ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Industrie Service

EU TYPE-EXAMINATION CERTIFICATE

According to Annex IV, Part A of 2014/33/EU Directive

Certificate No.:	EU-UCM 023
Certification Body of the Notified Body:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 Munich – Germany Identification No. 0036
Certificate Holder:	Bucher Hydraulics AG Industriestr. 15 6345 Neuheim - Switzerland
Manufacturer of the Test Sample: (Manufacturer of Serial Production – see Enclosure)	Bucher Hydraulics AG Industriestr. 15 6345 Neuheim - Switzerland
Product:	Hydraulic valve for a brake element as part of a protection means against unintended downward car movement
Type:	iValve 500 VF
Directive:	2014/33/EU
Reference Standards:	EN 81-20:2014 EN 81-50:2014 EN 81-2:1998+A3:2009
Test Report:	EU-UCM 023 of 2016-01-25
Outcome:	The safety component conforms to the essential health and safety requirements of the mentioned Directive as long as the requirements of the annex of this certificate are kept.
Date of Issue:	2016-01-25
Date of Validity:	from 2016-04-20

TÜV SÜD Industrie Service GmbH 00 36 Notified Body

Achim Janocha
Certification Body "lifts and cranes"

TÜV®

Annex to the EU Type-Examination Certificate
No. EU-UCM 023 of 2016-01-25

Industrie Service

1 Scope of application

Hydraulic valve for a brake element as part of a protection means against unintended downward car movement, type iValve 500 VF

Classic tripping:

Maximum braking distance after triggering	900 mm
Maximum permissible distance: level position - triggering	100 mm
Permissible nominal speed	≤ 1,0 m/s
Permissible release speed	≤ 1,3 m/s
Permissible nominal flow	150 - 500 l/min
Nominal pressure range	4 - 60 bar
Viscosity range	20 - 500 cSt

Electrical tripping:
(Detection of the cabin speed at a max. speed of 0.3 m/s within the door zone with a type-examinated safety circuit)

Maximum braking distance after triggering	750 mm
Maximum permissible distance: level position - triggering	250 mm
Permissible nominal speed	≤ 1,0 m/s
Permissible nominal flow	150 - 500 l/min
Nominal pressure range	4 - 60 bar
Viscosity range	20 - 500 cSt

2 Terms and Conditions

2.1 For identification and information about the principal design and operation and for demarcation of the examined and approved sample the approval drawing, no. 300-4-10024900-B dated 2015-09-30, page 1 to 3 with certification stamp of 2016-01-25 has to be enclosed to the EU type-examination certificate and its annex.

2.2 The above mentioned safety component represents only one part of the protective equipment against movements of the car in downward direction. Only in combination with a detection and triggering component (also two different components are possible), which must be subjected to an own EU type-examination according to the test procedure specified in EN 81-2:1998+A3:2009 (D), Annex F.8 / EN 81-50:2014 (D), section 5.8, the created system can fulfil the requirements for a protection means in accordance with EN 81-2:1998+A3:2009 (D), section 9.13 / EN 81-20:2014 (D), section 5.6.7.

2.3 The installer must prepare test instructions in order to meet the overall concept of the elevator system, enclose these test instructions in the elevator documents and if necessary provide important tools or measuring devices which allow easy tests (e.g., when landing doors are closed).

2.4 The Bucher Hydraulics iValve is equipped with a redundant locking mechanism for downward travel in order to meet the requirements according to EN 81-2:1998+A3:2009 (D), section 9.13 / EN 81-20:2014, section 5.6.7 for the prevention of unintended downward travel in case of an open landing door. The detection of emergency cases, the function of the brake in an upwards direction and the triggering of both brakes is the task of the control unit.

2.5 The reliable operation (i.e. the closing motion of both locking mechanisms connected in series for downward travel) of the iValve 500 VF is electronically monitored. If a defect is detected, it is reported to the signal output. The function of the control unit is to monitor the signal output according to EN 81-2:1998+A3:2009 (D), section 9.13.3 / EN 81-20:2014, section 5.6.6.2. To this end, a plausibility check of the signal output conditions (in contact/not in contact) is provided which must be accomplished by the control. A detailed description of the recommendations with regard to the

triggering mechanism as well as of the monitoring and the plausibility check are provided in the current technical documentation of the Bucher Hydraulic iValve 500 VF elevation control valve.

