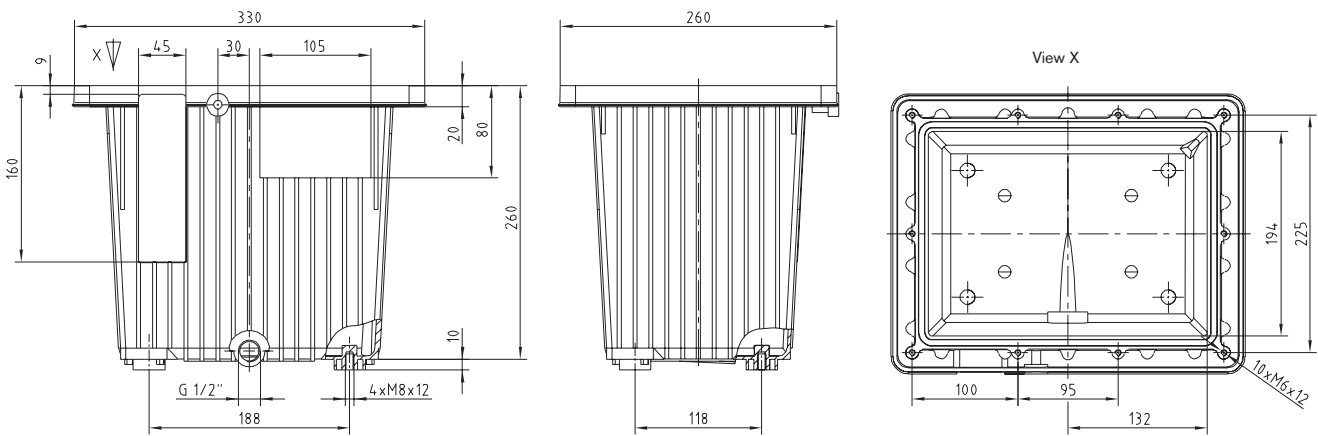


ALUMINIUM TANK TYPE BAK HYDRAULIC COMPONENTS

Tank with oil collecting groove

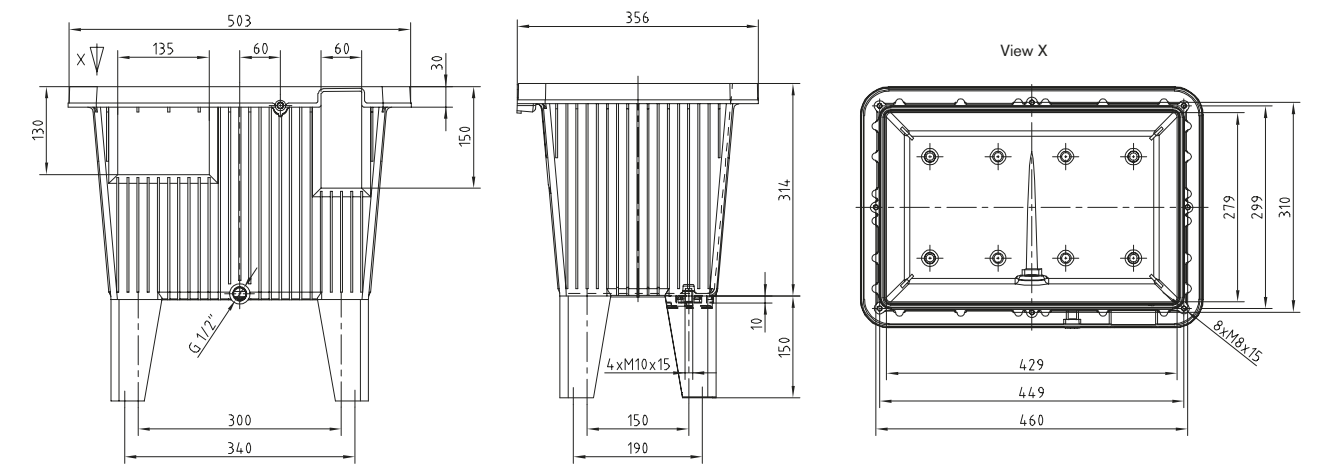


Tank with oil collecting groove BAK 13



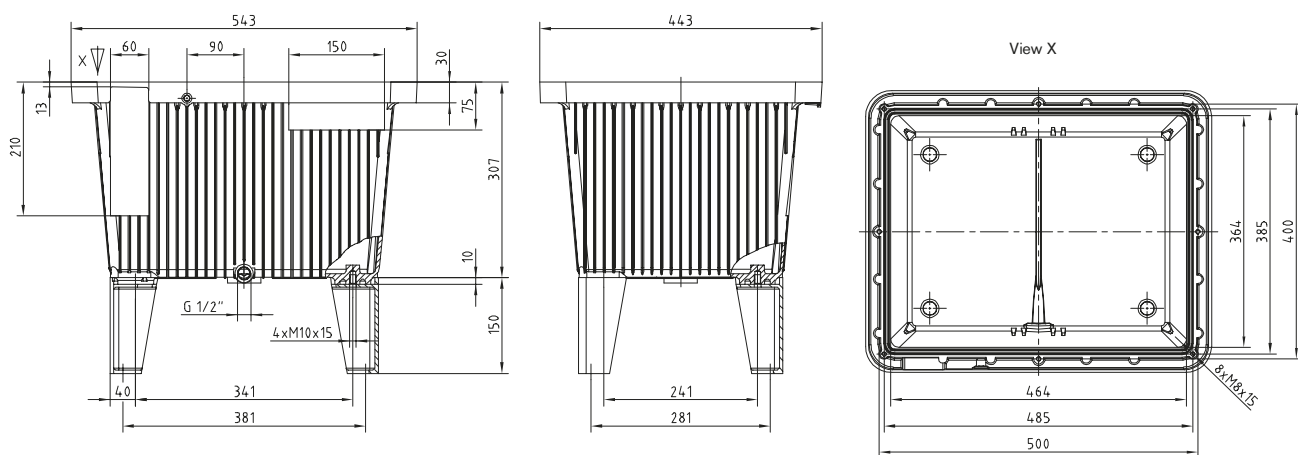
Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
11,5 L	RS 13 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

Tank with oil collecting groove BAK 30



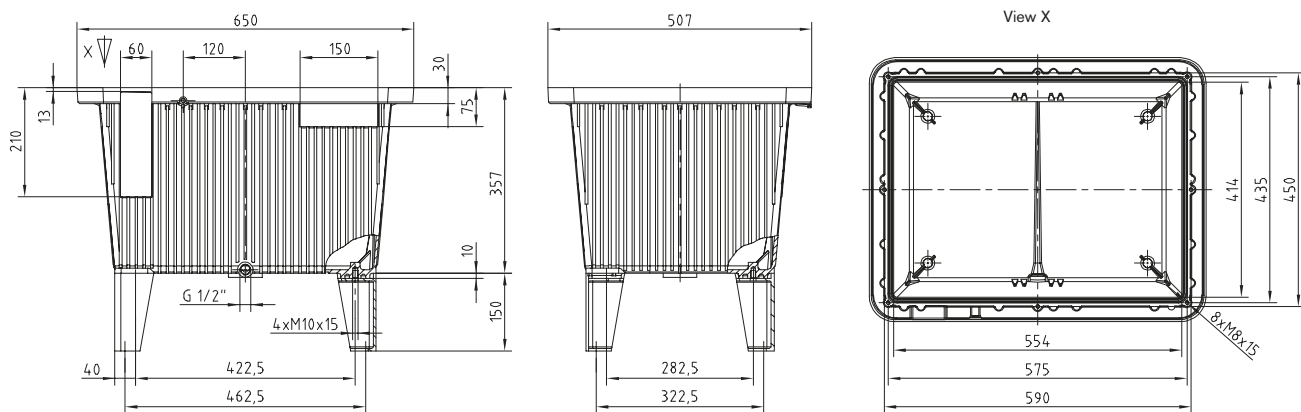
Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
27,0 L	RS 30 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

Tank with oil collecting groove BAK 44



Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
40 L	RS 40/44 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

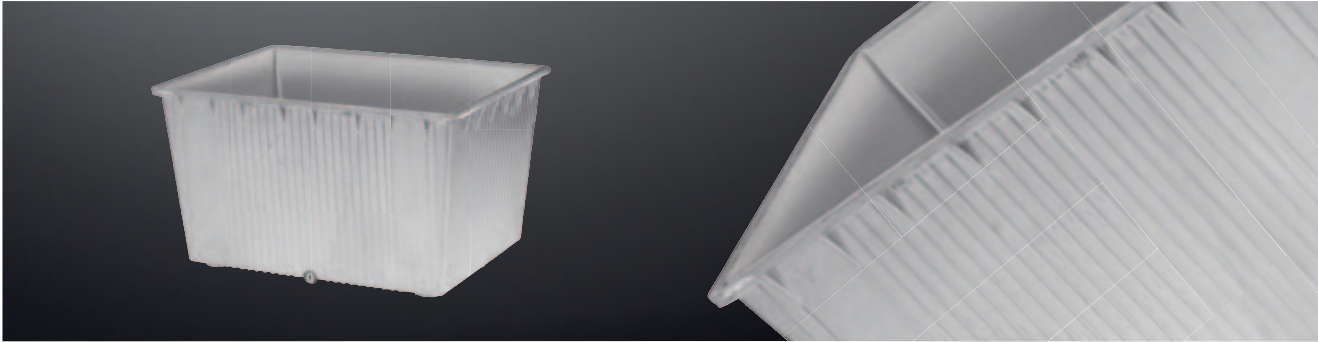
Tank with oil collecting groove BAK 70



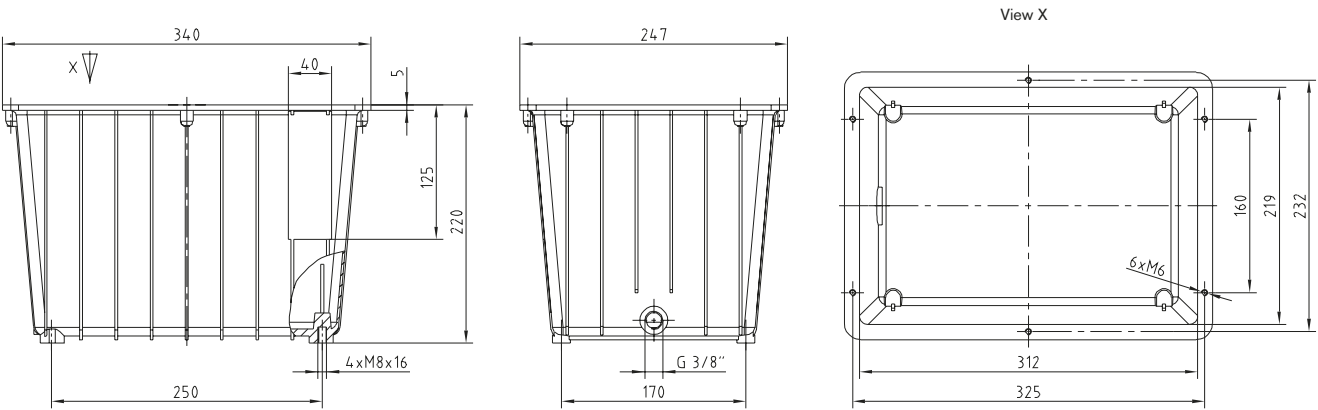
Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
63 L	RS 63/70 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

ALUMINIUM TANK TYPE BAK HYDRAULIC COMPONENTS

Tank without oil collecting groove

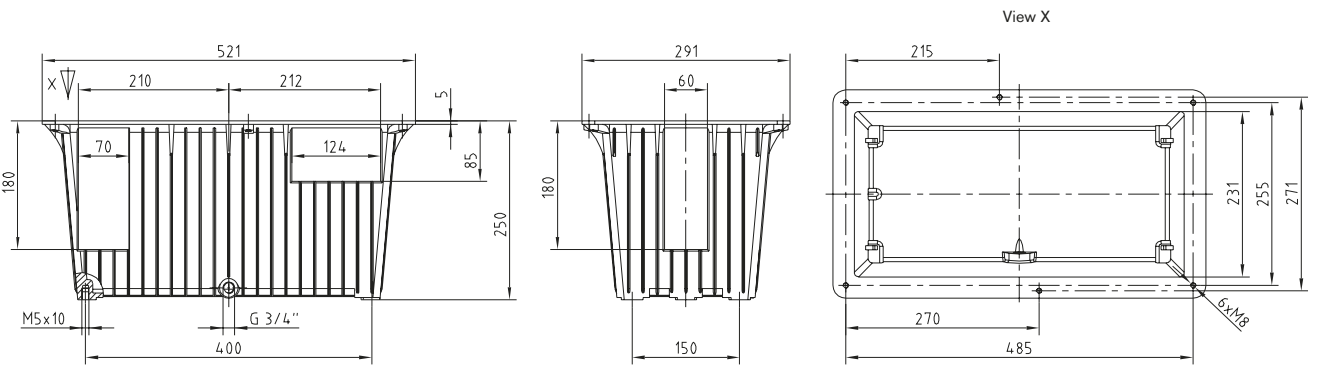


Tank without oil collecting groove BAK 10



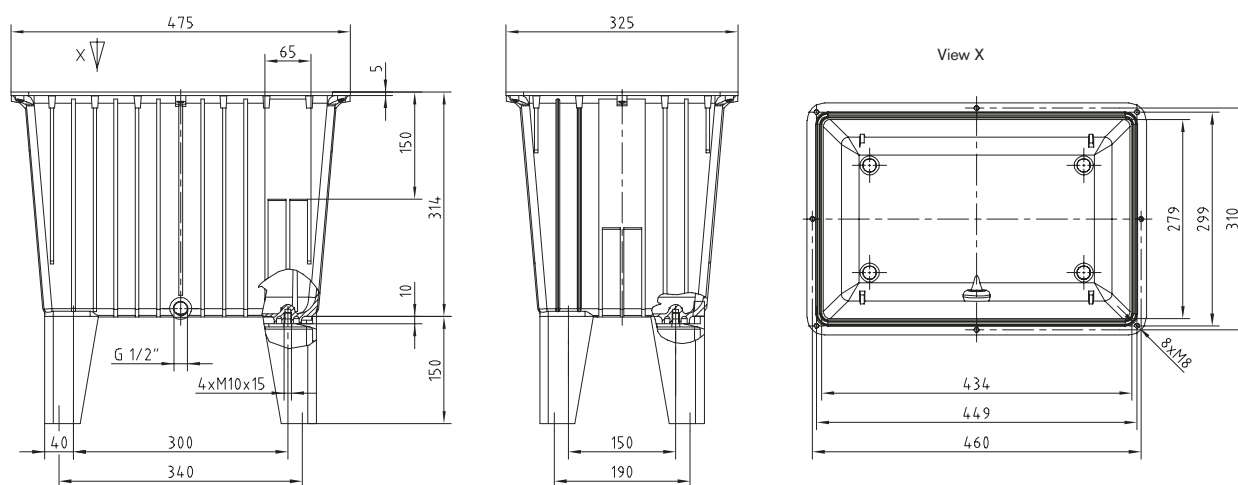
Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
9,5 L	FD 10	G3/8" = 50 Nm	100 °C	0,5 bar

