



FLOW CONTROL

PRODUCT RANGE.
FOR EXCELLENT
WATER SUPPLY.

EXCELLENT.
WATER.
SOLUTIONS.

WHY CHOOSE DÜKER.

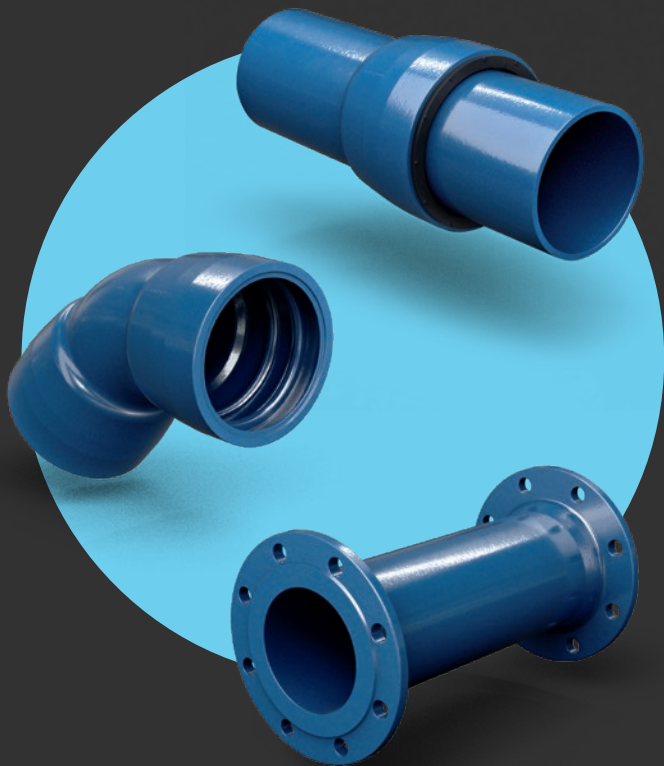
OUTSTANDING SOLUTIONS FOR A SUSTAINABLE WATER SUPPLY.

The most important application area for our Düker valves and fittings is the supply of drinking water. In addition, our products made from ductile cast iron are used in all water management applications in industrial sewage pipelines, culvert pipelines, bridge pipelines as well as transport and distribution pipelines for irrigation systems. Wherever you use our valves and fittings, we can provide you with sustainable solutions that are robust and remain fully operational for years and years. Perfectly enamelled with etec enamel. Made for a small eternity. Made in Germany. Made by Düker.



A STRONG COUPLING. FOR FITTINGS, FLANGE PRESSURE PIPES AND VALVES.

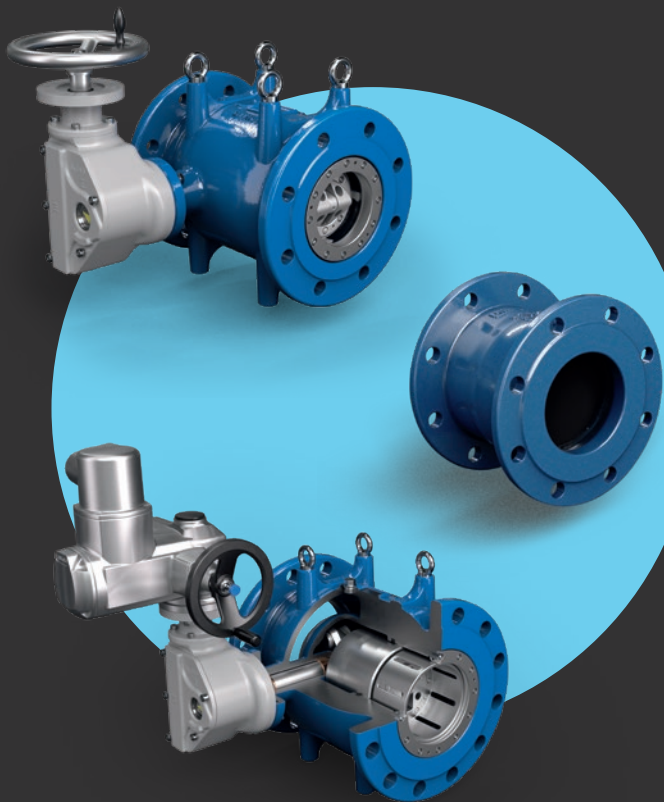
TYTON® socket couplings, **SMU** screw socket couplings, gland socket couplings, **Novo** socket couplings, socket couplings that are resistant and non-resistant to tensile forces, flange couplings and even socket couplings for plastic pipelines – you will find the full range of couplings offered by Düker Flow Control here. In all available sizes, weights, dimensions and permissible pressures. All made from ductile cast iron.



VALVES. EVERYTHING'S UNDER CONTROL.

Gate valves, replacement and repair gate valves, tapping valves, tapping clamps, service connection valves, single and combination valves, underground hydrants, surface hydrants, butterfly valves, non-slam check valves, aeration and ventilation valves, plunger valves and even control valves and strainers. Düker can offer you all this with an array of connection and coupling options – right through to flap valves. Made from ductile cast iron and fully enamelled. And, of course, compliant with all standards. Not to mention complete with all the relevant laying devices and operating keys.

Düker has everything you need for a controlled water supply. Fully enamelled, with optimum corrosion protection, reliable, sustainable and recyclable.



WHY CHOOSE DÜKER.

OUTSTANDING SOLUTIONS FOR A SUSTAINABLE WATER SUPPLY.

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DÜKER VALVES.

EVERYTHING'S UNDER CONTROL.

Turning on, turning off, opening, sealing – valves are required wherever a targeted, controlled supply of water or gas is needed. Whatever the quantity, what matters is precision and durability. That's why corrosion protection is crucial to every pipeline system – and the valves. Düker valves deliver. That is exactly what makes them so reliable, cost-effective and safe.

DÜKER FITTINGS.

IN ALL LENGTHS AND DIAMETERS.

Flanged fittings, socket fittings with or without reduction, special fittings, fittings for plastic pipelines, or sewage pipe fittings – they're all available from Düker. We cover the whole range, because you might just need it. You can get the right fittings from us.

DÜKER DUCTILE CAST IRON.

SUSTAINABLE RECYCLING.

Can cast iron really be sustainable? Well, if cast iron isn't sustainable, what is? Düker cast iron certainly is. And the raw materials prove it. Almost all the iron in our valves and fittings comes from scrap. It is used metal that has already done its job, and is reborn at Düker to lead a new, extensive product life – and there are no barriers to further reprocessing. That is our understanding of recycling, and the term is particularly apt here. It's worth pointing out that

all incoming scrap metal undergoes rigorous quality testing – for instance with a Geiger counter, to ensure that no radioactive material is used. This is hugely important to the health of all our employees – and that of all end users who get their water through Düker valves and fittings.

DÜKER ENAMEL.

TOTALLY NON-STICK.

Sustainable recycling is one thing. A hygienically pure coating for valves and fittings that is made from entirely inorganic materials is another. At Düker, this coating consists of enamel, a special glass made from quartz, feldspar, borax, soda, potash and metal oxides. Nature provides a plentiful and lasting supply of all these ingredients. Extraction is mainly carried out in Germany. Another benefit to the environment and climate. The special thing about enamelling is that it works like the lotus effect – nothing sticks to it. Microorganisms and incrustations don't stand a chance. At the same time, no aromas or contents pass from the flavourless, odourless coating into the drinking water. Consequently, as an inside coating, it protects the drinking water against pollution, and as an external coating, it protects the ductile cast iron against corrosion. Cast iron and glass are chemically bonded to form a composite material. Nothing gets past it. Nothing gets through it. Nothing sticks to it. A clean solution for crystal-clear drinking water.

DÜKER FLOW CONTROL.

PLANTS. VALUES. RECYCLABLE MATERIALS.

Cast and enamelled at our Düker plant in Laufach, assembled at our plant in Karlstadt – Düker valves and fittings are produced in an entirely modern, environmentally sound and sustainable way, in line with the highest standards – and wherever they are used, they are long-lasting. After all, cast iron lasts much longer than other materials – and even then, there are no barriers to reprocessing. Not here. Not at Düker.

SHORT DISTANCES IN DISPATCH.

Short distances from Production to Warehousing and then to Dispatch: that's the basis for providing the right quantity of requested products on time. If the goods movements, stock levels, open orders, etc. are joined up with the average sales volumes of the past few weeks, the right signals can be sent to Production in order to maintain supply capability. Short distances across the entire production chain through to Dispatch make this possible. In tandem with a reliable forwarding agent with a sufficient number of branches in Germany and Europe, all manner of customer requirements such as fixed delivery dates or advance notification of delivery via Cargoclix or by telephone can be met.

SHORT DISTANCES FOR MAINTENANCE AND REPAIRS AND AFTER REMOVAL.

As with all mechanical structures, valves also need to be repaired so that they keep working properly and to extend their service life. Availability of spare parts and short distances to the manufacturer make repairs easier and also increase the service life.

For example, the innovative design of plunger valves means that the spheroidal cast-iron body, the stainless-steel control cylinder, slider crank mechanism gear and screws and the brass liners can be fully separated out at the end of their service life. That is recycling in action, enabled by short distances.



THE PLANNING PROCESS WITH BIM. EASY AND EFFECTIVE.

BIM is a design process that creates a virtual 3D model based on all relevant digitised building data, which architects, designers and structural engineers can access. At Düker, we support you in this object-oriented design process by providing digitised product data for fittings, valves and the associated connection technology.

DÜKER FLOW CONTROL BIM DATA. WITH ETIM CLASSIFICATION AND PRODUCT CONFIGURATOR.

ETIM-classified BIM data offers excellent data quality based on a standardised structure that enables products to be compared. This means you can find exactly what you need for your design project more quickly. Our BIM data is ETIM-classified and can be customised using a product configurator.

FOR ALL COMMON APPLICATIONS.

Depending on the task, different software programmes are used during the planning process. Düker's digitalised BIM data is compatible with all of them. Our data sets can be easily integrated into almost all standard BIM systems using drag-and-drop – for example:

- Allplan
- ArchiCAD
- AutoCAD
- BricsCAD
- Revit
- SketchUp
- Tekla Structures
- and much more

THE BENEFITS. BIM MAKES THE ENTIRE PLANNING PROCESS MORE EFFICIENT:

- Planning optimisation
- ETIM classification
- Quality assurance
- Adherence to deadlines
- Cost control
- Ease of use

OUR OUTPUT FORMATS. READY TO DOWNLOAD.

- DWG
- DXF
- IGESD
- RFA
- STEP
- and much more

Visit our [BIM download portal](#).
Use our [product configurator](#).

Scan the QR code or follow the link:

www.dueker.de/en/flow-control/service/cad-and-bim-product-data/



**VALVES, FITTINGS
AND FLANGED PIPES
MADE OF
DUCTILE CAST IRON**

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In the interest of technical progress, we reserve the right to implement changes and improvements to the products without previous announcement.



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As early as in 1469, official documents mentioned a mine, which developed more or less continually into today's company Düker.

The foundry and enamelling works cover a production area of more than 80,000 square meters with approx. 620 employees.

At Laufach / Spessart, Karlstadt / Main and Sarstedt, Düker manufactures products used in:

UNDERGROUND CONSTRUCTION

- valves
- fittings
- flanged pressure pipes

DRAINAGE TECHNOLOGY

- hubless drainage pipe systems
- couplings for hubless drainage pipe systems

JOBGING FOUNDRY

- castings in small, medium and large series
- various cast iron qualities (grey cast iron and spheroidal cast iron), raw and machined
- various casting procedures (hand moulding, machine casting, centrifugal casting)

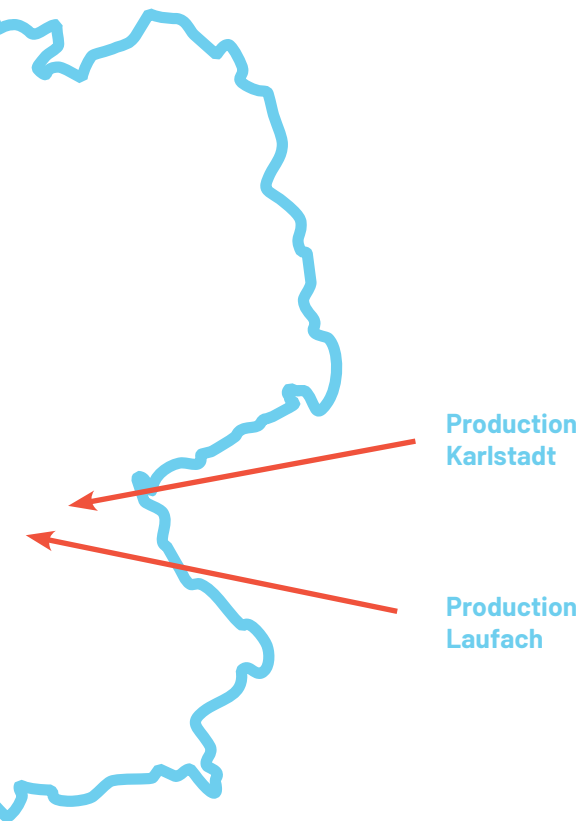
Our locations. All over Germany.

**Production
Sarstedt**



**Offices
Frankfurt**





18 Dear customers,

we are pleased to present you the new edition of our valves, fittings and flanged pressure pipes catalogue for civil engineering.

Besides quality and reliability, as well as the extension and specification of our product-range, we will continue to offer our support, service and individual customer care.

The consultants, technicians and development engineers at Düker will always be available for any questions or queries you may have.

We are also open to suggestions and criticism at any time.

Your sales department for Flow Control

Phone: +49 6093 87 555

Ductile cast iron valves

A

**Ductile cast iron fittings and
flanged pressure pipes**

B

**Technical information on joints for
valves, fittings and flanged pipes
made of ductile cast iron**

C

Laying and assembly instructions

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A

**Ductile cast iron
valves**



Face-to-face and centre-to-face dimensions of valves for use in flanged pipe systems

34 Excerpts from EN 558
Table 2 – Face-to-face lengths of the basic series

basic series as per EN 558									
	1	2	13	14	15	16	20	26	48
former type series as per German DIN 3202									
DN	F1	F2	F16	F4	F5	K3	K1	F7	F6
40	200	260	106	140	240	33	33	240	180
50	230	300	108	150	250	43	43	250	200
65	340	340	112	170	270	46	46	290	240
80	310	380	114	180	280	64	46	310	260
100	350	430	127	190	300	64	52	350	300
125	400	500	140	200	325	70	56	400	350
150	480	550	140	210	350	76	56	450	400
200	600	650	152	230	400	89	60	550	500
250	730	775	165	250	450	114	68	650	600
300	850	900	178	270	500	114	78	750	700
350	980	1025	190	290	550	127	78	850	800
400	1100	1150	216	310	600	140	102	950	900
450	1200	1275	222	330	650	152	114	1050	1000
500	1250	1400	229	350	700	152	127	1150	1100
600	1450	1600	267	390	800	178	154	1350	1300
700	1650	—	292	430	900	229	165	1550	1500
800	1850	—	318	470	1000	241	190	1750	1700
900	2050	—	330	510	1100	241	203	1950	1900
1000	2250	—	410	550	1200	300	216	2150	2100
1200	—	—	470	630	—	350	254	—	—
1400	—	—	530	710	—	390	279	—	—
1600	—	—	600	790	—	440	318	—	—
1800	—	—	670	870	—	490	356	—	—
2000	—	—	760	950	—	540	406	—	—

Flow resistance coefficients as per EN 736-3 (Zeta values)

for Düker valves measured in fully open position

35

A

DN	Gate valves 4004 and 2004 series	Butterfly valve type 4510	Butterfly valve type 451	Non-slam check valve type 8015	Plunger valve type 7015 (seat ring)	Butterfly valve type 424
40	0.123	—	—	—	—	—
50	0.177	—	—	—	—	—
65	0.106	—	—	—	—	—
80	0.099	—	—	0.60	—	—
100	0.098	0.80	—	0.69	—	—
125	0.087	—	—	0.69	—	—
150	0.084	0.75	—	0.79	1.40	0.95
200	0.082	0.56	—	0.77	1.68	0.87
250	0.080	0.50	—	0.65	—	0.71
300	0.076	0.40	—	0.84	2.71	0.73
350	—	0.38	—	—	—	0.50
400	—	0.35	—	—	—	0.56
450	—	—	—	—	—	0.53
500	—	0.25	—	—	—	0.53
600	—	0.25	—	—	—	0.53
700	—	—	0.21	—	—	0.51
800	—	—	0.18	—	—	0.46
900	—	—	0.17	—	—	0.49
1000	—	—	0.16	—	—	0.38
1200	—	—	0.15	—	—	0.41

Gate valves type 4004 with flanges PN 10 / 16

36 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem;
edge protection for bonnet and body, countersunk and sealed A2 screws between body
and bonnet, medium-free stem bearing
sealing wedge entirely vulcanised
flange connection dimensions: as per EN 1092-2
face-to-face length: as per EN 558, basic series 15
for potable water, sewerage or gas

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563
stem: chromium steel 1.4021 (for sewerage: 1.4571)
stem nut: special brass (for sewerage: aluminium bronze)
rubber parts made of high-quality elastomer:
sealing wedge for water: EPDM
sealing wedge for gas and sewerage: NBR

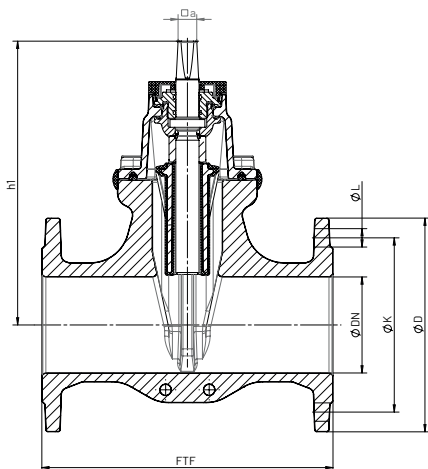


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for sewerage)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for sewerage)
- inside and outside epoxy finish yellow RAL 1023 as per GSK guidelines (for gas)

Field of application: potable water up to 60 °C; sewerage; gas, hydrogen ZP 4110

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		
			Test medium water Body	Test medium water Seat	Test medium air Seat PG 3 16 bar
potable water	40 – 300	16	25	17.6	
potable water	200 – 300	10	15	11	
sewerage	50 – 300	16	25	17.6	
sewerage	200 – 300	10	15	11	
gas	40 – 300	0.5/16	25		0.5 and 17.6



Dimensions and weights (Dimensions in mm)

DN	PN	FTF	h_1	$\varnothing D$	$\varnothing K$	Number of screws	$\varnothing L$	a	Weight in kg $\approx$
40	16	240	207	150	110	4	19	14	10.0
50	16	250	233	165	125	4	19	14	12.0
65	16	270	270	185	145	4	19	17	17.0
80	16	280	270	200	160	8	19	17	19.0
100	16	300	295	220	180	8	19	19	24.0
125	16	325	330	250	210	8	19	19	29.0
150	16	350	373	285	240	8	23	19	37.0
200	10	400	462	340	295	8	23	24	58.0
200	16	400	462	340	295	12	23	24	58.0
250	10	450	648	400	350	12	23	27	112.0
250	16	450	648	400	355	12	28	27	112.0
300	10	500	723	455	400	12	23	27	161.0
300	16	500	723	455	410	12	28	27	160.0

Gate valves type 4004 with flanges PN 10 / 16



38

Item numbers

DN	Item no. water etec enamel	Item no. water EKB blue	Item no. gas EKB yellow	Item no. sewerage etec enamel	Item no. sewerage EKB blue
40	569135	769104	571709	—	—
50	569136	569275	571037	769097	572432
65	569137	569823	572015	—	—
80	567656	571171	568078	572431	572436
100	567614	571173	570239	573113	572438
125	569628	571633	571670	573114	572440
150	567690	571175	568081	573115	572442
200/10	567770	571177	568082	573054	572446
200/16	568088	573197	571034	769044	768948
250/10	324701	324723	324735	324745	324759
250/16	324707	324724	324736	324746	324760
300/10	324708	324725	324737	324749	324761
300/16	324709	324726	324738	324750	324762

Gate valves type 2004 (short face-to-face length) with flanges PN 10/16

40 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing
sealing wedge entirely vulcanised
flange connection dimensions: as per EN 1092-2
face-to-face length: as per EN 558, basic series 14
for potable water, sewerage or gas

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563
stem: chromium steel X20Cr13 (for sewerage: 1.4571)
stem nut: special brass (for sewerage: aluminium bronze)
rubber parts made of high-quality elastomer:
sealing wedge for water: EPDM
sealing wedge for gas and sewerage: NBR

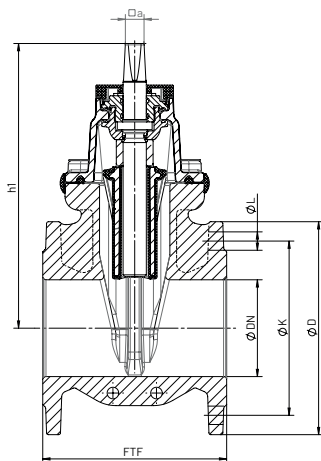


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for sewerage)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for sewerage)
- inside and outside epoxy finish yellow RAL 1023 as per GSK guidelines (for gas)

Field of application: potable water up to 60 °C; sewerage; gas as per G 260/I

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		
			Test medium water Body	Test medium water Seat	Test medium air Seat PG 3 16 bar
potable water	40 – 300	16	25	17.6	
potable water	200 – 300	10	15	11	
sewerage	50 – 300	16	25	17.6	
sewerage	200 – 300	10	15	11	
gas	40 – 300	0.5/16	25		0.5 and 17.6


Dimensions and weights (Dimensions in mm)

DN	PN	FTF	h_1	$\varnothing D$	$\varnothing K$	Number of screws	$\varnothing L$	a	Weight in kg $\approx$
40	16	140	207	150	110	4	19	14	9.0
50	16	150	233	165	125	4	19	14	12.0
65	16	170	270	185	145	4	19	17	15.0
80	16	180	270	200	160	8	19	17	19.0
100	16	190	295	220	180	8	19	19	21.0
125	16	200	330	250	210	8	19	19	27.0
150	16	210	373	285	240	8	23	19	34.0
200	10	230	462	340	295	8	23	24	53.0
200	16	230	462	340	295	12	23	24	53.0
250	10	250	648	400	350	12	23	27	100.0
250	16	250	648	400	355	12	28	27	100.0
300	10	270	723	455	400	12	23	27	141.0
300	16	270	723	455	410	12	28	27	141.0

Gate valves type 2004 (short face-to-face length) with flanges PN 10/ 16



42

Item numbers

DN	Item no. water etec enamel	Item no. water EKB blue	Item no. gas EKB yellow	Item no. sewerage etec enamel	Item no. sewerage EKB blue
40	569110	570158	769006	—	—
50	569111	569534	571047	769098	572561
65	569184	570599	571679	—	—
80	567839	570941	571322	573058	760350
100	567843	570944	571131	769045	572562
125	567847	571053	769011	769046	572563
150	567851	570947	571072	769047	572564
200/10	567855	571056	571073	573112	572565
200/16	568173	571070	571048	769048	572787
250/10	324710	324727	324740	324752	324764
250/16	324716	324728	324741	324753	324765
300/10	324717	324729	324743	324754	324766
300/16	324718	324730	324744	324755	324767

Gate valves type 4004

plug-in socket gate valves

with Novo sockets PN 16

44 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing
sealing wedge entirely vulcanised
connection: as per DIN 28603 (**TYTON®** with pre-chamber)
face-to-face length: as per EN 558, basic series 13
for potable water, waste water on request

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

stem nut: special brass

rubber parts made of high-quality elastomer:

sealing wedge for water: EPDM

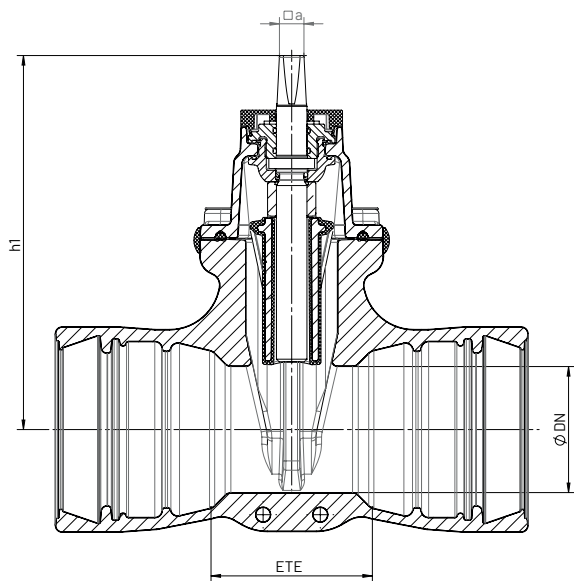


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	80 – 300	16	25	17.6


Dimensions and weights (Dimensions in mm)

DN	PN	h_1	ETE	$\square a$	Weight in kg $\approx$	Item no. water etec enamel
80	16	270	114	17	20.2	567899
100	16	295	127	19	22.5	567903
125	16	330	140	19	29.0	570607
150	16	373	140	19	37.5	567911
200	16	462	152	24	58.0	567915
250	16	648	165	27	110.0	326536
300	16	723	178	27	150.0	326538

Gate valves type 4004

Single socket gate valves

with Novo sockets and spigot end PN 16

46 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing
sealing wedge entirely vulcanised
connection: as per DIN 28603 (**TYTON®** with pre-chamber)
face-to-face length: as per EN 558, basic series 13
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

stem nut: special brass

rubber parts made of high-quality elastomer:

sealing wedge for water: EPDM

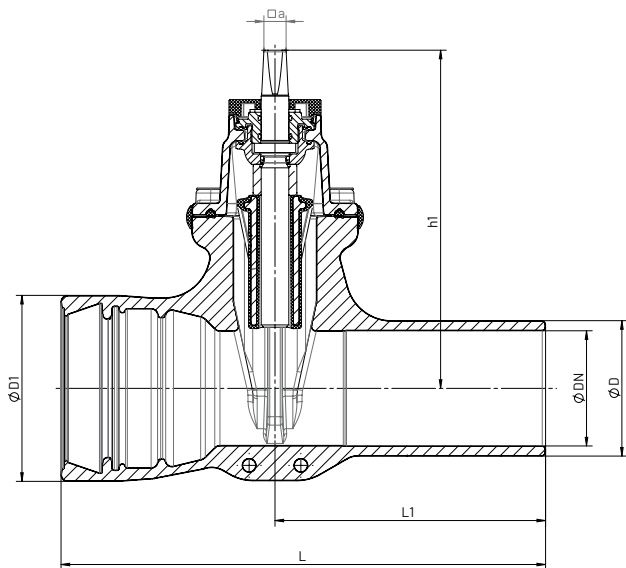


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	80 – 300	16	25	17.6


Dimensions and weights (Dimensions in mm)

DN	PN	$\varnothing D_1$	h_1	$\varnothing D$	L_1	L	$\square a$	Weight in kg $\approx$	Item no. water etec enamel
80	16	141	270	97	235	410	17	20.2	567919
100	16	161	295	117	235	422	19	22.5	567923
125	16	188	330	143	290	485	19	29.0	569643
150	16	215	373	169	290	490	19	37.5	567931
200	16	271	462	221	310	525	24	58.0	567935
250	16	324	648	274	310	535	27	103.0	326541
300	16	381	723	326	310	550	27	144.0	326544

Gate valves type 4004

socket gate valves

with screw-gland sockets PN 16

48 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing
sealing wedge entirely vulcanised
connection: as per DIN 28601
face-to-face length: as per EN 558, basic series 13
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563
stem: chromium steel X20Cr13
stem nut: special brass
rubber parts made of high-quality elastomer:
sealing wedge for water: EPDM

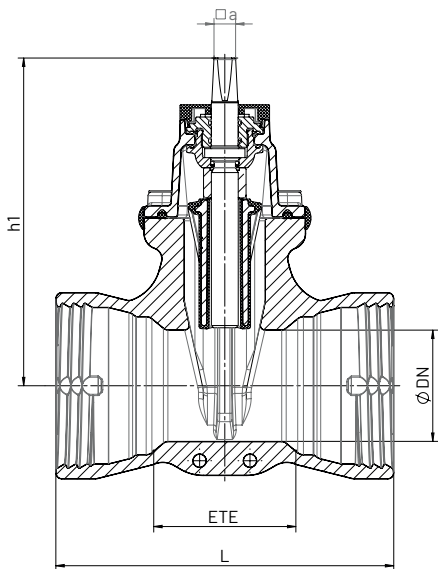


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	40 – 200	16	25	17.6


Dimensions and weights (Dimensions in mm)

DN	PN	h_1	ETE	L	$\square a$	Weight in kg ¹⁾	Item no.
40	16	207	106	240	14	10.0	on request
50	16	233	108	250	14	11.8	on request
80	16	270	114	282	17	18.9	on request
100	16	295	127	303	19	21.4	on request
125	16	330	140	322	19	25.7	on request
150	16	373	140	328	19	33.1	on request
200	16	462	152	352	24	50.2	on request

¹⁾ without screw ring

Gate valves type 2004 (short face-to-face length) flanged socket gate valves with socket and flange PN 16

50 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing

sealing wedge entirely vulcanised

connection: screw-gland socket as per DIN 28601 or socket as per DIN 28603 (TYTON®, Novo); flange as per EN 1092-2

Face-to-face length: as per EN 558, basic series 13/14
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

stem nut: special brass

rubber parts made of high-quality elastomer:

sealing wedge for water: EPDM

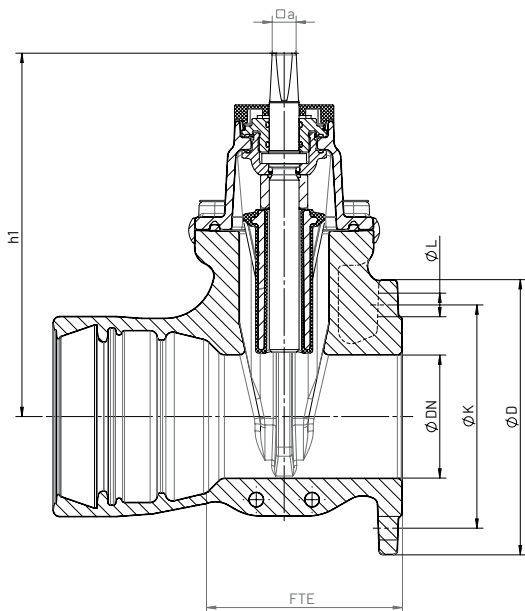


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	80 – 200	16	25	17.6


Dimensions and weights (Dimensions in mm)

DN	PN	FTE	h_1	$\varnothing D$	$\varnothing K$	Number of screws	$\varnothing L$	$\square a$	Weight in kg $\approx$	Item no.
80	16	150	270	200	160	8	19	17	18.7	on request
100	16	160	295	220	180	8	19	19	22.7	on request
125	16	170	330	250	210	8	19	19	26.7	on request
150	16	175	373	285	240	8	23	19	33.6	on request
200	10	190	462	340	295	8	23	24	52.6	on request
200	16	190	462	340	295	12	23	24	52.3	on request

Gate valves type 4004 with welding studs PE SDR 17/11

52 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing

sealing wedge entirely vulcanised

connection: pre-installed PE-HD welding studs as per DVGW G 5600-1 with connection dimensions as per DIN 8074/8075. Suitable for electro-welding and butt-welding

face-to-face length: as per EN 558, basic series 13

for potable water or gas

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

stem nut: special brass

rubber parts made of high-quality elastomer:

sealing wedge for water: EPDM

sealing wedge for gas: NBR

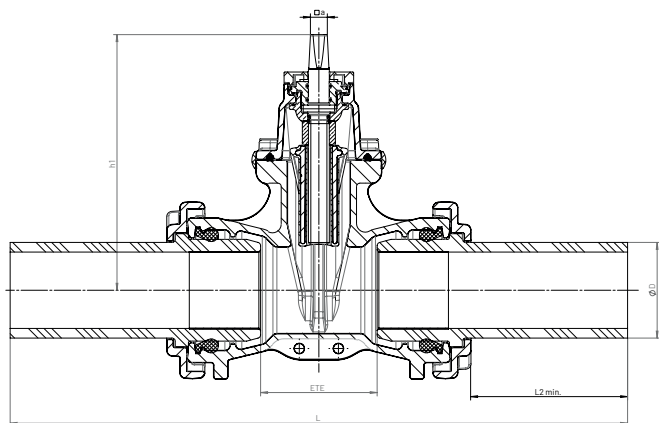


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy finish yellow RAL 1023 as per GSK guidelines (for gas)