2.6 The installer must be provided with written confirmation of the compliance of the component with the type tested part as well as of the guaranteed braking distances and accelerations.

2.7 The EU type-examination certificate may only be used in combination with the corresponding annex and enclosure (List of authorized manufacturer of the serial production). The enclosure will be updated immediately after any change by the certification holder.

2.8 Conditions by classic tripping:

2.8.1 Provided that the voltage drop on the coil has occurred within the distance of 100 mm as indicated in the scope of application it can be assumed that the requirements for braking distance and acceleration according to EN 81-2:1998+A3:2009 (D), point 9.13.5 and 9.13.6 / EN 81-20:2014, point 5.6.7.5 and 5.6.7.6 are met.

Therefore a separate certificate for braking distances and accelerations at different volume flow, load pressure and pressure medium viscosity is not required when testing the overall system. This allows tests of the overall system at reduced speed.

2.8.2 For a correct function the so-called A3-magnet as well as the emergency stop magnet of the Bucher Hydraulics iValve 500 VF must be de-energised according to the requirements of EN 81-2:1998+A3:2009 (D), section 9.13.8 / EN 81-20:2014, section 5.6.6.5 in case that the cabin moves 100 mm away from the level position while the door is open. Dead times of the electronic system must be considered in a way that in case of 1.3-fold nominal speed, the magnet must be separated from the according connection of the iCON as soon as the above described position has been reached.

2.9 Conditions by electrical tripping:

2.9.1 Provided that the voltage drop on the coil has occurred within the distance of 250 mm as indicated in the scope of application it can be assumed that the requirements for braking distance and acceleration according to EN 81-2:1998+A3:2009 (D), point 9.13.5 and 9.13.6 / EN 81-20:2014, point 5.6.7.5 and 5.6.7.6 are met.

Therefore a separate certificate for braking distances and accelerations at different volume flow, load pressure and pressure medium viscosity is not required when testing the overall system. This allows tests of the overall system at reduced speed.

2.9.2 For a correct function the so-called A3-magnet as well as the emergency stop magnet of the Bucher Hydraulics iValve 500 VF must be de-energised according to the requirements of EN 81-2:1998+A3:2009 (D), section 9.13.8 / EN 81-20:2014, section 5.6.6.5 if:

a) the cabin overtakes the speed of 0.3 m/s within the door zone and with open doors or

b) the cabin leave the door zone with open doors.

It should be noted that the safety circuit is always used both of the above conditions queried.

3 Remarks

3.1 This EU type-examination certificate was issued according to the following standards:

- EN 81-2:1998 + A3:2009 (D), part 9.13
- EN 81-2:1998 + A3:2009 (D), annex F.8
- EN 81-20:2014 (D), part 5.6.7
- EN 81-50:2014 (D), part 5.8

A revision of this EU type-examination certificate is inevitable in case of changes or additions of the above mentioned standards or of changes of state of the art.

3.2 The EU type-examination covers the housing of the braking element (hydraulic valve) and the piston only. The pump connection and the cylinder connection are not included within this type-examination.

3.3 In case that there is a risk of unintended car movement in the upward direction, appropriate measures must be taken by the installer.

