

5 VESSELS/ACCESSORY



NORMAG - LABORATORY GLASSWARE




L 305 e.1

SINGLE NECK FLASKS

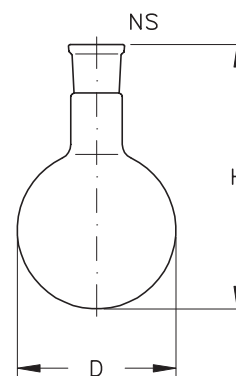
Flasks in single neck or multiple neck design with conical ground joint socket and spherical ground joint cup are a substantial part of small or big apparatus. The most common forms and designs of our standard delivery range with nominal sizes from 5 ml up to 10,000 ml you will find in this catalogue part.

Flasks, round bottom, with NS socket

Round bottom flasks with neck can be universally employed and they are manufactured according to DIN 12 348 as far as they are part of this standard.

 All standard ground necks in sizes NS 10 and NS 14 are equipped with metal hooks.


Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
5	10/19	29	52	10	KOK 00900 01
5	14/23	29	64	10	KOK 01020 01
10	10/19	34	57	10	KOK 00900 02
10	14/23	34	71	10	KOK 01020 02
25	10/19	44	83	10	KOK 00900 03
25	14/23	44	87	10	KOK 01020 03
50	10/19	51	105	10	KOK 00900 04
50	14/23	51	105	10	KOK 01020 04
50	29/32	51	105	10	KOK 01024 04
100	14/23	64	115	10	KOK 01020 05
100	29/32	64	115	10	KOK 01024 05
250	14/23	85	145	10	KOK 01020 06
250	29/32	85	145	10	KOK 01024 06
250	45/40	85	145	10	KOK 01027 06
500	14/23	105	175	10	KOK 01020 07
500	29/32	105	175	10	KOK 01024 07
500	45/40	105	175	10	KOK 01027 07
1000	29/32	131	210	10	KOK 01024 08
1000	45/40	131	210	1	KOK 01027 08
2000	29/32	165	260	1	KOK 01024 09
2000	45/40	165	260	1	KOK 01027 09
4000	29/32	207	315	1	KOK 01024 10
4000	45/40	207	315	1	KOK 01027 10
6000	29/32	236	355	1	KOK 01024 11
6000	45/40	236	355	1	KOK 01027 11
10000	45/40	275	420	1	KOK 01027 12

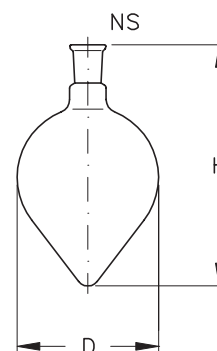


All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, pear shaped, with NS socket

Pear shaped flasks are employed in distillations when low volumes are used. They are manufactured according to DIN 12 383.

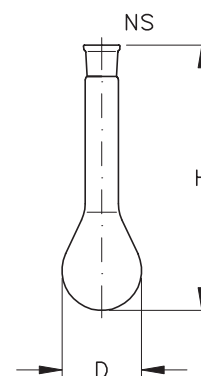
 All standard ground necks are equipped with metal hooks.



Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
5	10/19	28	67	1	KOK 00910 01
5	14/23	28	71	1	KOK 01021 01
10	10/19	31	75	1	KOK 00910 02
10	14/23	31	75	1	KOK 01021 02
25	10/19	41	90	1	KOK 00910 03
25	14/23	41	90	1	KOK 01021 03
50	10/19	51	105	1	KOK 00910 04
50	14/23	51	105	1	KOK 01021 04
100	14/23	64	115	1	KOK 01021 05
250	14/23	85	145	1	KOK 01021 06
500	14/23	105	175	1	KOK 01021 07

Flasks, Kjeldahl, with NS socket


Kjeldahl flasks are pear shaped flasks with a long neck. They are used for digestion and the consecutive distillation of organic substances for analysis purposes. Manufactured according to DIN 12 360.



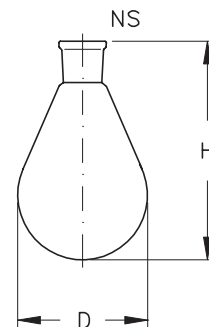
Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
50	29/32	51	200	10	KOK 01025K 04
100	29/32	60	200	10	KOK 01025K 05
250	29/32	81	270	10	KOK 01025K 06
500	29/32	101	300	10	KOK 01025K 07
1000	29/32	126	350	10	KOK 01025K 08

All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, rotary evaporation, with NS socket

 An optimal smoothness of the flask is guaranteed through the special centred neck.

Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
100	29/32	60	110	10	KOK 01025R 04
250	29/32	81	140	10	KOK 01025R 05
500	29/32	101	170	10	KOK 01025R 06
1000	29/32	126	210	10	KOK 01025R 07
2000	29/32	158	245	1	KOK 01025R 08

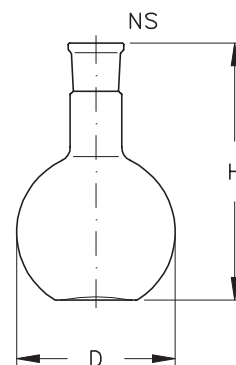


Flasks, flat bottom, with NS socket

The bottom is slightly curved inside. They are manufactured according to DIN 12 348.

On request these flasks are also available in special sizes.

Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
100	29/32	64	110	10	KOK 01035K 05
250	29/32	85	140	10	KOK 01035K 06
500	29/32	105	170	10	KOK 01035K 07
1000	29/32	131	200	10	KOK 01035K 08
2000	29/32	165	250	1	KOK 01035K 09

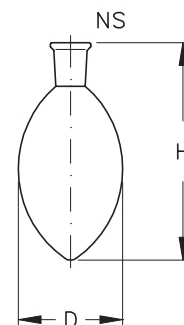


Receiver flasks, with NS socket

They are preferably used as receiving vessels in distillation apparatus. The pear shape results from the constructive mounting of the manifold receivers.

 The following flasks are equipped with metal hooks.

Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
5	10/19	25	58	1	KOK 00920 01
5	14/23	25	62	1	KOK 01022 01
10	10/19	28	66	1	KOK 00920 02
10	14/23	28	70	1	KOK 01022 02
25	10/19	38	82	1	KOK 00920 03
25	14/23	38	86	1	KOK 01022 03
50	10/19	46	96	1	KOK 00920 04
50	14/23	46	100	1	KOK 01022 04
100	14/23	55	115	1	KOK 01022 05



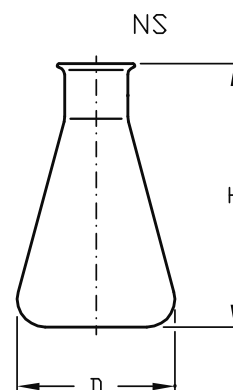
All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, Erlenmeyer, with NS socket

The bottom is flat or slightly curved inside (see also page 5.4). They are manufactured according to DIN 12 387.

On request special sizes are available.

Capacity (ml)	NS	D	H	Pack unit	Catalogue No.
10	14/23	32	55	10	KOK 01022B 02
25	14/23	45	65	10	KOK 01022B 03
50	14/23	51	85	10	KOK 01022B 04
50	29/32	51	85	10	KOK 01026 04
100	14/23	64	105	10	KOK 01022B 05
100	29/32	64	105	10	KOK 01026 05
250	29/32	85	140	10	KOK 01026 06
250	45/40	85	140	1	KOK 01026A 06
300	29/32	87	160	10	KOK 01026 07
300	45/40	87	160	1	KOK 01026A 07
500	29/32	105	175	10	KOK 01026 08
500	45/40	105	175	1	KOK 01026A 08
1000	29/32	131	220	10	KOK 01026 09
1000	45/40	131	220	1	KOK 01026A 09
2000	29/32	166	282	1	KOK 01026 10
2000	45/40	166	282	1	KOK 01026A 10



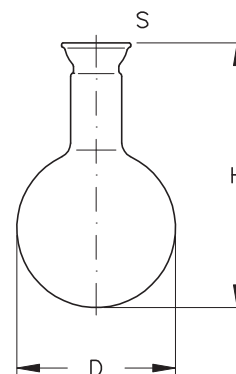
Flasks, round bottom, with spherical ground joint cup (inch standard)

The spherical ground joint cups are manufactured according to DIN 12 244.



