



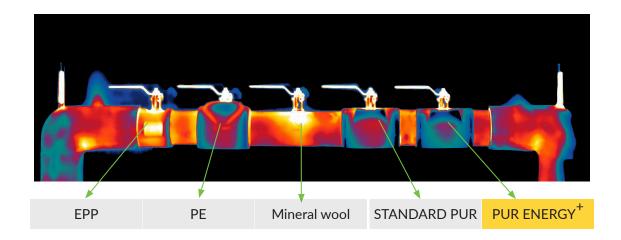
# THE ENERGY SAVING AND ASSEMBLY FRIENDLY INSULATION CAP SYSTEM

Polyurethane (PUR) is a type of plastic with particularly good insulating properties. Both cold and heat insulating, the foam is used in a variety of products and in the construction industry. If the insulating capacity plays a particularly important role, the low lambda value of less than 0.024 W / mK results in large energy savings. As duroplastic (hardened PUR) it can be formed into numerous shapes.

One of our best known products is the insulating cap. It is used for the insulation of venues and district heating installations. In addition, heat-insulating polyurethane is installed as insulating components in window profiles and strips.

Tinby offers a range of insulation caps for almost every manufacturer and fitting. All cutouts are made at the factory so that they can be mounted on site with just one hand. Maintenance work can be carried out easily and quickly in this way. The high quality of the insulating caps reduces the wear of the individual components even with frequent changes.

A uniform overall picture of the system insulation is provided by various surfaces: All insulating caps are available in polystyrene (PS) or aluminum coarse grain sheet, deepdrawn (AL).





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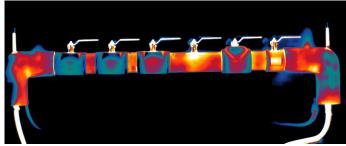
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THIDY (V.) DOLL OLDE CHOUD	T()



# INSULATION & ENERGY LOSS

- HIGH INSULATION
- ENERGY SAVING
- EASY TO ASSEMBLE AND REUSE
- PRODUCED BY TINBY







# INSULATION CAPS

PRODUCED BY TINBY

To meet the global environmental challenges, reducing energy loss and and thereby improve insulation new and preexisting buildings is necessary. Tinby produces and delivers insulation caps made from polyurethan (PUR) for the contruction industry. They reduce the energy loss of buildings, can be reused with a simply change of valve and retains its high ability to insulate even small wall thickness. PUR-Insulation is a part of improving the energy efficiency of buildings and reducing the emission of CO2.

In 2020 the European Union has passed regulation for buildings during both for new building and hanges made to preexisting contruction, which means that the loss of energy will be reduced by 30%. This reduction can be attained by better and smarter insulation in buildings.

# HIGH INSULATION ABILITIES W/ A LOW FOAM THICKNESS

To achieve the high demands for insulation, you either need to use a thicker layer of insulation, which often wont be able to fit, or use insulation caps from Tinby. Beause of the Lambda value in the caps the thickness of the foam is not increased. For that reason, they can be used with in smaller spaces. Both in the case of newer buildings and during renovations of existing buildings, the cap can be split with a simple tool and adapted on the spot.

Long term there is a large amount of the energy saved, because of the longevity of the material and the high performance throughout the building's lifetime.

#### **REUSABLE**

The insulation caps are easy to assamble on newer as well as preexisting installations and are developed to make the valves changeable without damaging the surrounding

#### **FACTS ON TINBYS INSULATION CAPS**

- λ-value: 0,24 W/m\*C
- Can handle most acids and is not attacked by rot, fungus or mildew.
- Fire Class B2 according to DIN 4102
- In the future the insulation caps from Tinby will be coated with polytyrol (PS). It is more sustainable when disposing.
- Pay-back period: 2 years (replacement of miniral wool, EPP or mirco-cellular rubber: : 5 år)
- Tinby also offers pipe sections in PUR-foam without a shell. It is a benificial insulation solution both economically and in safety that is also used against condensation.

insulation. The caps can handle most acids, is not attached by rot, fungus or mildew, does not attract moisture and as opposed to mineral wool is not heat conductive. Therefore, the insulation caps from Tinby can be reused.

#### **PAY-BACK PERIOD**

If you insulate used Tinbys polyurethan-foam you get a pay-back time of less than 2 years for newer buildings. If you replace the mineral wool, EPP or micro-cellular rubber the pay-back time is less than 5 years.

We have the material, technical knowhow and the production facilities.



# TOPO ENERGY BOX ALU

Insulation corresponding to EnEV consisting of two molded foam half shells with sheathing made of aluminum coarse grain sheet metal, which are fixed with guide elements (tongue and groove system) and clamping straps. The surface of the Energy Box in ALU design is diffusion-tight. It can therefore also be used for the cold water area. At media temperatures below 12 ° C, all joints and joints must be protected against condensation by being carefully taped with aluminum adhesive tape; eventually it may additionally be sealed with silicone.



PUR-foam Lambda = 0,024 Fire class B 2

Tensioning bands / tension springs made of corrosionresistant material

Insulation	
Material:	PUR-Foam
Insulation capability:	0,024 W/m*K
Weight:	60 kg/m³ +/- 5
Temperature for insulation:	max. +130° C
Fire class accordingly: DIN 4102:	B2, normal inflammable (highest possible classification for PUR foam!)

Shell	
Material:	Aluminium foil (AL)
Color:	metal color, Aluminium
Fire class accordingly: DIN 4102:	A, not flammable

# **CONNECTION TECHNOLOGY**

Tongue and groove system and outside clamping tongue / bands made of corrosion-resistant material



# TOPO ENERGY BOX PS

The EnEV-compliant insulation consisting of two molded foam PUR half shells with PS sheath, which are fixed with guide elements (tongue and groove system) and straps. At media temperatures below  $12\,^{\circ}$  C, all joints and jointsmust be protected against condensation by being carefully sealed with silicone.



PUR-foam Lambda = 0,024 Fire class B 2

Tensioning bands / tension springs made of corrosionresistant material

Insulation	
Material:	PUR-Foam
Insulation capability:	0,024 W/m*K
Weight:	60 kg/m³ +/- 5
Temperature for insulation:	max. +130° C
Fire class accordingly:	B2. normal inflammable

DIN 4102:

Shell	
Material:	Polystyrene (PS)
Color:	Grey (RAL 7035)
Fire class accordingly: DIN 4102:	B1, svært antændeligt

# **CONNECTION TECHNOLOGY**

foam!)

(highest possible classification for PUR

Tongue and groove system and outside clamping tongue / bands made of corrosion-resistant material



# TOPO DHS INSULATION CAPS FOR DISTRICT HEATING SYSTEMS

Insulation corresponding to EnEV consisting of two molded foam half-shells which are fixed with guide elements (tongue and groove system) and clamping straps. At media temperatures below  $12\,^{\circ}$  C, all joints and joints must be protected against condensation by being carefully sealed with silicone.



ľ	MATERIAL
Material:	PUR-Foam
Insulation capability:	0,024 W/m*K
Weight:	60 kg/m³ +/- 5
Temperature for insulation:	max. +130° C
Fire class accordingly: DIN 4102:	B2, normal inflammable (highest possible classification for PUR foam!)

	INSULATION SHELL
Material:	-
Color:	-
Fire class accordingly DIN 4102:	-



#### THE SOLUTION IS A TOPO ENERGY BOX INSULATION CAP

A TOPO Energy Box insulation cap is a insulation unit, which can easily be assembled, disassembled and reused without the need for tools. TOPO Energy Box insulation caps effectively solves a variety of insulation tasks for valves. Polyurethan has a practical lambda value of less than 0,028 W/m°C. Therefore, a large sum of energy is saved by using insulation caps from Tinby. TOPO insulation caps are tried and approved for fire call B2 after DIN 4102. Refering to Technische Universität braunschweig, Germany, Report no. 3207/8950-a-Fe/wi.

#### **EASY TO ASSEMBLE**

TOPO caps are made to easily adapt with a saw or knife. The adaptation is necessary for many older installations, where the distance between pipe and wall is not prepared for insulation.

TOPO caps are a standard program that fits most valves. If there is a need for an insulation cap that is not found in our standard program, Tinby can execute to job from idea to finished product.

- High insulation capacity with a low wall thickness.
- Easy to assemble and disassemble on both new and pre existing installations.
- Can be reused.
- Can be assembled to make the insulation diffusion thight (the installation is protected against condensation and corrosion).
- Can be used in narrow spaces, because of the ability to split and adapt the cap using few tools.
- They are developed to make sure valves can be changed without damaging the surrounding insulation.
- Fire Class B2 according to DIN 4102.
- Can handle most acids and is not attacked by rot, fungus or mildew.
- Does not draw moisture and as opposed to mineral wool it is not diathermic.
- The caps are coated with a plastic film on the outside.







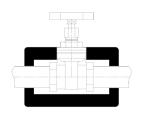


# TYPE OVERVIEW WITH SOCKET CONNECTION

Serie GVM (p. 23) for gate valves, straight seat valves and check valves with socket connection

Serie HCM (p. 19) for TA rotary seat valves in sleeve design

Serie HSG (p. 20) Kemper Mulitherm, Heimeier-Stra-to and Heimeier-Vario

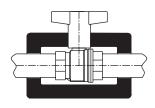


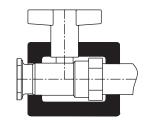


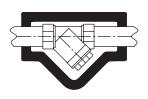
Serie KHM (p. 21) for ball valves with socket connection

Serie PKH (p. 22) for pump ball valves

Serie SFM p. 25) Strainers and check valves in sleeve design



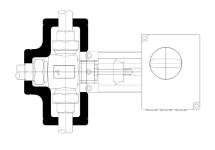


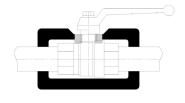


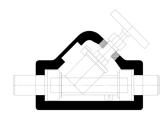
Serie DWM (p. 24) til trevejsventiler med muffetilslutning

Serie UKM (p. 18) for all common ball valves

Serie USV (p. 18) all common angle seat valves



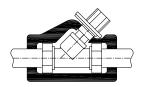




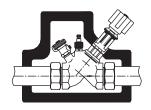
Serie SVK (p. 16) for angle seat valve MNG-Kombi II and III

Serie SVM ps. 15) for valves with angularly seated spindle and socket connection

Serie OMG (p. 17) for Oventrop Hydrocontrol with socket connection



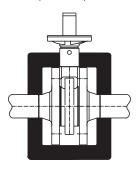




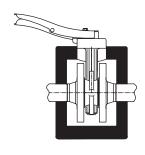


# TYPE OVERVIEW WITH FLANGE CONNECTION

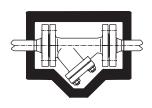
Serie BSC (p. 26) for KSB Boa Super Compact



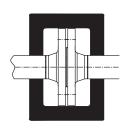
Serie FKL (p. 29) for butterfly valves, flap check valves and compensators



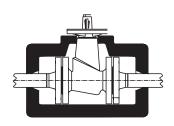
Serie SVF (p. 32) for strainers, angle seat and freeflow valves with flange connection



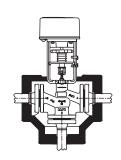
Serie FPA (p. 27) for bottle pairs and blind flanges



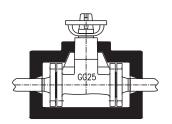
Serie FVK (p. 30) for short ball, diaphragm, straight seat and flange valves to DIN length F4



Serie DWV (p. 28) for three-way control valves with flanged connection



Serie FVL (p. 31) for long ball, diaphragm, straight seat and flange valves to DIN length F1



# VALVE OVERVIEW

ABA BEUL		Type
, to t be de	Piston valve with threaded connection	GVM
	Regulating valve with threaded connection	SVK
ARI		
	Shut-off valve Euro Wedi, FTF 1 Shut-off valve Euro Wedi, AGV 14 Shut-off valve FABA-Plus, FTF 1 Line regulating valve Astra, FTF 1 Check valve with flange connection Dirt trap with flange connection Disc check valve CHECKO-D Butterfly valve type ZESA Butterfly valve type GESA	FVL FVK FVL SVF SVF FKL FKL
Bender		
	Straight seat valve with threaded connection Angle seat valve with threaded connection Strainer with threaded connection Ball valve with threaded connection Piston spool with threaded connection	GVM USV SFM UKM GVM
Böhmer		
	Ball valve with threaded connection	UKM
Broen		
	Ball valve with threaded connection	UKM
Bruse		
	Angle seat valve with threaded connection Ball valve with threaded connection	USV UKM
DANFOSS		
	Control valve Three-way flange Control valve two-way flange Control valve Three-way sleeve Control valve white way sleeve Dirt trap with flange connection String valves with threaded connection	DWV FVL DWM GVM SVF HCM
DURAMAR		
	Ball valve with threaded connection Angle seat valve with threaded connection Sleeve slide, check valve Pump slide with threaded connection	UKM USV GVM PKH
EBRO Armaturen		
	Butterfly valve type Z 011 Check valve type RSK Backflow barrier type RV 10	FKL FKL SVF
FROMME Armaturen		
	Wedge flat slide, FTF 14 Through valve, FTF 1 Strainer	FVK FVL SVF
G-Bee		

