in chapter 2.1

Fig. 4 Type 01 ⇒ v_{Rated} = 1,6 m/s;
Version A ⇒ between 430 and 1370 kg

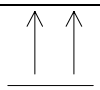
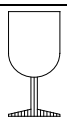
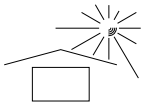
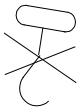
Fig. 5 Type 01 ⇒ v_{Impact} = 1,65 m/s with buffer stroke of 140 mm
Version A-**SA 1** ⇒ between 430 and 1370 kg SA table 4 chapter 8.1

3. Transportation and storage

Packaging and dispatch

In the as-delivered condition the oil buffer is screwed on a wooden pallet. **Attention:** there is oil in the buffer. For reasons of sensitive gaskets and washers the oil buffer shall only be **transportated and stored in upright position**.

Observe the pictographs on the packaging or on other visible places.

 **Top**	 **Handle with care**	 **Keep dry**
 **Do not expose to heat**	 **Do not use hand-held grippers**	 **Fasten here**

Dimensions and weight

For dimensions and weight of delivered unit see delivery note.
For details see chapter 2.1 table 3.

Examination by customer on receipt of goods

Examine the delivered parts for completeness, damage or anything strange.

Report and document transportation damages

After receipt of goods make sure that there is no damage caused during transportation.

Immediately document the damages noticed (photograph or drawing and description of damage).

Send the respective reports immediately to THYSSENKRUPP AUFZUGSWERKE GmbH

Unpacking

Dispose packing equipment in accordance with the environmental regulations or make it available for further use.
Special transportation aids and transportations contrivances shall not be send back to THYSSENKRUPP AUFZUGSWERKE but remain at the customer.

Intermediate storage

If the overspeed governor is not mounted immediately after delivery carefully store it at a sheltered place and see to it that it is provided with a humidity-proof covering.

Environmental conditions

Note: ambient temperature at the final site of the machine (humidity, temperature) shall comply with the requirements in force.

4. Installation

When mounting the oil buffers note the following points:

The oil buffer shall be firmly mounted on the plate on the buffer base.

When the oil buffer is mounted on a support see to it that respective constructional means have been provided for ensuring stability when the buffer is loaded.

Align the oil buffer towards the impact surface (resting plate) where the buffer hits the car or counterweight.

The oil buffer shall be in upright position and no side forces shall act on it.

The installation shall comply with the requirements for lift installations in force.

If several buffers (of the same type) are used they shall be adjusted to the same level.

Connect the monitoring switch in such a way that normal lift operation is no longer possible as soon as the switch is activated.

The place where the buffer is mounted shall be capable of taking up the forces arising under load condition in accordance with the safety requirements in force.

Note: for special buffer versions please note the details in chapter 8.

5. Putting into service

Prior to putting the lift into service check that all points specified in chapter 4. are correctly carried out and fulfilled.
Check that the oil level in the buffer does not exceed the markings of the oil dipstick.

Carry out a buffer test and check for correct functioning.

6. Servicing

Servicing shall be carried out in regular intervals, at least twice a year.

The rubber buffer shall stick by adhesion.

Firmly tighten the fastening screws.

Visual inspection of the oil buffer for oil, drops or leakage.

Check oil level. Before you fill in oil check that the oil level does not exceed the markings and the end of the oil dipstick. Fill in the respective

quantity of hydraulic oil **type P1** if the oil level is lower (can be ordered and supplied by THYSSENKRUPP AUFZUGSWERKE GmbH)
Check the oil level once again (approx. after 10 to 15 minutes) after you filled in oil. Completely screw the dipstick in.

Note: when you screw in the oil dipstick see to it that a sealing washer is placed between bearing surface of buffer and oil dipstick and that the dipstick is tightened accordingly (tightening torque 23 - 26Nm)

Check for correct functioning by hand, if possible: the buffer shall resist as soon as it is pressed down by hand. The cylinder shall return to its home position immediately.

Check the safety contact for correct functioning

Attention: immediately replace the oil buffer in the case of leakage, spring fracture or other defects which impair correct functioning !

7. Maintenance

The oil buffer is a type-approved safety device with type examination certificate. It is delivered ready for work.
Do not change anything.
In the case of unauthorized repairs or modifications THYSSENKRUPP AUFZUGSWERKE GmbH cannot be hold liable any more.
If defects or incorrect functioning occurs immediately replace the oil buffer.

8. Special versions (SA) (optional)

(Additional parts for special applications)

Versions:

SA1 Oil buffer for intermediate speeds

SA2 Buffer mounted on the counterweight with NC lifts

8.1 SA 1 Oil buffer for intermediate speeds

Standard buffers with reduced stroke for intermediate speeds specified in table 4 which are modified acc. to order.
The permissible total load does not change.
See chapter 2.1 table 2

Table 4

Buffer type		O1	O2	O3	O4	O5
v	m/s	1.08-1.6	1.6- 2.0	2.0-2.5	2.5-3.09	3.09-3.7
$v_{max.}$ impact.	m/s	1.24-1.84	1.84-2.3	2.3-2.88	2.88-3.55	3.55-4.26
Height H	mm	445-540	690-790	1025-1180	1339-1554	1834-2114
Stroke h	mm	80-175	175-275	275-430	430-645	645-925
Weight	kg	14.3	18.2	23.5	64	79
Oil quantity	l	0.21-0.4	0.41-0.61	0.63-0.94	3.9-5.1	5.2-7.3
d	mm	95	95	95	170	170

v ⇒ rated speed **$v_{max.}$** impact ⇒ maximum impact speed
$v_{max.}$ impact 1,15 x **v**

8.2 SA 2 Oil buffer mounted on counterweight

Note: SA2 oil buffers shall only be mounted if a type examination certificate is available.

When the oil buffer is mounted on the counterweight the rubber spring is on the bottom side facing the pit element.
For reasons of missing electrical connection to counterweight the monitoring switch of the buffer cylinder shall be fastened on the counterweight guide rail with this version.
Mount the switch on an angle bracket in the pit above the buffer plate.
Note: in the case of **lifts without machine room** an additional **second switch** shall be provided above the travel limiter which is approximately level with the travel limiter drive.

Function: if the buffer is compressed a control cam moves outwards, activates the monitoring switch and disconnects the drive if the lift is operated with defective buffer (see fig. 6). The monitoring switches are snap-in switches.
Attention: manually reset the activated switch before you restore the lift to normal operation.

Fastening: the SA2 oil buffer version is screwed to a U-shaped profile by means of countersunk screws. The profile is fastened on the bottom transom of the counterweight by means of four hexagon screws. Remove the screws before you start checking the oil level.

