

# Operating Manual

# DELTA CU3 AS-interface 2.0

## Control Unit



Read and understand this manual prior to operating or servicing this product.



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## 7. Safety

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### Important Information

**Always read the manual before  
using the Control Unit.**

#### 7.1 General

Welding: In general, it is recommended to avoid welding work in a process plant if the Control Units are already installed and electrically connected. But if welding is absolutely necessary, always earth close to the welding area. And disconnect the Control Unit!

#### 7.2. Safety precautions for AS-interface

Protection against inadmissible

voltage: Always use overvoltage protection modules in your AS-i installation!

Earthing: Always use Insulation Monitoring Devices to ensure proper earthing conditions of the AS-interface network.

## 8.1 General description

The control unit has an electronic component which scans the position of the valve and transmits the information as signals which are compatible with most control systems via the AS-i bus.

There is also a solenoid valve within the control system. The solenoid valve, which is electrically activated, controls the compressed air. The solenoid valve is also equipped with a throttling system for supply and exhaust air, which makes it possible to adjust the opening and closing speed of the valve.

The control unit for DELTA DA3+ is available with both 1 or 3 solenoid valves. The control unit for DE3 is equipped with 1 solenoid valve.

The control unit also has LEDs with the following visual indications: valve position, solenoid activated and power on.

Connections for air and power supply is placed at the control unit together with a valve which cuts off the air supply for removal of the control unit.. The control unit can be removed by releasing a quick-acting coupling. This permits fast servicing of the valve.

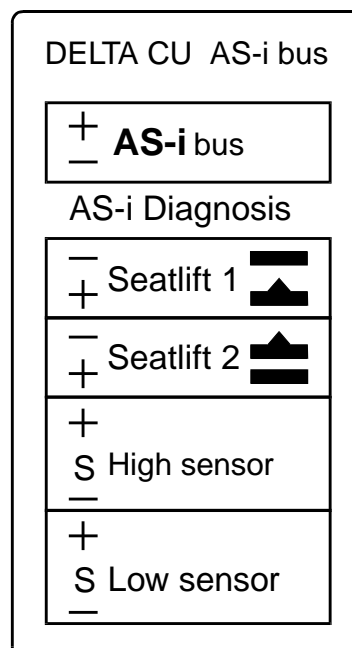
The whole control unit is encapsulated, and all the cable and air entries are sealed, so that the control unit is classified IP 67.

### 8.1.1 Description of electronic module

The solenoid valve and feed-back signals are controlled by an electronic module. The electronic module complies with the AS interface standard and controls solenoid valve(s) and position sensors.

Sensors for activated and not-activated position consist of 2 build-in Hall sensors or 2 external proximity sensors for DA3+ and DE3 valve.

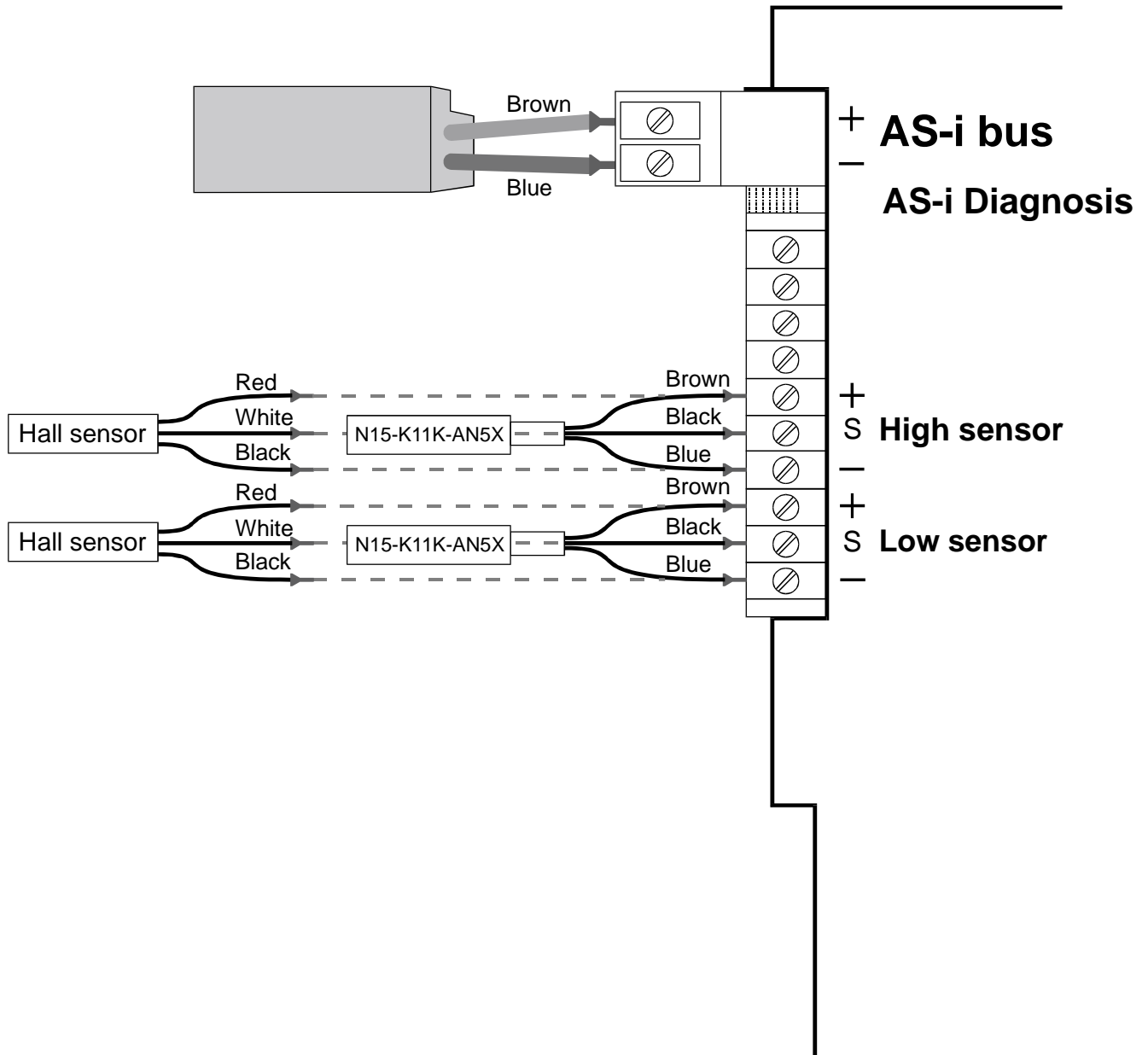
Fig. 1



## 8.1 General description

### 8.1.1.1 Electronic module, 1 solenoid valve.

For control units with 1 solenoid valve and internal or external sensors the below wiring diagram is used.