Tank without oil collecting groove BAK 20



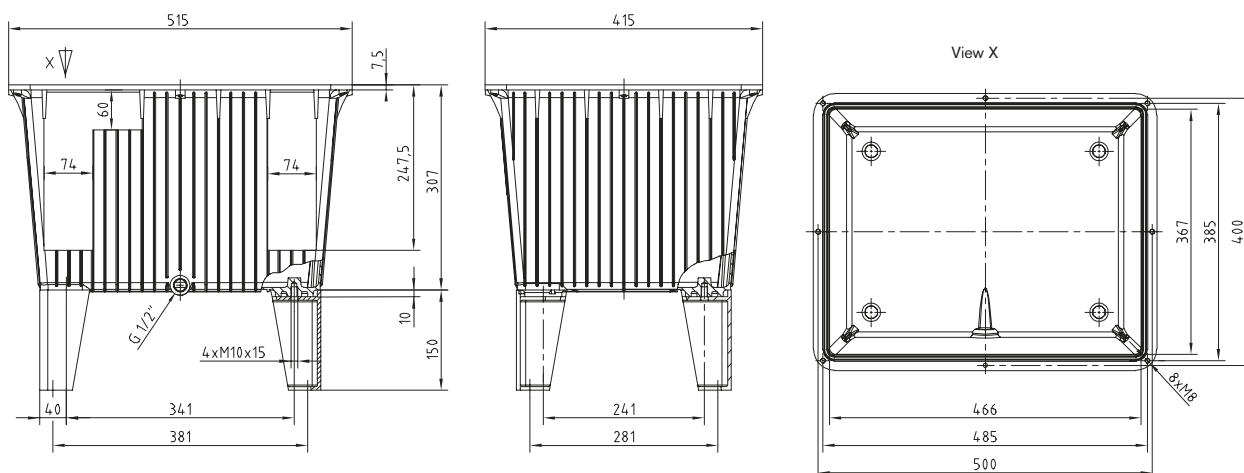
Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
18 L	FD 20	G3/8" = 50 Nm	100 °C	0,5 bar

Tank without oil collecting groove BAK 27



Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
27 L	RS 30 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

Tank without oil collecting groove BAK 40

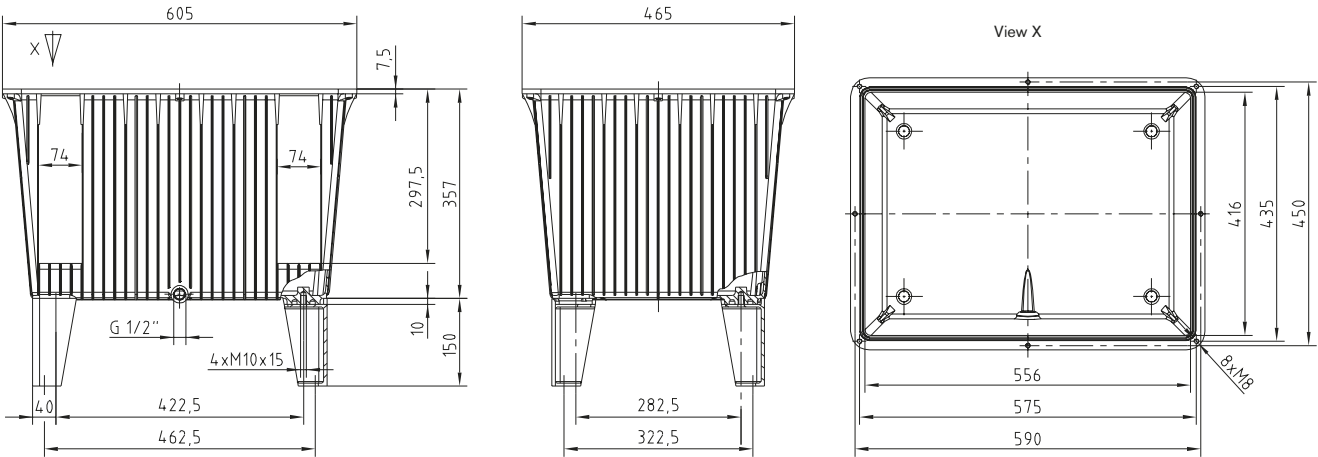


Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
40 L	RS 40/44 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

ALUMINIUM TANK TYPE BAK HYDRAULIC COMPONENTS

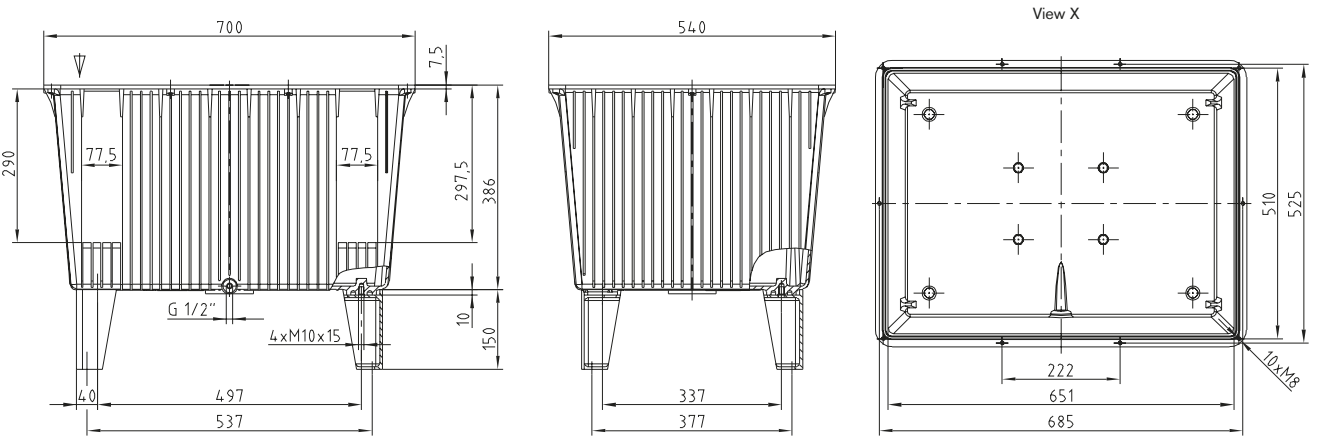
Tank without oil collecting groove

BAK 63

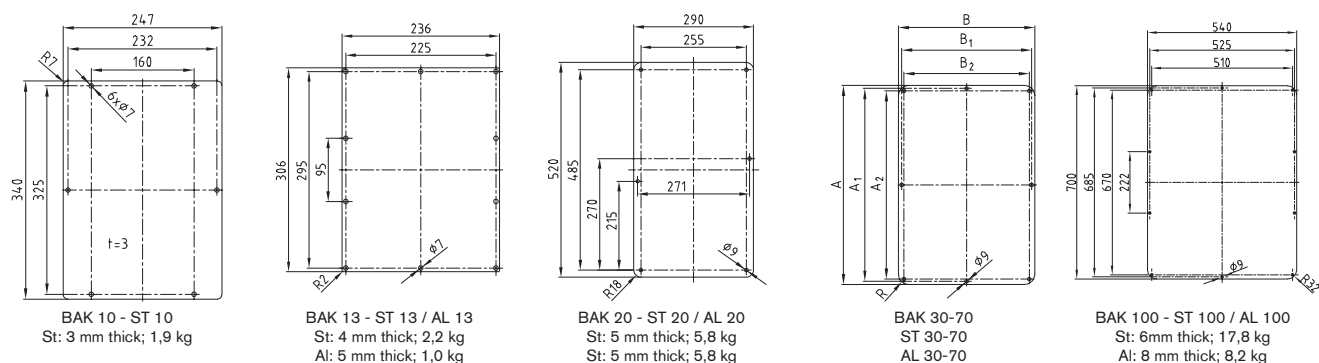


Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
63 L	RS 63/70 NBR	G1/2" = 80 Nm	100 °C	0,5 bar

BAK 100

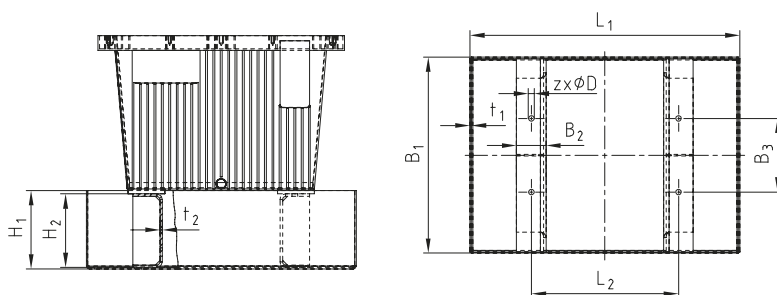


Effective volume	Gasket	Tightening torque of drain plug	Max. media temperature	Max. permissible pressure
95 L	RS 100 NBR	G1/2" = 80 Nm	100 °C	0,5 bar



Tank cover made of steel and aluminium, accessories for aluminium tank

Cover		For tank	Dimensions [mm]							Cover thickness		Weight [kg]	
Steel	Aluminium		A	A ₁	A ₂	B	B ₁	B ₂	R	St	Al	St	Al
ST 30	AL 30	BAK 30	475	460	449	325	310	299	25	5	5	6	2,1
ST 44	AL 44	BAK 40/BAK 44	515	500	485	415	400	385	32	5	8	8,5	4,6
ST 70	AL 70	BAK 63/BAK 70	605	590	575	465	450	435	32	5	8	10,5	6,1

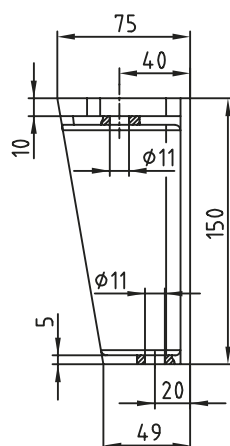


Oil sump pans BAKW for KTR aluminium tanks BAK/BAKW acc. to WHG on request

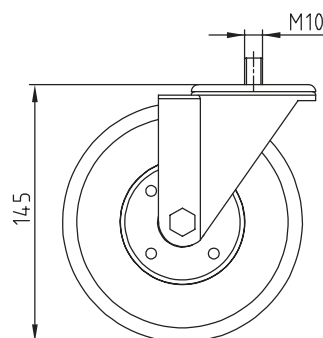
Oil sump pan	For tank	Volume of oil sump pan	Dimensions [mm]										
			L ₁	L ₂	B ₁	B ₂	B ₃	H ₁	H ₂	t ₁	t ₂	z	D
BAKW 13	BAK 13	11,8 l	380	188	310	60	118	110	100	3	3	4	9
BAKW 20	BAK 20	20 l	570	400	350	60	150	110	100	3	3	4	12
BAKW 30	BAK 30	33 l	550	300	400	60	150	160	150	3	5	4	12
BAKW 44	BAK40/BAK 44	45 l	600	341	500	60	241	160	150	3	5	4	12
BAKW 70	BAK 63/BAK 70	63,5 l	730	422,5	580	60	282,5	160	150	3	5	4	12
BAKW 100	BAK 100	104 l	920	497	770	60	337	160	150	3	5	4	12