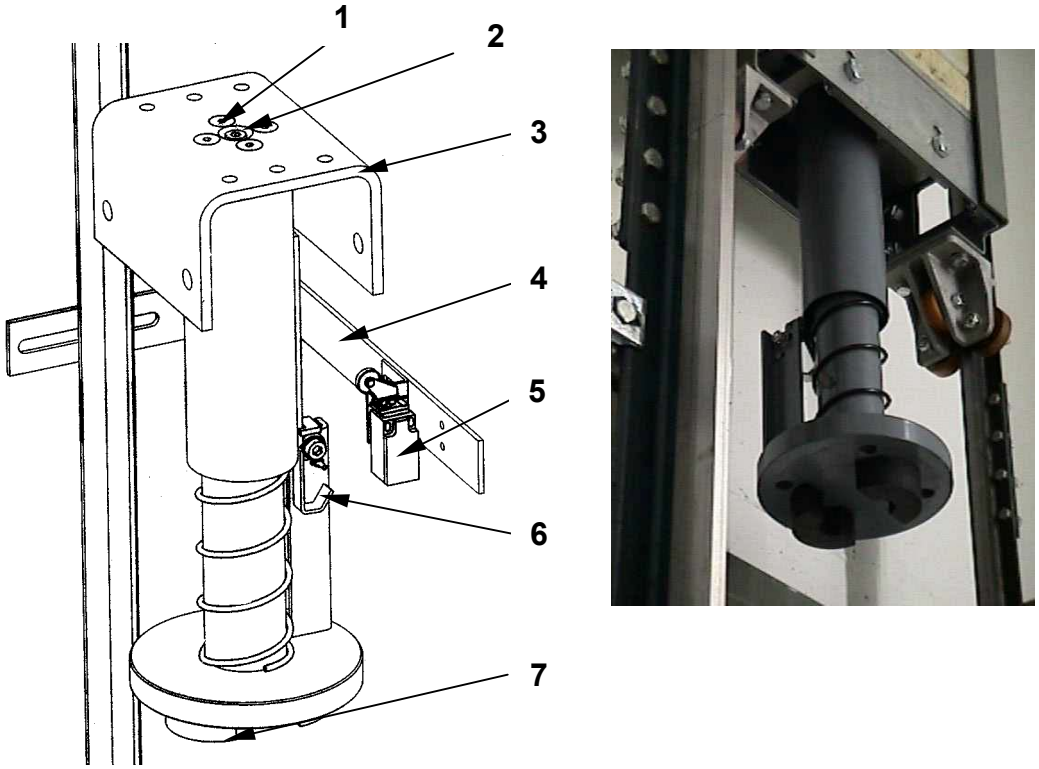


Fig. 6 View of mounting position of buffer mounting

1	Fastening screw
2	Oil dipstick
3	U profile
4	Angle bracket
5	Monitoring switch
6	Control curve
7	Rubber spring

9. Table of annex

TÜV
BAU UND BETRIEB

EC type-examination certificate

Certificate no.:	APV 001 / 002 / 003
Notified body:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München (Identification number 0635)
Applicant/ Certificate holder:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Date of submission:	1998-06-12
Manufacturer:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Product, type:	Energy dissipation hydraulic buffers, type O1 A / O1 B / O1 C
Test Laboratory:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zentralabteilung Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München
Date and number of test report:	1998-09-10 001 / 002 / 003
EC-directive:	95/16/EC
Statement:	The safety component conforms to the directive´s safety requirements for the respective scope of application stated on page 1 of the annex to this EC type-examination certificate.
Certificate date:	1998-09-10

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

Peter Tkalec

Deutscher Akkreditierungs Rat
DAR
Registriernummer: ZLS-ZE-126/97

TÜV BAU- UND BETRIEBSTECHNIK GMBH Unternehmensgruppe TÜV Süddeutschland
Sitz der Gesellschaft: München · Amtsgericht München HRB 92644 · Aufsichtsrat: Karsten Puell (Vors.)
Geschäftsführer: Roland Ayx (Sprecher) · Dr. Roland Ballier · Walter Kurz

TÜV
BAU UND BETRIEB

Annex to the EC type-examination certificate No. APV 001 / 002 / 003

1. Scope of Application

1.1 Permissible total mass of car and rated load in using one buffer

Type	Type examination sign	Total mass (kg) min. max.
O1 A	APV 001	430 - 1370
O1 B	APV 002	620 - 2000
O1 C	APV 003	970 - 3020

If several buffers (of the same type) are used, the permissible masses are multiplied accordingly.

1.2 Permissible maximum impact speed

1.2.1 Maximum impact speed
for a (maximum) buffer stroke of 175 mm (standard type) 1,84 m/s

1.2.2 Maximum impact speed
for a (minimum, shortened) buffer stroke of 80 mm (special type) 1,24 m/s

For values lying between the maximum and the minimum buffer stroke of 80 - 175 mm, the permissible maximum impact speed can be calculated as follows:

$$v = \sqrt{2 \times g_n \times h}$$

v = maximum permissible impact speed (m/s)
h = buffer stroke (m)
g_n = standard acceleration of freefall (9,81 m/s²)

1.3 Properties of the fluid to be used

The buffer may only be filled with a viscosity of 32 mm²/s at 40°C.

2. Conditions

2.1 The lift may only be operated if the buffer is in ready position. The ready position must be checked by an electrical safety device.

2.2 The fluid level must be easy to check (e.g. by oil dipper stick).

2.3 In the case of a reduced buffer stroke (< 175 mm), the buffer label must – in addition to the data required by the standard – include the following information:

Note revealing that the buffer is not a standard-type buffer but a buffer with shorter buffer stroke (addition to type designation „SA1“).
- Given maximum buffer stroke
- Maximum impact speed for given buffer stroke

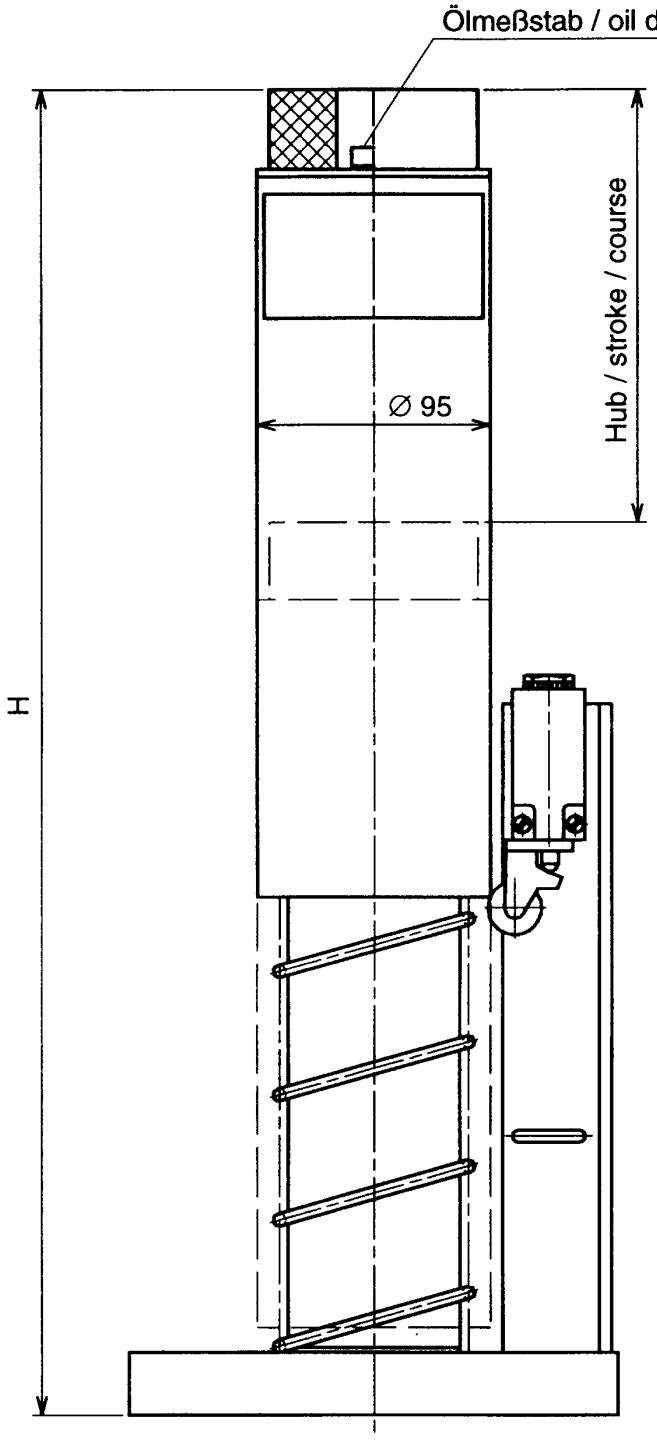
The masses and type examination signs listed under point 1.1 shall also apply to buffers with shorter than standard buffer strokes.