Field of application: Potable water up to 40° C; gas as per G 260/1

Field of application	Nominal diameter DN	Nominal pressure PN	SDR	Test pressure in bar		
				Test medium water Body	Test medium water Seat	Test medium air Seat PG 3 5 bar or 10 bar
potable water	80 – 200	16	11	25	17.6	
potable water	80 – 200	10	17	15	11	
gas	80 – 200	5	11/17	24		0.5 and 6
gas	80 – 200	10	11	24		0.5 and 11


Dimensions and weights (Dimensions in mm)

DN	PN	ØD	L	h ₁	ETE	Øa	L2 max.	Weight in kg ≈
80	16	90	680	270	120	17	175	24.0
100	16	110	710	295	134	19	180	30.0
100	16	125	736	295	136	19	190	31.0
125	16	140	790	330	152	19	203	40.0
150	16	160	840	373	162	19	220	55.0
150	16	180	860	373	160	19	231	55.0
200	16	200	970	462	170	24	265	87.0
200	16	225	954	462	170	24	257	88.0

Gate valves type 4004 with welding studs PE SDR 17/11



54

Item numbers

DN	ø D	Item no. water PN 10 SDR 17 etec enamel	Item no. water PN 16 SDR 11 etec enamel	Item no. gas PN 5 SDR 17 EKB yellow	Item no. gas PN 5 SDR 11 EKB yellow	Item no. gas PN 10 SDR 11 EKB yellow
80	90	571243	571193	568829	568828	572250
100	110	571206	570280	568831	568830	572355
100	125	571240	570780	568833	568832	571970
125	140	768964	768968	569113	769041	789115
150	160	571207	570980	568834	568850	571715
150	180	571248	571542	569115	568835	789116
200	200	768974	768972	569117	569116	789119
200	225	571319	571328	568836	569118	571660

Replacement and repair valves type 4004 with rotatable flanges PN 10/16

56 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing
sealing wedge entirely vulcanised
connection: thrust-resistant rotatable flanges with integrated sealing, connection dimensions as per EN 1092-2
face-to-face length: as per EN 558, basic series 15
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

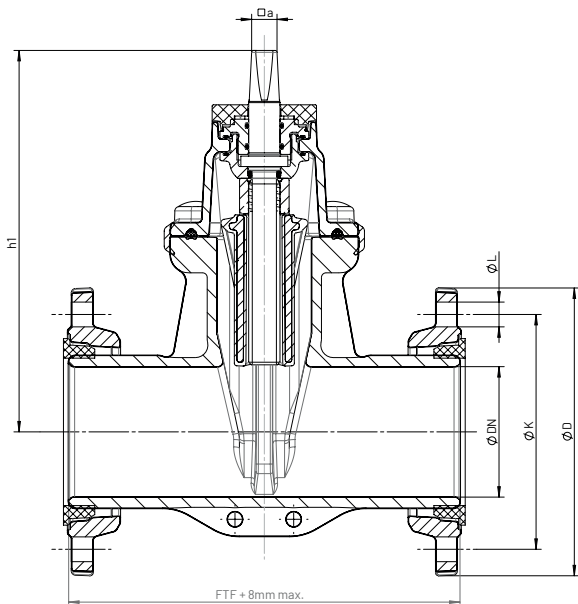
ductile cast iron EN-GJS-500-7 as per EN 1563
stem: chromium steel X20Cr13
stem nut: special brass
rubber parts made of high-quality elastomer:
sealing wedge for water: EPDM

Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	80 – 200	16	25	17.6
potable water	200	10	15	11



Dimensions and weights (Dimensions in mm)

DN	PN	FTF	h_1	$\varnothing D$	$\varnothing K$	Number of screws	$\varnothing L$	$\square a$	Weight in kg $\approx$	Item no. water etec enamel
80	16	280	270	200	160	8	19	17	21.0	573612
100	16	300	295	220	180	8	19	19	25.0	573613
125	16	325	330	250	210	8	19	19	33.0	573614
150	16	350	373	285	240	8	23	19	45.0	573615
200	10	400	462	340	295	8	23	24	58.0	573616
200	16	400	462	340	295	12	23	24	58.0	573617

Replacement and repair valves type 2004 with rotatable flanges PN 10/16

58 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; edge protection for bonnet and body, countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing

sealing wedge entirely vulcanised

connection: thrust-resistant rotatable flanges with integrated sealing, connection dimensions as per EN 1092-2

face-to-face length: as per EN 558, basic series 14
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator (on request)

Materials:

ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

stem nut: special brass

rubber parts made of high-quality elastomer:

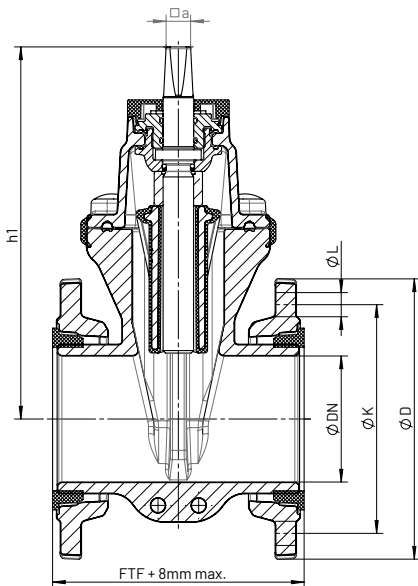
sealing wedge for water: EPDM

Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	80 – 200	16	25	17.6
potable water	200	10	15	11



Dimensions and weights (Dimensions in mm)

DN	PN	FTF	h_1	$\varnothing D$	$\varnothing K$	Number of screws	$\varnothing L$	$\square a$	Weight in kg $\approx$	Item no. water etec enamel
80	16	180	270	200	160	8	19	17	20.0	572853
100	16	190	295	220	180	8	19	19	24.0	572854
125	16	200	330	250	210	8	19	19	32.0	572855
150	16	210	373	285	240	8	23	19	43.0	572856
200	10	230	462	340	295	8	23	24	55.0	572857
200	16	230	462	340	295	12	23	24	55.0	572858

Gate valves type 3004 with welding studs for steel pipes PN 16

60 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing

sealing wedge entirely vulcanised

connection: welding studs as per EN 12627 for steel pipes

face-to-face length: as per EN 12982, basic series 15
for gas

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1

Materials:

body ductile cast iron EN-GJS-400-18 as per EN 1563

bonnet, sealing wedge ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

studs for welding St 35.8 / P235GH

stem nut: special brass

rubber parts made of high-quality elastomer:

sealing wedge for gas: NBR

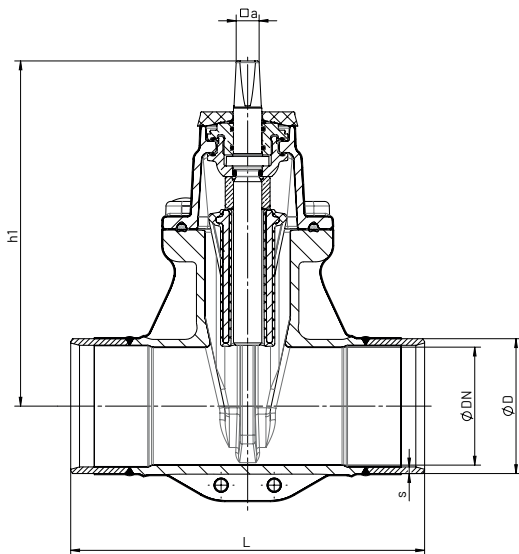


Surface protection:

- inside Düker enamel
- outside polyurethane as per DIN 3476-2, tested 15 KV

Field of application: Gas as per G 260/I

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Test medium water Body	Test medium air Seat PG 3 16 bar
gas	50 – 300	16	25	0.5 and 17.6


Dimensions and weights (Dimensions in mm)

DN	PN	Ø D	h_1	L	S	□ a	Weight in kg ≈	Item no. gas
50	16	60.3	233	420	4.5	14	10.8	569307
80	16	88.9	270	280	5.6	17	12.6	572609
100	16	114.3	295	300	5.6	19	22.0	572235
150	16	168.3	373	350	6.3	19	30.0	572735
200	16	219.1	462	400	7.1	24	60.0	572736
250	16	273.1	648	450	6.3	27	85.0	324769
300	16	323.9	723	500	7.1	27	125.0	324771

Gate valves type 3004 with blow-off pipes and welding studs for steel pipes

62 Design features:

Resilient-seated gate valve, with smooth passage, internal stem thread, non-rising stem; countersunk and sealed A2 screws between body and bonnet, medium-free stem bearing

sealing wedge entirely vulcanised

All welding seams are tested as per AD bulletin HP5/3, all welding studs are tested as per EN 12266.

connection: welding studs as per EN 12627 for steel pipes

face-to-face length: as per EN 12982, basic series 15
for gas

Operation:

- on request

Materials:

body ductile cast iron EN-GJS-400-18 as per EN 1563

bonnet, sealing wedge ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

studs for welding St 35.8 / P235GH

steam nut: special brass

rubber parts made of high-quality elastomer:

sealing wedge for gas: NBR

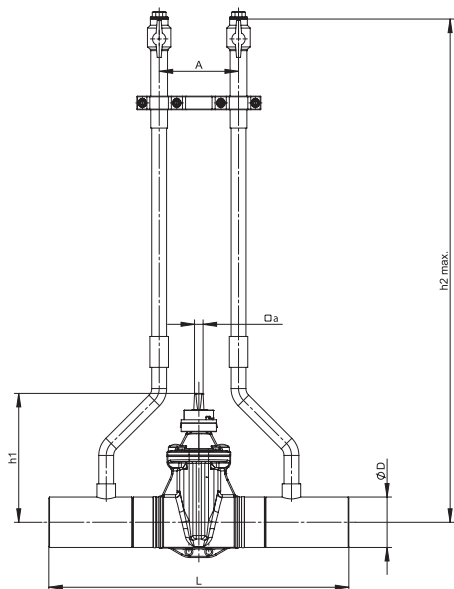


Surface protection:

- inside Düker enamel
- outside polyurethane as per DIN 3476-2, tested 15 KV

Field of application: Gas as per G 260/I

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Test medium water Body	Test medium air Seat PG 3 5 bar
gas	80 – 300	5	24	0.5 and 6


Dimensions and weights (Dimensions in mm)

DN	$\varnothing D$	h_1	L	$h_2 \text{ max.}$	A	a	Weight in kg	Item no. gas
80	88.9	270	660	1110	180	17	28.0	571427
100	114.3	295	680	1140	180	19	33.0	571428
150	168.3	373	730	1250	224	19	65.0	571429
200	219.1	462	780	1320	224	24	82.0	571430
250	273.1	648	1050	1380	224	27	140.0	on request
300	323.9	723	1085	1410	224	27	188.0	324776

Gate valves Epoxy Line type 2024 and 4024 with flanges

64 Design features:

Gate valve, soft-seated, with smooth passage, internal spindle thread, non-rising stem spindle. Connecting screws A2 countersunk and moulded on, media-free spindle bearings.

Sealing wedge completely vulcanised in.

Flange connection dimensions: to DIN EN 1092-2.

Operation:

- with handwheel
- electric actuator (on request)

Materials:

housing: cast iron with spheroidal graphite EN-GJS-500-7 to DIN EN 1563

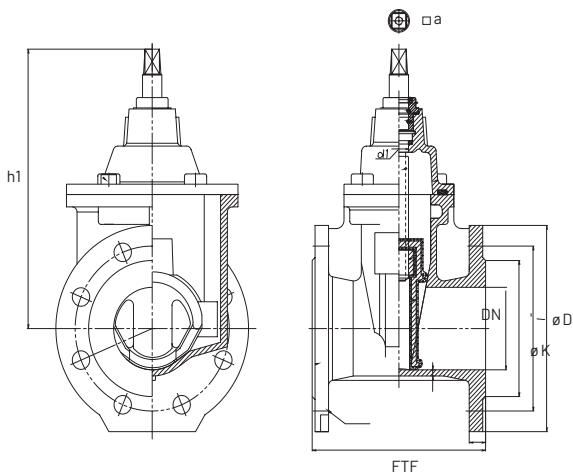
spindle: chrome steel X20Cr-13

spindle nut: brass

sealing wedge: EPDM for water

Surface protection:

- Epoxy powder coating


Dimensions and weights (Dimensions in mm)

DN	PN	h_1	$\varnothing D$	$\varnothing K$	Number of screws	$\square a$	DIN EN 558, basic series 14		DIN EN 558, basic series 15		Item no. short	Item no. long
							FTF short	Weight in kg	FTF long	Weight in kg		
80	16	280	200	160	8	17	180	12.8	280	16.0	333095	333105
100	16	315	220	180	8	19	190	18.0	300	20.0	333096	333106
125	16	355	250	210	8	19	200	25.0	325	29.0	333097	333107
150	16	410	285	240	8	19	210	35.0	350	39.0	333098	333108
200	10	490	340	295	8	24	230	50.0	400	58.0	333099	333109
200	16	490	340	295	12	24	230	50.0	400	58.0	333100	333110
250	10	560	400	350	12	27	250	73.0	450	85.0	333101	333111
250	16	560	400	355	12	27	250	74.0	450	86.0	333102	333112
300	10	660	455	400	12	27	270	108.0	500	124.0	333103	333113
300	16	660	455	410	12	27	270	109.0	500	125.0	333104	333114

The Düker service connection system TOP 1004 – a sophisticated modular design.

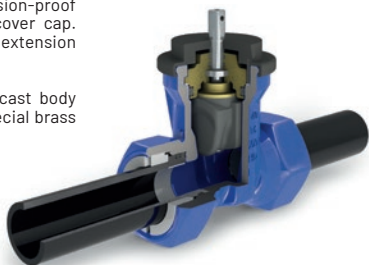
Service connection gate valves DN 25–50, PN 16

Robust design as per DIN EN 1074 T 1+2 for water and DIN EN 13774 for gas, soft-seated, full passage, sealing wedge made from special brass, fully rubberised.

Stem made from stainless steel, rolled thread, maintenance- and media-free corrosion-proof stem seal with three O-rings and a cover cap. Stem square: 12 mm. Transition to stem extension set as per GW 336-1.

The solid bayonet connection on the cast body and bonnet made from high-quality special brass reliably eliminates the risk of corrosion.

for water up to 16 bar
for gas up to 5 bar



Service connection gate valves
with PE ends for welding

Tapping valve TOP type 1004 for top tapping

Tapping valve TOPsi type 1004 for lateral tapping

**A valve with A nominal diameter of 80-300,
PN 16 for cast-iron, steel, cement-mortar-lined
and asbestos cement pipes**

The design principle is based on the tried-and-tested technology underlying the service connection gate valve. The sealing wedge, bonnet and stem of type 1004 DN 40 are identical in the TOP tapping valve. Adjustments to fit the different pipe types are made using flexible retaining brackets with a stainless-steel coating. The saddle seals for sealing on the pipe are packaged as a unit with the clapping bands and assigned to the corresponding nominal diameters and pipe types. Tapping under operating pressure without an auxiliary valve takes place via a valve flap on the side. When the drill rod is pulled out, the valve flap automatically closes tightly.

Tapping diameter: 38 mm
Torque: < 25 max. 50
Revolutions: OPEN/CLOSED 10
for water up to 16 bar

Gate valve and TOP tapping valve versions

- With internal thread Rp 1" to 2", as per DIN EN 10226-1
- With factory-mounted PE transitions for welding for PE pipe



TOP 1004 for top tapping
with PE ends for welding



TOPsi for lateral tapping

**Düker TOP type 1004 service connection gate valves
and tapping valves have been used for decades without
any problems.**

**Tested brand quality with Düker etec enamel
'Made in Germany' – Sustainable. Superior.**

Tapping Valve TOP (drilling from above) with internal pipe thread, PN 16

68 Design features:

Tapping valve for installation on pipes of all nominal diameters between DN 80 and DN 300. Suitable for drilling under pressure. Can be used for pipes made of cast iron, steel and asbestos cement.

Technical features:

No additional support valves are required for tapping under pressure. The resilient valve flap integrated into the type TOP closes automatically after the drilling bar is drawn back.

maximum drilling diameter: 38 mm

stem square ends: 12 mm

Outlets:

internal pipe thread as per EN 10226-1:
Rp 1¼", Rp 1½", Rp 2"

Clamping band types:

see page 74-75



Materials:

body ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

bonnet, obturator: special brass

valve flap: rubberised steel

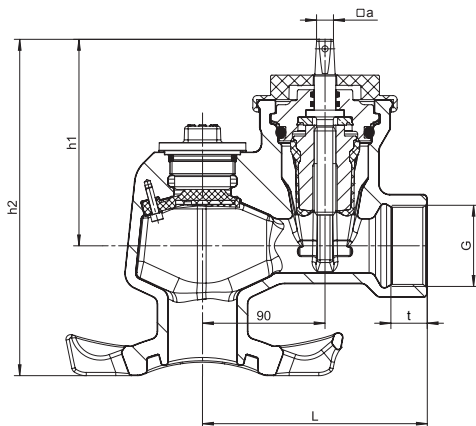
rubber parts of high-quality elastomer (EPDM)

Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	25 - 50	16	25	17.6


Dimensions and weights (Dimensions in mm)

DN	L	G	h_1	h_2	t	$\square a$	Weight in kg $\approx$	Item no.
80 - 300	160	Rp 1 1/4"	152	247	23	12	8.6	570359
80 - 300	160	Rp 1 1/2"	152	247	28	12	8.6	570360
80 - 300	165	Rp 2"	152	247	29	12	9.0	570382

Clamping bands and saddle sealing are identical for TOP and TOPsi.

Tapping Valve TOPsi (side drilling) with internal pipe thread 1 1/2", PN 16

70 Design features:

Tapping valve for installation on pipes of all nominal diameters between DN 80 and DN 300. Suitable for drilling under pressure. Can be used for pipes made of cast iron, steel and asbestos cement.

Technical features:

No additional support valves are required for tapping under pressure.

maximum drilling diameter: 38 mm

stem square ends: 12 mm

Outlets:

internal pipe thread as per EN 10226-1: Rp 1 1/2"

Clamping band types:

see page 74-75

Materials:

body ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

bonnet, obturator: special brass

rubber parts of high-quality elastomer (EPDM)

Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)



Field of application: Potable water up to 60 °C

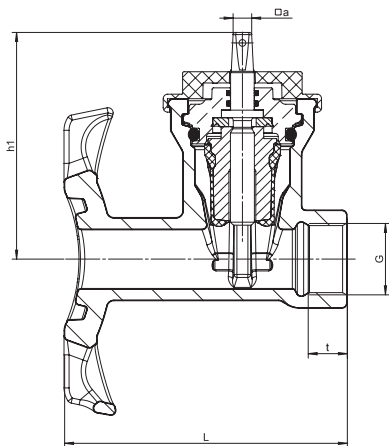
Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	25 - 50	16	25	17.6



71

A

2



Dimensions and weights (Dimensions in mm)

DN	L	G	h_1	t	a	Weight in kg $\approx$	Item no.
80 – 300	190	Rp 1½"	152	25	12	6.0	570438

Clamping bands and saddle sealing are identical for TOP and TOPSi.

Tapping valves TOP (drilling from above) with PE-HD connection PN 16

72 Design features:

Tapping valve for installation on pipes of all nominal diameters between DN 80 and DN 300. Suitable for drilling under pressure. Can be used for pipes made of cast iron, steel and asbestos cement.

Technical features:

No additional support valves are required for tapping under pressure. The resilient valve flap integrated into the type TOP closes automatically after the drilling bar is drawn back.

maximum drilling diameter: 38 mm

stem square ends: 12 mm

Outlets:

pre-installed PE-HD connections as per DVGW W 332 B4
Ø D 32, Ø D 40, Ø D 50, Ø D 63

Clamping band types:

see page 74–75

Materials:

body ductile cast iron EN-GJS-500-7 as per EN 1563

welding studs: PE 100 SDR 11

stem: chromium steel X20Cr13

bonnet, obturator: special brass

valve flap: rubberised steel

rubber parts of high-quality elastomer (EPDM)

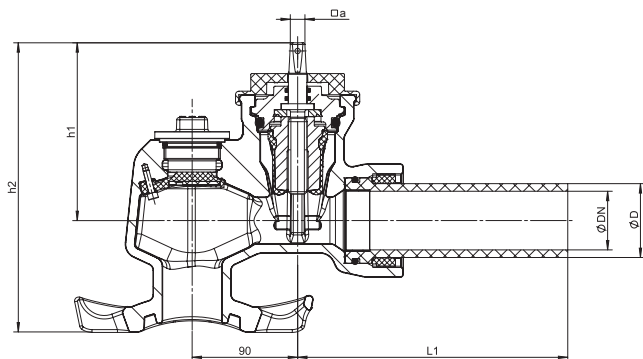


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)

Field of application: Potable water up to 40 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	25 – 50	16	25	17.6



Dimensions and weights (Dimensions in mm)

DN	ØD	L ₁	h ₁	h ₂	a	Weight in kg ≈	Item no. with PE-HD connection
25	32	173	152	247	12	8.4	570354
32	40	185	152	247	12	9.3	570355
40	50	210	152	247	12	10.2	570356
50	63	230	152	247	12	11.0	570357

Clamping bands for tapping clamps type 88 and tapping valves TOP and TOPsi

74 Design features:

Flat clamping band for all nominal diameters DN 80 up to DN 300.

for pipes made of cast iron (with bituminous, PE or cement mortar coating), steel and asbestos cement PN 12.5

The clamping bands are packed as a unit with all required accessories and marked for the pipe type and diameter.

Materials:

flat band with welded-on threaded bolts: stainless steel 1.4301, passivated and plastic-coated

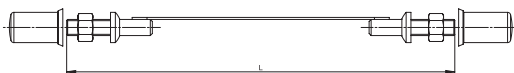
coating: plastic coating

spherical washers: stainless steel 1.4104

hexagonal nuts: stainless steel 1.4571 with sliding coating

protecting caps: plastics

saddle sealing gasket: high-quality elastomer (EPDM) as per KTW-BWGL



Dimensions (in mm)

DN	cast iron pipe (bituminous coating)		cast iron pipe (PE-coated)		cast iron pipe (cement mortar coated)		steel pipe as per EN 10220 series 1		steel pipe as per EN 10220 series 3		asbestos cement pipe 12.5 as per EN 512	
	Pipe ø	L	Pipe ø	L	Pipe ø	L	Pipe ø	L	Pipe ø	L	Pipe ø	L
80	98	335	101.6	335	104	360	88.9	315	—	—	100	335
100	118	385	121.6	385	126	415	114.3	385	108	370	124	385
125	144	450	148	450	152	480	139.7	435	—	—	153	480
150	170	520	174	520	178	540	168.3	520	159	500	182	540
175	196	590	200	590	—	—	—	—	—	—	—	—
200	222	670	226	670	233	700	219.1	670	—	—	240	700
225	248	750	252	750	—	—	—	—	—	—	—	—
250	274	825	278	825	288	865	273.0	825	—	—	296	865
300	326	990	330.4	990	340	1010	323.9	990	—	—	352	1030



Dimensions (in mm)

DN	Application	Pipe outside Ø mm	Length	Item no.
80	DI/AC	98 – 101.6	335	791759
80	DI CM	106	360	791760
80	steel	88.9	315	791761
100	DI/steel/AC	114.3 – 124	385	791763
100	DI CM	126	415	791764
100	steel	108	370	791765
125	DI	144 – 148	450	791766
125	DI CM/AC	153 – 154	480	791767
125	steel	139.7	435	791774
150	DI/steel	168.3 – 174	520	791776
150	DI CM/AC	180 – 182	540	791775
150	steel	159	500	791777
175	DI/steel	196 – 200	590	791778
200	DI/steel	219.1 – 226	670	791781
200	DI CM/AC	232 – 240	700	791779
225	DI/steel	248 – 252	750	791782
250	DI/steel	273 – 278	825	791785
250	DI CM/AC	286 – 296	865	791783
300	AC	352	1030	791787
300	DI/steel	323.9 – 330.4	990	791789
300	DI CM	338	1010	791788

Service connection valves type 1004 with internal pipe thread, PN 16 or PN 5

76 Design features:

Resilient-seated gate valve, with smooth passage, interior stem thread, non-rising stem obturator entirely vulcanised
connection dimensions: as per EN 10226-1
stem square ends: 12 mm
face-to-face length: as per EN 16722, basic series M4
for potable water or gas

Operation:

- with hand wheel
- with stem extension set (for underground installation) – connection as per GW 336-1

Materials:

body: ductile cast iron EN-GJS-500-7 as per EN 1563
stem: chromium steel X20Cr13
bonnet, obturator: special brass
rubber parts of high-quality elastomer:
obturator for water: EPDM
obturator for gas: NBR

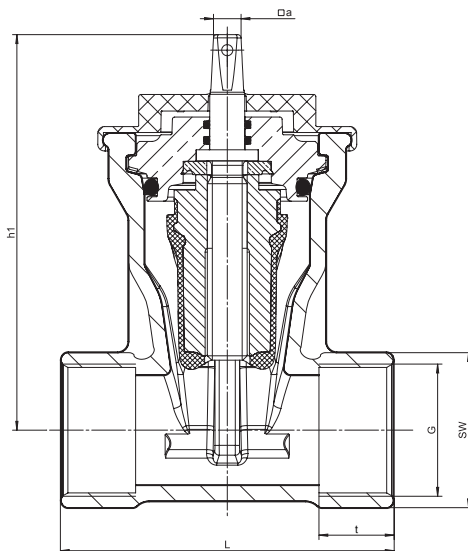


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy resin blue RAL 5005 as per GSK guidelines (for water, on request)
- inside and outside epoxy resin yellow RAL 1023 as per GSK guidelines (for gas)

Field of application: Potable water up to 60° C; gas as per G 260/I

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		
			Test medium water Body	Test medium water Seat	Test medium air Seat PG 3 5 bar
potable water	25 – 50	16	25	17.6	
gas	25 – 50	5	24		0.5 and 6


Dimensions and weights (Dimensions in mm)

DN	L	h ₁	SW	G	t	Da	Weight in kg ≈	Item no. water etec enamel	Item no. water EKB blue	Item no. gas PN 5 EKB yellow
25	105	132	46	Rp1"	20	12	2.6	570109	570005	570071
32	120	152	55	Rp1 1/4"	24	12	3.9	570032	570028	570038
40	130	152	60	Rp1 1/2"	27	12	4.4	570053	570056	570059
50	150	178	70	Rp2"	34	12	5.2	570082	570085	570088

Service Valves or House-Connection Valve type 1004 with PE-HD ends SDR 11, PN 16 or PN 5

78 Design features:

Resilient-seated gate valve, with smooth passage, interior stem thread, non-rising stem obturator entirely vulcanised

connection: pre-installed transition pieces as per DVGW G 5600-1

ø D 32, ø D 40, ø D 50, ø D 63

with connection dimensions as per DIN 8074/75. Suitable for electric welding and butt welding.

stem square ends: 12 mm

face-to-face length: as per EN 16722, basic series M4

for potable water or gas

Operation:

- with hand wheel
- with stem extension set (for underground installation) – connection as per GW 336-1

Materials:

body: ductile cast iron EN-GJS-500-7 as per EN 1563

welding studs: PE 100 SDR 11

stem: chromium steel X20Cr13

bonnet, obturator: special brass

rubber parts of high-quality elastomer:

obturator for water: EPDM

obturator for gas: NBR

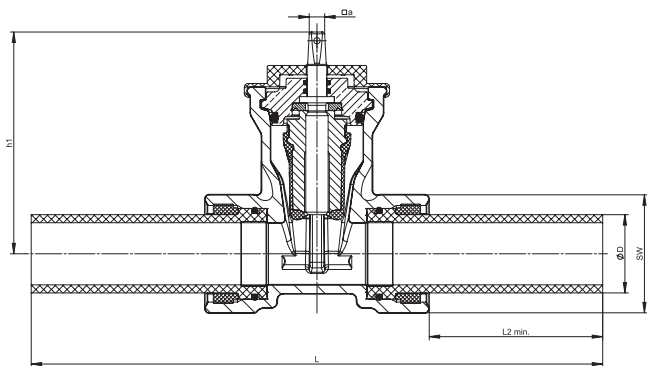


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy resin blue RAL 5005 as per GSK guidelines (for water, on request)
- inside and outside epoxy resin yellow RAL 1023 as per GSK guidelines (for gas)

Field of application: Potable water up to 40° C; gas as per G 260/I

Field of application	Nominal diameter DN	Nominal pressure PN	SDR	Test pressure in bar		
				Test medium water Body	Test medium water Seat	Test medium air Seat PG 3 5 bar
potable water	25 – 50	16	11	25	17.6	
gas	25 – 50	5	11	24		0.5 and 6



Dimensions and weights (Dimensions in mm)

DN	L	h_1	SW	$\varnothing D$	a	L2 min.	Weight in kg $\approx$	Item no. water etec enamel	Item no. gas PN 5 EKB yellow
25	345	132	55	32	12	102	3.0	570001	570007
32	370	152	65	40	12	110	6.0	570026	570037
40	418	152	85	50	12	124	8.6	570052	570058
50	460	178	95	63	12	140	8.4	570081	570087

Service Valve or House-Connection Valve type 1004 with flange and PE welding stud

80 Design features:

Resilient-seated gate valve, with smooth passage, interior stem thread, non-rising stem obturator entirely vulcanised

connection: pre-installed transition piece as per DVGW G 5600-1

ø D 40, ø D 50

with connection dimensions as per DIN 8074/75. Suitable for electric welding and butt welding.

flange connection as per EN 1092-2

stem square ends: 12 mm

face-to-face length: as per EN 16722, basic series M4
for potable water or gas

Operation:

- with hand wheel
- with stem extension set (for underground installation) – connection as per GW 336-1

Materials:

body: ductile cast iron EN-GJS-500-7 as per EN 1563

welding studs: PE 100 SDR 11

stem: chromium steel X20Cr13

bonnet, obturator: special brass

rubber parts of high-quality elastomer:

obturator for water: EPDM

obturator for gas: NBR

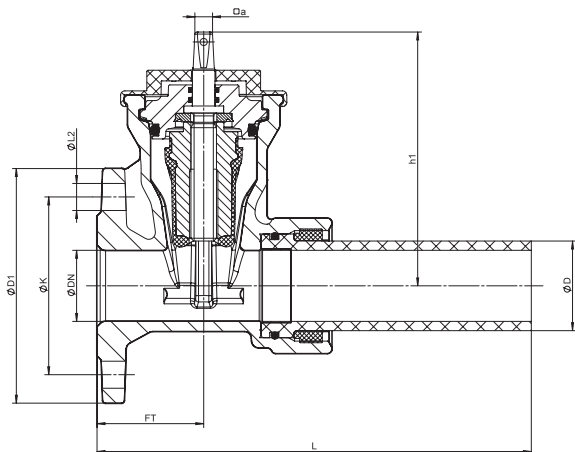


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- inside and outside epoxy resin blue RAL 5005 as per GSK guidelines (for water, on request)
- inside and outside epoxy resin yellow RAL 1023 as per GSK guidelines (for gas)

Field of application: potable water up to 40° C; gas as per G 260/I

Field of application	Nominal diameter DN	Nominal pressure PN	SDR	Test pressure in bar		
				Test medium water Body	Test medium water Seat	Test medium air Seat PG 3 5 bar
potable water	25 – 50	16	11	25	17.6	
gas	25 – 50	5	11	24		0.5 and 6


Dimensions and weights (Dimensions in mm)

DN	L	h_1	FT	ϕD_1	K	L2	ϕD	Number of screws	ϕa	Weight in kg $\approx$	Item no. water etec enamel	Item no. gas PN 5 EKB yellow
40	280	152	70	150	110	19	50	4	12	8.3	571301	—
50	305	178	75	165	125	19	63	4	12	10.3	571302	571716

Gate valve combinations Multi I with Novo sockets PN 10 / 16

82 Design features:

Collar with **Novo** sockets with lateral outlet combined with gate valve type 1004 DN 50, resilient-seated, with smooth passage, interior stem thread, non-rising stem

obturator entirely vulcanised

connection: pre-installed transition piece as per DVGW G 5600-1

with connection dimensions as per DIN 8074/75. Suitable for electric welding and butt welding.

in graduated diameters of 63, 50 and 40 mm

stem square ends: 12 mm

face-to-face length of the gate valve: as per EN 16722, basic series M4

for potable water

Operation:

- with hand wheel
- with stem extension set (for underground installation) – connection as per GW 336-1

Materials:

body: ductile cast iron EN-GJS-500-7 as per EN 1563

welding studs: PE 100 SDR 11

stem: chromium steel X20Cr13

bonnet, obturator: special brass

rubber parts of high-quality elastomer:

obturator for water: EPDM

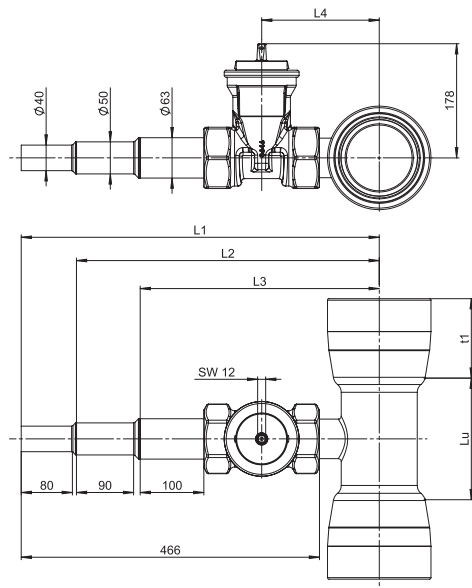


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)

Field of application: Potable water up to 40 °C

Field of application	Nominal diameter DN	Nominal pressure PN	SDR	Test pressure in bar	
				Body	Seat
potable water	32 – 50	16	11	25	17.6


Dimensions and weights (Dimensions in mm)

DN	L ₁	L ₂	L ₃	L ₄	Lu	t ₁	Weight in kg ≈	Item no. etec enamel
100	559	473	373	183	190	123	22.0	788904
125	572	486	386	196	195	126	29.0	788905
150	585	499	399	209	195	129	30.0	788906
200	612	526	426	236	200	138	40.0	788907
250	637	551	451	261	200	143	49.0	788908
300	663	577	476	287	205	152	55.0	788909

Düker underground hydrants

Stable and simple design for long-term, cost-effective service.