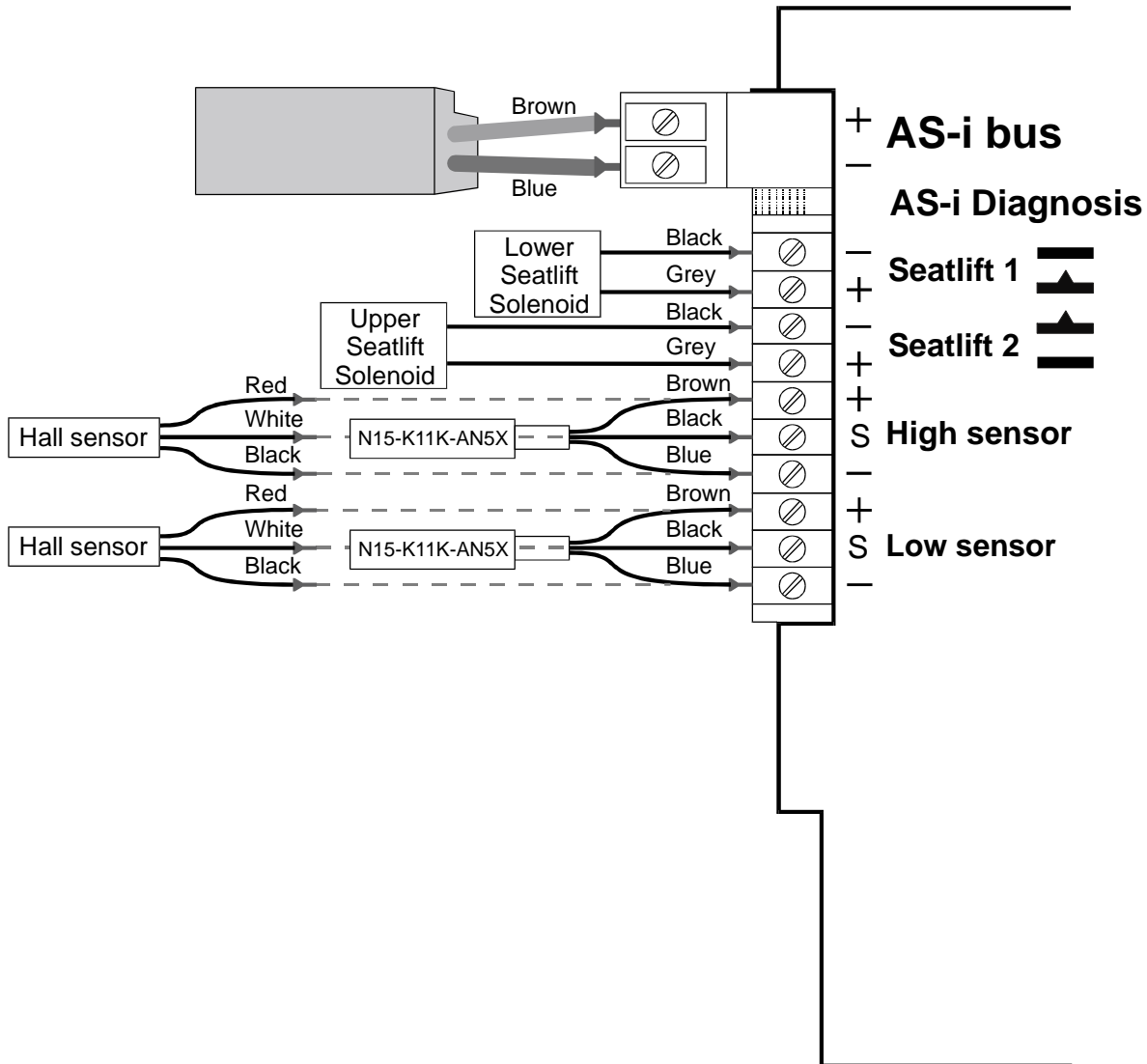


## 8.1 General description

### 8.1.1.2 Electronic module, 3 solenoid valves

For control units for DELTA DA3+ valve with 3 solenoid valves and external sensors the below wiring diagram is used.

Wiring diagram:



### 8.1.1.3 Programming

The control unit must be programmed to the required AS-interface slave address.

This can be done via the AS-i master module or via a AS-i hand held terminal.

Connection:

The control units is supplied with a PG 9 gland for insertion of the AS-i bus drop cable.

As an option the PG connection can be replaced with an AS-i piercing clamp or an M12 plug for connecting the AS-i bus.



## 8.1 General description

### 8.1.2 Solenoid Valve

The solenoid valve is equipped with a manual override. The override handle can not be locked. Two throttling seat valves provide the facility to change the opening and closing speed. Please note that the seat valve controlling the inlet air must never be completely closed. An air-filter inside the tower protects the solenoid valve. See also section 8.2.2 , 8.2.3 and 8.2.8 for details.



Air supply for solenoid valves.

Air pressure: 6 - 8 bar

**Important see chapter technical data**

### 8.1.3 NOT element .

The spring force of the air actuator can be increased by the compressed air by installing a logical NOT element which directs the compressed air to the spring side of the actuator. For correct positioning. See section 8.5

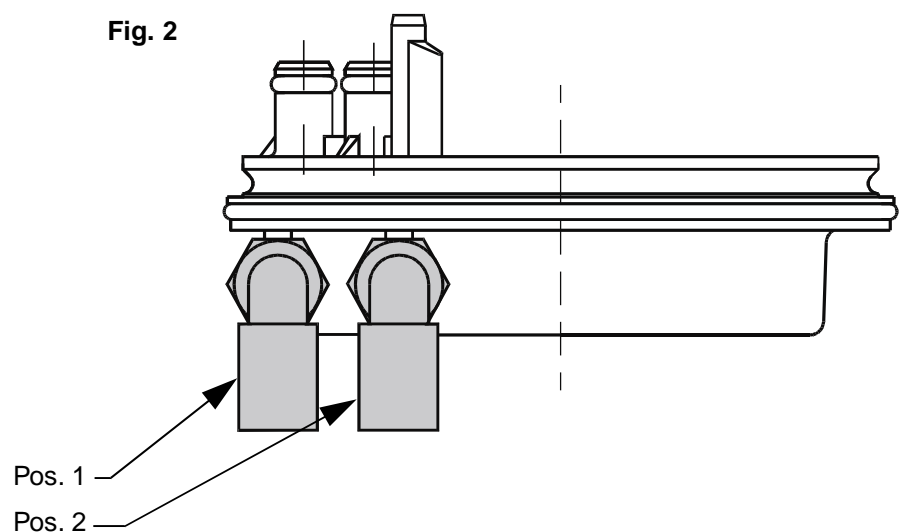
### 8.1.4 Adaptor

The complete control unit is composed of a control unit top and an adaptor unit. The adaptor unit consists of an adaptor and an actuator screw and these are different from valve to valve. Since the control unit can be installed to different types of valve, different adaptor units are necessary. It is the different types of valve which determine the adaptor unit to be combined with the control unit top. Section 8.5 shows which adaptor unit is used with which valve.

The adapter for DELTA SV/SVS and DELTA DKR valves has an internal air connection.

Two blind plugs are in pos. 1 and pos. 2.

Fig. 2



## 8.1 General description

The adapter shown in figure 3 is for the double seat valve DELTA DA3+ and DE3. It is either equipped with one (for DELTA DE3 and DA3+ with one solenoid valve) or three air connectors (for DELTA DA3+ with three solenoids).

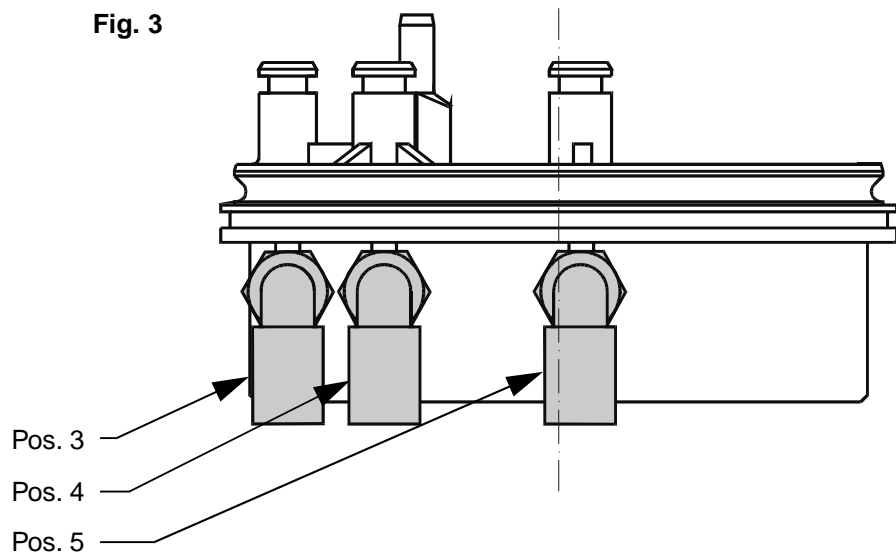
If fitted with one air connector pos. 4 and 5 are closed with a blind plug.