Accessories

Tank feet BF 150 made of cast aluminium



Wheels LR 150 and LR 150 F with lock

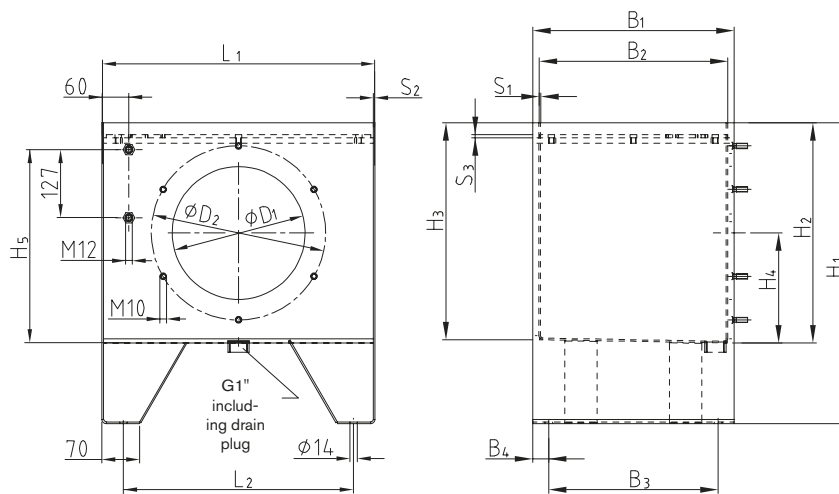


STEEL TANKS TYPE BSK HYDRAULIC COMPONENTS

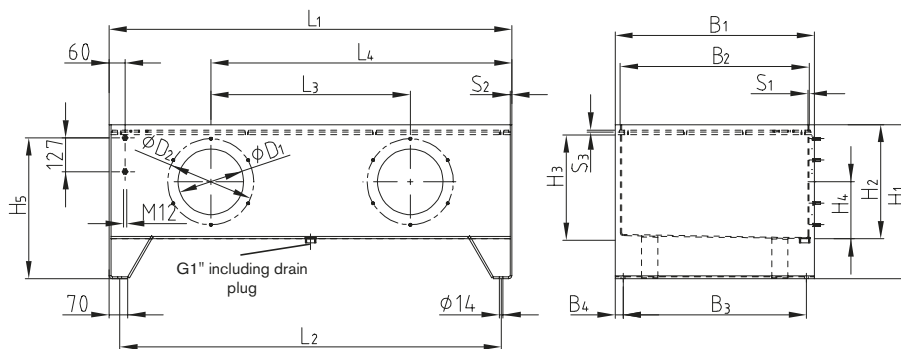
Series BSK



up to size 200



from size 250



Series BSK, size 40-400																								
Order description	Effective vol.	Weight	Tank dimensions [mm]																	Cleaning cover			Tank complete available from stock tank cover design E	
NG	Litres	kg	L1	L2	L3	L4	B1	B2	B3	B4	H1	H2	H3	H4	H5	D1	D2	S1	S2	S3	No.	Type	Standard t = S3	Reinforced t = 10
BSK 40	38	34	508	428	-	-	375	365	315	30	430	280	273	140	230	195	250	3	3	6	1	V 250-4	●	
BSK 63	59	38	508	428	-	-	375	365	315	30	560	410	403	205	360	248	324	3	3	6	1	V 324-6	●	
BSK 100	92	70	633	553	-	-	474	460	414	30	560	407	399	205	357	248	324	4	4	6	1	V 324-6	●	
BSK 160	152	86	810	730	-	-	604	590	544	30	560	410	400	205	360	248	324	4	4	6	1	V 324-6	●	
BSK 200	184	101	900	820	-	-	654	640	594	30	560	410	399	205	360	248	324	4	4	6	1	V 324-6	●	
BSK 250	235	138	1010	930	410	710	704	690	644	30	580	430	418	215	380	248	324	4	4	7	2	V 324-6	●	
BSK 300	272	144	1208	1128	410	809	714	700	654	30	580	412	400	206	362	248	324	4	4	7	2	V 324-6	●	
BSK 400	375	201	1514	1434	750	1132	749	735	689	30	580	430	417	215	380	248	324	4	7	7	2	V 324-6	●	

● = Standard programme available from stock and in short term

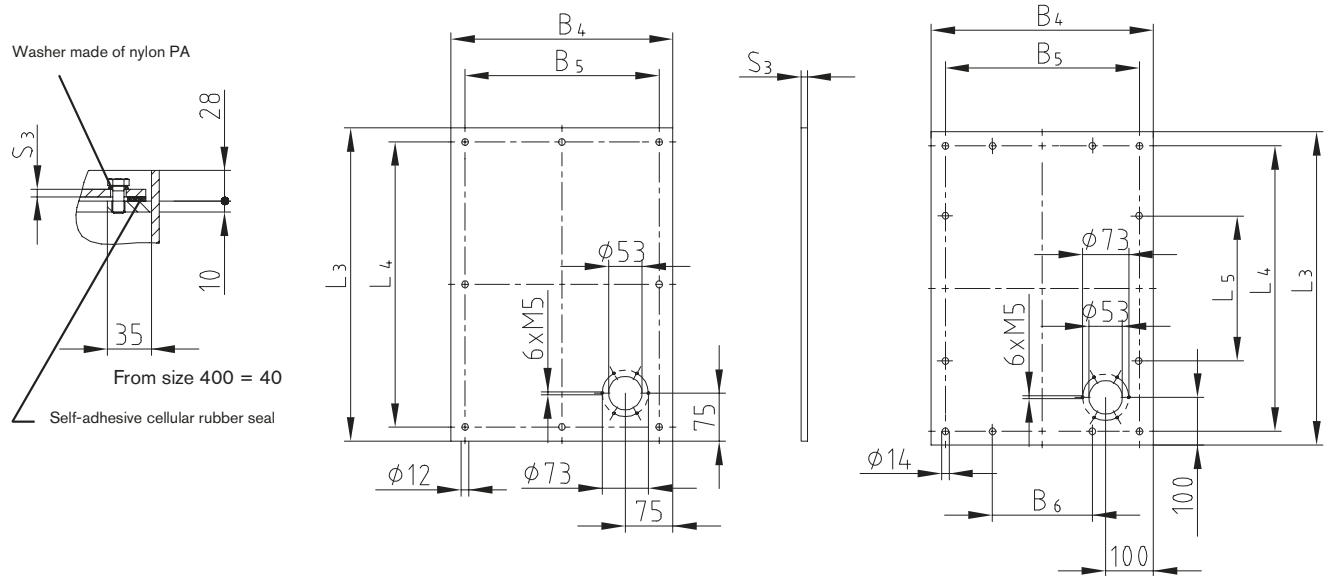
Ordering example:	BSK	250	E
	KTR standard tank	Tank size	Cover design „E“

Tank cover

Cover design E

For size 40-300

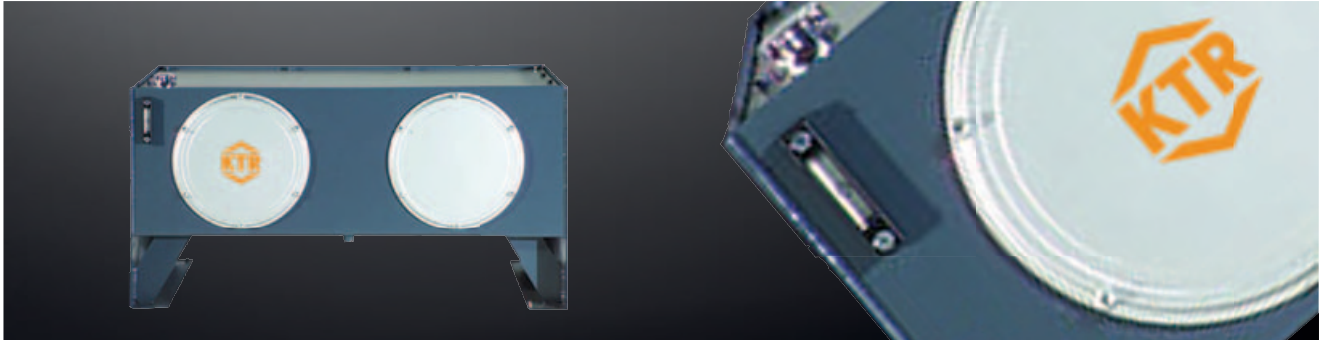
For size 400



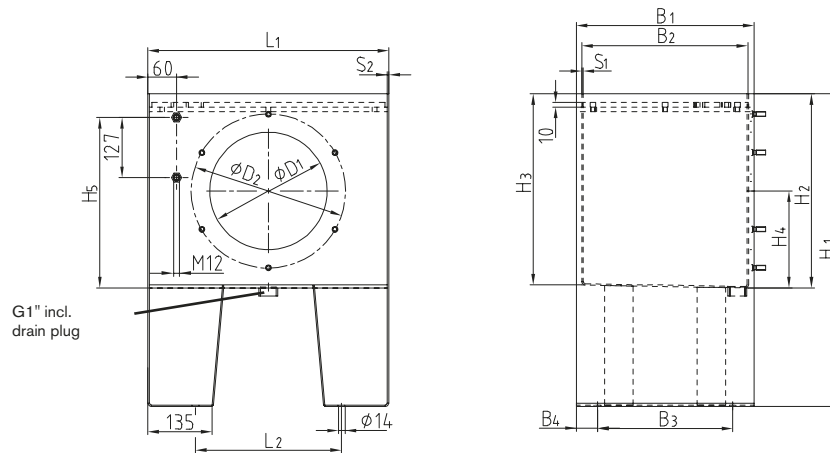
Cover design „E“								
NG	Dimensions [mm]							Number of holes
	L3	L4	L5	B4	B5	B6	S3	
40	492	448	-	349	305	-	6	8x
63	492	448	-	349	305	-	6	8x
100	615	571	-	442	398	-	6	8x
160	792	748	-	572	528	-	6	8x
200	882	838	-	622	578	-	6	8x
250	992	948	-	672	628	-	7	8x
300	1190	1146	-	682	638	-	7	8x
400	1490	1440	480	717	667	222	7	12x

STEEL TANK TYPE BNK HYDRAULIC COMPONENTS

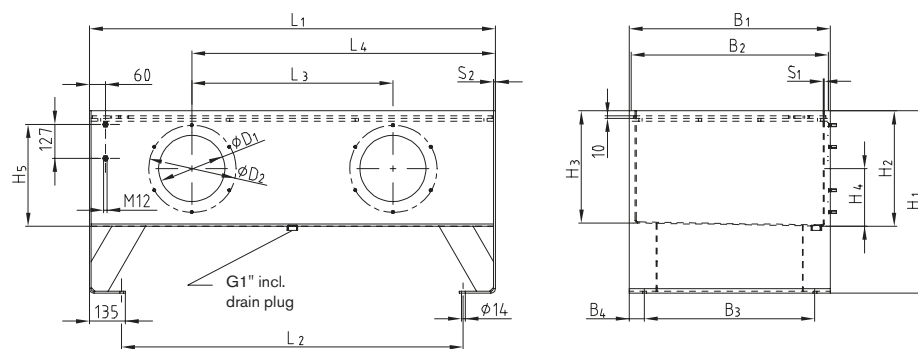
Series BNK type A



up to size 160



from size 250



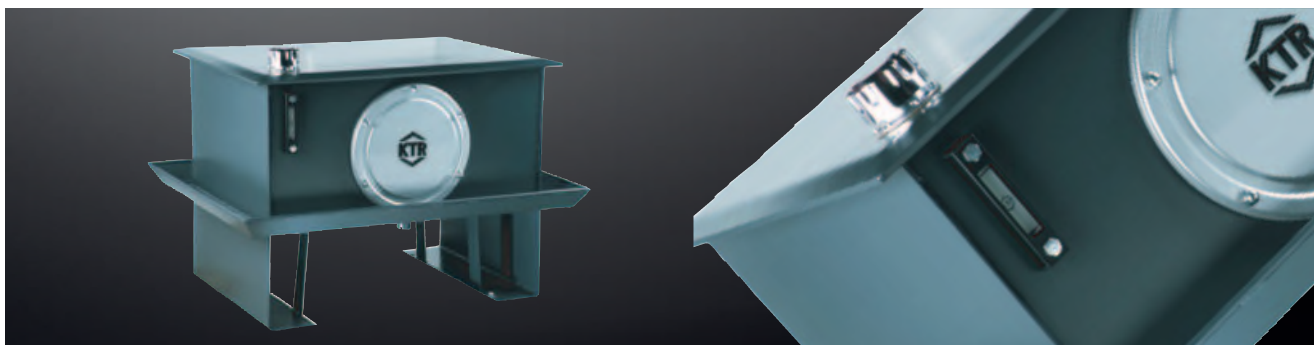
Series BNK type A, size 63-1250																								
Order description	Effective vol.	Weight	Tank dimensions [mm]																		Cleaning cover		Tank complete available from stock	
NG	Litres	kg	L1	L2	L3	L4	B1	B2	B3	B4	H1	H2	H3	H4	H5	D1	D2	S1	S2	No.	Type	Cover design E	Cover design C	
BNK 63	59	47	508	308	-	-	375	365	285	45	660	410	403	205	360	248	324	3	3	1	V 324-6	●	On request	
BNK 100	92	77	633	393	-	-	474	460	360	57	660	407	399	205	357	248	324	4	4	1	V 324-6	●		
BNK 160	152	112	810	570	-	-	604	590	490	57	660	410	400	205	360	248	324	4	4	1	V 324-6	●		
BNK 250	235	148	1010	770	410	710	704	690	590	57	680	430	418	215	380	248	324	4	4	2	V 324-6	●		
BNK 400	375	245	1514	1274	750	1132	749	735	635	57	680	430	417	215	380	248	324	4	7	2	V 324-6	●		
BNK 630	595	366	1514	1274	750	1132	959	945	845	57	770	520	504	265	470	383	449	4	7	2	V 449-6	●		
BNK 800	752	400	2014	1774	1000	1507	914	900	800	57	770	520	504	265	470	383	449	5	7	2	V 449-6	●		
BNK 1000	945	452	2014	1774	1000	1507	1079	1065	965	57	800	550	531	285	500	383	449	5	7	2	V 449-6			
BNK 1250	1180	600	2014	1774	1000	1507	1349	1335	1235	57	800	550	527	285	500	383	449	5	7	2	V 449-6			

● = Standard programme available from stock and in short term

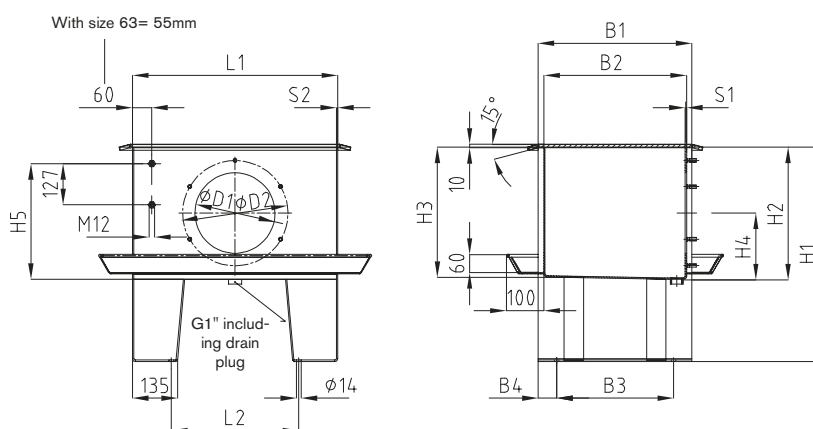
Ordering example:	BNK	250	A	E
	KTR standard tank	Tank size	Tank design "A"	Cover design "E"