3. Remarks

3.1 In order to provide identification and information about the basic design and its functioning, drawing No. 60 540 76 00 0 dated 09. September 1998 is to be enclosed with the EC type-examination certificate and the annex thereto. The mounting and installation conditions are presented in seperate documents.

3.2 The EC type-examination certificate may only be used in connection with the pertinent annex.

THYSSEN AUFZÜGE	Ölpuffer O1 / O2 / O3 Oil buffer O1 / O2 / O3 Amortisseur à huile O1 / O2 / O3	60 540 76 00 0



10. SEP. 1998

- GEPRÜFT -

TÜV Bau- und Betriebstechnik GmbH
Unternehmensgruppe TÜV Süddeutschland
Region Bayern
Zentralabteilung Aufzüge und Sicherheitsbauteile
Der Sachverständige

UNTERNEHMENSGRUPPE TÜV SÜDDEUTSCHLAND – TÜV BAU UND BETRIEB

Typ / Ausführung Type / version Type / modèle		Hub stroke course [mm]	H [mm]
O1	A	175	540
	B		
	C		
	A - SA1	80 - 175	445 - 540
	B - SA1		
	C - SA1		
O2	A	275	790
	B		
	C		
	A - SA1	175 - 275	690 - 790
	B - SA1		
	C - SA1		
O3	A	430	1180
	B		
	C		
	A - SA1	275 - 430	1025 - 1180
	B - SA1		
	C - SA1		

. . . . - SA 1: Sonderausführung mit verkürztem Hub /
Special version with reduced stroke /
Modèle special avec course rèduile

gez.:	Schneider	Ausgabedatum	09.09.98								
gepr.:	Kuzniar	Name	Kuz.								

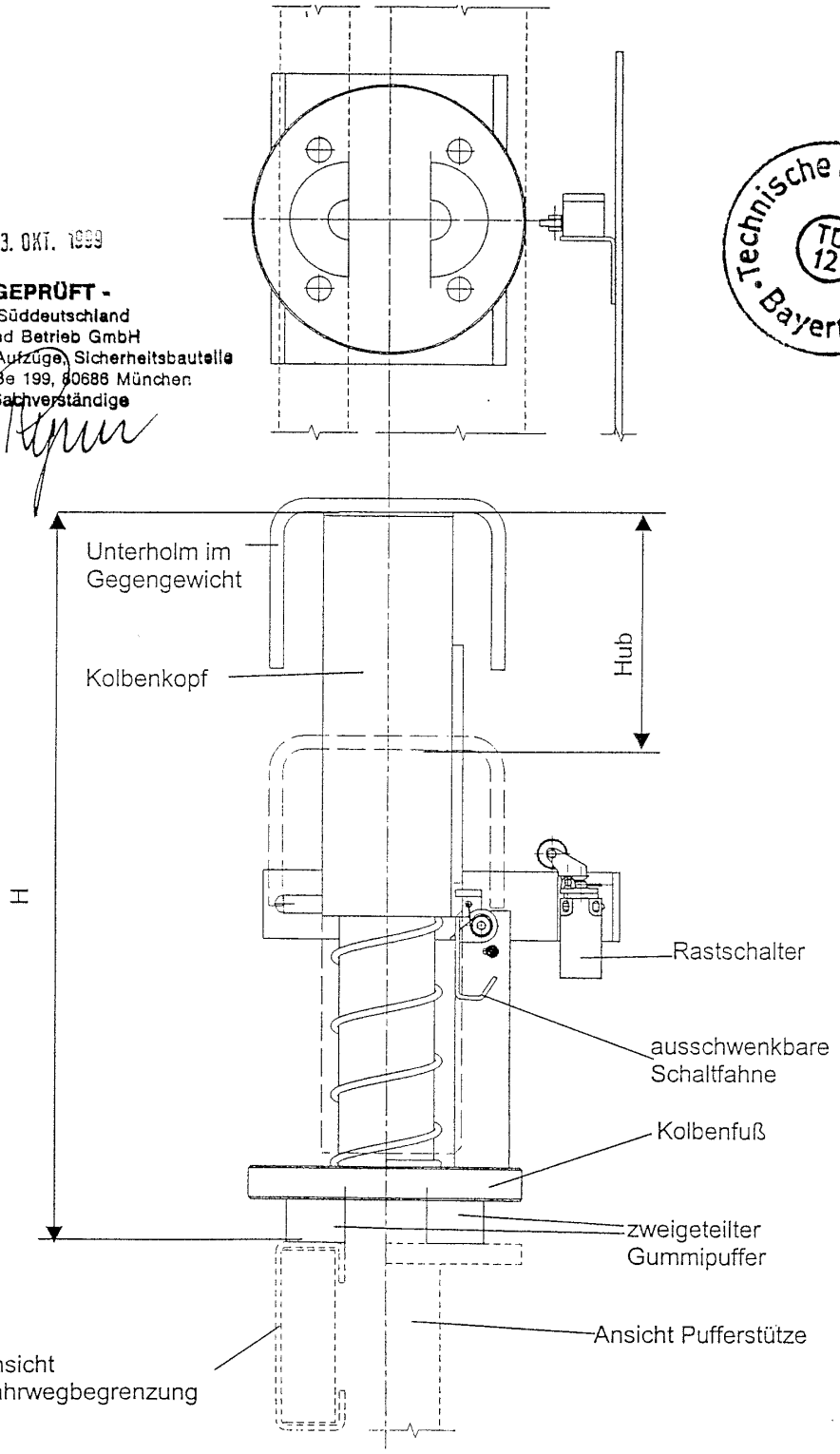
THYSSEN AUFZUGSWERKE	Ölpuffer O1/ O2/ O3 ...-SA2	60 540 76 00 0

Diese Zeichnung ist als Ergänzung zum „Anhang zur EG-Baumusterprüfbescheinigung Nr. APV 001/ 002/ 003“ vom 10.09.1998 zu sehen.

13. OKT. 1999

- GEPRÜFT -
TÜV Süddeutschland
Bau und Betrieb GmbH
Zentralabteilung Aufzüge, Sicherheitsbauteile
Westendstraße 199, 80686 München
Der Sachverständige

Technische Überwachung TÜ 12 Bayern



-...SA2 Sonderausführung mit externer Überwachung der Bereitschaftsstellung

gez.: Dudde	Ausgabedatum	05.10.99								
gepr.:Koch	Name									

Ein Unternehmen von ThyssenKrupp Elevator

Thyssen Aufzugswerke

ThyssenKrupp

EG - Konformitätserklärung
nach Richtlinie 95/16/EG, Anhang II, A
EC - Declaration of Conformity
acc. to directive 95/16/EC, annex II, A
Déclaration de Conformité CE
selon directive 95/16/EN, annexe II, A

Hiermit erklären wir, dass das Sicherheitsbauteil
This is to confirm that the safety device
Par la présente nous confirmons que le composant de sécurité

Art / Product / Produit	: Energieverzehrende Hydraulikpuffer : Energy dissipation type hydraulic buffer : Amortisseurs hydraulique à dissipation d'énergie
Typ / Type / Type	: O1 A / O1 B / O1 C
Baujahr Year of manufacture Année de fabrication	: siehe Typenschild am Bauteil : see name plate of component : voir plaque d'identité du composant
Hergestellt von Manufactured by Fabriqué par	: Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a.d.F.

in der gelieferten Ausführung dem geprüften Sicherheitsbauteil und der Richtlinie 95/16/EG - Aufzugsrichtlinie - entspricht.
is designed in accordance with the safety device tested and complies with the directive 95/16/EC – lift directive.
est conforme au composant de sécurité testé et respecte la directive 95/16/CE – directive ascenseurs.