Pos. 3 air supply to open valve

Pos. 4 air supply to lift lower seat

Pos. 5 air supply to lift upper seat

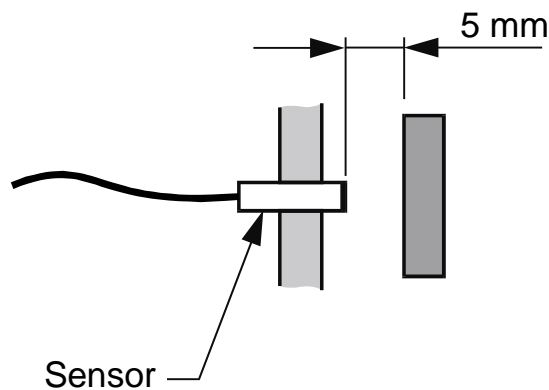
Fig. 3



### 8.1.5 External sensor

A 5V DC NPN sensor must be used.

Operating distance: 5 mm.



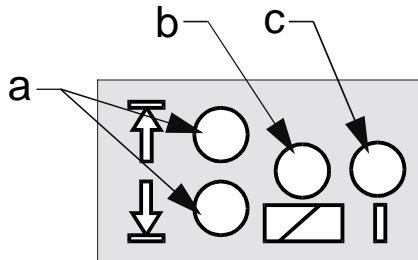
### 8.1.6 Air connections / elbow unions

The elbow unions for the control unit and adapter have a cylindrical thread. For their replacement against other unions, take care that the new union has a cylindrical thread.

## 8.2 Functional description

### 8.2.1 LEDs (Pos. 2)

There are four LEDs which have the following functions:

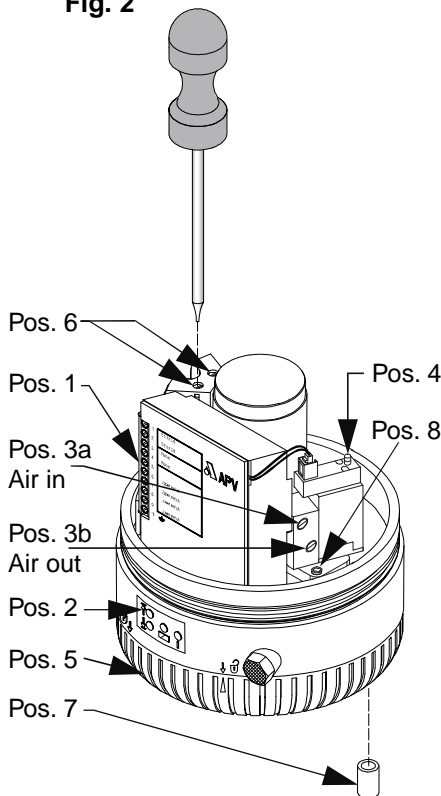


- a) Valve position. The LED lights up for valve at activated position and valve at not-activated position. This is used to provide information during operation and to set the position sensors. Please note 8.2.5
- b) Lights up when there is a signal to the solenoid valve.
- c) Indicates whether a supply voltage is available to the electronics.

### 8.2.2 Throttling function (Pos. 3a and 3b)

The inlet and outlet air can be adjusted at the solenoid valve by the two throttling valves (pos. 3a / IN and pos. 3b. / OUT). By turning the screws in anticlockwise direction, the inlet or outlet air is throttled. The required adjustment must be determined by the operator himself. Please note that the throttling valve controlling the inlet and outlet air must never be completely closed.

Fig. 2



### 8.2.3 Manual activation of the solenoid valve (Pos. 4)

The solenoid valve can be activated manually by turning the handle placed on the top of the solenoid valve. This is used for adjusting the Hall sensor or for by-passing the control system to activate the valve.

### 8.2.4 Removal of control unit from valve (Pos. 5)

The control unit is released by turning the ribbed ring from the "lock" to the "un-lock" symbol. Then the control unit can be easily lifted off. Removal of the control unit shuts off the air supply.

### 8.2.5 Adjustment of feed-back indication (Pos. 6)

After dismantling of the CU, check that the position of the Hall sensors are properly adjusted.

The procedure is as follows:


The Hall sensors must be adjusted to transmit a signal for activated position and not-activated position valve respectively. In this case it is an advantage to use manual activation (Pos. 4).


Turn the adjustment screws (Pos. 6) up/down until the correct LED just lights up. Check that it is in fact the correct LED that lights up. To allow for small fluctuations, turn the adjustment screws two revolutions in the direction in which the LED remains lit.


Control unit for DELTA DA3+ and DE3 valves are fitted with external proximity switches.


## 8.2 Functional description

### Valve normally closed (NC)


The Hall sensor for activated position is fitted on screw in groove marked 


The Hall sensor for not-activated position is fitted on screw in groove marked 


The LED for activated sensor is marked 

The LED for not-activated sensor is marked 

### Valve normally open (NO) and for DELTA DA3+ and DELTA DE3, butterfly valve DELTA SV/SVS and double seat ball valve DELTA DKR regardless whether NC or NO

The Hall sensor for activated position is fitted on screw in groove marked 

The Hall sensor for not-activated position is fitted on screw in groove marked 

The LED for activated sensor is marked 

The LED for not-activated sensor is marked 

### 8.2.6 Pressure relief valve (Pos. 7)

The pressure relief valve ensures that no pressure builds up in the cap.

### 8.2.7 Removal of the electronic box (pos. 1)

The electronic box can be removed by loosen two screws. One screw placed between the two guides for the Hall sensors, and the other is placed on the right side of the electronic box. Remove the cable (plug) from the solenoid valve.

During assembly it should be secured, that the wires for the hall sensors are not tangled, preventing them from sliding up and down unobstructed in the wire tracks.

### 8.2.8 Removal of solenoid valve (pos. 8)

Remove the cable (plug) from the solenoid valve. Loosen the 2 screws which are fixing the solenoid valve, manifold and gasket.

During assembly it is to be ensured, that the gasket is positioned very precisely between the edges at the manifold. The torque for the 2 screws for the solenoid valve is 1,3 Nm, max. 1,6 Nm.

## 8.3 Technical data electronic module

### General technical data

**Ambient temperature:** -20°C to + 70°C

**Enclosure rating:** IP 67  
**CE:** EMC 89/336/EEC

**Control air:** instrumentation air acc.  
 DIN/ISO 8573-1

- **solid partice content:** quality class 3,  
 max. partice size 5µm  
 max. partice density 5µg/m3
- **water content:** quality class 3,  
 max. dew point -20°C
- **oil content:** quality class 3,  
 max. 1mg/m3

### Communication data:

AS-i/O type is: 7 (4 bit bi-directional)  
 AS-i type is: F (user defined profile)  
 AS-i protocol version: 2.0  
 Output is: 4 bit  
 Input is: 4 bit

Output 0: Main actuator  
 Output 1: Lower seatlift  
 Output 2: Upper seatlift  
 Output 3: not used

Input 0: High sensor (normally used as  
 activated feedback signal)

Input 1: Low sensor (normally used as  
 not-activated feedback signal)

Input 2: always high

Input 3: always high

(can be used as a check in the PLC that  
 the communication is OK)

Default adress: 0

### Electric data:

Voltage: 25,5 to 31,5 V

Current consumption: max. 30 mA, with no active solenoid

Current consumption: max. 80 mA, with one acive solenoid

Cable length: max. 100m. ( AS-i limit)

Temperature range: -20°C to +70°C

Please note that you have to use special AS-i power supply with  
 the de-coupling build-in.

