



SMART INTELLIGENCE
CAN BUS CONTROL

Ball valves

3- and 5-way

long working life and wear resistance – also available as smart versions

We can supply you with ball valves in dimensions of 1¼", 2" and 3" for both suction and pressure systems. They can be controlled manually, electrically and by smart control in the bus system. Because of our long years of experience and thanks to good material combinations, our valves offer the best possible wear performance, even with intensive working and crop protection agent applications.

Smart can bus controlled ball valves are the intelligent solution offering the following key advantages:

- Integration into the CAN bus system of the crop protection equipment
- OEM individual CAN communication possible
- direct control via the circuit board diagnosable
- 360° position of the ball possible

Kugelventile

3- und 5-Wege

Kugelventile: hohe Lebensdauer und Verschleißfestigkeit – auch als smarte Variante erhältlich

Wir liefern Ihnen Kugelventile in den Größen 1¼", 2" und 3" sowohl für den Saug- als auch für den Druckbereich. Sie können manuell, elektrisch und smart im Bussystem angesteuert werden. Durch unsere jahrelange Erfahrung und dank günstiger Materialkombinationen bieten unsere Ventile bestmögliches Verschleißverhalten auch bei intensiven Arbeits- und Pflanzenschutzmitteleinsätzen.

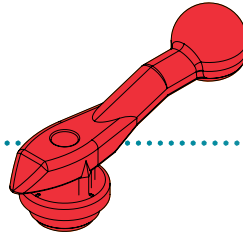
Smarte can bus gesteuerte Kugelventile sind die intelligente Lösung und bieten folgende Vorteile:

- Einbindung ins Can-Bus-System des Pflanzenschutzgeräts
- OEM-individuelle Can-Kommunikation möglich
- direkte Ansteuerung über die Platine diagnosefähig
- 360°-Position der Kugel möglich

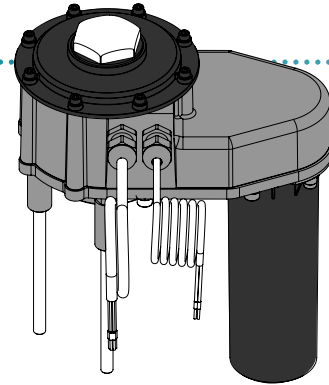
5-way ball valves 5-Wege Kugelventile

Overview *Übersicht*

3-way ball valve pages 112 ff.
3-Wege Kugelventile Seite 112 ff.



manual



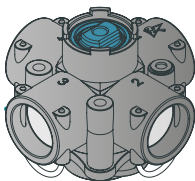
electric / **Smart**

Drive type *Antriebsarten*

The diverting ball of the electric ball valve is moved via the control line. *Beim elektrischen Kugelventil erfolgt die Bewegung der Schaltkugel über ein elektrisches Signal.*
In the **Smart** version, the ball valve communicates via the CAN bus. *Bei der **Smart** Variante kommuniziert das Kugelventil über CAN-Bus.*

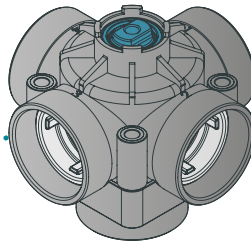
Housing *Gehäuse*

KH1¼
1 ¼ inch



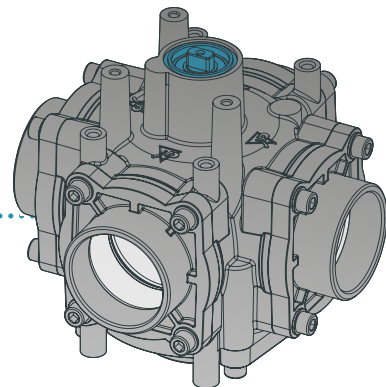
max. 15 bar

KH2
2 inch



max. 3 bar Suction / Saugen
or oder
max. 15 bar Pressure / Druck

KH3
3 inch



max. 3 bar

5-way ball valves 5-Wege Kugelventile



.....manual *manuell*

- **Individually adjustable seals***
*Einzel nachstellbare Dichtungen**
- **High wear resistance**
Hohe Verschleißfestigkeit
- **Retrofittable with electric drive****
*Nachrüstbar mit Elektroantrieb***
- **On request: special connections**
Auf Wunsch: Sonderanschlüsse

* Not for KH3 ball valves *Nicht bei KH3 Kugelventilen*

** Both for the KH215bar Ball valve and the KH3 Ball valve an update to the electric drive is not possible at the moment.
Sowohl beim KH215bar Kugelventil als auch beim KH3 Kugelventil ist eine Nachrüstung auf einen elektrischen Antrieb zur Zeit nicht möglich.

.....electric *elektrisch*

additionally *außerdem*

- **With optionally 1 or 2 turning directions**
Mit wahlweise 1 oder 2 Drehrichtungen
- **Positioning the ball via microswitch*****
*Positionierung der Kugel über Mikroschalter****
- **Integrated manual emergency operation**
Integrierte Nothandbedienung

*** Optional: Positioning with potentiometer
Positionierung mit Potentiometer

.....SMART

- **The control of the ball valve is done via CAN bus, in case of failure this can also be operated manually**
Die Ansteuerung der Ventilkugel erfolgt über CAN-Bus, im Störfall kann diese auch manuell betätigt werden
- **In the event of blockages or faults, corresponding error messages are sent to the controller**
Bei Blockaden oder Störungen werden entsprechende Fehlermeldungen ausgegeben
- **Diagnostic capability by output of operational data**
Diagnosefähigkeit durch Ausgabe von Betriebsdaten
- **In the event of a blockage or malfunction, integrated current protection prevents overloading the engine and transmission**
Im Fall einer Blockade oder Störung verhindert eine integrierte Stromabsicherung die Überlastung von Motor und Getriebe

SMART INTELLIGENCE
CAN BUS CONTROL



Housing <i>Gehäuse</i>	Application <i>Einsatz</i>	Operating pressure <i>Betriebs-Dauerdruck</i>	Flow rate <i>Durchfluss</i>	Inlet <i>Einlass</i>	Outlet <i>Auslass</i>	Material <i>Material</i>		
						Ball <i>Schaltkugel</i>	Housing <i>Gehäuse</i>	Sealing <i>Dichtung</i>
KH1 1/4	Pressure <i>Druck</i>	15 bar	max. 300 l/min	AS40	4 x AS40	POM + PTFE	POM GF	PA, FPM, NBR
KH2	Suction <i>Saug</i>	3 bar	max. 600 l/min	2"-Port	4 x 2"-Port	POM+PTFE	POM GF	PA, FPM, NBR
KH2 15bar	Pressure <i>Druck</i>	15 bar	max. 700 l/min	2"-Port	4 x 2"-Port	POM+PTFE	Aluminium	PA, FPM, NBR
KH3	Suction <i>Saug</i>	3 bar	max. 1 000 l/min	*	*	POM + PTFE / Aluminium hard coated	Aluminium	PA, FPM, NBR

* depending on the mounted flange * je nach eingebautem Flansch

5-way ball valves 5-Wege Kugelventile

Selection *Auswahl*

Article no. <i>Artikel-Nr.</i>	Drive <i>Antrieb</i>	Size of inlet <i>Einlassgröße</i>	Size of outlets <i>Auslassgrößen</i>
KH1 ½			
61128	manual	AS40	4 x AS40
47947	electric	AS40	4 x AS40
84452	SMART	AS40	4 x AS40
KH3			
82014	manual	G3" male	4 x G3" male
82797	manual	G3" male	4 x Banjo 3"
82015	electric	G3" male	4 x G3" male
84873	SMART	Banjo 3"	1 x Banjo 2" 2 x Banjo 3" 1 x blind flange

G2 male and female also available
G2 male und female auch verfügbar

Article no. <i>Artikel-Nr.</i>	Drive <i>Antrieb</i>	Size of inlet <i>Einlassgröße</i>	Size of outlets <i>Auslassgrößen</i>
KH2			
82757	manual	2"-Port *	4 x 2"-Port *
47948	electric	2"-Port	4 x 2"-Port
83450	SMART	2"-Port	4 x 2"-Port
KH2_{15bar}			
83091	manual	2"-Port *	4 x 2"-Port *
82705	electric	2"-Port *	4 x 2"-Port *
83451	SMART	2"-Port	4 x 2"-Port

* including cap * inkl. Überwurfmutter
other connection options are possible
andere Steckverbindungen sind möglich

Flow *Durchfluss*

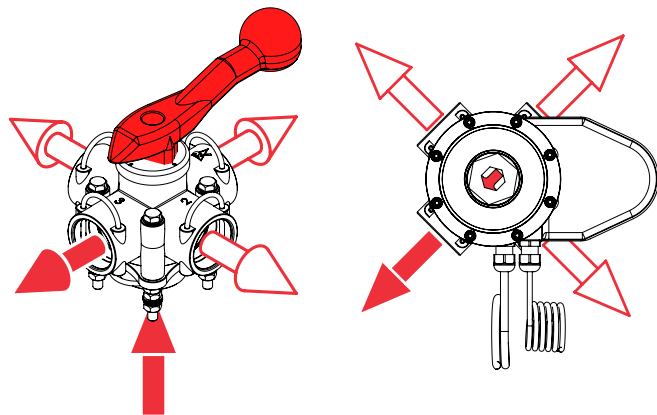
- **Fluid inflow is on pressure ball valves from below.**
Flüssigkeitszulauf ist bei Druckkugelventilen von unten.