On request these flasks are available with spherical ground joint cups in mm-size.

Capacity (ml)	S	D	H	Pack unit	Catalogue No.
100	S35	64	115	1	KOK 07047D 05
100	S40	64	115	1	KOK 07048D 05
250	S35	85	145	1	KOK 07047D 06
250	S40	85	145	1	KOK 07048D 06
500	S35	105	175	1	KOK 07047D 07
500	S40	105	175	1	KOK 07048D 07
1000	S35	131	210	1	KOK 07047D 08
1000	S40	131	210	1	KOK 07048D 08
1000	S51	131	210	1	KOK 07049D 08
1000	S64	131	210	1	KOK 07050D 08
2000	S35	165	260	1	KOK 07047D 09
2000	S40	165	260	1	KOK 07048D 09
2000	S51	165	260	1	KOK 07049D 09
2000	S64	165	315	1	KOK 07050D 09
4000	S51	207	420	1	KOK 07049D 10
4000	S64	207	315	1	KOK 07050D 10
6000	S51	236	355	1	KOK 07049D 11
6000	S64	236	355	1	KOK 07050D 11
10000	S64	275	420	1	KOK 07050D 12



All ground joints are also available in other standard sizes, e.g. US-standard.

NITROGEN FLASKS, ROUND BOTTOM

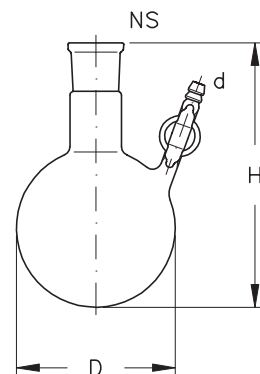
These flasks are suitable for applications of safety gas techniques. They are recommended for working with oxygen sensitive or moisture sensitive substances.

Flasks, round bottom, with single way stopcock

The conical ground joint sockets are manufactured according to DIN 12 245.

 All standard ground joint necks NS 14 are equipped with metal hooks.

Capacity (ml)	NS	Ø bore stopcock	d	D	H	Pack unit	Catalogue No.
10	14/23	1	8	34	71	1	GSG 01020H 02
25	14/23	3	11	44	83	1	GSG 01020H 03
50	14/23	3	11	51	105	1	GSG 01020H 04
50	29/32	3	11	51	105	1	GSG 01024H 04
100	14/23	3	11	64	115	1	GSG 01020H 05
100	29/32	3	11	64	115	1	GSG 01024H 05
250	14/23	3	11	85	145	1	GSG 01020H 06
250	29/32	3	11	85	145	1	GSG 01024H 06
500	14/23	3	11	105	175	1	GSG 01020H 07
500	29/32	3	11	105	175	1	GSG 01024H 07
1000	29/32	3	11	131	210	1	GSG 01024H 08
2000	29/32	3	11	165	260	1	GSG 01024H 09



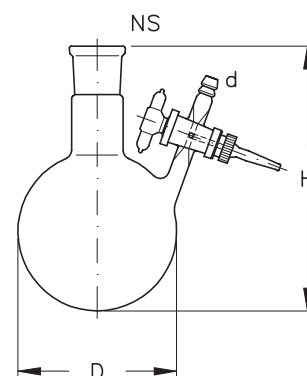
All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, round bottom, with tail stopcock

The standard ground joint necks are manufactured according to DIN 12 245.

 All standard ground joint necks NS 14 are equipped with metal hooks.

Capacity (ml)	NS	Ø bore stopcock	d	D	H	Pack unit	Catalogue No.
25	14/23	3	11	44	83	1	GSG 01020S 03
50	14/23	3	11	51	105	1	GSG 01020S 04
50	29/32	3	11	51	105	1	GSG 01024S 04
100	14/23	3	11	64	115	1	GSG 01020S 05
100	29/32	3	11	115	260	1	GSG 01024S 05
250	14/23	3	11	85	145	1	GSG 01020S 06
250	29/32	3	11	85	145	1	GSG 01024S 06
500	14/23	3	11	105	175	1	GSG 01020S 07
500	29/32	3	11	105	175	1	GSG 01024S 07
1000	29/32	3	11	131	210	1	GSG 01024S 08
2000	29/32	3	11	165	260	1	GSG 01024S 09



FLASKS, MULTIPLE NECKS

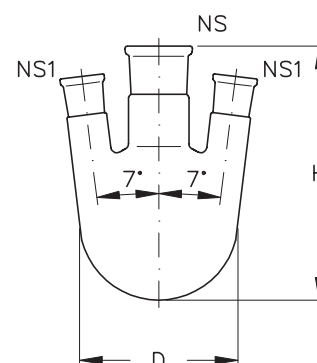
There are two variants of these flasks: reaction flasks (DIN 12 392) and distilling flasks (DIN 12 394). The reaction flasks are available with 7° angled necks or straight side necks, distilling flasks are only available with 20° angled side necks. Apart from the standard mentioned above, pear shaped flasks as multiple neck flasks are available.

Flasks, reaction, with three necks 7° angled

They are manufactured according to DIN 12 392.

 Compensating bends 7° angled please see page 5.11

Capacity (ml)	NS	NS1 7°	D	H	Pack unit	Catalogue No.
500	29/32	29/32	105	175	1	KOK 01033aD 07
1000	29/32	29/32	131	210	1	KOK 01033aD 08
1000	45/40	29/32	131	210	1	KOK 01034aD 08

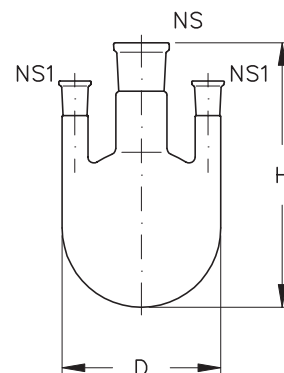


All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, reaction, with three necks

They are manufactured according to DIN 12 392 as far as they are part of this standard.

Capacity (ml)	NS	NS1	D	H	Pack unit	Catalogue No.
100	29/32	14/23	64	115	1	KOK 01032 05
250	29/32	14/23	85	145	1	KOK 01032 06
250	29/32	29/32	85	145	1	KOK 01033 06
500	29/32	14/23	105	175	1	KOK 01032 07
500	29/32	29/32	105	175	1	KOK 01033 07
1000	29/32	14/23	131	210	1	KOK 01032 08
1000	29/32	29/32	131	210	1	KOK 01033 08
2000	29/32	14/23	165	260	1	KOK 01032 09
2000	29/32	29/32	165	260	1	KOK 01033 09
2000	45/40	29/32	165	260	1	KOK 01034aD 09
4000	29/32	29/32	207	315	1	KOK 01033 10
4000	45/40	29/32	207	315	1	KOK 01034aD 10
6000	29/32	29/32	236	355	1	KOK 01033 11
6000	45/40	29/32	236	355	1	KOK 01034aD 11
10000	45/40	29/32	275	420	1	KOK 01034aD 12

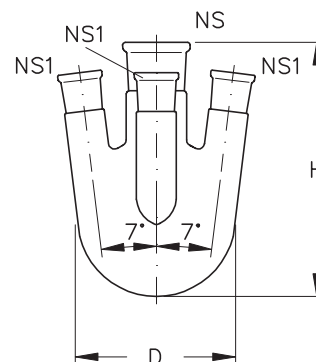


Flasks, reaction, with four necks 7° angled

They are manufactured according to DIN 12 392.