Right to make changes reserved

BA CU ASI 00002  
ID-No.: H313167  
Translation of original manual



rev. 3



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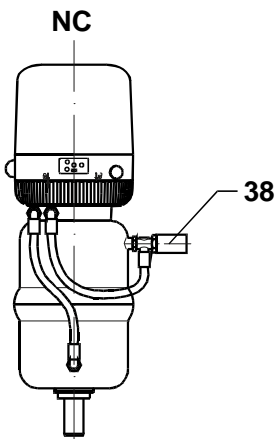
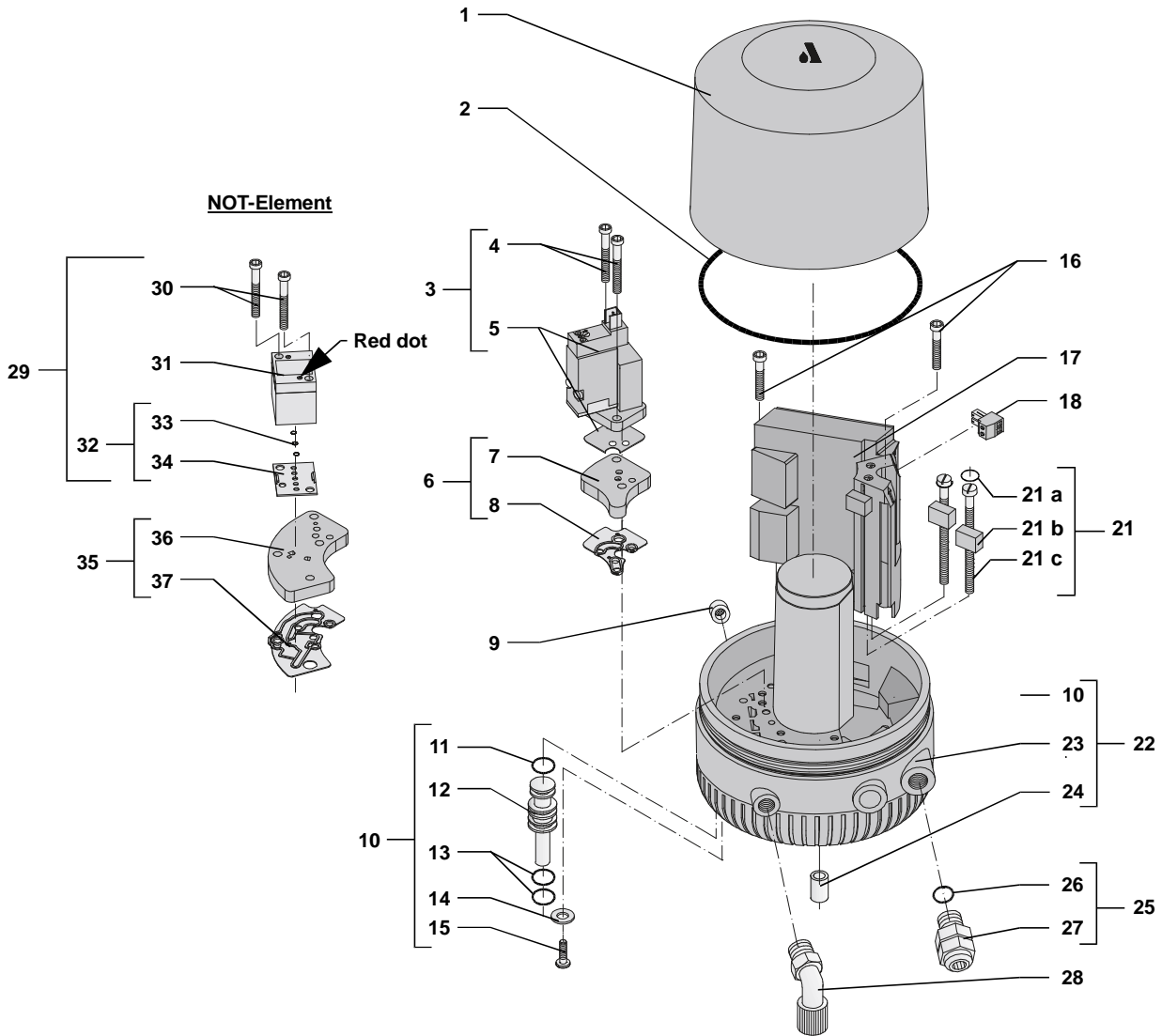
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# 8.5 Steuereinheit / Control unit

# DELTA CU3 AS-interface







## 8.5 Steuereinheit / Control unit

## DELTA CU3 AS-interface

Pos	Stk/Qty	Maße / Dim.	Benennung	Description	Ws.-Nr./Part No.
-	-		CU31 - AS-Interface - Standard	CU31-AS-Interface - Standard	16-31-244/93
-	-		CU31N - AS-Interface mit NOT - Element	CU31N - AS-Interface with NOT-element	16-31-245/93
<b>1</b>	1		CU Haube	CU Cap	08-60-713/93
<b>2</b>	1	Ø105x2,5 /NBR	O-Ring	O-ring	-
<b>3</b>	1		Magnetventil CU3 komplett	Solenoid Valve CU3 complete	97-00-160/93
- 4	2		TORX - Schraube	TORX-screw	-
- 5	1		Magnetventil mit Dichtung	Solenoid Valve with seal	-
<b>6</b>	1		Luftverteilerplatte CU31 komplett	Air Distributing Plate CU31 cpl.	08-60-319/93
- 7	1		Luftverteilerplatte	Air Distributing Plate	-
- 8	1		Dichtung für Luftverteilerplatte	Gasket for Air Distributing Plate	-
<b>9</b>	1		Schalldämpfer	Sound Damper	08-60-751/93
<b>10</b>	1		Druckluftabsperkolben CU3 kpl.	Shut-off Piston Comp. Air CU3 cpl.	15-28-860/93
- 11	1	Ø7,65x1,78 /NBR	O-Ring	O-ring	-
- 12	1		Kolben	Piston	-
- 13	2	Ø9,25x1,78 /NBR	O-Ring	O-ring	-
- 14	1	Ø4,3 A2 /DIN 9021	Scheibe	Washer	-
- 15	1	40x12 /WN 1451	Schraube	Screw	-
<b>16</b>	2	40x45 /WN 1451	TORX - Schraube	TORX-screw	08-60-752/15
<b>17</b>	1		CU31 Elektronikbox ASi-Hall. kpl.	CU31 Electronic Box ASi-hall cpl.	08-60-797/93
<b>18</b>	1		ASi-Anschlußstecker 2polig	ASi-Connecting plug 2pole	08-46-050/93
<b>21</b>	1		Hall Sensor komplett	Hall sensor complete	08-60-850/93
- 21a	1	Ø3x2 / NBR	O-Ring	O-ring	-
- 21b	1		Hall Sensor	Hall Sensor	-
- 21c	1	M4x80 /DIN 84A A2	Justierschraube	Adjusting screw	-
<b>22</b>	1		CU31 Sockel komplett	CU31 Base complete	08-51-016/93
- 23	1		Sockel	Base	-
- 24	1		Überströmventil	Pressure relief Valve	-
<b>25</b>	1		Kabelverschraubung 4-8mm kpl.	Screwed Cable Gland cpl. 4-8mm	08-29-310/93
- 26	1	Ø12,42x1,78 /NBR	O-ring	O-Ring	-
- 27	1		Kabelverschraubung	Cable Inlet	-
<b>28</b>	1		Winkelverschraubung	Elbow Connector	08-60-750/93
<b>29</b>	1		NOT - Element CU3 komplett	NOT-element CU3 complete	08-60-290/93
- 30	2	40x50 /WN 1452	Schraube	TORX-screw	08-60-759/15
- 31	1		NOT - Element	NOT-element	-
- <b>32</b>	1		Dichtungssatz NOT - Element	Seal kit NOT - element	58-34-300/13
- 33**	3	Ø3,68x1,78 /NBR	O-ring	O-Ring	-
- 34	1		Dichtung	Seal	-
<b>35</b>	1		Luftverteilerplatte CU31N kpl.	Air Distributing Plate CU31N cpl.	08-60-320/93
- 36	1		Luftverteilerplatte	Air Distributing Plate	-
- 37	1		Dichtung für Luftverteilerplatte	Seal for Air Distributing Plate	-
<b>38***</b>	1		Druckreduzierventil	Pressure reducer valve	08-60-766/93