- **The red shift lever shows the position of the shift ball with manual ball valves.**

Der rote Schalthebel zeigt die Stellung der Schaltkugel bei manuellen Kugelventilen.

- **Through the sight glass in the cover, the red arrow indicates the ball position in the electric or SMART valve.**

Über das Schauglas in der Abdeckung deutet der rote Pfeil die Kugelstellung bei einem elektrischen bzw. SMART Ventil an.





40 929

Aussenreinigung
D

Rückfäll-
einrichtung
E

2782019

KH 1 ¼

Selection *Auswahl*

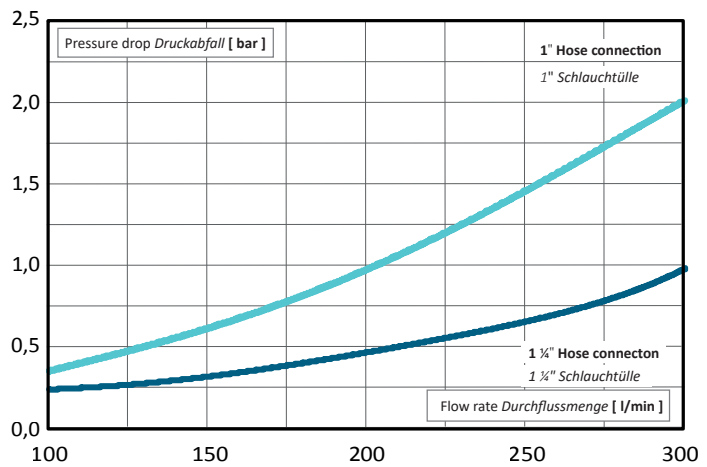
- **Individually adjustable seals**
Einzel nachstellbare Dichtungen
- **High wear resistance**
Hohe Verschleißfestigkeit
- **Retrofittable with electric drive**
Nachrüstbar mit Elektroantrieb
- **On request: special connections**
Auf Wunsch: Sonderanschlüsse
- **Special versions**
 - Adapter with special fittings as well
 - Assemblies from several valves according to customer requirements

Sonderausführungen

- Adapter mit Sonderanschlüssen sowie
- Armaturen aus mehreren Ventilen nach Kundenanforderung



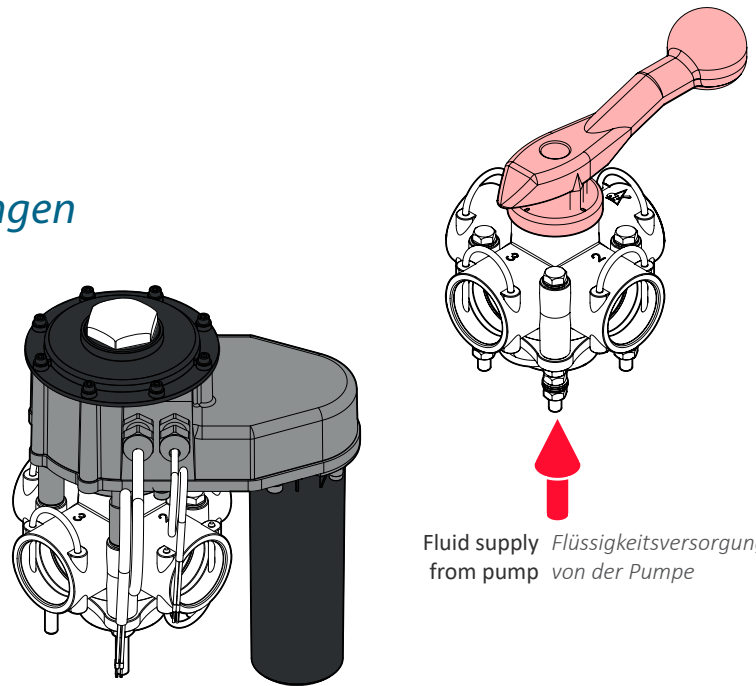
Article no. <i>Artikel-Nr.</i>	Drive <i>Antrieb</i>
KH 1 ¼	
61128	manual
47947	electric
84452	SMART



Operating pressure <i>Betriebs-Dauerdruck</i>	Flow rate <i>Durchfluss</i>	Inlet <i>Einlass</i>	Outlets <i>Auslass</i>	Material <i>Material</i>		
				Ball <i>Schaltkugel</i>	Housing <i>Gehäuse</i>	Sealing <i>Dichtung</i>
max. 15 bar	max. 300 l/min	AS40	4 x AS40	POM + PTFE	POM GF	PA, FPM, NBR

KH1¼

Dimensions Abmessungen

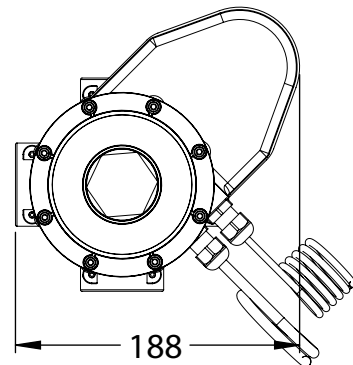
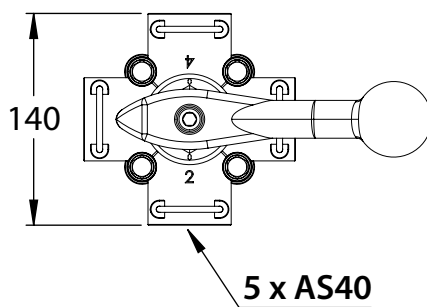
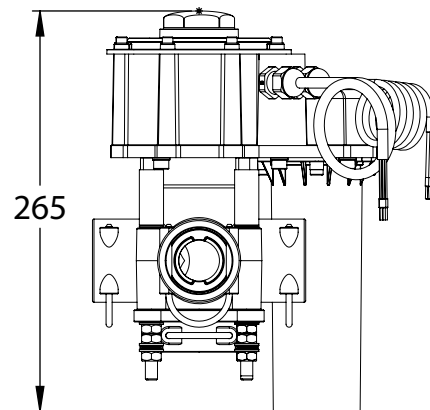
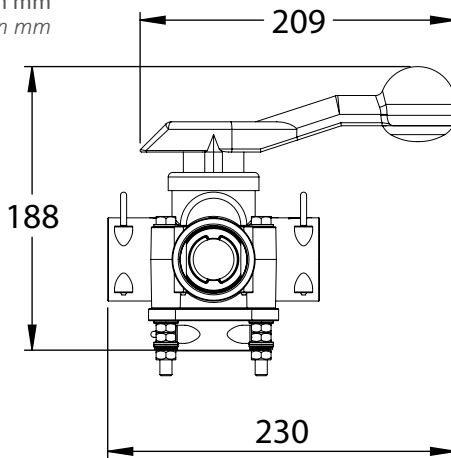


Fluid supply Flüssigkeitsversorgung
from pump von der Pumpe

manual

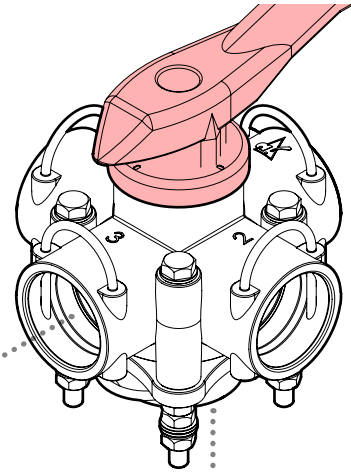
electric / SMART

Specifications in mm
Angaben in mm

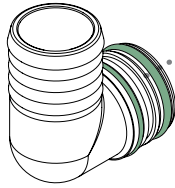


KH 1 ¼

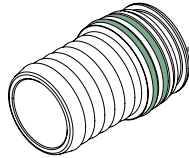
Fittings



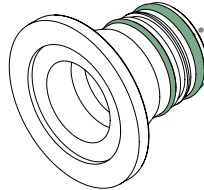
	Article no. <i>Artikel-Nr.</i>	Male hose tail <i>Stecktülle</i>	
AS40	80352	ø 20 mm	┘
AS40	09184	ø 25 mm	┘
AS40	08874	ø 33 mm	┘
AS40	08275	ø 39 mm	┘



