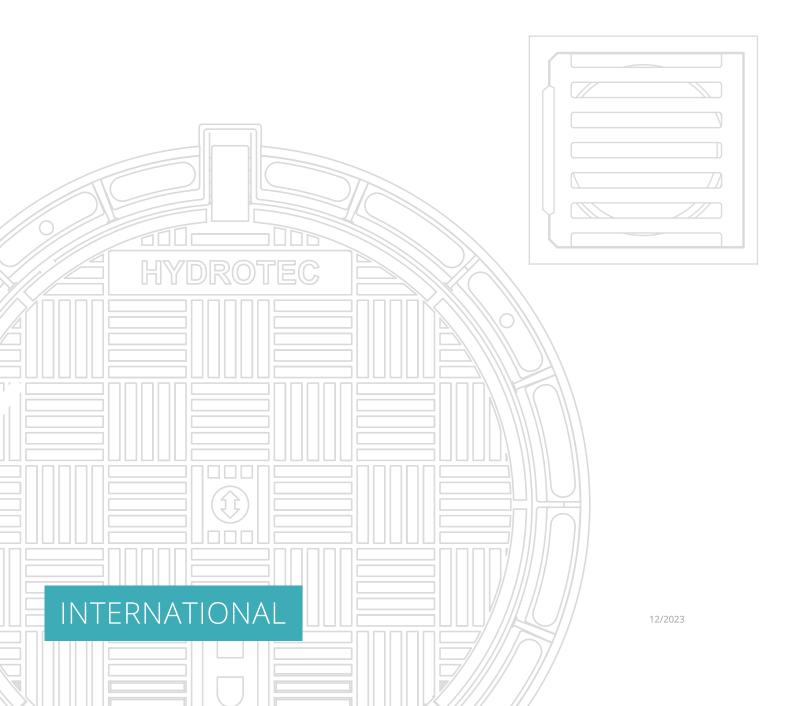
MANHOLE COVERS & GULLY TOPS



HYDROTEC~

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Covers with HYDRO $pur @ \ can be found in the systems ECON, EURO, SCANDIC and TITON.$



ABOUT HYDROTEC



From little to large.

On reflection, we consider this company to be a success story. When starting out nearly 50 years ago not even the company's founder, Gisbert Brinkschulte, could have envisioned that his sole ownership company would grow to be such a strong global player namely HYDROTEC Technologies AG. The company has grown with a comprehensive network of business partners and is taking all necessary steps to continue growing in the future. HYDROTEC products are sold in many different countries and seek to establish ourselves as one of the leading players in each market. To achieve this we adhere to our principles: High quality products at fair market prices.

We like to answer your questions before you ask them.

With our commitment to continually improve our technology and broaden our range of quality products HYDROTEC is expanding its core business which is manufacturing and selling drainage castings / systems. Self-leveling manhole covers, drainage channels, surface boxes, or street furniture are just a few examples of our product portfolio, which is sold all over the world. It is not just a question of business, but of people who understand our business.

Our staff at HYDROTEC strive to find the best possible solution for our customers every day. We have a simple recipe for giving you the information you need: Responsibility. Employees who identify themselves with their jobs are motivated and put 100% into their jobs. This helps us and above all our customers.











THE PRODUCTION











THE PRODUCTION





New products and strategies will be intensified developed in the future with our partner foundry ERKON. Apart from the standard products are more and more multi-purpose products required. This applies not only to the German market but to all of Europe. The technically demanding production will be taken over by the ERKON foundry, making for HYDROTEC a valuable contribution to future development.

ERKON is based on a 35,000 $\rm m^2$ site in the industrial area of Konya. For the growth-orientated company the connection to a global player like HYDROTEC is forward-looking.

With the participation in the ERKON foundry HYDROTEC wins a partner with whom the targets of market and procurement expansion can be successfully implemented.

- TS ISO EN 14001 / TS ISO EN 9000
- 6t/h capacity INDUCTOTHERM dual truck system furnaces
- Moulding line
 - HWS EFA SD 5,5 1100 x 950 x 300 + 300 mm
 - HWS HSP 4D 1250 x 1000 x 300 + 300 mm

INSTALLATION SECTION EN 124



Class A 15

Test load 15 kN

Walkways, cycling paths, green areas



Class B 125

Test load 125 kN

Walkways, pedestrian zones, car parking areas



Class C 250

Test load 250 kN

Kerb areas, emergency lanes, car parking areas



Class D 400

Test load 400 kN

Road surfaces, pedestrian streets



Class E 600

Test load 600 kN

Industry, military, high wheel loads



Class F 900

Test load 900 kN

Airport surfaces, docks, very high wheel loads

HYDROTEC recommends a differenation by the following fields of application:



Low Traffic

Areas mainly with car traffic and a low volume of heavy goods traffic, e.g. traffic calmed side roads



Medium Traffic

Areas with a normal volume of car and goods traffic, e.g. country roads and industrial roads ...



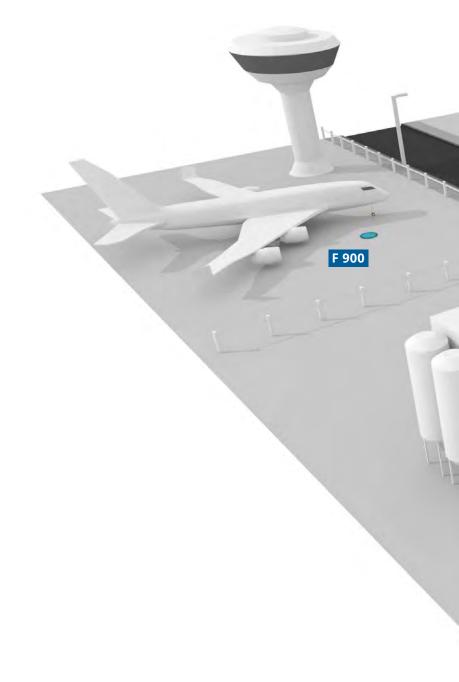
High Traffic

Areas with a high volume of traffic such as e.g. highways and by passes \dots

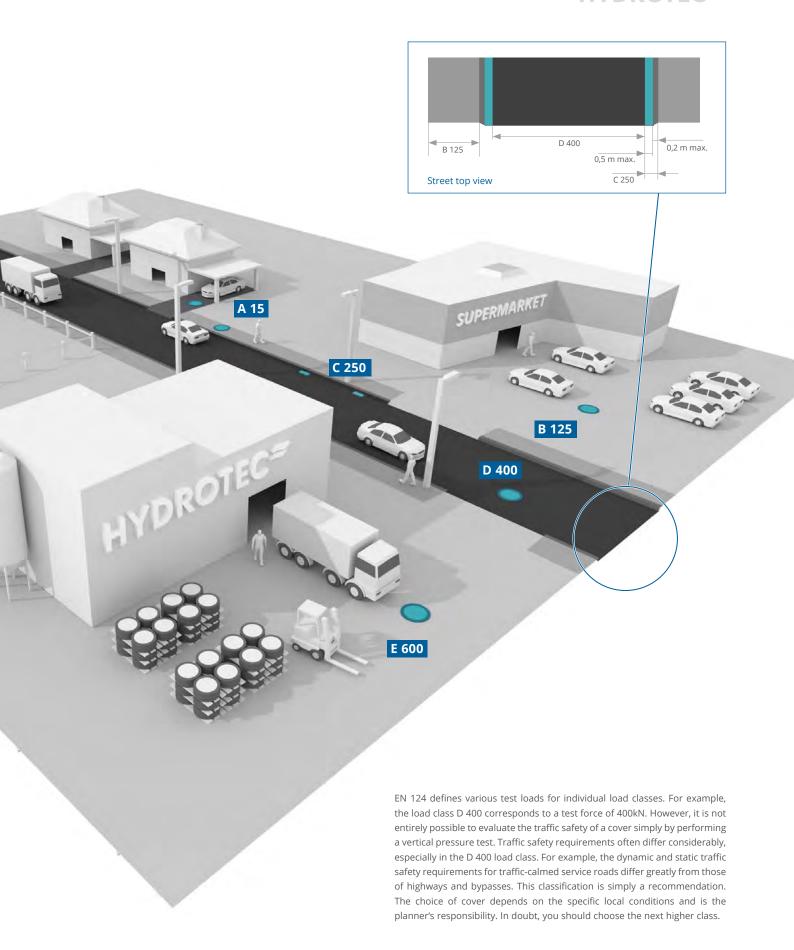


Intensive Traffic

Areas with intensive traffic load, e.g. curves, crossroads, junctions ...