 Compensating bends 7° angled please see page 5.11

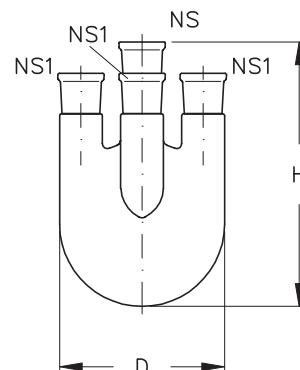
Capacity (ml)	NS	NS1 7°	D	H	Pack unit	Catalogue No.
250	29/32	19/26	85	145	1	KOK 01032cV 06
500	29/32	19/26	105	175	1	KOK 01032cV 07
500	29/32	29/32	105	175	1	KOK 01033aV 07
1000	29/32	19/26	131	210	1	KOK 01032cV 08
1000	29/32	29/32	131	210	1	KOK 01033aV 08
1000	45/40	29/32	131	210	1	KOK 01034aV 08



Flasks, reaction, with four necks

They are manufactured according to DIN 12 392 as far as they are part of this standard.

Capacity (ml)	NS	NS1	D	H	Pack unit	Catalogue No.
1000	29/32	29/32	131	210	1	KOK 01033bV 08
1000	45/40	29/32	131	210	1	KOK 01034bV 08
2000	29/32	29/32	165	260	1	KOK 01033bV 09
2000	45/40	29/32	165	260	1	KOK 01034bV 09
4000	45/40	29/32	207	315	1	KOK 01034bV 10
6000	45/40	29/32	236	355	1	KOK 01034bV 11
10000	45/40	29/32	275	420	1	KOK 01034bV 12

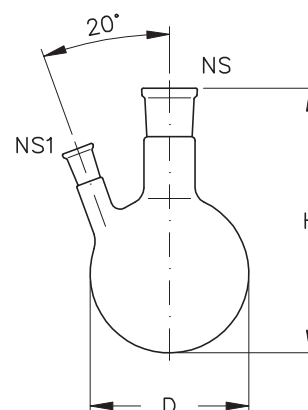


All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, distilling, with two necks/NS socket

They are manufactured according to DIN 12 394 as far as they are part of this standard. All centre necks with socket NS 14/23 are equipped with metal hooks.

Capacity (ml)	NS	NS1 20°	D	H	Pack unit	Catalogue No.
25	14/23	14/23	44	87	1	KOK 01023 03
50	14/23	14/23	51	105	1	KOK 01023 04
100	14/23	14/23	64	115	1	KOK 01023 05
100	29/32	14/23	64	115	1	KOK 01029 05
250	14/23	14/23	85	145	1	KOK 01023 06
250	29/32	14/23	85	145	1	KOK 01029 06
500	14/23	14/23	105	175	1	KOK 01023 07
500	29/32	14/23	105	175	1	KOK 01029 07
1000	29/32	14/23	131	210	1	KOK 01029 08
2000	29/32	14/23	165	260	1	KOK 01029 09
4000	29/32	14/23	207	315	1	KOK 01029 10

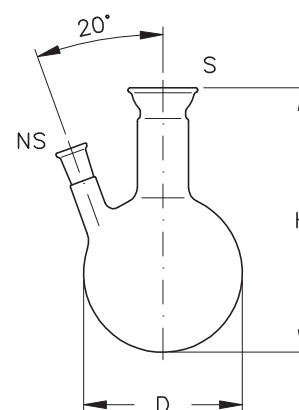


Flasks, distilling, with two necks/cup

The spherical ground joint cups are manufactured according to DIN 12 244 resp. 12 245.

☞ On request these flasks are also available with spherical ground joint cups in mm-size.

Capacity (ml)	S	NS 20°	D	H	Pack unit	Catalogue No.
100	S35	14/23	64	95	1	KOK 07053 05
100	S40	14/23	64	115	1	KOK 07054D 05
250	S35	14/23	85	105	1	KOK 07053 06
250	S40	14/23	85	145	1	KOK 07054D 06
500	S35	14/23	165	115	1	KOK 07053 07
500	S40	14/23	105	175	1	KOK 07054D 07
1000	S35	14/23	131	145	1	KOK 07053 08
1000	S40	14/23	131	210	1	KOK 07054D 08
2000	S35	14/23	165	175	1	KOK 07053 09
2000	S40	14/23	165	260	1	KOK 07054D 09
2000	S51	14/23	165	260	1	KOK 07054E 09
4000	S35	14/23	207	315	1	KOK 07053 10
4000	S40	14/23	207	315	1	KOK 07054D 10
4000	S51	14/23	207	315	1	KOK 07054E 10



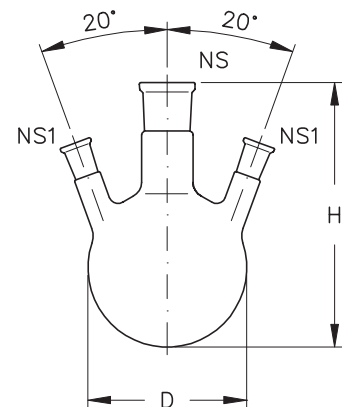
All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, distilling, with three necks/NS socket

They are manufactured according to DIN 12 394 as far as they are part of this standard.


 All centre necks with socket NS 14/23 are equipped with metal hooks.

Capacity (ml)	NS	NS1 20°	D	H	Pack unit	Catalogue No.
50	14/23	14/23	51	105	1	KOK 01030 04
100	14/23	14/23	64	115	1	KOK 01030 05
100	29/32	14/23	64	115	1	KOK 01032A 05
250	14/23	14/23	85	145	1	KOK 01030 06
250	29/32	14/23	85	145	1	KOK 01032A 06
500	14/23	14/23	105	175	1	KOK 01030 07
500	29/32	14/23	105	175	1	KOK 01032A 07
1000	29/32	14/23	131	210	1	KOK 01032A 08
2000	29/32	14/23	165	260	1	KOK 01032A 09

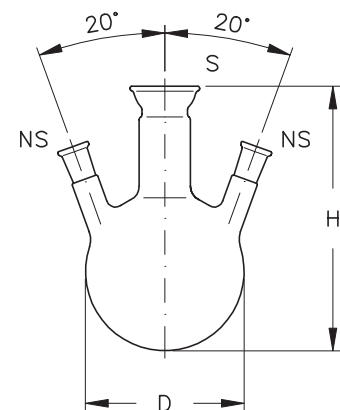


Flasks, distilling, with three necks/cup

They are manufactured according to DIN 12 394 as far as they are part of this standard.

 On request these flasks are also available with spherical ground joint cups in mm-size.

Capacity (ml)	S	NS 20°	D	H	Pack unit	Catalogue No.
100	S35	14/23	64	115	1	KOK 07059D 05
100	S40	14/23	64	115	1	KOK 07060D 05
250	S35	14/23	85	145	1	KOK 07059D 06
250	S40	14/23	85	145	1	KOK 07060D 06
500	S35	14/23	105	175	1	KOK 07059D 07
500	S40	14/23	131	210	1	KOK 07060D 07
1000	S35	14/23	131	210	1	KOK 07059D 08
1000	S40	14/23	165	260	1	KOK 07060D 08
2000	S35	14/23	165	260	1	KOK 07059D 09
2000	S40	14/23	165	260	1	KOK 07060D 09
2000	S64	14/23	165	260	1	KOK 07061D 09
4000	S35	14/23	207	315	1	KOK 07059D 10
4000	S40	14/23	207	315	1	KOK 07060D 10
4000	S64	14/23	207	315	1	KOK 07061D 10
6000	S64	14/23	236	355	1	KOK 07061D 11
10000	S64	14/23	275	420	1	KOK 07061D 12

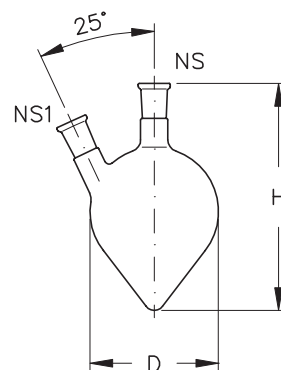


All ground joints are also available in other standard sizes, e.g. US-standard.

Flasks, distilling, pear shaped, with two necks

They are manufactured according to DIN 12 383 as far as they are part of this standard. All centre necks with socket NS 14/23 are equipped with metal hooks.