Angewendete harmonisierte Norm Harmonised standard applied Norme harmonisée appliquée	: EN 81- 1/2
Bescheinigungs-Nr. Certificate No. No. d'attestation.	: APV 001 / 002 / 003
Benannte Stelle Notified body Organisme agréé	: TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199 D-80686 München (Kennummer 0635)

Thyssen Aufzugswerke GmbH
Bernhäuser Str. 45
D-73765 Neuhausen a.d.F.

.....
Gerhard Thumm
(Geschäftsführer Technik)
(Member of the board – R&D and Engineering)
(Membre du directoire – Bureaux d' Etudes et Projects)

APV001O1.doc

TÜV
BAU UND BETRIEB

EC type-examination certificate

Certificate no.:	APV 004 / 005 / 006
Notified body:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München (Identification number 0635)
Applicant/ Certificate holder:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Date of submission:	1998-06-12
Manufacturer:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Product, type:	Energy dissipation hydraulic buffers, type O2 A / O2 B / O2 C
Test Laboratory:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zentralabteilung Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München
Date and number of test report:	1998-09-10 004 / 005 / 006
EC-directive:	95/16/EC
Statement:	The safety component conforms to the directive´s safety requirements for the respective scope of application stated on page 1 of the annex to this EC type-examination certificate.
Certificate date:	1998-09-10

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

P. Tkal

Peter Tkalec

Deutscher Akkreditierungs Rat
DAR
Registriernummer: ZLS-ZE-126/97

TÜV
BAU UND BETRIEB

Annex to the EC type-examination certificate No. APV 004 / 005 / 006

1. Scope of Application

1.1 Permissible total mass of car and rated load in using one buffer

Type	Type examination sign	Total mass (kg) min. max.
O2 A	APV 004	430 - 1370
O2 B	APV 005	620 - 2000
O2 C	APV 006	970 - 3020

If several buffers (of the same type) are used, the permissible masses are multiplied accordingly.

1.2 Permissible maximum impact speed

1.2.1 Maximum impact speed
for a (maximum) buffer stroke of 275 mm (standard type) 2,30 m/s

1.2.2 Maximum impact speed
for a (minimum, shortened) buffer stroke of 175 mm (special type) 1,84 m/s

For values lying between the maximum and the minimum buffer stroke of 175 - 275 mm, the permissible maximum impact speed can be calculated as follows:

$$v = \sqrt{2 \times g_n \times h}$$

v = maximum permissible impact speed (m/s)
h = buffer stroke (m)
g_n = standard acceleration of freefall (9,81 m/s²)

1.3 Properties of the fluid to be used

The buffer may only be filled with a viscosity of 32 mm²/s at 40°C.

2. Conditions

2.1 The lift may only be operated if the buffer is in ready position. The ready position must be checked by an electrical safety device.

2.2 The fluid level must be easy to check (e.g. by oil dipper stick).

2.3 In the case of a reduced buffer stroke (< 275 mm), the buffer label must – in addition to the data required by the standard – include the following information:

Note revealing that the buffer is not a standard-type buffer but a buffer with shorter buffer stroke (addition to type designation „SA1").
- Given maximum buffer stroke
- Maximum impact speed for given buffer stroke

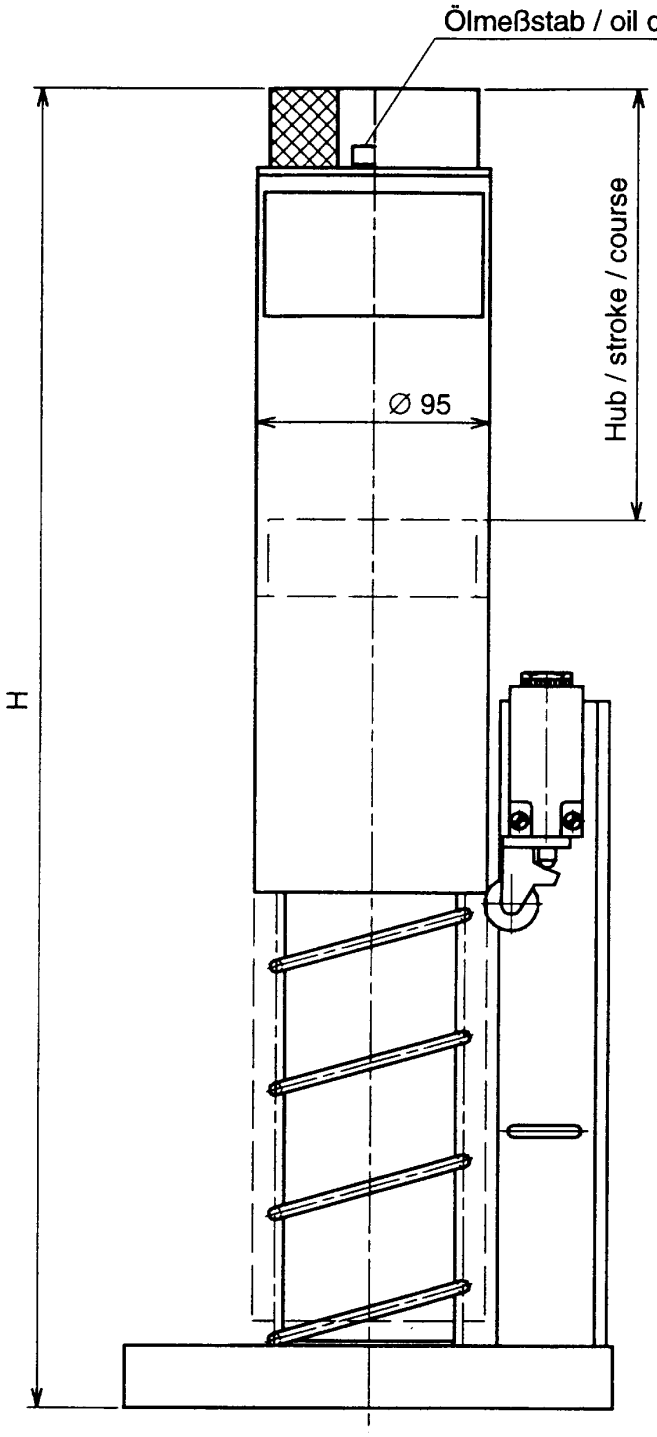
The masses and type examination signs listed under point 1.1 shall also apply to buffers with shorter than standard buffer strokes.

3. Remarks

3.1 In order to provide identification and information about the basic design and its functioning, drawing No. 60 540 76 00 0 dated 09. September 1998 is to be enclosed with the EC type-examination certificate and the annex thereto. The mounting and installation conditions are presented in seperate documents.