HYDROTEC~



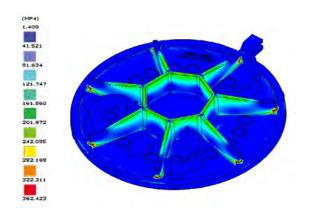
CERTIFIED QUALITY

SAFETY FIRST ...

Once learnt, never forgotten. As specialists with many years of experience in drainage technology, we place much emphasis on product development. This is where high-tech produces the perfect component. Each and every product is put through rigorous quality checks. Product innovation are tested using a 3D simulation program, "FEM", with respect

to structural behaviour under load. The results of a simulation give us insights into the durability of a component and thus allow us to optimize development.

Cover subjected to a stress of 400 kN with torsion curve



Certified Quality

Our products are tested for compliance with international standards and monitored by internationally accredited test laboratories.











Quality Management

Compliance with EN 124 is assured by material test institutes accredited for testing throughout Europe (test lab accredited to ISO 17025 standard).

EN 124 labeling (item 9 EN 124)

- 1 Manufacturer ID
- 2 EN 124 designates the European Standard
- 3 Load class (e.g. D400)
- 4 Mark of third party certification body
- 5 Product name (optional)

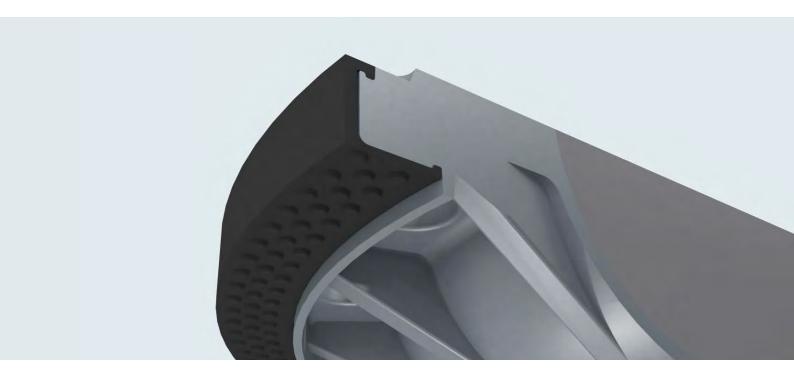


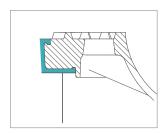
Amtliche Materialprüfanstalt Bremen (Official Testing Institute)





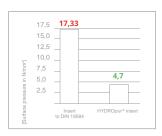
HYDRO*pur*® **INSERT** Product benefits





HYDROpur® insert

Manhole covers have a coated HYDROpur® insert. This polyurethane coating is connected to the manhole cover by a special process, whereby two components merge to form an innovative product.



Lower surface pressure

The HYDRO*pur*® insert reduces the surface pressure by approx. 72 % (comparison with cover insert according to DIN 19584). As a result, the acting forces can be better absorbed.



Noise reduction

Additional knobs on the underside of the HYDRO*pur*® insert allow better circulation between the frame and the lid. This leads to a considerable reduction in noise.

Also available for system ECON, EURO and SCANDIC.



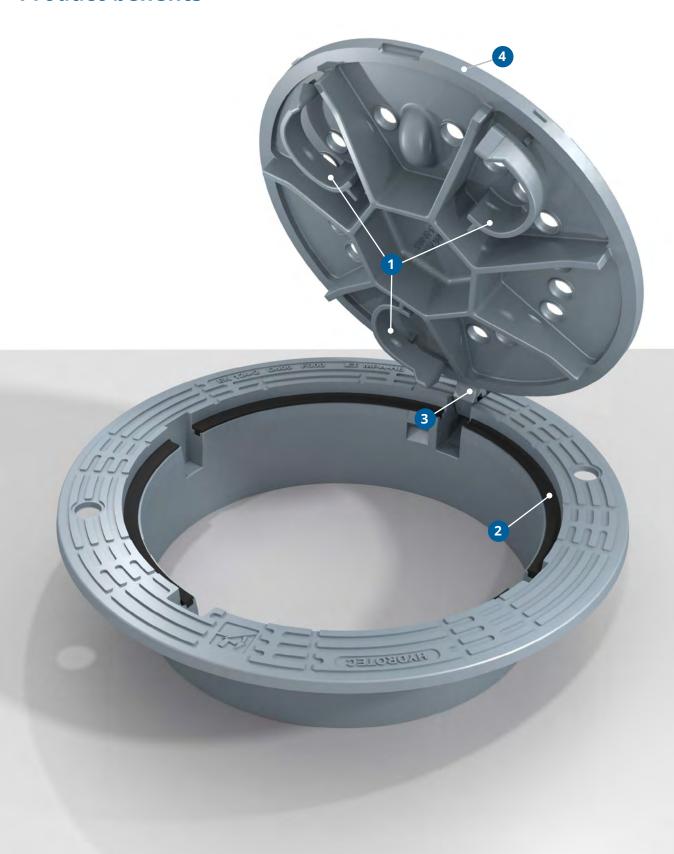
Good resistance

The HYDRO*pur*® insert meets the resistance to the following substances:

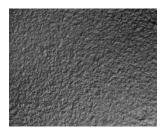
- frost and de-icing salt
- Resistant to a wide range of chemical substances
- Hydrolysis-resistant
- mineral oil

SYSTEM ECON

Product benefits



SYSTEM ECON Product benefits



Made of ductile cast iron

Ductile cast iron (ductile iron with nodular graphite) is robust, can withstand high static loads and has high corrosion resistance.



3-point locking system

The 3 point locking ensures that the cover is securely positioned even under heavy loads and offers protection against theft and vandalism.



HYDROpren L-insert

The replaceable HYDRO*pren* L-insert consists of polychloroprene according to DIN 53505. The insert guarantees high abrasion resistance and longevity. L-shape hinders vertical and horizontal contact to iron.



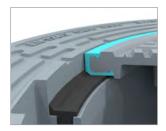
Hinge

The hinge provides maximum safety during 90° locking against accidental closing of the cover, as well as in the 110° inspection position.



Criss-Cross Design

Criss-Cross Design minimizes traffic roll-over noise and improves anti-slip.



Optional: HYDRO*pur*® insert

Characteristics on page 9.



Optional: Turnbuckle

With the turnbuckle, the ECON offers maximum protection against vandalism and unauthorised opening of the cover.



Optional: Gas pressure spring

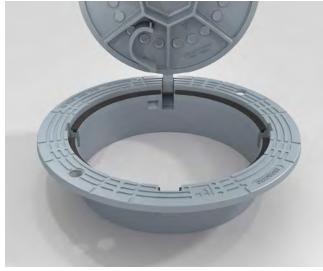
The gas pressure spring facilitates the opening of the cover.

Only available for ECON 800.

SYSTEM ECON

Frame selection





ECON with flange frame (page 13)

The choice is the ECON with flange frame, which allows a fixed and flush fitting on the shaft.

ECON SN with self-levelling frame (on page 16)

The ECON SN with self-levelling frame is available for selection, which optimally transfers the traffic load into the roadway layers.