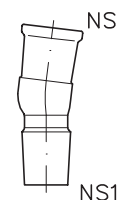
Capacity (ml)	NS	NS1 25°	D	H	Pack unit	Catalogue No.
25	14/23	14/23	40	90	1	KOK 01021B 03
50	14/23	14/23	51	100	1	KOK 01021B 04
100	14/23	14/23	64	130	1	KOK 01021B 05
250	14/23	14/23	85	150	1	KOK 01021B 06
500	14/23	14/23	105	175	1	KOK 01021B 07



Compensating bend 7°

On request other combinations of cone and socket are available.

NS	NS1	Pack unit	Catalogue No.
14/23	14/23	1	VBS 01035A 01
29/32	29/32	1	VBS 01035A 02

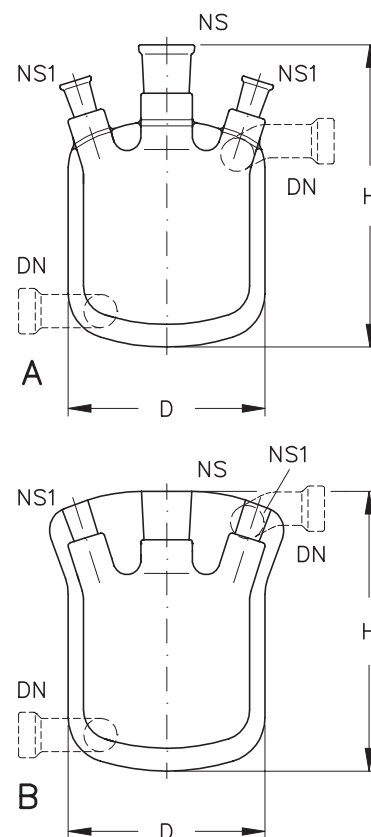


Reaction flask, with three necks and tempering jacket

These reaction flasks with three necks are fitted with a tempering jacket allowing heating or cooling of the vessel content. Available with or without temperable ground joints. The centre necks in design A with socket NS 14/23 are equipped with metal hooks.

On request the connections at the tempering jacket are available in other designs.

Capacity (ml)	NS	NS1	DN	D	H	Pack unit	Des.	Catalogue No.
25	14/23	14/23	15	60	110	1	A	SAA 08210 01
25	14/23	14/23	15	60	95	1	B	SAA 08210 02
50	14/23	14/23	15	65	128	1	A	SAA 08211 01
50	14/23	14/23	15	65	110	1	B	SAA 08211 02
50	19/26	14/23	15	65	128	1	A	SAA 08212 01
50	19/26	14/23	15	65	110	1	B	SAA 08212 02
100	19/26	14/23	15	85	125	1	A	SAA 08213 01
100	19/26	14/23	15	85	110	1	B	SAA 08213 02
100	29/32	14/23	15	85	125	1	A	SAA 08215 01
100	29/32	14/23	15	85	110	1	B	SAA 08215 02
250	19/26	14/23	15	85	140	1	A	SAA 08214 01
250	19/26	14/23	15	85	125	1	B	SAA 08214 02
250	29/32	14/23	15	85	140	1	A	SAA 08216 01
250	29/32	14/23	15	85	125	1	B	SAA 08216 02
500	29/32	14/23	15	100	170	1	A	SAA 08217 01
500	29/32	14/23	15	100	115	1	B	SAA 08217 02
1000	29/32	14/23	15	130	200	1	A	SAA 08218 01
1000	29/32	14/23	15	130	185	1	B	SAA 08218 02
2000	29/32	14/23	15	150	245	1	A	SAA 08219 01
2000	29/32	14/23	15	150	330	1	B	SAA 08219 02

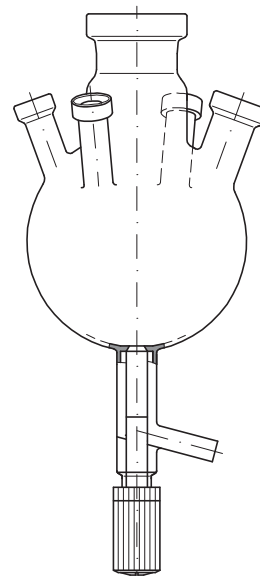
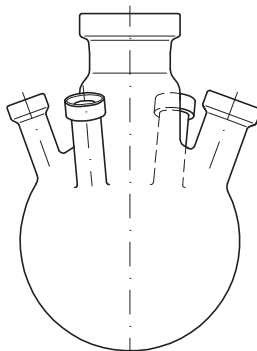


All ground joints are also available in other standard sizes, e.g. US-standard.

REACTION FLASKS

Besides the described standard reaction flasks we supply flasks in other designs with or without bottom outlet valve on request.

☞ Available up to 2.000 ml
Customer tailored design and flange connections

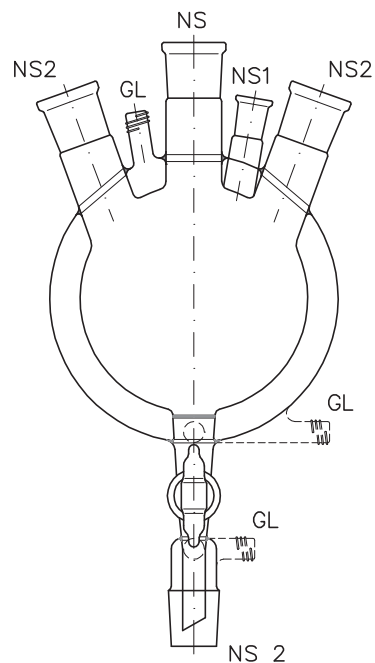


Reaction flask, with tempering jacket

On request other porosity of the frit are available.

Capac. (ml)	NS	NS1	NS2	GL	Ø-bore stopcock PTFE	Frit ø (mm)	Poro-Pack sity unit	Catalogue No.
500	29/32	14/23	29/32	14	6	30	3	1 SAA 08019 01
1000	29/32	14/23	29/32	14	6	30	3	1 SAA 08019 02
2000	29/32	14/23	29/32	14	6	40	3	1 SAA 08019 03
4000	29/32	14/23	29/32	14	6	50	3	1 SAA 08019 04

☞ On request with bottom outlet valve.

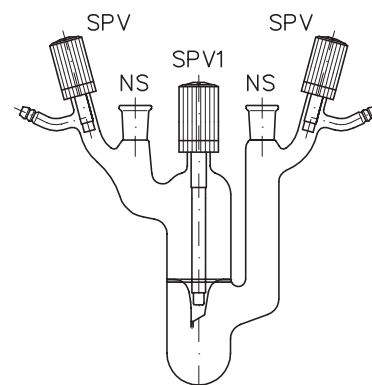


All ground joints are also available in other standard sizes, e.g. US-standard.

DOUBLE MANTLE REACTION FLASK

Double mantle reaction flasks serve for precise and safe run of chemical reactions at very low temperatures (< -100 °C). The nominal capacity of the lower mantle is 60 ml and that of the upper mantle 40 ml. They offer special advantages, when 2 reaction components are given together at a defined temperature.

The double mantle reaction vessels are delivered with two PTFE spindle valves SPV 3 and one PTFE locking spindle valve SPV 6 in special design.



NS	SPV	SPV1	Catalogue No.
14/23	3	6	LSG 02051

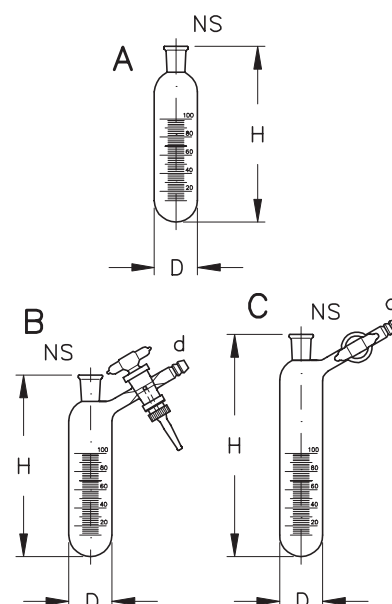
RECEIVER

These cylindrical receivers are available in two variants (round bottom resp. pointed bottom) and different designs (with or without stopcock for nitrogen inlet). They are graduated and equipped with metal hooks. Design A is without stopcock, design B with tail stopcock and design C with single way stopcock.