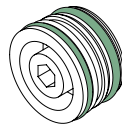
AS40	80353	ø 20 mm	┘
AS40	04595	ø 25 mm	┘
AS40	04581	ø 33 mm	┘
AS40	06247	ø 39 mm	┘



AS40	82614	Adapter Banjo 2	
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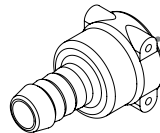
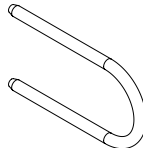
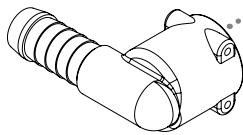
AS40	80333	Dummy plug <i>Blindstopfen</i>	
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	Article no. <i>Artikel-Nr.</i>	Adapter AS / AS
AS40	80412	AS24
AS40	83458	AS30
AS40	81602	AS40
AS40	82945	AS50



Fittings are suitable for all five connections.
Fittings eignen sich für alle fünf Anschlüsse.



Article no. **Female hose tail**
Artikel-Nr. *Stülptülle*

AS24	82250	ø 13 mm	┘
AS24	80349	ø 15 mm	┘
AS24	80780	ø 16 mm	┘
AS24	81791	ø 17 mm	┘
AS24	80350	ø 20 mm	┘
AS24	80781	ø 22 mm	┘
AS30	83588	ø 20 mm	┘

Article no. **Safety Pin**
Artikel-Nr. *Sicherungsstecker*

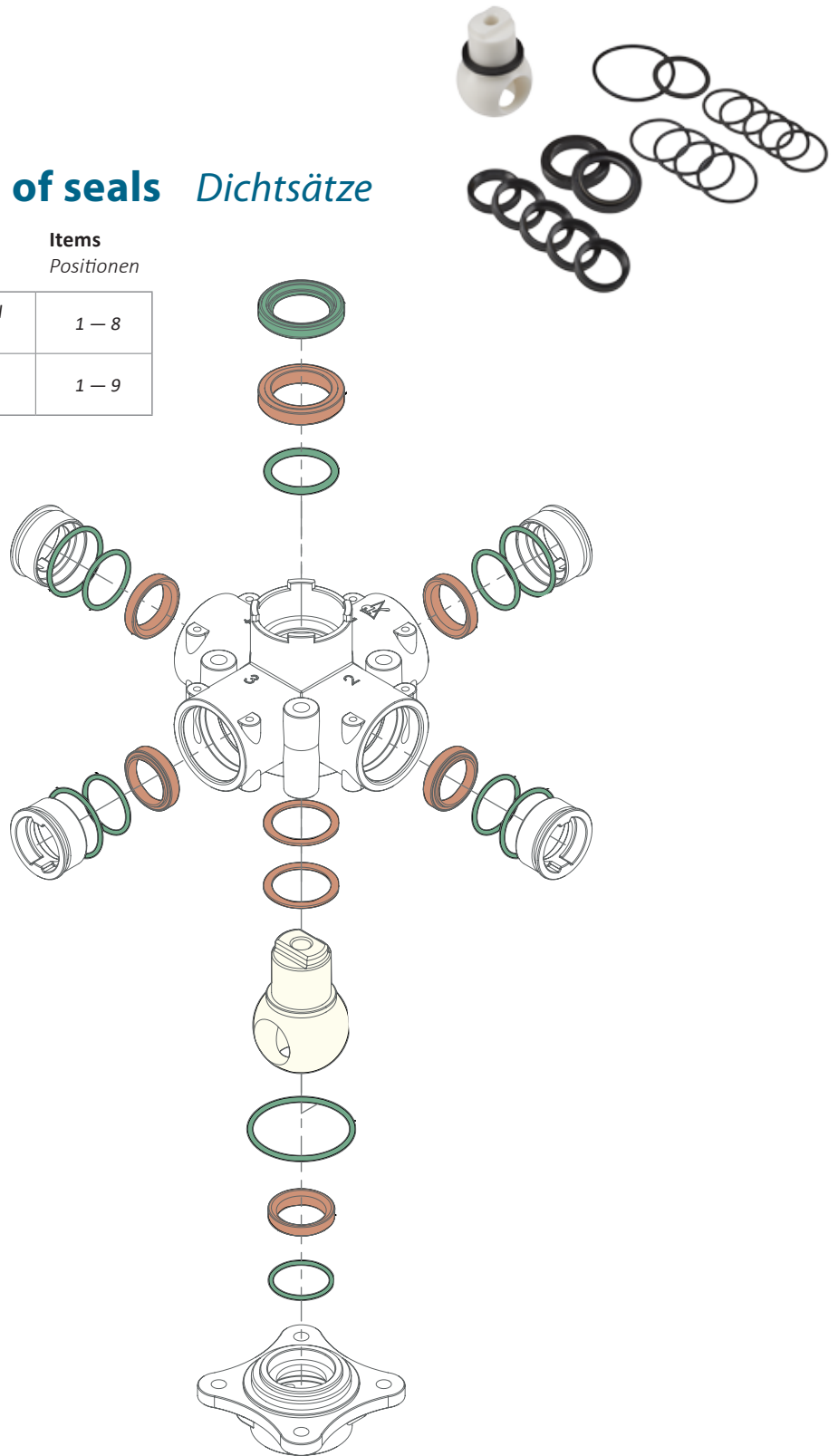
18545	AS24
02632	AS30

Article no. **Female hose tail**
Artikel-Nr. *Stülptülle*

AS24	34230	ø 15 mm	┘
AS24	34229	ø 17 mm	┘
AS24	34227	ø 20 mm	┘
AS24	47934	ø 25 mm	┘
AS30	34234	ø 20 mm	┘
AS30	34233	ø 25 mm	┘

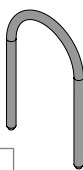
KH 1 ¼ Set of seals Dichtsätze

Article no. Artikel-Nr.	Description Bezeichnung	Items Positionen
47921	Without diverting ball ohne Schaltkugel	1 – 8
47922	With diverting ball mit Schaltkugel	1 – 9



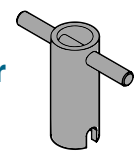
Safety Pins Sicherungsstecker

Article no.	Length	Suitable for
05241	Standard	AS40



Adjusting spanner Einstellschlüssel

Article no.	Suitable for
80807	KH 1 ¼



KH2

- **Individually adjustable seals**
Einzeln nachstellbare Dichtungen
- **High wear resistance**
Hohe Verschleißfestigkeit
- **Retrofittable with electric drive****
*Nachrüstbar mit Elektroantrieb***
- **On request: special connections**
Auf Wunsch: Sonderanschlüsse

** Not for the KH215bar Ball valve
Nicht beim KH215bar Kugelventil

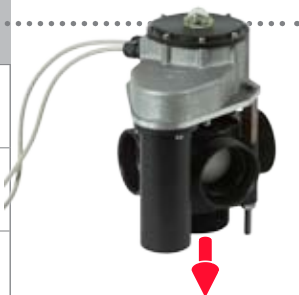


Selection *Auswahl*

Article no. <i>Artikel-Nr.</i>	Drive <i>Antrieb</i>
KH2	
82757 *	manual
47948	electric
83450	SMART
KH2 15bar	
83091 *	manual
82705 *	electric
83451	SMART