3.2 The EC type-examination certificate may only be used in connection with the pertinent annex.

THYSSEN AUFZÜGE	**Ölpuffer O1 / O2 / O3** **Oil buffer O1 / O2 / O3** **Amortisseur à huile O1 / O2 / O3**	60 540 76 00 0



10. SEP. 1998

- GEPRUFT -

TÜV Bau- und Betriebstechnik GmbH
Unternehmensgruppe TÜV Süddeutschland
Region Bayern
Zentralabteilung Aufzüge und Sicherheitsbauteile
Der Sachverständige

UNTERNEHMENSGRUPPE TÜV SÜDDEUTSCHLAND
TÜV BAU UND BETRIEB

Typ / Ausführung Type / version Type / modèle		Hub stroke course [mm]	H [mm]
O1	A	175	540
	B		
	C		
	A - SA1	80 - 175	445 - 540
	B - SA1		
	C - SA1		
O2	A	275	790
	B		
	C		
	A - SA1	175 - 275	690 - 790
	B - SA1		
	C - SA1		
O3	A	430	1180
	B		
	C		
	A - SA1	275 - 430	1025 - 1180
	B - SA1		
	C - SA1		

. . . . - SA 1: Sonderausführung mit verkürztem Hub /
Special version with reduced stroke /
Modèle special avec course rèduile

gez.:	Schneider	Ausgabedatum	09.09.98								
gepr.:	Kuzniar	Name	Kuz.								

Ein Unternehmen von ThyssenKrupp Elevator

Thyssen Aufzugswerke

ThyssenKrupp

EG - Konformitätserklärung
nach Richtlinie 95/16/EG, Anhang II, A
EC - Declaration of Conformity
acc. to directive 95/16/EC, annex II, A
Déclaration de Conformité CE
selon directive 95/16/EN, annexe II, A

Hiermit erklären wir, dass das Sicherheitsbauteil
This is to confirm that the safety device
Par la présente nous confirmons que le composant de sécurité

Art / Product / Produit	: Energieverzehrende Hydraulikpuffer : Energy dissipation type hydraulic buffer : Amortisseurs hydraulique à dissipation d'énergie
Typ / Type / Type	: O1 A / O1 B / O1 C
Baujahr Year of manufacture Année de fabrication	: siehe Typenschild am Bauteil : see name plate of component : voir plaque d'identité du composant
Hergestellt von Manufactured by Fabriqué par	: Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a.d.F.

in der gelieferten Ausführung dem geprüften Sicherheitsbauteil und der Richtlinie 95/16/EG - Aufzugsrichtlinie - entspricht.
is designed in accordance with the safety device tested and complies with the directive 95/16/EC – lift directive.
est conforme au composant de sécurité testé et respecte la directive 95/16/CE – directive ascenseurs.

Angewendete harmonisierte Norm Harmonised standard applied Norme harmonisée appliquée	: EN 81- 1/2
Bescheinigungs-Nr. Certificate No. No. d'attestation.	: APV 001 / 002 / 003
Benannte Stelle Notified body Organisme agréé	: TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199 D-80686 München (Kennummer 0635)

Thyssen Aufzugswerke GmbH
Bernhäuser Str. 45
D-73765 Neuhausen a.d.F.

.....
Gerhard Thumm
(Geschäftsführer Technik)
(Member of the board – R&D and Engineering)
(Membre du directoire – Bureaux d' Etudes et Projects)

APV001O1.doc

TÜV
BAU UND BETRIEB

EC type-examination certificate

Certificate no.:	APV 007 / 008 / 009
Notified body:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München (Identification number 0635)
Applicant/ Certificate holder:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Date of submission:	1998-06-12
Manufacturer:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Product, type:	Energy dissipation hydraulic buffers, type O3 A / O3 B / O3 C
Test Laboratory:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zentralabteilung Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München
Date and number of test report:	1998-09-10 007 / 008 / 009
EC-directive:	95/16/EC
Statement:	The safety component conforms to the directive´s safety requirements for the respective scope of application stated on page 1 of the annex to this EC type-examination certificate.
Certificate date:	1998-09-10

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

P. Tkalec

Peter Tkalec

Deutscher Akkreditierungs Rat
DAR
Registriernummer: ZLS-ZE-126/97

TÜV
BAU UND BETRIEB

Annex to the EC type-examination certificate No. APV 007 / 008 / 009

1. Scope of Application

1.1 Permissible total mass of car and rated load in using one buffer

Type	Type examination sign	Total mass (kg) min. max.
O3 A	APV 007	430 - 1370
O3 B	APV 008	620 - 2000
O3 C	APV 009	970 - 3020

If several buffers (of the same type) are used, the permissible masses are multiplied accordingly.

1.2 Permissible maximum impact speed

1.2.1 Maximum impact speed
for a (maximum) buffer stroke of 430 mm (standard type) 2,88 m/

1.2.2 Maximum impact speed
for a (minimum, shortened) buffer stroke of 275 mm (special type) 2,30 m/

For values lying between the maximum and the minimum buffer stroke of 275 - 430 mm, the permissible maximum impact speed can be calculated as follows:

$v = \sqrt{2 \times g_n \times h}$

v = maximum permissible impact speed (m/s)
h = buffer stroke (m)
g_n = standard acceleration of freefall (9,81 m/s²)

1.3 Properties of the fluid to be used

The buffer may only be filled with a viscosity of 32 mm²/s at 40°C.

2. Conditions

2.1 The lift may only be operated if the buffer is in ready position. The ready position must be checked by an electrical safety device.

2.2 The fluid level must be easy to check (e.g. by oil dipper stick).

2.3 In the case of a reduced buffer stroke (< 430 mm), the buffer label must – in addition to the data required by the standard – include the following information:

Note revealing that the buffer is not a standard-type buffer but a buffer with shorter buffer stroke (addition to type designation „SA1“).
- Given maximum buffer stroke
- Maximum impact speed for given buffer stroke

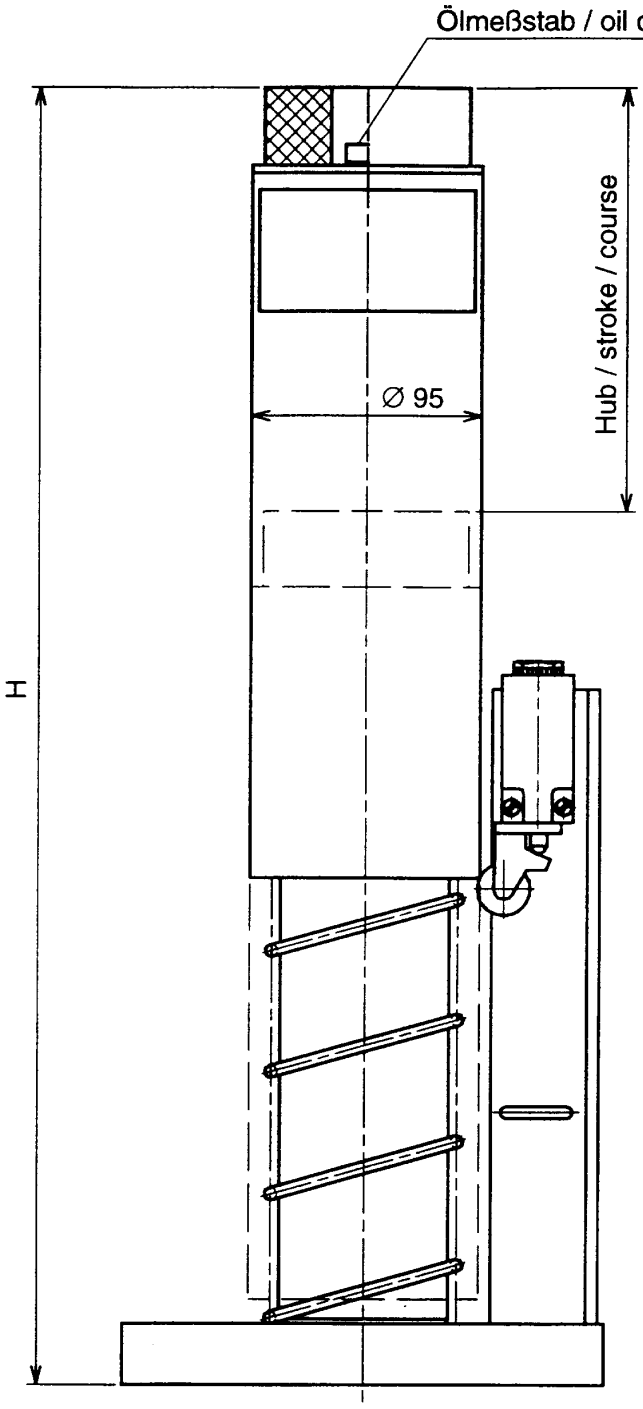
The masses and type examination signs listed under point 1.1 shall also apply to buffers with shorter than standard buffer strokes.

