



Hawle Synoflex
multirange couplings for all common types of pipe

About this brochure

The general media specifications in the product descriptions may possibly be limited. Please make sure to inform us in your order and/or inquiry about the medium for which the respective application is intended.

If you have any more questions on our products, don't hesitate to contact our employees from Application Engineering any time.



Products for use in the field of potable water



Products for use in the field of municipal wastewater (www.hawle.de/grenzwerte-abwasser)



In general, all products sold by us are subject to the statutory warranty period of 2 years from the day of delivery by Hawle. Due to the high Hawle product quality, we are able to offer you an extended warranty period of 5 years for all products manufactured by us. For more details, please refer to the Internet: www.hawle.de/warranty



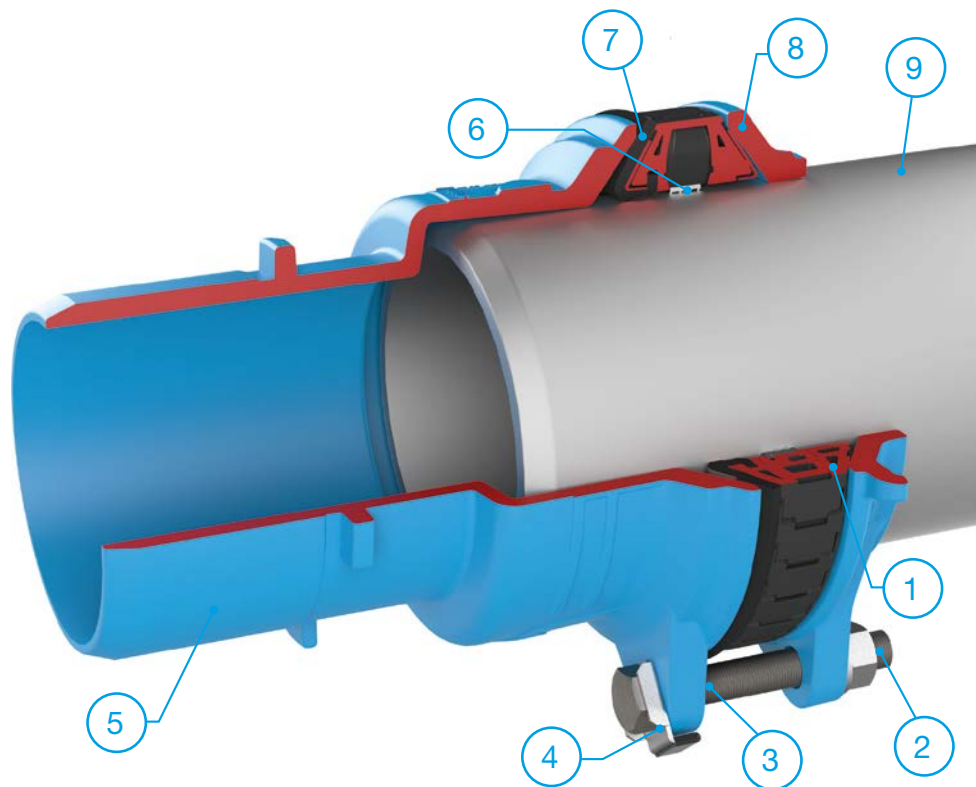
For information regarding our "10 Years Quality Guarantee" for Hawle potable water products, please follow the following link: www.hawle.de/garantie/



Current information can be obtained via our free newsletter. For registration, please go to www.hawle.de/newsletter

Design of Hawle Synoflex

Hawle Synoflex multirange couplings cover a very wide range of applications. Identical and different pipe materials as well as pipes, pipe fittings, and valves can thus be connected permanently. Hawle Synoflex is also helpful when quick improvising is needed on site. Hawle Synoflex multirange couplings are perfectly suitable for establishing connections with old piping and for repair. They also work well in installation situations that are difficult to access.



Nr.	Kurzbezeichnung	Material
1	Synoflex ring	POM
2	Bolts and nuts	stainless steel, coated with glider molybdenum
3	Spacer sleeves	POM
4	Bolt head anti-twist locking devices	stainless steel, with protective caps of elastomer
5	Body (for example, Synoflex transition adaptor to BAIO® system 532-03)	GJS-400, Hawle epoxy powder coated
6	Gripping elements	steel, corrosion protected
7	Gasket	EPDM acc. to DVGW W 270 and KTW
8	Lock ring	GJS-400, Hawle epoxy powder coated
9	Pipe	steel (example)

Features of Hawle Synoflex

Adaptable

- Suitable for all common types of pipe
- Restraint joints ensured for pipe materials DCI, steel, PE, and PVC
- When connecting PE pipes, Hawle support liners must be used
- Important: When connecting AC pipes, no restraint joints are ensured. The gripping elements need not be removed. To accomplish a restraint joint, a conventional concrete abutment must be established.
- The Synoflex socket compensates an angle offset of up to 4° to the pipe axis, which results in an angle compensation of 8° for a Synoflex connector.
- The gripping elements are anchored in the pipe without impairing it and guarantee high pressures.
- The elastomer gasket fits snugly to the pipe, sealing it reliably.
- The Synoflex product range covers a lot of installation situations, thus reducing storage capacities and saving cost.