\* Ersatzteile für Elektronikbox / Spare part for Electronic Box

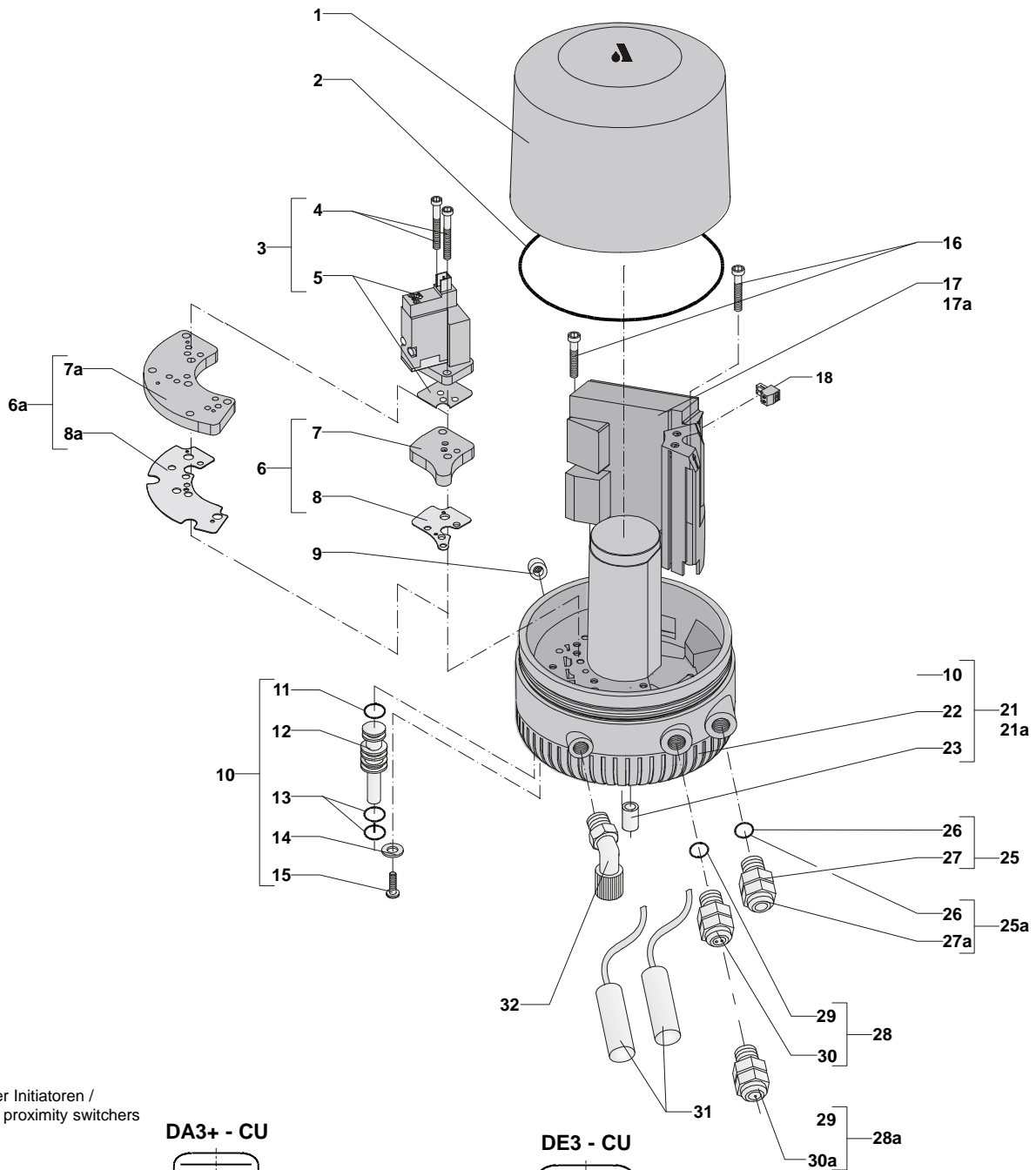
\*\* Ersatzteile für NOT - Element / Spare part for NOT - element

\*\*\* Das Druckreduzierventil wird nur bei der Control Unit mit NOT - Element eingesetzt.  
Für die Montage in den Antrieb ist das Druckreduzierventil beigelegt.  
The pressure reducing valves is used only for the Control Unit with NOT - element.  
For assembly in the actuator the pressure reducing valve forms part of the scope of supply.



## 8.5 Steuereinheit / Control unit

## DELTA CU3 AS-interface for DA3+ / DE3



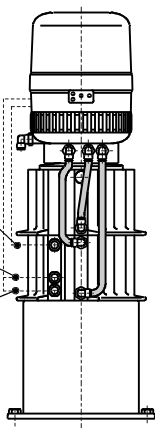
Position der Initiatoren /  
Position of proximity switchers

**DA3+ - CU**

geschlossene Position /  
closed position

geöffnete Position  
nur für DN 40, 1,5" /  
open position  
only for DN 40, 1,5"

geöffnete Position  
nur für DN 50-100, 2"-4" /  
open position  
only for DN 50-100, 2"-4"

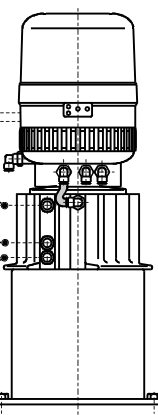


**DE3 - CU**

geschlossene Position /  
closed position

geöffnete Position  
nur für DN 40-50, 1,5"-2" /  
open position  
only for DN 40-50, 1,5"-2"

geöffnete Position  
nur für DN 65-100, 2,5"-4" /  
open position  
only for DN 65-100, 2,5"-4"





## 8.5 Steuereinheit / Control unit

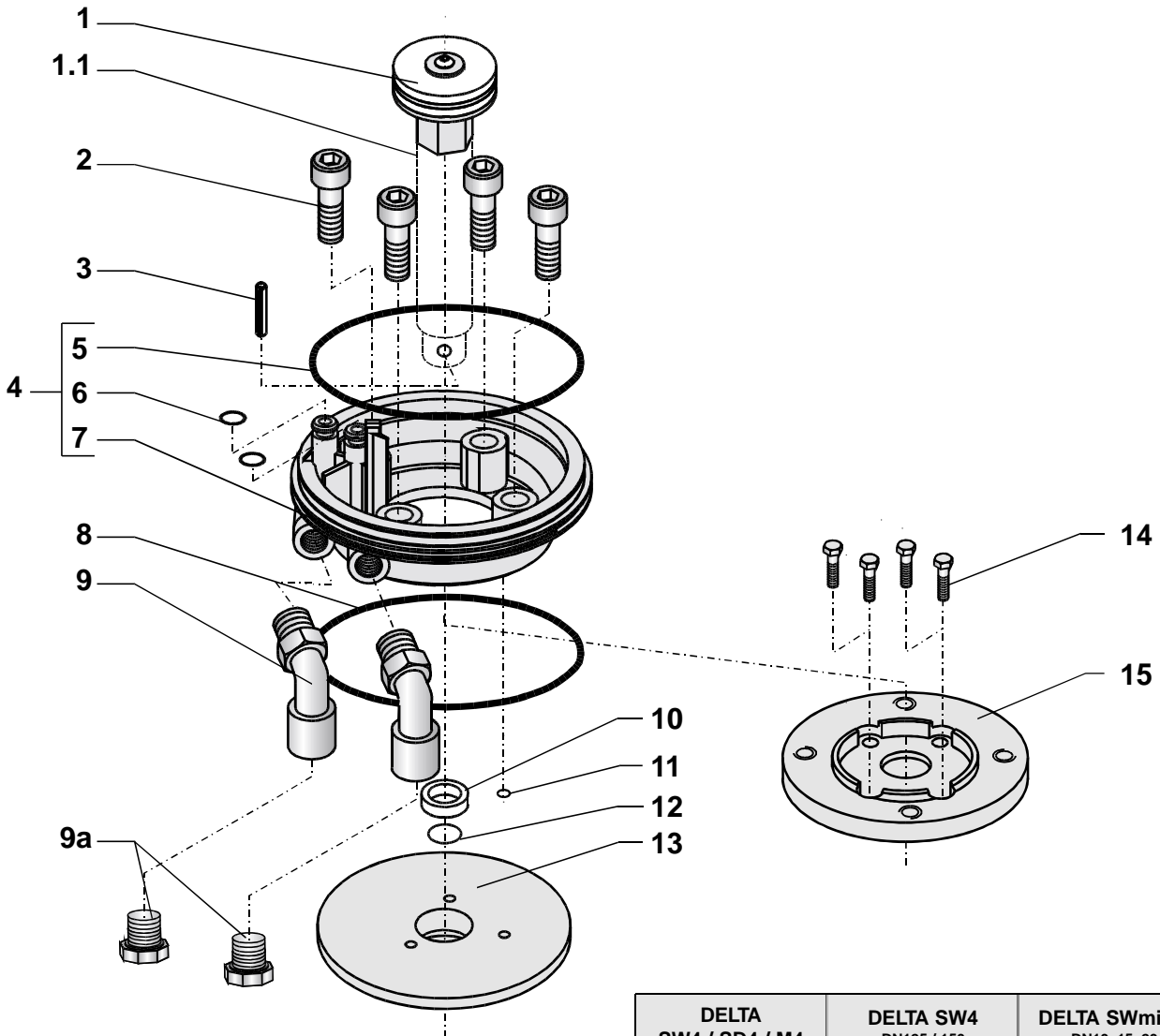
## DELTA CU3 AS-interface for DA3+ / DE3