3. Remarks

3.1 In order to provide identification and information about the basic design and its functioning, drawing No. 60 540 76 00 0 dated 09. September 1998 is to be enclosed with the EC type-examination certificate and the annex thereto. The mounting and installation conditions are presented in seperate documents.

3.2 The EC type-examination certificate may only be used in connection with the pertinent annex.

THYSSEN AUFZÜGE	Ölpuffer O1 / O2 / O3 Oil buffer O1 / O2 / O3 Amortisseur à huile O1 / O2 / O3	60 540 76 00 0



10. SEP. 1998

- GEPRÜFT -

TÜV Bau- und Betriebstechnik GmbH
Unternehmensgruppe TÜV Süddeutschland
Region Bayern
Zentralabteilung Aufzüge und Sicherheitsbauteile
Der Sachverständige

UNTERNEHMENSGRUPPE TÜV SÜDDEUTSCHLAND TÜV BAU UND BETRIEB

Typ / Ausführung Type / version Type / modèle		Hub stroke course [mm]	H [mm]
O1	A	175	540
	B		
	C		
	A - SA1	80 - 175	445 - 540
	B - SA1		
	C - SA1		
O2	A	275	790
	B		
	C		
	A - SA1	175 - 275	690 - 790
	B - SA1		
	C - SA1		
O3	A	430	1180
	B		
	C		
	A - SA1	275 - 430	1025 - 1180
	B - SA1		
	C - SA1		

. . . . - SA 1: Sonderausführung mit verkürztem Hub /
Special version with reduced stroke /
Modèle special avec course rèduile

gez.: Schneider		Ausgabedatum	09.09.98								
gepr.: Kuzniar		Name	Kuz.								

Ein Unternehmen von ThyssenKrupp Elevator

Thyssen Aufzugswerke

ThyssenKrupp

EG - Konformitätserklärung
nach Richtlinie 95/16/EG, Anhang II, A
EC - Declaration of Conformity
acc. to directive 95/16/EC, annex II, A
Déclaration de Conformité CE
selon directive 95/16/EN, annexe II, A

Hiermit erklären wir, dass das Sicherheitsbauteil
This is to confirm that the safety device
Par la présente nous confirmons que le composant de sécurité

Art / Product / Produit	: Energieverzehrende Hydraulikpuffer : Energy dissipation type hydraulic buffer : Amortisseurs hydraulique à dissipation d'énergie
Typ / Type / Type	: O3 A / O3 B / O3 C
Baujahr Year of manufacture Année de fabrication	: siehe Typenschild am Bauteil : see name plate of component : voir plaque d'identité du composant
Hergestellt von Manufactured by Fabriqué par	: Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a.d.F.

in der gelieferten Ausführung dem geprüften Sicherheitsbauteil und der Richtlinie 95/16/EG - Aufzugsrichtlinie - entspricht.
is designed in accordance with the safety device tested and complies with the directive 95/16/EC – lift directive.
est conforme au composant de sécurité testé et respecte la directive 95/16/CE – directive ascenseurs.

Angewendete harmonisierte Norm Harmonised standard applied Norme harmonisée appliquée	: EN 81- 1/2
Bescheinigungs-Nr. Certificate No. No. d'attestation.	: APV 007 / 008 / 009
Benannte Stelle Notified body Organisme agréé	: TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199 D-80686 München (Kennummer 0635)

Thyssen Aufzugswerke GmbH
Bernhäuser Str. 45
D-73765 Neuhausen a.d.F.

.....
Gerhard Thumm
(Geschäftsführer Technik)
(Member of the board – R&D and Engineering)
(Membre du directoire – Bureaux d' Etudes et Projects)

APV007O3.doc

TÜV
BAU UND BETRIEB

EC type-examination certificate

Certificate no.:	APV 010 / 011 / 012
Notified body:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München (Identification number 0635)
Applicant/ Certificate holder:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Date of submission:	1998-06-12
Manufacturer:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Product, type:	Energy dissipation hydraulic buffers, type O4 A / O4 B / O4 C
Test Laboratory:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zentralabteilung Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München
Date and number of test report:	1998-09-10 010 / 011 / 012
EC-directive:	95/16/EC
Statement:	The safety component conforms to the directive´s safety requirements for the respective scope of application stated on page 1 of the annex to this EC type-examination certificate.
Certificate date:	1998-09-10

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

P. Tkal

Peter Tkalec

Deutscher
Akkreditierungs
Rat
DAR

Registriernummer: ZLS-ZE-126/97

TÜV
BAU UND BETRIEB

Annex to the EC type-examination certificate No. APV 010 / 011 / 012

1. Scope of Application

1.1 Permissible total mass of car and rated load in using one buffer

Type	Type examination sign	Total mass (kg) min. max.
O4 A	APV 010	620 - 1480
O4 B	APV 011	780 - 2700
O4 C	APV 012	1360 - 4130

If several buffers (of the same type) are used, the permissible masses are multiplied accordingly.

1.2 Permissible maximum impact speed

1.2.1 Maximum impact speed
for a (maximum) buffer stroke of 645 mm (standard type) 3,55 m/s

1.2.2 Maximum impact speed
for a (minimum, shortened) buffer stroke of 430 mm (special type) 2,88 m/s

For values lying between the maximum and the minimum buffer stroke of 430 - 645 mm, the permissible maximum impact speed can be calculated as follows:

$$v = \sqrt{2 \times g_n \times h}$$

v = maximum permissible impact speed (m/s)
h = buffer stroke (m)
g_n = standard acceleration of freefall (9,81 m/s²)

1.3 Properties of the fluid to be used

The buffer may only be filled with a viscosity of 32 mm²/s at 40°C.

2. Conditions

2.1 The lift may only be operated if the buffer is in ready position. The ready position must be checked by an electrical safety device.

2.2 The fluid level must be easy to check (e.g. by oil dipper stick).

2.3 In the case of a reduced buffer stroke (< 645 mm), the buffer label must – in addition to the data required by the standard – include the following information:

Note revealing that the buffer is not a standard-type buffer but a buffer with shorter buffer stroke (addition to type designation „SA1“).
- Given maximum buffer stroke
- Maximum impact speed for given buffer stroke