	Ball valve with threaded connection	UKM
GEFA		
	Butterfly valves Ball valve with threaded connection	FKL KHM
GESTRA		
	Gravity circulation DISCO check valve Strainer with threaded connection Dirt catcher with flange connection Intermediate flange Strainer SZ Shut-off valves GAV	FKL FKL SFM SVF FKL FVL
GIACOMINI		
	Ball valve with threaded connection Gate valve Strainer with threaded connection Check valve with threaded connection	UKM GVM SFM SFM
HERMANN SCHMIDT		
	Gate valve Angle seat valve with threaded connection Check valve with threaded connection Strainer with threaded connection Ball valve with threaded connection	GVM USV SFM SFM UKM
HONEYWELL	Dali valve with threated connection	OKIVI
	Strainer with threaded connection Dirt trap with flange connection Free-flow valve Alwa Throttle valve Alwa-Kombi-4 MNG KOMBI III Plus MNG KOMBI III (without emptying) Line regulating and shut-off valve Kombi-F Ring throttle Centra through valve flange Centra three-way mixer with sleeve Centra three-way mixer with flange Centra three-way valve flange Centra three-way valve flange Centra three-way valve flange Centra three-way valve thread	SFM SVF USV SVK SVK SVK FVL FKL FVL GVM DWM DWV DWV DWW
IMT		
	Ball valve with threaded connection Strainer with threaded connection Check valve with threaded connection	UKM SFM SFM
JRG Gunzenhauser		
	Gate valve Ball valve with threaded connection Angle seat valve with threaded connection	GVM UKM USV
KEMPER		
	Flange fittings, FTF1 Angle seat valve with flange connection Sleeves straight seat Multi-Therm Circulation Control Valve Combined backflow preventer Multi-Fix Circulation Control Valve Angle seat valve without draining Angle seat valve with drain Strainer with threaded connection	FVL SVF GVM HSG SVM SVK USV OMG SFM



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# VALVE OVERVIEW

KIEBACK+PETER		
	3-way valve with flange connection 2-way valve with flange connection 3-way valve with threaded connection 2-way valve with threaded connection	DWV FVL DWM GVM
KLINGER		
	Kugelhahn mit Gewindeanschluss Kolbenschieberventil, FTF1	UKM FVL
KSB		
	Control valve BOA-Control SAR Shut-off valve BOA-Super-Compact Shut-off valve BOA-Compact, FTF14 Shut-off valve BOA-Compact IMS, FTF14	HCM BSC FVK FVK
	Shut-off valve BOA-W, FTF1 Shut-off valve BOA-H, FTF1 Diaphragm valve Sisto, FTF1 Butterfly valve BOAX-S Strainer BOA-S Check valve BOA-R Check valve BOA-RVK	FVL FVL FKL SVF SVF FKL
LANDIS & STAEFA		
	3-way valve with flange connection 2-way valve with flange connection 3-way valve with threaded connection 2-way valve with threaded connection	DWV FVL DWM GVM
LUDEMANN		
	Strainer with flange connection Ball valve with threaded connection	SVF UKM
OVENTROP		
	Line regulating valve Hydrocontrol Flange control valve Hydrocontrol	OMG SVF
	Balancing valve Hycocon Differential pressure regulator Hydromat	HSG auf Anfrage
	Ball valve with threaded connection Straight seat valve with threaded connection	UKM GVM
	Angle seat valve with threaded connection	USV
	Butterfly valve center flange version Butterfly valve intermediate construction version	FKL FKL
	Check valve with threaded connection Check valve with flange connection check valve Intermediate version Strainer with flange	SFM SVF FKL SVF
	connection Strainer with threaded connection Aquastrom free-flow valves Aquastrom free-flow valves with flangee	SFM OMG SVF
ROSSWEINER		
	Piston valve with threaded connection Circulation valve with threaded	GVM SVK
	connection	
SAUTER	connection	
SAUTER	Connection  Throttle intermediate construction version	FKL

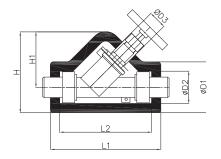
SCHLÖSSER		
	Free-flow valve with threaded connection	USV
	Non-return valve with threaded	SFM
	connection	
SCHMIEDING Armaturen		
	Angle seat valve with threaded	USV
	connection Ball valve with threaded connection	UKM
	Piston spool with threaded connection	GVM FKI
SCHUBERT+SALZER	Butterfly valve type ECLI	FKL
SCHOBERTISALEER	Angle seat valve with threaded	USV
	connection	037
	3-way valve with threaded connection Angle seat check valve	DWM SFM
	Strainer with threaded connection	SFM
SEPPELFRICKE		
	Angle seat valve with threaded	SVK
	connection Ball valve with threaded connection	UKM
	Straight seat valve with threaded	GVM
	connection Backflow preventer	SFM
	Circulation valve	SFM
SFERATEC		
	Ball valve with threaded connection	UKM
	Sleeve slide with threaded connection 3-way valve with threaded connection	GVM DWM
Samson		
	3-way valve with flange connection	DWV
	2-way valve with flange connection Butterfly valve intermediate	FVL FKI
	construction version	TINE
TA HEIMEIER		
	Line regulating valve STAD / STAD-C /	HCM
	STAD-R Zone control valve TBV-C	SVK
	3-way valve with threaded connection	DWM
	2-way valve with threaded connection Shut-off valve STS	GVM HCM
	Ball valve Globo H	KHM
TACONOVA	Pump ball valve Globo P + PS	PKH
TACONOVA	Ralancing valves Sloove version	SFM
	Balancing valves Sleeve version Balancing valves Flange design	SFIM SVF
	3-way valve with threaded connection	DWM
Viega		
	Angle seat valve with threaded connection Circulation regulating valve	USV HSG
	Ball valve with threaded connection	UKM
Wiesa		
	Ball valve with threaded connection	UKM
	Muff gate valve Muff strainer	GVM SFM
	Muff kickback door	SFM
	butterfly valve	FKL



For the definition of the drainage hole of our Energy Box Emptying left in the direction of flow When emptying on the left, please tick here Emptying left Emptying in the middle in the flow direction When emptying in the middle, please tick here Emptying in the middle Emptying right in the direction of flow When emptying right, please tick here Emptying right

The existing drain hole can be determined on site and tick here in this form and fax us. Then we will choose the right insulation cap for you.





**ALU-SURFACE** 

#### Valves Makes / manufacturers

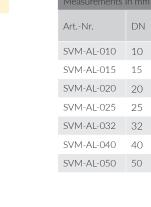
Free-flow valve alwa Free flow angle seat valve Angle Seat Valve

Free-flow valve, angle seat valve

MNG Kemper Oventrop Seppelfricke

#### Specification text Aluminum SURFACE - Energy Box, Alu

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series SVM for valves with inclined spindle and check valves with socket connection. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.



Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	Н1	Weight (g)	Price in EURO
SVM-AL-010	10	3/8"	104	80	54	30	22	81	54	90	31,10
SVM-AL-015	15	1/2"	138	114	61	37	22	98	69	105	32,00
SVM-AL-020	20	3/4"	155	125	77	47	29	121	82	115	32,40
SVM-AL-025	25	1"	178	148	82	52	29	131	90	135	36,90
SVM-AL-032	32	1 1/4"	202	162	104	64	29	160	105	190	40,40
SVM-AL-040	40	1 ½"	224	174	120	70	29	186	125	280	43,80
SVM-AL-050	50	2"	248	188	141	82	29	223	153	480	50,00

Dimension D3 is adjusted depending on the valve

#### Tender specification PS SURFACE - Energy Box, PS

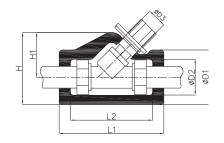
Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series SVM for valves with inclined spindle and check valves with socket connection. According to the EnEV, consisting of two PUR half-shells, which are covered with PS foil and fixed with straps.



Measurements	in mm										
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	Н1	Weight (g)	Price in EURO
SVM-PS-010	10	3/8"	104	80	54	30	22	81	54	90	24,60
SVM-PS-015	15	1/2"	138	114	61	37	22	98	69	105	25,10
SVM-PS-020	20	3/4"	155	125	77	47	29	121	82	115	26,30
SVM-PS-025	25	1"	178	148	82	52	29	131	90	135	29,70
SVM-PS-032	32	1 1/4"	202	162	104	64	29	160	105	190	32,40
SVM-PS-040	40	1 ½"	224	174	120	70	29	186	125	280	36,50
SVM-PS-050	50	2"	248	188	141	82	29	223	153	480	41,00



# SERIE SVK



#### Valves Makes / manufacturers

Angle seat valve Kombi II + III Regulating valve Circulation regulating valve

Circulation valve Angle Seat Valve MNG ABA Beul Kemper Rossweiner Seppelfricke

#### Specification text Aluminum SURFACE, ALU SVK

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series SVK for angle seat valve MNG Kombi II and Kombi III. In accordance with the EnEV, consisting of two PUR half-shells, which are coated with aluminum coarse grain sheet metal and fixed with straps.

#### **ALU-SURFACE**



Measurements	in mm										
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	H1	Weight (g)	Price in EURO
SVK-AL-010	10	3/8"	120	96	57	33	32	77	47	85	*
SVK-AL-015	15	1/2"	130	104	62	38	32	91	58	105	*
SVK-AL-020	20	3/4"	139	113	71	45	32	104	67	115	*
SVK-AL-025	25	1"	163	128	85	56	32	112	69	120	*
SVK-AL-032	32	1 1/4"	184	147	99	59	40	137	86	135	*
SVK-AL-040	40	1 ½"	200	160	109	69	40	146	88	155	*
SVK-AL-050	50	2"	240	190	140	90	40	187	113	230	*

Dimension D3 is adjusted depending on the valve

#### Tender specification PS SURFACE, PS SVK

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series SVK for angle seat valve MNG Kombi II and Kombi III. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

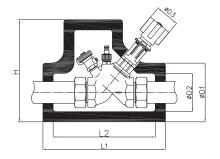
#### **PS-SURFACE**



Measurements	in mm										
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	Н1	Weight (g)	Price in EURO
SVK-PS-010	10	3/8"	120	96	57	33	32	77	47	85	24,60
SVK-PS-015	15	1/2"	130	104	62	38	32	91	58	105	25,10
SVK-PS-020	20	3/4"	139	113	71	45	32	104	67	115	26,30
SVK-PS-025	25	1"	163	128	85	56	32	112	69	120	29,70
SVK-PS-032	32	1 1/4"	184	147	99	59	40	137	86	135	32,40
SVK-PS-040	40	1 ½"	200	160	109	69	40	146	88	155	36,50
SVK-PS-050	50	2"	240	190	140	90	40	187	113	230	41,00



<sup>\*</sup> Price upon request



Valves Makes / manufacturers

Balancing valve Hydrocontrol Oventrop
Aquastrom Free-flow valve Oventrop
Alu ALWA K + ALWA KFR MNG

#### Specification text Aluminum SURFACE, Alu OMG

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series OMG for Oven-trop Hydrocontrol in sleeve design. In accordance with the EnEV, consisting of two PUR half-chalices encased in aluminum coarse grain sheet metal and fixed with straps.

Measurements	in mm									
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO
OMG-AL-010	10	3/8"	180	155	70	46	-	145	90	*
OMG-AL-015	15	1/2"	180	155	70	46	-	145	90	*
OMG-AL-020	20	3/4"	200	170	85	55	-	156	125	*
OMG-AL-025	25	1"	200	170	85	55	-	156	125	*
OMG-AL-032	32	1 1/4"	240	200	115	75	-	200	150	*
OMG-AL-040	40	1 ½"	250	205	135	75	-	210	190	*
OMG-AL-050	50	2"	265	210	150	90	-	245	210	*
OMG-AL-065	65	2 ½"	280	220	175	105	-	255	270	*

Dimension D3 is adjusted depending on the valve

#### Tender specification PS SURFACE, PS OMG

Energy Box, PS for insulation in the range up to  $\pm 130$  degrees Celsius of the OMG series for Oven-trop Hydrocontrol in sleeve design. According to the EnEV, consisting of two PUR half-shells, which are covered with PS foil and fixed with straps.