Pos	Stk/Qty	Maße / Dim.	Benennung	Description	Ws.-Nr. / Part No.
-	-		CU31 DE3 AS-Interface 1EMV	Control unit - 1 Solenoid Valve	16-31-246/93
-	-		CU33 DA3+ AS-Interface 3EMV	Control unit - 3 Solenoid Valves	16-31-247/93
<b>1</b>	1		CU Haube	Cap	08-60-713/93
<b>2</b>	1	Ø105x2,5 /NBR	O-Ring	O-Ring	-
<b>3</b>	1		Magnetventil CU3 komplett	Solenoid Valve CU3 complete	97-00-160/93
- 4	2	40x25 /WN 1451	TORX - Schraube	TORX-screw	-
- 5	1		Magnetventil	Solenoid Valve	-
<b>6</b>	1		Luftverteilerplatte CU31 komplett	Air Distributing Plate CU31 cpl.	08-60-319/93
- 7	1		Luftverteilerplatte	Air Distributing Plate	-
- 8	1		Dichtung für Luftverteilerplatte	Seal for Air Distributing Plate	-
<b>6a</b>	1		Luftverteilerplatte CU33 komplett	Air Distributing Plate CU33 cpl.	08-60-321/93
- 7a	1		Luftverteilerplatte	Air Distributing Plate	-
- 8a	1		Dichtung für Luftverteilerplatte	Seal for Air Distributing Plate	-
<b>9</b>	1		Schalldämpfer	Sound Damper	08-60-751/93
<b>10</b>	1		Druckluftabsperrkolben CU3 kpl.	Shut-off Piston Comp. Air CU3 cpl.	15-28-860/93
- 11	1	Ø7,65x1,78 /NBR	O-Ring	O-ring	-
- 12	1		Kolben	Piston	-
- 13	2	Ø9,25x1,78 /NBR	O-Ring	O-ring	-
- 14	1	Ø4,3 A2 /DIN 9021	Scheibe	Washer	-
- 15	1	40x12 /WN 1451	Schraube	Screw	-
<b>16</b>	2	40x45 /WN 1451	TORX - Schraube	TORX-screw	08-60-752/15
<b>17</b>	1		CU31 Elektronikbox AS-Interface kpl.	CU31 Electronicbox AS-Interface cpl.	08-60-796/93
<b>17a</b>	1		CU33 Elektronikbox AS-Interface kpl.	CU33 Electronicbox AS-Interface cpl.	08-60-798/93
<b>18</b>	1		ASi-Anschlußstecker 2polig	ASi-Terminal plug 2pole	08-46-050/93
<b>21</b>	1		CU31 - DE3 Sockel kpl. 1EMV	CU31 - DE3 Base cpl. - 1 SV	08-51-017/93
<b>21a</b>	1		CU33 - DA3+ Sockel kpl. 3EMV	CU33 - DA3+ Base cpl. - 3 SV	08-51-018/93
- 22	1		Sockel	Base	-
- 23	1		Übertrömventil	Pressure relief Valve	-
<b>25</b>	1		Kabelverschraubung 4-8mm kpl.	Screwed Cable Gland cpl. 4-8mm	08-29-310/93
- 26	1	Ø12,42x1,78 /NBR	O-Ring	O-ring	-
- 27	1		Kabelverschraubung	Cable Inlet	-
<b>25a</b>	1		Kabelverschraubung 5-10mm kpl.	Screwed Cable Gland cpl. 5-10mm	08-29-311/93
- 26	1	Ø12,42x1,78 /NBR	O-Ring	O-ring	-
- 27a	1		Kabelverschraubung	Cable Inlet	-
<b>28</b>	1		Kabelverschraubung f. 2xInitiatoren kpl.	Screw. Cable Gland f. 2 Prox. switch	08-29-320/93
- 29	1	13,00 x 2,00/NBR 70	O-Ring	O-ring	-
- 30	1		Kabelverschraubung	Cable Inlet	-
<b>28a</b>	1		Kabelverschraubung f. 1xInitiator kpl.	Screw. Cable Gland f. 1 Prox. switch	08-29-321/93
- 29	1	Ø18,77x1,78 NBR 70	O-Ring	O-ring	-
- 30a	1		Kabelverschraubung	Cable Inlet	-
<b>31</b>	2		Initiator für DA3+, DE3, D3	Proximity Switch for DA3+, DE3, D3	08-60-769/93
<b>32</b>	1		Winkelverschraubung	Elbow Connector	08-60-750/93



## 8.5 Adapter / Adaptor

## DELTA CU3



Pos.	Stk./Qty.	Benennung	Description	DELTA	DELTA SW4	DELTA SWmini4
				SW4 / SD4 / M4	DN125 / 150	DN10, 15, 20
				Ws.-Nr. / Part No.		
-	-	CU Adapter kpl.	CU adaptor complete	08-48-415/93	08-48-362/93	08-48-414/93
1	1	Schaltnocke	Actuator screw	08-60-700/93	08-60-700/93	08-60-700/93
1.1	1	Zugstangenverläng.	Extension rod	-	15-26-057/93	15-26-070/93
2	4	Schraube	Screw	M8x25/DIN 912	M8x25/DIN 912	M8x25/DIN 912
3	1	Spannstift	Split pin	-	-	-
4	1	CU Adapter Set	Adaptor kit	08-60-331/93	08-60-331/93	08-60-331/93
- 5	1	O-Ring	O-ring	Ø88,62x1,78 /NBR	Ø88,62x1,78 /NBR	Ø88,62x1,78 /NBR
- 6	2	O-Ring	O-ring	Ø5,28x1,78 /NBR	Ø5,28x1,78 /NBR	Ø5,28x1,78 /NBR
- 7	1	Adapter	Adaptor	-	-	-
8	1	O-Ring	O-ring	-	-	-
9	2	Winkelverschraub.	Elbow connector	08-60-750/93	08-60-750/93	08-60-750/93
9a	1	Stopfen	Plug	-	-	08-74-021/93
10	1	Dichtung	Gasket	-	-	-
11	1	O-Ring	O-ring	-	-	-
12	1	O-Ring	O-ring	-	-	-
13	1	Adapter	Adaptor	-	-	-
14	4	Schraube	Screw	-	-	M5 x 12/DIN 933
15	1	Adapter CU3 SW4-20	Adaptor CU3 SW4-20	-	-	08-48-355/93