Potentially higher investment costs at the procurement stage are offset by greater operational reliability.

Details of the product characteristics and benefits:

- **One-piece body seamlessly enamelled inside and out – total protection against corrosion and incrustation**

The sealing wedge of the main seal and the EPDM-encased steel balls ensure safe and reliable sealing on the hard, smooth surface of the enamel. An additional seal eliminates the need for material transitions. This excludes the risk of corrosion at the interfaces. For operations, this means long-term impermeability and operational capability.

- **① Guide piece made from high-quality forging brass, hot-worked** – ensures a smooth surface and even structure without cavities or cracks. High, long-term mechanical stability.
- **② Obturator linkage** made from solid stainless steel. The sealing wedge and guide piece are screwed with a thread on the rod and secured with stainless-steel pins. This combination allows heavily soiled pipelines to function reliably even under extremely adverse operating conditions (e.g. flushing). The use of solid instead of hollow material stops stagnant water from accumulating.
- **③ Cast-on, fully enamelled automatic drainage system with drying line** – ensures reliable and long-term water drainage. The smooth enamel surface is resistant to water precipitation, incrustations and root penetration. No risk of clogging. Outstanding frost protection included.
- **Protection against pressurised water** – Düker's 304/305/306 series underground hydrants are equipped with the tried-and-tested automatic pressurised water protection system. When the hydrant is being opened (main valve), the pressurised water does not travel from the main pipe to the column until the column drain opening is closed. Conversely, when the main valve is being closed, the drain opening is not

reopened until the main valve is securely closed. This stops pressurised water escaping from the drain opening, and the residual water in the column can flow into the surrounding ground. To ensure that the residual water can always drain off reliably and unimpeded, we recommend using drainage cylinders.

- Sealing wedge on the **main seal** made from ductile cast iron, with three vanes, with EPDM W 270 coating, high stability, no vibrating even at high flow rates and pressures.
- **Dual shut-off** with EPDM-encased steel balls, routed in enamelled cast-iron rails; sealing on enamel.
- **Safety locking device** for the internal mountings – a metallic end stop and additional secured obturator linkage preventing the internal mountings from being catapulted out during maintenance or disassembly work when unwanted line pressure is still present.
- Tried-and-tested, **maintenance-free stem bearing with two O-rings** – for easy and reliable handling.
- **Rolled stem thread** – for high wear resistance.
- **Brass sliding disks** on the stem reduce friction during operation.
- **④ Bayonet hook with cast-on retaining cam** secures the hydrant. Ensures vibration-free operation during water tapping.
- **⑤ Two-piece drainage cylinder made from shock-resistant plastic with drainage fleece** stops the drainage space from filling with sand.
- **⑥ Factory-mounted EPDM flange gasket with steel core** – significantly reduces assembly work during installation.

Type 304 with
single shut-off



Type 305 with
dual shut-off



**Underground hydrant, type 304, form A,
DN 80, single shut-off**
**Underground hydrant, type 305, form AD,
DN 80, dual shut-off**
**Shaft hydrant, type 306, form A, DN 65,
single shut-off**

Flow rate at 1 bar pressure loss (KV) as per EN 14339

- | | |
|--------------------------------|--------------------------------|
| • Target minimum flow rate | $\geq 60 \text{ m}^3/\text{h}$ |
| • ACTUAL flow rate of type 304 | $124 \text{ m}^3/\text{h}$ |
| • ACTUAL flow rate of type 305 | $126 \text{ m}^3/\text{h}$ |
| • ACTUAL flow rate of type 306 | $108 \text{ m}^3/\text{h}$ |
| with standpipe | $79 \text{ m}^3/\text{h}$ |

Residual water quantities and drainage times EN 1074.T 6

- | | |
|---|-----------------------|
| • Target max. residual water quantity: | 100 ml |
| • ACTUAL residual water quantity
for type 304/305/306: | $\leq 30 \text{ ml}$ |
| • Target max. drainage time: | 15 min. |
| • ACTUAL drainage time for type
304/305/306: | $\leq 1 \text{ min.}$ |

Permissible flow rate at 16 bar EN 1074 T.1

max. 4 m/s

Resistance to actuating forces EN 1074 T.6

- | | |
|------------------------------|--------|
| • Max. operating torque MOT: | 105 Nm |
| • Min. strength torque MST: | 210 Nm |

Connection types

- Flange coupling as per EN 1092-2
- with cylinder bore as per WN
- Spigot for Novo and TYTON sockets

Pressure rating EN 14339

PN 16

Pipe coverings DVGW W 386

0.80 – 1.00 – 1.25 – 1.50

Operation

- Rotations to open until start of flow:
3 rotations/stroke
- Rotations until fully closed:
9 rotations/stroke

Accessories

- Operating keys DIN 3323-C
- Drainage cylinder
- N-pieces
- Extensions

Underground hydrants type 304

PN 16, adjustable height based on EN 1074-6

86 Design features:

One-part body with automatic drainage and protection against pressurised water, outlet cover with chain (self-closing cover as an option), integrated flange sealing, secured obturator linkage

single shut-off

connection: connection flange DN 80 as per EN 1092-2

CE marking as per EN 14339

Technical features:

The obturator is shaped flow-optimised and covered on all sides by a firmly vulcanised high-quality elastomer. Automatic drainage and protection against pressurised water are ensured securely due to the construction of the hydrant. The valve stem's maintenance-free bearing is guaranteed due to the use of two O-rings and an insulating ring.

The rolled valve stem ensures high wear resistance.

Safety during an exchange of the linkage is guaranteed by a mechanical linkage safety device.

The pipe covering is visible from above thanks to cast-on markings on the body.

Materials:

body, bonnet, DIN outlet coupling, outlet cover: ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

obturator linkage, bolts: stainless steel

stem nut and bonnet nut: special brass

O-rings made of high-quality elastomer

obturator: ductile cast iron with EPDM



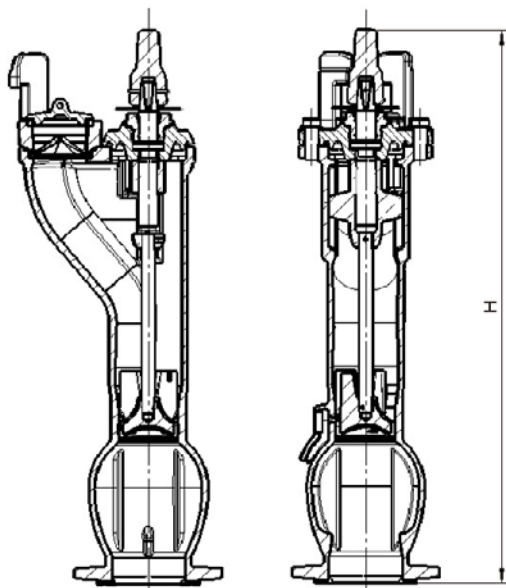
Surface protection:

inside and outside Düker etec enamel as per EN ISO 11177,

DEV guideline for soil class III

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Maximum allowable operating pressure bar
			Body	Seat	
potable water	80	16	25	17.6	16


Dimensions and weights (Dimensions in mm)

DN	Pipe covering	H	Weight in kg ≈	Item no. standard etec enamel	Item no. standard Epoxy blue	Item no. self-closing etec enamel	Item no. self-closing Epoxy blue
80	800	575	24.5	570137	331892	300688	332084
80	1000	750	27.5	570138	329766	300851	332085
80	1250	1000	31.5	570139	331893	300852	332086
80	1500	1250	36.5	570140	331894	300853	332087

Underground hydrants type 305

PN 16, adjustable height based on EN 1074-6

88 Design features:

One-part body with automatic drainage and protection against pressurised water, outlet cover with chain (self-closing cover as an option), integrated flange sealing, secured obturator linkage

double shut-off

connection: connection flange DN 80 as per EN 1092-2

CE marking as per EN 14339

Technical features:

The obturator is shaped flow-optimised and covered on all sides by a firmly vulcanised high-quality elastomer. Automatic drainage and protection against pressurised water are ensured securely due to the construction of the hydrant. The valve stem's maintenance-free bearing is guaranteed due to the use of two O-rings and an insulating ring.

The rolled valve stem ensures high wear resistance.

Safety during an exchange of the linkage is guaranteed by a mechanical linkage safety device.

The pipe covering is visible from above thanks to cast-on markings on the body.

Materials:

body, bonnet, DIN outlet coupling, outlet cover: ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

obturator linkage, bolts: stainless steel

stem nut and bonnet nut: special brass

O-rings made of high-quality elastomer

obturator: ductile cast iron with EPDM

sealing ball: steel with EPDM cover



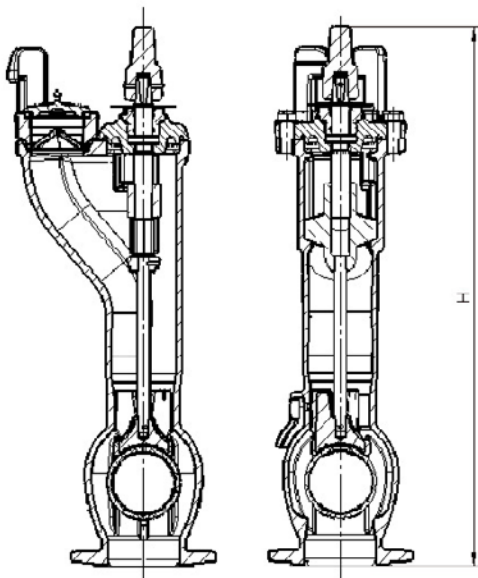
Surface protection:

inside and outside Düker etec enamel as per EN ISO 11177,

DEV guideline for soil class III

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Maximum allowable operating pressure bar
			Body	Seat	
potable water	80	16	25	17.6	16


Dimensions and weights (Dimensions in mm)

DN	Pipe covering	H	Weight in kg ≈	Item no. standard etec enamel	Item no. self-closing etec enamel
80	800	575	25.0	568636	300854
80	1000	750	28.0	569278	300855
80	1250	1000	32.0	569283	300857
80	1500	1250	37.0	567822	300858

Underground hydrants type 304 S

PN 16, adjustable height based on EN 1074-6

90 Design features:

One-part, fully enamelled body with automatic drainage and protection against pressurised water, outlet cover with chain (self-closing cover as an option), integrated flange sealing, secured obturator linkage

Type 304 S, design A: single shut-off

connection: connection flange DN 80 as per EN 1092-2

CE marking as per EN 14339

Technical features:

The obturator is shaped flow-optimised and covered on all sides by a firmly vulcanised high-quality elastomer. Automatic drainage and protection against pressurised water are ensured securely due to the construction of the hydrant. The valve stem's maintenance-free bearing is guaranteed due to the use of two O-rings and an insulating ring. The rolled valve stem ensures high wear resistance.

Safety during an exchange of the linkage is guaranteed by a mechanical linkage safety device.

The pipe covering is visible from above thanks to cast-on markings on the body.

Materials:

body, bonnet, DIN outlet coupling, outlet cover: ductile cast iron EN-GJS-500-7 as per EN 1563

stem: chromium steel X20Cr13

obturator linkage, bolts: stainless steel

stem nut and bonnet nut: special brass

O-rings made of high-quality elastomer

obturator: ductile cast iron with EPDM

DIN DVGW
registered!

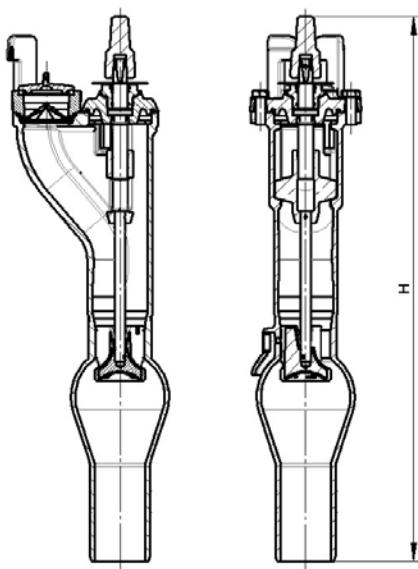
Surface protection:

inside and outside Düker etec enamel as per EN ISO 11177,

DEV guideline for soil class III

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Maximum allowable operating pressure bar
			Body	Seat	
potable water	80	16	25	17.6	16


Dimensions and weights (Dimensions in mm)

DN	Pipe covering	H	Weight in kg ≈	Item no. standard	Item no. self-closing
80	750	670	24.0	763787	304948
80	1000	890	27.0	763788	304952
80	1250	1140	32.0	—	—
80	1500	1390	37.0	—	—

Note: Other pipe coverings can be realised by using M-pieces (see page 142).

Underground Hydrant type 306 for Chamber Installation

DN 65 PN 16, as per EN 1074-6

92 Design features:

One-part, fully enamelled body with automatic drainage and protection against pressurised water, integrated flange sealing, secured obturator linkage
single shut-off
closing anti-clockwise (clockwise closing on request)
connection: connection flange DN 65 as per EN 1092-2 and factory standard, 8 hole drilling (double drilling as per "Württembergischer chamber system" for flexible positioning)

Materials:

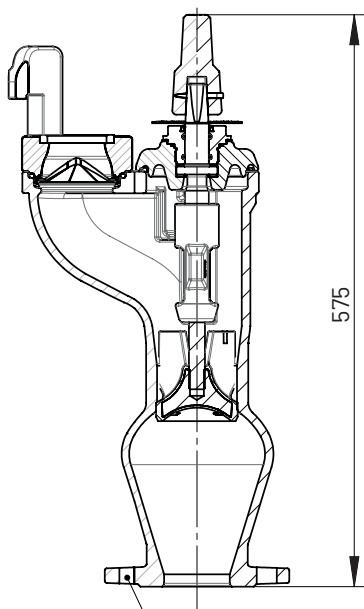
body, bonnet, DIN outlet coupling, outlet cover: EN-GJS-500-7
massive obturator linkage, stem: X20Cr13
stem nut and bonnet nut in special brass
obturator: ductile cast iron with EPDM

Surface protection:

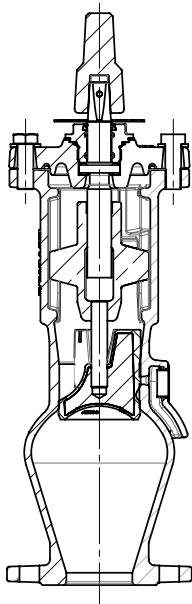
inside and outside Düker etec enamel as per EN ISO 11177,
DEV guideline for soil class III

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
			Body	Seat
potable water	65	16	25	17.6



Flange DN 65 as per local
Württemberg standard



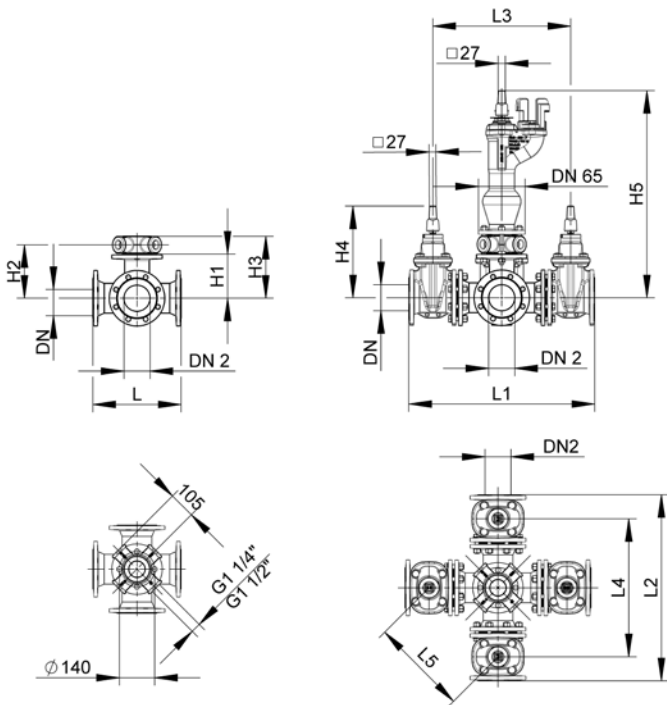
Dimensions and weights (Dimensions in mm)

DN	Pipe covering	H	Weight in kg ≈	Item no. standard closing anti-clockwise	Item no. closing clockwise
80	800	575	24.0	307267	325300

Underground Hydrant type 306 for Chamber Installation DN 65 PN 16, as per EN 1074-6

94 Chamber installation example

Hydrant type 306 combined with connection drum DN (see page 325),
TT ball fitting (see page 324) and four gate valves in short face-to-face length
(see page 40 - 42)




Dimensions (in mm)

DN	DN2	H1	H2	H3	H4	H5
gate valve type 2004	TT ball fitting					
100	100	175	212	245	365	820
150	100	200	237	270	440	825
150	150	200	237	270	440	825
200	100	250	287	320	530	895
200	150	250	287	320	530	895
200	200	250	287	320	530	895

Dimensions (in mm)

DN	DN2	L	L1	L2	L3	L4	L5
gate valve type 2004	TT ball fitting						
100	100	350	740	740	545	545	385
150	100	400	830	790	620	595	430
150	150	400	830	830	620	620	440
200	100	500	970	890	740	700	510
200	150	500	970	930	740	720	516
200	200	500	970	970	740	740	523

Pillar hydrant type 496, design AUD

DN 80, DN 100, PN 16 based on EN 1074-6

96 Design features:

Type 496 above ground hydrant with PN 16 connection flange to DIN EN 1092-2, type AUD with additional shut-off, bypass design with easy-to-install predetermined breaking point, continuously rotatable design with loose flange at the predetermined breaking point, enamelled on the inside and outside as standard.

With two B-type fixed couplings and aluminium cover caps, automatic draining and pressurised water protection. Safety locking of the internal fitting.

One-piece column base with easy-to-install contour for flange connection.

All materials in contact with drinking water in accordance with the current status of UBA assessment principles.

DVGW tested and registered, CE marking in accordance with DIN EN 14384.

Materials:

column base, column top: cast iron EN-GJS-500-7 (JS 1050)

bonnet, fixed couplings and cover caps: aluminium

linkage and spindle: X20Cr13

guide piece, spindle bearing, predetermined breaking point coupling, lock nut: special brass

enamelled sealing seat

sealing piston and sealing ball: fully vulcanised EPDM

Surface protection:

- column base inside and outside, column top inside Düker etec enamel blue in accordance with DIN EN ISO 11177, DEV guideline floor class III
- column top outside Düker enamel red
- on request: column top outside Düker enamel in colour:



red



blue



yellow



lemon green



light grey



anthracite

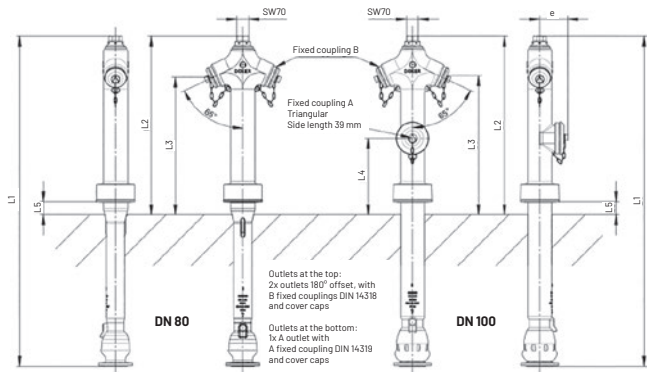
Optional:

- DN 100 version with A outlet



Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Maximum allowable operating pressure bar
			Body	Seat	
potable water	80 – 100	16	25	17.6	16


Dimensions and weights (Dimensions in mm)

DN	Pipe covering	L1	L2	L3	L4	L5	e	A outlet	Weight in kg ≈	Item no.
80	1000	1940	1050	820	—	75	—	no	69.0	333700
80	1250	2190	1050	820	—	75	—	no	75.0	333701
80	1500	2440	1050	820	—	75	—	no	80.0	333702
100	1000	1940	1050	820	—	75	—	no	77.0	333703
100	1250	2190	1050	820	—	75	—	no	84.0	333704
100	1500	2440	1050	820	—	75	—	no	91.0	333705
100	1000	1940	1050	820	450	75	165	yes	85.0	333706
100	1250	2190	1050	820	450	75	165	yes	91.0	333707
100	1500	2440	1050	820	450	75	165	yes	98.0	333708

Pillar hydrants type 494, design AUD, PN 16, adjustable height based on EN 1074-6

98 Design features:

Connection flange according to EN 1092-2, automatic drainage and protection against backflow and pressurised water, security lock of the internal mountings, traffic-area version with installation-friendly pre-determined breaking point, 2 B outlets, DN 100, optionally with or without A outlet, including drain set made of foam polystyrol, all elastomers and plastic parts according to KTW-BWGL, DVGW tested and registered, CE marking according to EN 14384.

Technical features:

maintenance-free bearing of the stem extension

Materials:

bottom, upper and lower part of the pillar, and bonnet nut: ductile cast iron
EN-GJS-500-7 as per EN 1563

operating cap, outlets and outlet covers: aluminium

stem: chromium steel X20Cr13

linkage, pin, drainage plate, bolts: stainless steel

stem nut, stem bearing, predetermined breaking coupling and bonnet nut: special brass

seat ring: rubberized brass

O-rings made of high-quality elastomer

obturator: entirely vulcanized with high-quality elastomer (EPDM)

Surface protection:

- inside and outside Düker enamel
- on request: upper part of the pillar inside Düker etec enamel blue, outside Düker enamel in the shades:



red



blue



yellow



lemon green



light grey

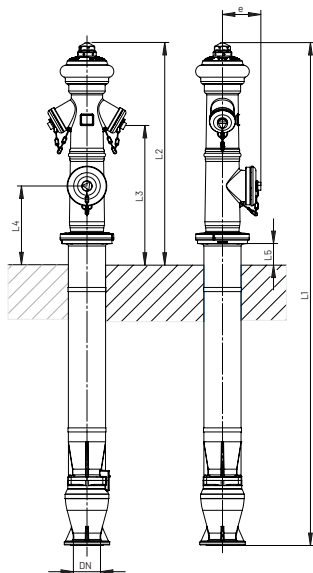


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Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Maximum allowable operating pressure bar
			Body	Seat	
potable water	80 – 100	16	25	17.6	16


Dimensions and weights (Dimensions in mm)

DN	Pipe covering	L1	L2	L3	L4	L5	e	Weight in kg ≈	Item no. 2 upper B outlets	Item no. 2 upper B outlets, 1 lower A outlet
80	1000	1940	1050	680	—	55	—	126.0	327300	—
80	1250	2190	1050	680	—	55	—	136.0	316485	—
80	1500	2440	1050	680	—	55	—	147.0	316488	—
100	1000	1940	1050	680	355	55	200	140.0	327301	327302
100	1250	2190	1050	680	355	55	200	150.0	316327	316328
100	1500	2440	1050	680	355	55	200	160.0	315062	316326

Pillar hydrants type 495, design AFUD, PN 16, adjustable height based on EN 1074-6

100 Design features:

Connection flange according to EN 1092-2, automatic drainage and protection against backflow and pressurised water, security lock of the internal mountings, traffic-area version with installation-friendly pre-determined breaking point, 2 upper valve outlets B under the protective cover, 1 bottom outlet A including drain set made of foam polystyrol, all elastomers and plastic parts according to KTW-BWGL, DVGW tested and registered, CE marking according to EN 14384.

Technical features:

maintenance-free bearing of the stem extension

Materials:

bottom, upper and lower part of the pillar, valve head and hand wheel: ductile cast iron EN-GJS-500-7 as per EN 1563

outlets and outlet covers: aluminium

protective cover: steel X5CrNi18-10

stem: chromium steel X20Cr13

linkage, pin, drainage plate, bolts: stainless steel

stem nut, stem bearing, predetermined breaking coupling and bonnet nut: special brass
seat ring: rubberized brass

O-rings made of high-quality elastomer

obturator: entirely vulcanized with high-quality elastomer (EPDM)

Surface protection:

- inside and outside Düker enamel
- on request: upper part of the pillar inside Düker etec enamel blue, outside Düker enamel in the shades:



red



blue



yellow



lemon green



light grey

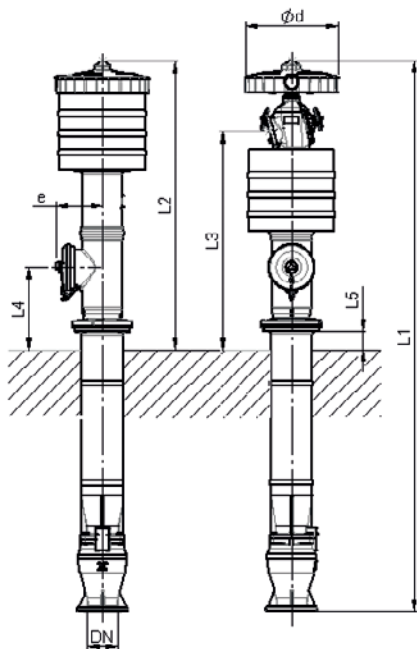


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Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Maximum allowable operating pressure bar
			Body	Seat	
potable water	100	16	25	17.6	16


Dimensions and weights (Dimensions in mm)

DN	Pipe covering	L1	L2	L3	L4	L5	ø d	e	Weight in kg ≈	Item no.
100	1000	2140	1250	950	355	55	400	200	167.0	327297
100	1250	2390	1250	950	355	55	400	200	188.0	327298
100	1500	2640	1250	950	355	55	400	200	196.0	327299

Düker butterfly valves

Seamlessly enamelled all round with Düker etec enamel – the brand for special surface protection

These fulfil to the greatest extent possible the specific requirements of today's water management processes in terms of economic efficiency, sustainability and long-term reliability. Düker butterfly valves are soft-seated with a double eccentrically mounted valve disc and are tight in both flow directions. The gear configuration can be changed depending on the installation situation.

Valve disc

⇒ Flow-optimised with computer-aided flow simulation (CFD). The new design of the disc body ensures maximum stability, minimum pressure loss and outstanding protection against cavitation.

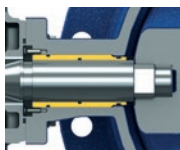
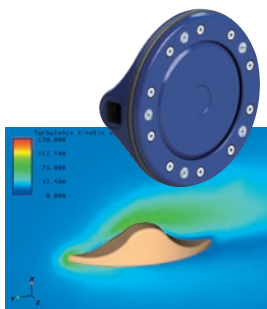
The valve disc is fully enamelled and self-centring. The main seal – an endless sealing ring with a pronounced O-ring profile – is secured with a one-piece retaining ring to the valve disc by means of screws and fixed with threaded pins. Thanks to the fixing screws, the main seal is easy to adjust and, if necessary, replace. This system allows for controlled and appropriate pre-stressing of the seal. Even at high gap velocities, there is no risk that the seal will be pulled out.

Coupling between the valve disc and shaft

⇒ A square plug-in coupling ensures a clearance-free connection and optimal torque transmission. This design means that the eyes on the valve disc stay closed with a blind hole. An additional axial sealing element – an O-ring package between the bearing eye on the valve disc and the front side of the bearing bush as well as an additional O-ring positioned radially on the exterior diameter of the bearing bush – ensures that the bearing is completely isolated from the medium. This eliminates the risk of corrosion at coupling points.

Bearings

⇒ Bearing bushes made from special bronze ensure outstanding emergency running characteristics. They are highly wear-resistant and exhibit outstanding behaviour in relation to surface pressure and friction coefficients. The drive shaft and bearing journals made from stainless steel are chambered (media-free) by means of O-rings between the bearing eye on the disc and the bearing bush. The bearing bushes, drive shaft and bearing journals are secured to the body such that they are protected against blow-out.



Slider crank mechanism gear

⇒ The self-locking slider crank mechanism gear developed by Düker has been standard equipment since the beginning of valve manufacture. Robust, powerful and reliable for easy and safe operation against a differential pressure up to the nominal pressure. The Düker slider crank mechanism gear is optimised in line with the torque requirements of the Düker butterfly valve. The torque curve is not linear and climbs extremely rapidly as the closing point is approached. The curve quickly passes through the hydraulically ineffective open position range of the valve disc. In the hydraulically effective closing end phase, the closing speed falls dramatically. This kinematic behaviour allows the valve disc to close extremely softly. The risk of pressure surges is minimised significantly. Details: IP Code IP 68; maintenance-free, adjustable end stops; mechanical position indicator under acrylic glass; lock pins on the body-gear coupling flange as anti-twist protection. Universal mounting flange (F10) for hand wheels to e-drives.

Stem extension set with flanged bell and O-ring for tight sealing.



UVV butterfly valve with 3-point locking

For inspection work in walk-in pipe systems

⇒ Two fixed stops, one moving stop. The moving stop is fitted with a bolt that moves into the body when the hand wheel is operated and blocks the closed valve disc. The two fixed stops are secured inside the body.

Optional: additional mechanical locking of the bolt and limit switch for position monitoring.



Butterfly valves with locking flange on the blind side

⇒ The locking flange ensures that the valve disc is reliably secured in the OPEN or CLOSED position. This means that the gear can be replaced during operation.

Our range

In addition to the standard R 14 version, we offer a range of designs for specialist applications.

Butterfly valve, long design (R 15) with bypass

⇒ For pressure-surge-free filling and emptying of pipes via the gate valve installed in the bypass; no more costly installation work in pipe trenches

⇒ Without bypass as a replacement for gate valves from DN 300 through to 1200

⇒ With block flanges for installing ventilation upstream and downstream of the body seat. Example: hydrants or gate valves with aeration and ventilation valves.



Locking flange locks in 'disc open' position



Locking flange locks in 'disc closed' position

From production through to operation.

Düker – 'Made in Germany'

Butterfly valves type 451 and 4510 with flanges PN 10/16/25

104 Design features:

Resilient-seated butterfly valve with slidercrank gear box
flow-optimised, completely enamelled valve disc with double eccentric journal
square plug connection between valve disc and shaft
easily replaceable profile sealing
mechanical position indication open/closed on the gear box cover
driving shaft and bearing journal chambered medium-free
flange connection dimensions: as per EN 1092-2
face-to-face length: as per EN 558, basic series 14
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator
- with pivot drive
- with pneumatic drive
- with hydraulic drive
- with end switch unit

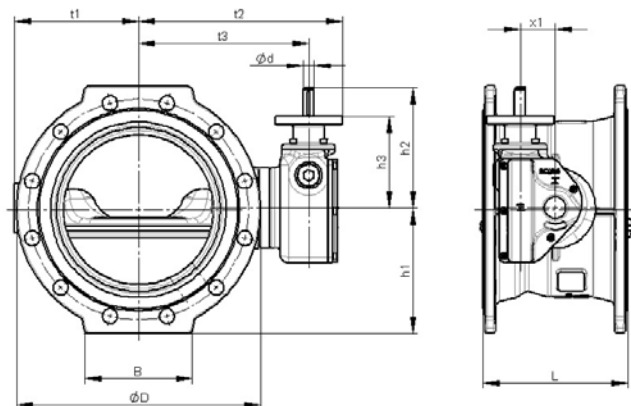
DIN DVGW
registered!