Enclosure to the EU Type-Examination Certificate
No. EU-UCM 023 of 2016-01-25

Industrie Service

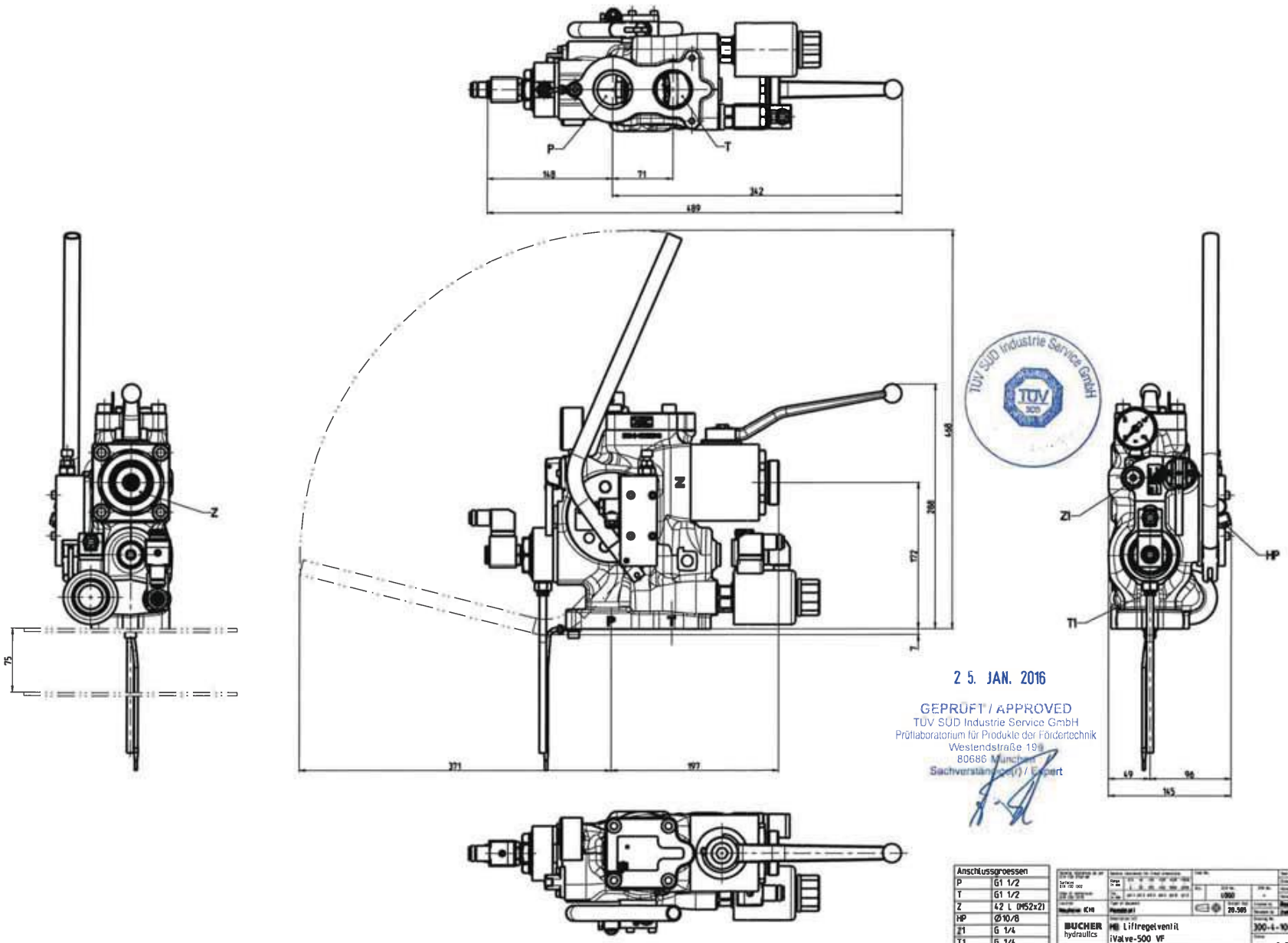
Authorised Manufacturer of Serial Production – Production Sites (valid from: 2016-01-25):

Company	**Bucher Hydraulics AG**
Address	Industriestr. 15 6345 Neuheim - Switzerland

- END OF DOCUMENT -

Based on: Document from Bucher Hydraulics AG of 2016-01-25

Note: The English text is a translation of the German original. In case of any discrepancy, the German version is valid only.



TÜV SÜD Industrie Service GmbH

25. JAN. 2016

GEPRÜFT / APPROVED
TÜV SÜD Industrie Service GmbH
Prüflaboratorium für Produkte der Fördertechnik
Westendstraße 199
80686 München
Sachverständige(r) / Expert