## 8.5 Adapter / Adaptor

## DELTA CU3

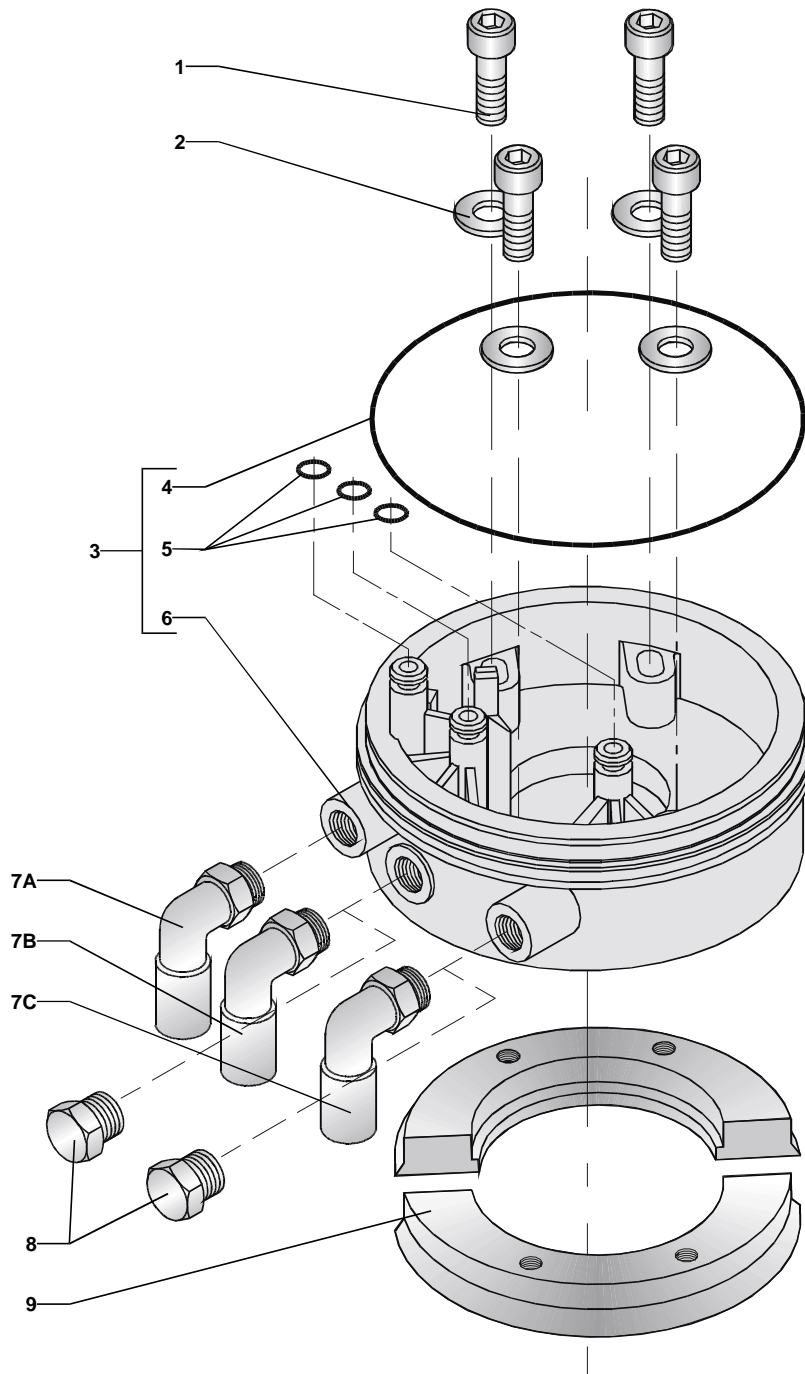
Pos.	Stk./Qty.	Benennung	Description	SV/SVS1F DN 25 - 100 and 1" - 4"	SVS1F DN 125 - 250	S2 / D2	S3
				DKR 2 DN25 - 65 and 1" - 2,5"	DKR2 DN 80 - 125 and 3" - 4"		
				Ws.-Nr. / Part No.			
-	-	CU Adapter kompl.	CU adaptor cpl.	08-48-416/93	08-48-417/93	08-48-418/93	08-48-419/93
1	1	Schaltnocke	Actuator screw	08-60-779/93	08-60-780/93	08-60-781/93	08-60-782/93
2	4	Schraube	Screw	-	-	-	M8x25/DIN 912
	4	Schraube	Screw	M5x18/ISO 1207	M5x18/ISO 1207	-	-
	4	Schraube	Screw	-	-	M8x22/DIN 912	-
3	1	Spannstift	Split pin	-	-	-	-
4	1	Adapter Set	Adaptor kit	08-60-333/93	08-60-333/93	08-60-334/93	08-60-334/93
- 5	1	O-Ring	O-ring	Ø 88,62x1,78 /NBR	Ø 88,62x1,78 /NBR	Ø 88,62x1,78 /NBR	Ø 88,62x1,78 /NBR
- 6	2	O-Ring	O-ring	Ø 5,28x1,78 /NBR	Ø 5,28x1,78 /NBR	Ø 5,28x1,78 /NBR	Ø 5,28x1,78 /NBR
- 7	1	Adapter	Adaptor	-	-	-	-
8	1	O-Ring	O-ring	Ø 90x2/ NBR	Ø 90x2/ NBR	-	-
9	2	Winkelverschraubung	Elbow connector	-	-	08-60-750/93	08-60-750/93
9a	2	Blindstopfen	Plug	08-60-740/93	08-60-740/93	-	-
10	1	Nutring	Gasket	-	08-60-738/93	-	-
11	1	O-Ring	O-ring	Ø 13 x 2 / NBR 70	Ø 13 x 2 / NBR 70	-	-
12	1	O-Ring	O-ring	-	Ø 11 x 3 / NBR	-	-
13	1	Adapter	Adaptor	-	-	-	-

Pos.	Stk./Qty.	Benennung	Description	VPS / VPL / VPB	VPS - 3A	VPS-3A Longstroke	VPM
				Ws.-Nr. / Part No.			
-	-	CU Adapter kompl.	CU adaptor cpl.	08-48-420/93	08-48-421/93	08-48-422/93	08-48-423/93
1	1	Schaltnocke	Actuator screw	08-60-778/93	08-60-783/93	08-60-784/93	08-60-785/93
1.1	1	Zugstangenverläng.	Extension rod	-	-	-	-
2	4	Schraube	Screw	-	-	-	-
	4	Schraube	Screw	M5x18/ISO 1207	M5x18/ISO 1207	M5x18/ISO 1207	M5x18/ISO 1207
3	1	Spannhülse	Split pin	-	08-60-762/15	08-60-762/15	-
4	1	CU Adapter Set	Adaptor kit	08-60-332/93	08-60-332/93	08-60-332/93	08-60-332/93
- 5	1	O-ring	O-Ring	Ø 88,62x1,78 /NBR	Ø 88,62x1,78 /NBR	Ø 88,62x1,78 /NBR	Ø 88,62x1,78 /NBR
- 6	2	O-ring	O-Ring	Ø 5,28x1,78 /NBR	Ø 5,28x1,78 /NBR	Ø 5,28x1,78 /NBR	Ø 5,28x1,78 /NBR
- 7	1	Adapter	Adaptor	-	-	-	-
8	1	O-ring	O-Ring	Ø 88x1,5/ NBR	Ø 88x1,5/ NBR	Ø 88x1,5/ NBR	Ø 88x1,5/ NBR
9	2	Winkelverschraub.	Elbow connector	08-60-750/93	08-60-750/93	08-60-750/93	08-60-750/93
9a	2	Stopfen	Plug	-	-	-	-
10	1	Dichtung	Gasket	-	-	-	-
11	1	O-ring	O-Ring	-	-	-	-
12	1	O-ring	O-Ring	-	-	-	-
13	1	Adapter VPM	Adaptor VPM	-	-	-	08-20-125/12



## 8.5 Adapter / Adaptor

## DELTA CU3 for DA3+ / DE3



Pos.	Benennung	Description
7A	Luftanschluss : Ventil öffnen	Air connection : Valve opening
7B	Luftanschluss : untere Sitzanlüftung	Air connection : lower seat lift
7C	Luftanschluss : obere Sitzanlüftung	Air connection : upper seat lift



## 8.5 Adapter / Adaptor

## DELTA CU3 for DA3+ / DE3

### Adapter für DE3 / DA3+ - 1 Magnetventil (EMV) / Adaptor for DE3 / DA3+ - 1 Solenoid valve (SV)

Pos	Stk/Qty	Benennung	Description	Ws.-Nr. / Part No.
-	-	CU21 Adapter DA3+, DE3 komplett -1 Elektromagnetventil	CU21 Adaptor DA3+, DE3 complete -1 solenoid Valve	08-48-424/93
<b>1</b>	4	Schraube	Screw	M5x25/ ISO4762
<b>2</b>	4	Scheibe	Washer	08-60-767/15
<b>3</b>	1	CU2 Adapter Set DA3+, DE3	CU2 Adaptor kit DA3+, DE3	08-60-330/93
- 4	1	O-ring	O-Ring	Ø88,62x1,78 /NBR
- 5	3	O-ring	O-Ring	Ø5,28x1,78 /NBR
- 6	1	Adapter	Adaptor	-
<b>7A</b>	1	Winkelverschraubung	Elbow connector	08-60-750/93
<b>8</b>	2	Blindstopfen	Plug	08-60-740/93
<b>9</b>	2	Montagehälfte CU Adapter DA3+ / DE3	Assembly half CU adaptor DA3+ / DE3	08-60-717/93