ECON H with liftable frame (on page 14)

The smooth outer surface of the ECON H allows the frame to be pulled up without any problems. The wide support flange ensures maximum stability.



894520

ECON 800 / 600

Class D 400 / E 600, Ductile Cast Iron (GJS), DIN EN 124-2

ECON 800							<u> </u>
Туре	Art. no.	Over base	Height	kg	Pallet		
D 400, double hinge,	3-point locking	system, HYD	ROthen	insert			Ø886
	8945 20	1036	130	129	8	•	Ø800 Ø1036
Ventholes*	8945 10	1036	130	129	8		
		with support for or turnbuckle / o					Introduction

ECON 600						🚬 n
Туре	Art. no.	Over base	Height	kg	Pallet	
F (00 him 2 min)	Indiana da esta	IVDDO				<u> </u>
E 600, hinge, 3-point	locking system, i	HYDROpren	insert			Ø600
	89570 84	785	100	82	9	Ø675 Ø785
Inlet grating*	89572 81	785	100	77	9	WOOTE WOOTE
D 400, hinge, 3-point	t locking system,	HYDRO <i>pren</i>	insert			
	8947 08	785	100	66	9	
Ventholes*	8947 18	785	100	70	9	TO 1 COLUMN TO SHARE THE PARTY OF THE PARTY
Inlet grating*	8947 28	785	100	74	9	894708
ECON <i>pur</i> , D 400, hing	ge, 3-point lockin	g system, H	YDRO <i>pu</i> i	<i>r</i> insei	rt	
	8949 4708	785	100	66	9	
Ventholes*	8949 4718	785	100	70	9	

Inlet area 1.050 cm² for Inlet gratings.

^{*}frame with support for dirt catcher (Art. no. 501001) and opening bar $\,$

ECON H 600

Class D 400 / E 600, Ductile Cast Iron (GJS), DIN EN 124-2

ECON H 600 - F	ROUND				
Туре	Art. no.	Over base	Height	kg	Pallet
E 600, hinge, 3-point l	ocking system, I	HYDRO <i>pren</i>	insert		
	8151 2004	785	100	84	10
D 400, hinge, 3-point	locking system,	HYDRO <i>pren</i>	insert		
	8141 401	785	100	88	10
Ventholes*	8141 411	785	100	88	10
Inlet grating*	8141 45	785	100	91	10
	8141 501	785	160	103	6
Ventholes*	8141 511	785	160	102	6
ECON <i>pur</i> , D 400, hinge	e, 3-point lockin	g system, H	YDRO <i>pu</i>	<i>r</i> inser	rt
	8149 412004	785	100	80	10



814211



ECON SN 800

Class D 400 / E 600, Ductile Cast Iron (GJS), DIN EN 124-2

ECON SN 800						
Туре	Art. no.	Over base	Height	kg	Pallet	
00, HYDRO <i>then</i> instion: Gas pressure		n buckle				
ncl. adapter ring	8945 13	1140	230	180	4	
ntholes* cl. adapter ring	8945 12	1140	230	180	4	
	*frame with suppo	rt for dirt catche	er (Art. no.	501125 o	or 501300)	





ECON SN 600

Class D 400 / E 600, Ductile Cast Iron (GJS), DIN EN 124-2

ECON SN 600					
Туре	Art. no.	Over base	Height	kg	Pallet
E 600, hinge, 3-point lo	cking system,	HYDRO <i>pren</i>	insert		
	8151 234	850	190	109	5
Ventholes*	8151 224	850	190	109	5
Inlet grating*	8141 24	850	190	95	5
D 400, hinge, 3-point lo	ocking system,	HYDROpren	insert		
	8141 33	820	160	80	6
Ventholes*	8141 32	820	160	80	6
	01.41.22	050	100	01	_
Ventholes*	8141 23	850	190	91	5 5
Inlet grating*	8141 22	850 850	190 190	91	5
inlet grating.	8141 24	650	190	95	5
	8141 231	850	275	100	4
Ventholes*	8141 221	850	275	100	4
ECON <i>pur</i> , D 400, hinge,	2 point lockin	a system H	VDBOn	rincor	-+
econ <i>pur</i> , b 400, fillige,	, 5-point lockin	ig system, n	τυκορι	II IIISEI	· ·
	8149 4133	820	160	80	5
Ventholes*	8149 4132	820	160	80	5
	01404433	850	100	91	_
Ventholes*	8149 4123 8149 4122	850	190 190	91	5 5
ventrioles	01494122	830	190	91	J
	8149 41231	850	275	101	4
Ventholes*	8149 41221	850	275	101	4

Inlet area 1.050 cm² for Inlet gratings.

^{*}frame with support for dirt catcher (Art. no. 501001) and opening bar $\,$



ECON*tight* 800 / **ECON***proof* 600 Class D 400 / E 600, Ductile Cast Iron (GJS), DIN EN 124-2

ECON <i>tight</i> H 8	300				🔁 LT	WATERTIGHT & LIFTABLE FRA
Гуре	Art. no.	Over base	Height	kg	Pallet	
D 400, 4 point-lockir	ng system, HYDRO	O <i>pren</i> insert				Ø920
	8048 34	920	105	128	4	Ø800
Ventholes	8048 24	920	105	128	4	
						804834

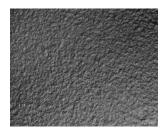
E 600, 4 point locking system, pressure-tight up to 0,5 bar,	ECON <i>proof</i> 600)					🖳 мт 🔑 нт	PRESSURE-TIGHT!
HYDRO <i>pren</i> insert Ø610 Ø750	Туре	Art. no.	Over base	Height	kg	Pallet		
HYDRO <i>pren</i> insert Ø610 Ø750								
Ø750	E 600, 4 point locking HYDRO <i>pren</i> insert	system, pressu	re-tight up t	o 0,5 bar	.,			Ø702
		8957 53	750	100	85	10		

SYSTEM EURO

Product benefits



SYSTEM EURO Product benefits



Made of ductile cast iron

Ductile cast iron (ductile iron with nodular graphite) is robust, can withstand high static loads and has high corrosion resistance.



Locking system

The point locking ensures that the cover is securely positioned and offers protection against theft and vandalism.



HYDRO*pren* insert

The replaceable HYDRO*pren* insert consists of polychloroprene according to DIN 53505. The insert guarantees high abrasion resistance and longevity.



Hinge

The hinge provides maximum safety during 90° locking against accidental closing of the cover, as well as in the 110° inspection position.



Criss-Cross Design

Criss-Cross Design minimizes traffic roll-over noise and improves anti-slip.



Optional: HYDRO*pur*® insert

Characteristics on page 7.

EURO 600

Class B 125 - D 400, Ductile Cast Iron (GJS), DIN EN 124-2

EURO 600							
Туре	Art. no.	Over base	Height	kg	Pallet		
D 400, hinge, locking sy	rstem, HYDROp	oren insert					
	8946 8614	785	100	52	10		
Ventholes*	8946 8615	785	100	52	10		
Inlet grating*	8946 8616	785	100	50	10		Ø66
	8946 8617	850	100	55	10		Ø60
Inlet grating*	8946 8616	850	100	53	10		Ø78
	*frame w	ith support for			1.065 cm ² o. 501200)		
						89468616	894

*Inlet area 1.090 cm²



EURO SN / EURO*proof* **600** Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2