 On request all receivers are available without graduation.

Receiver, with round bottom

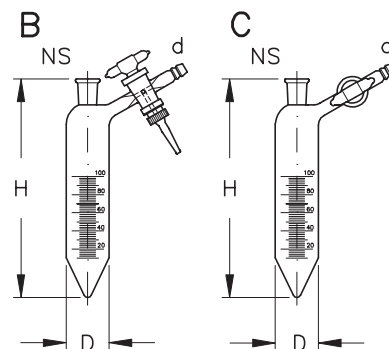
Capac. (ml)	Graduation (ml)	NS	D	H	Ø-bore stopcock	d	Des.	Pack unit	Catalogue No.
5	1/10	14/23	14	105	-	-	A	1	KOK 08016 01
5	1/10	14/23	14	105	1	8	C	1	GSG 08015H 01
10	1/10	14/23	18	125	-	-	A	1	KOK 08016 02
10	1/10	14/23	18	125	1	8	C	1	GSG 08015H 02
25	1/2	14/23	26	130	-	-	A	1	KOK 08016 03
25	1/2	14/23	26	130	2	11	B	1	GSG 08015S 03
25	1/2	14/23	26	130	3	11	C	1	GSG 08015H 03
50	1/1	14/23	32	155	-	-	A	1	KOK 08016 04
50	1/1	14/23	32	155	2	11	B	1	GSG 08015S 04
50	1/1	14/23	32	155	3	11	C	1	GSG 08015H 04
100	2/1	14/23	38	195	-	-	A	1	KOK 08016 05
100	2/1	14/23	38	195	3	11	B	1	GSG 08015S 05
100	2/1	14/23	38	195	3	11	C	1	GSG 08015H 05
250	5/1	14/23	48	265	-	-	A	1	KOK 08016 06
250	5/1	14/23	48	265	3	11	B	1	GSG 08015S 06
250	5/1	14/23	48	265	3	11	C	1	GSG 08015H 06



All ground joints are also available in other standard sizes, e.g. US-standard.

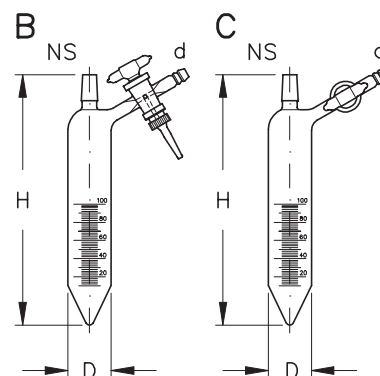
Receiver, with pointed bottom and NS socket

Capac. (ml)	Graduation (ml)	NS	D	H	Ø-bore stopcock	d	Des.	Pack unit	Catalogue No.
25	1/2	14/23	26	128	2	11	B	1	GSG 08018GH 01
25	1/2	14/23	26	128	3	11	C	1	GSG 08018GH 03
50	1/1	14/23	32	153	2	11	B	1	GSG 08018GH 02
50	1/1	14/23	32	153	3	11	C	1	GSG 08018GH 04
100	2/1	14/23	38	193	3	11	B	1	GSG 08018GH 07
100	2/1	14/23	38	193	3	11	C	1	GSG 08018GH 05
250	5/1	14/23	48	263	3	11	B	1	GSG 08018GH 08
250	5/1	14/23	48	263	3	11	C	1	GSG 08018GH 06



Receiver, with pointed bottom and NS cone

Capac. (ml)	Graduation (ml)	NS	D	H	Ø-bore stopcock	d	Des.	Pack unit	Catalogue No.
25	1/2	14/23	26	155	2	11	B	1	GSG 08018GK 01
25	1/2	14/23	26	155	3	11	C	1	GSG 08018GK 03
50	1/1	14/23	32	163	2	11	B	1	GSG 08018GK 02
50	1/1	14/23	32	163	3	11	C	1	GSG 08018GK 04
100	2/1	14/23	38	213	3	11	B	1	GSG 08018GK 07
100	2/1	14/23	38	213	3	11	C	1	GSG 08018GK 05
250	5/1	14/23	48	293	3	11	B	1	GSG 08018GK 08
250	5/1	14/23	48	293	3	11	C	1	GSG 08018GK 06



All ground joints are also available in other standard sizes, e.g. US-standard.

REACTION VESSELS WITH LABORATORY FLAT FLANGE

These small reactors of cylindrical design are available in capacities from 100 ml to 10,000 ml and have a balanced proportion from diameter and filling height. Its special features are the robust flange with groove and the quick release fastener (see page 5.18) which is available as an accessory, easy to use and also integrated in the triple clamp. Upper and lower part of the vessel can be fastened independantly from each other which ensures an easy mounting and dismantling.

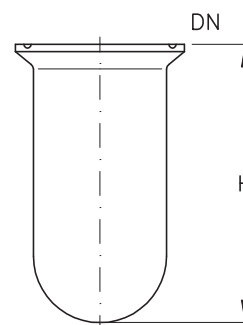
Reaction vessels are available in various variants and designs reaching from simple vessels without double jacket to an optimal temperable vessel with sealed bottom outlet valve meeting utmost all requirements. The described variants are only a small choice of possible designs.



- 1) For an additional charge, the surface of the reaction vessels can be coloured in brown for working with light sensitive substances.
- 2) The connections of the tempering jackets of the following described reaction vessels are fitted with flat flanges DN 15. On request connections with other tube ends are available.
- 3) All reaction vessels can be fitted with a ring distributor for an additional charge.
- 4) All following listed reaction vessels are delivered without device for wave traps.
- 5) Available with flange or Olive as drain.

Reaction vessels, simple

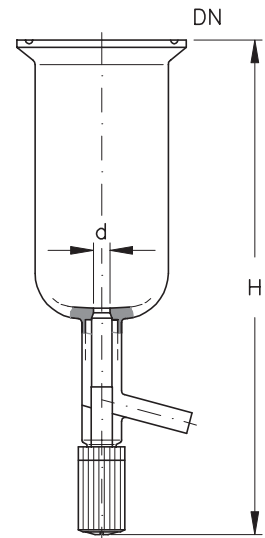
Capacity (ml)	DN	H	Pack unit	Catalogue No.
100	60	115	1	SAA 21060 00
250	60	170	1	SAA 21060 02
500	100	160	1	SAA 21100 03
1000	100	230	1	SAA 21100 04
2000	150	230	1	SAA 21150 05
3000	150	270	1	SAA 21150 06
4000	150	310	1	SAA 21150 07
5000	200	290	1	SAA 21200 08
6000	200	320	1	SAA 21200 09
10000	200	450	1	SAA 21200 10



Reaction vessels, with bottom outlet valve

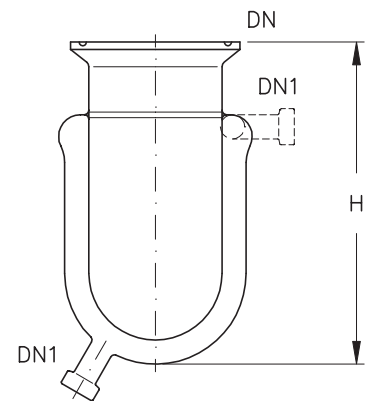
These bottom outlet valves are fitted with an outlet tube.
On request other outlets are available (e.g. screw thread GL 18).