STEEL TANK TYPE BNK HYDRAULIC COMPONENTS

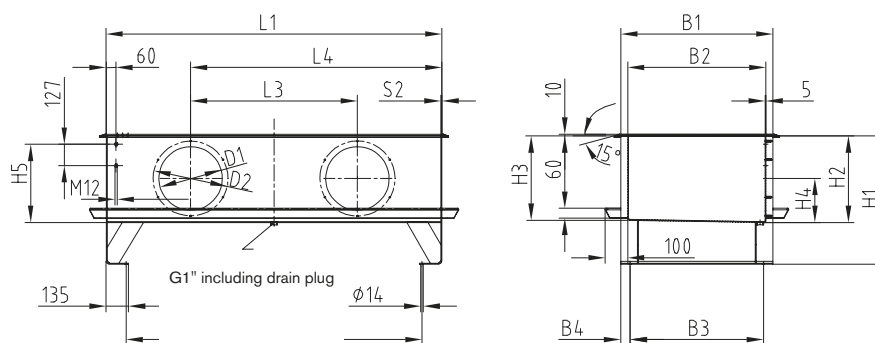
Series BNK type B



up to size 160



from size 250



Series BNK design B, size 63-1250

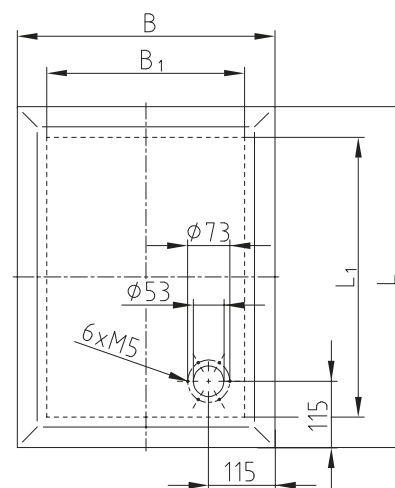
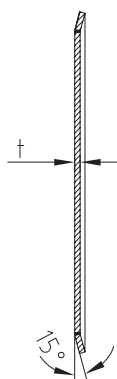
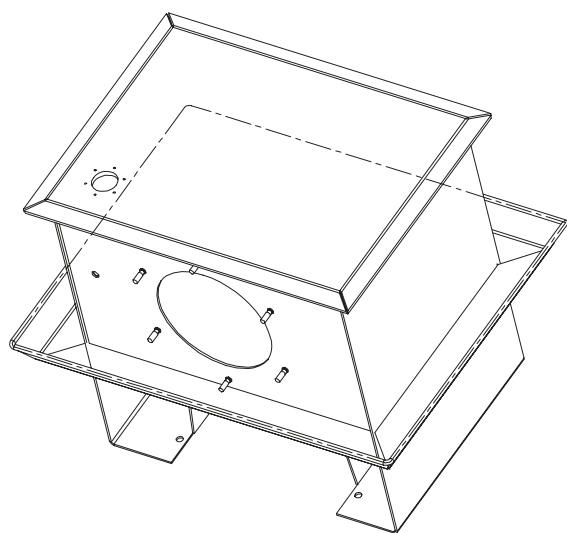
Order description	Effective vol.	Weight	Tank dimensions [mm]																		Cleaning cover		
			NG	Litres	kg	L ₁	L ₂	L ₃	L ₄	B ₁	B ₂	B ₃	B ₄	H ₁	H ₂	H ₃	H ₄	H ₅	D ₁	D ₂	S ₁	S ₂	
BNK 63	59	56	508	308	-	-	375	365	285	45	660	410	403	205	360	248	324	3	3	1	V 324-6	Delivery time on request	
BNK 100	95	88	633	393	-	-	474	460	360	57	660	407	399	205	360	248	324	4	4	1	V 324-6		
BNK 160	152	130	810	570	-	-	604	590	490	57	660	410	400	205	360	248	324	4	4	1	V 324-6		
BNK 250	235	170	1010	770	410	710	704	690	590	57	680	430	418	215	380	248	324	4	4	1	V 324-6		
BNK 400	375	270	1514	1274	750	1132	749	735	635	57	680	430	417	215	380	248	324	4	7	1	V 324-6		
BNK 630	595	375	1514	1274	750	1132	959	945	845	57	770	520	504	265	470	383	449	4	7	2	V 449-6		
BNK 800	752	420	2014	1774	1000	1507	914	900	800	57	770	520	504	265	470	383	449	5	7	2	V 449-6		
BNK 1000	945	490	2014	1774	1000	1507	1079	1065	965	57	800	550	531	285	500	383	449	5	7	2	V 449-6		
BNK 1250	1180	636	2014	1774	1000	1507	1349	1335	1235	57	800	550	527	285	500	383	449	5	7	2	V 449-6		

● = Standard programme available from stock and in short term

Ordering example:	BNK	250	B	A
	KTR standard tank	Tank size	Tank design "B"	Cover design "A"

Tank cover

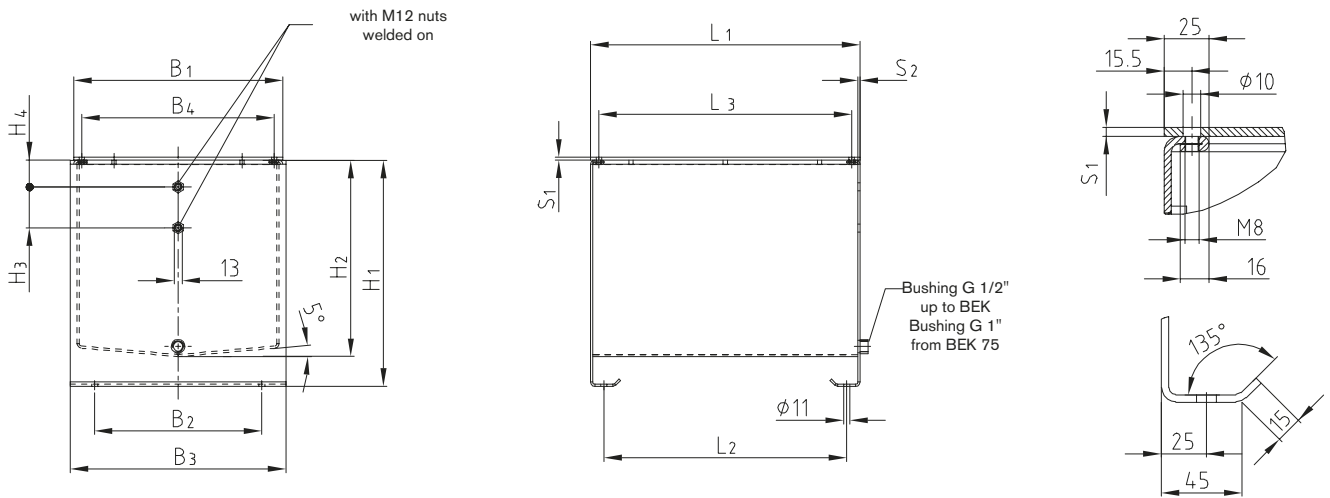
Cover design A



Cover design „A“			
NG	Dimensions [mm]		
	L	B	t
63	588	445	10
100	713	540	10
160	890	670	10
250	1090	770	10
400	1594	815	10
630	1594	1025	10
800	2094	980	10
1000	2094	1145	10
1250	2094	1415	10

STEEL TANK TYPE BEK HYDRAULIC COMPONENTS

Series BEK



Series BEK, size 12-300													
Order description	Effective vol.	Weight	Tank dimensions [mm]										Tank complete available from stock
NG	Litres	kg	L ₁	L ₂	B ₁	B ₂	B ₃	H ₁	H ₂	H ₃	H ₄	S ₂	Cover design E
BEK 12	16	17	310	260	298	220	310	275	220	76	50	4	●
BEK 20	26	23	400	350	298	220	310	325	270	76	50	4	●
BEK 35	40	30	470	420	298	220	310	400	345	76	50	4	●
BEK 50	58	40	500	450	388	310	400	420	365	76	50	4	●
BEK 60	69	43	550	500	388	310	400	445	390	76	50	4	●
BEK 75	85	46	550	500	388	310	400	530	475	127	50	4	●
BEK 100	109	54	700	650	388	310	400	530	475	127	50	4	●
BEK 150	175	79	750	700	488	410	500	620	565	127	80	4	●
BEK 225	267	115	900	850	588	510	600	650	595	127	80	4	●
BEK 300	339	127	900	850	688	610	700	700	645	127	80	4	●

● = Standard programme available from stock and in short term

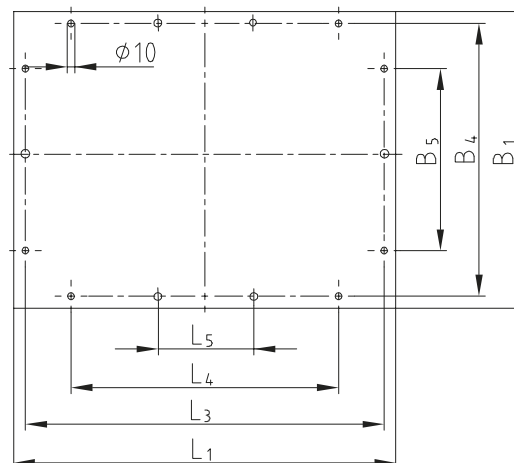
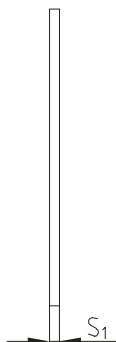
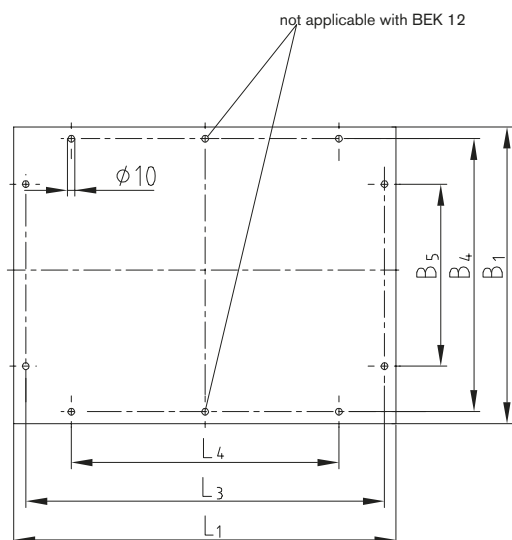
Ordering example:	BEK	100	E
	KTR standard tank	Tank size	Cover design "E"

Tank cover

Cover design E

up to size 75

as from size 100



Cover design „E“								
NG	Dimensions [mm]							
	S ₁	L ₁	B ₁	L ₃	B ₄	L ₄	B ₅	L ₅
12	4	310	298	279	267	160	148	-
20	4	400	298	369	267	250	148	-
35	5	470	298	439	267	320	148	-
50	5	500	388	469	357	350	238	-
60	5	550	388	519	357	400	238	-
75	5	550	388	519	357	400	238	-
100	6	700	388	669	357	550	238	184
150	6	750	488	719	457	600	338	200
225	8	900	588	869	557	750	438	250
300	8	900	688	869	657	750	538	250

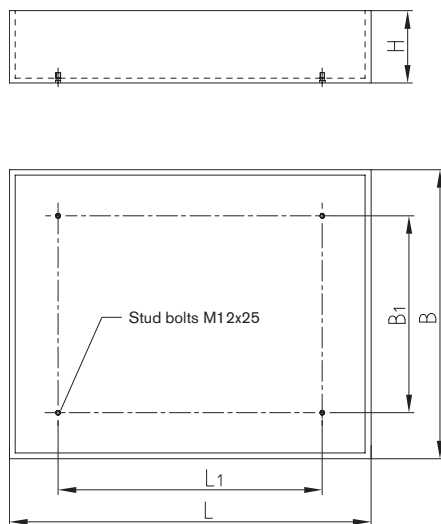
OIL SUMP PANS

HYDRAULIC COMPONENTS

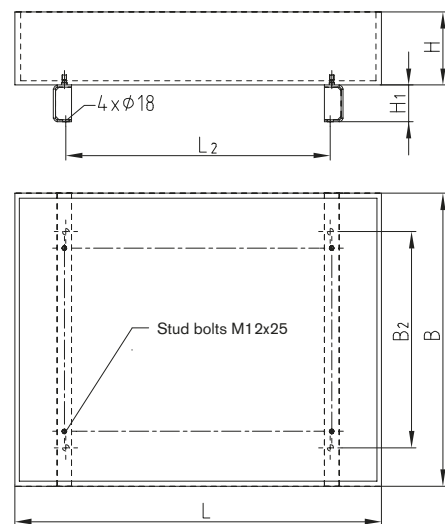
Oil Sump pans for steel tanks



Oil sump pans without feet



Oil sump pans with feet



Distance dimensions
for stud bolts see table
L1 and B1

Oil sump pans for BSK and BNK														
Order description	Effective vol.	Weight in kg		Tank dimensions [mm]										Available from stock without feet
NG	Litres	Without feet	With feet	L	L1		L2	B	B1		B2	H	H1	
					BSK	BNK			BSK	BNK				
63	74	22	30	700	428	308	420	600	315	285	365	200	100	●
100	105	29	38	850	553	393	545	700	414	360	460	200	100	●
160	160	36	47	1000	730	570	722	800	544	490	590	200	100	●
200	200	42	54	1100	820	-	812	850	594	-	640	220	100	●
250	250	50	64	1250	930	770	922	1000	644	590	690	200	100	●
300	300	57	69	1400	1128	-	1120	900	654	-	700	250	100	●
400	400	72	87	1720	1434	1274	1426	980	689	635	735	250	100	●
630	630	93	112	1810	-	1274	1426	1190	-	845	945	300	100	●
800	800	110	138	2410	-	1774	1926	1190	-	800	900	300	100	
1000	1000	123	155	2420	-	1774	1926	1380	-	965	1065	300	100	
1250	1250	156	184	2380	-	1774	1926	1770	-	1235	1335	300	100	

● = Standard programme available from stock and in short term

Type plate and certificates in accordance with standards §19 WHG available at an extra charge. Please specify in your order.