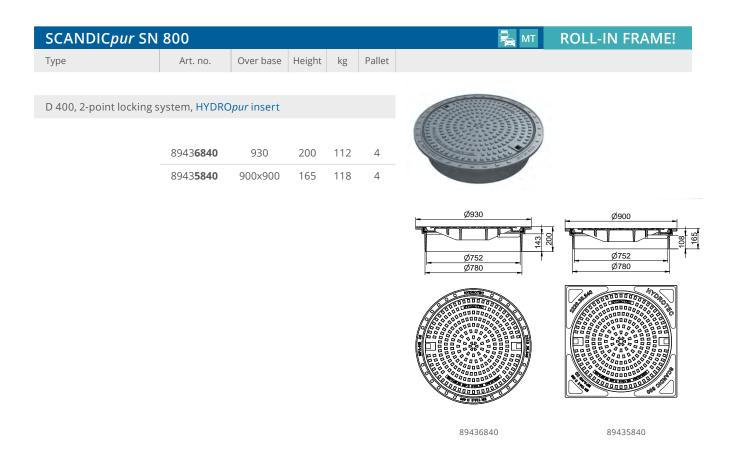
EURO SN 600						ROLL-IN FRAME!
Туре	Art. no.	Over base	Height	kg	Pallet	
D 400, hinge, locking sy	rstem, HYDRO	oren insert				Ø788
	8947 19	788	160	68	6	Ø600 Ø619
EURO <i>pur</i> , D 400, hinge,	3-point locking	g system, H	YDROpu	<i>r</i> inser	t	WENTER
	8947 193	788	160	68	6	
Ventholes*	8947 194	788	160	68	6	
	*frame w	vith support for	dirt catche	r (Art. no	o. 501040)	894719

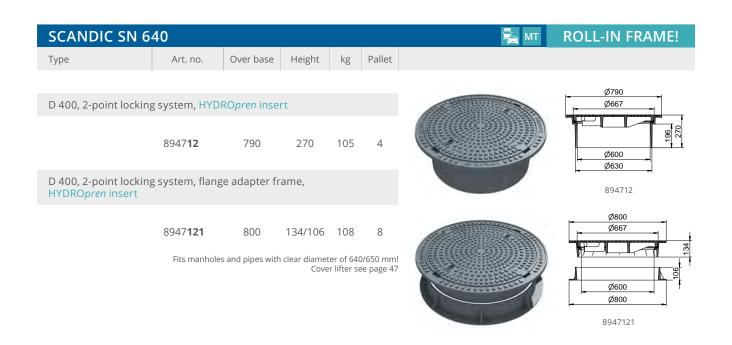
EUROproof 600)					PRESSURE-TIGH
Туре	Art. no.	Over base	Height	kg	Pallet	
D 400, 3-point locking up to 0,5 bar, watertig			essure-ti	ght		Ø660
	8946 750	785	100	55	10	Ø600 Ø785



SCANDICpur SN 800 / 640

Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2







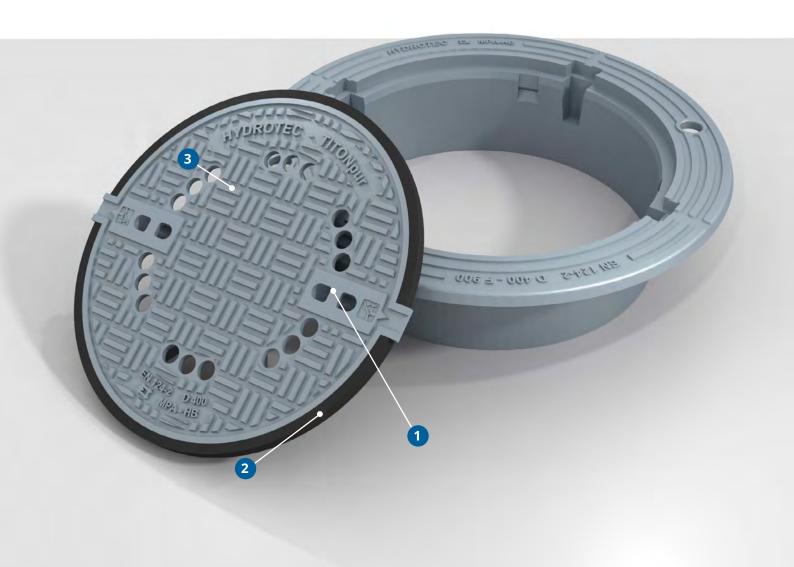
SCANDIC SN 600 / TRIX SN 700 / TRIX 600

Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2



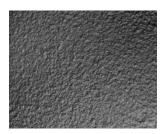
HYDROTEC~

SYSTEM TITON*pur* Product benefits





SYSTEM TITON*pur* Product benefits



Made of ductile cast iron

Ductile cast iron (ductile iron with nodular graphite) is robust, can withstand high static loads and has high corrosion resistance.



2 point spring locking

The 2 point spring locking ensures that the cover is securely positioned even under heavy loads and offers protection against theft and



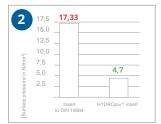
HYDRO*pur*®-insert

Manhole covers have a coated HYDRO*pur®*-insert. This polyurethane coating is connected to the manhole cover by a special process, whereby two components merge to form an innovative product.



Rattle free

In the case of slow expansion to the original condition of the HYDRO pur° -insert after loading, the manhole cover is secured against the rapid cracking of the cover



Lower surface pressure

The HYDRO*pur®* insert reduces the surface pressure by approx. 72 % (comparison with cover insert according to DIN 19584). As a result, the acting forces can be better absorbed.



Noise reduction

Additional knobs on the underside of the HYDRO*pur*® insert allow better circulation between the frame and the lid. This leads to a considerable reduction in noise.



Good resistance

The HYDRO*pur*® insert meets the resistance to the following substances:

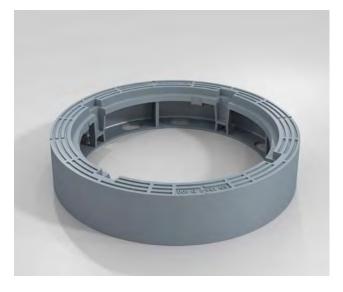
- frost and de-icing salt
- Resistant to a wide range of chemical substances
- Hydrolysis-resistant
- mineral oil



Design

Criss-Cross Design minimizes traffic roll-over noise and improves anti-slip.

SYSTEM TITON*pur* Frame selection



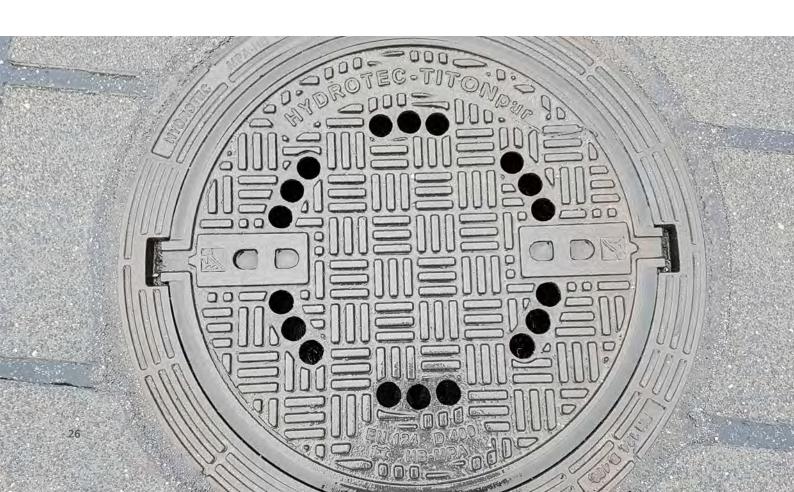


The smooth outer surface of the TITONpur H allows the frame to be pulled up without any problems. The wide support flange with mortar pockets ensures maximum stability.



TITONpur SN with self-levelling frame (on page 26)

The TITONpur SN with self-levelling frame is available for selection, which optimally transfers the traffic load into the roadway layers.