Capacity (ml)	DN	H	d	Pack unit	Catalogue No.
100	60	280	6	1	SAA 23060 00
250	60	335	6	1	SAA 23060 02
500	100	340	10	1	SAA 23100 03
1000	100	410	10	1	SAA 24100 04
2000	150	410	10	1	SAA 24150 05
3000	150	450	10	1	SAA 24150 06
4000	150	490	10	1	SAA 24150 07
5000	200	505	15	1	SAA 25200 08
6000	200	535	15	1	SAA 25200 09
10000	200	665	15	1	SAA 25200 10



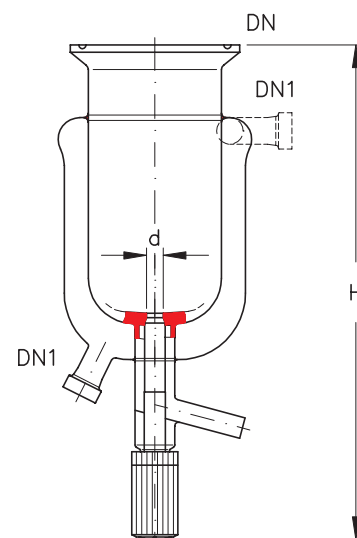
Reaction vessels, with tempering jacket

Capacity (ml)	DN	DN1	H	Pack unit	Catalogue No.
100	60	15	145	1	SAA 41065 00
250	60	15	200	1	SAA 41065 02
500	100	15	190	1	SAA 41105 03
1000	100	15	260	1	SAA 41103 04
2000	150	15	265	1	SAA 41153 05
3000	150	15	310	1	SAA 41153 06
4000	150	15	340	1	SAA 41153 07
5000	200	15	330	1	SAA 41203 08
6000	200	15	360	1	SAA 41203 09
10000	200	15	490	1	SAA 41203 10



Reaction vessels, with tempering jacket and bottom outlet valve

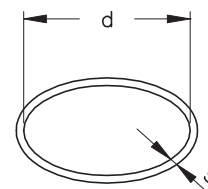
Capacity (ml)	DN	DN1	H	d	Pack unit	Catalogue No.
100	60	15	280	6	1	SAA 43065 00
250	60	15	335	6	1	SAA 43065 02
500	100	15	340	10	1	SAA 43105 03
1000	100	15	410	10	1	SAA 44103 04
2000	150	15	410	10	1	SAA 44153 05
3000	150	15	450	10	1	SAA 44153 06
4000	150	15	490	10	1	SAA 44153 07
5000	200	15	505	15	1	SAA 45203 08
6000	200	15	535	15	1	SAA 45203 09
10000	200	15	665	15	1	SAA 45203 10



LABORATORY FLAT FLANGE SEALS

O-ring seals for laboratory flanges with groove are available in two different designs: as silicone rubber FEP lined (design A) and as only silicone rubber (design B).

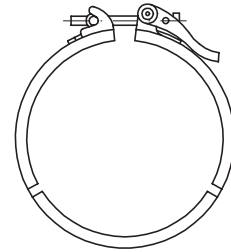
DN	d x s	Design	Pack unit	Catalogue No.
60	75 x 4	A	1	VAB 09484 21
60	75 x 4	B	1	VAB 09484 36
100	110 x 4	A	1	VAB 09484 22
100	110 x 4	B	1	VAB 09484 37
120	133 x 4	A	1	VAB 09484 23
120	133 x 4	B	1	VAB 09484 38
150	157 x 5	A	1	VAB 09484 24
150	157 x 5	B	1	VAB 09484 39
200	215 x 5	A	1	VAB 09484 25
200	215 x 5	B	1	VAB 09484 40



QUICK RELEASE CLAMPS

They consist of 3 individual elements made of stainless steel and are assembled together.

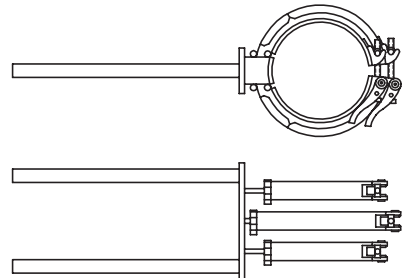
DN	Pack unit	Catalogue No.
60	1	HAA 60085 02
100	1	HAA 60085 03
120	1	HAA 60085 04
150	1	HAA 60085 05
200	1	HAA 60085 06



TRIPLE LABORATORY FLAT FLANGE CLAMP

This support has been especially designed for laboratory flat flanges and fulfils several functions at the same time: the connection between lid and vessel and the separate support of lid and vessel. The lid can be easily dismantled e.g. for cleaning purposes, but the vessel is still tightly connected with the frame.

DN	Pack unit	Catalogue No.
60	1	VAB 09490 01
100	1	VAB 09490 02
120	1	VAB 09490 03
150	1	VAB 09490 04
200	1	VAB 09490 05



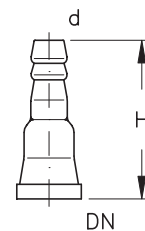
HOSE CONNECTIONS

They are used where flexible tubes e.g. for draining the apparatus or for heating of components with tempering jacket, need to be used.

 The indication "d" is the size of the inner diameter of the hose.

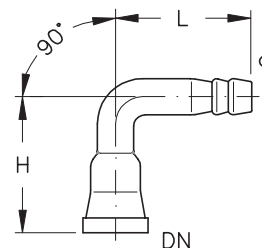
Glass hose connections, straight

DN	d	H	Pack unit	Catalogue No.
15	11	70	1	VAB 06994 01
15	16	70	1	VAB 06994 02
15	20	70	1	VAB 06994 03
25	20	90	1	VAB 06994 04
25	26	90	1	VAB 06994 05



Glass hose connections, 90°

DN	d	H	L	Pack unit	Catalogue No.
15	11	60	40	1	VAB 06995 01
15	16	60	60	1	VAB 06995 02
15	20	60	60	1	VAB 06995 03
25	20	80	60	1	VAB 06995 04
25	26	80	70	1	VAB 06995 05

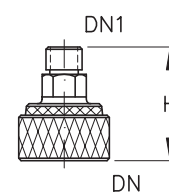


METAL HOSE ADAPTER

The use of this adapter is recommended when tubes for heating media with higher temperature need to be connected. They can be assembled at the corresponding connections with QVF flange rings.

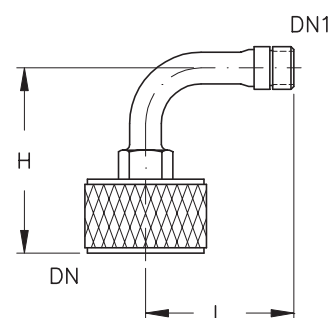
Adapter, metal, straight

DN	DN1	H	Pack unit	Catalogue No.
15	M16 x 1	40	1	VAB 06992 16
25	M16 x 1	55	1	VAB 06992 17



Adapter, metal, 90°

DN	DN1	H	L	Pack unit	Catalogue No.
15	M16 x 1	90	60	1	VAB 06998 16
25	M16 x 1	100	60	1	VAB 06998 17



HIGH TEMPERATURE HEATING HOSES

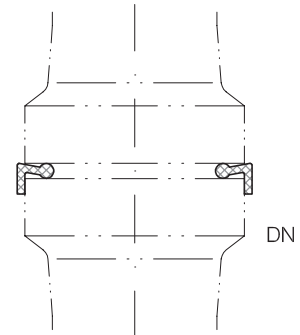
These heat insulated heating hoses are made of material 1.4541 and equipped with coupling nuts M 16 on both sides.

Length (mm)	Inner diameter (mm)	Pack unit	Catalogue No.
500	10	1	VAB 06060 16
1000	10	1	VAB 06065 16
1500	10	1	VAB 06070 16
2000	10	1	VAB 06075 16



SEALS FOR TECH FLANGES/System "Schott"

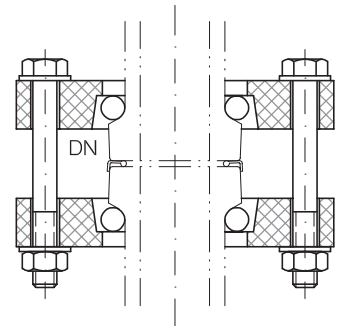
DN	Pack unit	Catalogue No.
15	1	HAA 60141 01
25	1	HAA 60141 02




FLANGE CONNECTIONS FOR TECHFLANGES/System "Schott"

design: flat

DN	Pack unit	Catalogue No.
15	1	HAA 60142 01
25	1	HAA 60142 02



 Flange connections of Tech flanges system "Schott" DN 15 and DN 25 are also available.