Easy to install

- By simply pinching the quick-clamping lugs, the fold-out Synoflex ring immediately adapts to the pipe. The loose nuts can be readjusted quickly.
- Due to bolt head anti-twist locking devices, the bolts can be tightened with only one hand.
- Under unfavourable structural conditions, the bolts including the bolt head anti-twist locking devices can be taken out and turned by 180 degrees, thus always allowing installation by means of a torque wrench.
- The bolted connections are coated with glider molybdenum to prevent the seizing of bolts and nuts.
- The gripping elements are firmly anchored in the Synoflex ring and are securely held in place during inserting and pulling out the pipe.
- Hawle Synoflex can be dismantled and reused. We recommend replacing the bolts and nuts, and also the Synoflex ring if the latter is damaged.

Durable

- The body and lock ring consist of high-quality ductile iron GJS-400.
- Hawle epoxy powder coating acc. to the Quality Assurance Association for Heavy-Duty Corrosion Protection GSK ensures a long-lasting protection against corrosion.
- Bolts, nuts, washers, and locking rings are made of high-quality stainless steel.
- Hawle Synoflex is maintenance-free and designed for a long service life.

Please observe also the operating and maintenance instructions for Hawle Synoflex provided at:
www.hawle.de

Note



When connecting PE pipes, Hawle support liners must be used, e.g., 590-00 support liner of stainless steel for PE pipes SDR 11 or SDR 17.

Details of Hawle Synoflex

Technical data

Medium:	potable water, sewage
Max. operating pressure:	DN 40 - DN 300: 16 bar DN 350 - DN 400: 10 bar
Nominal widths:	DN 40 - DN 400
Basis for development / testing:	DIN EN 14525
Types of connection:	flange - socket, same nominal width and reduced socket - socket, same nominal width and reduced socket - System 2000 socket - end cap socket - BAIO® spigot end socket - ZAK® socket
Restraint joint:	DCI pipe steel pipe PE pipe (always use Hawle support liner) PVC pipe
Non-restraint connection:	AC pipe (concrete abutment)
Angle compensation:	max. +/- 4° per socket

Connector - Synoflex DN 150 PE / AC*



* Note: When connecting PE pipes, Hawle support liners must be used. No restraint connection with AC pipes

Adjusting range of Hawle Synoflex socket

DN	PN	Maximum operating pressure	Adjusting range Synoflex socket (mm)	Pipe insertion min. (mm)	Pipe insertion max. (mm)
40	16	16 bar	d 46 - 58	81	86
50	16	16 bar	d 56 - 71	84	91
65	16	16 bar	d 71 - 88	85	97
80	16	16 bar	d 85 - 105	86	103
100	16	16 bar	d 104 - 132	119	136
125	16	16 bar	d 131 - 160	119	136
150	16	16 bar	d 155 - 192	126	143
200	16	16 bar	d 198 - 230	143	161
225	16	16 bar	d 230 - 260	149	161
250	16	16 bar	d 265 - 310	155	167
300	16	16 bar	d 313 - 356	161	180
350	10	10 bar	d 352 - 396	171	190
400	10	10 bar	d 398 - 442	181	200

Connector - Synoflex DN 250 DCI



Hawle Synoflex multirange couplings



740-00
EU-fitting - Synoflex



740-02
Reducing socket, EU-fitting - Synoflex



741-00
Connector - Synoflex

No.	Designation	Maximum operating pressure		Nominal pressure / nominal width
740-00	EU-fitting - Synoflex (flanged socket)	16 bar/ 10 bar	16 bar/ 10 bar	PN 10/16: DN 50/50, DN 65/65, DN 80/80, DN 100/100, DN 125/125, DN 150/150 PN 16: DN 200/200, DN 250/250, DN 300/300 PN 10: DN 200/200, DN 250/250, DN 300/300, DN 350/350, DN 400/400
740-02	Reducing socket, EU-fitting - Synoflex (flanged socket)	16 bar/ 10 bar	16 bar/ 10 bar	PN 10/16: DN 80/65, DN 80/100, DN 100/80, DN 100/125, DN 125/100, DN 125/150, DN 150/125, DN 150/200 PN 16: DN 200/150, DN 200/225, DN 250/200 PN 10: DN 200/150, DN 200/225, DN 250/200
741-00	Connector - Synoflex	16 bar/ 10 bar	16 bar/ 10 bar	PN 16: DN 40/40, DN 50/50, DN 65/65, DN 80/80, DN 100/100, DN 125/125, DN 150/150, DN 200/200, DN 225/225, DN 250/250, DN 300/300 PN 10: DN 350/350, DN 400/400

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 **741-01**
 Connector – Synoflex /System 2000



 **741-02**
 Reducing socket, connector - Synoflex



 **742-00**
 Endkappe - Synoflex

No.	Reducing socket, connector - Synoflex	Maximum operating pressure		Nominal pressure / nominal width
				