#### Measurements in mm Weight Price in In-DN L2 D1 Art.-Nr. L1 D2 Н EURO ches (g) OMG-PS-010 10 3/8" 180 155 70 46 145 90 27,50 OMG-PS-015 15 1/2" 180 155 70 46 145 90 28,50 OMG-PS-020 20 3/4" 200 170 85 55 156 125 28,50 OMG-PS-025 25 200 85 156 125 32.70 1" 170 55 OMG-PS-032 32 1 1/4" 240 200 115 75 200 150 35.00 OMG-PS-040 40 210 190 38,00 1 ½" 250 205 135 75 OMG-PS-050 50 265 210 150 90 245 210 41,70 OMG-PS-065 2 ½" 280 220 175 105 255 270 55,40

Dimension D3 is adjusted depending on the valve

#### **ALU-SURFACE**

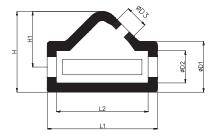


#### **PS-SURFACE**



<sup>\*</sup> Price upon request

# SERIE USV



Valves Makes / manufacturers

All common angle seat valves

#### Tender specification PS SURFACE, PS USV

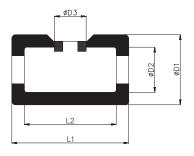
Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series UPS for all common valves with angularly arranged spindle and drains with socket connection. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

#### PS-SURFACE



Measurements	in mm										
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	H1	Weight (g)	Price in EURO
USV-PS-010	10	3/8"	104	80	54	30	22	81	54	90	27,50
USV-PS-015	15	1/2"	138	114	61	37	22	98	69	105	28,50
USV-PS-020	20	3/4"	155	125	77	47	29	121	82	115	28,50
USV-PS-025	25	1"	178	148	82	52	29	131	90	135	28,50
USV-PS-032	32	1 1/4"	202	162	104	64	29	160	105	190	32,70
USV-PS-040	40	1 ½"	224	174	120	70	29	186	125	280	38,00
USV-PS-050	50	2"	248	188	141	82	29	223	153	480	41,70

# SERIE UKM



Valves Makes / manufacturers

Dimension D3 is adjusted depending on the valve

All common ball valves with socket connection

#### Tender specification PS SURFACE, PS UKM

Specification text Aluminum SURFACE - Energy Box, PS
Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series
UKM for all common ball valves with socket connection. According to the EnEV,
consisting of two PUR half-shells, which are covered with PS foil and fixed with straps.

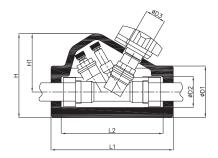
#### PS-SURFACE



Measurements	in mm								
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Weight (g)	Price in EURO
UKM-PS-010	10	3/8"	101	77	54	30	29	50	24,60
UKM-PS-015	15	1/2"	121	97	62	38	29	65	25,10
UKM-PS-020	20	3/4"	139	109	74	44	29	90	26,30
UKM-PS-025	25	1"	155	125	85	55	29	115	29,70
UKM-PS-032	32	1 1/4"	209	169	106	66	29	135	32,40
UKM-PS-040	40	1 ½"	185	135	125	75	35	125	36,50
UKM-PS-050	50	2"	220	160	156	96	35	290	41,00



# SERIE HCM



#### Valves

Line regulating valves STS, STAD, STAM, STAP Threaded rope valves Control valve BOA-Control SAR

#### Makes / manufacturers

TA Heimeier Danfoss KSB

#### **ALU-SURFACE**



#### Specification text Aluminum SURFACE, Alu HCM

Energy Box, aluminum for insulation in the range up to  $\pm 130$  degrees Celsius of the HCM series for TA-ST regulating valves in sleeve design. In accordance with the EnEV, consisting of two PUR half-chalices encased in aluminum coarse grain sheet metal and fixed with straps.

Measurements	in mm											
ArtNr.	DN	IIn- hes	L1	L2	D1	D2	D3	В	Н	Н1	Weight (g)	Price in EURO
HCM-AL-010	10	3/8"	180	150	76	46	29	116	124	85	90	*
HCM-AL-015	15	1/2"	180	150	76	46	29	116	124	85	90	*
HCM-AL-020	20	3/4"	180	150	76	46	29	116	124	85	90	*
HCM-AL-025	25	1"	200	170	84	54	29	126	136	94	125	*
HCM-AL-032	32	1 1/4"	230	190	99	59	29	135	153	103	150	*
HCM-AL-040	40	1 ½"	250	205	122	72	29	143	179	118	190	*
HCM-AL-050	50	2"	291	241	125	95	29	166	178	116	210	*

Dimension D3 is adjusted depending on the valve

#### PS-SURFACE



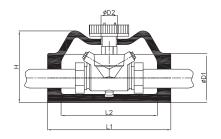
#### Tender specification PS SURFACE, PS HCM

Energy Box, PS for insulation in the range up to  $\pm 130$  degrees Celsius of the HCM series for TA-ST regulating valves in sleeve design. According to the EnEV, consisting of two PUR half-shells, which are covered with PS foil and fixed with straps.

Measurements	in mm	1										
ArtNr.	DN	IIn- hes	L1	L2	D1	D2	D3	В	Н	Н1	Weight (g)	Price in EURO
HCM-PS-010	10	3/8"	180	150	76	46	29	116	124	85	90	27,50
HCM-PS-015	15	1/2"	180	150	76	46	29	116	124	85	90	28,50
HCM-PS-020	20	3/4"	180	150	76	46	29	116	124	85	90	28,50
HCM-PS-025	25	1"	200	170	84	54	29	126	136	94	125	32,70
HCM-PS-032	32	1 1/4"	230	190	99	59	29	135	153	103	150	35,00
HCM-PS-040	40	1 ½"	250	205	122	72	29	143	179	118	190	38,00
HCM-PS-050	50	2"	291	241	125	95	29	166	178	116	210	41,70



<sup>\*</sup>Price upon request



#### Valves Makes / manufacturers

Multi-Therm Circulation Valve
Flow Control Valve Hycocon
Circulation Control Valve

Kemper Oventrop Viega

#### Specification text Aluminum SURFACE, Alu HSG

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the HSG series for Kemper Multi-Therm. In accordance with the EnEV, consisting of two PUR half-shells encased with aluminum coarse grain sheet metal and fixed with straps.

#### ALU- SURFACE



Measurements	in mm									
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO
HSG-AL-010	10	3/8"	220	190	73	27	-	113	140	*
HSG-AL-015	15	1/2"	220	190	73	27	-	113	140	*
HSG-AL-020	20	3/4"	220	190	73	27	-	113	140	*
HSG-AL-025	25	1"	220	172	88	27	-	128	140	*
HSG-AL-032	32	1 1/4"	228	182	105	29	-	138	180	*
HSG-AL-040	40	1 ½"	241	197	122	29	-	152	240	*
HSG-AL-050	50	2"	247	197	148	29	-	178	240	*

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, PS HSG

Energy Box, PS for insulation up to +130 degrees Celsius of the HSG series for Kemper Multi-Therm. In accordance with the EnEV consisting of two PUR half-shells, which are jacketed with PS foil and fixed with straps.

#### **PS-SURFACE**

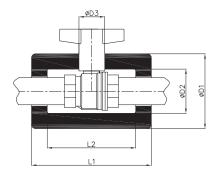


Measurements in n	nm									
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO
HSG-PS-010	10	3/8"	220	190	73	27	-	113	140	28,80
HSG-PS-015	15	1/2"	220	190	73	27	-	113	140	28,80
HSG-PS-020	20	3/4"	220	190	73	27	-	113	140	28,80
HSG-PS-025	25	1"	220	172	88	27	-	128	140	32,90
HSG-PS-032	32	1 1/4"	228	182	105	29	-	138	180	35,60
HSG-PS-040	40	1 ½"	241	197	122	29	-	152	240	40,10
HSG-PS-050	50	2"	247	197	148	29	-	178	240	44,60



<sup>\*</sup>Price upon request

# SERIE KHM



Valves	Makes / manufacturers
Ball valve, Globo H	Heimeier
Ball valve, Optibal	Oventrop

#### Specification text Aluminum surface, Alu KHM

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series KHM for heating ball valves with socket connection. In accordance with the EnEV, consisting of two PUR half-shells, which are coated with aluminum coarse grain sheet metal and fixed with straps.

Measurements	in mm								
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Weight (g)	Price EURC
KHM-AL-010	10	3/8"	101	77	54	30	29	50	*
KHM-AL-015	15	1/2"	121	97	62	38	29	65	*
KHM-AL-020	20	3/4"	139	109	74	44	29	90	*
KHM-AL-025	25	1"	155	125	85	55	29	115	*
KHM-AL-032	32	1 1/4"	209	169	106	66	29	135	*
KHM-AL-040	40	1 ½"	185	135	125	75	35	125	*
KHM-AL-050	50	2"	220	160	156	96	35	290	*

Dimension D3 is ad	justed depending o	on the valve
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<sup>\*</sup>Price upon request

#### **ALU-SURFACE**



#### Tender specification PS surface, PS KHM

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series KHM for heating ball valves with socket connection. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

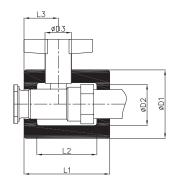
Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Weight (g)	Price in EURO		
KHM-PS-010	10	3/8"	101	77	54	30	29	50	17,40		
KHM-PS-015	15	1/2"	121	97	62	38	29	65	17,90		
KHM-PS-020	20	3/4"	139	109	74	44	29	90	18,80		
KHM-PS-025	25	1"	155	125	85	55	29	115	21,20		
KHM-PS-032	32	1 1/4"	209	169	106	66	29	135	25,50		
KHM-PS-040	40	1 ½"	185	135	125	75	35	125	30,60		
KHM-PS-050	50	2"	220	160	156	96	35	290	36,80		

Dimension D3 is adjusted depending on the valve

#### PS-SURFACE







Valves	Makes / manufacturers
Pump ball valve Globo-P	Heimeier
Pump ball valve	Oventrop

#### Specification text Aluminum surface, Alu PKH

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of series PKH for pump-ball valves. In accordance with the EnEV, consisting of two PUR half-shells encased with aluminum coarse grain sheet metal and fixed with straps.

#### Measurements in mm Weight Price in DN L1 L2 L3 D1 D2 D3 Art.-Nr. Inches (g) EURO PKH-AL-025 25/25 1 x 1" 100 70 37 80 50 29 70 PKH-AL-031 32/25 1 1/4 x 1" 110 80 45 102 62 29 75 PKH-AL-032 32/32 1 1/4 x 1 1/4" 110 45 102 62 29

Dimension [	D3 is	adjusted	depending	on	the	valve
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<sup>\*</sup>Price upon request

#### ALU-SURFACE



#### Tender specification PS surface, PS PKH

Energy Box, PS for insulation in the range up to +130 degrees Celsius of series PKH for pump-ball valves. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

Measurements in mm												
ArtNr.	DN	Inches	L1	L2	L3	D1	D2	D3	Weight (g)	Price in EURO		
PKH-PS-025	25/25	1 x 1"	100	70	37	80	50	29	70	18,80		
PKH-PS-031	32/25	1 ¼ × 1"	110	80	45	102	62	29	75	21,20		
PKH-PS-032	32/32	1 ¼ × 1 ¼"	110	80	45	102	62	29	75	25,40		

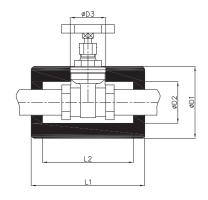
Dimension D3 is adjusted depending on the valve

#### PS-SURFACE





# SERIE GVM



#### Valves Makes / manufacturers

Piston valves with thread ABA Beul Straight seat valves & piston valves with thread Bender two-way control valve Danfoss Gate valve Duramar

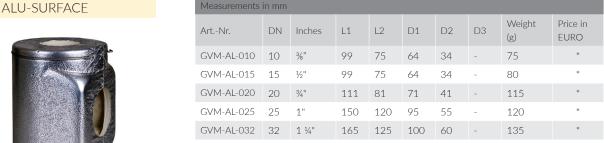
and all manufacturers to DIN length

#### Specification text Aluminum surface, Alu GVM

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the GVM series for gate valves, straight seat valves and non-return caps with socket connection. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Weight (g)	Price in EURO		
GVM-AL-010	10	3/8"	99	75	64	34	-	75	*		
GVM-AL-015	15	1/2"	99	75	64	34	-	80	*		
GVM-AL-020	20	3/4"	111	81	71	41	-	115	*		
GVM-AL-025	25	1"	150	120	95	55	-	120	*		
GVM-AL-032	32	1 1/4"	165	125	100	60	-	135	*		
GVM-AL-040	40	1 ½"	180	130	115	65	-	160	*		
GVM-AL-050	50	2"	215	155	150	90	-	300	*		

Dimension D3 is adjusted depending on the val	ve
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\*Price upon request

#### Tender specification PS surface, PS GVM

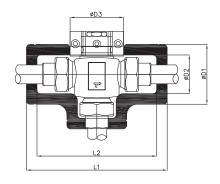
Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series GVM series for gate valves, straight seat valves and check caps with socket connection. According to the EnEV, consisting of two PUR half-shells, which are covered with PS foil and fixed with straps.