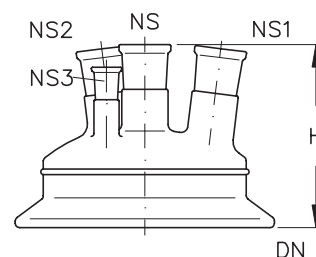
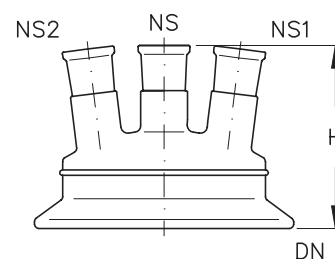
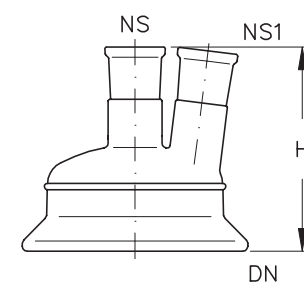
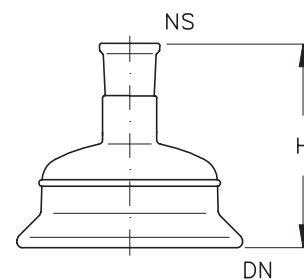
LABORATORY FLAT FLANGE LIDS

Highest flexibility of the reaction vessels described before is reached when standard flat flange lids are used. The centre neck accommodates the stirrer and the side necks allow the connection of additional components.



On request special models (e.g. with parallel side necks, flanges or screw thread tubes) are available. The diameter of the lid limits the number of necks and the neck diameter.

DN	NS	NS1	NS2	NS3	H	Pack unit	Catalogue No.
60	14/23	-	-	-	90	1	SAA 51060 05
60	14/23	14/23	-	-	90	1	SAA 52061 05
60	14/23	14/23	14/23	-	90	1	SAA 53062 05
60	14/23	14/23	14/23	14/23	90	1	SAA 54063 05
100	29/32	-	-	-	125	1	SAA 51100 10
100	29/32	29/32	-	-	125	1	SAA 52101 15
100	29/32	29/32	29/32	-	125	1	SAA 53102 15
100	29/32	29/32	29/32	14/23	125	1	SAA 54103 15
120	29/32	-	-	-	130	1	SAA 51120 10
120	29/32	29/32	-	-	130	1	SAA 52121 15
120	29/32	29/32	29/32	-	130	1	SAA 53122 15
120	29/32	29/32	29/32	14/23	130	1	SAA 54123 15
150	29/32	-	-	-	130	1	SAA 51150 10
150	29/32	29/32	-	-	130	1	SAA 52151 15
150	29/32	29/32	29/32	-	130	1	SAA 53152 15
150	29/32	29/32	29/32	14/23	130	1	SAA 54153 15
200	45/40	-	-	-	160	1	SAA 51200 20
200	45/40	29/32	-	-	160	1	SAA 52201 25
200	45/40	29/32	29/32	-	160	1	SAA 53202 25
200	45/40	29/32	29/32	14/23	160	1	SAA 54203 25



All ground joints are also available in other standard sizes, e.g. US-standard.

STIRRER SEALS

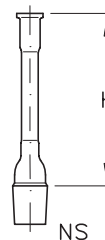
Stirrer serve for mixing of liquids with solid, liquid or gaseous solids i.e. for dissolving, reaction, emulsifying, distributing, precipitating, heating, cooling etc. The processes can run at the same time or one after the other and can set in run or speeded up by stirring. In distilling bulbs are not only stirred for a better heat exchange but also to avoid delay in boiling or over-heating.

Following are listed different designs of seals and stirrers for various stirring tasks. The sealing of the glass stirrer is effected with KPG (= Kalibrierte Präzisions Glasrohre = calibrated precision glass tubes) or COMBINORM stirrer seals which are suitable for normal pressure, or with vacuum magnet stirrer seals.

 Stirrer drives from different manufacturers are available from NORMAG.

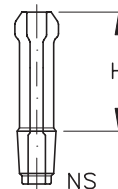
KPG-stirrer seals, not sealed

Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	145	1	LSG 09033 01
10	45/40	155	1	LSG 09033 02



KPG-stirrer seals, sealed

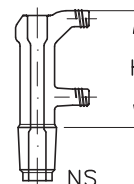
Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	90	1	LSG 09003 01
10	45/40	90	1	LSG 09003 02
16	29/32	90	1	LSG 09012 01
16	45/40	90	1	LSG 09012 02
16	60/46	95	1	LSG 09012 03
16	71/51	95	1	LSG 09012 04



KPG-stirrer seals, with cooling jacket

The connections at the tempering jacket are fitted with glass threads GL 14.

Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	90	1	LSG 09050 01
10	45/40	90	1	LSG 09050 02
16	29/32	90	1	LSG 09054 01
16	45/40	90	1	LSG 09054 02
16	60/46	95	1	LSG 09054 03
16	71/51	95	1	LSG 09054 04

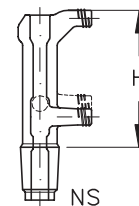


All ground joints are also available in other standard sizes, e.g. US-standard.

KPG-stirrer seals, with cooling jacket and gas inlet

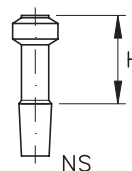
The connections at the tempering jacket are fitted with glass thread GL 14.

Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	100	1	LSG 09050A 01
10	45/40	100	1	LSG 09050A 02
16	29/32	100	1	LSG 09054A 01
16	45/40	100	1	LSG 09054A 02
16	60/46	115	1	LSG 09054A 03
16	71/51	115	1	LSG 09054A 04



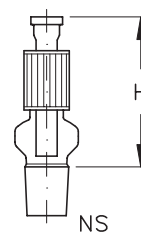
KPG-stirrer seal, for micro-stirrer

Shaft-Ø	NS	H	Pack unit	Catalogue No.
6	14/23	45	1	LSG 09033A 01



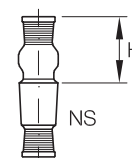
COMBINORM-stirrer seals, with glass bearing

Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	100	1	LSG 09051G
10	45/40	110	1	LSG 09052G



Stirrer seals, with PTFE-bearing

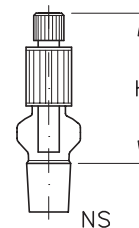
Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	50	1	LSG 09014 01
10	45/40	60	1	LSG 09014 02
16	45/40	60	1	LSG 09015 01
16	60/46	60	1	LSG 09015 02



All ground joints are also available in other standard sizes, e.g. US-standard.

COMBINORM-stirrer seals with PTFE-bearing

Shaft-Ø	NS	H	Pack unit	Catalogue No.
10	29/32	100	1	LSG 09051H
10	45/40	110	1	LSG 09052H



Vacuum magnet-stirrer seals

They permit an intensive stirring in absolute closed systems and so they are especially suitable for the use in evacuated vessels, e.g. in vacuum distillations. Even in fine vacuum they can be employed without use of a boiling capillary or boiling stones.

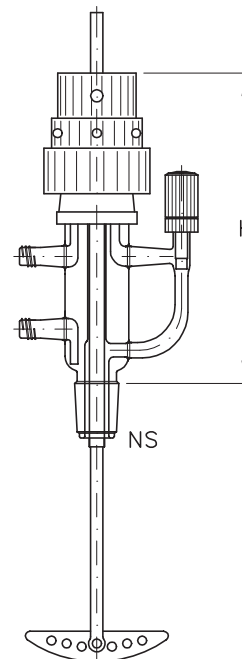
Vacuum stirrer seals can also be employed for stirring under exclusion of the outside atmosphere, at pressure fluctuations or for working with air or moisture sensitive substances.