TITON*pur* **H** / **TITON***pur* **SN**Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2

TITON <i>pur</i> H	600					
Туре	Art. no.	Over base	Height	kg	Pallet	
	8149 4433	785	160	101	8	<u> </u>
Ventholes*	8149 4432	785	160	101	8	Ø600 Ø625
	* frame with sup	oport for dirt	catcher (A	Art. no.	501001)	\$ 100 min
						81494433

TITON <i>pur</i> SN	1 600					ROLL-IN FRAME!
Гуре	Art. no.	Over base	Height	kg	Pallet	
	8149 4423	850	210	92	5	Ø850
/entholes*	8149 4422	850	210	92	5	Ø600 Ø616
	* frame with su	pport for dirt	catcher (A	Art. no.	501001)	
						81494423



INSPECTION COVERS 1000

Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2

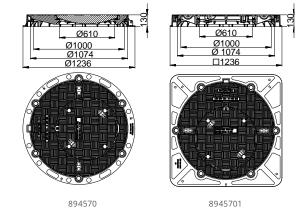
1000 / 600						🛼 LT	WATERTIGHT!
Туре	Art. no.	Over base	Height	kg	Pallet		

For e.g. pumping or well shafts, optimized inspection through cover in cover system, watertight

Round frame	8945 70	1236	130	237	5
Square frame	89457 01	1236x1236	130	264	5

Cover I (1000), 6 stainless steel bolts, HYDRO*pren* insert Cover II (600), 4 stainless steel bolts, HYDRO*pren* insert







SQUARE / RECTANGULAR INSPECTIONS COVERS

Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2

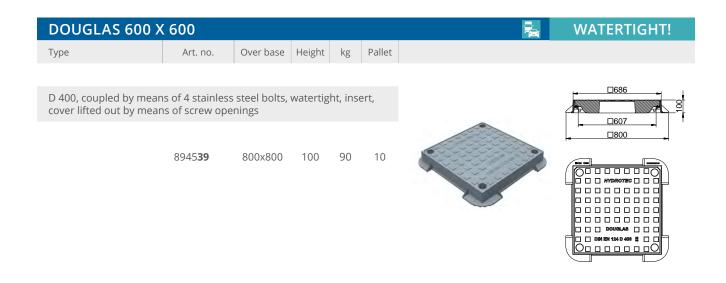






SQUARE INSPECTION COVERS

Class B 125 / D 400, Ductile Cast Iron (GJS), DIN EN 124-2







SQUARE INSPECTION COVERS

Class B 125 / C 250, Ductile Cast Iron (GJS), DIN EN 124-2

PAVER						P ₌ 🚊
Туре	Art. no.	Over base	Height	kg	Pallet	
C 250, single seal						□ob
						□со
co 325x325	8936 41	425x425	50	24,5		(
co 420x420	8936 42	505x505	50	32,5		
co 490x490	8936 45	620x620	50	48		

PAVER						🥻 🚳 🏣
Туре	Art. no.	Over base	Height	kg	Pallet	
B 125, flat seal						□ob
						□со
co 175	8920 30	300x300	18	6	40	Victory W. William
co 250	8920 40	400x400	18	11	40	
co 350	8920 50	500x500	30	19	40	
co 425	8920 60	600x600	30	25	20	Alles Concession
co 500	8920 70	700x700	35	35	15	
co 610	8920 80	800x800	40	53	15	
co 700	8920 90	900x900	50	68	15	
co 800	8921 00	1000×1000	70	96	14	



SQUARE INSPECTION COVERS

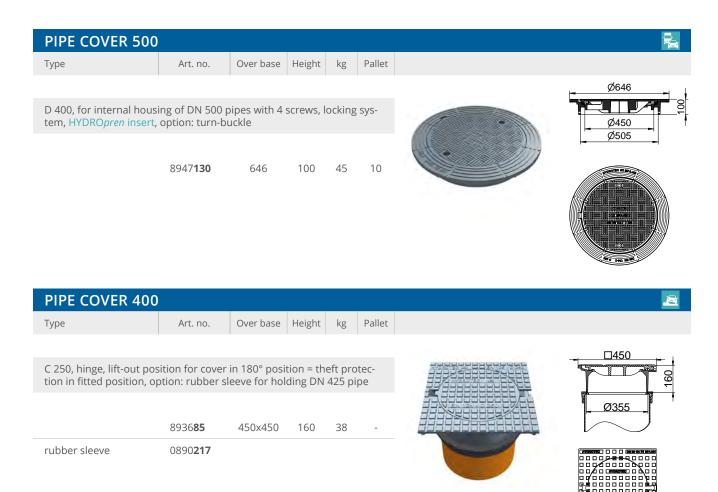
Class B 125, Ductile Cast Iron (GJS), DIN EN 124-2

PAVER					
Туре	Art. no.	Over base	Height	kg	Pallet
B 125, single seal					
co 245x245	8922 21	330x330	25	7,4	40
co 275x275	8921 41	400x400	25	11	40
co 375x375	8921 51	500x500	25	15	40
co 475x475	8921 61	600x600	25	24	20
co 575x575	8921 71	700×700	25	32	10
co 700x700	8921 80	800x800	55	76	10