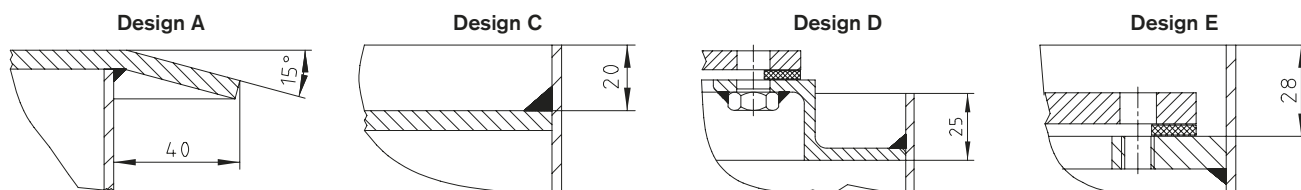
Ordering
example:

Ö	63	BSK	F
Oil sump pan	Tank size	Tank type	F = with feet O = without feet

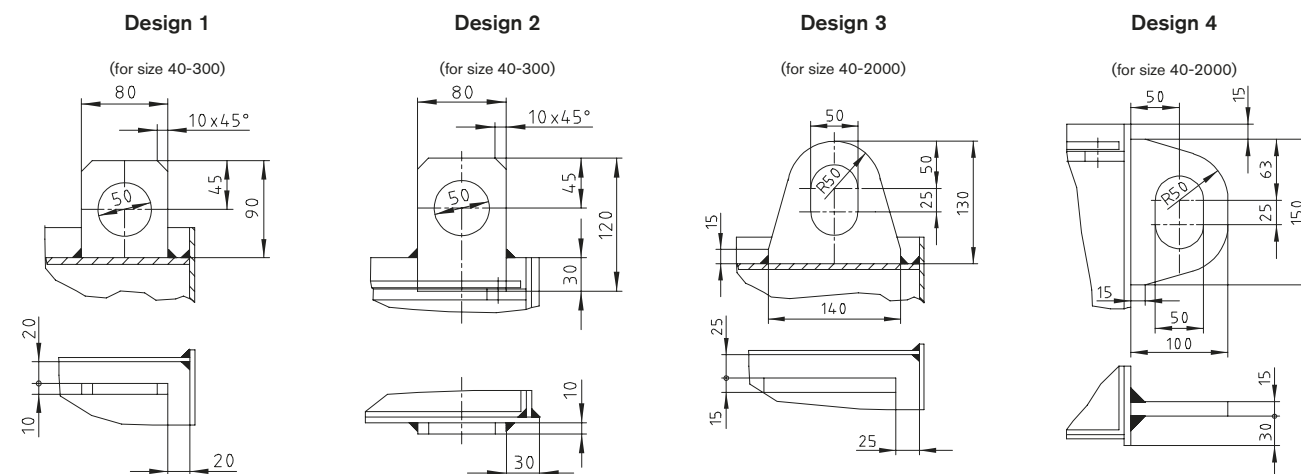
STEEL TANKS TYPE BNK HYDRAULIC COMPONENTS

Cover design, separation sheet metals, transport eyes and seams

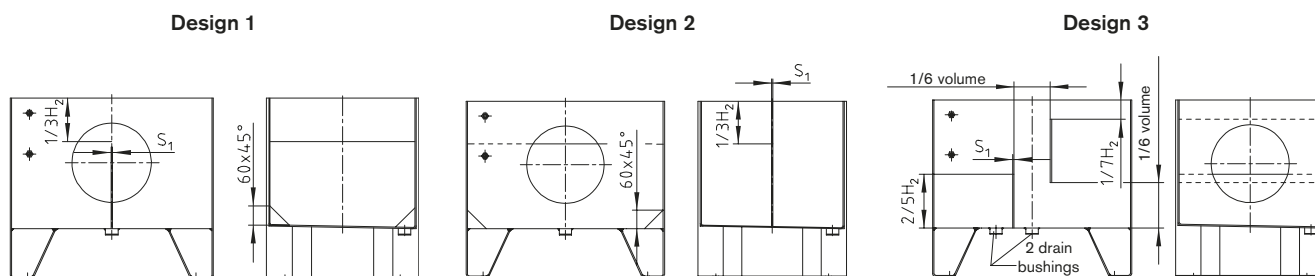
Cover designs for DIN tanks of the BKN series:



Transport eyes:



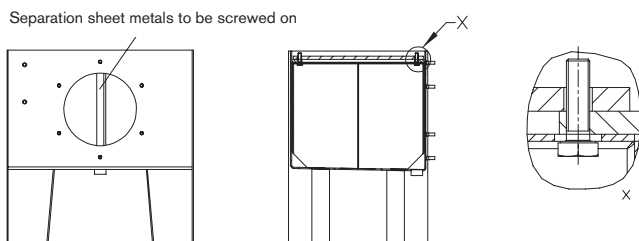
Separation sheet metals:



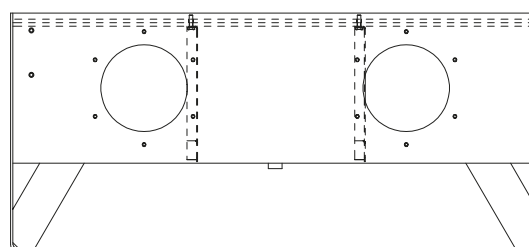
Separation sheet metals to be screwed on:

Separation sheet metal up to BSK/BNK 300

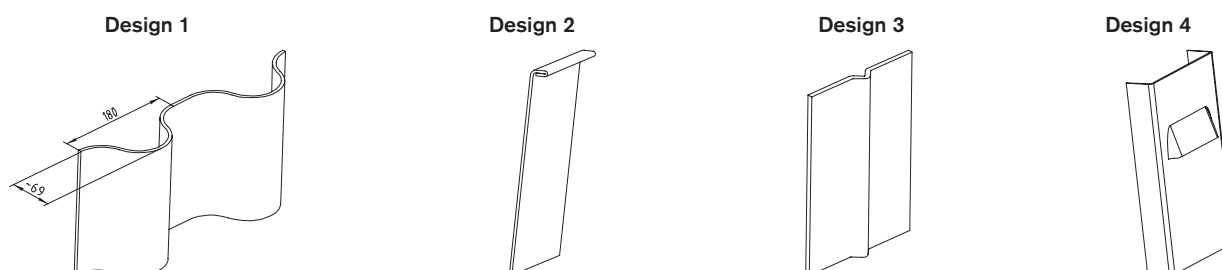
Separation sheet metals to be screwed on



From BSK/BNK 400 separation sheet metals optionally on the right or on the left



Creasings:



Welding approval for rail vehicles and vehicle parts acc. to
EN 15085-2

The manufacturing plant of KTR is certified according to
ISO 9001: 2008



Complete qualification proof for steel components and tanks
according to DIN 18800-7

Recognized expert plant acc. to the water resources law
§19 I WHG

OSI - Gesellschaft für
Schweißtechnik International mbH
Niederlassung SLV
Berlin-Brandenburg

Bescheinigung
über die Herstellerqualifikation zum Schweißen von Stahlbauten nach DIN 18800-7: 2008-11
Klasse E

Dem Unternehmen: **Rundzüge Statik KTR Group Rtr. 2 & 3**
wird für den Schweißbetrieb in: **PL-45-045 Görlitz, ul. Koszowa 1**

bescheinigt, dass er über die erforderlichen Fachkräfte und Einrichtungen verfügt, Schweißarbeiten zur Herstellung tragender
Stahlbauten im folgenden Anwendungsbereich auszuführen:

Normen/Festwerte: DIN 18800-7
DIN 15 018
DIN 4132

Schweißproben: 133 Metall-Abhänggeschweißen mit Massetransfertechnik
141 Vollbogen-Hänggeschweißen
T81 Stumpfschweißen mit Hubzündung nach Verfahrensprüfung

Grundwerkstoffe: S 235, S 275, S 355 nach DIN EN 10 025-2
C-Mn-Stähle (DIN)

Erweiterung/Einschränkungen: keine

**Verantwortliche
Schweißfachperson:** Flagen, Henryk, geb. am 02.02.1961, EWE
Name, Vorname, Geburtsdatum,
Berufsweg

Vorstand: Jähke, Jero, geb. am 07.02.1973, EWE
Name, Vorname, Geburtsdatum,
Berufsweg

Bemerkungen: Der Vorstand Herr Katschke ist zugelassen für Arbeiten im Rahmen der
DIN 18800-7, Klasse E

Gültigkeitsdauer: vom 17.08.2012 bis 30.06.2014

Bescheinigungs-Nr.: 3038/12

ausgestellt am: 22. August 2012
Kategorie:

Leiter der Prüfstelle
Name, Vorname, Berufsweg

Abgrenzung Bescheinigungen
keine Rückseite

OSI - Gesellschaft für Schweißtechnik
International mbH
Niederlassung SLV Berlin-Brandenburg
Ulrich, Jörg, Geschäftsführer

DVS

URKUNDE
über die Anerkennung als Fachbetrieb
gemäß WHG

Hiermit verleiht die technisch-orientierte Fachbetriebsgemeinschaft
Maschinenbau e.V. (EGMA) der Firma:

KTR Kupplungstechnik GmbH, Rüdiger Damm 176, 48407 Bielefeld

Fachbetriebsfachmann

EGMA
Fachbetriebsgemeinschaft
Maschinenbau e.V.
Fachbetriebsfachmann
Herr Hans Bruns
das Recht zur Führung des Überwachungszeichens der EGMA
Gültigkeit bis Februar 2013

Überwacht

Werkzeitleistungen bei der Herstellung von Hydraulikbauteilen
mit Montage von Sicherheitsvorrichtungen sowie Aufmontage in
Hydraulikbauteile:
Einbau, Aufstellen, Instandhalten, Instandsetzen und Reparieren
von HPS, Anlagen

Frankfurt/Main, den

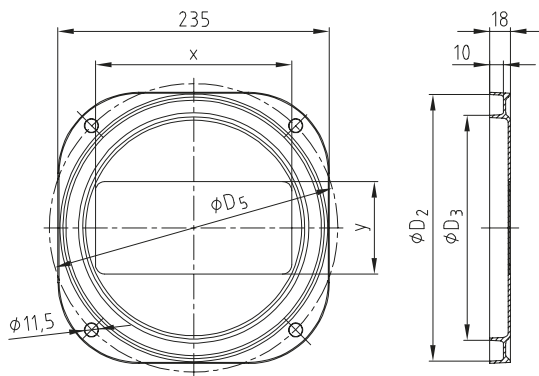
ACCESSORIES FOR OIL TANKS

HYDRAULIC COMPONENTS

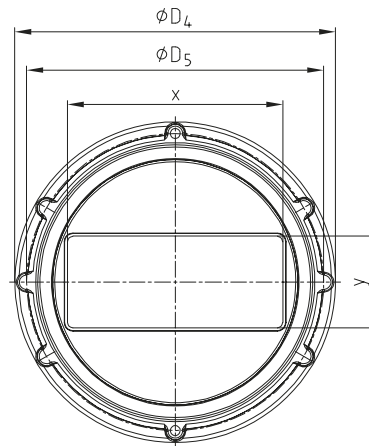
Cleaning covers



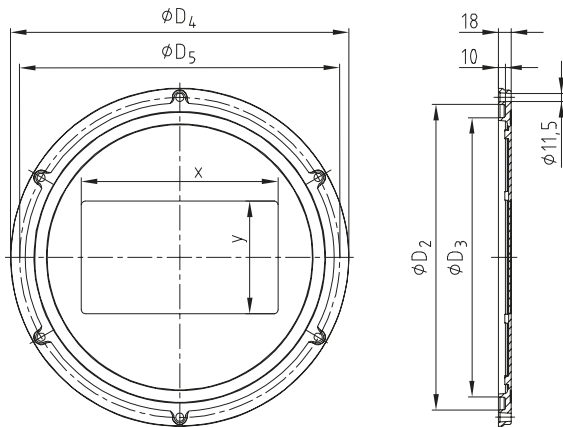
Cleaning cover V250-4 PRD



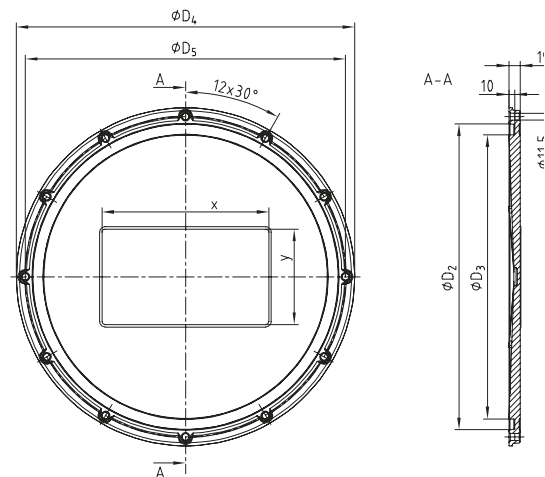
Cleaning cover V324-6 acc. to DIN 24339



Cleaning cover V449-6 acc. to DIN 24339



Cleaning cover V530-12

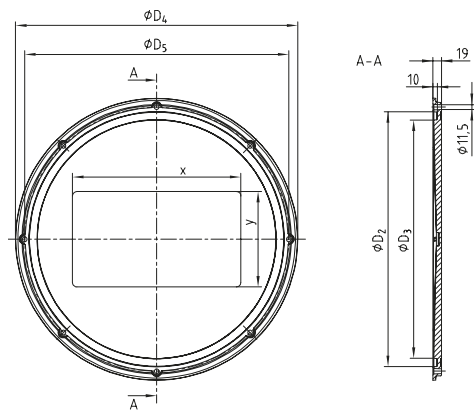


Technical data				
Screw tightening torque	Max. permissible pressure	HFC liquids	Perm. temperature range	Logo
10 Nm	0.5 bar	Order suffix/HFC	-20 to 100 °C	on request