#### **PS-SURFACE**



Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Weight (g)	Price in EURO		
GVM-PS-010	10	3/8"	101	77	54	30	-	50	24,60		
GVM-PS-015	15	1/2"	121	97	62	38	-	65	25,10		
GVM-PS-020	20	3/4"	139	109	74	44	-	90	26,30		
GVM-PS-025	25	1"	155	125	85	55	-	115	29,70		
GVM-PS-032	32	1 1/4"	209	169	106	66	-	135	32,40		
GVM-PS-040	40	1 ½"	185	135	125	75	-	125	36,50		
GVM-PS-050	50	2"	220	160	156	96	-	290	41,00		





Valves Makes / manufacturers

For all common three-way valves with threaded connection

#### Specification text Aluminum surface, DWM

Energy Box, aluminum for insulation in the range up to  $\pm 130$  degrees Celsius of the series DWM for three-way valves with socket connection. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

ArtNr.         DN         Inches         L1         L2         D1         D2         D3         Weight (g)         Price in EURO           DWM-AL-010         10         %"         101         77         54         30         29         50         35,60           DWM-AL-015         15         ½"         121         97         62         38         29         65         35,90           DWM-AL-020         20         ¾"         139         109         74         44         29         90         36,30           DWM-AL-025         25         1"         155         125         85         55         29         115         40,40           DWM-AL-032         32         1 ¼"         209         169         106         66         29         135         44,00           DWM-AL-040         40         1 ½"         185         135         125         75         35         125         46,20	Measurements	in mm								
DWM-AL-015       15       ½"       121       97       62       38       29       65       35,90         DWM-AL-020       20       ¾"       139       109       74       44       29       90       36,30         DWM-AL-025       25       1"       155       125       85       55       29       115       40,40         DWM-AL-032       32       1 ¼"       209       169       106       66       29       135       44,00         DWM-AL-040       40       1 ½"       185       135       125       75       35       125       46,20	ArtNr.	DN	Inches	L1	L2	D1	D2	D3		
DWM-AL-020       20       ¾"       139       109       74       44       29       90       36,30         DWM-AL-025       25       1"       155       125       85       55       29       115       40,40         DWM-AL-032       32       1 ¼"       209       169       106       66       29       135       44,00         DWM-AL-040       40       1 ½"       185       135       125       75       35       125       46,20	DWM-AL-010	10	3/8"	101	77	54	30	29	50	35,60
DWM-AL-025       25       1"       155       125       85       55       29       115       40,40         DWM-AL-032       32       1 ¼"       209       169       106       66       29       135       44,00         DWM-AL-040       40       1 ½"       185       135       125       75       35       125       46,20	DWM-AL-015	15	1/2"	121	97	62	38	29	65	35,90
DWM-AL-032 32 1 ½" 209 169 106 66 29 135 44,00 DWM-AL-040 40 1 ½" 185 135 125 75 35 125 46,20	DWM-AL-020	20	3/4"	139	109	74	44	29	90	36,30
DWM-AL-040 40 1½" 185 135 125 75 35 125 46,20	DWM-AL-025	25	1"	155	125	85	55	29	115	40,40
	DWM-AL-032	32	1 1/4"	209	169	106	66	29	135	44,00
DANA AL 050 50 OIL 000 470 457 07 05 000 5040	DWM-AL-040	40	1 ½"	185	135	125	75	35	125	46,20
DWM-AL-050 50 2" 220 160 156 96 35 290 53,10	DWM-AL-050	50	2"	220	160	156	96	35	290	53,10

Dimension D3 is adjusted depending on the valve

#### **ALU-SURFACE**



#### Tender specification PS surface, DWM

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series DWM for three-way valves with socket connection. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

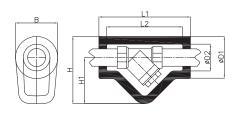
Measurements	Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Weight (g)	Price in EURO			
DWM-PS-010	10	3/8"	101	77	54	30	29	50	28,80			
DWM-PS-015	15	1/2"	121	97	62	38	29	65	28,80			
DWM-PS-020	20	3/4"	139	109	74	44	29	90	28,80			
DWM-PS-025	25	1"	155	125	85	55	29	115	32,90			
DWM-PS-032	32	1 1/4"	209	169	106	66	29	135	35,60			
DWM-PS-040	40	1 ½"	185	135	125	75	35	125	40,10			
DWM-PS-050	50	2"	220	160	156	96	35	290	44,60			

Dimension D3 is adjusted depending on the valve

#### PS-SURFACE







Valves Makes / manufacturers

#### Specification text Aluminum surface, SFM

For all common strainers with threaded connection

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series SFM for mudguard in sleeve design. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

#### **ALU-SURFACE**



Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	В	Н	Н1	Weight (g)	Price in EURO
SFM-AL-010	10	3/8"	104	80	54	30	54	81	54	95	*
SFM-AL-015	15	1/2"	138	114	61	37	61	98	69	105	*
SFM-AL-020	20	3/4"	155	125	77	47	77	121	82	160	*
SFM-AL-025	25	1"	178	148	82	52	82	131	90	220	*
SFM-AL-032	32	1 1/4"	202	162	104	64	104	160	105	250	*
SFM-AL-040	40	1 ½"	224	174	120	70	120	186	125	300	*
SFM-AL-050	50	2"	248	188	141	82	141	223	153	500	*

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, PS SFM

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series SFM for dirt trap in sleeve design. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

#### PS-SURFACE



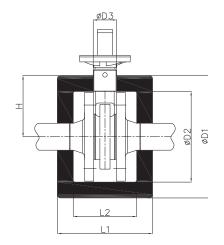
Measurements	Measurements in mm											
ArtNr.	DN	In- ches	L1	L2	D1	D2	В	Н	Н1	Weight (g)	Price in EURO	
SFM-PS-010	10	3/8"	104	80	54	30	54	81	54	95	24,60	
SFM-PS-015	15	1/2"	138	114	61	37	61	98	69	105	25,10	
SFM-PS-020	20	3/4"	155	125	77	47	77	121	82	160	26,30	
SFM-PS-025	25	1"	178	148	82	52	82	131	90	220	29,70	
SFM-PS-032	32	1 1/4"	202	162	104	64	104	160	105	250	32,40	
SFM-PS-040	40	1 ½"	224	174	120	70	120	186	125	300	36,50	
SFM-PS-050	50	2"	248	188	141	82	141	223	153	500	41,00	



<sup>\*</sup>Price upon request

Makes / manufacturers

KSB



Specification text Aluminum surface, BSC

Valves

**BOA Super Compact** 

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series BSC for KSB - BOA Super Compact. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

Measurement	Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO		
BSC-AL-015	15	1/2"	140	100	156	116	35	78	205	*		
BSC-AL-020	20	3/4"	140	100	156	116	35	78	205	*		
BSC-AL-025	25	1"	140	100	163	123	35	82	215	*		
BSC-AL-032	32	1 1/4"	165	115	193	143	35	97	410	*		
BSC-AL-040	40	1 ½"	175	125	208	158	35	104	420	*		
BSC-AL-050	50	2"	195	145	224	174	46	112	570	*		
BSC-AL-065	65	2 ½"	220	160	254	194	48	127	590	*		
BSC-AL-080	80	3"	265	185	292	212	54	146	830	*		
BSC-AL-100	100	4"	300	210	317	227	64	159	870	*		
BSC-AL-125	125	5"	340	240	355	255	83	178	980	*		
BSC-AL-150	150	6"	365	265	395	295	83	198	1150	*		

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, BSC

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series BSC for KSB - BOA Super Compact. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

Measurements	in mm									
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO
BSC-PS-015	15	1/2"	140	100	156	116	35	78	205	53,00
BSC-PS-020	20	3/4"	140	100	156	116	35	78	205	55,10
BSC-PS-025	25	1"	140	100	163	123	35	82	215	56,60
BSC-PS-032	32	1 1/4"	165	115	193	143	35	97	410	66,90
BSC-PS-040	40	1 ½"	175	125	208	158	35	104	420	73,50
BSC-PS-050	50	2"	195	145	224	174	46	112	570	82,10
BSC-PS-065	65	2 ½"	220	160	254	194	48	127	590	96,30
BSC-PS-080	80	3"	265	185	292	212	54	146	830	112,10
BSC-PS-100	100	4"	300	210	317	227	64	159	870	128,10
BSC-PS-125	125	5"	340	240	355	255	83	178	980	145,50
BSC-PS-150	150	6"	365	265	395	295	83	198	1150	159,30

Dimension D3 is adjusted depending on the valve

#### ALU-SURFACE



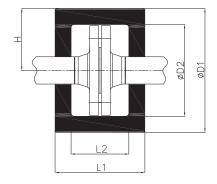
#### PS-SURFACE





<sup>\*</sup>Price upon request

# SERIE FPA



Valves Makes / manufacturers

Flanges couples Blind flanges

#### Specification text Aluminum surface, FPA

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the FPA series for flank pairs and blind flanges. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.



**ALU-SURFACE** 

Measurement	s in mm									
ArtNr.	VVS nr.	DN	Inches	L1	L2	D1	D2	Н	Weight (g)	Price in EURO
FPA-AL-015	499261004	15	1/2"	123	83	156	116	78	190	*
FPA-AL-020	499261006	20	3/4"	123	83	156	116	78	190	*
FPA-AL-025	499261008	25	1"	123	83	163	123	81,5	200	*
FPA-AL-032	499261010	32	1 1/4"	140	90	193	143	96,5	380	*
FPA-AL-040	499261011	40	1 ½"	144	94	208	158	104	395	*
FPA-AL-050	499261012	50	2"	150	100	224	174	112	405	*
FPA-AL-065	499261013	65	2 ½"	160	100	254	194	127	455	*
FPA-AL-080	499261014	80	3"	190	110	292	212	146	750	*
FPA-AL-100	499261016	100	4"	204	114	317	227	158	805	*
FPA-AL-125	499261017	125	5"	210	110	355	255	177	900	*
FPA-AL-150	499261018	150	6"	215	115	395	295	197	1000	*

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, FPA

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the FPA series for flank pairs and blind flanges. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

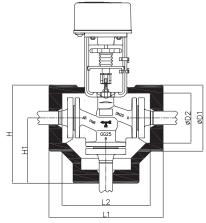


PS-SURFACE

Measurement	s in mm									
ArtNr.	VVS nr.	DN	Inches	L1	L2	D1	D2	Н	Weight (g)	Price in EURO
FPA-PS-015	499261104	15	1/2"	123	83	156	116	78	190	40,20
FPA-PS-020	499261106	20	3/4"	123	83	156	116	78	190	40,40
FPA-PS-025	499261108	25	1"	123	83	163	123	81,5	200	41,00
FPA-PS-032	499261110	32	1 1/4"	140	90	193	143	96,5	380	42,80
FPA-PS-040	499261111	40	1 ½"	144	94	208	158	104	395	47,00
FPA-PS-050	499261112	50	2"	150	100	224	174	112	405	51,30
FPA-PS-065	499261113	65	2 ½"	160	100	254	194	127	455	63,50
FPA-PS-080	499261114	80	3"	190	110	292	212	146	750	72,60
FPA-PS-100	499261116	100	4"	204	114	317	227	158	805	80,30
FPA-PS-125	499261117	125	5"	210	110	355	255	177	900	90,00
FPA-PS-150	499261118	150	6"	215	115	395	295	197	1000	101,30



<sup>\*</sup>Price upon request



# ALU-SURFACE



#### Valves Makes / manufacturers

Three-way flange control valve Danfoss
Three-way mixer with flange connection Honeywell
Three-way valve with flange connection Honeywell
Three-way valve with flange connection Kieback + Peter
Three-way valve with flange connection Landis & Staefa

#### Specification text Aluminum surface, DWV

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series DWV for three-way valves with flange connection. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