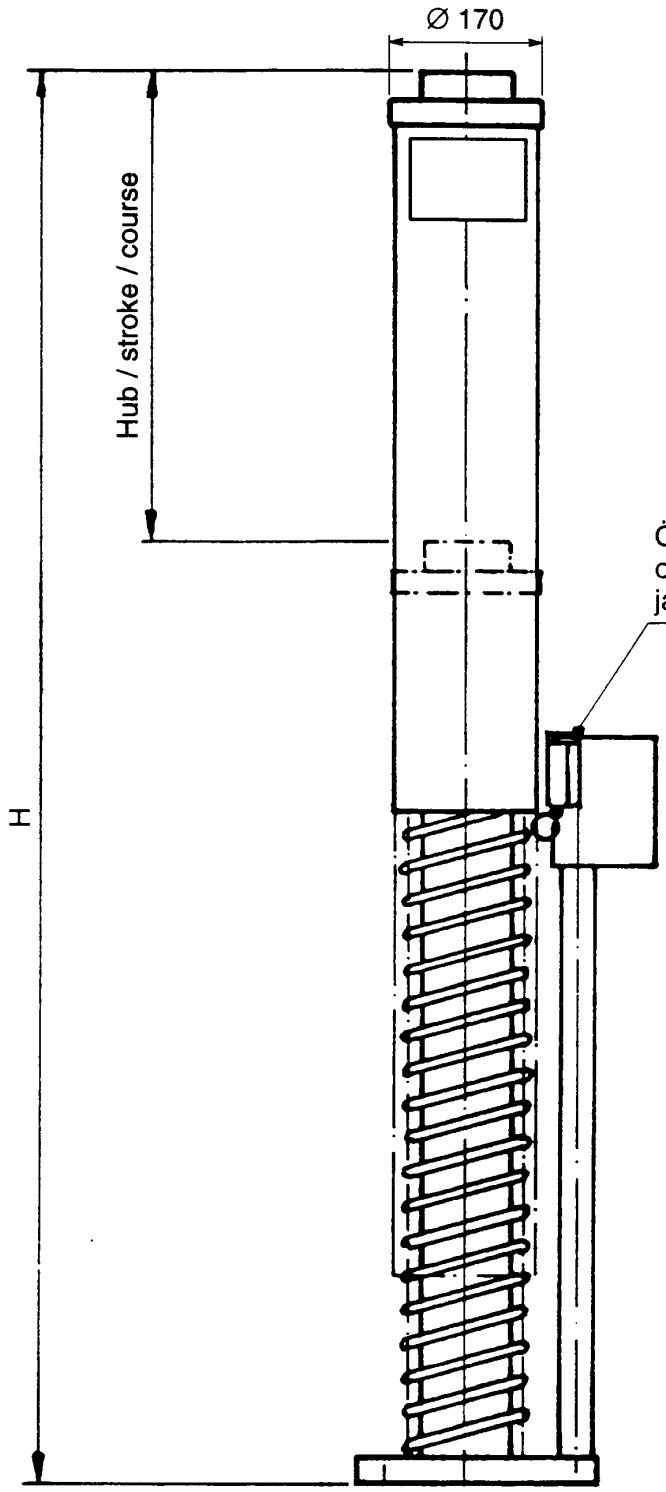
The masses and type examination signs listed under point 1.1 shall also apply to buffers with shorter than standard buffer strokes.

3. Remarks

3.1 In order to provide identification and information about the basic design and its functioning, drawing No. 60 540 75 00 0 dated 09. September 1998 is to be enclosed with the EC type-examination certificate and the annex thereto. The mounting and installation conditions are presented in seperate documents.

3.2 The EC type-examination certificate may only be used in connection with the pertinent annex.

THYSSEN AUFZÜGE	Ölpuffer O4 / O5 Oil buffer O4 / O5 Amortisseur à huile O4 / O5	60 540 75 00 0



10. SEP. 1998

- GEPRÜFT -

TÜV Bau- und Betriebstechnik GmbH
Unternehmensgruppe TÜV Süddeutschland
Region Bayern
Zentralabteilung Aufzüge und Sicherheitsbauteile
Der Sachverständige

UNTERNEHMENSGRUPPE TÜV SÜDDEUTSCHLAND TÜV BAU UND BETRIEB

Typ / Ausführung Type / version Type / modèle		Hub stroke course [mm]	H [mm]
O4	A	645	1554
	B		
	C		
	A - SA1	430 - 645	1339 - 1554
	B - SA1		
	C - SA1		
O5	A	925	2114
	B		
	C		
	A - SA1	645 - 925	1834 - 2114
	B - SA1		
	C - SA1		

. . . . - SA 1: Sonderausführung mit verkürztem Hub /
Special version with reduced stroke /
Modèle special avec course rèduile

gez.:	Schneider	Ausgabedatum	09.09.98								
gepr.:	Kuzniar	Name	Kuz.								

Ein Unternehmen
von ThyssenKrupp
Elevator

Thyssen Aufzugswerke

ThyssenKrupp

EG - Konformitätserklärung
nach Richtlinie 95/16/EG, Anhang II, A
EC - Declaration of Conformity
acc. to directive 95/16/EC, annex II, A
Déclaration de Conformité CE
selon directive 95/16/EN, annexe II, A

Hiermit erklären wir, dass das Sicherheitsbauteil
This is to confirm that the safety device
Par la présente nous confirmons que le composant de sécurité

Art / Product / Produit	: Energieverzehrende Hydraulikpuffer : Energy dissipation type hydraulic buffer : Amortisseurs hydraulique à dissipation d'énergie
Typ / Type / Type	: O4 A / O4 B / O4 C
Baujahr Year of manufacture Année de fabrication	: siehe Typenschild am Bauteil : see name plate of component : voir plaque d'identité du composant
Hergestellt von Manufactured by Fabriqué par	: Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a.d.F.

in der gelieferten Ausführung dem geprüften Sicherheitsbauteil und der Richtlinie 95/16/EG - Aufzugsrichtlinie - entspricht.
is designed in accordance with the safety device tested and complies with the directive 95/16/EC – lift directive.
est conforme au composant de sécurité testé et respecte la directive 95/16/CE – directive ascenseurs.

Angewendete harmonisierte Norm Harmonised standard applied Norme harmonisée appliquée	: EN 81- 1/2
Bescheinigungs-Nr. Certificate No. No. d'attestation.	: APV 010 / 011 / 012
Benannte Stelle Notified body Organisme agréé	: TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199 D-80686 München (Kennummer 0635)

Thyssen Aufzugswerke GmbH
Bernhäuser Str. 45
D-73765 Neuhausen a.d.F.

.....
Gerhard Thumm
(Geschäftsführer Technik)
(Member of the board – R&D and Engineering)
(Membre du directoire – Bureaux d' Etudes et Projects)

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TÜV
BAU UND BETRIEB

EC type-examination certificate

Certificate no.:	APV 013 / 014 / 015
Notified body:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München (Identification number 0635)
Applicant/ Certificate holder:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Date of submission:	1998-06-12
Manufacturer:	Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a. d. F.
Product, type:	Energy dissipation hydraulic buffers, type O5 A / O5 B / O5 C
Test Laboratory:	TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zentralabteilung Aufzüge und Sicherheitsbauteile Westendstraße 199, D-80686 München
Date and number of test report:	1998-09-10 013 / 014 / 015
EC-directive:	95/16/EC
Statement:	The safety component conforms to the directive´s safety requirements for the respective scope of application stated on page 1 of the annex to this EC type-examination certificate.
Certificate date:	1998-09-10

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

P. Tkal

Peter Tkalec

Deutscher
Akkreditierungs
Rat
DAR

Registriernummer: ZLS-ZE-126/97

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Annex to the EC type-examination certificate No. APV 013 / 014 / 015

1. Scope of Application

1.1 Permissible total mass of car and rated load in using one buffer

Type	Type examination sign	Total mass (kg) min. max.
O5 A	APV 013	620 - 1480
O5 B	APV 014	780 - 2700
O5 C	APV 015	1360 - 4130

If several buffers (of the same type) are used, the permissible masses are multiplied accordingly.