Materials:

body, valve disc: ductile cast iron EN-GJS-400-15 as per EN 1563
retaining ring: EN-GJS-500-7; from DN 700 up stainless steel 1.4301
profile sealing for water: EPDM
driving shaft: chromium steel X20Cr13
bearing bushes: red bronze CC483 K

Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177,
DEV guideline for soil class III



Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Allowable operating pressure bar
			Body	Seat	
potable water	100 – 1200	10	15	11	10
potable water	100 – 1200	16	25	17.6	16
potable water	100 – 1200	25 ¹⁾	37.5	27.5	25

¹⁾ DN 800 up to 1200 in PN 25 only for operating pressure up to 20 bar

Butterfly valves type 451 and 4510 with flanges PN 10/16/25

Dimensions (in mm)								
Type	DN	PN	L	Ø D	B	h1	h2*	h3*
4510	100	10/16	190	220	120	116	223	170
4510	100	25	190	235	120	121	223	170
4510	125	10/16	200	250	130	131	223	170
4510	125	25	200	270	130	141	223	170
4510	150	10/16	210	285	150	149	223	170
4510	150	25	210	300	150	157	223	170
4510	200	10/16	230	340	160	177	223	170
4510	200	25	230	360	160	187	223	170
4510	250	10/16	250	400	180	208	223	170
4510	250	25	250	425	180	220	223	170
4510	300	10/16	270	455	200	233	223	170
4510	300	25	270	485	200	248	223	170
4510	350	10	290	505	225	259	223	170
4510	350	16	290	520	225	269	223	170
4510	350	25	290	555	225	287	278	228

* Dimensions h2, h3 for SK IVB/F30 with GP 14.1 to spindle end/flange primary reduction gearing



Dimensions (in mm)

t1	t2	t3	x1	Gear box SK	Primary reduction gearing	d	Rotations/ stroke
115	267	204	65	SK IB/F10	—	20	27
115	267	204	65	SK IB/F10	—	20	27
127	279	216	65	SK IB/F10	—	20	27
127	279	216	65	SK IB/F10	—	20	27
143	295	232	65	SK IB/F10	—	20	27
143	295	232	65	SK IB/F10	—	20	27
180	320	257	65	SK IIB/F12	—	20	27
180	320	257	65	SK IIB/F12	—	20	27
217	357	294	65	SK IIB/F12	—	20	27
222	357	294	65	SK IIB/F12	—	20	27
231	380	317	65	SK IIB/F12	—	20	27
231	380	317	65	SK IIB/F12	—	20	27
297	435	372	65	SK IIB/F12	—	20	27
297	435	372	65	SK IIB/F12	—	20	27
297	486	400	100	SK IIIB/F16	—	20	31



Butterfly valves type 451 and 4510 with flanges PN 10/16/25

Dimensions (in mm)								
Type	DN	PN	L	Ø D	B	h1	h2*	h3*
4510	400	10	310	565	300	294	223	170
4510	400	16	310	580	300	294	278	228
4510	400	25	310	620	300	319	278	228
4510	500	10	350	670	350	350	278	228
4510	500	16	350	715	350	372	278	228
4510	500	25	350	730	350	375	403	337
4510	600	10	390	780	320	401	278	228
4510	600	16	390	840	330	431	403	337
4510	600	25	390	845	330	431	597	557
451	700	10	430	895	400	457	403	337
451	700	16	430	910	400	467	597	557
451	800	10	470	1015	450	518	597	557
451	800	16	470	1025	450	523	597	557
451	900	10	510	1115	550	569	597	557
451	900	16	510	1125	550	574	510	470
451	1000	10	550	1230	600	630	597	557
451	1000	16	550	1255	600	640	565	525
451	1200	10	630	1455	720	757	565	525
451	1200	16	630	1485	720	757	565	525

* Dimensions h2, h3 for SK IVB/F30 with GP 14.1 to spindle end/flange primary reduction gearing



Dimensions (in mm)

t1	t2	t3	x1	Gear box SK	Primary reduction gearing	d	Rotations/ stroke
317	455	392	65	SK IIB/F12	—	20	27
317	506	420	100	SK IIIB/F16	—	20	31
317	506	420	100	SK IIIB/F16	—	20	31
385	556	470	100	SK IIIB/F16	—	20	31
385	556	470	100	SK IIIB/F16	—	20	31
385	668	529	160	SK IVB/F30	—	30	43
450	646	560	100	SK IIIB/F16	—	20	31
450	758	619	160	SK IVB/F30	—	30	43
450	778	639	160	SK IVB/F30	GP 14.1(4:1)	20	172
546	833	694	160	SK IVB/F30	—	30	43
546	833	694	160	SK IVB/F30	GP 14.1(4:1)	20	172
601	868	729	160	SK IVB/F30	GP 14.1(4:1)	20	172
601	868	729	160	SK IVB/F30	GP 14.1(4:1)	20	172
631	911	772	160	SK IVB/F30	GP 14.1(4:1)	20	172
631	799	703	200	GS 200.3/F30	(16:1)	20	216
715	1003	864	160	SK IVB/F30	GP 14.1(4:1)	20	172
715	959	840	250	GS 250.3/F35	(16:1)	20	212
833	1078	959	250	GS 250.3/F35	(16:1)	20	212
833	1078	959	250	GS 250.3/F35	(16:1)	20	212



Butterfly valves type 451 and 4510 with flanges PN 10/16/25

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Item numbers and weights				
DN	PN	Weight in kg ≈	Item no. Butterfly valve	Item no. Hand wheel set
100	16	32.0	781487	327454
125	16	37.0	781488	327454
150	16	43.0	781489	327454
200	10	55.0	781413	327454
200	16	55.0	781499	327454
250	10	74.0	781490	327454
250	16	73.0	781498	327455
300	10	91.0	773902	327455
300	16	96.0	773903	327455
350	10	115.0	781513	327455
350	16	122.0	781514	327455
400	10	144.0	781522	327455
400	16	148.0	780681	327456
500	10	214.0	781533	327456
500	16	244.0	781534	327456
600	10	346.0	781557	327456
600	16	500.0	781558	327457
700	10	645.0	325807	327519
700	16	663.0	327508	327523
800	10	900.0	327509	327524
800	16	915.0	327510	327525
900	10	1198.0	572019	573161
900	16	1261.0	573153	334405
1000	10	1488.0	327306	328135
1000	16	1655.0	334397	334399
1200	10	2065.0	332372	334400
1200	16	2135.0	334401	573164

Other media, pressure ratings and coatings on request

Butterfly valves type 451 and 4510 with flanges PN 10/16; long face-to-face length, with or without bypass

112 Design features:

Resilient-seated butterfly valve with slidercrank gear box
flow-optimised, completely enamelled valve disc with double eccentric journal
square plug connection between valve disc and shaft
easily replaceable profile sealing
mechanical position indication open/closed on the gear box cover
driving shaft and bearing journal chambered medium-free
flange connection dimensions: as per EN 1092-2
face-to-face length: as per EN 558, basic series 15
with bypass (without bypass on request)
bypass approx. 1/10 of the main diameter
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator
- with pivot drive
- with pneumatic drive
- with hydraulic drive
- with end switch unit

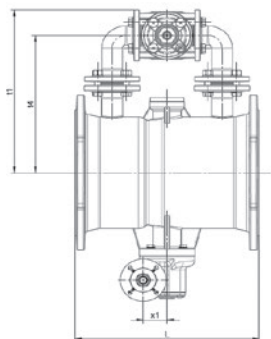
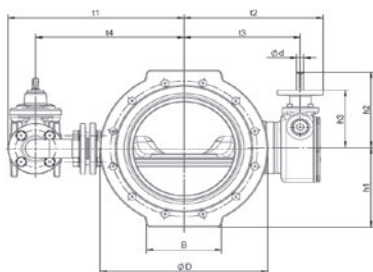


Materials:

body, valve disc: ductile cast iron EN-GJS-400-15 as per EN 1563
retaining ring: EN-GJS-500-7; from DN 700 up stainless steel 1.4301
profile sealing for water: EPDM
driving shaft: chromium steel X20Cr13
bearing bushes: red bronze CC483 K

Surface protection:

- DN 100 up to 600 inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)
- from DN 700 up inside Düker enamel, outside 2-components epoxy resin blue RAL 5005 (for water)



Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Allowable operating pressure bar
			Body	Seat	
potable water	100 - 1000	10	15	11	10
potable water	100 - 1000	16	25	17.6	16

Butterfly valves type 451 and 4510 with flanges PN 10/16; long face-to-face length, with or without bypass

Dimensions (in mm)

Type	DN	PN	L	Ø D	B	h1	h2	h3	t1
4510	300	10	500	455	200	233	223	170	478
4510	300	16	500	455	200	233	223	170	478
4510	400	10	600	565	300	294	223	170	558
4510	400	16	600	580	300	294	278	228	558
4510	500	10	700	670	350	350	278	228	586
4510	500	16	700	715	350	372	278	228	586
4510	600	10	800	780	330	401	278	228	636
4510	600	16	800	840	330	431	403	337	636
451	700	10	900	895	400	457	403	337	768
451	700	16	900	910	400	467	597	337	768
451	800	10	1000	1015	450	518	597	337	833
451	800	16	1000	1025	450	518	597	337	833
451	900	10	1100	1115	550	569	597	337	896
451	1000	10	1200	1230	600	630	597	337	954
451	1000	16	1200	1255	600	640	565	525	954



Dimensions (in mm)

t4	t2	t3	x1	Gear box SK	Primary reduction gearing	d	Rotations/ stroke	Bypass DN
403	380	317	65	SK IIB/F12	-	20	27	40
403	380	317	65	SK IIB/F12	-	20	27	40
483	455	392	65	SK IIB/F12	-	20	27	40
483	506	420	100	SK IIIB/F16	-	20	31	40
503	556	470	100	SK IIIB/F16	-	20	31	50
503	556	470	100	SK IIIB/F16	-	20	31	50
553	646	560	100	SK IIIB/F16	-	20	31	50
553	758	619	160	SK IVB/F30	-	30	43	50
668	833	694	160	SK IVB/F30	-	30	43	80
668	833	694	160	SK IVB/F30	GP 14.1(4:1)	20	172	80
733	868	729	160	SK IVB/F30	GP 14.1(4:1)	20	172	80
733	868	729	160	SK IVB/F30	GP 14.1(4:1)	20	172	80
786	911	772	160	SK IVB/F30	GP 14.1(4:1)	20	172	100
844	1003	864	160	SK IVB/F30	GP 14.1(4:1)	20	172	100
844	959	840	250	GS 250.3	(16:1)	20	212	100

Butterfly valves type 451 and 4510 with flanges PN 10/16; long face-to-face length, with or without bypass



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Item numbers and weights				
DN	PN	Weight in kg ≈	Item no.	Dimension of the bypass gate-valve
300	10	150.0	785226	40
300	16	150.0	789126	40
400	10	218.0	785225	40
400	16	259.0	772490	40
500	10	333.0	783437	50
500	16	366.0	772998	50
600	10	462.0	783423	50
600	16	635.0	780854	50
700	10	680.0	571503	80
700	16	680.0	571624	80
800	10	1085.0	572494	80
800	16	1085.0	570645	80
900	10	1100.0	312176	100
900	16	1100.0	312177	100
1000	10	2060.0	573093	100
1000	16	2060.0	782542	100

Other versions on request

Butterfly valves Epoxy Line type 424 with flanges

118 Variants:

- butterfly valves with handwheel
- butterfly valves with electric actuator
- butterfly valves for underground installation

Materials:

housing and valve disc made of ductile cast iron EN-GJS-400-15

bearing pin and drive shaft 1.4021

brass bearing bushes

O-rings and seals EPDM

bearing bushes A and B from CC483K

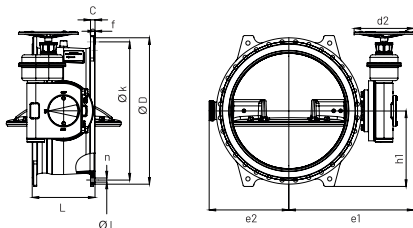
nominal widths DN 150 to DN 1200

nominal pressure PN 10, PN 16 and PN 25 (on request)



Surface protection:

- Epoxy finish


Dimensions and weights (Dimensions in mm)

DN	PN	Ø D	L	e1	e2	d2	h1	f	C	Ø k	n	Ø L	Weight in kg
150	10/16	285	210	345	142	260	160	3	19.0	240	8	23	37.0
200	10	340	230	388	175	260	190	3	20.0	295	8	23	60.0
200	16	340	230	388	175	260	190	3	20.0	295	12	23	60.0
250	10	395	250	406	201	260	220	3	22.0	350	12	23	74.5
250	16	405	250	406	201	260	220	3	22.0	355	12	28	74.5
300	10	445	270	448	235	260	250	4	24.5	400	12	23	90.0
300	16	460	270	448	235	260	250	4	24.5	400	12	23	90.0
350	10	505	290	567	260	400	280	4	24.5	460	16	23	155.0
350	16	520	290	567	260	400	280	4	26.5	470	16	28	155.0
400	10	565	310	600	302	400	310	4	24.5	515	16	28	165.0
400	16	580	310	600	302	400	310	4	28.0	525	16	31	184.0
450	10	615	330	610	330	400	330	4	25.5	565	20	28	261.0
450	16	640	330	610	330	400	330	4	30.0	585	20	31	296.0
500	10	670	350	665	372	400	360	4	26.5	620	20	28	237.0
500	16	715	350	665	372	400	360	4	31.5	650	20	34	280.0
600	10	780	390	735	425	400	440	5	30.0	725	20	31	345.0
600	16	840	390	735	425	400	440	5	36.0	770	20	37	383.8
700	10	895	430	872	458	600	465	5	32.5	840	24	31	546.0
700	16	910	430	872	458	600	465	5	39.5	840	24	37	560.0
800	10	1015	470	954	520	600	540	5	35.0	950	24	34	690.0
800	16	1025	470	954	520	600	540	5	43.0	950	24	41	700.0
900	10	1115	510	1004	600	600	570	5	37.5	1050	28	34	1040.0
900	16	1125	510	1004	600	600	570	5	46.5	1050	28	41	1056.8
1000	10	1230	550	1024	625	600	676	5	40.0	1160	28	37	1522.0
1000	16	1255	550	1024	625	600	676	5	50.0	1170	28	44	1550.0
1200	10	1455	630	1250	800	600	735	5	45.0	1380	32	41	2171.0
1200	16	1485	630	1250	800	600	735	5	57.0	1390	32	50	2255.0

Butterfly valves Epoxy Line type 424 with flanges

Item numbers			
DN	PN	Item no. for handwheel	Item no. with gearbox for underground installation
150	10/16	333312	334132
200	10	333282	334133
200	16	333314	334134
250	10	333284	334135
250	16	333316	334136
300	10	333286	334137
300	16	333319	334138
350	10	333292	334139
350	16	333320	334140
400	10	333294	334141
400	16	333321	334142
450	10	333296	334143
450	16	333322	334144
500	10	333298	334145
500	16	333323	334146
600	10	333299	334147
600	16	333324	334148
700	10	333301	334149
700	16	333325	334150
800	10	333303	334151
800	16	333326	334156
900	10	333304	334158
900	16	333327	334159
1000	10	333306	334160
1000	16	333328	334161
1200	10	333310	334164
1200	16	333330	334165



Butterfly valves type 4510

with Novo sockets PN 10/16/25

122 Design features:

Resilient-seated butterfly valve with slidercrank gear box
flow-optimised, completely enamelled valve disc with double eccentric journal
square plug connection between valve disc and shaft
easily replaceable profile sealing
mechanical position indication open/closed on the gear box cover
driving shaft and bearing journal chambered medium-free
connection: plug-in sockets as per DIN 28603 **TYTON®** with pre-chamber
for potable water

Operation:

- with hand wheel
- with stem extension (for underground installation) – connection as per GW 336-1
- with electrical actuator
- with pivot drive
- with pneumatic drive
- with hydraulic drive
- with end switch unit

Materials:

body, valve disc: ductile cast iron EN-GJS-400-15 as per EN 1563
retaining ring: EN-GJS-500-7
driving shaft: chromium steel X20Cr13
bearing bushes: red bronze CC483 K

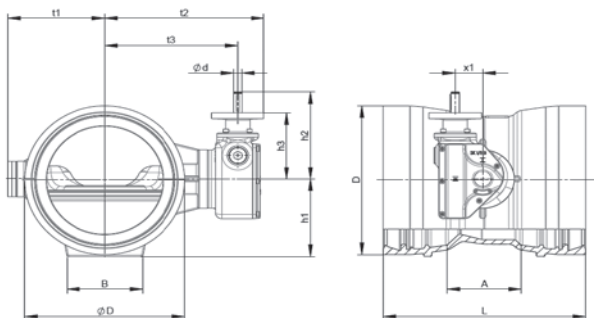


Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177, DEV guideline for soil class III (for water)

Field of application: Potable water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Test pressure in bar		Allowable operating pressure bar
			Body	Seat	
potable water	150 – 500	10	15	11	10
potable water	150 – 500	16	25	17.6	16
potable water	150 – 500	25	37.5	27.5	25


Dimensions and weights (Dimensions in mm)

DN	PN	Ø D	L	A	B	h1	h2	h3	t1
150	10-25	216	398	140	110	113	223	170	143
200	10-25	271	428	152	120	141	223	170	180
250	10-25	324	451	165	140	168	223	170	222
300	10-25	381	482	176	180	198	223	170	231
400	10	489	478	172	220	263	278	170	307
400	16-25	489	478	172	220	263	278	228	307
500	10-16	598	541	205	240	309	278	228	385
500	25	598	541	205	240	309	403	337	385

DN	t2	t3	x1	Gear box SK	d	Rotations/ stroke	Weight in kg ≈	Item no.
150	295	232	65	SK IIB/F10	20	27	39.0	781506
200	320	257	65	SK IIB/F12	20	27	51.0	794236
250	357	294	65	SK IIB/F12	20	27	62.0	781510
300	380	317	65	SK IIB/F12	20	27	97.0	792573
400	455	392	65	SK IIB/F12	20	27	193.0	792575
400	506	420	100	SK IIIB/F16	20	31	193.0	318505
500	556	470	100	SK IIIB/F16	20	31	254.0	781555
500	668	529	160	SK IVB/F30	30	43	254.0	327507

Non-slam check valve type 8015

PN 10/16/25/40

124 Design features:

Hydraulically optimised backflow preventer for industrial water applications, water collection, pumping stations etc.

nominal diameters DN 80 up to DN 300

flange connection dimensions as per EN 1092-2

nominal pressure PN 10 up to PN 40

face-to-face length as per EN 558, basic series 14

Design:

for flow direction

- H+V horizontal and vertical upwards
- ∇ V vertical downwards

Materials:

body and body insert: ductile cast iron EN-GJS-500-14

valve disc: ductile cast iron, completely rubberized with elastomer KTW-BWGL

guide rod: stainless steel 1.4057

threaded bush: stainless steel 1.4057

spring: stainless steel 1.4310

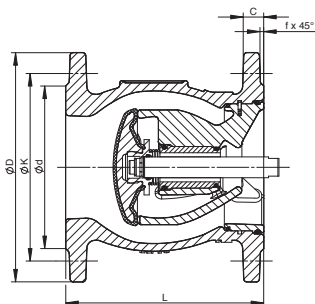
guidance bush: polymer

Surface protection:

- inside and outside Düker etec enamel as per EN ISO 11177

Field of application: water up to 60 °C

Field of application	Nominal diameter DN	Nominal pressure PN	Body	Test pressure in bar	
				Seat flow direction	back flow direction
Water	200 – 300	10	15	11	0.5
Water	80 – 300	16	25	17.6	0.5
Water	200	25	37.5	27.5	0.5
Water	80 – 200	40	60	44	0.5


Dimensions and weights (Dimensions in mm)

DN	PN	L	Ø D	Ø K	Ø d	f	C	Number of bolts	Weight in kg ≈	Item no. design H/V	Item no. design V
80	10/16	180	200	160	132	3	19	8	12.5	303290	303542
80	25/40	180	200	160	132	3	19	8	12.5	314479	314480
100	10/16	190	220	180	156	3	19	8	16.0	301764	303529
100	25/40	190	235	190	156	3	19	8	17.0	303459	303540
125	10/16	200	250	210	184	3	19	8	20.0	301916	303533
125	25/40	200	270	220	184	3	19	8	22.5	303463	303545
150	10/16	210	285	240	211	3	19	8	26.0	302877	303530
150	25/40	210	300	250	211	3	19	8	33.0	303460	303541
200	10	230	340	295	266	3	20	8	38.0	797489	303525
200	16	230	340	295	266	3	20	12	38.0	303141	303528
200	25	230	360	310	274	3	22	12	50.0	303142	303534
200	40	230	375	320	284	3	30	12	52.0	303143	303539
250	10	250	400	350	319	3	22	12	51.5	303453	—
250	16	250	400	355	318	3	22	12	51.0	303442	—
250	25	250	425	370	330	3	24.5	12	—	—	—
250	40	250	450	385	345	3	24.5	12	—	—	—
300	10	270	455	400	370	4	24.5	12	70.0	303454	—
300	16	270	455	410	370	4	24.5	12	69.0	303444	—

Plunger Valve RKV Type 7015

PN 10/16/25/40

126 Design features:

in accordance with DIN EN 1074 Parts 1, 2 and 5
face-to-face length as per EN 558 basic series 15
for water

Shut-off and control valve for pressure regulation and flow limitation, one-piece body with ring bolts, flanges to DIN EN 1092-2, interior and exterior epoxy blue RAL 5005 to GSK, annular flow cross-section, sealing in both directions, sealing on one side with slotted cylinder; optimised flow pattern, control insert: seat ring, slotted cylinder, or special designs depending on operating data, guide rails for piston in the housing made of high-hardness stainless steel, firmly fixed in the housing (without screws or welding), robust profile seal mounted on the piston, piston can be rotated on the guide in case of wear, EPDM seals and plastic parts in accordance with DVGW W 270.



Materials:

- Housing – EN-GJS-500-14
- Guide rails – high-strength stainless steel, highly corrosion-resistant
- Piston – 1.4301
- Seat ring and control inserts – 1.4301
- Shaft – 1.4057
- Bearing bushes – Bronze CC483K
- Clamping ring – 1.4301

Special materials on request

Surface protection:

- inside and outside epoxy finish blue RAL 5005 as per GSK guidelines

Field of application: Potable water, raw water up to 60 °C

Nominal diameter DN	Nominal pressure PN	Test pressure in bar	
		Body	Seat
100 – 300	10	15	11
100 – 300	16	24	17.6
100 – 300	25	37.5	27.5
100 – 300	40	60	44

Operation:

- hand wheel
- electrical actuator¹
- pneumatic actuator¹

¹ Special version available on request

DN 100, 150, 200, 250, 300

PN 10, 16, 25, 40



Materials and designs

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A

7



Component	Material	Standard	Material number	Additional property
Housing	EN-GJS-500-14	DIN EN 1563	5.3109	epoxy-coated
Bearing bushes	CuSn12-C-GC	DIN EN 1982	2.1052	
O-rings	EPDM	KTW-BWGL		
Gear crank	X17CrNi16-2 (QT800)	DIN EN 10088-3	1.4057	QT800
Key RKV	X17CrNi16-2	DIN EN 10088-3	1.4057	
Cylinder head bolts ISO 4762	A4-70			
Push rod	X17CrNi16-2 (QT800)	DIN EN 10088-3	1.4057	QT800
Bush	CuSn12-C-GC	DIN EN 1982	2.1052	
Collar bolt	X17CrNi16-2	DIN EN 10088-3	1.4057	
Washer ISO 8738 16 H 11 x 24	A4			
Circlip DIN EN ISO 1234 4 x 25	X5CrNi18-10	DIN EN 10088-2	1.4301	
Piston bearing	X8CrNiS18-9	DIN EN 10088-2	1.4305	
Bolt	X17CrNi16-2 (QT800)	DIN EN 10088-3	1.4057	QT800
Piston	X8CrNiS18-9	DIN EN 10088-2	1.4305	
Profile seal	EPDM	KTW-BWGL		
Cylinder S1	X8CrNiS18-9	DIN EN 10088-2	1.4305	
Cylinder S2	X5CrNi18-10	DIN EN 10088-2	1.4301	
Rib Lock retaining washer 5.3 x 10 x 2	A4			
Drive shaft	X17CrNi16-2 (QT800)	DIN EN 10088-3	1.4057	QT800
Flange bushing	CuSn12-C-GC	DIN EN 1982	2.1052	
Retaining ring DIN 472 50 x 2				
Key SK		EN ISO 161202	1.0530	

Plunger valves are mainly used for applications where pressure rates, flow rates and water levels in vessels must be controlled exactly and reliably; any cavitation is to be directed in a way that no damage can occur on the valve or the following pipeline. With multiple functions such as shut-off valve, check valve, non-return valve, safety and measuring valve, the plunger valve has a key function in plants and transport pipelines:

- to control flow rates, pressures and tank levels
- to start up and close down pipelines behind pumps
- to start up turbines and reverse-running pumps
- to start up turbines in a bypass
- to drain water reservoirs through bottom outlets
- to shut off a pipeline

This results in an extremely high strain during operation. Therefore a plunger valve must be designed to be robust, yet sensitive.

The **Düker RKV type 7015** fulfils these superior and demanding requirements in total. With the support of CFD flow simulation as well as the finite elements method, the new valve has reached perfection in shape and function. Sophisticated technology, high-quality materials, low noise level, careful and precise manufacture and superior hygiene.

These are the highlights:

Guiding rails in the body – **for a superior life expectancy**

- min. 8 guiding rails in 2 groups of 4 pieces each
- offset by 45°
- made of high-quality stainless steel with superior hardness, therefore resistant to wear
- fixed securely and tension-free in the body – without bolting or welding
- without material mixing zones

Main sealing – **for excellent operational safety**

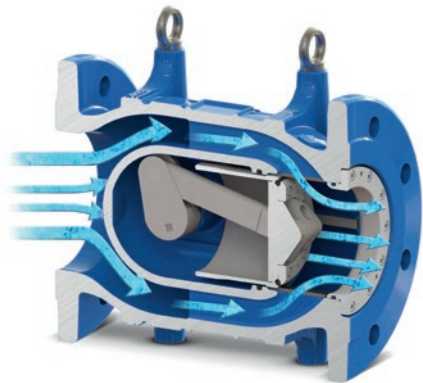
- robust large profile sealing ring
- mounted onto the piston
- protected from the flow
- positioned outside of the cavitation zone
- positioned outside of the abrasion zone

Without any dead space – **for optimal hygiene**

- water flow all around the piston
- sealed shaft bearing

Maintenance friendliness – **significant reduction of time and cost expenditures**

- piston made of high-quality stainless steel
- piston with inferior hardness compared to the guiding rails
- any wear occurs on the piston, not on the guiding rails
- piston continuously turnable
- piston easily replaceable



The optimal adjustment range – even in case of low quantities without critical ring gap – is supported excellently by the robust, self-impeding and maintenance-free Düker slidercrank mechanism. The slidercrank gear adapts exactly to the torque progress of the valve. In the hydraulically effective closing end phase, the closing speed is reduced. This kinematic behaviour makes for an extremely soft closing. The danger of pressure surges is brought to a minimum.

The new Düker plunger valve type 7015 is synonymous with perfection and quality „**Made in Germany**“: durable – safe – reliable – economic. Available in the nominal dimensions DN 100, 150, 200, 250 and 300, pressure rating PN 10 up to PN 40.

We will be glad to support you with our technical service for all questions and requests about the **Düker plunger valve type RKV 7015**.

A detailed questionnaire can be found at:

www.dueker-germany.com » **Flow Control** » **downloads**

Functioning of the Düker plunger valve:

An animation regarding the functioning and specialities can be found at:

www.dueker-germany.com/film

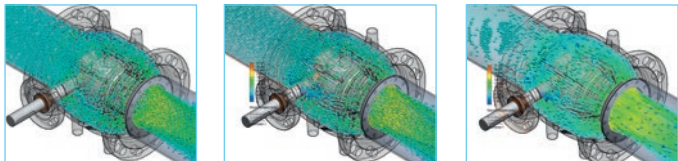
[to the questionnaire](#)



[to the film](#)



Functional principle



Plunger valves are designed as straight-through valves with a ring-shaped flow cross-section. Inside the valve, the end sleeve, also known as the piston, is moved axially towards and away from the sealing seat in the direction of flow via a crank mechanism. The continuous change in the free cross-section relative to the seat creates defined pressure losses in the piping system, which allow the flow rate to be precisely controlled depending on the stroke. A prerequisite for this is that the valve is sufficiently sized so that the required maximum flow rate is achieved even with a low pressure differential.

Cavitation and assessment of the degree of cavitation

The issue of cavitation is of central importance for the long-term operational reliability of control valves. In the worst-case scenario, it can lead to damage to the valve or to downstream sections of the pipework.

Hydrodynamic cavitation occurs when the local flow velocity increases sharply, causing a significant drop in pressure within the medium. As a result of this pressure drop, vapour or gas bubbles form, which implode when the pressure rises again. This generates shock waves that act on surrounding materials and can cause erosive damage.

The micro-shock waves generated during bubble implosion reach very high speeds. When they strike the surface of a pipe or valve, very high local pressure peaks can occur. This effect is amplified when numerous cavitation bubbles collapse simultaneously, leading to a cascade-like superposition of the individual events.

During the development process, the cavitation behaviour of a valve is assessed using the cavitation factor Σ . This depends on the size of the respective flow range, which is usually specified as a percentage of the valve orifice. To ensure safe operation, the open-to-closed operating curve of the intended system should lie above the calculated cavitation curve.

Advantages of control valves

In practice, butterfly valves are sometimes used for control purposes for cost reasons. Whilst this is possible under certain conditions, it does not constitute full-fledged control, but rather throttling within a limited range. Gate valves are not suitable for control tasks due to their design.

From an economic perspective, therefore, one should not consider only the purchase price. Downtime, damage to valves and additional replacement costs can, over the lifetime of the plant, result in higher costs than the targeted use of a control valve designed for this purpose.

Furthermore, calculations and simulations show that butterfly valves can operate in a state of cavitation over wide ranges under certain operating conditions. Plunger valves, by contrast, only reach this range under significantly narrower operating conditions. In addition, butterfly valves exhibit non-linear control behaviour and the effective control range is often limited to a comparatively small opening range.

Areas of application and operating principle

Plunger valves have been specifically developed over decades for demanding control tasks, particularly with a view to safely managing high pressure drops. The operating principle is based on precisely guiding the fluid flow, dissipating its energy and dividing it into several sub-flows.

Perforated control cylinders are used for this purpose, the design of which is selected according to the respective operating parameters and requirements. A key design advantage is that the cylinder moves along the axis of the pipeline. Any cavitation that may occur thus arises at the centre of the flow rather than directly at the pipe wall, thereby reducing damaging effects.

Thanks to different control cylinders and multi-stage designs, annular piston valves can be adapted to a wide variety of applications. They are used, amongst other things, for the regulation of raw water, drinking water and cooling water.