PIPE COVERS

Class C 250 / D 400, Cast Iron, DIN EN 124-2

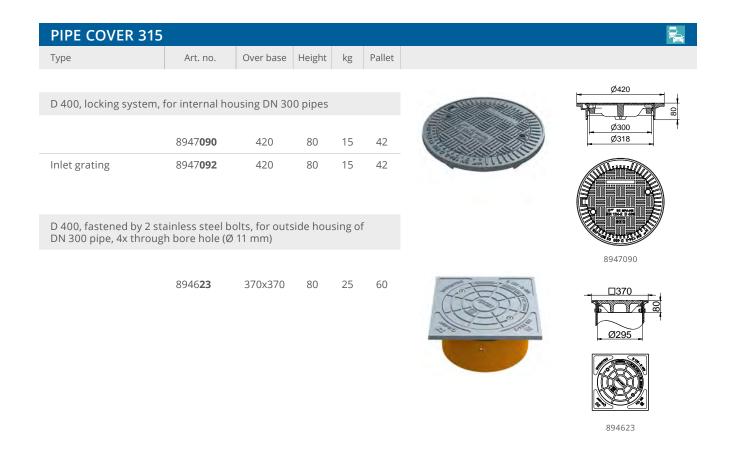


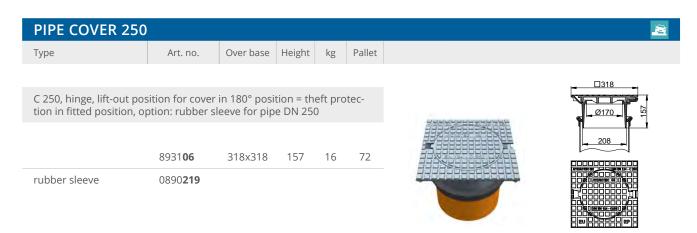




PIPE COVERS

Class C 250 / D 400, Cast Iron, DIN EN 124-2

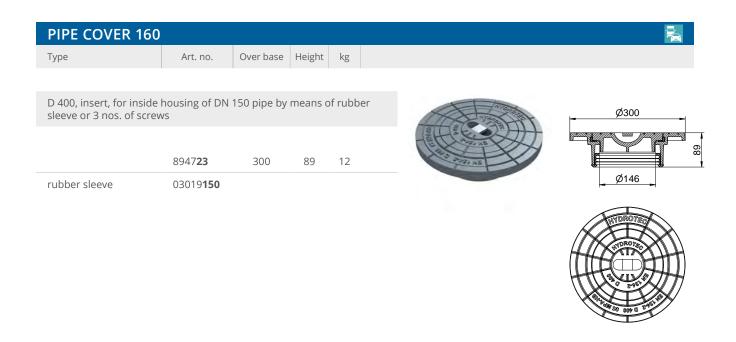






PIPE COVERS

Class D 400, Cast Iron, DIN EN 124-2



KERB DRAINAGE

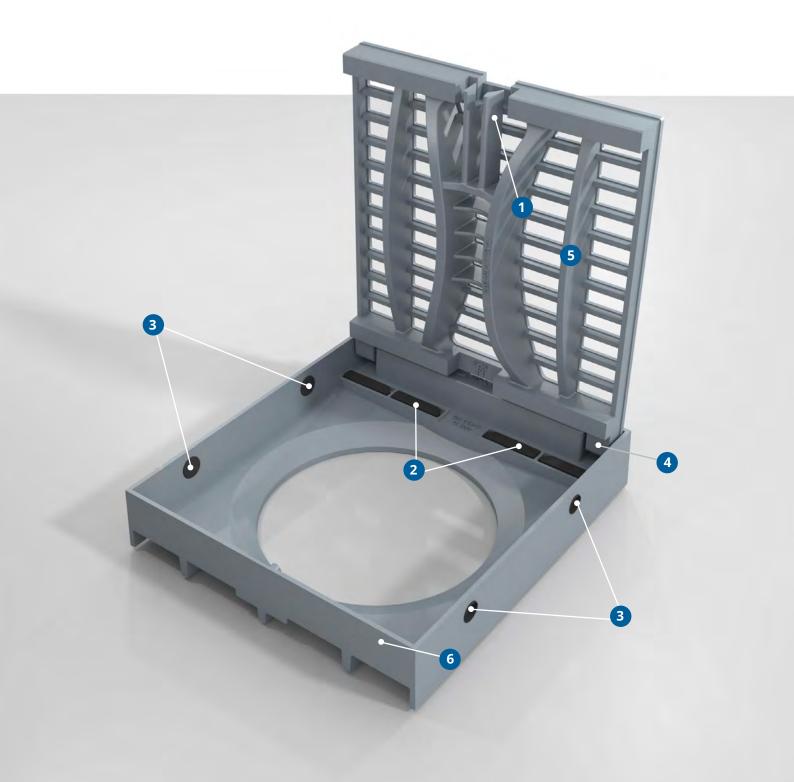
Class C 250, Ductile Cast Iron (GJS), EN 124

HYDRO <i>kerb</i> S 50	00						
Туре	Art. no.	Over base	Inlet area cm²	Height	kg		
C 250, Form T, hinge, 2-	point locking sy	stem, 120° _l	position of in	nspection	n		20 4
	9933 03	570x570	850	205	52	A STATE OF THE PARTY OF THE PAR	475×500
			option: Anti-	Theft-Pro	tection		

CERB DRAINAG	E 450 X 45	50					
ype	Art. no.	Over base	Inlet area cm²	Height	kg		
250, Form A, 3-sided	flange, lifting	pocket					
ocked, with grating*	9934 50	500x496	240	170	58		
	9934 502	500x490	300	170	48	A Pro-	
						993450	
250, Form T, 3-sided f	lange, lifting p	ocket					Í
	9934 501	500x470	270	170	50		
						9934501	

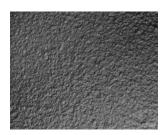
SYSTEM ECON GULLY TOPS

Product benefits



SYSTEM ECON GULLY TOPS

Product benefits



Made of ductile cast iron

Ductile cast iron (ductile iron with nodular graphite) is robust, can withstand high static loads and has high corrosion resistance.



Spring locking system

The ECON gully tops are equipped with a centred spring locking system. This is located below the grate and functions as a safety lock



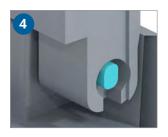
HYDROpren insert

The replaceable HYDRO*pren* insert consists of polychloroprene according to DIN 53505. The insert guarantees high abrasion resistance and longevity.



Closable drainage holes

Four openings in the frame provide for an optional construction times drainage. The openings can be closed with the supplied plastic plugs if necessary or at the end of the operation.



Hinge

The design of the hinge enables 90° locking and 110° locking (inspection position) of the grate. At 90°, the grate can be completely removed if required.



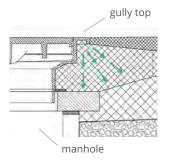
Pedestrian friendly

With a slot width of 25 mm, the ECON gully tops are perfect for pedestrian streets.



Liftable frame

The smooth outer surface allows the frame to be easily lifted.



Optional: Self-levelling frame

The self-levelling frame transfers the traffic load into the road layers, which reduces the load on the shaft.



ECON GULLY TOPS

Class C 250 / D 400, Ductile Cast Iron (GJS), DIN EN 124-2

ECON SN 500 X	500					🔁 LT	ROLL-IN FRAME!
Туре	Art. no.	Over base	Inlet area cm²	Height	kg		
							1
D 400, fl at, hinge, self-le	evelling frame						0.00
						Hillian ?	Ø350 _
	9349 52	626x555	950	200	67	Hilling	Ø370
		Fran	ne for suppor	t for dirt	bucket		MYDROTEC 89 m. m
							(SE III 554 5 451)
							555

FCON FOO V FOO							
ECON 500 X 500							<u>=</u>
Туре	Art. no.	Over base	Inlet area cm²	Height	kg		
D 400							
						HILITAN .	Ø350 500
Flat	9349 51	500x546	950	100	57		### IDN 101 101 101 101 101 101 101 101 101 10
Concave	9349 812	500x546	950	125	63	City	
						•	
C 250							
Flat	9339 51	500x546	950	100	55		934951
Concave	9339 812	500x546	950	125	61		
Concave	9339 811	500x546	950	160	67		

All frames for support for dirt bucket



ECON GULLY TOPS

Class C 250 / D 400, Ductile Cast Iron (GJS), DIN EN 124-2

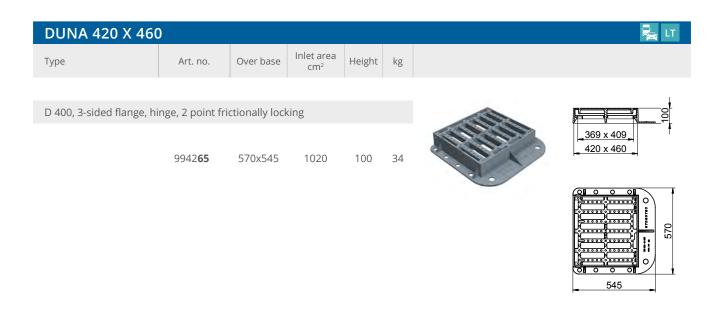
ECON 300 X 500)						
Туре	Art. no.	Over base	Inlet area cm²	Height	kg		
							1
D 400							0
						HILITA	Ø365
Flat	9349 41	545x300	500	100	39		300
Concave	9349 71	545x300	500	100	38	C	DOI 104 104 - D 400
C 250							
Flat	9339 21	545x300	500	100	37		
Concave	9339 71	545x300	500	100	36		
		All frame	es for suppor	t for dirt b	oucket		934941

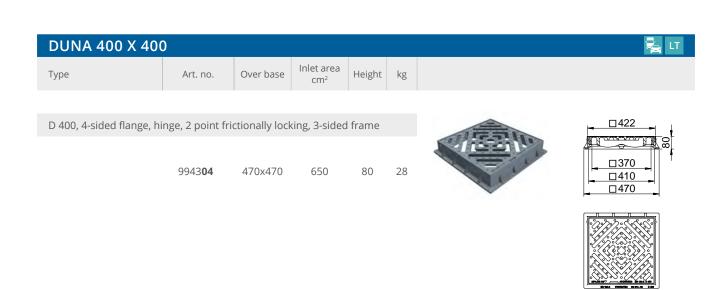




GULLY TOPS

Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2







GULLY TOPS

Class D 400, Ductile Cast Iron (GJS), DIN EN 124-2







GULLY TOPS

Class C 250, Ductile Cast Iron (GJS), DIN EN 124-2

FLAT						
Туре	Art. no.	Over base	Inlet area cm²	Height	kg	Pal.
C 250						
400x400	9932 94	410x410	220	39	18	40
500x500	9932 95	510x510	780	39	25	36
600x600	9932 96	610x610	1550	39	36	24