1.2 Permissible maximum impact speed

1.2.1 Maximum impact speed
for a (maximum) buffer stroke of 925 mm (standard type) 4,26 m/s

1.2.2 Maximum impact speed
for a (minimum, shortened) buffer stroke of 645 mm (special type) 3,55 m/s

For values lying between the maximum and the minimum buffer stroke of 645 - 925 mm, the permissible maximum impact speed can be calculated as follows:

$$v = \sqrt{2 \times g_n \times h}$$

v = maximum permissible impact speed (m/s)
h = buffer stroke (m)
g_n = standard acceleration of freefall (9,81 m/s²)

1.3 Properties of the fluid to be used

The buffer may only be filled with a viscosity of 32 mm²/s at 40°C.

2. Conditions

2.1 The lift may only be operated if the buffer is in ready position. The ready position must be checked by an electrical safety device.

2.2 The fluid level must be easy to check (e.g. by oil dipper stick).

2.3 In the case of a reduced buffer stroke (< 925 mm), the buffer label must – in addition to the data required by the standard – include the following information:

Note revealing that the buffer is not a standard-type buffer but a buffer with shorter buffer stroke (addition to type designation „SA1").
- Given maximum buffer stroke
- Maximum impact speed for given buffer stroke

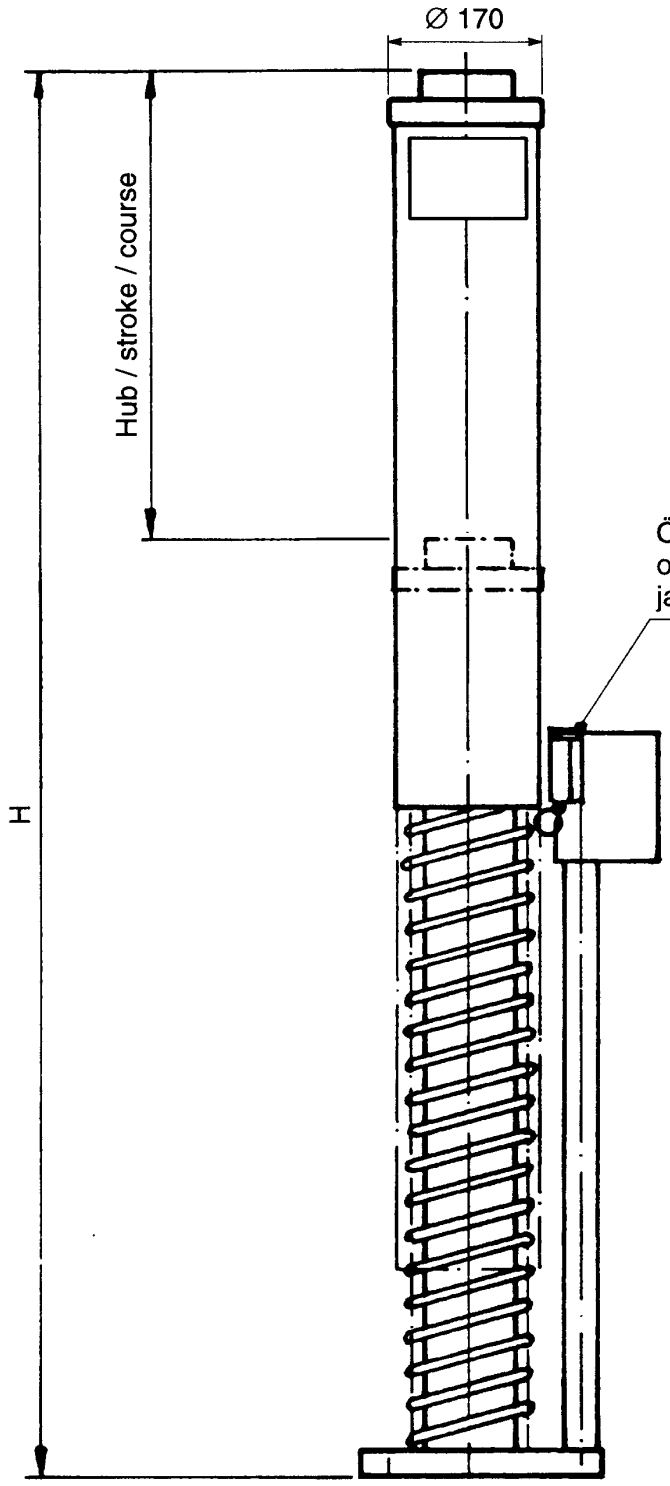
The masses and type examination signs listed under point 1.1 shall also apply to buffers with shorter than standard buffer strokes.

3. Remarks

3.1 In order to provide identification and information about the basic design and its functioning, drawing No. 60 540 75 00 0 dated 09. September 1998 is to be enclosed with the EC type-examination certificate and the annex thereto. The mounting and installation conditions are presented in seperate documents.

3.2 The EC type-examination certificate may only be used in connection with the pertinent annex.

THYSSEN AUFZÜGE	Ölpuffer O4 / O5 Oil buffer O4 / O5 Amortisseur à huile O4 / O5	60 540 75 00 0



10. SEP. 1998

- GEPRÜFT -

TÜV Bau- und Betriebstechnik GmbH
Unternehmensgruppe TÜV Süddeutschland
Region Bayern
Zentralabteilung Aufzüge und Sicherheitsbauteile
Der Sachverständige

UNTERNEHMENSGRUPPE TÜV SÜDDEUTSCHLAND TÜV BAU UND BETRIEB

Typ / Ausführung Type / version Type / modèle		Hub stroke course [mm]	H [mm]
O4	A	645	1554
	B		
	C		
	A - SA1	430 - 645	1339 - 1554
	B - SA1		
	C - SA1		
O5	A	925	2114
	B		
	C		
	A - SA1	645 - 925	1834 - 2114
	B - SA1		
	C - SA1		

. . . . - SA 1: Sonderausführung mit verkürztem Hub /
Special version with reduced stroke /
Modèle special avec course rèduile

gez.:	Schneider	Ausgabedatum	09.09.98								
gepr.:	Kuzniar	Name	Kuz.								

Ein Unternehmen von ThyssenKrupp Elevator

Thyssen Aufzugswerke

ThyssenKrupp

EG - Konformitätserklärung
nach Richtlinie 95/16/EG, Anhang II, A
EC - Declaration of Conformity
acc. to directive 95/16/EC, annex II, A
Déclaration de Conformité CE
selon directive 95/16/EN, annexe II, A

Hiermit erklären wir, dass das Sicherheitsbauteil
This is to confirm that the safety device
Par la présente nous confirmons que le composant de sécurité

Art / Product / Produit	: Energieverzehrende Hydraulikpuffer : Energy dissipation hydraulic buffer : Amortisseurs hydraulique à dissipation d'énergie
Typ / Type / Type	: O5 A / O5 B / O5 C
Baujahr Year of manufacture Année de fabrication	: siehe Typenschild am Bauteil : see name plate of component : voir plaque d'identité du composant
Hergestellt von Manufactured by Fabriqué par	: Thyssen Aufzugswerke GmbH Bernhäuser Str. 45 D-73765 Neuhausen a.d.F.

in der gelieferten Ausführung dem geprüften Sicherheitsbauteil und der Richtlinie 95/16/EG - Aufzugsrichtlinie - entspricht.
is designed in accordance with the safety device tested and complies with the directive 95/16/EC – lift directive.
est conforme au composant de sécurité testé et respecte la directive 95/16/CE – directive ascenseurs.

Angewendete harmonisierte Norm Harmonised standard applied Norme harmonisée appliquée	: EN 81- 1/2
Bescheinigungs-Nr. Certificate No. No. d'attestation.	: APV 013 / 014 / 015
Benannte Stelle Notified body Organisme agréé	: TÜV Bau- und Betriebstechnik GmbH Unternehmensgruppe TÜV Süddeutschland Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199 D-80686 München (Kennummer 0635)

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