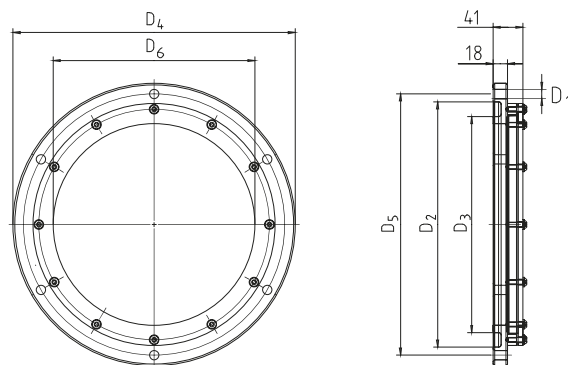
Ordering
example:

V324-6/W	PRD 393 NBR
Cleaning cover	Spline seal

Cleaning cover V580-8

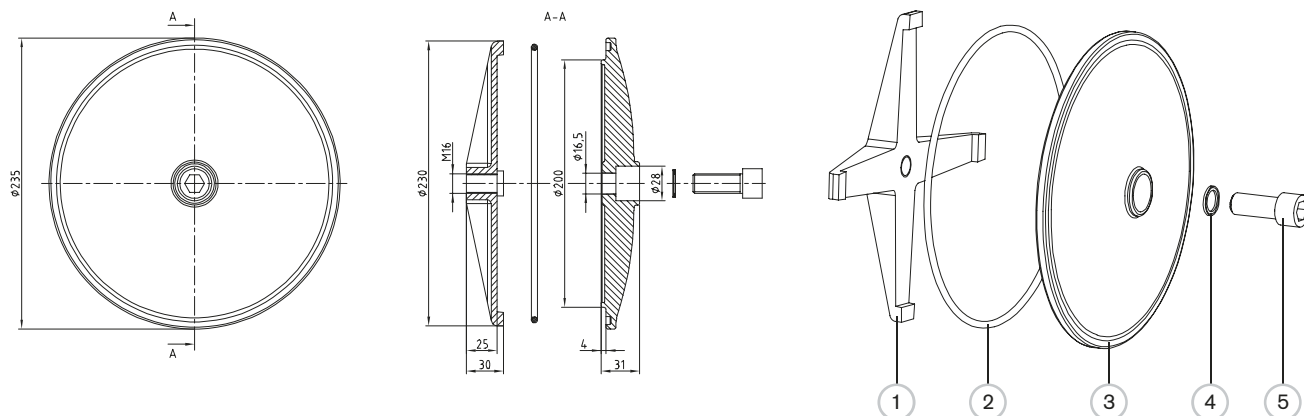


Cleaning cover Type W aluminium/polycarbonate



- Screw tightening torque max. 10 Nm
- Max. permissible pressure = 0.5 bar
- Permissible temperature range type W -20°C to 90°C

Cleaning cover V235

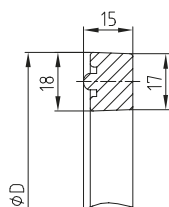


List of components:

- 1 Fixing cross
- 2 O-Ring 214 x 5
- 3 Cover
- 4 Seal Usit 22 x 16
- 5 Screw M 16 x 40 tightening torque max. 40 Nm

Cleaning cover									
Size	Dimensions [mm]								
	D_1	D	D_3	D_4	D_5	Inspection glass	Number of bores	x	y
V250-4 PRD	11,5	229	193	-	250	-	4	170	80
V324-6 / V324-6 HFC		304	268	350	324	-	6	235	100
V324-6 Kokille*		304	268	350	324	-		-	-
V324-6 /W		304	268	350	324	$\phi 250$		276	158
V449-6 / V449-6 HFC		429	393	475	449	-		276	158
V449-6 /W		429	393	475	449	$\phi 250$		-	-
V530-12 / V530-12 HFC		505	471	560	530	-	12	276	158
V580-8 / V580-8 HFC		560	523	620	580	-	8	370	210

* Cover with fixing by 4 holes on request.

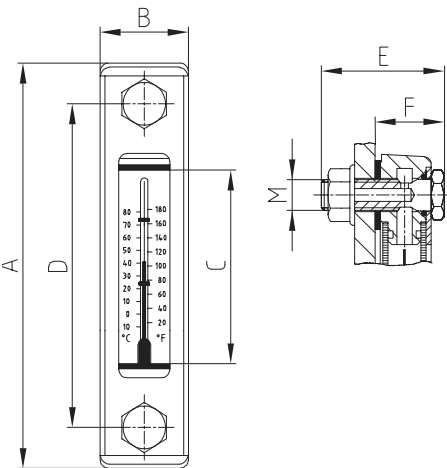


Gaskets for cleaning covers			
Size	For cleaning cover	D [mm]	
PRD 193 NBR	PRD 193 Viton	V250- PRD	229
PRD 268 NBR	PRD 268 Viton	V324	304
PRD 393 NBR	PRD 393 Viton	V449	429
PRD 471 NBR	-	V530	507
PRD 525 NBR	-	V580	561

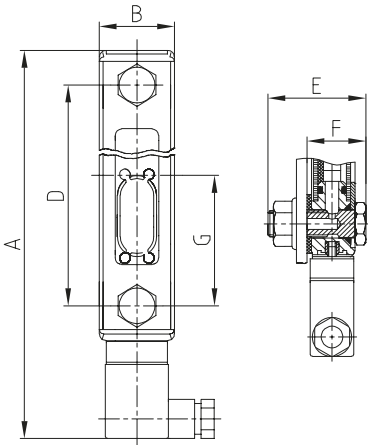
ACCESSORIES FOR OIL TANKS

HYDRAULIC COMPONENTS

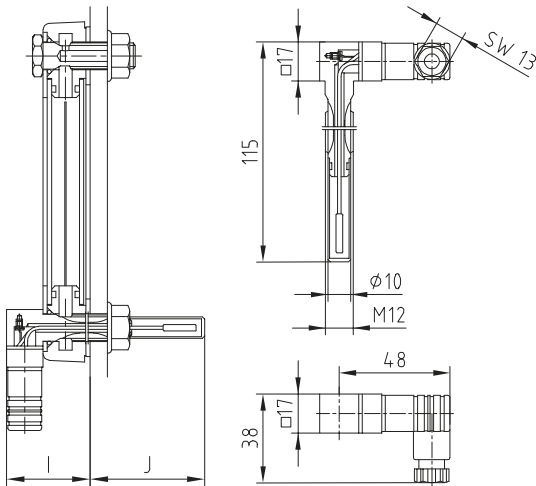
Oil level indicator, filler and oil level sight glass



With (KOT) and without (KO) temperature indication



With visual/electrical monitoring of liquid level in the tank KOO/ KOS



Combined with temperature switch TS60, TS70 or TS80

Oil level indicator										
Spider type	Dimensions [mm]								with TS	
	A	B	C	D	E	F	M	G	I	J
KO 01 / KOT 01	108		37	76				—	39	76
KO 02 / KOT 02	159	34	76	127	45	26	M12	—		
KOO 02 / KOS 02	205			127				50	47	68
KO 03 / KOT 03	286		203	254				—	39	76

Technical data

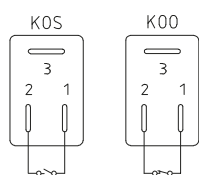
KOT 01: display range +20 °C to +80 °C

KOT 02: display range KOO: electric switch as break contact

KOS: electric switch as make contact
Operating range: -10 °C to +80 °C -10 °C to +80 °C

Recommended screw tightening torque: 8 Nm
preload pressure of tank max. 1 bar

Electrical connections and functions:



Contact load:

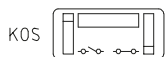
KOS max. 10 W

KOO max. 5 W

Switching voltage:

50 V AC/DC

Connection 3 not used



Switching current:

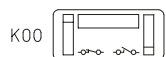
KOS max. 0,50 A

KOO max. 0,25 A

Line box with PG9

Protection class IP 65

Connection 3 not used



Technical data (break contact) of the temperature switch:

Switching temperature:

TS 60: Switching temperature
60 °C / 140 °F

TS 70: Switching temperature
70 °C / 158 °F

Switching temperature
80 °C / 176 °F

Hysteresis:

20 °C

Tolerance of the shifting temperature:

± 5 °C

Alternating current

max. voltage - 250 V

max. current with 10,000 circuits

2,5 A with - cos ϕ = 1,0

1,6 A with - cos ϕ = 0,6

max. current with 100,000 circuits

0,5 A with cos ϕ = 1,0

~0,25 A bei cos ϕ = 0,6

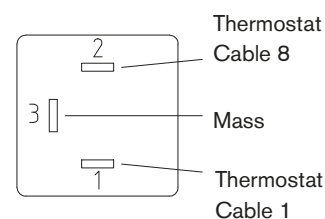
min. switching current 50 mA

Direct current

max. voltage 42 V

max. current with

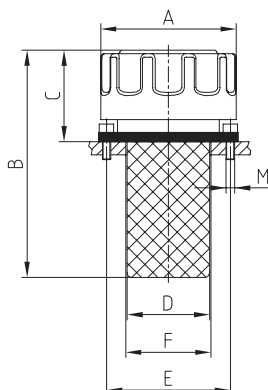
10.000 circuits 1 A



Ordering example:

KO	02	+ TS 80
Type [KO, KOT KOO or KOS]	Size [01, 02 or 03]	with temperature switch [TS 60, TS 70 or TS 80]

KE 01 and KE 02 filter grade 10 μ m

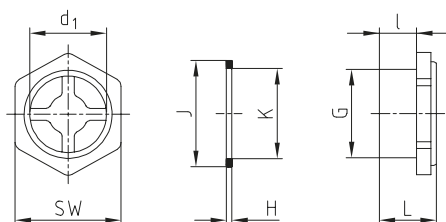


Filler breather with air filter

Size	Dimensions [mm]						
	A	B	C	D	E	F	M
KE 01	44,5	110	48,5	28	41,3	30	3xM5
KE 02	79,9	134	54	48,7	73	53	6xM5

Air flow: KE 01 = 0,40 m³/min

KE 02 = 0,45 m³/min



Oil level sight glass

Size	Dimensions [mm]							
	L	I	d1	G	H	J	K	SW
G ¹ / ₂ A	17,7	9,2	27,5	G ¹ / ₂	2	27	21	27
G ³ / ₄ A	18	9,2	23,8	G ³ / ₄	2	32	27	32
G1A	23,5	14	29	G1	2	40	34	40

Ordering example:

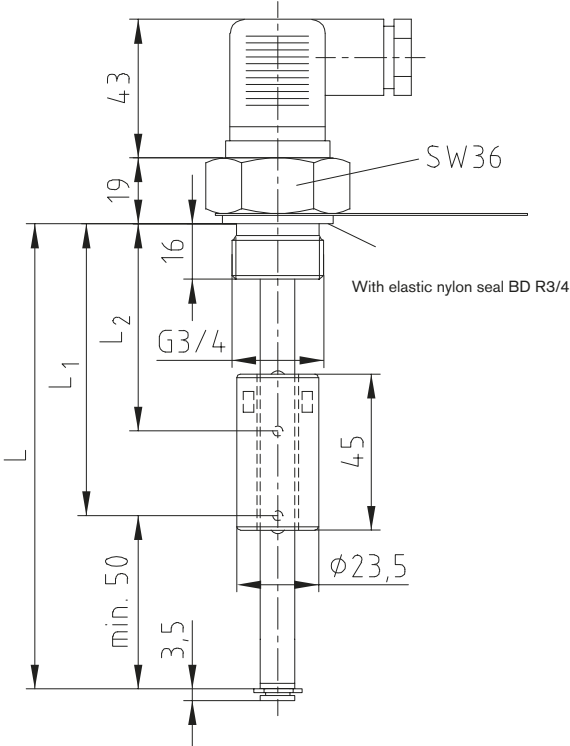
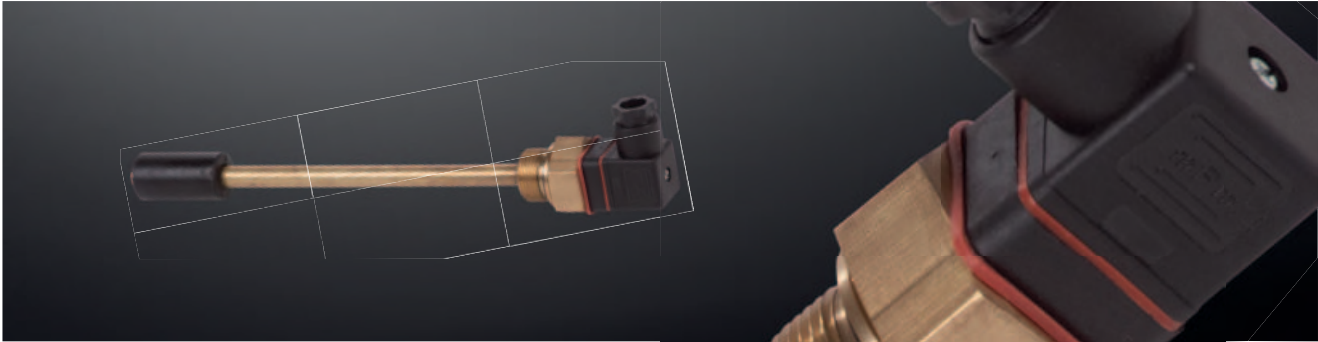
Filler breather	KE 01
Type	Size

Ordering example:

Oil level sight glass	G ³ / ₄ A
Type	Size

TEMPERATURE CONTROL AND MONITORING HYDRAULIC COMPONENTS

Level and temperature switch



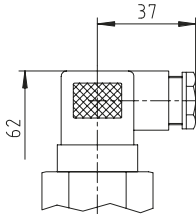
Level and temperature switch			
Size	Dimensions [mm]		
	L	L1	L2
NVT22	220	170	40
NVT37	370	320	40
NVT45	450	400	40

Switching tube
Operating pressure max. 1 bar
Operating temperature max. 80 °C
Density of fluid min. 0.8 kg/dm³
Float PU
Switching tube MS
Flange MS

Level contacts
Operation NC
(break contact)
Max. operating voltage 230 V
Max. switching current 0,5 A
Contact load 10 VA

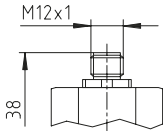
Temperature contacts
Max. operating voltage 250 V
Max. switching current 2 A
Max. contact load 100 VA
Rückschaltdifferenz 15 K ± 5 K

Plug-in connection D03
3pol. + PE DIN 43650



Protection class IP 65
Cable screwing PG11
Max. voltage 230 V AC/DC

Plug-in connection DM12
3pol.