CONCAV	Έ					
Туре	Art. no.	Over base	Inlet area cm²	Height	kg	Pal.
C 250, hinge	and locking sys	stem				
400x400	9932 97	410x410	220	39	20	36
500x500	9932 98	510x510	920	39	29	24
600x600	9932 99	610x610	1480	39	38	24



HOME AND YARD DRAINAGEClass A 15 - D 400, Cast Iron (GJL) / steel, EN 124

GULLY BOX 300 X	(300			
Туре	Art. no.	Height	kg	Pallet
Incl. Mud bucket, vertical of connection DN 100/DN 15		eve for p	ipe	
D 400, DN 100, flat	9042 9090	365	63,8	12
D 400, DN 150, flat	9042 9080	365	62,8	12
B 125, DN 100, flat	9022 9090	365	60,8	12
B 125, DN 150, flat	9022 9080	365	59,8	12
D 425 DN 400	00227000	276	64.0	42
B 125, DN 100, concave B 125, DN 150, concave	9022 7090 9022 7080	376 376	61,0	12
,				
A 15, DN 100, flat	9012 8090*	380	53,0	12
A 15, DN 150, flat	9012 8080*	380	50,2	12
B 125, DN 100, flat	9022 8090*	380	54,8	12
B 125, DN 150, flat	9022 8080*	380	51,8	12
		*st	eel mesh	grating



HOME AND YARD DRAINAGEClass B 125 - D 400, Cast Iron (GJL), EN 124

				300	SALZACH 300 X
	eight kg	Inlet area cm²	Over base	Art. no.	Туре
	acement	2 DN 315. Di	s well as pipe	rd DIN shaft. as	Flat gully top for standa
					safeguard on manhole,
	65 22	220	380	9042 612	D 400
_	65 18	220	380	9022 612	B 125
	65 17	220	380	9012 612	A 15

HYDROTEC*

HOME AND YARD DRAINAGE Class A 15 - B 125, Cast Iron (GJL), EN 124

YARD GULLY TOP	400 X 4	00					
Туре	Art. no.	Over base	Inlet area cm²	Height	kg		
							□400
SW 16 mm, DIN 19593, fla	at					de	· ·
B 125	9022 91	400x400	220	130	50		
A 15	9011 50	400x400	220	80	33		GENERAL SERVICE SERVIC
VARD CHILV TOP	200 V 2	00					902291
YARD GULLY TOP	9 300 X 3		Inlet area				902291
	2 300 X 3	Over base	Inlet area cm²	Height	kg		
				Height	kg		<u>ė</u> i 46 P
Туре				Height	kg		<u>i</u> s is ∞6 P ₂
Туре				Height	kg		<u>i</u> s is ∞ P _s
Type SW 16 mm, DIN 19593				Height 100	kg 20		\$ \$ 6 8 9 9 9 9 9 9 9 9 9 9
YARD GULLY TOP Type SW 16 mm, DIN 19593 B 125, Flat B 125, Concave	Art. no.	Over base	cm ²				5
Type SW 16 mm, DIN 19593 B 125, Flat	Art. no. 9022 90	Over base	cm²	100	20		1300 1300 1300 1300 1300 1000

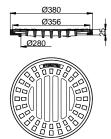
YARD GULLY TO	P 300					
Туре	Art. no.	Over base	Inlet area cm²	Height	kg	

for standard DIN shaft and pipe DN 315

A 15, Concave, 9000**90** 380 215 25 11

Test load 50 kN







ROOF DRAINAGE

ROOF DRAINAG	GE 100			
Туре	Art. no.	kg		
DN 100	990100109	9,0		_DN100
Accessories				235
Mud basket	521132			DN100
				324

HYDROTEC~

ACCESSORIES

Туре	Art. no.	Material		
"Universal" opening bar Opening aid for ductile manhole covers e.g. ECON, TRIX, SAFETY	9895 11	galv. steel		6 2
Multipurpose operating key Spider for covers and gully tops for square headed bolts M16 and M20, lift-out hook and slotted screwdriver	9895 03	galv. steel	989511	989503
ECON SN 600				
Installation frame Height = 190 mm	8141 97			
Concrete adapter ring Height = 80 mm, inner diameter = 633 mm	8141 92		814197	814192
ECON SN 500x500				
Asphalt stop	089022 32		08902232	



GENERAL AND TECHNICAL INFORMATION

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1. Materials

We mainly use ductile cast iron or grey cast iron for manhole covers and gully tops. Grey cast iron combined with concrete is an optimum combination of materials:

- Grey cast iron and concrete have very similar material characteristics with respect to heat expansion and ductility.
- Neither material is affected by breaking elongation.
- Bending strength is improved by using concrete in the pressure area and cast iron in the traction area. This gives the user a high level of dimensional stability and long service life.

Grey cast iron

Cast iron with lamellar graphite (GG) to DIN EN 1561, EN-GJL 100 to 300. This tried and trusted material, which has been used for centuries, is still one of today's most commonly produced cast iron types. Its well-known benefits, such as more or less unlimited molding potential, pronounced stability,

and excellent vibration damping make it a very attractive option compared to more expensive, premium types such as ductile graphite iron, annealed cast iron, cast steel, cast aluminum and wrought parts.

Ductile cast iron

Cast iron with nodular graphite (GGG) to DIN EN 1563, EN-GJS 400-15 to 500-7. This more recent cast iron type has far higher rigidity and expansion values than grey cast

iron. However, its molding and working potential is similar to that of grey cast iron. Ductile cast iron's elasticity is far more pronounced than that of grey cast iron. Thanks to its excellent rigidity, it is suitable for parts that are subject to stress, including safety parts in the automotive industry and engine building, as well as for lightweight, thin-wall constructions.

Natural finish cast iron

Surface oxidation of cast iron (graphite / perlite formation) makes it resilient against materials that appear in traffic areas, such as de-icing salts. Scientists have demonstrated that additional surface protection is unnecessary. So don't worry about

the "rusty" surface. This is just residual iron dust from the manufacturing process which has no negative impact on the quality or function.

Dampening inserts

Inserts are suited between cover and frame and are wearing parts. We use different durable and high abrasion-proof inserts. HYDROpren insert is made of Polychlorprene according to DIN 19585. HYDROthen insert is based on a special abrasion proof and durable Polyethylene. HYDROpur insert is made of Polyurethane which is cast around the cover and combines cover and insert inseparably – rattling is impossible.

Cast iron with lamellar graphite Tensile strength 100-300 N/mm² Breaking strain <1%



Cast iron with nodular graphite Tensile strength 500-1100 N/mm2 Breaking strain 2-15%



2. Terms / Variants

Manhole covers

Manhole covers are the visible element of a manhole to the road and provide a safe cover for underground shafts.

Secured manhole covers

Owner / operators who need to prevent unauthorized opening of manhole covers should choose secured covers. We offer avariety of types for various requirements such as protection against theft and vandalism.

- <u>Safety screw-lock</u>. The covers and frames of our manhole covers with safety screw-locks are non-positively and positively locked.
- Locking by means of turnbuckle. The covers and frames of our manhole covers are secured with screw locks. Turnbuckles prevent unauthorized opening of covers as well as



GENERAL AND TECHNICAL INFORMATION

- negative effect from water or air build-up.
- Locking by means of 3 point lock (e.g. ECON or TRIX system)
 3-point locking system prevents unauthorized opening of the cover. When closed, the cover automatically locks by means of three retainers clicking into place.

Distortion protection

Distortion (Anti-Twist) protectors locating pins built into the cover with corresponding receptacles in the frame. This means the cover has a defined position in the frame thus preserving the contact surface quality for a considerable time.