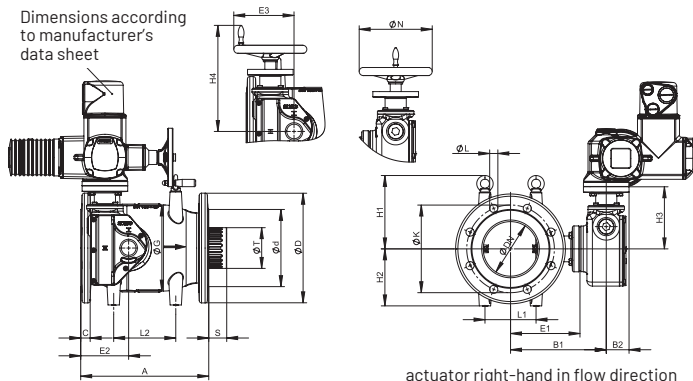
Plunger Valve RKV Type 7015

PN 10/16/25/40

132

Design with hand wheel

Dimensions according to manufacturer's data sheet



Dimensions (in mm)

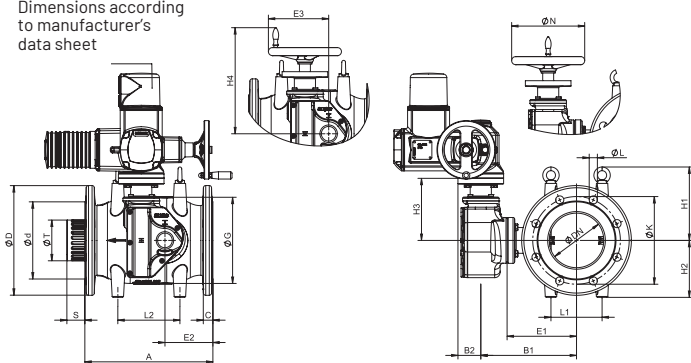
DN	PN	Ø D	Ø d	Ø K	Ø L	n	C	f	A
100	10	220	156	180	19	8	19	3	300
100	16	220	156	180	19	8	19	3	300
100	25	235	156	190	23	8	19	3	300
100	40	235	156	190	23	8	19	3	300
150	10	300	211	240	23	8	26	3	350
150	16	300	211	240	23	8	26	3	350
150	25	300	211	250	28	8	26	3	350
150	40	300	266	250	28	8	26	3	350
200	10	340	266	295	23	8	20	3	400
200	16	340	274	295	23	12	20	3	400
200	25	360	274	310	28	12	22	3	400
200	40	375	284	320	31	12	33	3	400

* Version with slotted cylinder in closed position



Dimensions according
to manufacturer's
data sheet

Design with hand wheel



actuator left-hand in flow direction

Dimensions (in mm)

Ø G	H1	H2	H3	L1	L2	E1	S*	Weight in kg ≈	Item no.
205	157	121	108	101	157.5	171	41	46	on request
205	157	121	108	101	157.5	171	41	46	on request
205	157	121	108	101	157.5	171	41	48	on request
205	157	121	108	101	157.5	171	41	48	on request
236	201	156	170	140	170	190	50	70	on request
236	201	156	170	140	170	190	50	70	on request
236	201	156	170	140	170	190	50	70	on request
236	201	156	170	140	170	190	50	70	on request
309	242	197	170	140	170	220	65	107	on request
309	242	197	170	140	170	220	65	107	on request
309	242	197	170	140	170	220	65	111	on request
309	242	197	170	140	170	220	65	121	on request

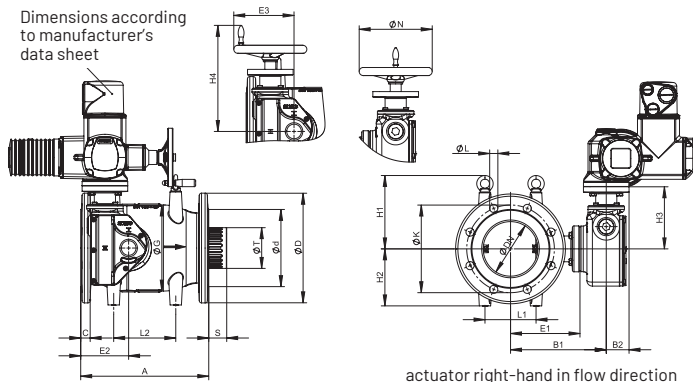
Plunger Valve RKV Type 7015

PN 10/16/25/40

134

Design with hand wheel

Dimensions according to manufacturer's data sheet



Dimensions (in mm)

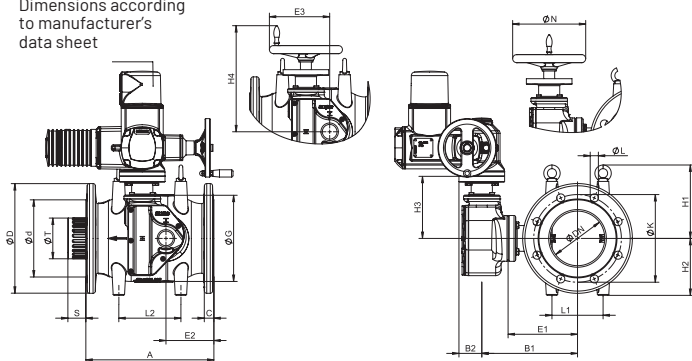
DN	PN	Ø D	Ø d	Ø K	Ø L	n	C	f	A
250	10	400	319	350	23	12	22	3	450
250	16	400	319	355	28	12	22	3	450
250	25	425	330	370	31	12	24.5	3	450
250	40	450	345	385	34	12	34.5	3	450
300	10	455	370	400	23	12	24.5	4	500
300	16	455	370	410	28	12	24.5	4	500
300	25	485	389	430	31	16	27.5	4	500
300	40	515	409	450	34	16	39.5	4	500

* Version with slotted cylinder in closed position



Dimensions according
to manufacturer's
data sheet

Design with hand wheel



actuator left-hand in flow direction

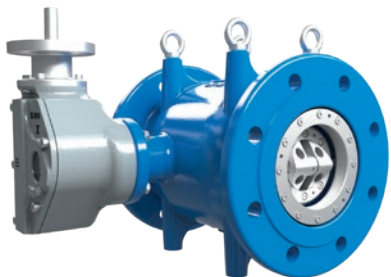
Dimensions (in mm)

Ø G	H1	H2	H3	L1	L2	E1	S*	Weight in kg ≈	Item no.
303	290	240	170	140	170	282	63	149	on request
303	290	240	170	140	170	282	63	165	on request
303	290	240	228	140	170	282	63	173	on request
303	290	240	228	140	170	282	63	205	on request
453	313	268	228	180	200	321	76	248	on request
453	313	268	228	180	200	321	76	248	on request
453	313	268	228	180	200	321	76	258	on request
453	313	268	228	180	200	321	76	288	on request

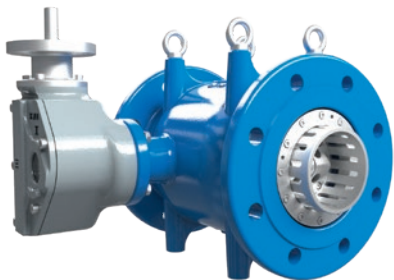
Plunger Valve RKV Type 7015

PN 10/16/25/40

136 Variants



Seat ring
SR



Slotted cylinder
SZ



Modified slotted cylinder
MS



137

A

7



2-hole cylinder
2L



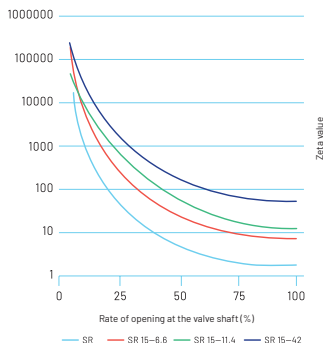
Modified pin tumbler
LM



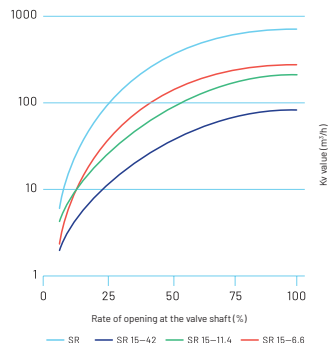
Perforated cylinder
LZ

Characteristic curves RKV DN 150 as an example (Other nominal diameters on request)

Characteristic curves pressure loss coefficient (Zeta value)



Characteristic curves flow rate coefficient (Kv)



Characteristic curves – selected examples

Note on the presentation of characteristic curves

The performance curves shown currently refer to a nominal diameter of DN 150 and should be regarded as illustrative and representative.

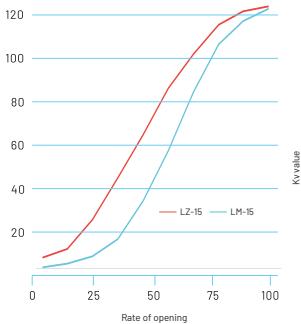
As our product range covers a wide range of nominal diameters from DN 100 to, in future, DN 600, as well as various cylinder and SR variants, the actual values may vary depending on the nominal diameter and design.

To facilitate comparison, we also provide the user with the following information:

- Kv values in tabular form for all available nominal diameters
- Zeta values depending on nominal diameter and SR variant
- Characteristic curves for various cylinder designs, for example perforated cylinders and modified perforated cylinders at identical flow rates

This gives the customer a comprehensive overview of the entire product range and enables them to select the appropriate valve quickly and precisely.

Comparison of performance curves



Comparison of two characteristic curves

Novo plug-in system

On the following pages you will find items which are particularly suited for use in the **Novo** plug-in system.

Further items can be found here:

Gate valves type 4004
with Novo sockets

page 44–45



Gate valves type 4004 with
Novo socket and spigot end

page 46–47



Butterfly valves type 4510
with Novo sockets

page 122–123



Underground hydrant type 304 S
design A

page 90–91



Flanged socket duckfoot
bends 90° with Novo sockets
MMN/MMNR

page 296



Single socket tees with spigot
and socket branch
B

page 246



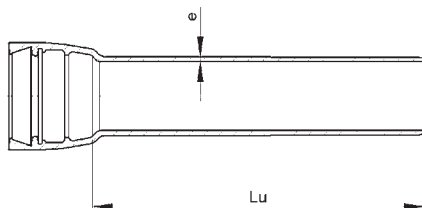
Pipe sections with Novo socket – M acc. to manufacturer's standard



142 Suitable as hydrant extension

Surface protection:

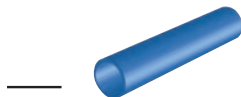
- Düker enamel as per EN ISO 11177



Dimensions and weights (Dimensions in mm)

DN	Lu	e	Weight in kg ≈	Item no.
80	150	7.0	5.0	308588
80	200	7.0	7.0	308589
80	300	7.0	8.0	308590
100	400	7.2	10.5	308579
150	400	8.4	19.5	308585
200	400	8.4	29.5	308587

Smooth pipe sections with spigot ends – S as per EN 545



for gate valves with socket connection

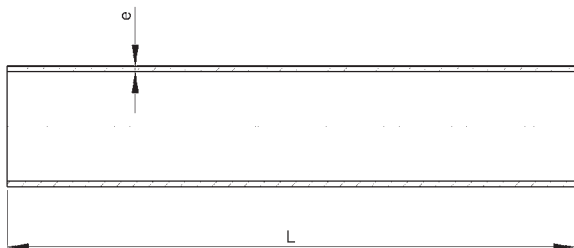
Surface protection:

- Düker enamel as per EN ISO 11177

143

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8



Dimensions and weights (Dimensions in mm)

DN	$\varnothing d$	L	e	Weight in kg $\approx$	Item no.
80	98	800	7.0	12.0	308631
100	118	800	7.2	15.0	777035
150	170	800	7.5	20.0	777036
200	222	800	7.8	30.0	777037

Double-socket acc. Factory-Standard Collar-Piece

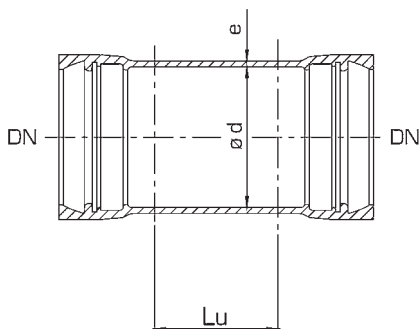
with 2 Chambers



144

Surface protection:

- Düker enamel as per EN ISO 11177



Dimensions and weights (Dimensions in mm)

DN	ø d	Lu	e	Weight in kg ≈	Item no.
80	109	160	7.0	8.8	567381
100	130	160	7.2	13.5	567095
150	156	165	7.5	22.5	864025
200	183	165	7.8	27.5	864194

Double-socket acc. Factory-Standard Collar-Piece

with 1 screwed-socket



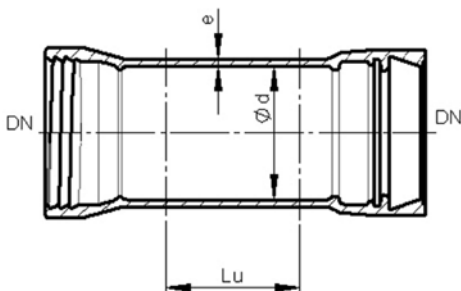
145

A

8

Surface protection:

- Düker enamel as per EN ISO 11177



Dimensions and weights (Dimensions in mm)

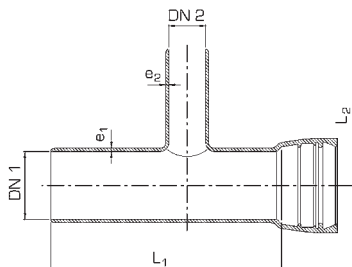
DN	ϕd	Lu	e	Weight in kg $\approx$ PN 16	Item no.
80	109	160	7.0	8.8	567443
100	130	160	7.2	13.5	567094
150	183	165	7.8	20.1	567351
200	235	170	8.4	27.0	570514
300	340	180	9.6	36.0	on request

All spigot tees acc. to manufacturer's standard with one socket – MI

- 146** for gate valves with socket connection
MI with **Novo** or **TYTON®** socket

Surface protection:

- Düker enamel as per EN ISO 11177



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	L ₁	L ₂	e ₁	e ₂	Weight in kg ≈	Item no.
80	80	455	270	7.0	7.0	17.5	567376
100	80	460	275	7.2	7.0	16.0	567377
	100				7.2	16.0	567092
125	50	510	300	7.5	7.0	16.0	328947
	80				7.0	18.0	308599
	100				7.2	24.0	308597
	125				7.5	27.0	798414
150	50	525	310	7.8	7.0	24.0	328948
	80				7.0	29.0	567378
	100				7.2	29.0	567379
	125				7.5	29.0	864482
	150				7.8	30.0	567380





DN 1	DN 2	L ₁	L ₂	e ₁	e ₂	Weight in kg ≈	Item no.
200	80	550	325	8.4	7.0	38.0	570914
	100				7.2	38.0	862644
	125				7.5	39.0	779971
	150				7.8	41.0	862854
	200				8.4	41.0	567393
250	80	705	405	9.0	7.0	56.0	308604
	100				7.2	58.5	308600
	150				7.8	61.0	308601
	200				8.4	65.5	308603
	250				9.0	66.0	305120
300	80	760	435	9.6	7.0	77.0	308608
	100				7.2	82.0	777539
	150				7.8	86.0	308605
	200				8.4	90.0	308606
	300				9.6	103.0	308607

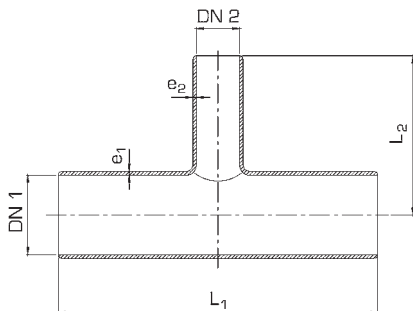
Material: ductile iron EN-GJS-500-7, inside enamel,
socket **NOVO-SIT®** acc. to manufacturer's standard

All spigot tees acc. to manufacturer's standard with spigots – IT

148 for gate valves with socket connection

Surface protection:

- Düker enamel as per EN ISO 11177



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	L ₁	L ₂	e ₁	e ₂	Weight in kg ≈	Item no.
80	80	540	270	7.0	7.0	11.0	567732
100	80	550	275	7.2	7.0	13.0	569109
	100				7.2	14.5	567091
125	80	600	300	7.5	7.0	20.0	308610
	100				7.2	19.5	308611
	125				7.5	20.5	863833
150	80	620	310	7.8	7.0	22.0	863221
	100				7.2	23.0	863218
	125				7.5	24.0	308612
	150				7.8	25.5	567810





DN 1	DN 2	L ₁	L ₂	e ₁	e ₂	Weight in kg ≈	Item no.
200	80	650	325	8.4	7.0	31.5	864475
	100				7.2	34.0	864699
	125				7.8	34.5	789977
	150				8.4	35.0	865731
	200				9.0	36.5	864474
250*	80	810	405	9.0	7.0	55.0	308618
	100				7.2	46.5	308614
	125				7.5	48.0	308615
	150				7.8	50.0	308616
	200				8.4	51.0	308617
	250				9.0	55.0	317992
300*	80	870	435	9.6	7.0	64.5	on request
	100				7.2	68.0	on request
	150				7.8	69.5	308622
	200				8.4	72.0	308623
	300				9.6	76.5	308626

* acc. to manufacturer's standard

Material: ductile iron EN-GJS-500-7, inside enamel

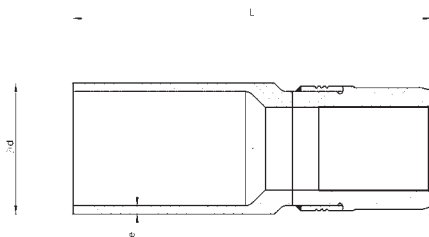
PE adapter pieces for Novo sockets acc. to manufacturer's standard PN 10/16



- 150** Thrust resisting adapter piece for fittings, gate valves and butterfly valves for plug-in sockets **NOVO-SIT®**
PE adapter piece with pre-installed support sleeve and circumferential retaining ring for retaining the locking segments; PE spigot end for all usual welding procedures, SDR 11
for water, transition from ductile cast iron to PE

Materials:

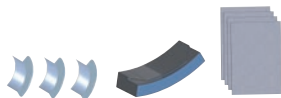
- fitting: PE 100 black
- support sleeve and retaining ring: stainless steel



Dimensions and weights (Dimensions in mm)

DN	ø d	L	e	Weight in kg ≈	Item no.
80	90	290	8.2	1.3	557807
100	110	315	10.0	2.3	557808
100	125	340	11.2	2.6	557809
125	140	355	12.8	3.3	557810
150	160	360	14.6	4.0	557811
150	180	380	16.4	5.5	557859
200	200	410	18.2	7.0	557860
200	225	426	20.5	7.8	557861
200	250	450	22.7	9.4	556550
250	250	465	22.7	9.3	571168
250	280	465	25.4	12.5	561239
300	315	485	28.6	17.3	561240
300	355	510	32.2	21.2	561241

Plug-in sockets dismantling equipment



- 152** Reusable unlocking plates for the disassembly of **NOVO-SIT®**, **NOVO-Grip®**, **TYTON-SIT®** and **TYTON-SIT-PLUS®** connections

Number of unlocking plates required

DN	Pieces per set	Item no.
80	4	570235
100	4	
125	5	
150	6	
200	8	
250	10	
300	12	
400	16	
500	19	
600	23	

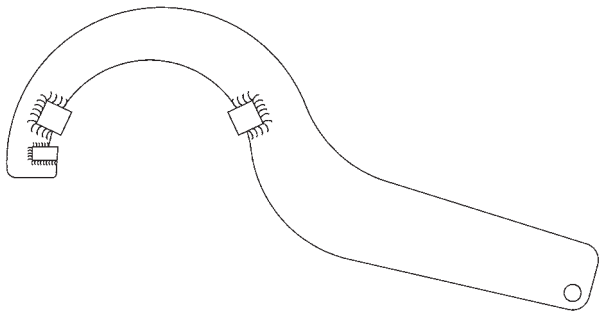
Impact parts - reusable - for holding the unlocking plates

DN	Item no.
80 – 100	570232
125 – 150	570233
200 – 600	570234

Dismantling plates for DN 80 plug-in hydrants
(3 pieces are required for dismantling!)

Item no.
561419

Hook wrench for laying pressure pipes and fittings with screw-gland joint (SMU)



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A

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Dimensions and weights (Dimensions in mm)

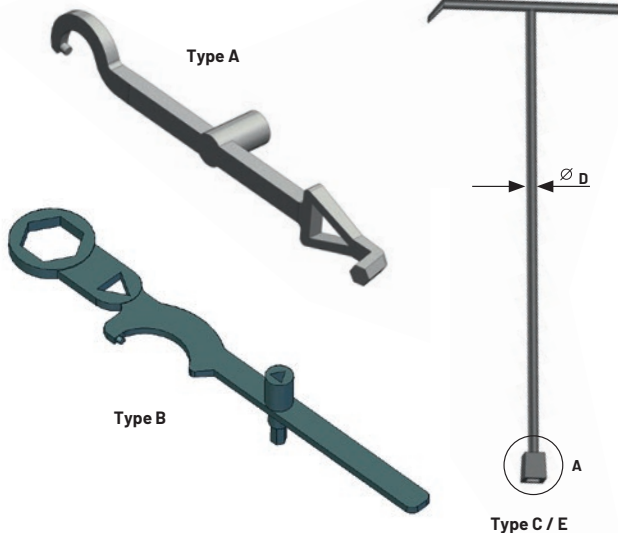
DN	Weight in kg ≈	Item no.
40	2.5	574560
50	2.7	574561
65	3.0	574562
80	4.0	574563
100	4.2	574564
125	4.4	574565
150	5.2	574566
175	5.3	574567
200	7.6	574568
250	8.5	574569
300	12.6	574570
350	14.6	574571
400	20.2	574572
450	31.0	574573
500	43.0	574574

Operating keys for valves

as per DIN 3223 A, B, C, E



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Application, dimensions and weights (Dimensions in mm)

DIN 3223	Material	Application	Length	Width	Weight in kg ≈	Item no.
Type A	Ductile cast iron, galvanised	Hydrants	small	small	1.5	769159
Type B	Ductile cast iron, galvanised	Pillar hydrants	large	large	5.0	769161
Type C	Steel galvanised	Underground hydrants and gate valves	1100	420	6.0	769162
Type E	Steel galvanised	Tapping valves	750	320	2.0	769165
Type E	Steel galvanised	Tapping valves	1000	320	8.0	769166
Type E	Steel galvanised	Tapping valves triangular	750	320	1.5	316605

Düker telescopic stem extension set T3 with and without position indicator for butterfly valves

156 Design features:

Telescopic stem extension set with an additional protection tube for better telescoping function, higher stability and stronger compaction. High stability to withstand strong wall stress during the filling of the pipe trench. Welded flange bell. Optimal installation on all butterfly valves with F10 operating flange. Butterfly valve coupling matching the gear shaft. Stem extension set also available with additional position indicator (with protective cover as an option).

Technical details:

The stem extension set is screwed in between the flange bell and the operating flange of the butterfly valve. Continuously telescopable stem extension set. PE protection tube with welded centring cap and bell. Additional third protection tube, welded with the bell, completely dirt and water repellent. Self-locking in any pull-out position due to a sealing gasket on the square pipe.

Pull-out securing of the rods: min. 150 N

Torques: up to 140 Nm

Materials:

square cap and coupling: EN-GJS-400-15, galvanised (as per ISO 2081 and DIN 50961)

rods: S235JR, hot-dip galvanised (as per EN 10240)

centring cap: PA, red

pipe sleeve: PE – HD

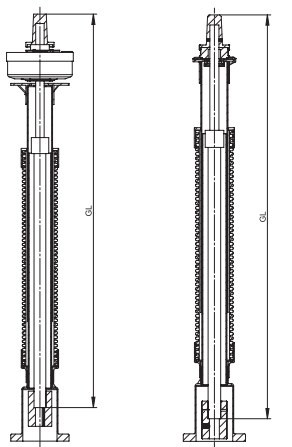
flange bell similar F10: PE, black

sealing gasket: PE

connection pins: 1.4301

position indicator: aluminium, epoxy powder coating blue

Type	Flange bell	suitable for type 4510		
		PN 10	PN 16	PN 25
20 mm shaft without position indicator	F10	DN 200, 250, 300, 350, 400, 450, 500, 600	DN 100, 125, 150, 200, 250, 300, 350, 400, 450, 500	DN 100, 125, 150, 200, 250, 300, 350, 400, 450
30 mm shaft without position indicator	F10			DN 500



suitable for type 451		suitable for type 424		Pipe covering (Rd ca.) GL	Item no.
PN 10	PN 16	PN 10	PN 16		
DN 800, 900, 1000, 1200	DN 700, 800, 900, 1000	DN 200, 250, 300, 350, 400, 450, 500, 600, 700	DN 150, 200, 250, 300, 350, 400, 450, 500, 600	0.80 - 1.30 m	309291
				1.00 - 1.50 m	304429
				1.20 - 1.80 m	304430
				1.70 - 2.70 m	304431
				2.50 - 3.20 m	305111
DN 700	DN 600	DN 800, 900, 1000	DN 700, 800, 900	1.00 - 1.50 m	304432
				1.20 - 1.80 m	304436
				1.70 - 2.70 m	304439
				2.50 - 3.20 m	305112

Düker telescopic stem extension set T3 with and without position indicator for butterfly valves

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Type	Flange bell	suitable for type 4510		
		PN 10	PN 16	PN 25
30 mm shaft without position indicator	F14			
20 mm shaft with position indicator up to 47 turns	F10	DN 200, 250, 300, 350, 400, 450, 500, 600	DN 100, 125, 150, 200, 250, 300, 350, 400, 450, 500	DN 100, 125, 150, 200, 250, 300, 350, 400, 450
20 mm shaft with position indicator up to 470 turns	F10			
30 mm shaft with position indicator up to 47 turns	F10			DN 500
30 mm shaft with position indicator up to 470 turns	F14			

Protecting cover for position indicator



suitable for type 451		suitable for type 424		Pipe covering (Rd ca.) GL	Item no.
PN 10	PN 16	PN 10	PN 16		
		DN 1200	DN 1000, 1200	0.80 – 1.30 m	334359
				1.00 – 1.50 m	334360
				1.20 – 1.80 m	334361
				1.70 – 2.70 m	334362
				2.50 – 3.20 m	334363
		DN 200, 250, 300, 350, 400, 450, 500, 600, 700	DN 150, 200, 250, 300, 350, 400, 450, 500, 600	0.80 – 1.30 m	309292
				1.00 – 1.50 m	304419
				1.20 – 1.80 m	304420
				1.70 – 2.70 m	304421
				2.50 – 3.20 m	305116
DN 800, 900, 1000, 1200	DN 700, 800, 900, 1000	DN 800, 900, 1000	DN 700, 800, 900	0.80 – 1.30 m	322639
				1.00 – 1.50 m	304424
				1.20 – 1.80 m	304427
				1.70 – 2.70 m	304428
				2.50 – 3.20 m	305119
DN 700	DN 600			1.00 – 1.50 m	304423
				1.20 – 1.80 m	304422
				1.70 – 2.70 m	304424
				2.50 – 3.20 m	305118
		DN 1200	DN 1000, 1200	0.80 – 1.30 m	334364
				1.00 – 1.50 m	334365
				1.20 – 1.80 m	334366
				1.70 – 2.70 m	334367
				2.50 – 3.20 m	334368
					304138

Stem Extension Sets for Butterfly Valves

Definition pipe covering

160

Definitions:

GL = rod length, RD = pipe covering, GA = rod contact point

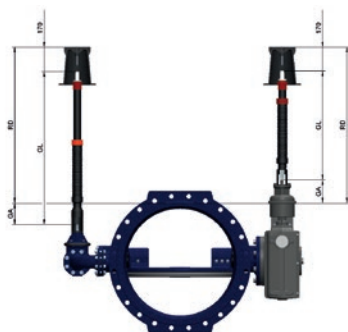
With the following formula and the GA value, the GL for the required RD can be calculated:

$$GL = RD - 170 \text{ mm} - GA$$

By changing the formula it is also possible to calculate the RD:

$$RD = GL + 170 \text{ mm} + GA$$

Butterfly valve type	DN	PN	GA butterfly valve	GL 0.80 – 1.30 m Rd pipe covering ca.	GL 1.00 – 1.50 m Rd pipe covering ca.
4510	100	10/16/25	146 mm	1.12 – 1.62 m	1.32 – 1.82 m
4510	125	10/16/25	134 mm	1.10 – 1.60 m	1.30 – 1.80 m
4510	150	10/16/25	121 mm	1.09 – 1.59 m	1.29 – 1.79 m
4510	200	10/16	96 mm	1.07 – 1.57 m	1.27 – 1.77 m
4510	200	25	150 mm	1.12 – 1.62 m	1.32 – 1.82 m
4510	250	10	71 mm	1.04 – 1.54 m	1.24 – 1.74 m
4510	250	16/25	126 mm	1.10 – 1.60 m	1.30 – 1.80 m
4510	300	10/16/25	62 mm	1.03 – 1.53 m	1.23 – 1.73 m
4510	350	10/16	75 mm	1.05 – 1.55 m	1.25 – 1.75 m
4510	350	25	91 mm	1.06 – 1.56 m	1.26 – 1.76 m
4510	400	10	11 mm	0.98 – 1.48 m	1.18 – 1.68 m
4510	400	16/25	66 mm	1.04 – 1.54 m	1.24 – 1.74 m
4510	450	10/16/25	41 mm	1.01 – 1.51 m	1.21 – 1.71 m
4510	500	10/16	16 mm	0.99 – 1.49 m	1.19 – 1.69 m
4510	500	25	141 mm	1.11 – 1.61 m	1.31 – 1.81 m
4510	600	10	-34 mm	0.94 – 1.44 m	1.14 – 1.64 m
4510	600	16	91 mm	1.06 – 1.56 m	1.26 – 1.76 m
4510	600	25	296 mm	1.27 – 1.77 m	1.47 – 1.97 m



GL 1.20 – 1.80 m Rd pipe covering ca.	GL 1.70 – 2.70 m Rd pipe covering ca.	GL 2.50 – 3.20 m Rd pipe covering ca.
1.52 – 2.12 m	2.02 – 3.02 m	2.82 – 3.52 m
1.50 – 2.10 m	2.00 – 3.00 m	2.80 – 3.50 m
1.49 – 2.19 m	1.99 – 2.99 m	2.79 – 3.49 m
1.47 – 2.07 m	1.97 – 2.97 m	2.77 – 3.47 m
1.52 – 2.12 m	2.02 – 3.02 m	2.82 – 3.52 m
1.44 – 2.04 m	1.94 – 2.94 m	2.74 – 3.44 m
1.50 – 2.10 m	2.00 – 3.00 m	2.80 – 3.50 m
1.43 – 2.03 m	1.93 – 2.93 m	2.73 – 3.43 m
1.45 – 2.05 m	1.95 – 2.95 m	2.75 – 3.45 m
1.46 – 2.06 m	1.96 – 2.96 m	2.76 – 3.46 m
1.38 – 1.98 m	1.88 – 2.88 m	2.68 – 3.38 m
1.44 – 2.04 m	1.94 – 2.94 m	2.74 – 3.44 m
1.41 – 2.01 m	1.91 – 2.91 m	2.71 – 3.41 m
1.39 – 1.99 m	1.89 – 2.89 m	2.69 – 3.39 m
1.51 – 2.11 m	2.01 – 3.01 m	2.81 – 3.51 m
1.34 – 1.94 m	1.84 – 2.84 m	2.64 – 3.34 m
1.46 – 2.06 m	1.96 – 2.96 m	2.76 – 3.46 m
1.67 – 2.27 m	2.17 – 3.17 m	2.97 – 3.67 m

Stem Extension Sets for Butterfly Valves

Definition pipe covering

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Butterfly valve type	DN	PN	GA butterfly valve	GL 0.80 – 1.30 m Rd pipe covering ca.	GL 1.00 – 1.50 m Rd pipe covering ca.
451	700	10	37 mm	1.01 – 1.51 m	1.21 – 1.71 m
451	700	16/25	216 mm	1.19 – 1.69 m	1.39 – 1.89 m
451	800	10/16	166 mm	1.14 – 1.64 m	1.34 – 1.84 m
451	800	25	94 mm	1.06 – 1.56 m	1.26 – 1.76 m
451	900	10	143 mm	1.11 – 1.61 m	1.31 – 1.81 m
451	900	16	45 mm	1.02 – 1.52 m	1.22 – 1.72 m
451	1000	10	43 mm	1.01 – 1.51 m	1.21 – 1.71 m
451	1000	16/25	49 mm	1.02 – 1.52 m	1.22 – 1.72 m
451	1200	10	-51 mm	0.92 – 1.42 m	1.12 – 1.62 m
424	150	10/16	60 mm	1.03 – 1.53 m	1.23 – 1.73 m
424	200	10/16	35 mm	1.01 – 1.51 m	1.21 – 1.71 m
424	250	10/16	10 mm	0.98 – 1.48 m	1.18 – 1.68 m
424	300	10/16	-15 mm	0.96 – 1.46 m	1.16 – 1.66 m
424	350	10/16	-11 mm	0.96 – 1.46 m	1.16 – 1.66 m
424	400	10/16	-13 mm	0.96 – 1.46 m	1.16 – 1.66 m
424	450	10	-38 mm	0.93 – 1.43 m	1.13 – 1.63 m
424	450	16	146 mm	1.12 – 1.62 m	1.32 – 1.82 m
424	500	10	69 mm	1.04 – 1.54 m	1.24 – 1.74 m
424	500	16	121 mm	1.09 – 1.59 m	1.29 – 1.79 m
424	600	10	71 mm	1.04 – 1.54 m	1.24 – 1.74 m
424	600	16	71 mm	1.04 – 1.54 m	1.24 – 1.74 m
424	700	10	21 mm	0.99 – 1.49 m	1.19 – 1.69 m
424	700	16	94 mm	1.06 – 1.56 m	1.26 – 1.76 m
424	800	10	42 mm	1.01 – 1.51 m	1.21 – 1.71 m
424	800	16	162 mm	1.13 – 1.63 m	1.33 – 1.83 m
424	900	10	-8 mm	0.96 – 1.46 m	1.16 – 1.66 m
424	900	16	112 mm	1.08 – 1.58 m	1.28 – 1.78 m
424	1000	10	64 mm	1.03 – 1.53 m	1.23 – 1.73 m
424	1000	16	97 mm	1.07 – 1.57 m	1.27 – 1.77 m
424	1100	10	14 mm	0.98 – 1.48 m	1.18 – 1.68 m
424	1100	16	47 mm	1.02 – 1.52 m	1.22 – 1.72 m
424	1200	10	-2 mm	0.97 – 1.47 m	1.17 – 1.67 m
424	1200	16	104 mm	1.07 – 1.57 m	1.27 – 1.77 m