Measurements	in mm									
ArtNr.	DN	Inches	L1	L2	D1	D2	Н	H1	Weight (g)	Price in EURO
DWV-AL-015	15	1/2"	275	235	150	110	210	135	660	56,40
DWV-AL-020	20	3/4"	275	235	150	110	210	135	660	58,50
DWV-AL-025	25	1"	280	240	160	120	225	145	690	61,20
DWV-AL-032	32	1 1/4"	330	280	195	145	277	180	780	69,30
DWV-AL-040	40	1 ½"	345	295	205	155	282	180	790	73,40
DWV-AL-050	50	2"	390	330	232	172	306	190	1050	82,40
DWV-AL-065	65	2 ½"	475	405	272	192	351	215	1590	102,30
DWV-AL-080	80	3"	495	415	300	210	385	235	2902	122,40
DWV-AL-100	100	4"	550	470	327	227	408	245	2810	151,50
DWV-AL-125	125	5"	615	525	360	260	485	285	3210	182,60
DWV-AL-150	150	6"	695	595	390	290	515	320	3610	210,20

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, DWV

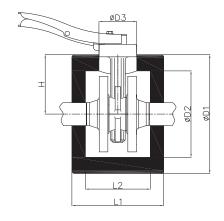
Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series DWV for three-way valves with flange connection. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

PS-SURFACE

Measurements in	n mm									
ArtNr.	DN	Inches	L1	L2	D1	D2	Н	H1	Weight (g)	Price in EURO
DWV-PS-015	15	1/2"	275	235	150	110	210	135	660	86,00
DWV-PS-020	20	3/4"	275	235	150	110	210	135	660	87,80
DWV-PS-025	25	1"	280	240	160	120	225	145	690	93,30
DWV-PS-032	32	1 ¼"	330	280	195	145	277	180	780	106,10
DWV-PS-040	40	1 ½"	345	295	205	155	282	180	790	120,50
DWV-PS-050	50	2"	390	330	232	172	306	190	1050	141,90
DWV-PS-065	65	2 ½"	475	405	272	192	351	215	1590	169,40
DWV-PS-080	80	3"	495	415	300	210	385	235	2902	207,00
DWV-PS-100	100	4"	550	470	327	227	408	245	2810	262,10
DWV-PS-125	125	5"	615	525	360	260	485	285	3210	306,20
DWV-PS-150	150	6"	695	595	390	290	515	320	3610	325,20



# SERIE FKL



Valves	Makes / manufacturers
Shut-off flap ZESA / GESA	Ari
Shut-off flap Z011	Ebro
Butterfly valves	GEFA
DISCO check valve	Gestra
Shut-off valve BoaX-S	KSB

#### Specification text Aluminum surface, FKL

Energy Box, aluminum for insulation in the range up to  $\pm 130$  degrees Celsius of the series FKL for shut-off valves, flap check valves and compensators. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with clamping straps.

Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO	
FKL-AL-015	15	1/2"	140	100	156	116	38	78	205	50,00	
FKL-AL-020	20	3/4"	140	100	156	116	38	78	205	51,80	
FKL-AL-025	25	1"	140	100	163	123	38	81,5	215	55,50	
FKL-AL-032	32	1 1/4"	150	100	193	143	38	96,5	410	59,60	
FKL-AL-040	40	1 ½"	150	100	208	158	38	104	415	62,90	
FKL-AL-050	50	2"	160	110	224	174	38	112	550	67,10	
FKL-AL-065	65	2 ½"	179	119	254	194	41	127	570	74,60	
FKL-AL-080	80	3"	215	135	292	212	51	146	810	90,60	
FKL-AL-100	100	4"	230	140	317	227	51	158	835	107,40	
FKL-AL-125	125	5"	260	160	355	225	92	177,5	940	122,90	
FKL-AL-150	150	6"	260	160	395	295	92	197,5	1090	130,20	

Dimension D3 is adjusted depending on the valve

# ALU-SURFACE



#### Tender specification PS surface, FKL

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series FKL for shut-off valves, flap check valves and compensators. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

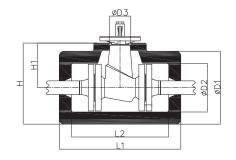
Measurement	s in mm									
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	Weight (g)	Price in EURO
FKL-PS-015	15	1/2"	140	100	156	116	38	78	205	41,00
FKL-PS-020	20	3/4"	140	100	156	116	38	78	205	41,70
FKL-PS-025	25	1"	140	100	163	123	38	81,5	215	47,00
FKL-PS-032	32	1 1/4"	150	100	193	143	38	96,5	410	53,00
FKL-PS-040	40	1 ½"	150	100	208	158	38	104	415	63,00
FKL-PS-050	50	2"	160	110	224	174	38	112	550	68,60
FKL-PS-065	65	2 ½"	179	119	254	194	41	127	570	77,10
FKL-PS-080	80	3"	215	135	292	212	51	146	810	89,60
FKL-PS-100	100	4"	230	140	317	227	51	158	835	99,20
FKL-PS-125	125	5"	260	160	355	225	92	177,5	940	119,40
FKL-PS-150	150	6"	260	160	395	295	92	197,5	1090	144,50

Dimension D3 is adjusted depending on the valve

#### PS-SURFACE







Valves	Makes / manufacturers
Shut-off valve Euro Wedi FTF 14	ARI
Wedge gate valve, FTF 14	Fromme
Shut-off valve BOA-Compact	KSB

KSB

#### Specification text Aluminum surface, FVK

Shut-off valve BOA-Compact IMS

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series FVK for short ball, diaphragm, straight seat valves and flanges according to DIN length, F4. According to the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

**ALU-SURFACE** 

Measurement	s in mn	า									
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	H1	Weight (g)	Price in EURO
FVK-AL-015	15	1/2"	230	190	140	100		170	100	450	*
FVK-AL-020	20	3/4"	240	200	150	110		180	105	620	*
FVK-AL-025	25	1"	245	205	160	120		185	105	1010	*
FVK-AL-032	32	1 1/4"	260	210	195	145		220	123	1150	*
FVK-AL-040	40	1 ½"	280	230	205	155		248	145	1200	*
FVK-AL-050	50	2"	300	240	232	172		266	150	1250	*
FVK-AL-065	65	2 ½"	335	265	272	192		321	185	1310	*
FVK-AL-080	80	3"	355	275	300	210		350	200	1410	*
FVK-AL-100	100	4"	375	295	327	227		374	210	1490	*
FVK-AL-125	125	5"	405	315	359	260		435	255	1640	*
FVK-AL-150	150	6"	435	335	390	290		495	300	1730	*

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, FVK

Energy Box, PS for insulation in the range up to +130 degrees Celsius of the FVK series for short ball, diaphragm, straight seat valves and flanges according to DIN length, F4. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

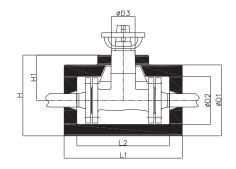




Measurement	Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	Н1	Weight (g)	Price in EURO	
FVK-PS-015	15	1/2"	230	190	140	100		170	100	450	52,70	
FVK-PS-020	20	3/4"	240	200	150	110		180	105	620	53,00	
FVK-PS-025	25	1"	245	205	160	120		185	105	1010	55,70	
FVK-PS-032	32	1 1/4"	260	210	195	145		220	123	1150	63,60	
FVK-PS-040	40	1 ½"	280	230	205	155		248	145	1200	72,00	
FVK-PS-050	50	2"	300	240	232	172		266	150	1250	80,70	
FVK-PS-065	65	2 ½"	335	265	272	192		321	185	1310	93,00	
FVK-PS-080	80	3"	355	275	300	210		350	200	1410	110,30	
FVK-PS-100	100	4"	375	295	327	227		374	210	1490	127,50	
FVK-PS-125	125	5"	405	315	359	260		435	255	1640	144,80	
FVK-PS-150	150	6"	435	335	390	290		495	300	1730	164,90	



<sup>\*</sup>Price upon request



#### Valves

Shut-off valve Euro Wedi, FABA-Plus, Astra in length FTF 1 Flow Valve, FTF 1 Shut-off valve GAV Line regulating and shut-off valve Kombi-F Shut-off valve Boa-H, Boa-W, Sisto

#### Makes / manufacturers

FROMME Gestra Honeywell KSB

#### Specification text Aluminum surface, FVL

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the series FVL for long ball, diaphragm, straight seat valves and flanges according to DIN length, F1. According to the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

# **ALU-SURFACE**

Measurement	Measurements in mm											
ArtNr.	DN	In- ches	L1	L2	D1	D2	D3	Н	H1	Weight (g)	Price in EURO	
FVL-AL-015	15	1/2"	245	205	140	100	38	170	100	470	*	
FVL-AL-020	20	3/4"	275	235	150	110	38	180	105	640	*	
FVL-AL-025	25	1"	280	240	160	120	38	185	105	1040	*	
FVL-AL-032	32	1 1/4"	330	280	195	145	38	220	123	1170	*	
FVL-AL-040	40	1 ½"	345	295	205	155	38	240	138	1270	*	
FVL-AL-050	50	2"	390	330	232	172	38	261	145	1290	*	
FVL-AL-065	65	2 ½"	475	405	272	192	38	306	170	1370	*	
FVL-AL-080	80	3"	495	415	300	210	43	350	200	1510	*	
FVL-AL-100	100	4"	550	470	327	227	43	374	210	1690	*	
FVL-AL-125	125	5"	675	525	359	260	43	435	255	1730	*	
FVL-AL-150	150	6"	695	595	390	290	51	495	300	1805	*	
FVL-AL-125	125	5"	675	525	359	260	43	435	255	1730	*	

Dimension D3 is adjusted depending on the valve

#### Energy Box, PS FVL

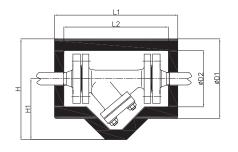
Energy Box, PS for insulation in the range up to +130 degrees Celsius of the series FVL for long ball, diaphragm, straight seat valves and flanges according to DIN length, F1. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.



				_		_		_		_	
Measurements	in mm										
ArtNr.	DN	Inches	L1	L2	D1	D2	D3	Н	H1	Weight (g)	Price in EURO
FVL-PS-015	15	1/2"	245	205	140	100	38	170	100	470	56,60
FVL-PS-020	20	3/4"	275	235	150	110	38	180	105	640	58,10
FVL-PS-025	25	1"	280	240	160	120	38	185	105	1040	62,60
FVL-PS-032	32	1 1/4"	330	280	195	145	38	220	123	1170	72,30
FVL-PS-040	40	1 ½"	345	295	205	155	38	240	138	1270	82,40
FVL-PS-050	50	2"	390	330	232	172	38	261	145	1290	98,62
FVL-PS-065	65	2 ½"	475	405	272	192	38	306	170	1370	119,90
FVL-PS-080	80	3"	495	415	300	210	43	350	200	1510	147,20
FVL-PS-100	100	4"	550	470	327	227	43	374	210	1690	188,40
FVL-PS-125	125	5"	675	525	359	260	43	435	255	1730	212,40
FVL-PS-150	150	6"	695	595	390	290	51	495	300	1805	256,10



<sup>\*</sup>Price upon request



Valves	Makes / manufacturers
Strainer with flange connection	ARI
Strainer with flange connection	Danfoss
Strainer FTF1	Fromme
Angle seat valve with flange connection	Kemper
Strainer BOA-S	KSB
Check valve BOA-R	KSB

#### Specification text Aluminum surface, SVF

Energy Box, aluminum for insulation in the range up to +130 degrees Celsius of the SVF series for dirt collectors, angle seat and free-flow valves with flange connection. In accordance with the EnEV, consisting of two PUR half-shells encased in aluminum coarse grain sheet metal and fixed with straps.

**ALU-SURFACE** 

Measurement	Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	Н	H1	Weight (g)	Price in EURO		
SVF-AL-015	15	1/2"	245	205	140	100	195	125	470	52,50		
SVF-AL-020	20	3/4"	275	235	150	110	208	133	640	56,70		
SVF-AL-025	25	1"	280	240	160	120	236	156	1040	59,00		
SVF-AL-032	32	1 1/4"	330	280	195	145	262	164,5	1170	67,20		
SVF-AL-040	40	1 ½"	345	295	205	155	298	195,5	1270	71,00		
SVF-AL-050	50	2"	390	330	232	172	328	212	1290	79,10		
SVF-AL-065	65	2 ½"	475	405	272	192	412	276	1370	96,80		
SVF-AL-080	80	3"	495	415	300	210	465	315	1510	115,50		
SVF-AL-100	100	4"	550	470	327	227	493	329,5	1690	141,60		
SVF-AL-125	125	5"	615	525	359	260	560	380,5	1730	166,40		
SVF-AL-150	150	6"	695	595	390	290	620	425	1805	190,80		

Dimension D3 is adjusted depending on the valve

#### Tender specification PS surface, SVF

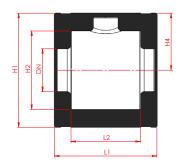
Energy Box, PS for insulation in the range up to  $\pm 130$  degrees Celsius of the series SVF for dirt collectors, angle seat and free-flow valves with flange connection. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.