* including cap

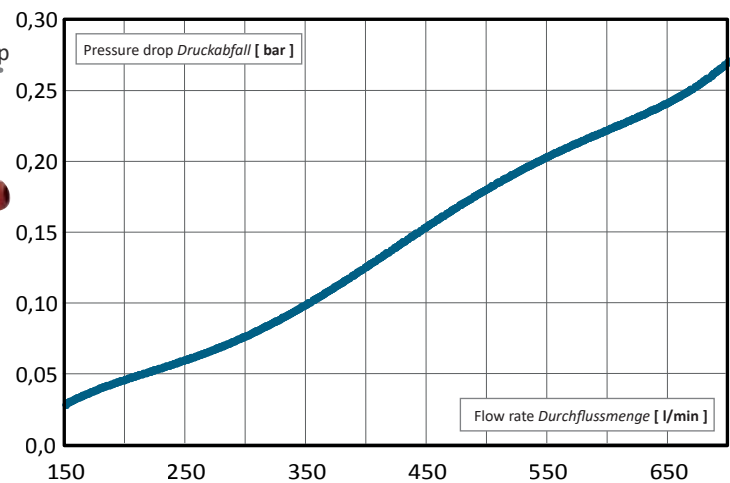
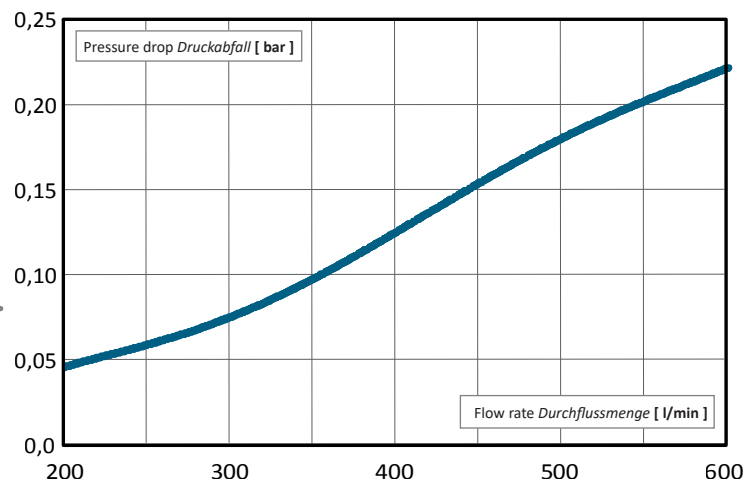
* inkl. Überwurfmutter



Suction outlet / Feed to pump
Saugseite / Pumpenanschluss



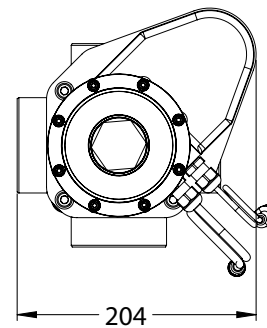
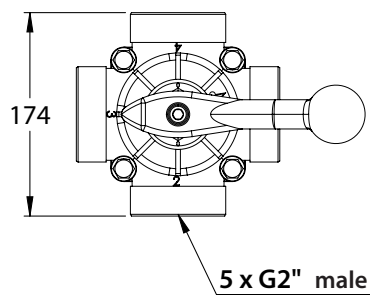
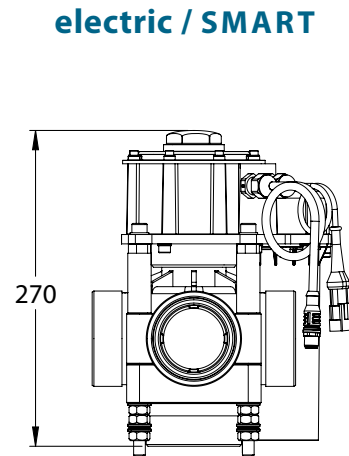
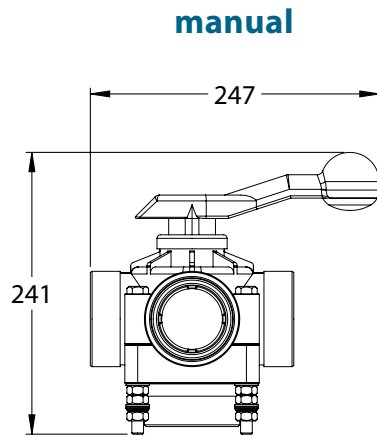
Feed from pump
Flüssigkeitsversorgung von der Pumpe



KH2

Dimensions *Abmessungen*

Specifications in mm
Angaben in mm



Operating pressure <i>Betriebs-Dauerdruck</i>	Flow rate <i>Durchfluss</i>	Inlet <i>Einlass</i>	Outlets <i>Auslass</i>	Material <i>Material</i>		
				Ball <i>Schaltkugel</i>	Housing <i>Gehäuse</i>	Sealing <i>Dichtung</i>
max. 3 bar	max. 600 l/min	2" Port	4 x 2" Port	POM + PTFE	POM GF	PA, FPM, NBR
max. 15 bar	max. 700 l/min	2" Port	4 x 2" Port	POM + PTFE	Aluminium	PA, FPM, NBR

KH2

Fittings

KH2 15bar



Fittings AS-System									
Article no. <i>Artikel-Nr.</i>	AS	d1 mm	d2 mm	D mm	L mm		Pressure bar	O-ring Article no.	Cap Article no.
83405	AS40	29,0	69,5	50,0	70,0	—	15	47715 37628 05243	47733 47587
83697	AS50	35,0	69,5	50,0	70,0	—	15	47715 41214 18544	47733 47587



Fittings with female thread without cap <i>mit Innengewinde ohne Überwurfmutter</i>									
Article no.	G1	G2	d		L				
47981	2 3/4"	2 1/2"	66,0	—	60,0	—	10	47982	—
80382	2 3/4"	2 1/2"	67,0	—	100,0	—	10	47982	—



Fittings with male thread <i>mit Außengewinde</i>									
Article no.	G		d	D	L	l			
47735	2"	—	51,0	69,5	47,5	29,5	15	47715	47733
47736	2"	—	51,0	69,5	75,0	24,0	15	47715	47733
47863	1 1/2"	—	37,5	69,5	34,5	24,0	15	47715	47733
81445	1 1/4"	—	32,0	69,5	34,5	24,5	15	47715	47733



Fittings with female thread and cap <i>mit Innengewinde und Überwurfmutter</i>									
Article no.	G		d	D	L	l			
47737	2"	—	51	69,5	27,5	25,0	10	47715	47733 82648
81550	1 1/4"	—	51	69,5	27,5	25,0	10	47715	47733 82648
82662	1 1/2"	—	51	69,5	27,5	25,0	10	47715	47733 82648



Dummy plug and adapter ARAG <i>Blindstopfen und Adapter ARAG</i>									
Article no.			d	D	L				
47713	—	—	47,4	69,5	17,0	—	15	47715	47587 47733 82648
47883	—	—	63,4	70,0	21,0	—	15	41124	47587 47733 82648
47716	—	—	—	69,5	—	—	15	47715	47587 47733 82648



Adapter Banjo									
Article no.	G	d1	d2	d3	L				
82612	2 3/4"	90	50,8	83,0	67,0	—	10	32605	—

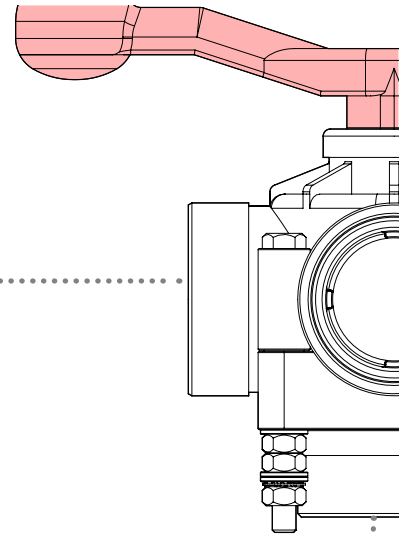
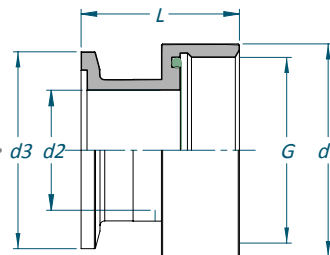
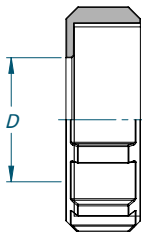
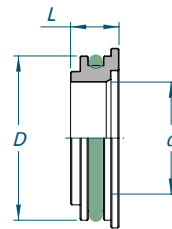
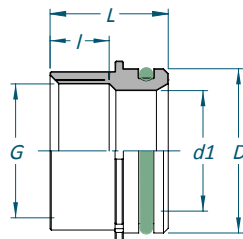
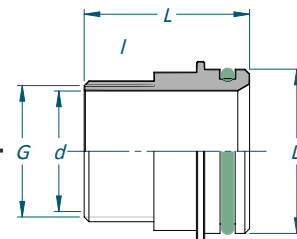
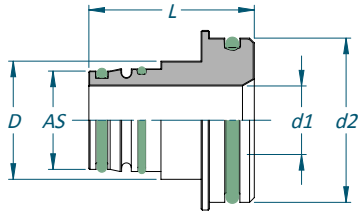
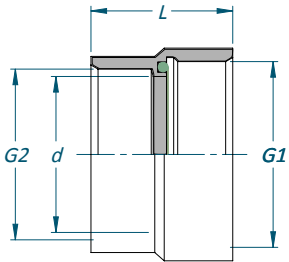


Only fittings with the specification **15bar** can be used with the ball valve **KH2 15bar**.