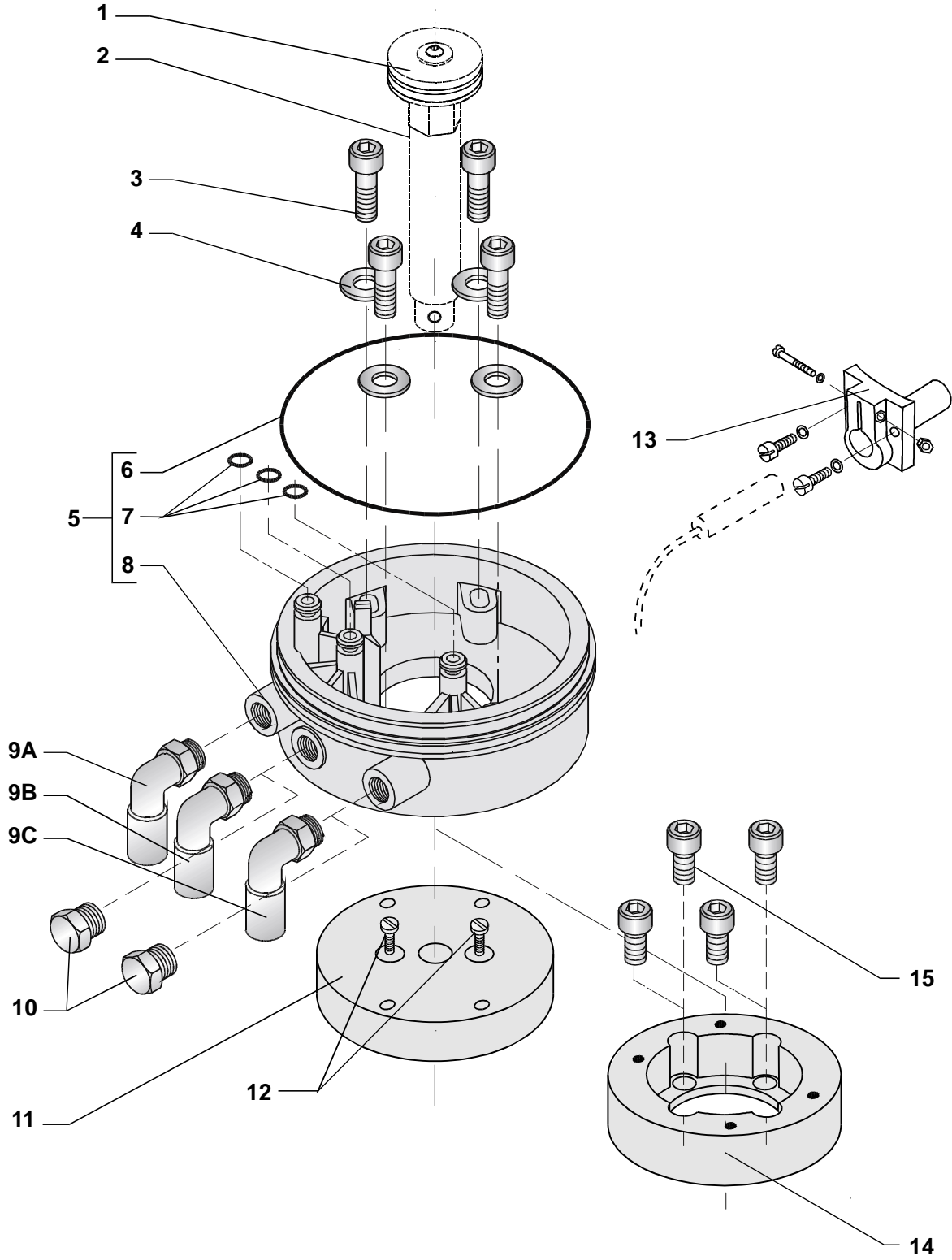
### Adapter für DA3+ - 3 Magnetventile (EMV) / Adaptor for DA3+ - 3 Solenoid valves (SV)

Pos	Stk/Qty	Benennung	Description	Ws.-Nr. / Part No.
-	-	CU23 Adapter DA3+ komplett - 3 Elektromagnetventile	CU23 Adaptor DA3+ complete - 3 solenoid valves	08-48-425/93
<b>1</b>	4	Schraube	Screw	M5x25 ISO4762
<b>2</b>	4	Scheibe	Washer	08-60-767/15
<b>3</b>	1	CU2 Adapter Set DA3+, DE3	CU2 Adaptor kit DA3+, DE3	08-60-330/93
- 4	1	O-ring	O-Ring	Ø88,62x1,78 /NBR
- 5	3	O-ring	O-Ring	Ø5,28x1,78 /NBR
- 6	1	Adapter	Adaptor	-
<b>7A-B-C</b>	3	Winkelverschraubung	Elbow connector	08-60-750/93
<b>8</b>	-	Blindstopfen	Plug	-
<b>9</b>	2	Montagehälfte CU Adapter DA3+ / DE3	Assembly half CU adaptor DA3+ / DE3	08-60-717/93



## 8.5 Adapter / Adaptor

## DELTA CU3 for PHB/ PSL, S2 - DN 10, 15, 20







## 8.5 Adapter / Adaptor

## DELTA CU3 for PHB/ PSL, S2 - DN 10, 15, 20

### Adapter für Pneumatische Hubbegrenzung (PHB) SW4 / M4 / Adaptor for Pneumatic Stroke Limitation (PSL) SW4 / M4

Pos	Stk/Qty	Benennung	Description	Ws.-Nr. / Part No.
-	-	CU32 Adapter SW4 / M4 - PHB kpl.	CU32 Adaptor SW4 / M4 - PSL cpl.	08-48-370/93
1	1	Schaltnocke	Actuator screw	08-60-700/93
2	1	Zugstangenverlängerung	Extension rod	15-26-057/93
3	4	Zyl. Schraube	Cyl. Screw	M5x25 ISO4762
4	4	Scheibe	Washer	08-60-767/15
5	1	CU2 Adapter Set DA3+, DE3	CU2 Adaptor kit DA3+, DE3	08-60-330/93
- 6	1	O-ring	O-Ring	Ø88,62x1,78 /NBR
- 7	3	O-ring	O-Ring	Ø5,28x1,78 /NBR
- 8	1	Adapter	Adaptor	-
9A-B	2	Winkelverschraubung	Elbow connector	08-60-750/93
10	1	Blindstopfen	Plug	08-60-740/93
11	-			
12	-			
13	-			
14	1	CU3 Adapter SW4, M4, PHB	CU3 Adaptor SW4, M4, PSL	08-48-371/93
15	4	Schraube	Screw	M8x12 DIN912

### Adapter für S2-DN 10, 15, 20 / Adaptor for S2-DN 10, 15, 20

Pos	Stk/Qty	Benennung	Description	Ws.-Nr. / Part No.
-	-	CU31 Adapter S2 - DN10,15,20 kpl	CU31 Adaptor S2 - DN10,15,20 cpl.	16-00-174/93
1	-			
2	-			
3	4	Zyl. Schraube	Cyl. Screw	M5x25 ISO4762
4	4	Scheibe	Washer	08-60-767/15
5	1	CU2 Adapter Set DA3+, DE3	CU2 Adaptor kit DA3+, DE3	08-60-330/93
- 6	1	O-ring	O-Ring	Ø88,62x1,78 /NBR
- 7	3	O-ring	O-Ring	Ø5,28x1,78 /NBR
- 8	1	Adapter	Adaptor	-
9A	1	Winkelverschraubung	Elbow connector	08-60-750/93
10	2	Blindstopfen	Plug	08-60-740/93
11	1	Deckel Adapter CU31	Cover Adapter CU31	16-00-174/92
12	2	Zyl. Schraube	Cyl. Screw	M5x10/ DIN912
13	2	Initiatorenhalter kpl.	Proximity switch support cpl.	15-33-921/83
14	-			