Measurements in mm											
ArtNr.	DN	Inches	L1	L2	D1	D2	Н	H1	Weight (g)	Price in EURO	
SVF-PS-015	15	1/2"	245	205	140	100	195	125	470	56,60	
SVF-PS-020	20	3/4"	275	235	150	110	208	133	640	58,10	
SVF-PS-025	25	1"	280	240	160	120	236	156	1040	62,60	
SVF-PS-032	32	1 1/4"	330	280	195	145	262	164,5	1170	72,30	
SVF-PS-040	40	1 ½"	345	295	205	155	298	195,5	1270	82,40	
SVF-PS-050	50	2"	390	330	232	172	328	212	1290	98,60	
SVF-PS-065	65	2 ½"	475	405	272	192	412	276	1370	119,90	
SVF-PS-080	80	3"	495	415	300	210	465	315	1510	147,20	
SVF-PS-100	100	4"	550	470	327	227	493	329,5	1690	188,40	
SVF-PS-125	125	5"	615	525	359	260	560	380,5	1730	212,40	
SVF-PS-150	150	6"	695	595	390	290	620	425	1805	256,10	



### SFRIF DHS AK



Valves Makes / manufacturers

With flange connection For mostly butterfly valves KSB BOA SuperCompact valves COMAP

#### Specification text, DHS AK

DHS Energy Box without PS surface for insulation in the range up to  $\pm 130$  degrees Celsius of the DHS AK series for district heating valves. The cap consists of two polyurethane half-shells, which are mounted with galvanized clamps. In order to prevent water vapor diffusion, we recommend the use of a sealing paste in the temperature range of  $\pm 130$  °C to  $\pm 12$  °C.

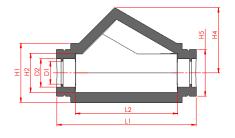


Measurements in mm											
ArtNr.	Туре	L1	L2	H1	H2	H4	Price in EURO				
1602801	DN25	170	128	158	115	78	25,80				
1602802	DN32	180	140	180	142	90	29,60				
1602803	DN40	185	142	195	152	97	33,80				
1602804	DN50	208	167	208	165	105	40,70				
1602805	DN65	220	165	250	190	125	49,00				
1602806	DN80	260	180	282	204	142	60,20				
1602807	DN100	290	195	325	225	162	77,30				

# SERIE DHS MS

Valves Makes / manufacturers

For angle seat valves with thread and socket connection



#### Specification text, DHS MS

DHS Energy Box without PS surface for insulation in the range up to  $\pm$  130 ° Celsius of the series DHS MS for district heating valves. The cap is used on tilted flanged, lift and punch valves as well as on mud flaps. The cap consists of two half shells made of polyurethane, which can be easily assembled with retaining rings.

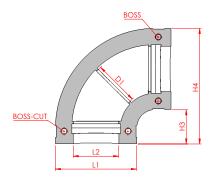
To prevent water vapor diffusion, a sealing paste must be used in the temperature range -8  $^{\circ}$  C to + 12  $^{\circ}$  C.



Measurements in mm											
ArtNr.	Туре	L1	L2	Н1	H2	H4	H5	D1	D2	Price in EURO	
1602701	DN25/32	210	150	83	54	92	67	34	43	13,70	
1602702	DN40/50	300	220	127	84	140	100	48,5	61	16,70	
1602703	DN65/80	355	258	185	121	198	148	78	90	22,40	



# SERIE DHS B



Valves Makes / manufacturers

Pipe elbow pieces 50%

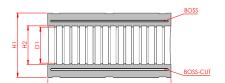
#### Specification text, DHS B

DHS Energy Box without PS surface for insulation in the range up to +130 degrees Celsius of the series DHS B for district heating valves. The cap consists of two pipe half-shells made of polyurethane, which can be fastened with Velcro or clips. The cap can be easily removed if necessary and then fastened again.



Measurements in mm										
ArtNr.	Туре	L1	L2	НЗ	H4	Price in EURO				
1603101	DN15/25	50	28	25	75	8,50				
1603102	DN25/32	67	43	34	100	9,70				
1603103	DN40/50	100	62	42	142	12,70				
1603104	DN65/80	147	92	77	224	23,20				
1603105	DN100	205	115	90	295	35,90				
1603106	DN125	250	142	100	350	42,30				

# SERIE DHS R



Valves Makes / manufacturers

Pipe pieces 50%

#### Specification text, DHS R

Energy box without PS surface for insulation in the range up to + 130 ° Celsius of the series DHS R for district heating valves. Length 500 mm. The cap consists of two pipe half-shells made of polyurethane, which are easily sealed and assembled with stainless steel retaining rings. The cap can be easily removed if necessary and then fastened again. To prevent water vapor diffusion, a sealing paste must be used in the temperature range -8 ° C to + 12 ° C.



Measurements in mm											
ArtNr.	Туре	L1	H1	H2	D1	Price in EURO					
1603001	DN15/20	500	50	28	22	12,70					
1603002	DN25/32	500	67	43	33	15,50					
1603003	DN40/50	500	100	60	48	32,60					
1603004	DN65/80	500	150	90	76	37,50					
1603005	DN100	500	204	124	115	47,90					
1603006	DN125	500	250	150	140	67,90					

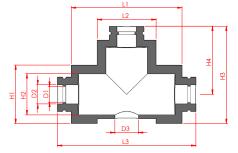


# SERIE DHS DM

Valves

Makes / manufacturers

For three-way valves with thread and socket connection



#### Specification text, DHS DM

Insulation jacket consisting of two half-shells with a spring and groove on the adjoining surfaces, which prevent slipping and are held together with electro-galvanized spring rings or bands. To prevent water vapor diffusion, sealing paste must be used at temperatures from  $-8^{\circ}\text{C}$  to  $+12^{\circ}\text{C}$ .



Measurements in mm												
ArtNr.	Туре	L1	L2	L3	Н1	H2	НЗ	H4	D1	D2	D3	Price in EURO
1603401	DN15/20	160	85	200	85	60	145	102	23	28	*	15,50
1603402	DN25/32	190	117	230	112	84	170	110	36	44	*	20,60
1603403	DN40/50	220	135	279	130	100	200	135	51	61	*	20,60

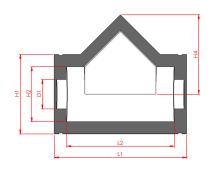
<sup>\*</sup> Intended for carving

# **ENERGY BOX DHS F**

Valves

Makes / manufacturers

For free flow valves with flanges



#### Specification text, DHS F

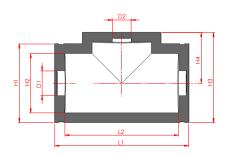
DHS Energy Box without PS surface for insulation in the range up to  $\pm$  130 ° Celsius for district heating valves. The cap consists of two polyurethane half-shells, which are mounted with galvanized clamps. In order to prevent water vapor diffusion, we recommend the use of a sealing paste in the temperature range of  $\pm$  0 C to  $\pm$  12 ° C.

Measurements in mm											
ArtNr.	Туре	L1	L2	H1	H2	H4	D1	Price in EURO			
1602901	DN20	270	240	147	102	135	*	23,80			
1602902	DN25	258	218	158	116	148	*	25,80			
1602903	DN32	290	250	182	142	155	*	29,60			
1602904	DN40	310	270	192	152	185	*	33,90			
1602905	DN50	365	315	205	167	220	*	40,50			
1602906	DN65	420	355	246	187	248	*	48,80			
1602907	DN80	467	389	285	202	272	*	60,20			
1602908	DN100	540	440	325	225	325	*	76,80			
1602909 * Intended f	DN125	585	485	353	270	367	*	97,30			

<sup>\*</sup> Intended for carving



# SERIE DHS FL



Valves Makes / manufacturers

For flange connection

#### Specification text, DHS FL

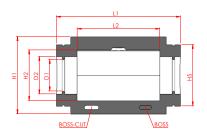
Energy box without PS surface for insulation in the range up to  $\pm$  130 ° Celsius of the series DHS FL for district heating valves. The cap consists of two polyurethane half-shells, which are mounted with galvanized clamps. In order to prevent water vapor diffusion, we recommend the use of a sealing paste in the temperature range of -8 ° C to + 12 ° C.



Measurements in mm										
ArtNr.	Туре	L1	L2	H1	H2	НЗ	H4	D1	D2	Pris i DKK
1603201	DN20	255	220	137	105	152	83	*	*	35,50
1603202	DN25	262	220	161	120	180	100	*	*	38,50
1603203	DN32	290	250	182	142	203	111	*	*	43,90
1603204	DN40	312	272	193	152	225	127	*	*	50,80
1603205	DN50	370	320	205	165	243	138	*	*	60,60
1603206	DN65	423	355	248	187	284	160	*	*	72,90
1603207	DN100	540	440	327	225	375	207	*	*	109,80

<sup>\*</sup> Intended for carving

# SERIE DHS KH



alves Makes / manufacturers

For valves with threaded or socket connection

#### Specification text, DHS KH

Energy Box without PS surface for insulation in the range up to  $\pm$  130 ° Celsius of the series DHS KH for district heating valves.

The cap consists of two half shells with tongue and groove on the abutting surfaces that prevent slipping. They are fastened with electrogalvanized galvanized spring rings or clamps. In order to prevent water vapor diffusion, a sealing paste must be used in the temperature range  $-8\,^{\circ}$  C to  $+\ 12\,^{\circ}$  C.



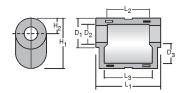
Measurements in mm										
ArtNr.	Туре	L1	L2	Н1	H2	H5	D1	D2	Price in EURO	
1603301	DN15/20	125	68	70	44	51,5	26	30	10,70	
1603302	DN25/32	156	97	85	60	65	33	43	13,70	
1603303	DN40/50	218	132	124	88	100	48	60	16,70	
1603304	DN65/80	300	200	188	120	147	77	90	22,40	





For all common strainers with threaded connection

Makes / manufacturers



# Type MS

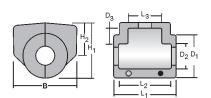
TOPO MS for insulation in the range up to + 130 ° Celsius for mud flaps with sleeves. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.



Measureme	ents in mm									
ArtNr.	Туре	L1	L2	L3	D1	D2	D3	H1	H2	Price in EURO
1501601	MS 15/20	140	95	108	70	40	48	117	35	30,20
1501602	MS 25	162	111	127	85	57	62	138	43	34,20
1501603	MS 32/40	222	155	185	117	75	95	207	62	42,30
1501604	MS 50	260	188	244	140	93	113	242	72	46,30

# SERIE ME





Valves	Makes / manufacturers
For diaphragm valves	Saunders
	Sisto

# Type ME

TOPO ME for insulation in the range up to + 130 ° Celsius for diaphragm valves with sleeves. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

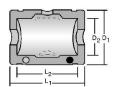


Measurem	ents in mm										
ArtNr.	Туре	В	L1	L2	L3	D1	D2	D3	H1	H2	Price in EURO
1501701	ME 15/20	126	125	94	64	90	47	33	102	59	30,20
1501702	ME 25	140	136	111	75	98	59	34	123	75	34,20
1501703	ME 32	155	156	135	87	118	63	47	150	92	38,30
1501704	ME 40	172	175	149	100	145	85	55	182	110	42,30
1501705	ME 50	212	205	177	117	155	95	45	193	115	46,30



# SERIE FK







Valves Makes / manufacturers

For diaphragm valves, ball valves, valves with grease, with flanges

## Type FK

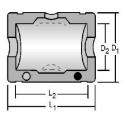
TOPO FK for insulation in the range up to + 130° degrees Celsius for ball valves, diaphragm valves and relubricated taps.

According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

Measuremen	ts in mm					
ArtNr.	Туре	L1	L2	D1	D2	Price in EURO
1501101	FK 15	212	180	148	98	46,30
1501102	FK 20/25	250	200	165	120	62,40
1501103	FK32	260	230	200	145	70,50
1501104	FK 40	290	265	230	155	76,50
1501105	FK 50	340	290	250	170	82,60
1501106	FK 65	340	290	270	190	86,60
1501106-l	FK 65-I	440	390	270	190	90,60
1501107	FK 80	400	350	290	205	90,60
1501108	FK 100	445	380	330	230	100,70
1501109	FK 125	510	480	350	258	110,80

# SERIE K





Valves Makes / manufacturers

Ball valve with welding ends

# Type K

TOPO K for insulation in the range up to + 130° degrees Celsius for ball valves with sockets and welding connection. According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.