*Nur Fittings mit der Angabe **15bar** finden Einsatz beim Kugelventil **KH2 15bar**.*

KH2 Fittings

PRESSURE
15 bar



Fittings are suitable for all five connections.

Fittings eignen sich für alle fünf Anschlüsse.

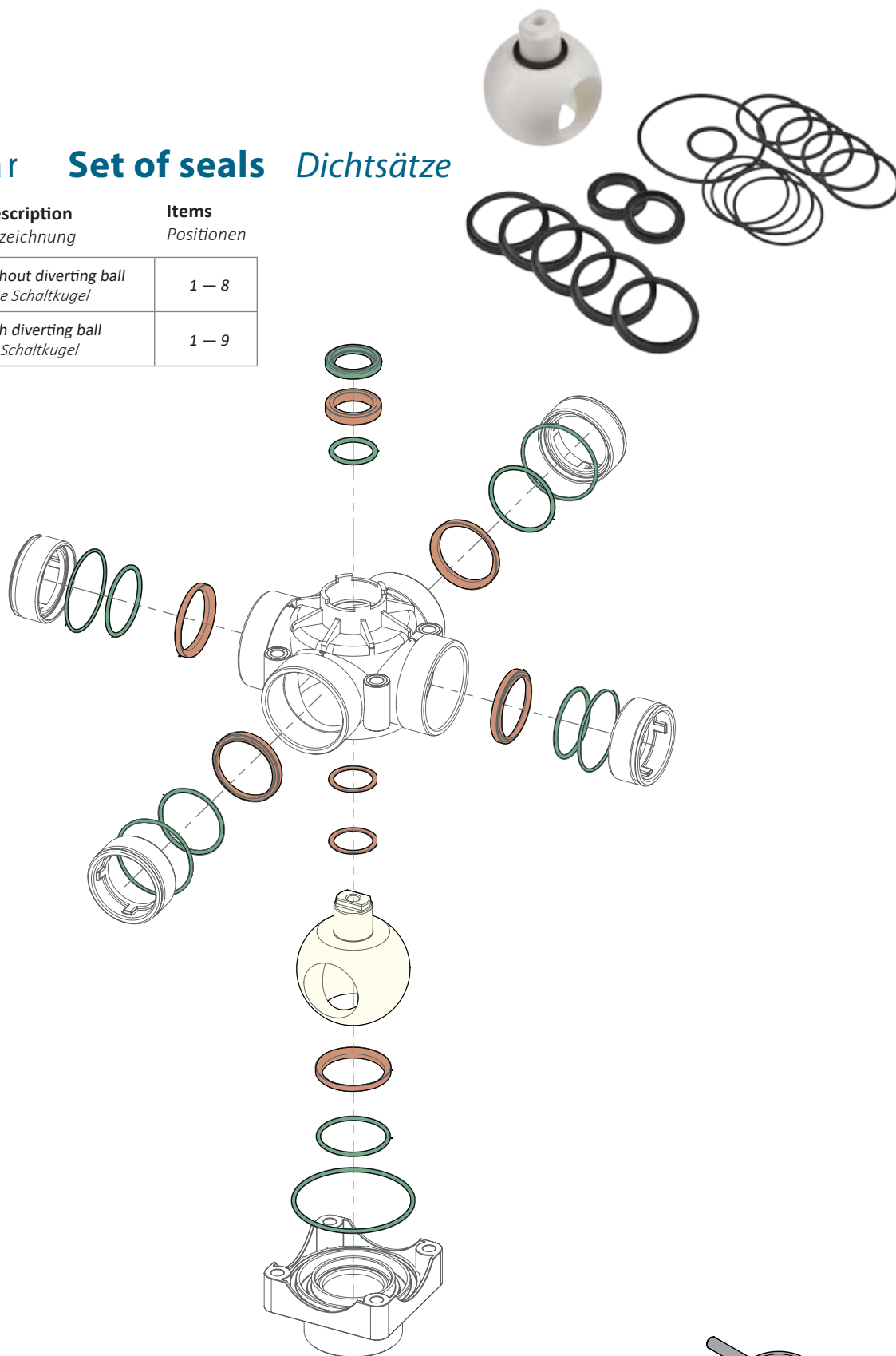
Cap Überwurfmutter



Artikel-Nr.	Druck bar	D mm
47587	10	52,5
83656	15	52,5
47733	10	68,0
82648	15	68,0

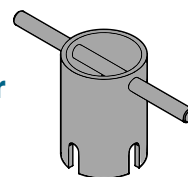
KH2 3bar **Set of seals** *Dichtsätze*

Article no. <i>Artikel-Nr.</i>	Description <i>Bezeichnung</i>	Items <i>Positionen</i>
47923	Without diverting ball <i>ohne Schaltkugel</i>	1 – 8
47924	With diverting ball <i>mit Schaltkugel</i>	1 – 9



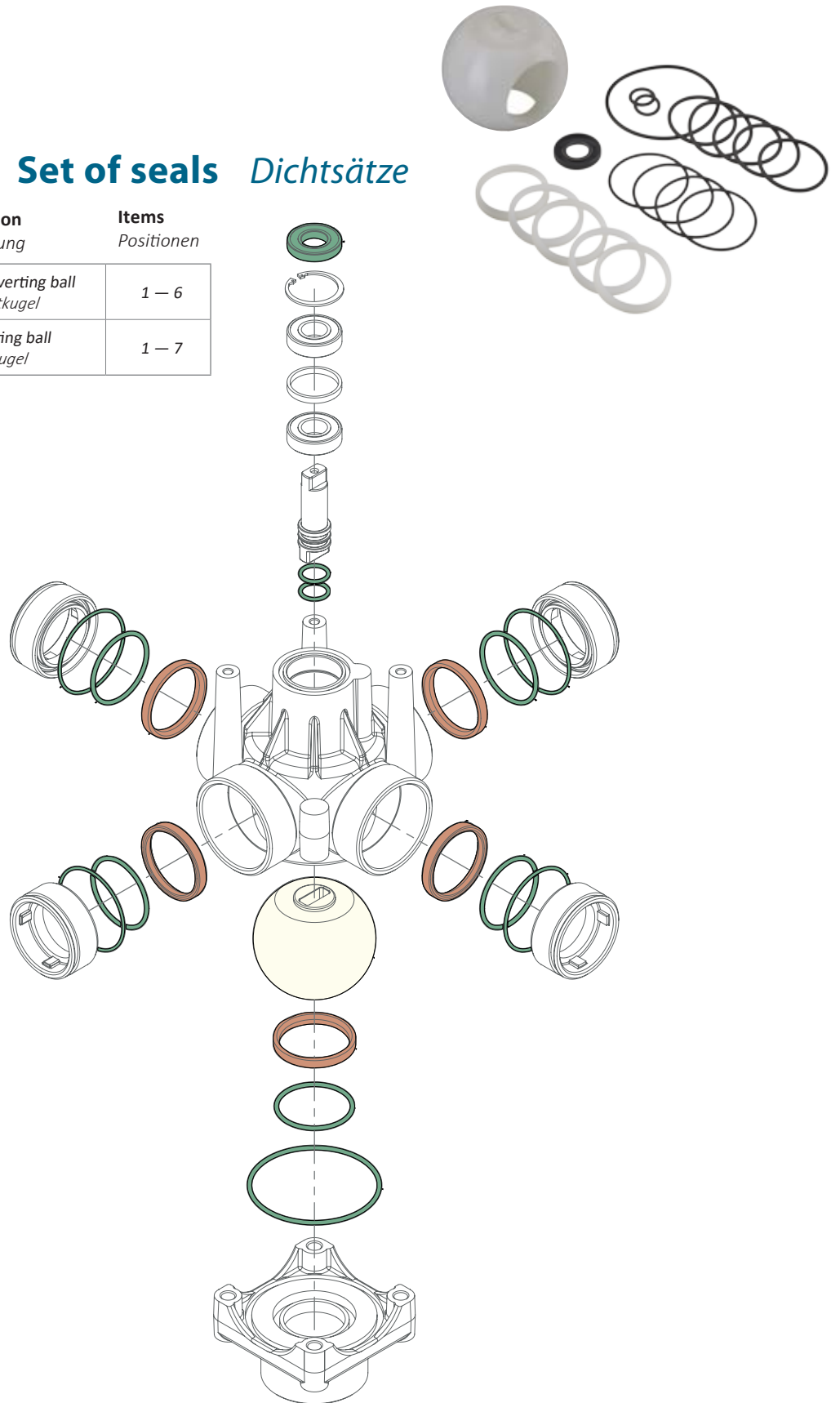
Adjusting spanner *Einstellschlüssel*

Article no.	Suitable for
80808	KH2



KH2 15bar Set of seals Dichtsätze

Article no. Artikel-Nr.	Description Bezeichnung	Items Positionen
82977	Without diverting ball ohne Schaltkugel	1 – 6
82979	With diverting ball mit Schaltkugel	1 – 7