741-01	Connector Synoflex/System 2000	16 bar/ 10 bar	16 bar/ 10 bar	PN 16: DN 80/90, DN 100/110, DN 100/125, DN 150/160, DN 150/180, DN 200/200, DN 250/250, DN 250/280, DN 300/315 PN 10: DN 350/355, DN 400/400
741-02	Reducing socket connector - Synoflex	16 bar	16 bar	PN 16: DN 80/65, DN 100/80, DN 125/100, DN 150/100, DN 150/125, DN 200/150, DN 225/200, DN 250/200, DN 250/225, DN 300/250
742-00	End cap - Synoflex	16 bar/ 10 bar	16 bar/ 10 bar	PN 16: DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200, DN 225, DN 250, DN 300 PN 10: DN 350, DN 400

Transition adaptors Hawle Synoflex to BAIO® and ZAK®



 **530-03**
Cut-in socket fitting with BAIO®
spigot end and Synoflex socket



 **532-03**
Synoflex transition adaptor to
BAIO® system (SM-fitting)



 **740-01**
Synoflex transition adaptor to
ZAK® system

No.	Designation	Maximum operating pressure		Nominal width
				
530-03	Cut-in socket fitting with BAIO® spigot end and Synoflex socket	16 bar	16 bar	DN 200, DN 250, DN 300
532-03	Synoflex transition adaptor to BAIO® system (SM-fitting)	16 bar	16 bar	DN 80, DN 100, DN 125, DN 150, DN 200, DN 250, DN 300
740-01	Synoflex transition adaptor to ZAK®-system	16 bar	16 bar	ZAK 46/DN 40, ZAK 46/DN 50, ZAK 69/DN 50

End cap - Synoflex DN 100 PE *



* Note: When connecting PE pipes, Hawle support liners must be used.

Dimension table for pressure pipes

DN	DCI pipe DIN 28610	Grey cast iron pipe DIN 2431			Steel pipe				PVC pipe DIN 8062	PE pipe DIN 8074	AC pipe DIN 19800					
		PN 8 / PN 16 (mm)	PN 25 (mm)	PN 40 (mm)	Threaded pipe (mm)	Boiler pipe (mm)	Push-fit socket +4 mm PE (mm)		(mm)	(mm)	PN 10		PN 12,5		PN 16	
											cal. (mm)	uncal. (mm)	cal. (mm)	uncal. (mm)	cal. (mm)	uncal. (mm)
40	56	56			48,3	51,0			50	50						
						57,0										
50	66	66	67	70	60,3	70,0			63	63						
65	82	77	78	82	76,1				75	75			83		85	
(75)		87	89	92												
80	98	98	100	104	88,9	88,9			90	90	98	102	100		100	
(90)		108	112	116												
100	118	118	122	128	114,3	108,0	117,5	110 (125)	110 (125)	110 (125)	120	128	124		130	
125	144	144	149	155	139,7	133,0	144,0	140	140	140	149	154	153		159	
150	170	170	176		168,3	159,0	168,3	160 (180)	160 (180)	160 (180)	178	184	182		190	
175		196	203	213	193,7	191,0										
200	222	222	230	242	219,1	216,0	219,1	200 (225)	200 (225)	200 (225)	234	243	240		252	
225		248	259	271	229,1	241,0										
250	274	274	286	298	273,0	267,0	273,0	250 (280)	250 (280)	250 (280)	286	288	296		308	
275		300	313	327		292,0										
300	326	326	340	358	323,9	318,0	323,9	315 (355)	315 (355)	315 (355)	342	346	352		368	
325		352	367	385		343,0										
350	378	378	394	412	355,6	368,0		355	355	355	400	404	410		428	
375		403	421	441												
400	429	429	448	470	406,4	419,0		400	400	400	456	460	470		488	
450	480	480	504		457,0			450	450	450	510		524		546	
500	532	532	558		508,0			500	500	500	564		582		606	
550		583														
600	635	634			610,0			630	630	630	678		698		726	

Overview of tightening torques

DN	PN	Pipe Ø min. /max. (mm)	Number & dimension of bolts	Torque Nm	
				DCI / steel pipe	PE/ PVC pipe AC pipe
40	16	46 - 58	3 x M 12	50	40
50	16	56 - 71	3 x M 12	70	60
65	16	71 - 88	3 x M 12	70	60
80	16	85 - 105	3 x M 12	70	60
100	16	104 - 132	3 x M 16	90	70
125	16	131 - 160	3 x M 16	90	70
150	16	155 - 192	4 x M 16	110	80
200	16	198 - 230	6 x M 16	110	80
225	16	230 - 260	6 x M 20	130	110
250	16	265 - 310	6 x M 20	130	110
300	16	313 - 356	8 x M 20	130	110
350	10	352 - 396	12 x M 20	140	120
400	10	398 - 442	12 x M 20	140	120

Connector - Synoflex DN 400 PE / AC *



*Note: When connecting PE pipes, Hawle support liners must be used. No restraint connection with AC pipes.



Hawle Armaturen GmbH
Liegnitzer Straße 6
83395 Freilassing
Deutschland

Tel.: +49 8654 6303-0
Fax: +49 8654 6303-111

info@hawle.de
www.hawle.de

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