GL 1.20 – 1.80 m Rd pipe covering ca.	GL 1.70 – 2.70 m Rd pipe covering ca.	GL 2.50 – 3.20 m Rd pipe covering ca.
1.41 – 2.01 m	1.91 – 2.91 m	2.71 – 3.41 m
1.59 – 2.19 m	2.09 – 3.09 m	2.89 – 3.59 m
1.54 – 2.14 m	2.04 – 3.04 m	2.84 – 3.54 m
1.46 – 2.06 m	1.96 – 2.96 m	2.76 – 3.46 m
1.51 – 2.11 m	2.01 – 3.01 m	2.81 – 3.51 m
1.42 – 2.02 m	1.92 – 2.92 m	2.72 – 3.42 m
1.41 – 2.01 m	1.91 – 2.91 m	2.71 – 3.41 m
1.42 – 2.02 m	1.92 – 2.92 m	2.72 – 3.42 m
1.32 – 1.92 m	1.82 – 2.82 m	2.62 – 3.32 m
1.43 – 1.93 m	1.93 – 2.93 m	2.73 – 3.43 m
1.41 – 1.91 m	1.91 – 2.91 m	2.71 – 3.41 m
1.38 – 1.88 m	1.88 – 2.88 m	2.68 – 3.38 m
1.36 – 1.86 m	1.86 – 2.86 m	2.66 – 3.36 m
1.36 – 1.86 m	1.86 – 2.86 m	2.66 – 3.36 m
1.36 – 1.86 m	1.86 – 2.86 m	2.66 – 3.36 m
1.33 – 1.83 m	1.83 – 2.83 m	2.63 – 3.33 m
1.52 – 2.02 m	2.02 – 3.02 m	2.82 – 3.52 m
1.44 – 1.94 m	1.94 – 2.94 m	2.74 – 3.44 m
1.49 – 1.99 m	1.99 – 2.99 m	2.79 – 3.49 m
1.44 – 1.94 m	1.94 – 2.94 m	2.74 – 3.44 m
1.44 – 1.94 m	1.94 – 2.94 m	2.74 – 3.44 m
1.39 – 1.89 m	1.89 – 2.89 m	2.69 – 3.39 m
1.46 – 1.96 m	1.96 – 2.96 m	2.76 – 3.46 m
1.41 – 1.91 m	1.91 – 2.91 m	2.71 – 3.41 m
1.53 – 2.03 m	2.03 – 3.03 m	2.83 – 3.53 m
1.36 – 1.86 m	1.86 – 2.86 m	2.66 – 3.36 m
1.48 – 1.98 m	1.98 – 2.98 m	2.78 – 3.48 m
1.43 – 1.93 m	1.93 – 2.93 m	2.73 – 3.43 m
1.47 – 1.97 m	1.97 – 2.97 m	2.77 – 3.47 m
1.38 – 1.88 m	1.88 – 2.88 m	2.68 – 3.38 m
1.42 – 1.92 m	1.92 – 2.92 m	2.72 – 3.42 m
1.37 – 1.87 m	1.87 – 2.87 m	2.67 – 3.37 m
1.47 – 1.97 m	1.97 – 2.97 m	2.77 – 3.47 m

Stem Extension Sets for Butterfly Valves

Definition pipe covering

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Suitable stem extension sets for gate valves, for butterfly valves with bypass

Butterfly valve DN	PN	Bypass gate valve DN	GA Gate valve	GL 0.36 – 0.56 m Rd pipe covering ca.	GL 0.60 – 1.01 m Rd pipe covering ca.
300	10/16	40	43 mm	0.57 – 0.77 m	0.81 – 1.22 m
400	10/16	40	-9 mm	0.52 – 0.72 m	0.76 – 1.17 m
500	10/16	50	-34 mm	0.50 – 0.70 m	0.74 – 1.15 m
600	10/16	50	-85 mm	0.45 – 0.65 m	0.69 – 1.10 m
700	10/16	80	-104 mm	0.43 – 0.63 m	0.67 – 1.08 m
800	10/16	80	-155 mm	0.37 – 0.57 m	0.61 – 1.02 m
1000	10/16	100	-236 mm	0.29 – 0.49 m	0.53 – 0.94 m



GL 0.60 – 1.01 m	GL 0.76 – 1.36 m	GL 0.91 – 1.60 m	GL 1.26 – 2.36 m
Rd pipe covering ca.	Rd pipe covering ca.	Rd pipe covering ca.	Rd pipe covering ca.
0.81 – 1.22 m	0.97 – 1.57 m	1.12 – 1.81 m	1.47 – 2.57 m
0.76 – 1.17 m	0.92 – 1.52 m	1.07 – 1.76 m	1.42 – 2.52 m
0.74 – 1.15 m	0.90 – 1.50 m	1.05 – 1.74 m	1.40 – 2.50 m
0.69 – 1.10 m	0.85 – 1.45 m	1.00 – 1.69 m	1.35 – 2.45 m
0.67 – 1.08 m	0.83 – 1.43 m	0.98 – 1.67 m	1.33 – 2.43 m
0.61 – 1.02 m	0.77 – 1.37 m	0.92 – 1.61 m	1.27 – 2.37 m
0.53 – 0.94 m	0.69 – 1.29 m	0.84 – 1.53 m	1.19 – 2.29 m

Düker telescopic stem extension set T3 GW 336-1 for gate valves, service connection valves and tapping valves

166 Design features:

Telescopic stem extension set with an additional protection tube for better telescoping function, higher stability and stronger compaction. High stability to withstand strong wall stress during the filling of the pipe trench. Welded flange bell as per DVGW GW 336-1 with additional drilling. Optimal installation on all gate valves, service connection valves and tapping valves. Centring disc in the tube sleeve bell up to DN 150. With clip pin for a fast installation without any tools. Adapter GW 336-1 for installation on gate valves DN 40 – 65 or TOP type 1004 as an option.

Technical features:

The stem extension set is plugged onto the valve with the tube sleeve bell. Continuously telescopic stem extension set. PE protection tube with welded centring cap and bell. Additional third protection tube, welded with the bell, completely dirt and water repellent. Self-locking in any pull-out position due to a sealing gasket on the square pipe. Pull-out securing of the rods: min. 150 N

Torques:

Valve	DN	max. torque in Nm
tapping valve		140
service connection valve	25 – 50	140
gate valve	40 – 150	250
	200 – 300	440

Materials:

square cap and coupling: EN-GJS-400-15, galvanised (as per ISO 2081 and DIN 50961) rods: S235JR, hot-dip galvanised (as per EN 10240)

centring cap: PA, red

pipe sleeve: PE – HD

pipe sleeve bell with additional drilling: PE, black

sealing gasket: PE

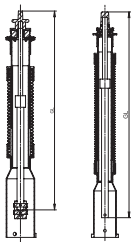
clip pins: 1.4301



Coupling sets:

Application	DN	S	Weight in kg ≈	Item no.
tapping valve and service connection valve	25 – 50	12	0.3	769671
	40 – 50	14	0.6	769287
gate valve	65 – 80	17	0.6	769288
	100 – 150	19	0.7	769289
	200	24	0.9	769290
	250 – 300	27	1.3	769291

DN 350 – DN 600 on request



Valve	Operating square	Connection coupling	Rod length GL* in m	Weight in kg ≈	Remark	Item no.
tapping valve and service connection valve e.g. TOP, TOP 1004 and type 1004	DIN 3223 E	square end 20 x 20 mm bell Ø 80 mm	0.40 - 0.65	2.6	delivery incl. coupling	305097
			0.65 - 1.15	2.8		304401
			0.80 - 1.45	3.2		304402
			0.90 - 1.55	3.9		304403
			1.37 - 2.45	4.6		304405
gate valve DN 40 - 150 e.g. type 2004, 3004 and 4004	DIN 3223 C	square end 25 x 25 mm bell Ø 80 mm	0.36 - 0.56	2.7	delivery without coupling	304406
			0.60 - 1.01	3.1		304407
			0.76 - 1.36	3.9		304408
			0.91 - 1.60	4.5		304409
			1.26 - 2.36	5.9		304410
gate valve DN 200 - 300 e.g. type 2004, 3004 and 4004	DIN 3223 C	square end 30 x 30 mm bell Ø 100 mm	0.33 - 0.40	2.9	delivery without coupling	304411
			0.49 - 0.76	4.0		304412
			0.74 - 1.22	5.5		304413
			0.82 - 1.42	6.2		304414
			1.17 - 2.12	9.4		304415

* Definitions pipe covering:

GL = rod length; RD = pipe covering; GA = rod contact point

With this formula and the GA value, the GL for the required RD can be calculated:

$$GL = RD - 170 \text{ mm} - GA$$

By changing the formula it is also possible to calculate the RD:

$$RD = GL + 170 \text{ mm} + GA$$

Stem Extension Sets as per DVGW worksheet GW 336-1 Definition pipe covering

168 Definitions:

GL = rod length, RD = pipe covering, GA = rod contact point

With the following formula and the GA value, the GL for the required RD can be calculated:

$$GL = RD - 170 \text{ mm} - GA$$

By changing the formula it is also possible to calculate the RD:

$$RD = GL + 170 \text{ mm} + GA$$

Service connection valve e.g. 1004 – DIN 3223 E square 20 x 20 mm bell Ø 80 mm

DN	GA Valve	GL 0.40 – 0.65 m Rd pipe covering ca.	GL 0.65 – 1.15 m Rd pipe covering ca.
25	115	0.69 – 0.94 m	0.94 – 1.44 m
32	130	0.70 – 0.95 m	0.95 – 1.45 m
40	127	0.70 – 0.95 m	0.95 – 1.45 m
50	148	0.72 – 0.97 m	0.97 – 1.47 m

Tapping valve TOP – DIN 3223 E square 20 x 20 mm bell Ø 80 mm

Valve	GA Valve	GL 0.40 – 0.65 m Rd pipe covering ca.	GL 0.65 – 1.15 m Rd pipe covering ca.
TOP	236	0.81 – 1.06 m	1.06 – 1.56 m



GL 0.80 – 1.45 m Rd pipe covering ca.	GL 0.90 – 1.55 m Rd pipe covering ca.	GL 1.37 – 2.45 m Rd pipe covering ca.
1.09 – 1.74 m	1.19 – 1.84 m	1.66 – 2.74 m
1.10 – 1.75 m	1.20 – 1.85 m	1.67 – 2.75 m
1.10 – 1.75 m	1.20 – 1.85 m	1.67 – 2.75 m
1.12 – 1.77 m	1.22 – 1.87 m	1.69 – 2.77 m

GL 0.80 – 1.45 m Rd pipe covering ca.	GL 0.90 – 1.55 m Rd pipe covering ca.	GL 1.37 – 2.45 m Rd pipe covering ca.
1.21 – 1.86 m	1.31 – 1.96 m	1.78 – 2.86 m

Stem Extension Sets as per DVGW worksheet GW 336-1 Definition pipe covering

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**Gate valve DN 40 – 150 e.g. 2004, 3004 and 4004 –
DIN 3223 C square 25 x 25 mm bell Ø 80 mm**

DN	GA Valve	GL 0.36 – 0.56 m Rd pipe covering ca.	GL 0.60 – 1.01 m Rd pipe covering ca.
40	180	0.71 – 0.91 m	0.95 – 1.36 m
50	200	0.73 – 0.93 m	0.97 – 1.38 m
65	230	0.76 – 0.96 m	1.00 – 1.41 m
80	224	0.75 – 0.95 m	0.99 – 1.40 m
100	238	0.77 – 0.97 m	1.01 – 1.42 m
125	260	0.79 – 0.99 m	1.03 – 1.44 m
150	290	0.82 – 1.02 m	1.06 – 1.47 m

**Butterfly valve DN 200 – 350 e.g. 2004, 3004 and 4004 –
DIN 3223 C square 30 x 30 mm bell Ø 100 mm**

DN	GA Valve	GL 0.33 – 0.40 m Rd pipe covering ca.	GL 0.49 – 0.76 m Rd pipe covering ca.
200	350	0.85 – 0.92 m	1.01 – 1.28 m
250	515	1.02 – 1.09 m	1.18 – 1.45 m
300	565	1.07 – 1.14 m	1.23 – 1.50 m
350	645	1.15 – 1.22 m	1.31 – 1.58 m



GL 0.76 – 1.36 m Rd pipe covering ca.	GL 0.91 – 1.60 m Rd pipe covering ca.	GL 1.26 – 2.36 m Rd pipe covering ca.
1.11 – 1.71 m	1.26 – 1.95 m	1.61 – 2.71 m
1.13 – 1.73 m	1.28 – 1.97 m	1.63 – 2.73 m
1.16 – 1.76 m	1.31 – 2.00 m	1.66 – 2.76 m
1.15 – 1.75 m	1.30 – 1.99 m	1.65 – 2.75 m
1.17 – 1.77 m	1.32 – 2.01 m	1.67 – 2.77 m
1.19 – 1.79 m	1.34 – 2.03 m	1.69 – 2.79 m
1.22 – 1.82 m	1.37 – 2.06 m	1.72 – 2.82 m

GL 0.74 – 1.22 m Rd pipe covering ca.	GL 0.82 – 1.42 m Rd pipe covering ca.	GL 1.17 – 2.12 m Rd pipe covering ca.
1.26 – 1.74 m	1.34 – 1.94 m	1.69 – 2.64 m
1.43 – 1.91 m	1.51 – 2.11 m	1.86 – 2.81 m
1.48 – 1.96 m	1.56 – 2.16 m	1.91 – 2.86 m
1.56 – 2.04 m	1.64 – 2.24 m	1.99 – 2.94 m

B

**Ductile cast
iron fittings
and flanged
pressure pipes**

B

Inside and outside protection

Flanged pipes and fittings can be supplied with the following coatings and linings:

175

1. Enamelling (glass lining) – inside and outside

Enamel is an effective protection against corrosion, abrasion and incrustation. A nondetachable, chemical bounding to the cast iron avoids corrosion by undercutting. The layer thickness after application (temperature $\approx 800^{\circ}\text{C}$) is between 200μ and 500μ .

2. Epoxy resin – lining and coating

The coating is acc. to RAL-GZ 662 (GSK) with hot melted epoxy powder. The requirements of EN 14901-1 (pressure pipes and fittings) are fulfilled.

3. Special coatings (inside and outside)

Various coatings on request.

B

Pressure pipes with cast-on flanges FFG pipes

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Dimensions (in mm)					
DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 40	Item no. etec enamel PN 10	Item no. etec enamel PN 40
40	100	—	870978	—	787499
	150	—	856691	—	307609
	200	—	856700	—	789757
	300	—	856721	—	307611
	400	—	856732	—	307613
	500	—	856753	—	307614
	600	—	856763	—	307615
	800	—	856774	—	307617
	1000	—	856784	—	307608
50	100	—	856791	—	307628
	150	—	856797	—	307629
	200	—	856803	—	784018
	250	—	856810	—	770659
	300	—	856825	—	750478
	400	—	856837	—	307631
	500	—	856841	—	784019
	600	—	856848	—	784021
	700	—	856853	—	307632
	800	—	856862	—	784022
	1000	—	856874	—	784023
DN	Length	Item no. Epoxy blue PN 10/16	Item no. Epoxy blue PN 25/40	Item no. etec enamel PN 10/16	Item no. etec enamel PN 25/40
65	100	864783	on request	307655	on request
	150	864857	on request	on request	on request
	200	864869	on request	307657	on request
	300	864899	on request	753153	on request
	400	864921	on request	307659	on request
	500	864940	on request	307660	on request
	600	864972	on request	753150	on request
	800	864983	on request	307662	on request
	1000	864992	on request	753151	on request

Other versions, coatings and sizes on request


Dimensions (in mm)

DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 40	Item no. etec enamel PN 10	Item no. etec enamel PN 40
80	100	—	856886	—	753857
	150	—	856896	—	753858
	200	—	857154	—	735257
	250	—	857165	—	754035
	300	—	857174	—	740674
	350	—	857182	—	776122
	400	—	873613	—	754036
	500	—	857201	—	754038
	600	—	857356	—	740663
	700	—	872593	—	306455
	800	—	857370	—	791131
	900	—	857375	—	307674
	1000	—	857379	—	758340
80	100 4/8-hole	—	705316	—	—

DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
100	100	—	857395	—	754219
	150	—	857400	—	873068
	200	—	857407	—	720362
	250	—	857415	—	750166
	300	—	857424	—	753881
	350	—	857431	—	762144
	400	—	857436	—	750170
	500	—	857448	—	707045
	600	—	857460	—	707049
	700	—	857469	—	797382
	800	—	857681	—	858437
	900	—	873623	—	725348
	1000	—	857687	—	858438

Other versions, coatings and sizes on request

Pressure pipes with cast-on flanges FFG pipes

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Dimensions (in mm)					
DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
125	100	—	858449	—	700640
	150	—	858453	—	758341
	200	—	858458	—	758184
	250	—	858462	—	758385
	300	—	876049	—	719442
	350	—	704457	—	307566
	400	—	858467	—	708801
	500	—	858474	—	750472
	600	—	858479	—	708802
	700	—	858483	—	on request
	800	—	704525	—	750473
	900	—	711336	—	on request
	1000	—	858494	—	719440
150	100	—	875916	—	758342
	150	—	858507	—	758343
	200	—	858513	—	725637
	250	—	858520	—	740030
	300	—	858523	—	728545
	350	—	704520	—	778876
	400	—	859084	—	859079
	500	—	859113	—	876401
	600	—	859135	—	872763
	700	—	703969	—	700007
	800	—	859265	—	725639
	900	—	859286	—	on request
	1000	—	875308	—	873067

Other versions, coatings and sizes on request


Dimensions (in mm)

DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
200	100	873709	723725	758350	307567
	150	873710	722114	774239	307569
	200	865350	705274	758351	790092
	250	873713	876740	776120	307570
	300	865382	708101	721283	307571
	350	704456	708782	307572	307573
	400	865409	708783	758352	792781
	500	875311	700037	721282	784020
	600	865466	700135	722897	307574
	700	873717	715377	307575	794199
	800	872708	876822	728544	307576
	900	711338	722113	759066	on request
	1000	875600	876743	728543	307568
250	100	704698	719620	307577	on request
	150	876276	731510	750899	on request
	200	865816	874350	776119	790089
	250	701384	700137	781586	307578
	300	865852	711163	764993	307579
	350	710199	710412	307580	on request
	400	865882	700112	307581	307582
	500	865910	703204	776124	301087
	600	877291	729007	307583	307584
	700	711341	865974	760931	307585
	800	703919	734968	797363	307586
	900	712157	703206	739972	301551
	1000	873723	874719	726929	on request

Other versions, coatings and sizes on request

Pressure pipes with cast-on flanges FFG pipes

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Dimensions (in mm)					
DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
300	100	866013	714593	776117	795414
	150	715819	736604	776118	307588
	200	866191	300032	730387	793550
	250	866225	707591	776121	317074
	300	866250	873725	730388	793106
	350	700441	731911	307589	on request
	400	876277	733163	790715	797376
	500	866292	866310	764987	307590
	600	876026	709767	764989	307591
	700	866335	715378	776126	777003
	800	866354	708562	771813	793107
	900	707840	783734	307592	307593
	1000	866373	873093	767032	307587
350	200	732454	745171	307596	on request
	250	737273	775064	307598	on request
	300	719987	710414	307599	on request
	350	714809	799457	307600	on request
	400	705195	700118	307601	on request
	500	702259	735412	307603	on request
	600	725207	778090	307604	on request
	700	716717	774745	307605	on request
	800	703922	309992	307606	on request
	900	731813	on request	307607	on request
	1000	859433	700050	307594	on request

Other versions, coatings and sizes on request


Dimensions (in mm)

DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
400	200	873800	711600	793623	743770
	250	742076	327246	on request	on request
	300	873803	714734	749582	307621
	350	740227	719350	307622	on request
	400	859663	708793	307623	796054
	500	859668	873088	301673	307624
	600	712904	709852	793627	on request
	700	723111	700015	307625	328560
	800	703923	719349	307626	328561
	900	708827	700113	307627	330204
	1000	859677	711599	772792	307619
500	200	709486	724783	302185	on request
	250	733791	876294	307635	on request
	300	708229	787677	307636	on request
	350	709195	768768	307637	on request
	400	876914	710394	307638	on request
	500	873811	712343	759469	307639
	600	713574	752362	307641	307640
	700	712258	729734	307643	307642
	800	703924	756417	798726	on request
	900	727385	707616	303998	on request
	1000	706739	876822	759471	307634
600	200	715720	750131	307644	307645
	250	727212	328990	307646	on request
	300	736837	711625	307647	on request
	350	742077	on request	307648	on request
	400	712285	714733	307649	on request
	500	859698	732119	307650	on request
	600	859711	760554	307651	on request
	700	722839	715380	307652	on request
	800	704785	305876	307653	on request
	900	754670	725297	307654	on request
	1000	704419	715381	759473	on request

Other versions, coatings and sizes on request

Pressure pipes with cast-on flanges FFG pipes

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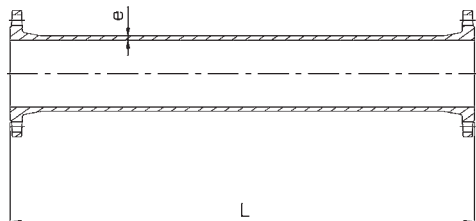
Dimensions (in mm)					
DN	Length	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
700	300	727228	on request	307665	on request
	350	742078	on request	307666	on request
	400	741903	on request	307667	on request
	500	875866	750829	307668	on request
	600	733936	on request	307669	on request
	700	741905	on request	307670	on request
	800	741907	on request	307671	on request
	900	725548	on request	307672	on request
	1000	724500	710419	307664	on request
800	300	722841	on request	307676	on request
	350	741908	on request	307677	on request
	400	711137	331709	307678	on request
	500	722484	727603	307679	on request
	600	711957	760597	307680	on request
	700	741910	on request	307681	on request
	800	721604	331956	307682	on request
	900	741912	on request	307683	on request
	1000	711958	728317	307675	on request

Other versions, coatings and sizes on request

Weight of pressure pipes with cast-on flanges PN 10 FFG pipes



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B

10a

Length L in mm

DN	100	200	300	400	500	600	700	800	900	1000
	Weight in kg ≈									
80	7.8	8.7	10.9	12.0	14.2	16.5	17.5	18.5	20.5	22.5
100	9.5	11.2	13.4	15.0	16.5	19.0	21.0	22.5	24.5	26.0
125	12.5	14.5	17.0	20.0	22.5	25.0	26.0	28.0	32.0	34.0
150	15.5	17.5	20.0	23.5	27.0	31.0	31.0	36.0	41.5	43.0
200	21.0	26.0	28.0	31.5	35.0	39.0	47.5	62.0	62.0	62.0
250	30.0	35.0	43.0	47.0	51.5	55.0	60.0	71.0	77.5	83.5
300	38.0	45.0	51.0	61.0	54.0	75.0	77.0	87.0	89.0	95.0
350	—	54.0	63.5	74.0	83.0	95.0	104.0	111.0	118.5	131.5
400	—	67.5	77.5	90.5	101.0	110.0	125.0	140.0	143.0	156.5
500	—	82.0	104.0	116.5	130.0	146.0	157.0	176.0	216.0	220.5
600	—	120.0	146.5	168.0	189.5	199.0	230.0	250.5	310.0	315.0
700	—	—	209.0	223.0	277.0	295.0	312.0	326.0	360.0	390.0
800	—	—	249.0	268.0	316.0	378.0	354.0	436.5	438.0	457.5
900	—	—	—	300.0	340.0	380.0	420.0	461.0	501.0	541.0
1000	—	—	—	366.0	414.0	462.0	510.0	557.0	605.0	653.0
1200	—	—	—	468.0	525.0	581.0	638.0	694.0	751.0	807.0

Further lengths are available on request.

Information about ductile cast iron fittings

184 Ductile cast iron fittings will be delivered as follows:

with **TYTON®** socket

with **TYTON®** socket and pre-chamber for thrust resisting joint **NOVO-SIT®**

with screw-gland socket joint

with bolted-gland socket joint

with flanges

Ductile cast iron socket fittings with **TYTON®** sockets (flangeless) **for use in potable water pipelines** are designed for operating pressures as given in EN 545.

Ductile cast iron fittings with screw-gland or bolted-gland sockets **for use in potable water pipelines** are designed for operating pressures **up to 16 bar**. Higher pressures on request.

Ductile cast iron fittings with one flange or more, **for use in potable water pipelines** are designed for operating pressures as given in EN 545.

The operating pressure has to be mentioned in orders, because the flange dimensions of these fittings vary depending on the nominal pressures rates.

Ductile cast iron fittings **for use in sewerage pipelines** as per EN 598 are designed for operating pressures **up to 16 bar**. Higher pressures on request.

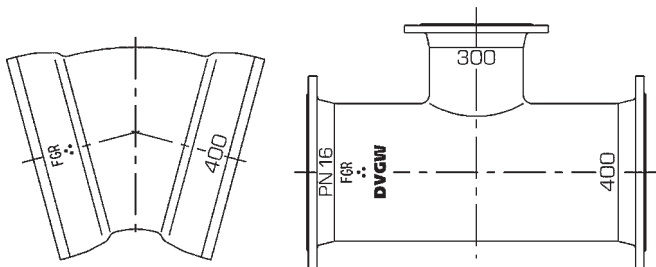
Ductile cast iron fittings **for use in gas pipelines** as per EN 969 are available for operating pressures **up to 16 bar** on request.

Coating: see page 175

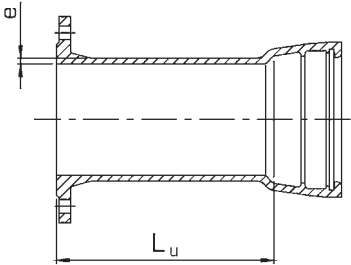
Marking for ductile cast iron fittings

Flanged fittings bear a cast-on or stamped indication of the nominal pressure ranges PN 10 up to PN 40. Socket fittings are not marked with the nominal pressure range. The material "ductile cast iron" is identified by 3 dots (⬤) arranged in a triangle symbol, positioned on the exterior surface of the fittings.

In special cases, further indications may be provided.



Flanged sockets – E
with screw-gland or TYTON® socket





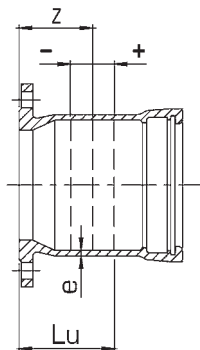
Dimensions and weights (Dimensions in mm)

DN			Weight in kg ≈ with TYTON® socket		Item no. Epoxy PN 10	Item no. Epoxy PN 16	Item no. etec PN 10	Item no. etec PN 16
	Lu	e	PN 10	PN 16				
40*	100	7.0	7.0	7.0	743210	743210	307488	307488
	150	7.0	6.0	6.0	—	—	—	—
	600	7.0	11.0	11.0	—	—	—	—
50*	150	7.0	8.0	8.0	—	—	—	—
65*	150	7.0	10.5	10.5	—	—	—	—
	600	7.0	17.0	17.0	743212	743212	on request	on request
80	600	7.0	18.0	18.0	738088	738088	on request	on request
	1000	7.0	21.0	21.0	780097	780097	on request	on request
100	130	7.2	10.3	10.3	324588	324588	—	—
	250	7.2	14.0	14.0	—	—	—	—
	600	7.2	17.5	17.5	876047	876047	on request	on request
125	135	7.5	14.6	14.6	—	—	—	—
	600	7.5	26.0	26.0	725556	725556	on request	on request
150	135	7.8	16.7	16.7	—	—	—	—
	600	7.8	36.0	36.0	877730	877730	on request	on request
200	140	8.4	23.0	23.0	—	—	—	—
	600	8.4	42.0	42.0	712692	733385	on request	on request
250	145	9.0	33.5	33.5	—	—	—	—
	600	9.0	65.0	65.0	876048	702764	—	—
300	150	9.6	40.0	40.0	—	—	—	—
	600	9.6	82.5	82.5	724605	738858	on request	on request
	800	9.6	100.0	100.0	—	—	—	—
350	600	10.2	100.0	100.0	on request	on request	on request	on request
400	600	10.8	114.0	118.0	760382	720187	on request	on request
450	600	11.4	194.0	203.0	on request	on request	on request	on request
500	600	12.0	163.0	176.0	762248	727885	on request	on request
600	600	13.2	270.0	295.0	on request	on request	on request	on request
700	600	14.4	453.0	466.0	on request	on request	on request	on request
800	1000	15.6	603.0	621.0	on request	on request	on request	on request

* acc. to manufacturer's standard; on request also with Standard socket and Universal pre-chamber

Flanged sockets – EU

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Dimensions and weights (Dimensions in mm)

DN	Compensation length				Weight in kg ¹⁾					
	Lu	z ²⁾	Tol.	e	with screw-gland socket		with TYTON® socket etec enamel		with bolted-gland socket	
					PN 10	PN 16	PN 10	PN 16	PN 10	PN 16
40*	76	50	± 30	7.0	5.2	5.2	—	—	—	—
50*	78	50	± 30	7.0	6.3	6.3	—	—	—	—
65*	80	50	± 30	7.0	7.3	7.3	—	—	—	—
80	130	86	± 40	7.0	9.5	9.5	8.6	8.6	—	—
100	130	87	± 40	7.2	11.4	11.4	10.5	10.5	—	—
125	135	91	± 40	7.5	15.0	15.0	14.5	14.5	—	—
150	135	92	± 40	7.8	18.3	18.3	16.0	16.0	—	—
200	140	97	± 40	8.4	25.0	25.0	24.0	24.0	—	—
250	145	102	± 40	9.0	38.0	38.0	32.5	32.5	—	—

* acc. to manufacturer's standard

¹⁾ without screw- or bolted-gland rings

²⁾ Nominal dimension for laying. If flanged sockets are applied as gate valve dismantling joints, the moving tolerance has to be limited to 10 mm.

on request also with Standard socket and Universal pre-chamber





DN	Compensation length				Weight in kg $\approx$ ¹⁾					
	Lu	z ²⁾	Tol.	e	with screw-gland socket		with TYTON® socket etec enamel		with bolted-gland socket	
					PN 10	PN 16	PN 10	PN 16	PN 10	PN 16
300	150	107	± 40	9.6	49.5	49.5	45.0	45.0	—	—
350	155	112	± 40	10.2	61.5	61.5	54.0	58.0	—	—
400	160	117	± 40	10.8	70.5	70.5	66.0	70.0	86.2	86.2
450	165	122	± 40	11.4	91.0	92.0	77.0	91.0	88.0	88.0
500	170	127	± 40	12.0	—	—	95.5	109.0	119.1	119.1
600	180	137	± 40	13.2	—	—	122.5	145.5	161.8	161.8
700	190	147	± 40	14.4	—	—	176.6	160.0	215.8	215.8
800	200	157	± 40	15.6	—	—	242.0	262.0	280.8	280.8
900	210	167	± 40	16.8	—	—	281.0	278.0	300.0	300.0
1000	220	177	± 40	18.0	—	—	340.0	355.0	320.0	320.0
1200	240	197	± 40	20.4	—	—	536.0	600.0	—	—

¹⁾ without screw- or bolted-gland rings

²⁾ Nominal dimension for laying. If flanged sockets are applied as gate valve dismantling joints, the moving tolerance has to be limited to 10 mm.

on request also with Standard socket and Universal pre-chamber

Flanged sockets – EU

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Item numbers						
DN	Item no. with NOVO socket Epoxy blue PN 10	Item no. with NOVO socket Epoxy blue PN 16	Item no. with NOVO socket etec enamel PN 10	Item no. with NOVO socket etec enamel PN 16	Item no. with screw-gland socket Epoxy blue PN 10	Item no. with screw-gland socket Epoxy blue PN 16
	without connection				incl. screw-gland ring	
40	—	—	—	—	—	743266
50	—	—	—	—	—	743270
65	—	—	—	—	—	743273
80	—	856704	—	726327	—	743278
100	—	856736	—	876409	—	743284
125	—	856781	—	705065	—	743293
150	—	856816	—	705067	—	743301
200	857482	875556	720407	781001	743314	743324
250	879048	704611	722067	307505	743335	743340
300	866736	866743	769804	792490	743351	743357
350	—	—	—	—	743366	743370
400	873591	708780	777772	771729	743377	742408
450	—	—	—	—	—	—
500	857823	707602	777622	307522	—	—
600	857907	857921	761347	307526	—	—
700	704398	331470	307531	—	—	—
800	709352	773316	307535	—	—	—
900	—	—	—	—	—	—
1000	—	—	—	—	—	—
1200	—	—	—	—	—	—