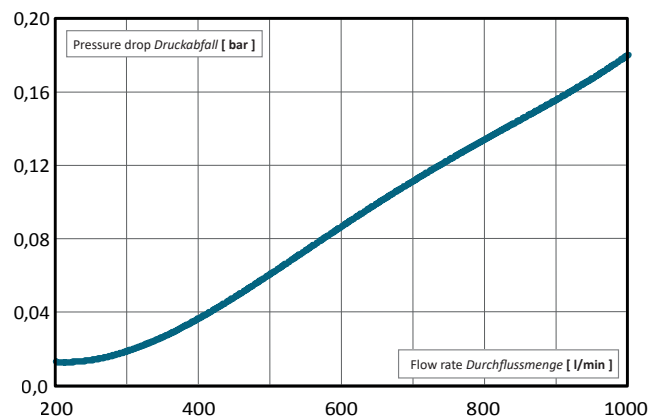




KH3

Selection *Auswahl*

Article no. <i>Artikel-Nr.</i>	Drive <i>Antrieb</i>	Size of inlet <i>Einlassgröße</i>	Size of outlets <i>Auslassgrößen</i>
KH3			
82014	manual	G3" male	4 x G3" male
82797	manual	G3" male	4 x Banjo 3"
82015	electric	G3" male	4 x G3" male
84873	SMART	Banjo 3"	1 x Banjo 2" 2 x Banjo 3" 1 x blind flange



SMART INTELLIGENCE

CAN BUS CONTROL

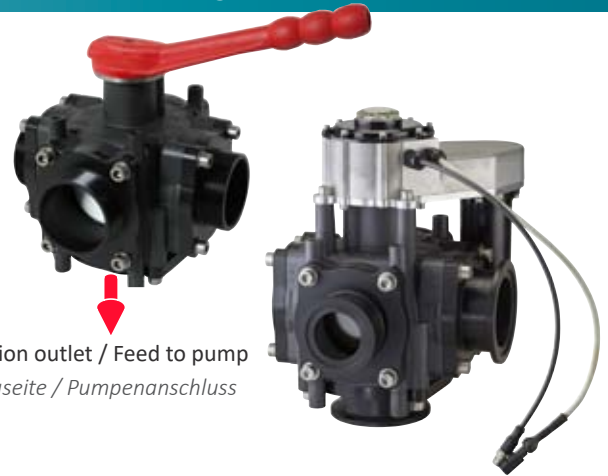
- **Electric drive with optionally 1 or 2 turning directions**
Elektroantrieb mit wahlweise 1 oder 2 Drehrichtungen
- **Positioning the ball via microswitch**
Positionierung der Kugel über Mikroschalter
- **High wear resistance**
Hohe Verschleißfestigkeit
- **Integrated manual emergency operation**
Integrierte Nothandbedienung
- **On request: special connections**
Auf Wunsch: Sonderanschlüsse
- **Special versions**
 - Adapter with special fittings as well
 - Assemblies from several valves according to customer requirements*Sonderausführungen*
 - Adapter mit Sonderanschlüssen sowie
 - Armaturen aus mehreren Ventilen nach Kundenanforderung

Designed for your heavy-duty application!



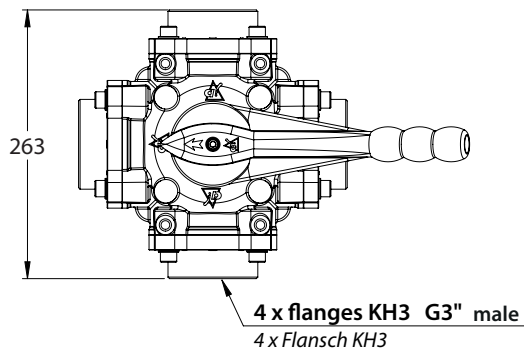
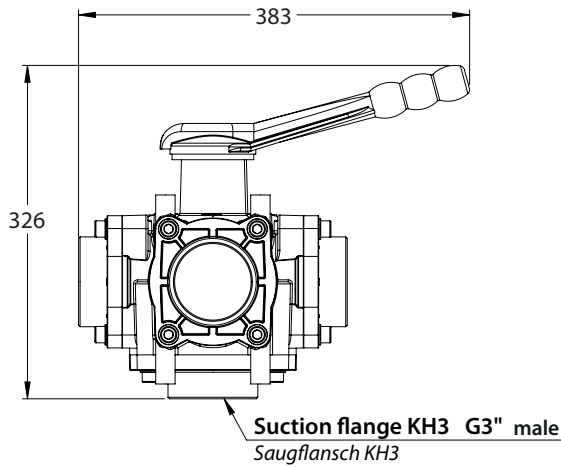
KH3

Dimensions Abmessungen



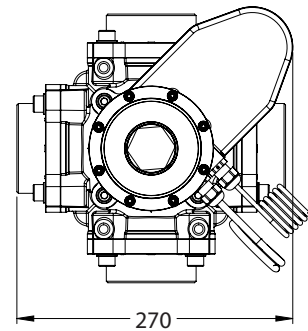
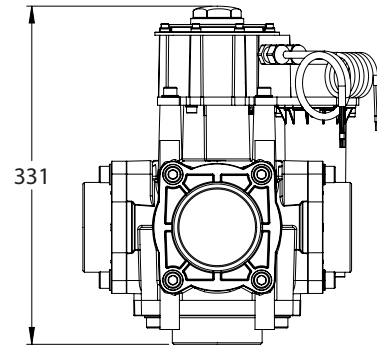
Suction outlet / Feed to pump
Saugseite / Pumpenanschluss

manual

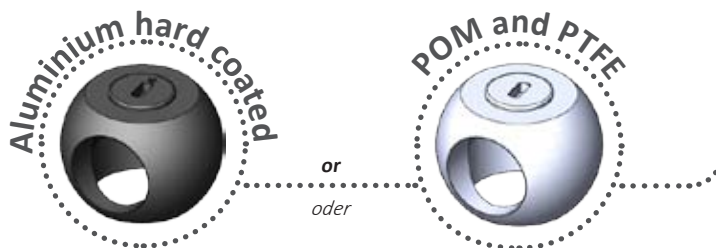


electric / SMART

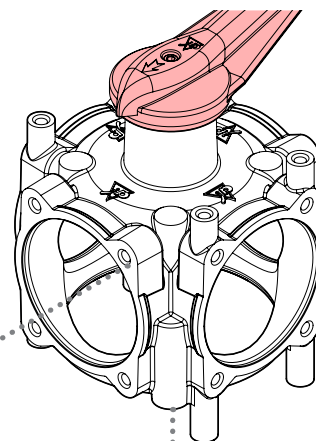
Specifications in mm
Angaben in mm



Operating pressure <i>Betriebs-Dauerdruck</i>	Flow rate <i>Durchfluss</i>	Inlet <i>Einlass</i>	Outlets <i>Auslass</i>	Material <i>Material</i>		
				Ball <i>Schaltkugel</i>	Housing <i>Gehäuse</i>	Sealing <i>Dichtung</i>
max. 3 bar	max. 1 000 l/min	depending on flange <i>je nach Flansch</i>	depending on flange <i>je nach Flansch</i>	POM + PTFE or Aluminium hard coated	Aluminium	PA, FPM, NBR