Water tight

Surface water tight covers prevent surface water entering the manhole. Surface water tightness refers to the cover and frame. Careful installation on site and validation after completion will help ensure a tight seal between the cover and the shaft. Our guarantee only covers the tightness of the cover / frame seal.

Pressure tight

Pressure tight manhole covers provide a seal against backwater pressure. They are available for various pressure levels of 0.5 to 2.0 bar and in various types. It is important to ensure secure locking and a backwater tight seal between the shaft and the cover, this can be achieved by use of proper installation methods.

Gas tight

The definition "gas tight" in the context of manhole covers refers to normal sewer and fecal gases. For all other gases, please contact us to check the resilience of the deployed seal.

Drainage during construction work

These gully tops have lateral openings that allow surface water to enter drainage works before the road surface has been laid.

Liftable

"Liftable" refers to manhole covers with a smooth, vertical cast iron frame. The advantage of this frame is that it can be lifted to street level, if e.g. a new surface course is laid, using hydraulic lifting equipment. A full mounting is required for the cast iron frame after this: it is important to fill the gap between the shaft and the frame without leaving any gaps. The only frames suitable for this method are full cast iron frames which are additionally tested and approved by us for this purpose (e.g. ECON H).

Sand trap

A catcher comprises of ring-shaped recess in the frame's contact surface which the lid interlocks with by means of a counterring. The channel in the cover is sealed by sand and water providing an effective seal against smells.



INSTALLATION INSTRUCTIONS

Installation, operation and maintenance instructions

Location and load class ...

The procedure for installing manhole covers and gully tops depends on the installation location, the corresponding traffic loads, and the planned surface layer. Installation locations are assigned to classes A15 through F900 in EN 124. The manhole structure must be suitable for the traffic load. The planner is responsible for choosing the correct load class.













D 400

E 600

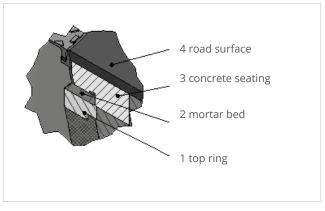
- use of concrete retaining rings, spacer seg-
- ments, or non-shrink, quick setting grout with plastic additive is recommended.
- In case of subsequent height adjustments always execute a new mortar bed throughout.
- Clean the cover and frame contact surfaces.
- Fit the cover and check for noise-free seating.
- 1 Clean and dampen the contact surfaces
- 2 Set the frame fully in a 20-40 mm mortar bed
- **3** Encase the frame in concrete (min. C20 / 25) and compact
- 4 Lay road surface (30-40 mm)

Before Installation ...

- All parts must be checked to ensure perfect working order. Never install damaged parts!
- Use suitable lifting gear for loading and offloading, and for transporting parts on site.
- Use appropriate tools for lifting out and/or inserting covers to avoid damage
- Before inserting the cover, always clean the bearing surfaces and - if it exists - check the seal for cleanliness and correct seating, and ensure that the closing device is in perfect working order and serviceable.
- Before installation clean and wet the underside of the
- The civil engineering contractor is responsible for the correct installation of manhole covers!
- Observe all technical regulations.
- The planner is responsible for choosing a suitable installation method, mortar quality and the manhole cover position with respect to driving direction.

Installation ...

- The frame must always be in full contact with the mortar bed and capable of bearing. If the substructure is not executed correctly, subsequent traffic load will cause loosening, premature wear, rattling, or even destruction of the
- Prepare the mortar bed (min. MG III, DIN 1053), install the frame with full contact and align at the correct height.
- When installing thin-walled frames which are not torsion-free make sure the cover is fitted when installing the
- For ECON H frames watch out for mortar penetrating the holes in the frame bearing surface.
- When adjusting the cover height by more than 40mm the



Attention!

In case of subsequent height adjustments always execute a new mortar bed throughout. Clean the contact surfaces of the frame and cover before fitting and thoroughly clean the hinge recess.

Mortar specification:

Crushing strength min. 10 N / mm² / Mortar group III to DIN 1053. We recommend quick-setting mortar and the use of formwork. Do not subject the cover to load until the mortar has set (see manufacturer's instructions).



INSTALLATION INSTRUCTIONS

Handling and maintenance

Manhole covers with spring locking and hinges e.g. ECON / TRIX \dots

The covers are opened by means of a lift-out bar which is inserted into the recess between the frame and the cover, and unlocked by lifting force.

The manhole cover is secured against accidental closing at 90°. The cover is removable in 90° position. To close the cover lift the cover slightly in 90° position and allow it drop. Check all seals and inserts for damage before closing and replace if needed. Check hinges for soiling and clean if needed, before closing the cover.

Pressure-tight - and watertight manhole covers ...

Covers secured by screw locks should be inspected once a year. Should you need to open the manhole covers, follow these stens:

- · Clean the bearing surfaces
- Clean the drill holes in the cover
- Check the insert for damage and replace if needed
- After cleaning apply, protective spray to the insert (silicon)
- Insert the cover. Make sure that it is fully seated and flush (screw connection) in the frame.
- Before inserting the screws, check the self-locking DUBO washers for damage and replace if needed.
- Tighten screws cross-wise (wheel nut principle) and evenly using a torque wrench at a tightening torque of 120 – 150 Nm (turn-buckle max. 80 Nm.)
- We recommend additionally securing the screws with screw locking fluid.

Self-levelling manhole covers e.g. ECON SN / SCANDIC SN ...

Please observe our separate installation instructions for floating, self-levelling manhole covers.



Unlock Cover



Inspection Cover



Remove Cover



Close



Manhole Cover - spring locking and hinges



Manhole Cover - pressuretight and watertight



Manhole Cover - self-levelling (SN)



GUARANTEED QUALITY

For our products we assume an extended warranty of up to 10 million EURO.

General notes

Illustrations, dimensions and weights are provided without committment. We reserve the right to modify the design and production methods to reflect the current state of art in technology. All previous catalogues become invalid on publication of this catalogue. All details concerning standards and kite marks were correct when this catalogue went to press.





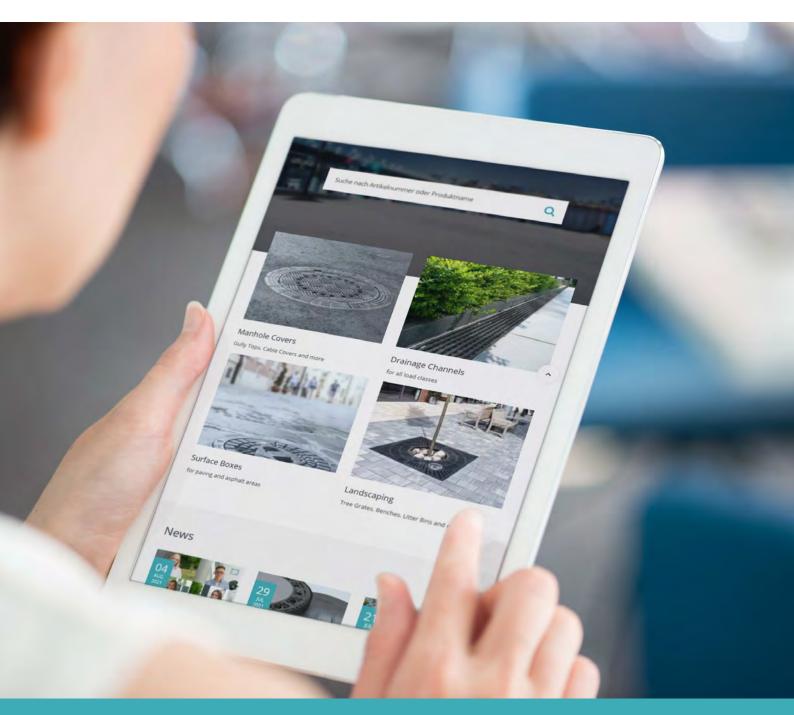








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