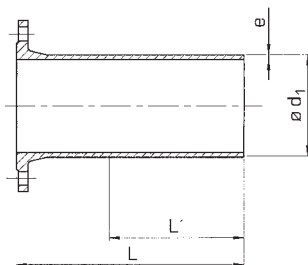


Item numbers

DN	Item no. with screw-gland socket etec enamel PN 10	Item no. with screw-gland socket etec enamel PN 16	Item no. with TYTON® socket etec enamel PN 10	Item no. with TYTON® socket etec enamel PN 16	Item no. with bolted-gland socket Epoxy blue PN 10	Item no. with bolted-gland socket etec enamel PN 10
	incl. screw-gland ring		without connection		incl. connection	
40	—	307514	—	—	—	—
50	—	307521	—	—	—	—
65	—	307530	—	—	—	—
80	—	309552	—	758290	—	—
100	—	307500	—	754052	—	—
125	—	307501	—	769019	—	—
150	—	307502	—	711038	—	—
200	307503	307504	754284	774308	—	—
250	307506	307507	775913	304975	—	—
300	307508	307509	754288	764387	—	—
350	307510	307511	307512	307513	—	—
400	307515	307516	774303	307519	754105	309554
450	—	—	—	—	—	—
500	—	—	307524	307525	754106	309555
600	—	—	307528	307529	754107	309556
700	—	—	307534	—	754108	309557
800	—	—	307538	—	754109	309558
900	—	—	—	—	—	—
1000	—	—	309553	—	—	—
1200	—	—	—	—	—	—

Flanged spigots – F

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Dimensions and weights (Dimensions in mm)

DN					Weight in kg ≈			
	ø d ₁	L	L'	e	PN 10	PN 16	PN 25	PN 40
40*	56	300	200	7.0	4.5	4.5	—	—
50*	66	300	200	7.0	4.9	4.9	—	—
65*	82	400	200	7.0	7.5	7.5	—	—
80	98	350	215	7.0	7.8	7.8	8.5	8.5
100	118	360	215	7.2	9.7	9.7	13.5	15.0
125	144	370	220	7.5	13.0	13.0	17.5	18.0
150	170	380	225	7.8	16.0	16.0	18.5	26.5
200	222	400	230	8.4	23.5	23.5	35.1	40.0
250	274	420	240	9.0	36.5	36.5	49.0	59.5
300	326	440	250	9.6	44.0	44.0	58.0	73.4
350	378	460	260	10.2	57.5	61.0	70.0	92.5
400	429	480	270	10.8	74.5	82.0	106.4	131.8
450	480	500	280	11.4	132.0	149.0	150.0	—
500	532	520	290	12.0	123.0	136.0	146.3	169.0
600	635	560	310	13.2	173.5	176.0	228.0	—
700	738	600	330	14.4	226.0	232.0	—	—
800	842	600	330	15.6	300.0	308.0	395.3	—
900	945	600	330	16.8	350.0	356.0	—	—
1000	1048	600	330	18.0	419.0	—	—	—
1200	1255	600	330	20.4	462.0	526.0	—	—

* acc. to manufacturer's standard

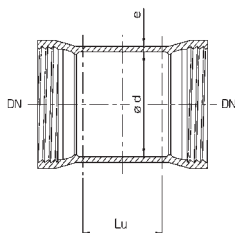


Item numbers

DN	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
40*	—	870067	—	307552
50*	—	857639	—	307555
65*	—	870069	—	307560
80	—	858405	—	758298
100	—	856716	—	707068
125	—	856849	—	707069
150	—	875257	—	707070
200	857499	877013	724718	774283
250	866505	703207	724719	307547
300	875258	706520	742396	792491
350	857544	712155	307550	307551
400	857573	875259	774235	772520
450	—	—	—	—
500	857607	707606	777623	307557
600	857616	712236	873319	307559
700	708825	712336	307561	—
800	704145	712342	307563	—
900	729507	773678	307564	—
1000	737436	—	307541	—
1200	—	—	—	—

Collars – U

194



Dimensions and weights (Dimensions in mm)

DN	ø d	Lu	e	Weight in kg ¹⁾	
				DIN 28 601 with screw-gland socket	DIN 28 602 with bolted-gland socket
40	67	155	7.0	7.7	—
50	78	155	7.0	8.4	—
65	93	155	7.0	13.5	—
80	109	160	7.0	10.9	—
100	130	160	7.2	12.8	—
125	156	165	7.5	17.4	—
150	183	165	7.8	20.6	—
200	235	170	8.4	31.5	—
250	288	175	9.0	47.0	—
300	340	180	9.6	59.0	—
350	393	185	10.2	77.0	—
400	445	190	10.8	95.5	109.4
450	498	195	11.4	120.0	135.0
500	550	200	12.0	177.0	161.3
600	655	210	13.2	—	216.6
700	760	220	14.4	—	278.6
800	865	230	15.6	—	359.7
900	970	240	16.8	—	380.0
1000	1075	250	18.0	—	421.2
1200	1285	270	20.4	—	558.0

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland rings

Novo socket types see page 141

on request also with Standard socket and Universal pre-chamber



Item numbers

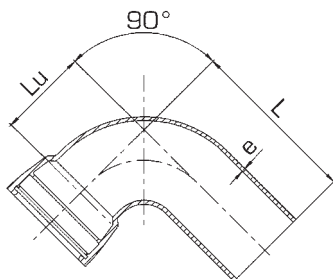
DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with screw- gland socket Epoxy blue	Item no. with screw- gland socket etec enamel	Item no. with bolted- gland socket Epoxy blue	Item no. with bolted- gland socket etec enamel
	without connection		incl. screw-gland ring		incl. connection	
40	—	—	744260	308516	—	—
50	—	—	744263	308520	—	—
65	—	—	744265	308522	—	—
80	791942	567381	744269	308526	—	—
100	326052	567095	744278	308507	—	—
125	—	—	744287	308508	—	—
150	306465	864025	744294	308509	—	—
200	—	864194	744309	308511	—	—
250	—	—	744319	308513	—	—
300	—	—	744332	308514	—	—
350	—	—	744340	308515	—	—
400	—	—	744346	308517	754324	309591
450	—	—	—	—	—	—
500	—	—	744358	308521	754325	309592
600	—	—	—	—	754326	309593
700	—	—	—	—	754327	309594
800	—	—	—	—	754328	309595
900	on request	on request	on request	on request	on request	on request
1000	on request	on request	on request	on request	on request	on request
1200	on request	on request	on request	on request	on request	on request

Single socket bends

90° – MQ

acc. to manufacturer's standard

196



Dimensions and weights (Dimensions in mm)

DN	L	Lu	e	Weight in kg ¹⁾		
				with screw-gland socket	with TYTON® socket	with bolted-gland socket
40	200	60.0	7.0	9.5	—	—
50	300	150.0	7.0	11.0	—	—
65	370	215.0	7.0	15.0	—	—
80	312	102.4	7.0	8.0	8.3	—
100	333	123.0	7.2	10.8	10.5	—
125	374	148.8	7.5	16.1	17.0	—
150	419	174.5	7.8	23.8	23.5	—
200	491	226.0	8.4	43.2	40.5	—
250	583	280.0	9.0	70.0	70.5	—
300	660	330.0	9.6	96.0	77.0	—
350	580	410.0	10.2	—	139.0	150.0
400	625	430.0	10.8	—	186.3	156.0
500	715	550.0	12.0	—	235.4	225.0
600	805	645.0	13.2	—	314.0	325.0
700	900	720.0	14.4	—	473.0	482.0
800	1080	800.0	15.6	—	644.5	651.0

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland ring
on request also with Standard socket and Universal pre-chamber

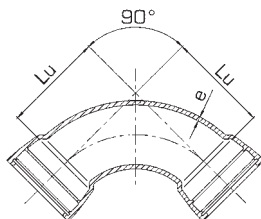


Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
40	—	—	—	—
50	—	—	—	—
65	—	—	—	—
80	705124	308388	875325	308390
100	705125	707059	875326	308371
125	705126	707060	705553	308374
150	705127	724708	875327	308377
200	705128	724712	874479	308380
250	705129	308381	739401	308383
300	705130	783075	723244	308386
350	—	—	—	—
400	—	—	—	—
500	—	—	—	—
600	—	—	—	—
700	—	—	—	—
800	—	—	—	—

Double socket bends 90° – MMQ

198



Dimensions and weights (Dimensions in mm)

DN	Lu	e	Weight in kg ¹⁾		
			with screw-gland socket	with TYTON® socket etec enamel	with bolted-gland socket
40*	60.0	7.0	8.0	—	—
50*	150.0	7.0	10.5	—	—
65*	85.0	7.0	14.0	—	—
80	100.0	7.0	8.6	8.5	—
100	125.0	7.2	10.5	11.0	—
125	150.0	7.5	15.1	16.2	—
150	175.0	7.8	19.2	20.5	—
200	225.0	8.4	31.3	32.4	—
250	280.0	9.0	54.0	52.9	—
300	330.0	9.6	69.8	72.4	—
350*	410.0	10.2	—	104.8	—
400*	430.0	10.8	—	128.0	—
450*	457.0	11.4	—	208.0	187.0
500*	550.0	12.0	—	214.4	262.0
600*	645.0	13.2	—	314.3	357.0
700*	720.0	14.4	—	480.0	198.0
800*	820.0	15.6	—	650.0	662.0
900*	950.0	16.8	—	869.0	—
1000*	1050.0	18.0	—	1060.0	—
1200*	1205.0	20.4	—	1600.0	—

¹⁾ without screw- or bolted-gland rings * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



Item numbers

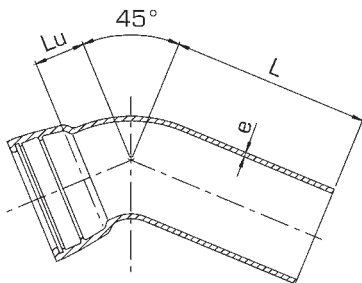
DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
40	—	—	—
50	—	—	—
65	—	—	—
80	865324	308306	758285
100	863545	701698	758286
125	863564	701699	758287
150	863771	874557	758288
200	863802	719642	758289
250	707189	724715	308290
300	864788	778595	308292
350	—	—	308293
400	864846	786080	308295
450	—	—	—
500	864896	308297	308299
600	864922	308300	308302
700	710096	308304	308305
800	724135	308308	308309
900	—	—	—
1000	—	—	—
1200	—	—	—

Single socket bends

45° – MK 45

acc. to manufacturer's standard

200



Dimensions and weights (Dimensions in mm)

DN	L	Lu	e	Weight in kg ¹⁾		
				with screw-gland socket	with TYTON® socket	with bolted-gland socket
40	210	135	7.0	7.5	—	—
50	252	174	7.0	10.0	—	—
65	303	223	7.0	14.5	—	—
80	265	55	7.0	7.8	8.4	—
100	274	65	7.2	10.0	10.8	—
125	301	76	7.5	15.0	16.2	—
150	331	87	7.8	19.0	20.5	—
200	374	109	8.4	31.0	33.5	—
250	300	130	9.0	41.0	44.3	—
300	315	155	9.6	46.0	59.4	—
350	345	175	10.2	68.0	68.0	79.0
400	368	200	10.8	93.0	91.0	105.0
450	420	220	11.4	106.0	106.0	—
500	405	240	12.0	—	187.0	143.0
600	529	285	13.2	—	250.5	265.0
700	610	380	14.4	—	441.0	—
800	625	370	15.6	—	—	—

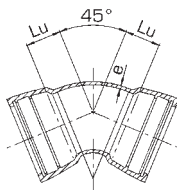
Operating pressures see page 184 ¹⁾ without screw- or bolted-gland ring
on request also with Standard socket and Universal pre-chamber



Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
40	—	—	—	—
50	—	—	—	—
65	—	—	—	—
80	873482	307892	875350	307894
100	863149	723213	863177	301165
125	703302	707062	863683	307819
150	862929	707063	862943	754221
200	863071	723553	863091	307843
250	862270	719293	878349	307855
300	705131	764461	714610	799772
350	—	—	—	—
400	715857	777625	—	—
450	—	—	—	—
500	—	—	—	—
600	—	—	—	—
700	—	—	—	—
800	—	—	—	—

Double socket bends 45° – MMK 45


Dimensions and weights (Dimensions in mm)

DN					Weight in kg ¹⁾			
	Lu TYTON® screw-gland socket etec enamel	Lu bolted gland socket	Lu Standard socket	e	with screw- gland socket	with TYTON® socket etec enamel	with bolted gland socket	with Standard socket
40*	138.0	138.0	—	7.0	8.0	—	—	—
50*	145.0	145.0	—	7.0	8.5	—	—	—
65	50.0	50.0	—	7.0	5.6	—	—	—
80	55.0	55.0	—	7.0	7.1	8.3	—	—
100	65.0	65.0	—	7.2	9.2	10.3	—	—
125	75.0	75.0	—	7.5	12.3	14.5	—	—
150	85.0	85.0	—	7.8	16.3	18.9	—	—
200	110.0	110.0	—	8.4	24.5	25.9	—	—
250	130.0	130.0	—	9.0	34.5	38.9	—	—
300	150.0	150.0	—	9.6	48.5	55.1	—	—
350	175.0	175.0	—	10.2	70.2	81.0	81.0*	81.0*
400	200.0	200.0	—	10.8	93.9	91.3	106.0*	106.0*
450	220.0	220.0	—	11.4	—	139.9	—	—
500	240.0	240.0	—	12.0	—	145.8	180.4	180.4
600	285.0	370.0	—	13.2	—	196.6	300.2	300.2
700	330.0	380.0	—	14.4	—	312.1	—	—
800	370.0	440.0	—	15.6	—	496.8	—	—
900	415.0	415.0	—	16.8	—	578.0	—	—
1000	460.0	460.0	—	18.0	—	768.0	—	—
1200	550.0	550.0	—	20.4	—	1100.0	—	—

Operating pressures see page 184

¹⁾ without screw- or bolted-gland rings * acc. to manufacturer's standard

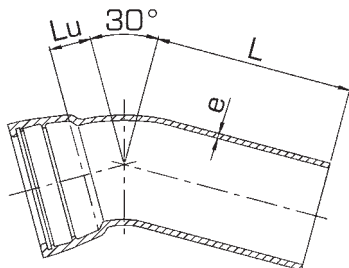


Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
40	—	—	—
50	—	—	—
65	—	—	—
80	862145	304727	754081
100	862410	873904	727229
125	862921	873909	758283
150	863140	863137	753884
200	863734	863732	758284
250	864559	717360	309579
300	864618	754037	754283
350	—	—	308231
400	873931	771728	787265
450	—	—	—
500	864965	777616	308249
600	865036	308257	308259
700	704395	308270	308271
800	713461	308283	308284
900	—	—	—
1000	—	—	—
1200	—	—	—

Single socket bends 30° – MK 30 acc. to manufacturer's standard

204



Dimensions and weights (Dimensions in mm)

DN	L	Lu	e	Weight in kg ¹⁾		
				with screw-gland socket	with TYTON® socket	with bolted-gland socket
40	201	126	7.0	7.5	—	—
50	243	165	7.0	10.0	—	—
65	298	218	7.0	14.5	—	—
80	253	44	7.0	7.4	7.0	—
100	260	50	7.2	10.1	9.9	—
125	283	57	7.5	14.0	14.0	—
150	309	65	7.8	18.6	18.5	—
200	345	80	8.4	29.2	28.5	—
250	270	95	9.0	36.7	36.0	—
300	280	110	9.6	48.0	49.0	—
350	295	125	10.2	57.0	56.0	64.0
400	308	140	10.8	71.0	76.5	80.0
500	335	170	12.0	—	107.0	120.0
600	412	200	13.2	—	178.0	185.0
700	480	250	14.4	—	286.0	—
800	510	260	15.6	—	350.0	—

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland ring
on request also with Standard socket and Universal pre-chamber

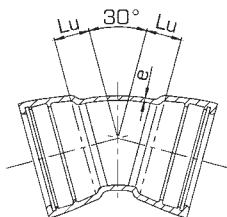


Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
40	—	—	—	—
50	—	—	—	—
65	—	—	—	—
80	862895	307889	875348	307891
100	863101	707064	863127	301163
125	705132	707065	863661	307816
150	862882	707066	875352	780642
200	863052	724711	875360	307840
250	863197	724714	863211	307852
300	705133	764462	703989	307864
350	—	—	—	—
400	—	—	—	—
500	—	—	—	—
600	—	—	—	—
700	—	—	—	—
800	—	—	—	—

Double socket bends 30° – MMK 30 acc. to DIN 28 650

206



Dimensions and weights (Dimensions in mm)

DN				Weight in kg ¹⁾		
	Lu TYTON® screw- gland socket	Lu bolted-gland socket	e	with screw-gland socket	with TYTON® socket	with bolted-gland socket
40*	103	103	7.0	8.0	—	—
50*	107	107	7.0	10.0	—	—
65*	113	113	7.0	13.0	—	—
80	45	45	7.0	6.8	7.3	—
100	50	50	7.2	9.7	9.2	—
125	55	55	7.5	11.6	13.2	—
150	65	65	7.8	15.7	17.0	—
200	80	80	8.4	23.8	22.0	—
250	95	95	9.0	31.3	32.0	—
300	110	110	9.6	45.9	48.5	—
350	125	125	10.2	63.7	69.0	74.0*
400	140	140	10.8	84.8	82.5	94.0*
450*	255	255	11.4	—	105.0	—
500	170	170	12.0	—	114.5	145.5
600	200	200	13.2	—	152.0	193.0
700	230	250	14.4	—	258.0	—
800	260	260	15.6	—	352.0	—
900	290	290	16.8	—	496.0	—
1000	320	320	18.0	—	652.0	—
1200	380	380	20.4	—	1020.0	—

¹⁾ without screw- or bolted-gland rings * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



Item numbers

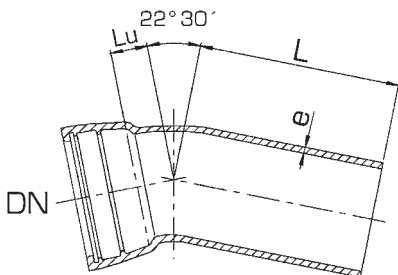
DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
40	—	—	—	—
50	—	—	—	—
65	—	—	—	—
80	861830	304726	875329	758280
100	862370	875341	862395	754053
125	862891	701697	862902	758281
150	863033	873916	863041	754286
200	863677	873928	863705	758282
250	864536	720810	864551	308217
300	864604	764458	870497	764390
350	—	—	864651	308229
400	709241	778755	864762	787264
450	—	—	—	—
500	864945	777617	864955	308247
600	709603	780704	865032	308256
700	710095	308268	740538	308269
800	713459	308281	727604	308282
900	—	—	—	—
1000	—	—	—	—
1200	—	—	—	—

Single socket bends

22½° – MK 22

acc. to manufacturer's standard

208



Dimensions and weights (Dimensions in mm)

DN	L	Lu	e	Weight in kg ¹⁾		
				with screw-gland socket	with TYTON® socket	with bolted-gland socket
40	179	142	7.0	7.5	—	—
50	240	162	7.0	10.0	—	—
65	232	152	7.0	12.0	—	—
80	248	38	7.0	7.0	7.5	—
100	253	43	7.2	9.2	9.0	—
125	274	49	7.5	13.5	14.0	—
150	299	55	7.8	17.3	17.0	—
200	331	66	8.4	27.0	27.0	—
250	260	75	9.0	36.0	35.0	—
300	265	90	9.6	47.5	46.5	—
350	270	100	10.2	53.0	52.0	60.0
400	278	110	10.8	65.0	76.7	74.0
500	300	135	12.0	—	97.0	110.0
600	357	155	13.2	—	163.0	185.0
700	420	190	14.4	—	336.0	—
800	455	205	15.6	—	460.0	—

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland rings
on request also with Standard socket and Universal pre-chamber

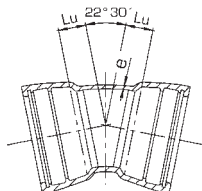


Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
40	—	—	—	—
50	—	—	—	—
65	—	—	—	—
80	862876	307886	875347	307888
100	863012	707072	863023	301162
125	705109	707076	863630	307813
150	863750	707077	862862	307825
200	863024	724710	875358	307837
250	863165	720809	863184	307849
300	705110	764463	862333	307861
350	—	—	—	—
400	—	—	—	—
500	—	—	—	—
600	—	—	—	—
700	—	—	—	—
800	—	—	—	—

Double socket bends 22½° – MMK 22

210



Dimensions and weights (Dimensions in mm)

DN					Weight in kg ¹⁾			
	Lu TYTON® screw-gland socket etec enamel	Lu bolted- gland socket	Lu Standard socket	e	with screw- gland socket	with TYTON® socket etec enamel	with bolted- gland socket	with Standard socket
40*	87.0	87.0	—	7.0	7.5	—	—	—
50*	90.0	90.0	—	7.0	9.5	—	—	—
65	35.0	35.0	—	7.0	12.5	—	—	—
80	40.0	40.0	—	7.0	4.9	7.8	—	—
100	45.0	45.0	—	7.2	8.6	9.6	—	—
125	50.0	50.0	—	7.5	11.5	13.5	—	—
150	55.0	55.0	—	7.8	14.6	17.8	—	—
200	65.0	65.0	—	8.4	21.0	22.7	—	—
250	75.0	75.0	—	9.0	30.5	33.5	—	—
300	90.0	90.0	—	9.6	42.1	50.8	—	—
350	100.0	100.0	—	10.2	62.1	67.0	70.0*	—
400	110.0	110.0	—	10.8	74.5	83.2	88.0*	—
450	120.0	120.0	—	11.4	—	128.0	—	—
500	135.0	135.0	—	12.0	—	112.9	127.0	—
600	155.0	155.0	—	13.2	—	154.4	179.0	—
700	175.0	190.0	—	14.4	—	242.0	—	—
800	195.0	195.0	—	15.6	—	311.0	—	—
900	220.0	220.0	—	16.8	—	422.0	—	—
1000	240.0	240.0	—	18.0	—	593.0	—	—
1200	285.0	285.0	—	20.4	—	820.0	—	—

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland rings

* acc. to manufacturer's standard



Item numbers

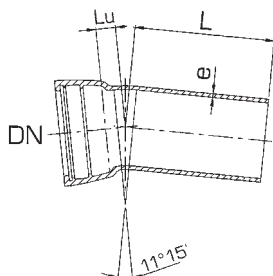
DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
40*	—	—	—
50*	—	—	—
65	—	—	—
80	861790	308273	758271
100	862251	700739	754285
125	862459	873908	758272
150	862996	873913	758273
200	863625	873924	758274
250	864521	717361	308215
300	878381	764459	764389
350	—	—	308227
400	873930	778753	787263
450	—	—	—
500	864914	777618	308245
600	865014	780705	308254
700	717614	308266	308267
800	709575	308279	308280
900	—	—	—
1000	—	—	—
1200	—	—	—

Single socket bends

11¼° – MK 11

acc. to manufacturer's standard

212



Dimensions and weights (Dimensions in mm)

DN	L	Lu	e	Weight in kg ¹⁾		
				with screw-gland socket	with TYTON® socket	with bolted-gland socket
40	175	83	7.0	6.5	—	—
50	171	131	7.0	8.5	—	—
65	187	67	7.0	11.5	—	—
80	240	30	7.0	7.1	7.0	—
100	243	33	7.2	9.2	9.0	—
125	261	36	7.5	12.4	13.0	—
150	284	40	7.8	16.7	16.7	—
200	311	46	8.4	24.8	25.0	—
250	255	50	9.0	33.5	35.0	—
300	260	60	9.6	44.0	43.5	—
350	235	65	10.2	47.0	46.0	54.0
400	238	70	10.8	56.0	66.9	65.0
500	250	85	12.0	—	83.2	95.0
600	287	95	13.2	—	163.0	185.0
700	340	110	14.4	—	249.0	258.0
800	375	125	15.6	—	286.0	292.0

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland ring
on request also with Standard socket and Universal pre-chamber

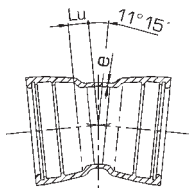


Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
40	—	—	—	—
50	—	—	—	—
65	—	—	—	—
80	862363	722066	875345	304202
100	862975	707078	862985	304203
125	705111	707081	863598	307810
150	863717	707082	863736	304204
200	862979	874007	875356	307834
250	863122	724713	702881	307846
300	705112	764464	862317	307858
350	—	—	—	—
400	—	—	—	—
500	—	—	—	—
600	—	—	—	—
700	—	—	—	—
800	—	—	—	—

Double socket bends 11¼° – MMK 11

214



Dimensions and weights (Dimensions in mm)

DN					Weight in kg ¹⁾			
	Lu TYTON® screw-gland socket etc enamel	Lu bolted- gland socket	Lu Standard socket	e	with screw- gland socket	with TYTON® socket etc enamel	with bolted- gland socket	with Standard socket
40*	63.0	63.0	—	7.0	7.0			
50*	65.0	65.0	—	7.0	9.0			
65	25.0	25.0	—	7.0	11.5			
80	30.0	30.0	—	7.0	6.5	7.6	—	—
100	35.0	35.0	—	7.2	8.1	8.6	—	—
125	35.0	35.0	—	7.5	10.6	13.0	—	—
150	40.0	40.0	—	7.8	13.4	16.7	—	—
200	45.0	45.0	—	8.4	20.5	21.1	—	—
250	50.0	50.0	—	9.0	28.1	30.2	—	—
300	60.0	60.0	—	9.6	38.3	45.4	—	—
350	65.0	65.0	—	10.2	49.7	62.1	64.0*	—
400	70.0	70.0	—	10.8	67.5	73.4	79.0*	—
450	70.0	70.0	—	11.4	—	92.5	—	—
500	85.0	85.0	—	12.0	—	86.4	120.5	—
600	95.0	95.0	—	13.2	—	125.3	158.0	—
700	95.0	110.0	—	14.4	—	201.0	164.0	—
800	110.0	110.0	—	15.6	—	294.3	283.0	—
900	120.0	120.0	—	16.8	—	350.0	—	—
1000	130.0	130.0	—	18.0	—	506.0	—	—
1200	150.0	150.0	—	20.4	—	650.0	—	—

Operating pressures see page 184 ¹⁾ without screw- or bolted-gland rings

* acc. to manufacturer's standard

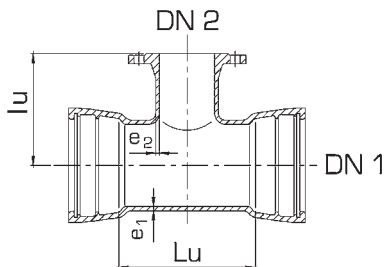


Item numbers

DN	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
40	—	—	—
50	—	—	—
65	—	—	—
80	861744	304725	758267
100	862191	875339	754083
125	862441	875344	758268
150	862962	862959	754223
200	863582	717359	758270
250	863783	717362	308213
300	878390	764460	764388
350	—	—	308225
400	709242	778756	787262
450	—	—	—
500	878948	777619	308243
600	864997	308250	308252
700	710093	308264	308265
800	709354	308277	308278
900	—	—	—
1000	—	—	—
1200	—	—	—

Double socket tees with flanged branch – MMA

216



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Weight in kg ¹⁾						
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
40*	40	155	140	7.0	7.0	10.5	—	—
50*	50	170	150	7.0	7.0	13.5	—	—
65*	40	190	165	7.0	7.0	16.0	—	—
80	40*	170	155	7.0	7.0	11.8	—	13.0
	50*	170	160		7.0	13.0	—	13.0
	65*	170	160		7.0	12.5	—	13.5
	80	170	165		7.0	15.1	—	14.0
100	40*	190	170	7.2	7.0	13.0	—	14.9
	50*	190	170		7.0	14.0	—	15.7
	65*	190	175		7.0	15.0	—	16.9
	80*	190	175		7.0	16.2	—	17.5
	100	190	180		7.2	17.4	—	18.6
125	40*	195	185	7.5	7.0	17.3	—	19.4
	50*	195	185		7.0	17.5	—	20.0
	80*	195	190		7.0	18.9	—	21.6
	100	195	195		7.2	20.5	—	22.7
	125	225	200		7.5	22.1	—	24.3

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



Item numbers

DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
40*	40	743532	307971	—
50*	50	743536	307990	—
65*	65	743539	308038	—
80	40*	753654	309347	308055
	50*	721264	309348	308057
	65*			
	80	704091	726324	761503
100	40*	704405	741250	790023
	50*	721265	307897	307899
	65*	—	—	307902
	80*	860171	727038	754287
	100	860220	709681	758259
125	40*	721267	705047	307910
	50*	721311	705049	307912
	80*	860295	798333	307914
	100	704092	705046	307905
	125	704093	307906	307908



Double socket tees with flanged branch – MMA

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DN 1	DN 2					Weight in kg ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
150	40*	195	195	7.8	7.0	21.6	—	23.8
	50*	195	200		7.0	22.7	—	24.3
	80*	195	205		7.0	23.8	—	25.9
	100	195	210		7.2	24.8	—	27.0
	125*	255	220		7.5	28.0	—	31.3
	150	255	220		7.8	30.8	—	32.9
200	40*	200	230	8.4	7.0	27.8	—	30.8
	50*	200	230		7.0	30.0	—	31.3
	80*	200	235		7.0	31.3	—	32.9
	100	200	240		7.2	32.4	—	34.0
	125*	255	250		7.5	37.0	—	41.0
	150	255	250		7.8	38.9	—	43.2
	200/10	315	260		8.4	46.4	—	49.7
	200/16	315	260		8.4	46.4	—	49.7
250	40*	200	265	9.0	7.0	36.0	—	45.4
	80*	200	265		7.0	40.0	—	48.0
	100	200	270		7.2	42.0	—	48.1
	150	260	280		7.8	52.4	—	56.2
	200/10	315	290		8.4	53.5	—	60.5
	200/16	315	290		8.4	53.5	—	60.5
	250/10	375	300		9.0	62.5	—	75.6
	250/16	375	300		9.0	62.5	—	75.6
300	80*	205	295	9.6	7.0	51.8	—	58.9
	100	205	300		7.2	52.9	—	60.5
	150	260	310		7.8	65.9	—	70.7
	200/10	320	320		8.4	72.4	—	70.0
	200/16	320	320		8.4	72.4	—	70.0
	250/10	430	330		9.0	89.0	—	91.8
	250/16	430	330		9.0	89.0	—	91.8
	300/10	435	340		9.6	90.7	—	95.6
	300/16	435	340		9.6	90.7	—	95.6

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
150	40*	721312	705052	790021
	50*	721313	876410	307923
	80*	860464	703022	758262
	100	860485	705050	758263
	125*	721314	307916	307918
	150	705736	307919	739328
200	40*	717055	741251	790022
	50*	742342	781000	307935
	80*	860571	727037	758264
	100	860592	738573	758265
	125*	326917	on request	—
	150	861007	307928	758266
	200/10	705737	783729	307931
	200/16	706877	790417	307932
250	40*	—	—	—
	80*	861059	307952	304977
	100	879607	307937	307939
	150	861096	307942	307944
	200/10	866195	307945	307947
	200/16	749663	on request	on request
	250/10	742343	792729	307949
	250/16	737140	on request	on request
300	80*	878389	784510	778393
	100	861150	777537	781151
	150	861174	769806	307957
	200/10	866304	792731	799064
	200/16	702691	307958	on request
	250/10	742344	307960	307961
	250/16	716515	786574	on request
	300/10	742345	307962	307964
	300/16	702692	on request	307965



Double socket tees with flanged branch – MMA

220

DN 1	DN 2					Weight in kg ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
350	80*	205	325	10.2	7.0	63.0	—	73.4
	100	205	330		7.2	62.0	—	73.4
	150*	325	340		7.8	82.0	—	89.1
	200/10	325	350		8.4	89.5	—	97.2
	200/16	325	350		8.4	89.5	—	97.2
	250/10	495	360		9.0	101.0	—	98.0
	250/16	495	360		9.0	101.0	—	98.0
	300/10	495	370		9.6	114.0	—	114.0
	300/16	495	370		9.6	114.0	—	114.0
	350/10	495	380		10.2	122.0	—	125.0
	350/16	495	380		10.2	122.0	—	125.0
400	80*	210	355	10.8	7.0	79.9	—	92.9
	100	210	360		7.2	81.0	—	94.0
	150	270	370		7.8	93.4	—	105.8
	200/10	325	380		8.4	109.0	—	113.9
	200/16	325	380		8.4	109.0	—	113.9
	250/10	440	390		9.0	118.5	—	115.0
	250/16	440	390		9.0	118.5	—	115.0
	300/10	440	400		9.6	125.5	—	132.3
	300/16	440	400		9.6	125.5	—	132.3
	350/10	560	415		10.2	150.0	—	150.0
	350/16	560	415		10.2	150.0	—	150.0
	400/10	560	420		10.8	172.0	—	177.0
	400/16	560	420		10.8	172.0	—	177.0