KH3 Flanges *Flansche*



Article no. *Pressure flange KH3*
Artikel-Nr. *Druckflansch KH3*

82879	G2	male
82011	G3	male

84812	G1 ½	female
82545	G2	female
83544	G3	female

83057	Banjo 2"	full port
82796	Banjo 3"	full port

82544	Blind flange <i>Blindflansch</i>
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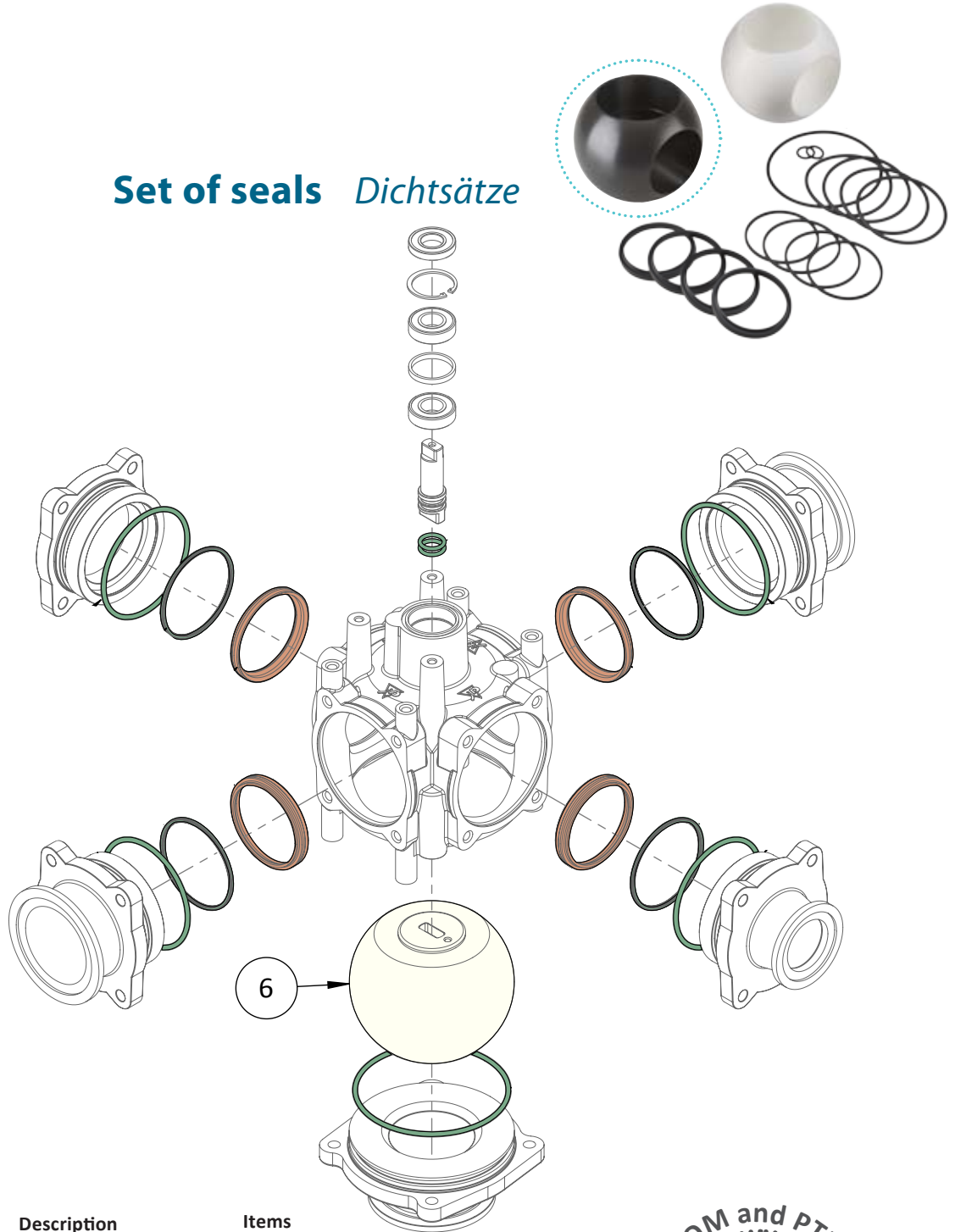
Article no. *Suction flange KH3*
Artikel-Nr. *Saugflansch KH3*

82008	G3	male
83546	G2	female
82974	Banjo 3"	full port



KH3

Set of seals Dichtsätze



Article no. Artikel-Nr.	Description Bezeichnung	Items Positionen
82983	Without diverting ball <i>ohne Schaltkugel</i>	1 – 5
82985	With POM + PTFE ball <i>mit POM + PTFE Schaltkugel</i>	1 – 6
84289	With Alu diverting ball <i>mit Alu Schaltkugel</i>	1 – 6



Drive *Steuerung*

Parameters	Eigenschaften	KH1 ¼	KH2	KH2 15bar	KH3
Nominal voltage	Nennspannung	12 V / DC ± 10%	12 V / DC ± 10%	12 V / DC ± 10%	12 V / DC ± 10%
Current input (no load)	Stromaufnahme (Leerlauf)	3,2 A	2,4 A	2,4 A	2,5 A
Control current, 1 turning direction	Steuerstrom, 1-Drehrichtung	31 mA ± 20%	31 mA ± 20%	31 mA ± 20%	31 mA ± 20%
Control current, 2 turning directions	Steuerstrom, 2-Drehrichtungen	48 mA ± 20%	48 mA ± 20%	48 mA ± 20%	48 mA ± 20%
Switching time over 270°	Schaltzeit über 270°	ca. 3,0 s	ca. 2,5 s	ca. 2,5 s	ca. 3,0 s

The switching time of the ball depends highly on the abrasive wear and the degree of soiling of the ball and seals. Values refer to new device.
 Die Schaltzeit der Kugel hängt stark vom Verschleiß und Verschmutzungsgrad der Kugel und Dichtungen ab. Werte beziehen sich auf Neugerät.

Electric *Elektrisch*

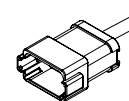
1 turning direction *1 Drehrichtung*

Cable 1 <i>Kabel 1</i>	Wire colour <i>Aderfarbe</i>	Function <i>Funktion</i>	
	white <i>weiß</i>	Output	Position 1
black <i>schwarz</i>	Signal ON	Position 1	
grey <i>grau</i>	Output	Position 2	
purple <i>lila</i>	Signal ON	Position 2	
pink <i>rosa</i>	Output	Position 3	
pink / grey <i>rosa / grau</i>	Signal ON	Position 3	
brown <i>braun</i>	Output	Position 4	
red / blue <i>rot / blau</i>	Signal ON	Position 4	
red <i>rot</i>	+ 12 V	Relais	
yellow <i>gelb</i>	Ground	Relais	
Cable 2 <i>Kabel 2</i>	brown <i>braun</i>	+ 12 V	Motor
	white <i>weiß</i>	Ground	Motor

2 turning directions *2 Drehrichtungen*

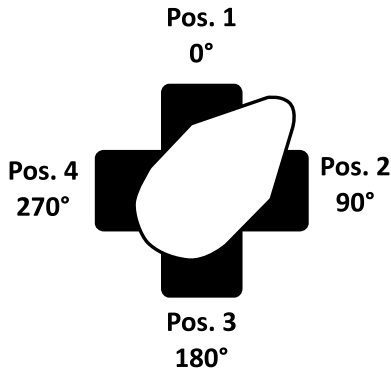
Cable 1 <i>Kabel 1</i>	Wire colour <i>Aderfarbe</i>	Pin	Function <i>Funktion</i>
	green <i>grün</i>	1	+12 V Signal ON
pink <i>rosa</i>	2	Output Position 3	
brown <i>braun</i>	3	Output Position 4	
white <i>weiß</i>	4	Output Position 1	
grey <i>grau</i>	5	Output Position 2	
	<i>n. c.</i>		
	<i>n. c.</i>		
	<i>n. c.</i>		
Cable 2 <i>Kabel 2</i>	red <i>rot</i>	9	+12 V Relais
	yellow <i>gelb</i>	10	Ground Relais
	brown <i>braun</i>	11	+ 12 V Motor
	white <i>weiß</i>	12	Ground Motor

↻ Pole reversal changes the turning direction.
 Umpolung verändert die Drehrichtung.
 4 – 3 – 2 – 1



DEUTSCH DT04-12P female

Drive Steuerung



SMART

	Wire colour <i>Aderfarbe</i>	Pin	Function <i>Funktion</i>
Cable 1 <i>Kabel 1</i>	white <i>weiß</i>	>>	+12 V Electronics
	pink <i>rosa</i>	>>	Ground Electronics
	blue <i>blau</i>	>>	CAN high Bus
	grey <i>grau</i>	>>	CAN low Bus
Cable 2 <i>Kabel 2</i>	brown <i>braun</i>	>>	+ 12 V Power
	white <i>weiß</i>	>>	Ground Power

>> customisable
Stecker auf Kundenwunsch

The turning direction is specified via the CAN bus
Vorgabe der Drehrichtung erfolgt über CAN-Bus



SMART INTELLIGENCE CAN BUS CONTROL

Monitoring of the parameters via CAN-bus *Überwachung der Parameter über CAN-Bus*