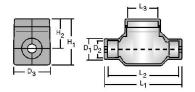


Measureme	nts in mm					
ArtNr.	Туре	L1	L2	D1	D2	Price in EURO
1502401	K 25/50	200	140	145	93	34,20
1502402	K 65	230	170	200	115	54,40
1502403	K 80	230	167	220	135	62,40
1502404	K 100	315	245	245	162	70,50
1502405	K 125	320	245	270	190	110,80
1502406	K 150	440	360	308	225	120,80

Valves Makes / manufacturers

Caps for heat and water meters







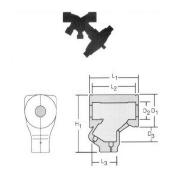
**Type T** TOPO T for insulation in the range up to +  $130^{\circ}$  degrees Celsius for water and heat meters.

According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.



Maße in m	m									
ArtNr.	Туре	L1	L2	L3	D1	D2	D3	Н1	H2	Price in EURO
1502705	T 190	225	207	90	70	45	124	154	100	40,30
1502706	T 220	260	238	90	70	45	124	154	100	44,30

# SERIE OM

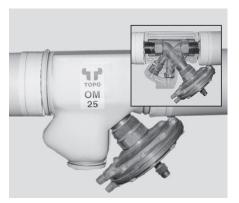


Valves	Makes / manufacturers
Line regulating valves STAD	TA Heimeier
Threaded line regulating valves	Danfoss
BOA-control valve -Control SAR	KSB
	Oventrop

# Type OM

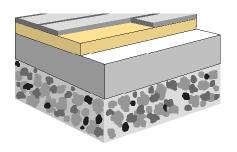
TOPO OM for insulation in the range up to + 130° degrees Celsius.

According to the EnEV consisting of two PUR half-shells, which are coated with PS foil and fixed with straps.



Measureme	ents in mm	1							
ArtNr.	Туре	L1	L2	L3	D1	D2	D3	H1	Price in EURO
1502902	OM 20	132	115	80	75	45	40	155	30,20
1502903	OM 25	155	140	80	100	53	40	175	34,20
1502904	OM 32	165	140	80	110	60	40	195	38,30
1502905	OM 40	178	150	80	128	65	40	212	43,80
1502906	OM 50	210	185	80	162	83	40	247	46,30





# INSULATING FLOORS AND CEILINGS

Tinby Skumplast supplies PUR and PIR for insulating and retro-fitting insulation in floors and ceilings. PUR/PIR provides complete coverage of the floor area so that no cold bridging can occur. Pouring is done directly onto the concrete without using shutters. The finished flooring, such as particle board or parquet flooring, can be laid directly on top of the insulation panels.



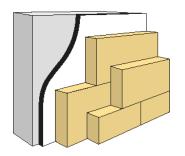
# INSULATING IN THE REFRIGERATION SECTOR

We manufacture insulation panels in PUR and PIR for refrigeration vehicles, containers, transport units, portable office structures, and trailers. Insulation sheets in PUR/PIR can be affixed directly onto metal or fibreglass panels (sandwich construction).



# **INSULATING ROOFS**

PUR and PIR are excellent materials for insulating and retro-fitting insulation in roofs in storage facilities and industrial premises. Tinby Skumplast supplies foam panels which can be laid either directly on top of steel plates or directly on top of existing roofing felt, and new asphalt roofing can also be laid on top of insulating foam sheets.



# INSULATING WALLS AND CEILINGS

PUR and PIR can be used to insulate and retro-fit insulation in walls, façades and windows in buildings, in gas concrete or in solid walls. The foam panels provide a good base for the final wall coverings, and can be used for external doors as well as façade sections.

# COMPRESSIVE STRENGTHS

Density	35 kg/m³	40 kg/m³
On surfaces	2.3 kg/cm²	2.9 kg/cm²
On the sides	1.5 kg/cm²	2.0 kg/cm²

Higher densities can be manufactured to order





PUR insulation comprises a group of insulating materials which are based on polyurethane (PUR) or polyisocyanurate (PIR). The closed-cell structure and high crosslink density of these insulating materials give them their excellent insulating properties, efficient heat resistance and high compressive strength.

Insulating with PUR and PIR can help improve the energy efficiency of buildings and reduce CO<sub>2</sub> emissions. PUR is one of the most effective insulation materials available, and can deliver a very high level of thermal efficiency using a minimum of insulating thickness.

With lambda (thermal conductivity) values as low as 0.024 W/m\*K, an insulation effect (expressed in U-values) that equals that attained using other insulating materials can be achieved, even though significantly thinner layers of PUR are used.

PUR insulating materials are used:

- In roof construction
- In external wall construction
- In new buildings
- For renovations
- For retro-fitting of insulation
- In subfloors and baseboards
- For insulating refrigerated vehicles
- For insulating temporary portable office structures



We do everything in our power to be the strong partner our clients need - one who is at the forefront of technological developments within our core competencies. Our aim, as a supplier, is to offer our clients total flexibility.

# INSULATION CAPS FOR DISTRICT HEATING VALVES PRICE LIST TOPO DHS

Ę	<	٥	٥	2	Ш	ū	2
Størrelse			≤	5	-	-	<u>-</u>
DN 10							
DN 15		B DN15 8,50	R DN15 12,70	DM DN15 15,50			KH DN15 10,70
DN 20		B DN20 8,50	R DN20 12,70	DM DN20 15,50	F DN20 23,80	FL DN20 35,50	KH DN20 10,70
DN 25	AK DN25 25,80	B DN25 9,70	R DN25 15,50	DM DN25 20,60	F DN25 25,80	FL DN25 38,50	KH DN 25 13,70
DN 32	AK DN32 29,60	B DN32 9,70	R DN32 15,50	DM DN32 20,60	F DN32 29,60	FL DN32 43,90	KH DN32 13,70
DN 40	AK DN40 33,80	B DN40 12,70	R DN40 32,60	DM DN40 20,60	F DN40 33,90	FL DN40 50,80	KH DN40 16,75
DN 50	AK DN50 40,70	B DN50 12,70	82,60	DM DN50 20,60	F DN50 40,50	FL DN50 60,90	KH DN50 16,75
DN 65	AK DN65 49,00	B DN65 23,20	R DN65 37,50		F DN65 48,80	FL DN65 72,90	KH DN 65 22,40
DN 80	AK DN80 60,20	B DN80 23,20	R DN80 37,50		F DN80 60,20		KH DN80 22,40
DN 100	AK DN100 77,30	B DN100 35,90	R DN100 47,90		F DN100 76,80	FL DN100 109,80	
DN 125		B DN125 42,30	R DN125 67,90		F DN125 97,30		
DN 150							

Type         FeSt         Fift         FeST         Ord           Severale         % several section of the	PRICE LIST TINSULATION	PRICE LIST TOPO ENERGY BOX INSULATION CAPS	/ BOX				
Manuementaries recording   Manuementalise reco							
Neis Galz         Neis Galz         Pricolate resident median unifer and manufacture control median	Тур	Σ	Σ	X	$\forall$	<b>⊢</b>	MO
150,20   1	Størrelse	"til snavssamlere med muffer"	"til membranventiler med muffer"	"ti Flange-, kugle og membranventiler"	"til kugleventiler med muffer"	"Vand- og varmemålere"	"til strengreguleringsventiler"
New Order	DN 10						
Nex cos	DN 15	MS-015 30,20	ME-015 30,20	FK-015 46,30			
NE 625   NE 625   NE 625   NE 626   S4,200   S4,200   S4,200   S4,200   S4,200   S4,200   S4,200   S6,240   S6,240   S6,220   S	DN 20	MS-020 30,20	ME-020 30,20	FK-020 32,40			OM-020 30,20
PMS GDZ         NME GDZ         FPC/GDZ         FC/GDZ           A42.30         A42.30         76.50         34.20           NS GDQ         NE GDQ         RC GDQ         RC GDQ           NS GDQ         NE CDQ         RC GDQ         RC GDQ           FF CDQ         RC CDQ         RC CDQ         RC CDQ           FF CDQ         RC CDQ         RC CDQ	DN 25	MS-025 34,20	ME-025 34,20	FK-025 62,40	K-025 34,20		OM-025 34,20
ME-040   ME-040   FK-040   FK-040   FK-040   FK-040   ME-040   M	DN 32	MS-032 42,30	ME-032 42,30	FK-032 70,50	K-032 34.20		OM-032 38,30
MS 030         ME 050         FK 050         K 050           46,30         46,30         82,60         34,20           FK 050         K 055         K 055           FK 080         K 080         K 080           FK 080         K 080         K 080           FK 080         K 100         K 100           FK 125         K 110         K 110           FK 125         K 110         K 110           FK 126         K 110         K 110           FK 127         K 110         K 110           FK 128         K 110         K 110           FK 129         K 110         K 110           FK 126         K 110         K 110           FK 127         K 110         K 110           FK 128         K 120         K 120           FK 129         K 120         K 120	DN 40	MS-040 42,30	ME-040 42,30	FK-040 76,50	K-040 34,20		OM-040 43,80
FK-065     K065       90,60     K-080       FK-100     K-100       FK-105     K-125       FK-125     K-125       110,80     K-150       K-150     K-150	DN 50	MS-050 46,30	ME-050 46,30	FK-050 82,60	K-050 34,20		OM-050 30,87
FK-080 K-080 90,60 62,40	DN 65			FK-065 86,60	K-065 54,40		
FK-100     K-100       110,70     70,50       FK-125     K-125       110,80     110,80       K-150     K-150	DN 80			FK-080 90,60	K-080 62,40		
HK-125 110,80 110,80 K-150 120,80	DN 100			FK-100 110,70	K-100 70,50		
K-150 120,80	DN 125			FK-125 110,80	K-125 110,80		
T190 40,30 1720 44,30	DN 150				K-150 120,80		
T220 44,30						T190 40,30	
						T220 44,30	

# PRISLISTE TOPO ENERGY BOX, PS Enter an exact fixture type with each order.

					Muffe										Flange			
Σ Ξ	Ä T	ΣΛΟ	SVK	N/S	ΣHS	O M O	ΣΟΗ	HSG	MWG	NSO NSO	ΣΧ	FPA	7 Z	BSC	¥	I A	SVF	/wo
KHM-PS-010 17,40	-010	GVM-PS-010 24,60	SVK-PS-010 24,60	SVM-PS-010 24,60	SFM-PS-010 24,60	SFM-PS-010 OMG-PS-010 HCM-PS-010 HSG-PS-010 24,60 27,50 27,50 28,80	HCM-PS-010 1	HSG-PS-010 [	DWM-PS-010 USV-PS-010 28,80 27,50		UKM-PS-010 24,60							
KHM-PS-015 17,90	-015	GVM-PS-015 25,10	SVK-PS-015 25,10	SVM-PS-015 25,10	SFM-PS-015 25,10	OMG-PS-015 HCM-PS-015 28,50 28,50		HSG-PS-015 [	DWM-PS-015 28,80	USV-PS-015 U	UKM-PS-015 FPA-PS-015 *		FKL-PS-015 41,00	BSC-PS-015 53,00	FVK-PS-015 52,70	FVL-PS-015 56,60	SVF-PS-015 56,60	DWW-PS-015 86,00
KHM-PS-020 18,80	-020 PKH-PS-025 -00 18,80	5 GVM-PS-020 26,30	SVK-PS-020 26,30	SVM-PS-020 26,30	SFM-PS-020 26,30	OMG-PS-020 HCM-PS-020 28,50 28,50		HSG-PS-020 [	DWM-PS-020 28,80	USV-PS-020 U	UKM-PS-020 1	FPA-PS-020	FKL-PS-020 41,70	BSC-PS-020 55,10	FVK-PS-020 53,00	FVL-PS-020 58,10	SVF-PS-020 58,10	DWV-PS-020 87,80
KHM-PS-025 21,20	-025 PKH-PS-031	1 GVM-PS-025 29,70	SVK-PS-025 29,70	SVM-PS-025 29,70	SFM-PS-025 29,70	OMG-PS-025 HCM-PS-025 32,70 32,70		HSG-PS-025 [	DWM-PS-025 32,90	USV-PS-025 U	UKM-PS-025 1	FPA-PS-025	FKL-PS-025 47,00	BSC-PS-025 1	FVK-PS-025 55,70	FVL-PS-025 62,60	SVF-PS-025 62,60	DWV-PS-025 93,30
KHM-PS-032 25,50	-032 PKH-PS-032	2 GVM-PS-032 32,40	SVK-PS-032 32,40	SVM-PS-032 32,40	SFM-PS-032 32,40	OMG-PS-032 HCM-PS-032 35,00 35,00		HSG-PS-032 [	35,60	USV-PS-032 U	UKM-PS-032 FPA-PS-032 32,40 *		FKL-PS-032 53,00	BSC-PS-032 66,90	FVK-PS-032 63,60	FVL-PS-032 72,30	SVF-PS-032 72,30	DWV-PS-032 106,10
KHM-PS-040 30,60	-040	GVM-PS-040 36,50	36,50	SVM-PS-040 36,50	SFM-PS-040 36,50	OMG-PS-040 HCM-PS-040 38,00 38,00		HSG-PS-040 [	DWM-PS-040 40,10	USV-PS-040 L	UKM-PS-040 F	FPA-PS-040	FKL-PS-040 63,00	BSC-PS-040 73,50	FVK-PS-040 72,00	FVL-PS-040 82,40	SVF-PS-040 82,40	DWV-PS-040 120,50
KHM-PS-050 36,80	-050	GVM-PS-050 41,00	SVK-PS-050 41,00		SFM-PS-050 41,00	OMG-PS-050   41,70	HCM-PS-050 H	HSG-PS-050 [	SVM-PS-050 SFM-PS-050 OMG-PS-050 HCM-PS-050 HSG-PS-050 DWM-PS-050 USV-PS-050 UKM-PS-050 FPA-PS-050 41,00 41,70 41,70 44,60 44,60 41,70 41,00 *	USV-PS-050 U	JKM-PS-050 F		FKL-PS-050 68,60	BSC-PS-050	FVK-PS-050 80,70	FVL-PS-050 98,60	SVF-PS-050 98,60	DWV-PS-050 141,90
						OMG-PS-065 55,40						FPA-PS-065 *	FKL-PS-065 77,10	BSC-PS-065 1	FVK-PS-065 93,00	FVL-PS-065 119,90	SVF-PS-065 119,90	DWV-PS-065 169,40
												FPA-PS-080 *	FKL-PS-080 89,60	BSC-PS-080 112,10	FVK-PS-080 110,30	FVL-PS-080 147,20	SVF-PS-080 147,20	DWV-PS-080 207,00
												FPA-PS-100	FKL-PS-100 99,20	BSC-PS-100 128,10	FVK-PS-100 127,50	FVL-PS-100 188,40	SVF-PS-100 188,40	DWW-PS-100 262,10
												FPA-PS-125 *	FKL-PS-125 119,40	BSC-PS-125	FVK-PS-125 144,80	FVL-PS-125 212,40	SVF-PS-125 212,40	DWV-PS-125 306,20
												FPA-PS-150	FKL-PS-150 144,50	BSC-PS-150 FVK-PS-150 159,30 164,90		FVL-PS-150 256,10	SVF-PS-150 256,10	DWV-PS-150 325,20