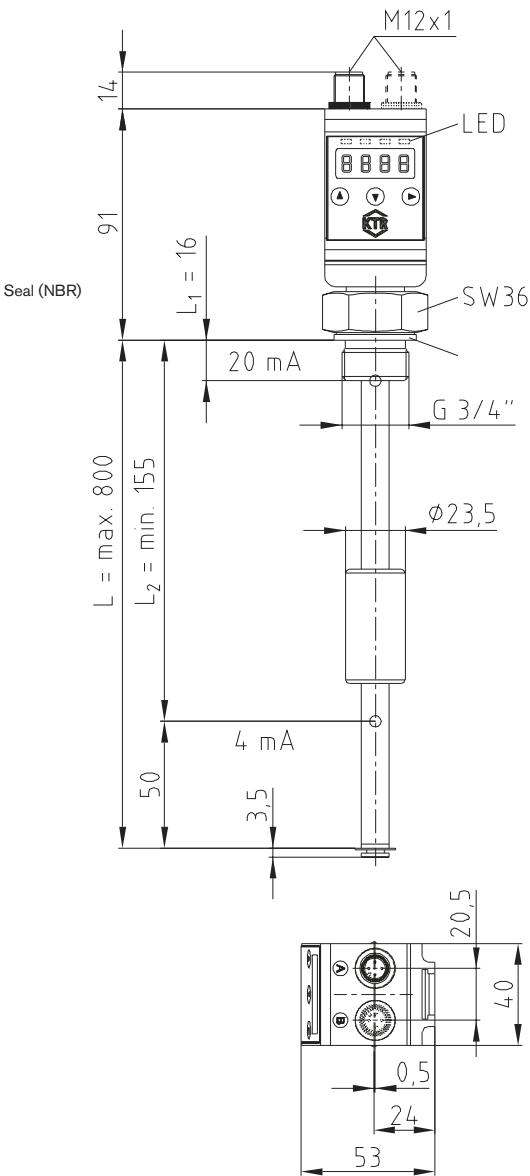
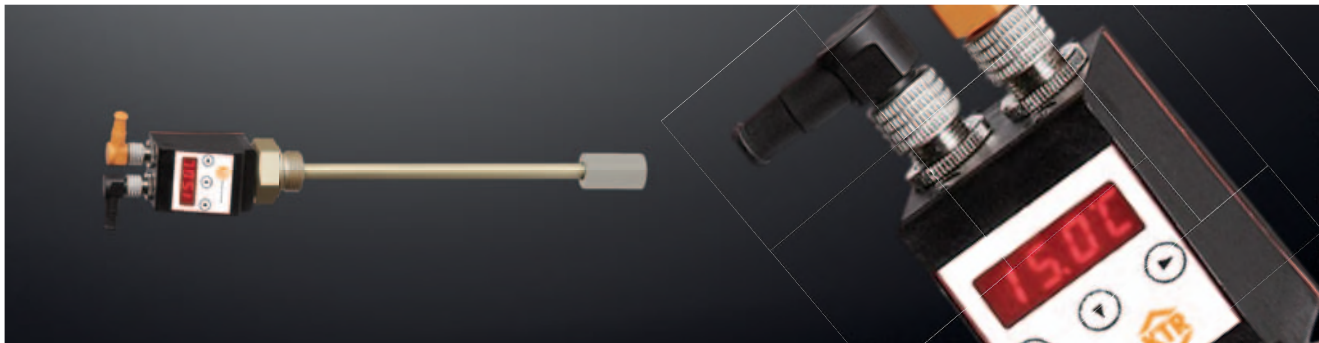
IP67** protection class
Cable screwing PG7**
Max. voltage 24 V DC

Ordering example:	NVT	22	2	60	D3
	Type	Size 22 = 220 mm contact tube 37 = 370 mm contact tube 45 = 450 mm contact tube	Type 1 = 2 switch contact area H a. L 2 = 1 switch contact area L and 1. Temperature switch Other types on request	Switching temperature O = without temperature switch 60 = 60 °C 70 = 70 °C 80 = 80 °C	Voltage D3 = max. 230 Volt (standard) DM12 = max. 24 Volt

TEMPERATURE CONTROL AND MONITORING

HYDRAULIC COMPONENTS

Electronic level and temperature control



Technical data

Operating pressure:	max. 1 bar
Operating temperature:	-20 °C bis +80 °C
Ambient temperature:	-20 °C bis +70 °C
Weight:	ca. 400g
Sealing fluid:	min. 0,8 kg/dm³
Float:	PU
Immersion pipe:	MS
G 3/4 flange:	MS
Measuring resistor:	Reed chain
Resolution:	10 mm
Temperature sensor:	PT100 Klasse B DIN 60751

Display and control unit

Display:	4-digit 7-segment LED display
Operation:	over 3 keys
Memory:	Min. and max. value memory
Current consumption with starting:	approx. 100 mA for 100 ms
Current consumption during operation:	approx. 50 mA
Supply voltage (UB):	10-32 V DC (nominal voltage 24V DC)
Protection class:	IP 65
Display units:	Level: %, cm, L, i, Gal Temperature: -20 °C to +120 °C or -4 °F to 248 °F
Setting range:	Level: e. g. 0-100 %l Temperature: 0 °C to +100 °C or 32 °F to 212 °F
Accuracy:	1% of final value

Ordering
example:

NVT-E	20	4	M12
Type	20 = 200 mm contact tube 28 = 280 mm contact tube37 = 370 mm contact tube50 = 500 mm contact tube50 = 500 mm contact tube	4 = Switching points to be assigned freely 2NT = 2 switching term. to be programmed freely and 2 analogue outputs (level and temp.)	M12 = M12 plug base 4 poles

TEMPERATURE CONTROL AND MONITORING

HYDRAULIC COMPONENTS

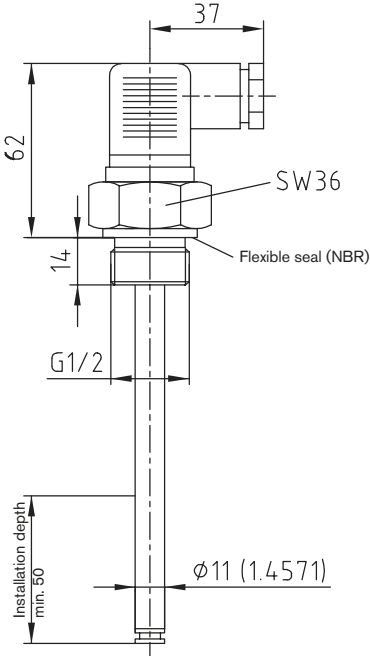
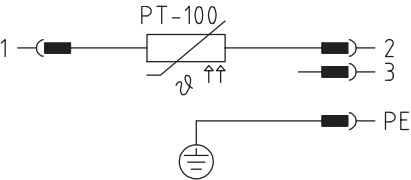
Temperature probe TE-PT-100



Temperature probe TE-PT-100											
Basic values of measuring resistor											
°C	0	10	20	30	40	50	60	70	80	90	100
Ohm	100,00	103,90	107,79	111,67	115,54	119,40	123,24	127,07	130,89	134,70	138,50

Technical data	
Screwing and immersion sleeve:	1.4571 (stainless steel) – brass on request
Lengths available:	100, 200 and 300 mm from stock (special lengths up to 1000 mm)
Operating pressure:	10 bar (immersion sleeve of stainless steel)
Operating temperature/ measuring range:	- 40 °C to + 100 °C
Resistance feeler element:	PT-100 class B DIN/IEC 751
Max. S-wire current PT-100:	1 mA
Plug::	acc. to DIN 43650 – 3 poles + PE, protection IP 65, cable screwing PG11

Connection diagram:

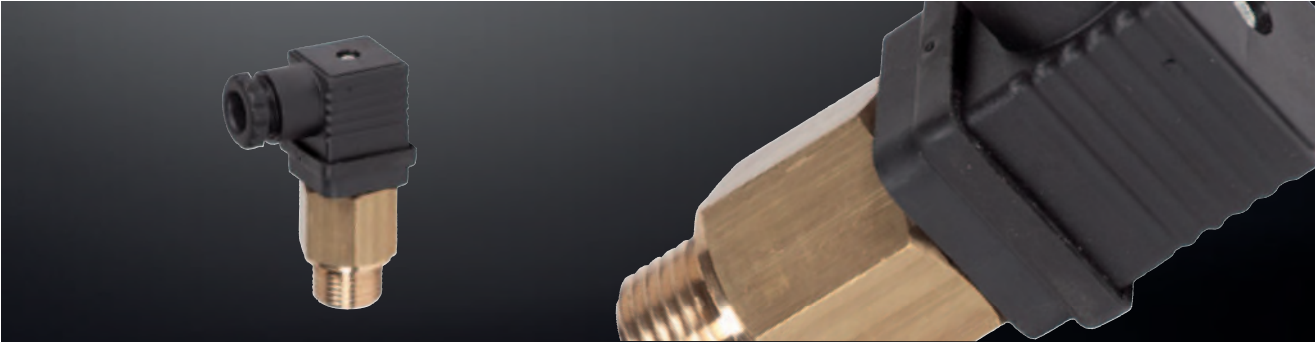


Ordering example:	TE	PT-100	300
	Temperature probe - electronic	Resistance feeler element	Length of immersion sleeve

TEMPERATURE CONTROL AND MONITORING

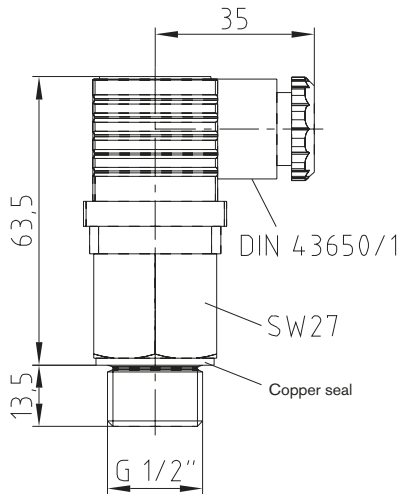
HYDRAULIC COMPONENTS

Temperature switch TSC



- Simple, solid design
- Electric insert easy to disassemble
- For plug acc. to DIN 43650 straight cable outlet direction swinging by 360°
- Copper seal
- Protective class IP65

Technical data		
Control element:	Bi metal	Switching point:
Switching operation:	NO = make contact	TSC 40 = 40 °C
Switching temperature:	+25 °C up to +80 °C	TSC 50 = 50 °C
Material of probe:	Brass	TSC 60 = 60 °C
Operating pressure max.:	15 bar	TSC 70 = 70 °C
Operating temperature:	20 °C to +100 °C	
Plug.:	acc. to DIN 43650 – 3 poles + PE, protection IP 65, cable screwing PG11	



Temperature contacts:	Max. operating voltage	230 V AC - 10 A
	Max. switching current	2 A
	Tolerance	± 5 K
	Switch-back difference	15 K ± 3 K

Ordering example:	TSC	50
	Temperature switch	Switching point 50 °C

Industrial controller IR



R: Immersion sleeve on the right
L: Immersion sleeve on the left

Type H and U

H: Immersion sleeve in the back
U: Immersion sleeve at the bottom

Type S₁

S₁: with 1 hose
S₃: with 2 hoses

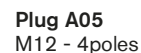
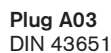
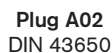
Lengths of hose: S1= 1500 mm and S3= 2 x 1500 mm

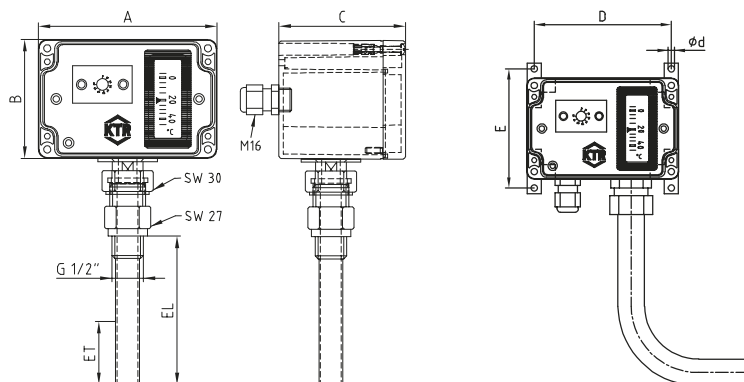
Electrical connections (IR)

A01 Standard: flat plug 6.3 x 0.8; receptacles attached to DIN 46247/3

A04 special design: European terminal strip fully cabled

Connectors A02, A03 and A05 see illustrations.