Anschlussgroessen	
P	G1 1/2
T	G1 1/2
Z	42 L (M52x2)
HP	Ø10/8
Z1	G 1/4
T1	G 1/4

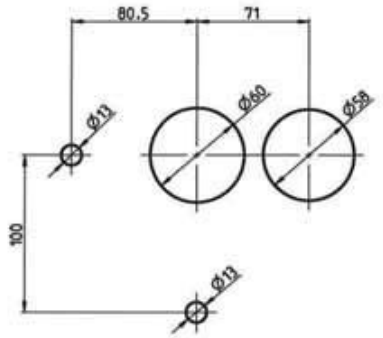
BUCHER hydraulics

Liftregelventil iValve-500 VF

300-4-10024900 B

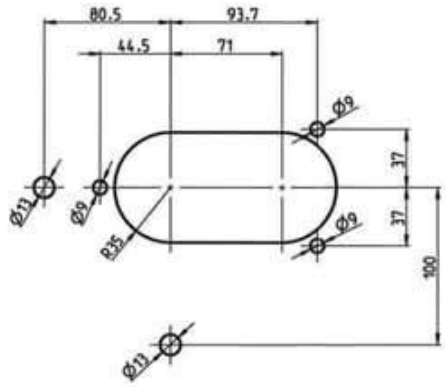
0-SERIE

Lochbild: Einbauvariante Verrohrt



Vorderseite Aggregat

Lochbild: Einbauvariante Tiefmontage



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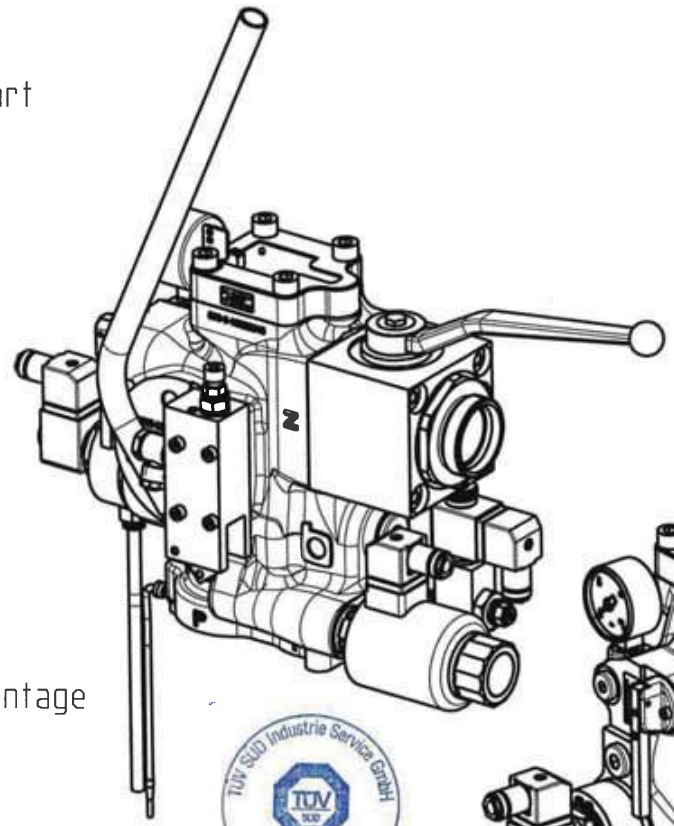

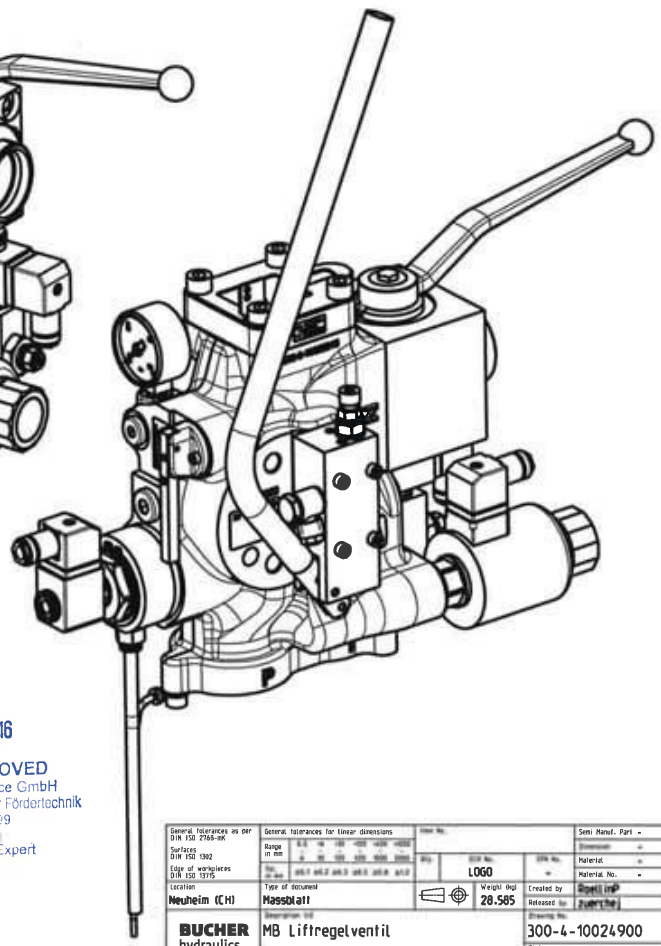

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25. JAN. 2016

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Prüflaboratorium für Produkte der Fördertechnik
Westendstraße 199
80686 München
Sachverständiger / Expert