Automatically shut off in case of: *Automatisches Abschalten bei:*

Current consumption

Stromaufnahme

> 9 A

Supply voltage

Betriebsspannung

< 9,5 V

Supply voltage

Betriebsspannung

> 17 V

Ball travel time

Fahrzeit Kugel

> 10 s

3-way ball valves *3-Wege Kugelventile*

ZV Ø39 mm

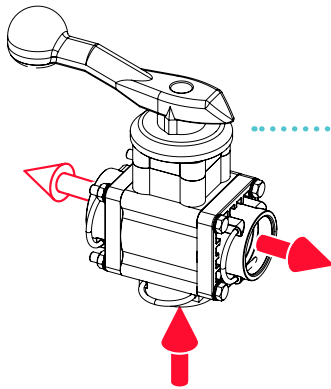
- **High wear resistance**
Hohe Verschleißfestigkeit
- **Modified polyamide as sealing**
Modifiziertes Polyamid als Dichtung
- **Ball bearing shaft**
Kugelgelagerte Schaltwelle
- **Exceptionally compact**
Außergewöhnlich kompakt
- **Very short switching time**
Sehr kurze Schaltzeit



Pressure inflow *Druckeingang*

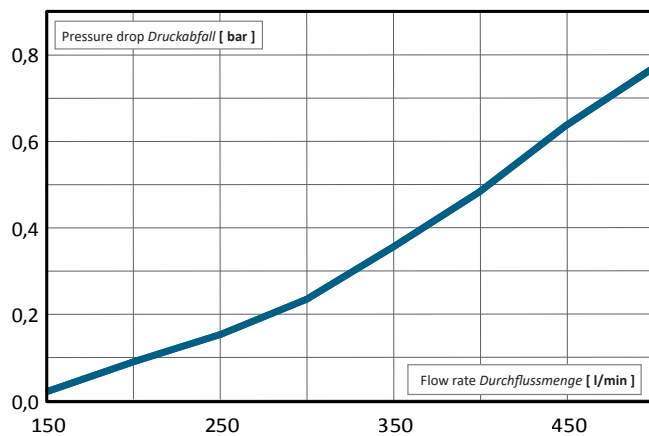
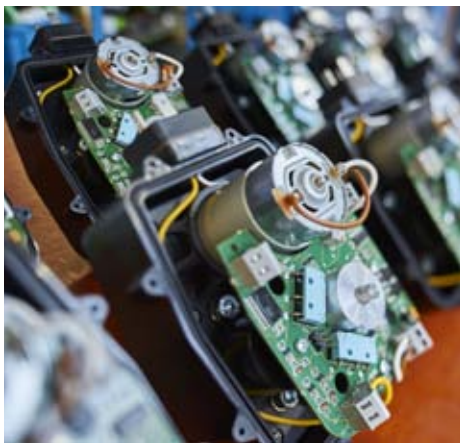
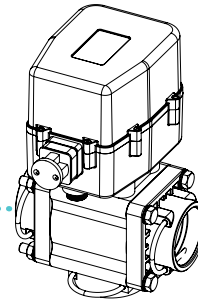


manual



Article no. <i>Artikel-Nr.</i>	ZV Ø39 mm	Drive <i>Antrieb</i>
83163	manual <i>manuell</i>	
83160	electric <i>elektrisch</i>	2-wire <i>2-Draht</i>
83173	electric <i>elektrisch</i>	3-wire <i>3-Draht</i>

electric

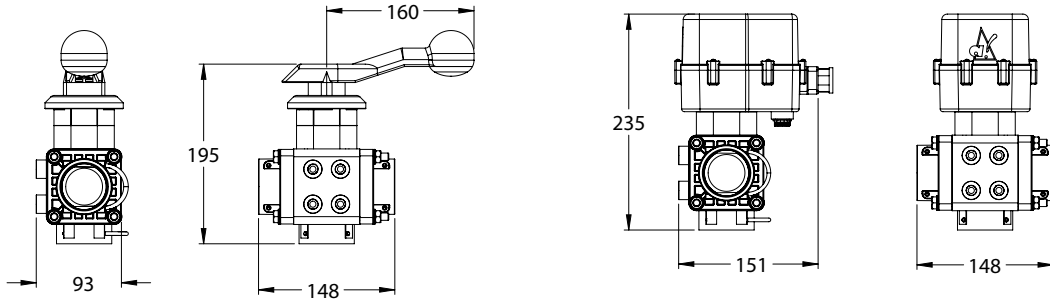


Operating pressure <i>Betriebs-Dauerdruck</i>	Flow rate <i>Durchfluss</i>	Inlet <i>Einlass</i>	Outlets <i>Auslass</i>	Material <i>Material</i>		
				Ball <i>Schaltkugel</i>	Housing <i>Gehäuse</i>	Sealing <i>Dichtung</i>
max. 15 bar	max. 500 l/min	AS50	2 x AS50	Stainless steel <i>Edelstahl</i>	POM GF	PA

3-way ball valves 3-Wege Kugelventile

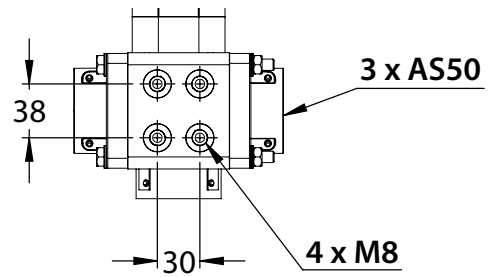
ZV Ø39 mm

Dimensions Abmessungen



Specifications in mm
Angaben in mm

Mounting Befestigung



Specifications in mm
Angaben in mm

Drive Ansteuerung

Basic parameters Eigenschaften		
Nominal voltage	Nennspannung	12 V / DC ± 10%
Current input	Stromaufnahme	3,5 A (20 bar)
Switching time	Schaltzeit	450 ms

Automatically shut off in case of:

Automatisches Abschalten bei:

Current consumption

Stromaufnahme

> 9 A

Motor power supply

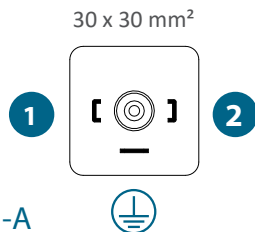
Motorspannung

< 9,5 V

Cube plug

Würfelstecker

DIN EN 175 301-803-A

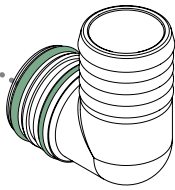
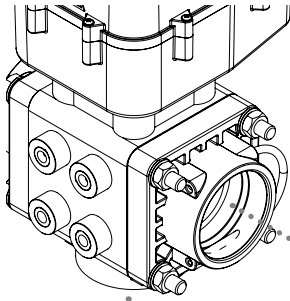


Pin	2-Wire 2-Draht	3-Wire 3-Draht
1	+ 12 V	+ 12 V
2	GND	+ 12 V
	n.c. n. a.	GND

↻ Pole reversal closes the valve.
Umpolung schließt das Ventil.

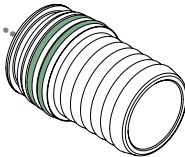
3-way ball valves *3-Wege Kugelventile* **ZV Ø39 mm Fittings**

AS50
Fittings 131 ff.

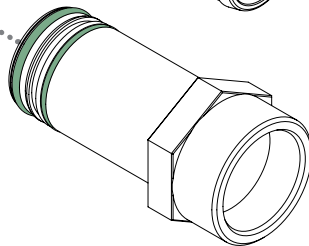


Article no. Male hose tail
Artikel-Nr. Stecktülle

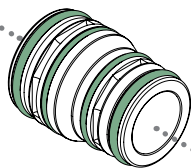
AS50	24891	ø 39 mm	┘
AS50	17330	ø 46 mm	┘



AS50	22040	ø 39 mm	┘
AS50	17157	ø 46 mm	┘

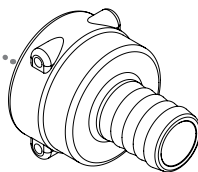


AS50	80610	G2	male long
AS50	82944	G2	male short



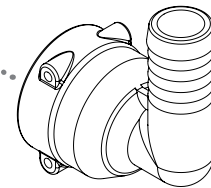
Article no. Adapter AS / AS
Artikel-Nr.

AS50	82945	AS40
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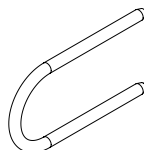


Article no. Female hose tail
Artikel-Nr. Stülptülle

AS40	80354	ø 20 mm	┘
AS40	80357	ø 25 mm	┘
AS40	34232	ø 33 mm	┘
AS40	34231	ø 39 mm	┘
AS40	83967	ø 40 mm	┘



AS40	81655	ø 20 mm	┘
AS40	81654	ø 25 mm	┘
AS40	81653	ø 33 mm	┘
AS40	81652	ø 39 mm	┘



Article no. Safety Pin
Artikel-Nr. Sicherungsstecker

05241	AS40
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