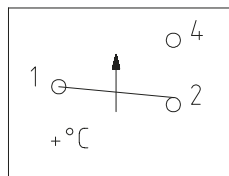
* Manual adjustment



Pin connection each controller IR

PE connection (customer)

PE



Controller 1 ... X
Connection 6,3 AMP
Insulated plug

Type IR						
Dimensions of the housing [mm]						
Number of functions	A	B	C	Type S1 - S3		
				D	E	d
1	82	80	85	70	94	5,2
2	120	80	85	108	94	5,2
3	160	80	85	148	94	5,2
4 / 5 / 6 / 7	240	120	100	228	134	5,2

Technical data	
16 A (2,5)/250 VAC	0.5 K/min.
10 A (1,5)/400 VAC	
	T max. depending on type

Dimensions of the immersion sleeve IR						
Type/EL - Installation length	100	200	300	400	500	900
ET - mm min. minimum depth of immersion referring to the number of functions installed						
1 - 3 functions	90					
4 - 6 functions	180					
7 functions	270					

Type IR

Technical data

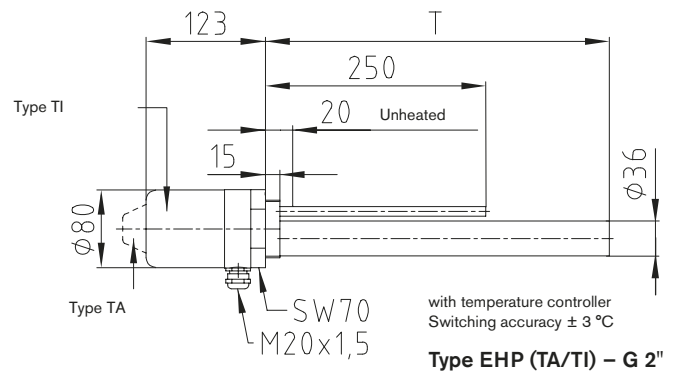
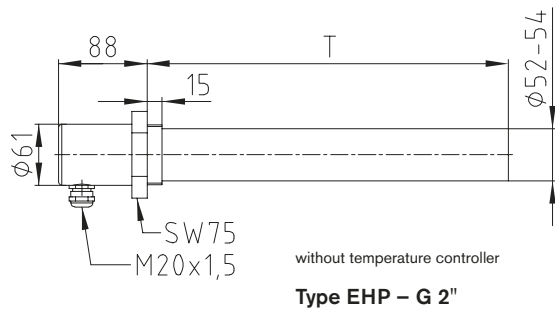
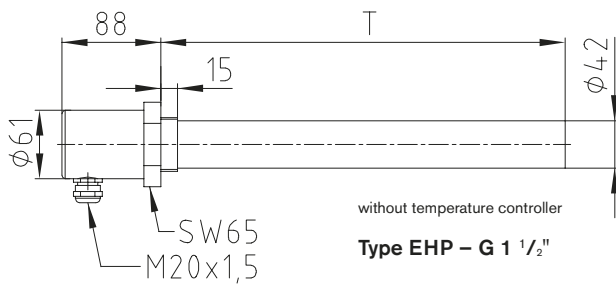
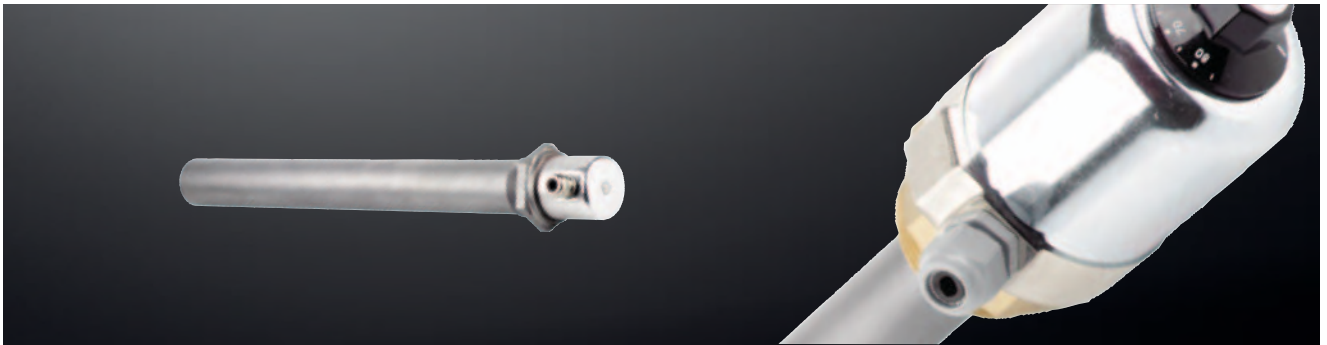
Contact selection:	Unipolar changer	Accuracy of display:	Class 3 according to DIN 16203
Contact material:	Hard silver Ag	Housing material:	Polycarbonate (Makrolon)
Setting range:	~ 30 °C to 160 °C	Immersion sleeve:	1.4301
Switching accuracy:	~ 4 °C	Cable screwing:	Polyamide
Ambient temperature:	~ 35 °C to 80 °C	Probe + capillary tube:	Cu
Test certificates:	VDE 0631, NF, SEMKO, Demko,	Switching power:	16 A (2,5)/250 VAC
Insulation:	ÖVE, KEMA		10 A (1,5)/400 VAC
Protection class:	According to VDE		0.5 A/24 VDC
Cable screwing:	IP 65		Further data on request
Max. operating pressure	M16 with strain relief	Puncture strength:	2000 2000 VAC between combined
Display of immersion sleeve:	16 bar		contacts and mass
Display of thermometer:	~ 30 °C to 160 °C		1150 VAC between
			open contacts

LED 12 -24 V	Index	LED 240 V	Index
green	2	green	5
red	3	red	6
red + green	4		

Ordering example:	IR	200	H	A01	03 - 02 - 02 - T1
	Type	Length of immersion sleeve	Position of immersion sleeve	Electric connection	Requested controller or thermometer (max. 7). Sequence as requested. If LED is requested to be assembled, the figure 0 in the controller name is replaced by the respective index number (e. g. controller 02 and LED red = 32).

TEMPERATURE CONTROL AND MONITORING HYDRAULIC COMPONENTS

Tank heater - Type EHP



Technical data: EHP :
Temperature controller for internal or external setting: 0-85°C, 16 ampere
Surface load: 1.5W/cm²
Protection IP65 (type TA IP54)

Inserted heating cartridges								
Type EHP - G 1 1/2" without temperature controller			Type EHP - G 2" without temperature controller			Type EHP (TA/TI) - G 2" with temperature controller		
Heating capacity [watts]	Immersion depth T [mm]	Voltage [V]	Heating capacity [watts]	Immersion depth T [mm]	Voltage [V]	Heating capacity [watts]	Immersion depth T [mm]	Voltage [V]
400	200	230	500	200	230	450	300	230
600	300	230	750	300	230	600	400	230
800	400	230	1000	400	230	750	500	230
1000	500	230	1250	500	230	900	600	230
1200	600	230	1450	600	230	1050	700	230
1400	700	230	1700	700	230	1200	800	230
1600	800	230	1950	800	230	1350	900	230
1800	900	230	2200	900	230	1500	1000	230
2000	1000	230	2450	1000	230	1650	1100	230
2200	1100	230	2700	1100	230	1800	1200	230
2400	1200	230	2950	1200	230	1950	1300	230
2800	1400	230	3450	1400	3 x 400	2100	1400	230
3200	1600	230	3900	1600	3 x 400	2250	1500	230
3600	1800	3 x 400	4400	1800	3 x 400	2400	1600	230
4000	2000	3 x 400	4900	2000	3 x 400			

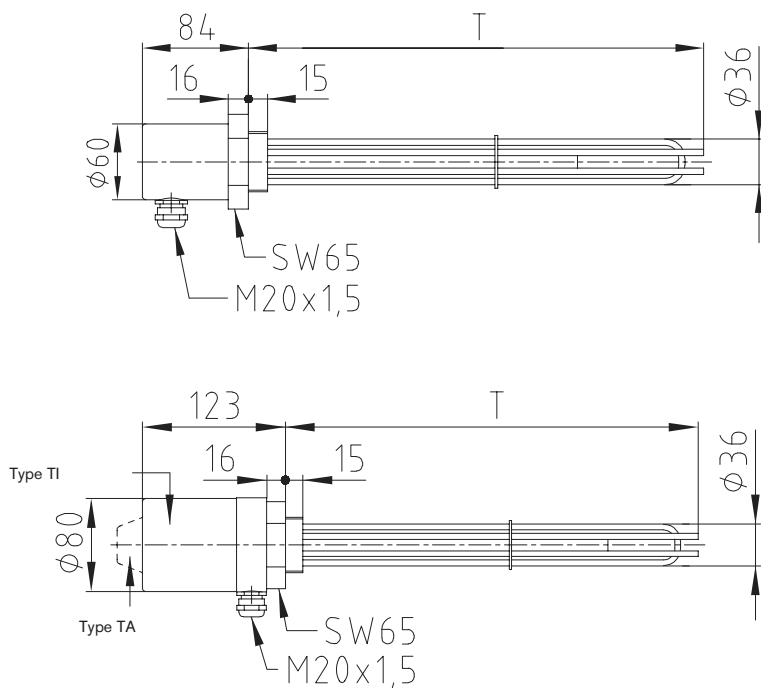
As an alternative: control of tank heater via KTR temperature controller (NVT-E/IR). In this case the temperature controller on the tank heater can be done without. Other types on request. Please note our mounting instructions at www.ktr.com.

Ordering example:	EHP	1950	1300	G 2"	TI	1 x 230 V
	Type	Heating capacity [W]	Immersion depth T [mm]	Size of screw-in thread	TA = temperature controller with external setting TI = temperature controller with internal setting O = without temperature controller	Voltage [V] must be specified in the order, e. g. 1 x 230 V; 2 x 400 V; 3 x 400 V (from 1000 watts)

TEMPERATURE CONTROL AND MONITORING

HYDRAULIC COMPONENTS

Tank heater - Type EH



Type EH – G 1 1/2"
without temperature controller

Type EH (TA/TI) – G 1 1/2"
with temperature controller
Switching accuracy $\pm 3\text{ }^{\circ}\text{C}$

Inserted tubular heaters		
Type EH – G 1 1/2"		
without or with temperature controller		
Heating capacity [watts]	Immersion depth T [mm]	Voltage [V]
380	200	230
500	250	230
750	350	230
990	450	230
1460	650	230
1825	800	230
2300	1000	230

Technical data: EHP :
Temperature controller for internal or external setting: 0-85°C, 16 ampere
Surface load: 1.5W/cm²
Protection IP65 (type TA IP54)

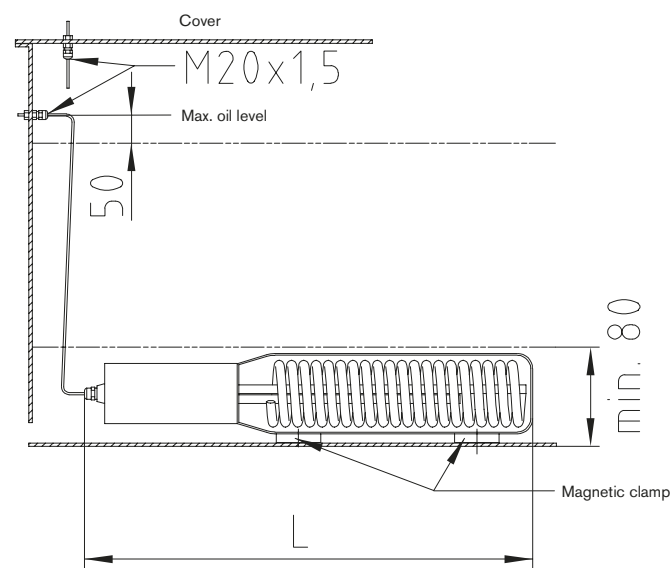
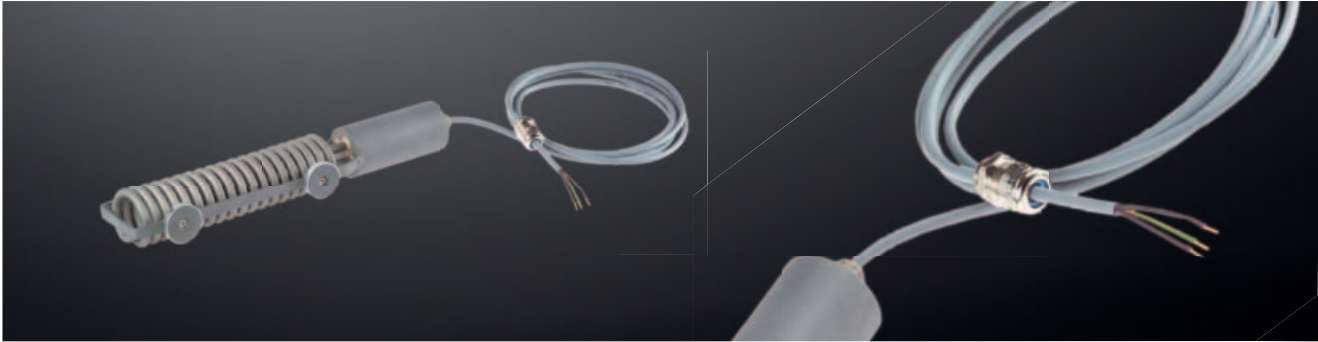
As an alternative: control of tank heater via KTR temperature controller (NVT-E/IR). In this case the temperature controller on the tank heater can be done without. Other types on request.
Please note our mounting instructions at www.ktr.com.

Ordering example:	EH	990	450	G 1 1/2"	TI	1 x 230 V
	Type	Heating capacity [W]	Immersion depth T [mm]	Size of screw-in thread	TA = temperature controller with external setting TI = temperature controller with internal setting O = without temperature controller	Voltage [V] must be specified in the order, e. g. 1 x 230 V; 2 x 400 V; 3 x 400 V (from 1000 watts)

TEMPERATURE CONTROL AND MONITORING

HYDRAULIC COMPONENTS

Inserted tank heaters with magnetic clamp - Type TEHM



Technical data:
 Switching accuracy: ± 3°
 Voltage: 230 V (other types available on request up to max. 2 x 400V)
 Operation temperature: - 30 °C to + 80 °C
 Surface load: 1.2 W/cm²
 (0.6 W/cm² on request)
 Connection cable: 3 poles, 2.5 m long, incl. screwed cable gland
 M20x1.5

Inserted tank heater		
Type TEHM		
Heating capacity [watts]	Overall length L [mm]	Voltage [V]
250	265	230
500	290	230
1000	400	230

As an alternative: control of tank heater via KTR temperature controller (NVT-E/IR). In this case the temperature controller on the tank heater can be done without. Other types on request. Please note our mounting instructions at www.ktr.com.

Ordering example:	TEHM	1000	00
	Type	Heating capacity [W]	Cut-off temp. set by the company to 20 °C = 00. Without temperature controller = 01. Requested cut-off temperature e. g. 35 °C = 35.