General tolerances as per DIN ISO 2768-mK	General tolerances for linear dimensions				Semi Manuf. Part -
Surfaces DIN ISO 1302	Range in mm				Material -
Edge of workpieces DIN ISO 13715	Tol. in mm		LOGO		Material No. -
Location	Type of document		Weight (kg)	Created by	Roell inP 18.09.2015
Neuheim (CH)	Massblatt		28.565	Released by	zuercher 30.09.2015
BUCHER hydraulics	Description (en) MB Liftregelventil iValve-500 VF			Drawing No. 300-4-10024900	Revision B
				Status 0-SERIE	Scale 1:2
					Page 2 / 3

3D-model: 300-2-10024900 - Size: DIN A2

System Creo Elements (PTC)

MB Liftregelventil
iValve-500 VF

BUCHER
hydraulics

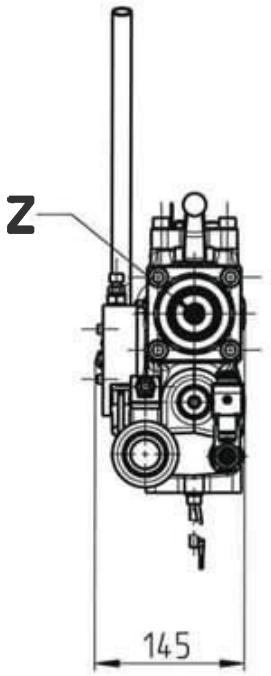
Item No.

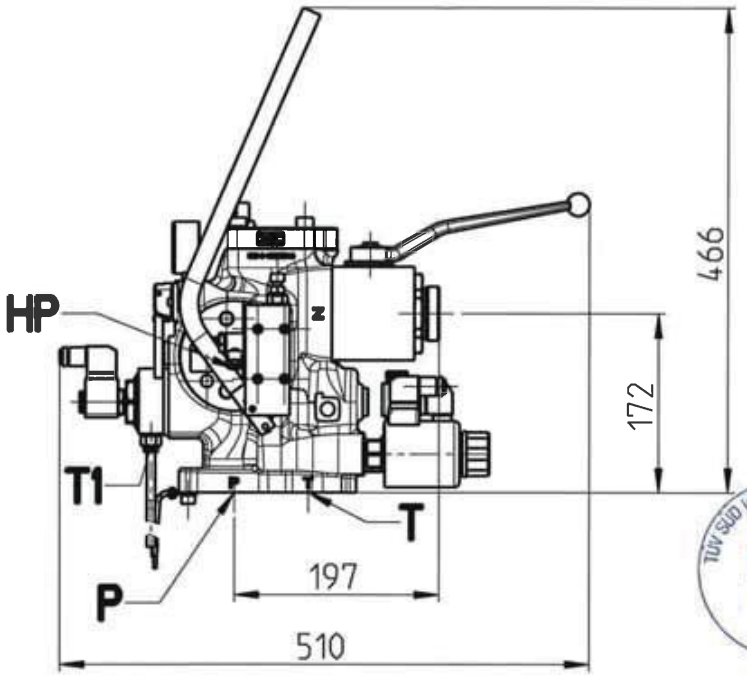
No. 300-4-10024900 Rev. B
ECO No. LOGO

Technische Daten:

Liftregelventil iValve 500 VF

Durchflussmenge	:	150-500 l/min
Viskositaetsbereich	:	20-500 cSt
Nenndruckbereich	:	4-60 bar
max. Betriebsdruck	:	80 bar





Anschluesse:

Pumpe P, Tank T	:	G1 1/2
Zylinder Z	:	42 L (M52x2)
Handpumpe / Sauganschluss HP	:	Ø10/8 (Schlauch)
Nothaltventil T1	:	G 1/4