Magnet stirrer seals, made of Borosilicate glass 3.3

The power transmission on the shaft is effected via a relative strong fourfold polarised Oersted magnet coupling. The inner magnet is enwrapped in PTFE, the outer one guided counter magnet is connected via a flexible coupling with the stirrer drive.

These stirrer sealing are fitted with cooling jacket, KPG-stirrer shaft with interchangeable PTFE stirrer blades, guided counter magnet, two hose connections GL 14 and one PTFE spindle valve SPV 3 for pressure equalising.

Shaft-Ø	for round flask capacity (ml)	conical ground joint cone, NS	H	Pack unit	Catalogue No.
10	250	29/32	140	1	SAA 09194 01
10	500	29/32	170	1	SAA 09194 11
10	1000	29/32	205	1	SAA 09194 21
10	2000	45/40	255	SAA 09194 02	



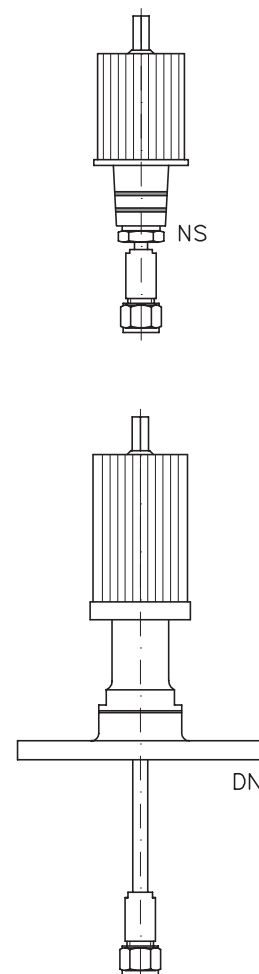
All ground joints are also available in other standard sizes, e.g. US-standard.

Magnet stirrer seals, made of stainless steel

They are fitted with permanent magnetic coupling and are gas tight, vacuum tight, acid and alkaline proof. Due to the set-in Viton O-rings, no heat or stress in the glass arise. The additional strain through the motor is negligible. The maximum rev is 2500 revs/min. The power is transmitted by magnets, so the sealing of the shaft is not necessary.

These stirrer seals are available with NS conical ground joint cone and flanges for glass and metal stirrer with shaft \varnothing from 8 to 10 mm.

Shaft- \varnothing	Design	Torque (N/cm)	Pack unit	Catalogue No.
8	NS 29/32	-	1	SAA 09199 31
8	NS 45/40	-	1	SAA 09199 32
10	NS 29/32	-	1	SAA 09199 33
10	NS 45/40	-	1	SAA 09199 34
8	DN 25	40	1	SAA 09199 35
10	DN 25	40	1	SAA 09199 36
8	DN 50	40	1	SAA 09199 37
10	DN 50	40	1	SAA 09199 38



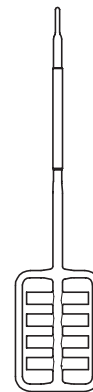
STIRRER

Suitable for the stirrer seals as described previously we supply stirrer in different designs and variants. All stirring tasks for laboratory processes can be covered with this range.

Stirrer for plane flange reaction vessels

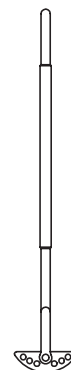
These stirrers can be universally used since they produce a radial and a tangential primary flow. They are suitable for homogenising and suspension at simultaneous heat transfer between the media to be stirred and the vessel wall. Stirrers for plane flange reaction vessels are preferably used in reaction vessels but they are also suitable for cylindrical vessels. Their mounting is central. Glass stirrer for plane flange reaction vessels are assembled with PTFE sealing and laboratory stirrer drive.

Shaft-Ø	Blade width	for reaction vessels capacity (ml)	Pack unit	Catalogue No.
10	60	500	1	SAA 09025 01
10	60	1000	1	SAA 09025 02
10	90	1000	1	SAA 09025 03
16	90	2000	1	SAA 09025 04
16	90	3000	1	SAA 09025 05
16	140	4000	1	SAA 09025 06
16	140	5000	1	SAA 09025 07
16	140	6000	1	SAA 09025 08
16	140	10000	1	SAA 09025 09



KPG-stirrer, with interchangeable PTFE-wiper blade

Shaft-Ø	Blade width	for round flasks capacity (ml)	Pack unit	Catalogue No.
10	50	100	1	LSG 09017 01
10	50	250	1	LSG 09017 02
10	80	500	1	LSG 09017 03
10	80	1000	1	LSG 09017 04
10	100	2000	1	LSG 09017 05
10	100	4000	1	LSG 09017 06
10	100	6000	1	LSG 09017 07
10	100	10000	1	LSG 09017 08
10	100	20000	1	LSG 09017 09
16	100	2000	1	LSG 09018 05
16	100	4000	1	LSG 09018 06
16	100	6000	1	LSG 09018 07
16	100	10000	1	LSG 09018 08
16	100	20000	1	LSG 09018 09



KPG-stirrer, with glass wing

They are available in the following four variants.

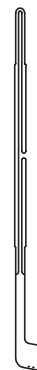
Micro-stirrer

Shaft-Ø	for round bottom flasks capacity (ml)	Pack unit	Catalogue No.
6	100	1	LSG 09043 01
6	250	1	LSG 09043 02



Stirrer, with rigid glass wing and gas inlet in the rod and gas outlet in the glass wing

Shaft-Ø	for round bottom flasks capacity (ml)	Pack unit	Catalogue No.
10	100	1	LSG 09042 01
10	250	1	LSG 09042 02
10	500	1	LSG 09042 03
10	1000	1	LSG 09042 04
10	2000	1	LSG 09042 05
10	4000	1	LSG 09042 06
10	6000	1	LSG 09042 07
10	10000	1	LSG 09042 08
10	20000	1	LSG 09042 09
16	2000	1	LSG 09047 05
16	4000	1	LSG 09047 06
16	6000	1	LSG 09047 07
16	10000	1	LSG 09047 08
16	20000	1	LSG 09047 09



Stirrer, with rigid glass wing

Shaft-Ø	for round bottom flasks capacity (ml)	Pack unit	Catalogue No.
10	100	1	LSG 09020 01
10	250	1	LSG 09020 02
10	500	1	LSG 09020 03
10	1000	1	LSG 09020 04
10	2000	1	LSG 09020 05
10	4000	1	LSG 09020 06
10	6000	1	LSG 09020 07
10	10000	1	LSG 09020 08
10	20000	1	LSG 09020 09
16	2000	1	LSG 09022 05
16	4000	1	LSG 09022 06
16	6000	1	LSG 09022 07
16	10000	1	LSG 09022 08
16	20000	1	LSG 09022 09



Stirrer, with moveable glass wing

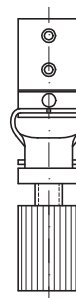
Shaft-Ø	for round bottom flasks capacity (ml)	Pack unit	Catalogue No.
10	100	1	LSG 09019 01
10	250	1	LSG 09019 02
10	500	1	LSG 09019 03
10	1000	1	LSG 09019 04
10	2000	1	LSG 09019 05
10	4000	1	LSG 09019 06
10	6000	1	LSG 09019 07
10	10000	1	LSG 09019 08
10	20000	1	LSG 09019 09
16	2000	1	LSG 09021 05
16	4000	1	LSG 09021 06
16	6000	1	LSG 09021 07
16	10000	1	LSG 09021 08
16	20000	1	LSG 09021 09



Flex-glass stirrer couplings

An additional flexible coupling is necessary for connection of glass stirrer for plane vessels and laboratory stirrer drives.

Shaft-Ø		Pack unit	Catalogue No.
10	Adjusting diameter 8 mm	1	SAA 09026 01
16	Adjusting diameter 10 mm	1	SAA 09026 02



Double cardan joints

The double cardan joint is height adjustable and made of stainless steel.

Shaft-Ø		Pack unit	Catalogue No.
10	Adjusting diameter 8 mm	1	SAA 09026 03
16	Adjusting diameter 14 mm	1	SAA 09026 04