# PRICE LIST TOPO ENERGY BOX, ALU Please indicate an exat fitting type with each order

	DWV			015 DWV-AL-015 0 56,40	020 DWVV-AL-020 0 58,50	025 DWV-AL-025 0 61,20	032 DWV-AL-032 0 69,30	040 DWW-AL-040 0 73,40	050 DWV-AL-050 0 82,40	065 DWV-AL-065 0 102,30	080 DWV-AL-080 30 122,40	100 DWV-AL-100 50 151,50	125 DWV-AL-125 40 182,60	150 DWV-AL-150 30 210.20
Flange	SVF			015 SVF-AL-015 52,50	020 SVF-AL-020 56,70	025 SVF-AL-025 59,00	.032 SVF-AL-032 67,20	040 SVF-AL-040 71,00	050 SVF-AL-050 79,10	065 SVF-AL-065 96,80	080 SVF-AL-080 115,50	100 SVF-AL-100 141,60	125 SVF-AL-125 166,40	150 SVF-AL-150 190.80
	FVL			115 FVL-AL-015	20 FVL-AL-020	25 FVL-AL-025	32 FVL-AL-032 *	40 FVL-AL-040	50 FVL-AL-050	65 FVL-AL-065	80 FVL-AL-080 *	00 FVL-AL-100	25 FVL-AL-125 *	50 FVL-AL-150
	FVK			L5 FVK-AL-015	20 FVK-AL-020 *	25 FVK-AL-025 *	32 FVK-AL-032 *	40 FVK-AL-040	50 FVK-AL-050 *	55 FVK-AL-065	30 FVK-AL-080 *	00 FVK-AL-100	25 FVK-AL-125 *	50 FVK-AL-150 *
	BSC			5 BSC-AL-015 *	0 BSC-AL-020	5 BSC-AL-025	2 BSC-AL-032	D BSC-AL-040	D BSC-AL-050	5 BSC-AL-065 *	D BSC-AL-080	0 BSC-AL-100	5 BSC-AL-125	D BSC-AL-150
	FKL			FKL-AL-015 50,00	FKL-AL-020 51,80	FKL-AL-025 55,50	FKL-AL-032 59,60	FKL-AL-040 62,30	FKL-AL-050 67,10	FKL-AL-065 74,60	FKL-AL-080 90,60	FKL-AL-100 107,40	FKL-AL-125 122,90	FKL-AL-150
Muffe	FPA		0	5 FPA-AL-015 *	) FPA-AL-020	5 FPA-AL-025	2 FPA-AL-032	) FPA-AL-040	) FPA-AL-050 *	FPA-AL-065	FPA-AL-080 *	FPA-AL-100	FPA-AL-125 *	FPA-AL-150
	DWM		DWM-AL-010 35,60	DWM-AL-015 35,60	DWM-AL-020 36,30	DWM-AL-025 40,40	DWM-AL-032 44,00	DWM-AL-040 46,20	DWM-AL-050 53,10					
	HSG		HSG-AL-010	HSG-AL-015	HSG-AL-020	HSG-AL-025	HSG-AL-032	HSG-AL-040	HSG-AL-050					
	HCM		HCM-AL-010 *	HCM-AL-015	HCM-AL-020	HCM-AL-025	HCM-AL-032	HCM-AL-040	HCM-AL-050					
	OMG		OMG-AL-010 *	OMG-AL-015	OMG-AL-020	OMG-AL-025	OMG-AL-032 *	OMG-AL-040	OMG-AL-050 *	OMG-AL-065				
	SFM		SFM-AL-010 *	SFM-AL-015	SFM-AL-020	SFM-AL-025 *	SFM-AL-032	SFM-AL-040	SFM-AL-050 *					
	SVM		SVM-AL-010 31,10	SVM-AL-015 32,00	SVM-AL-020 32,40	SVM-AL-025 36,90	SVM-AL-032 40,40	SVM-AL-040 43,80	SVM-AL-050 50,00					
	SVK		SVK-AL-010 *	SVK-AL-015	SVK-AL-020	SVK-AL-025	SVK-AL-032	SVK-AL-040	SVK-AL-050 33,30					
	GVM		GVM-AL-010 *	GVM-AL-015 *	GVM-AL-020 *	GVM-AL-025 *	GVM-AL-032 *	GVM-AL-040	GVM-AL-050 *					
	PKH				PKH-AL-025 *	PKH-AL-031 *	PKH-AL-032 *							
	X X X		KHM-AL-010 *	KHM-AL-015 *	KHM-AL-020 *	KHM-AL-025 *	KHM-AL-032 *	KHM-AL-040 *	KHM-AL-050 *					
	Туре	Størrelse	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150

# **CONTACT PERSONS**



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# CONDITIONS OF SALE AND TERMS OF DELIVERY FOR PLASTIC COMPONENTS

### 1. Terms of Delivery

Delivery shall be made in accordance with Incoterms 2000 EXW (Ex Works)

### 2. Terms of payment

Payment shall be made in Danish kroner, unless otherwise agreed in writing.

If payment is not made when due, interest shall be charged at 1% per month or part thereof.

### 3. Property reservation and retention right

TINBY shall retain property in the delivered products, until the full purchase sum with interest, costs, etc., has been paid. TINBY may retain tools, until all outstanding amounts have been paid.

### 4. Complaints

All and any risks related to the goods shall pass to the Buyer at the time of delivery of the goods. Any complaints regarding the goods shall be made in writing to TINBY as soon as possible, but not later than eight days after delivery. If TINBY has not received the complaint within the stated deadline, the Buyer's right to object to quantity and quality shall be lost.

TINBY shall be entitled and obliged to remedy all deficiencies. TINBY itself shall decide whether such remedial action shall take the form of repair or replacement of the defective part/s, or a replacement delivery.

TINBY's liability shall only cover deficiencies which appear within twelve months of the date of delivery.

Other than as mentioned above, TINBY shall not be liable for deficiencies. This concerns any loss which the deficiency may cause, including operating loss, loss of profit or other financial, consequential losses.

### 5. Warranties

If TINBY has undertaken to offer a warranty, this warranty shall cover defects and deficiencies in materials and manufacture. A warranty offered by TINBY does not cover defects and deficiencies caused by inadequate maintenance, incorrect installation, changes made by the Buyer or incorrect use of the product. Furthermore, the warranty does not cover normal wear and normal deterioration. TINBY's warranty obligation requires that the Buyer is able to document that any ascertained defect or deficiency has not been caused by the elements exempted from the warranty, cf. above.

The Buyer shall notify TINBY in writing of any defects or deficiencies in the products sold not later than eight days after the defect or deficiency was or should have been discovered by the Buyer. If the Buyer does not notify TINBY by this deadline and before the expiry of the warranty period, the Buyer shall lose his right to advance any claims in relation to such defect or deficiency. TINBY shall be entitled and obliged to remedy all deficiencies covered by a warranty issued by TINBY. It is up to TINBY itself to decide whether such remedial action shall take the form of repair or replacement of the defective part/s, all on the terms stated under item 4.

TINBY shall have no other liability in connection with such deficiencies. This applies to any loss caused by the deficiency, including operating loss, loss of profit or any other financial, consequential losses.

# 6. Product liability

The Buyer shall indemnify TINBY to the extent TINBY is held liable towards a third party for such damage and such loss for which TINBY is not liable towards the Buyer in accordance with this item.

TINBY shall not be liable for damage caused by the products sold: a) on real property or chattels, where such damage occurs while the equipment is in the Buyer's possession.

b) on products manufactured by the Buyer or products in which such products form part, or for damage to real property or chattels caused by such products as a result of the products sold. In no case shall TINBY be liable for operating loss, loss of profit or any other financial, consequential losses.

If a third party advances a claim against either party for damages in accordance with this item, the party against which the claim is advanced shall immediately inform the other party. TINBY and the Buyer shall be mutually obliged to let themselves be sued before the court or arbitration tribunal, which deals with the compensation claim advanced against either of them on the basis of damage or loss claimed to be caused by the equipment. However, disputes between the Buyer and TINBY shall always be decided before the agreed venue in accordance with these Conditions of Sale and Terms of Delivery.

### 7. Delays

If a delay occurs, the Buyer shall be informed accordingly. In case of a delay, the Buyer shall not acquire any other rights than to be able to cancel the agreement. The Buyer may only cancel the agreement if the delay is significant to the Buyer and the delay can be attributed to TINBY. In such case, the Buyer shall – after delivery was to have been made – forward a written request to TINBY that delivery be made within three weeks. If delivery is not made within the three-week deadline, the Buyer may cancel the purchase.

### 8. Insurance, storage and maintenance of tools

The Buyer shall be obliged to take out insurance covering tools stored by TINBY. Such insurance shall cover fire, theft, wilful and fortuitous destruction.

If the tools are stored by TINBY, TINBY shall store the Buyer's tools safely and maintain them.

If tools are stored, but not used, the Buyer shall pay DKK 3,000 per year storage rent. Tools which have not been used for three years may be returned by TINBY for the Buyer's account.

### 9. Disclaimer and force majeure

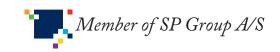
The following circumstances shall release TINBY from any liability, provided such circumstances occur after the agreement was made, and these circumstances shall also release TINBY from any duty to execute the agreement:

Strike, lock-out, business interruption, delayed delivery from subcontractors and similar cases which delay the time of delivery correspondingly. War, civil unrest, Acts of God and similar circumstances beyond the parties' control, including shortage of goods, seizure, currency restrictions or authority intervention shall entitle TINBY to fully or partially cancel any offer made or any standing order. The party claiming force majeure shall be obliged to inform the other party by express letter / fax / e-mail within 14 days of such a force majeure situation occurring.

### 10. Disputes

All and any disputes between the parties shall be decided in accordance with Danish law. Attempts shall always be made to settle disputes amicably. If a dispute cannot be settled amicably, such dispute shall be decided by the Danish Institute of Arbitration in Copenhagen. However, TINBY may choose to file a lawsuit with the ordinary courts of law.

# TINBY A/S



# - A PART OF SP GROUP

Tinby A/S was founded in 1972 and is today Scandinavia's leading supplier of polyurethane solutions. Our blanks, made from flexible, solid, or foamed polyurethane, are used in furniture, instruments, window insulation, and wind turbines, among other applications. As a comprehensive supplier, we develop highly specialised plastics to meet diverse product requirements. Additionally, we offer a wide range of technologies and techniques for refining the material.

# SP GROUP A/S