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
350	80*	—	—	on request
	100	—	—	307968
	150*	—	—	on request
	200/10	—	—	307969
	200/16	—	—	on request
	250/10	—	—	—
	250/16	—	—	—
	300/10	—	—	—
	300/16	—	—	—
	350/10	—	—	307970
	350/16	—	—	on request
400	80*	709765	784509	307988
	100	709240	307972	307974
	150	740032	790399	307976
	200/10	744392	790400	307980
	200/16	709763	307977	on request
	250/10	—	—	on request
	250/16	—	—	—
	300/10	742346	307982	307983
	300/16	725723	on request	on request
	350/10	—	—	—
	350/16	—	—	—
	400/10	708231	307984	307986
	400/16	725726	307985	on request



Double socket tees with flanged branch – MMA

222

DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
450*	80	215	390	11.4	7.0	—	—	110.0
	100	215	390		7.2	—	—	110.0
	150	270	400		7.8	—	—	128.0
	200/10	300	410		8.4	—	—	132.0
	200/16	300	410		8.4	—	—	132.0
	250/10	450	420		9.0	—	—	145.5
	250/16	450	420		9.0	—	—	145.5
	300/10	450	430		9.6	—	—	161.5
	300/16	450	430		9.6	—	—	161.5
	350/10	560	450		10.2	—	—	226.0
	350/16	560	450		10.2	—	—	226.0
	400/10	560	450		10.8	—	—	236.0
	400/16	560	450		10.8	—	—	236.0
	450/10	620	460		11.4	—	—	267.0
	450/16	620	460		11.4	—	—	267.0
500	80*	215	415	12.0	7.0	—	110.7	103.0
	100	215	420		7.2	—	110.7	104.0
	150	330	430		7.8	—	130.0	138.0
	200/10	330	440		8.4	—	140.4	140.0
	200/16	330	440		8.4	—	140.4	140.0
	300/10	450	460		9.6	—	174.4	156.0
	300/16	450	460		9.6	—	174.4	156.0
	400/10	565	480		10.8	—	220.0	193.0
	400/16	565	480		10.8	—	220.0	193.0
	500/10	680	500		12.0	—	244.0	236.0
	500/16	680	500		12.0	—	244.0	236.0

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
450*	80	—	—	—
	100	—	—	—
	150	—	—	—
	200/10	—	—	—
	200/16	—	—	—
	250/10	—	—	—
	250/16	—	—	—
	300/10	—	—	—
	300/16	—	—	—
	350/10	—	—	—
	350/16	—	—	—
	400/10	—	—	—
	400/16	—	—	—
	450/10	—	—	—
	450/16	—	—	—
500	80*	878957	308009	308011
	100	878958	778757	307992
	150	707614	307993	307995
	200/10	710120	307996	307999
	200/16	707619	307997	on request
	300/10	732984	777621	308001
	300/16	742349	on request	on request
	400/10	742347	308002	308004
	400/16	742350	on request	on request
	500/10	742348	303996	308007
	500/16	742351	308005	308008



Double socket tees with flanged branch – MMA

224

DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
600	80*	340	475	13.2	7.0	—	182.5	169.0
	100*	340	470		7.2	—	183.6	170.0
	150*	340	480		7.8	—	189.0	174.0
	200/10	340	500		8.4	—	187.6	178.0
	200/16	340	500		8.4	—	187.6	178.0
	300/10	460	520		9.6	—	233.8	210.0
	300/16	460	520		9.6	—	233.8	210.0
	400/10	570	540		10.8	—	257.0	245.0
	400/16	570	540		10.8	—	257.0	245.0
	500/10	800	550		12.0	—	336.0	330.0
	500/16	800	550		12.0	—	336.0	330.0
	600/10	800	580		13.2	—	386.0	339.0
	600/16	800	580		13.2	—	386.0	339.0
700	80*	345	510	14.4	7.0	—	266.0	248.0
	100*	345	510		7.2	—	278.0	260.0
	150*	345	520		7.8	—	263.0	263.0
	200/10	345	525		8.4	—	262.0	266.0
	200/16	345	525		8.4	—	262.0	266.0
	250/10	575	535		9.0	—	287.0	269.0
	250/16	575	535		9.0	—	287.0	269.0
	300/10	575	540		9.6	—	381.0	340.0
	300/16	575	540		9.6	—	381.0	340.0
	350/10	575	555		10.2	—	279.0	261.0
	350/16	575	555		10.2	—	279.0	261.0
	400/10	575	555		10.8	—	392.0	374.0
	400/16	575	555		10.8	—	392.0	374.0
	500/10	925	570		12.0	—	482.0	464.0
	500/16	925	570		12.0	—	482.0	464.0
	600/10	925	585		13.2	—	523.0	505.0
	600/16	925	585		13.2	—	523.0	505.0
	700/10	925	600		14.4	—	563.0	545.0
	700/16	925	600		14.4	—	563.0	545.0

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



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B

10b

DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
600	80*	on request	on request	on request
	100*	721017	308012	308014
	150*	718284	308015	308017
	200/10	710236	308018	308021
	200/16	742352	on request	on request
	300/10	742359	308025	308027
	300/16	742354	on request	on request
	400/10	742360	308028	308029
	400/16	742355	on request	on request
	500/10	742361	308030	308031
	500/16	742356	on request	on request
	600/10	710887	308032	308034
	600/16	742357	on request	on request
700	80*	—	—	—
	100*	—	—	—
	150*	724639	308039	308040
	200/10	744408	308041	308042
	200/16	on request	—	on request
	250/10	—	—	—
	250/16	—	—	—
	300/10	—	—	308044
	300/16	—	—	on request
	350/10	—	—	—
	350/16	—	—	—
	400/10	744409	308045	308046
	400/16	—	—	on request
	500/10	744410	308047	308048
	500/16	—	—	—
	600/10	744411	308049	308050
	600/16	—	—	on request
	700/10	704397	308051	308052
	700/16	—	—	—



Double socket tees with flanged branch – MMA

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DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
800	80*	350	570	15.6	7.0	—	319.0	307.0
	100*	350	570		7.2	—	339.9	324.0
	150*	350	580		7.8	—	322.9	332.0
	200/10	350	585		8.4	—	298.0	342.0
	200/16	350	585		8.4	—	298.0	342.0
	250/10	580	590		9.0	—	433.0	415.0
	250/16	580	590		9.0	—	433.0	415.0
	300/10	580	600		9.6	—	408.2	431.0
	300/16	580	600		9.6	—	408.2	431.0
	350/10	580	615		10.2	—	435.0	423.0
	350/16	580	615		10.2	—	435.0	423.0
	400/10	580	615		10.8	—	430.0	437.0
	400/16	580	615		10.8	—	430.0	437.0
	500/10	1045	630		12.0	—	686.0	628.0
	500/16	1045	630		12.0	—	686.0	628.0
	600/10	1045	645		13.2	—	686.0	640.0
	600/16	1045	645		13.2	—	686.0	640.0
	800/10	1045	675		15.6	—	755.0	743.0
	800/16	1045	675		15.6	—	755.0	743.0
900	80*	355	630	16.8	7.0	—	—	400.0
	100*		635		7.2	—	—	470.0
	150*		640		7.8	—	—	472.0
	200		645		8.4	—	—	540.0
	250*		645		9.0	—	—	—
	300*	590	660		9.6	—	—	561.0
	400		675		10.8	—	—	572.0
	600	1170	705		13.2	—	—	820.0
	700*		720		14.4	—	—	868.0
	900		750		16.8	—	—	898.0

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber



DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
800	80*	—	—	—
	100*	—	—	—
	150*	—	—	—
	200/10	709932	on request	308059
	200/16	on request	—	on request
	250/10	—	—	—
	250/16	—	—	—
	300/10	771667	on request	308060
	300/16	on request	—	on request
	350/10	—	—	—
	350/16	—	—	—
	400/10	326299	on request	308061
	400/16	—	—	on request
	500/10	—	—	308062
	500/16	—	—	on request
	600/10	—	—	308063
	600/16	—	—	on request
	800/10	—	—	308065
	800/16	—	—	on request
900	80*	on request	on request	on request
	100*	on request	on request	on request
	150*	on request	on request	on request
	200	on request	on request	on request
	250*	on request	on request	on request
	300*	on request	on request	on request
	400	on request	on request	on request
	600	on request	on request	on request
	700*	on request	on request	on request
	900	on request	on request	on request



Double socket tees with flanged branch – MMA

228

DN 1	DN 2					Weight in kg ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with bolted-gland socket	with TYTON® socket etec enamel
1000	150*	360	700	18.0	7.8	—	—	650.0
	200	360	705		8.4	—	—	561.0
	250*	380	710		9.0	—	—	691.0
	300*	595	720		9.6	—	—	625.0
	400	595	735		10.8	—	—	644.0
	600	1290	765		13.2	—	—	1162.0
	800*	1290	825		15.6	—	—	1018.0
	1000	1290	825		18.0	—	—	1248.0
1200	200*	840	835	20.4	8.4	—	—	949.0
	400*	840	835		10.8	—	—	960.0
	500*	840	850		12.0	—	—	969.0
	600	840	885		13.2	—	—	985.0
	700*	1070	900		14.4	—	—	1135.0
	800	1070	915		15.6	—	—	1160.0
	900*	1300	930		16.8	—	—	1296.0
	1000	1300	945		18.0	—	—	1428.0

¹⁾ without screw- or bolted-gland ring * acc. to manufacturer's standard

Operating pressures see page 184; on request also with Standard socket and Universal pre-chamber

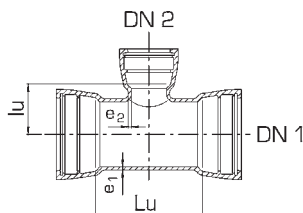


DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
1000	150*	on request	on request	on request
	200	on request	on request	on request
	250*	on request	on request	on request
	300*	on request	on request	on request
	400	on request	on request	on request
	600	on request	on request	on request
	800*	on request	on request	on request
	1000	on request	on request	on request
1200	200*	on request	on request	on request
	400*	on request	on request	on request
	500*	on request	on request	on request
	600	on request	on request	on request
	700*	on request	on request	on request
	800	on request	on request	on request
	900*	on request	on request	on request
	1000	on request	on request	on request



All socket tees – MMB

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Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Weight in kg $\approx$ ¹⁾						
		Lu	lu	e ₁	e ₂	with screw-gland socket	with TYTON® socket etec enamel	with Standard socket
40*	40	156	78	7.0	7.0	11.0	—	—
50*	40	170	83	7.0	7.0	12.5	—	—
	50*	170	85		7.0	13.5	—	—
65*	40	190	90	7.0	7.0	16.0	—	—
	50	190	92		7.0	17.0	—	—
	65*	190	95		7.0	18.0	—	—
80	40*	170	80	7.0	7.0	10.1	10.8	—
	50*	170	80			10.5	11.9	—
	65*	170	80			11.0	—	—
	80	170	85	7.0	7.0	13.0	14.0	—
100	40*	190	90	7.2	7.0	11.7	14.0	—
	50*	190	90		7.0	12.5	15.1	—
	65*	190	90		7.0	13.0	13.0	—
	80*	190	95		7.0	14.6	15.1	—
	100	190	95		7.2	14.9	17.0	—
125	40*	195	100	7.5	7.0	16.2	18.4	—
	50*	195	105		7.0	16.5	18.5	—
	80*	195	105		7.0	16.6	20.5	—
	100	195	110		7.2	18.1	21.6	—
	125	225	110		7.5	19.4	23.2	—

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard on request also with Standard socket and Universal pre-chamber



Item numbers

DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
40*	40	—	—	—
50*	40	—	—	—
	50*	—	—	—
65*	40	—	—	—
	50	—	—	—
	65*	—	—	—
80	40*	—	—	308188
	50*	—	—	—
	65*	—	—	—
	80	861128	726326	308191
100	40*	—	—	306068
	50*	—	—	308070
	65*	—	—	—
	80*	861154	714766	754057
	100	861175	722569	785384
125	40*	—	—	308077
	50*	on request	788918	308079
	80*	704094	308080	308082
	100	704095	707116	308073
	125	703303	705054	308075



All socket tees – MMB

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DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with TYTON® socket etec enamel	with Standard socket
150	40*	195	115	7.8	7.0	19.4	22.7	—
	50*	195	115		7.0	20.0	22.5	—
	80*	195	120		7.0	22.7	24.8	—
	100	195	120		7.2	22.7	25.4	—
	125*	255	125		7.5	25.0	30.2	—
	150	255	125		7.8	27.0	30.8	—
200	40*	200	140	8.4	7.0	25.5	30.2	—
	50*	200	140		7.0	26.5	31.3	—
	65	200	140		7.0	28.0	28.0	—
	80	200	145		8.1	30.8	38.4	—
	100	200	145		8.4	31.9	31.9	—
	125*	255	145		8.8	35.0	37.8	—
	150	255	150		9.1	37.8	42.1	—
	200	315	155		9.8	40.0	45.9	—
250*	80	200	170	9.0	7.0	38.0	45.4	—
	100	200	175		7.2	38.9	46.4	—
	125	200	175		7.5	43.0	46.4	—
	150	260	180		7.8	44.5	51.8	—
	200	315	185		8.4	51.5	56.2	—
	250	375	190		9.0	61.0	65.9	—
300*	50	205	195	9.6	7.0	44.0	44.0	—
	65	205	195		7.0	44.5	44.5	—
	80	205	195		7.0	50.0	56.7	—
	100	205	200		7.2	47.0	58.3	—
	125	205	200		7.5	55.0	58.4	—
	150	320	200		7.8	59.4	62.4	—
	200	320	205		8.4	61.0	66.4	—
	250	430	210		9.0	74.0	82.1	—
	300	430	215		9.6	81.0	92.1	—

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard
on request also with Standard socket and Universal pre-chamber



DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
150	40*	—	—	308090
	50*	—	—	—
	80*	—	—	308094
	100	—	—	308084
	125*	—	—	308086
	150	—	—	308088
200	40*	—	—	—
	50*	—	—	308106
	65	—	—	—
	80	742233	861468	308108
	100	861476	873763	308096
	125*	704386	705058	308098
	150	711115	719634	308100
	200	707192	719347	308102
250*	80	742232	308120	308122
	100	742362	308109	308111
	125	712852	719294	on request
	150	742231	722162	308115
	200	742230	305113	308117
	250	711111	720808	308119
	300	—	—	—
300*	50	—	—	—
	65	—	—	—
	80	719239	767010	308138
	100	742363	776875	308124
	125	on request	769204	on request
	150	719241	776876	308128
	200	717703	767011	308130
	250	742364	308131	308133
	300	719242	308134	308136
	350	—	—	—



All socket tees – MMB

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DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with TYTON® socket etec enamel	with Standard socket
350*	80	205	220	10.2	7.0	74.0	74.0	—
	100	205	220		7.2	79.0	79.0	—
	200	325	240		8.4	91.0	88.0	—
	250	495	245		10.5	103.0	118.8	—
	300	495	250		9.6	115.0	126.4	—
	350	495	260		10.2	128.0	125.0	—
400*	80	210	245	10.8	7.0	83.5	95.5	—
	100	210	245		7.2	86.5	93.4	—
	150	270	250		7.8	94.0	94.0	—
	200	440	260		8.4	100.0	111.8	—
	250	440	265		9.0	108.0	118.8	—
	300	440	270		9.6	122.0	123.7	—
	400	560	285		10.8	145.0	175.5	—
450*	80	215	270	11.4	7.0	—	110.0	—
	100	215	270		7.2	—	110.0	—
	150	330	280		7.8	—	128.0	—
	200	330	280		8.4	—	146.5	—
	250	450	290		9.0	—	155.0	—
	300	450	290		9.6	—	162.5	—
	350	560	305		10.2	—	174.0	—
	400	560	320		10.8	—	180.0	—
	450	620	380		11.4	—	185.0	—
500*	80	215	295	12.0	7.0	—	128.0	—
	100	215	295		7.2	—	131.0	—
	125	215	295		7.5	—	134.0	—
	150	330	305		7.8	—	136.0	—
	200	330	305		8.4	—	145.0	—
	250	450	315		9.0	—	155.0	—
	300	450	320		9.6	—	170.0	—
	350	565	330		10.2	—	183.0	—
	400	565	335		10.8	—	195.0	—
	500	680	350		12.0	—	233.3	—

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard
on request also with Standard socket and Universal pre-chamber



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B

10b

DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
350*	80	—	—	on request
	100	—	—	308139
	200	—	—	308142
	250	—	—	308143
	300	—	—	308145
	350	—	—	308146
400*	80	763683	—	—
	100	738039	308148	308149
	150	720866	771732	308150
	200	738114	308151	308153
	250	737496	308154	308155
	300	742365	308156	308157
	400	720867	308158	308159
450*	80	—	—	—
	100	—	—	—
	150	—	—	—
	200	—	—	—
	250	—	—	—
	300	—	—	—
	350	—	—	—
	400	—	—	—
	450	—	—	—
500*	80	318776	on request	—
	100	742366	308162	308163
	125	—	—	—
	150	792697	308164	—
	200	701271	308165	308166
	250	on request	on request	—
	300	719685	308167	308168
	350	on request	on request	on request
	400	742367	308169	308170
	500	701272	308171	308172



All socket tees – MMB

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DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with TYTON® socket etec enamel	with Standard socket
600*	125	340	345	13.2	7.5	—	189.0	—
	150	340	345		7.8	—	197.0	—
	200	340	365		8.4	—	205.0	—
	250	460	365		9.0	—	222.0	—
	300	460	365		9.6	—	231.0	—
	350	570	375		10.2	—	236.0	—
	400	570	380		10.8	—	245.0	—
	500	800	390		12.0	—	325.0	—
	600	800	400		13.2	—	340.0	—
700*	150	345	395	14.4	7.8	—	253.0	—
	200	345	400		8.4	—	264.0	—
	250	575	410		9.0	—	275.0	—
	300	575	415		9.6	—	370.0	—
	400	575	425		10.8	—	355.0	—
	500	925	435		12.0	—	445.0	—
	600	925	430		13.2	—	545.0	—
	700	925	455		14.4	—	497.0	—
800*	125	350	475	15.6	7.5	—	408.0	—
	300	580	470		9.6	—	490.0	—
	400	580	480		10.8	—	520.0	—
	500	1045	490		12.0	—	528.0	—
	600	1045	500		13.2	—	760.0	—
	700	1045	510		14.4	—	805.0	—
	800	1045	510		15.6	—	820.0	—
900*	500	1170	535	16.8	12.0	—	500.0	—
	600	1170	540		13.2	—	525.0	—
	900	1170	610		16.8	—	850.0	—

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard
on request also with Standard socket and Universal pre-chamber



DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
600*	125	—	—	—
	150	on request	on request	on request
	200	on request	on request	on request
	250	on request	on request	on request
	300	on request	on request	on request
	350	—	—	—
	400	—	—	—
	500	on request	on request	on request
	600	715732	308175	308176
700*	150	on request	308177	—
	200	on request	308178	—
	250	744412	308179	308180
	300	744413	308181	308182
	400	744414	308183	308184
	500	—	—	—
	600	—	—	—
	700	744415	308185	308186
800*	125	on request	on request	—
	300	on request	on request	308192
	400	on request	on request	309193
	500	on request	on request	—
	600	on request	on request	—
	700	on request	on request	308194
	800	on request	on request	308195
900*	500	—	—	on request
	600	—	—	on request
	900	—	—	on request



All socket tees – MMB

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DN 1	DN 2					Weight in kg $\approx$ ¹⁾		
		Lu	lu	e ₁	e ₂	with screw-gland socket	with TYTON® socket etec enamel	with Standard socket
1000*	150	360	570	18.0	7.8	—	507.0	—
	200	360	580		8.4	—	508.0	—
	250	595	590		9.0	—	597.0	—
	300	595	600		9.6	—	613.0	—
	400	595	600		10.8	—	619.0	—
	600	1290	640		13.2	—	1028.0	—
	800	1290	660		15.6	—	1102.0	—
	900	1290	680		16.8	—	1108.0	—
	1000	1290	680		18.0	—	1115.0	—
1200*	300	840	730	20.4	9.6	—	940.0	—
	600	840	750		13.2	—	980.0	—
	700	1070	750		14.4	—	1140.0	—
	800	1070	760		15.6	—	1150.0	—
	900	1300	760		16.8	—	1285.0	—
	1200	1525	760		20.4	—	1536.0	—

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard
on request also with Standard socket and Universal pre-chamber

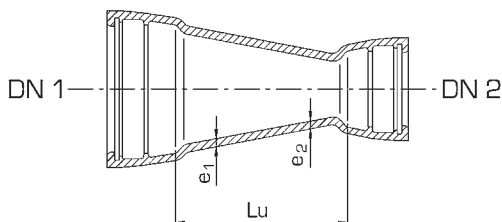


DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with TYTON® socket etec enamel
1000*	150	on request	on request	on request
	200	on request	on request	on request
	250	on request	on request	on request
	300	on request	on request	on request
	400	on request	on request	on request
	600	on request	on request	on request
	800	on request	on request	on request
	900	on request	on request	on request
	1000	on request	on request	on request
1200*	300	on request	on request	on request
	600	on request	on request	on request
	700	on request	on request	on request
	800	on request	on request	on request
	900	on request	on request	on request
	1200	on request	on request	on request



Double socket tapers – MMR

240



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	L_u	e_1	e_2	Weight in kg $\approx$ ¹⁾	
					with NOVO socket	with screw-gland socket
50*	40	200	7.0	7.0	—	9.5
80	40*	200	7.0	7.0	—	15.0
	50	110		7.0	—	8.0
	65*	200		7.0	—	17.0
100	40*	150	7.2	7.0	—	10.5
	50*	150		7.0	—	10.5
	65*	120		7.0	—	10.5
	80	90		7.0	10.0	11.2

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard
on request also with Standard socket and Universal pre-chamber



Item numbers

DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with screw-gland socket Epoxy blue ²⁾	Item no. with screw-gland socket etec enamel ²⁾
50*	40	—	—	744071	308355
80	40*	—	—	744074	308365
	50	—	—	744078	308366
	65*	—	—	744082	308367
100	40*	—	—	—	—
	50*	—	—	744088	308311
	65*	—	—	744093	308312
	80	704096	777167	744097	308313



²⁾ all mentioned item numbers incl. screw rings;
other versions, coatings and sizes on request

Double socket tapers – MMR

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DN 1	DN 2	Weight in kg ¹⁾				
		Lu	e ₁	e ₂	with NOVO socket	with screw-gland socket
125	80	140	7.5	7.0	13.5	10.5
	100	100		7.2	16.0	11.0
150	80	190	7.8	7.0	17.0	14.0
	100	150		7.2	18.5	14.5
	125	100		7.5	19.0	14.5
200	100	250	8.4	7.2	26.5	19.0
	125	200		7.5	30.5	21.0
	150	150		7.8	28.5	20.5
250	80	300	9.0	7.0	—	33.0
	100	300		7.2	36.0	29.0
	125	300		7.5	38.4	26.5
	150	250		7.8	37.0	32.0
	200	150		8.4	41.0	32.0
300	100	275	9.6	7.2	33.5	55.1
	150	350		7.8	55.5	46.5
	200	250		8.4	49.0	46.5
	250	150		9.0	52.0	46.5
350	150	500	10.2	7.8	—	50.0
	200	360		8.4	—	58.0
	250	260		9.0	—	58.0
	300	160		9.6	—	58.0
400	150	560	10.8	7.8	—	—
	200	400		8.4	—	79.9
	250	360		9.0	—	73.5
	300	260		9.6	—	68.0
	350	160		10.2	—	70.0

Operating pressures see page 184 ¹⁾ without screw rings * acc. to manufacturer's standard
on request also with Standard socket and Universal pre-chamber

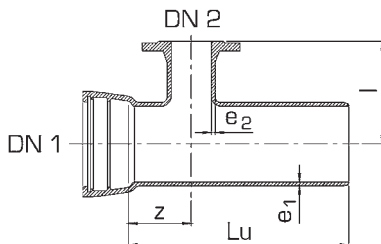


DN 1	DN 2	Item no. with NOVO socket Epoxy blue	Item no. with NOVO socket etec enamel	Item no. with screw-gland socket Epoxy blue ²⁾	Item no. with screw-gland socket etec enamel ²⁾
125	80	on request	308316	705944	308318
	100	704098	707129	863634	308315
150	80	724695	304733	875361	780689
	100	863684	703021	875362	774307
	125	704099	719897	863728	780690
200	100	701335	724716	875364	308323
	125	707193	719650	725227	308325
	150	707195	717366	875365	308327
250	80	—	—	on request	on request
	100	on request	on request	on request	on request
	125	742381	724717	—	—
	150	877247	719649	875367	308332
	200	707194	717364	875370	308334
300	100	on request	on request	on request	on request
	150	742382	724578	703577	308336
	200	742383	874013	875371	308338
	250	876364	717365	875377	308340
350	150	—	—	on request	on request
	200	—	—	712230	308341
	250	—	—	725206	308343
	300	—	—	710897	308345
400	150	on request	on request	on request	on request
	200	on request	on request	on request	on request
	250	on request	on request	on request	on request
	300	on request	on request	on request	on request
	350	on request	on request	on request	on request

²⁾ all mentioned item numbers incl. screw rings;
other versions, coatings and sizes on request

Single socket tees with flanged branch – A acc. to manufacturer's standard

244



Dimensions and weights (Dimensions in mm)

DN 1	DN 2						Weight in kg $\approx$ ¹⁾		Item no. Epoxy P4 blue with screw- gland socket	Item no. Epoxy P4 blue with TYTON® socket
		Lu	l	z	e ₁	e ₂	with screw-gland socket	with TYTON® socket	PN 16	PN 16
40	40	400	150	78	7.0	7.0	10.9	—	743112	—
50	40	400	150	85	7.0	7.0	10.5	—	on request	—
	50	400	150	85			12.0	—	on request	—
80	40	400	180	106	7.0	7.0	13.2	12.3	743117	742073
	50	400	180	106			13.2	13.0	—	790976
	80	400	180	106			15.7	15.7	743122	706769
100	40	400	200	120	7.2	7.0	16.5	16.2	743126	—
	50	400	200	120		7.0	17.0	15.5	743129	313756
	65	400	200	120		7.0	17.0	16.0	—	—
	80	400	200	120		7.0	18.5	18.4	743134	703995
	100	400	200	120		7.2	20.7	18.8	743138	740037

Operating pressures see page 184 ¹⁾ without screw rings
on request also with Standard socket and Universal pre-chamber





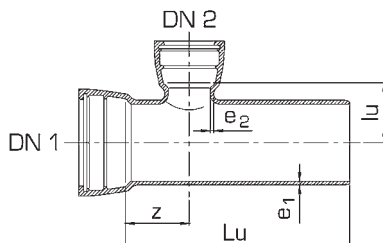
DN 1	DN 2						Weight in kg ¹⁾		Item no. Epoxy P4 blue with screw- gland socket PN 16	Item no. Epoxy P4 blue with TYTON® socket PN 16
		Lu	l	z	e ₁	e ₂	with screw-gland socket	with TYTON® socket		
125	40	425	190	112	7.5	7.0	20.3	17.5	743141	—
	50	425	190	112		7.0	20.8	18.0	743144	—
	80	425	190	112		7.0	21.3	22.5	743147	734301
	100	425	195	112		7.2	24.4	23.5	743151	875677
	125	425	200	112		7.5	26.0	26.0	on request	—
150	40	450	205	128	7.8	7.0	24.8	23.0	on request	—
	50	450	205	128		7.0	24.0	24.0	—	742074
	80	450	205	128		7.0	27.8	28.0	743160	703996
	100	450	210	128		7.2	28.3	29.2	743164	703997
	125	450	210	128		7.5	28.5	28.5	on request	—
	150	450	210	128		7.8	33.7	30.4	743169	742074
200	50	600	240	190	8.4	7.0	46.0	46.0	on request	on request
	80	600	240	190		7.0	50.0	55.0	on request	on request
	100	600	250	190		7.2	55.0	51.0	on request	on request
	150	600	275	240		7.8	58.0	58.0	on request	on request
	200	600	300	240		8.4	64.8	60.0	on request	on request
300	80	800	300	260	9.6	7.0	119.5	119.5	on request	on request
	100	800	300	260		7.2	121.0	121.0	on request	on request
	150	800	300	260		7.8	126.5	126.5	on request	on request
400	400	1000	450	330	10.8	10.8	186.0	186.0	on request	on request
1000	600	1770	825	645	18.0	12.0	—	1160.0	on request	on request

Operating pressures see page 184 ¹⁾ without screw rings
on request also with Standard socket and Universal pre-chamber

Single socket tees with socket branch – B acc. to manufacturer's standard



246



Dimensions and weights – B (Dimensions in mm)

DN 1	DN 2	Lu	lu	z	e ₁	e ₂	Weight in kg ¹⁾	Item no. Epoxy P4 blue
40	40	400	105	132	7.0	7.0	8.5	—
80	80	400	86	106	7.0	7.0	14.0	—
100	80	400	95	120	7.2	7.0	15.0	—
	100	400	95	120		7.2	16.0	754104
150	80	450	120	128	7.8	7.0	25.0	on request
	100	450	120	128		7.2	45.0	on request
	125	450	125	128		7.5	28.0	on request
	150	450	120	128		7.8	34.5	on request

Dimensions and weights – B long version (Dimensions in mm)

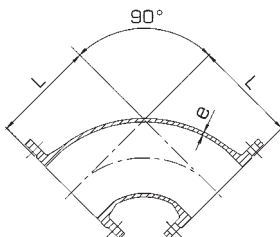
DN 1	DN 2	Lu	lu	z	e ₁	e ₂	Weight in kg [≈] with Novo sockets	Item no. Epoxy P4 blue
100	80	910	95	410	7.2	7.0	27.0	308594
150	80	905	120	405	7.8	7.0	40.0	308595
200	80	900	145	400	8.4	7.0	55.0	308596

Operating pressures see page 184 ¹⁾ without screw rings
on request also with Standard socket and Universal pre-chamber

Double flanged bends 90° - Q



247



Dimensions and weights (Dimensions in mm)

DN			Weight in kg ≈				Item no. Epoxy P4 blue		Item no. etec enamel	
	L	e	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 10	PN 16
40*	140	7.0	5.5	5.5	5.5	5.5	—	867679	—	308422
50*	150	7.0	7.5	7.5	7.5	7.5	—	867822	—	867824
65*	165	7.0	10.2	10.2	10.2	10.2	—	867847	—	753145
80	165	7.0	10.2	10.2	11.0	11.0	—	867896	—	725627
100	180	7.2	12.0	12.0	12.0	12.0	—	867924	—	867915
125	200	7.5	17.5	17.5	17.5	17.5	—	867941	—	872780
150	220	7.8	22.5	22.5	22.5	22.5	—	867961	—	872779
200	260	8.4	33.5	33.5	45.9	53.0	867993	874749	721281	756439
250	350	9.0	54.0	54.0	81.0	101.0	868042	703201	722886	308418
300	400	9.6	76.0	76.0	116.6	144.2	868069	868077	764988	308419
350	450	10.2	94.5	123.0	155.0	199.0	704035	700043	308420	308421
400	500	10.8	134.0	146.0	217.0	284.0	868093	700011	749580	743774
450	550	11.4	234.0	234.0	241.0	308.0	on request	on request	on request	on request
500	600	12.0	202.0	242.0	305.0	375.0	868278	710604	759475	308423
600	700	13.2	307.0	364.0	346.0	458.0	705976	715369	759477	on request
700	800	14.4	422.0	442.0	575.0	—	715799	710443	308425	on request
800	900	15.6	600.0	625.0	672.0	—	733938	715370	308426	on request
900	1000	16.8	745.0	836.0	—	—	on request	on request	on request	on request
1000	1100	18.0	1010.0	1099.0	—	—	on request	on request	on request	on request
1200	1300	20.4	—	1463.0	—	—	on request	on request	on request	on request

* acc. to manufacturer's standard

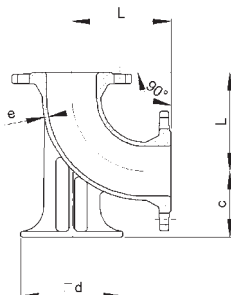
B

10b

Double flanged duckfoot bends 90° – N



248



Dimensions and weights (Dimensions in mm)

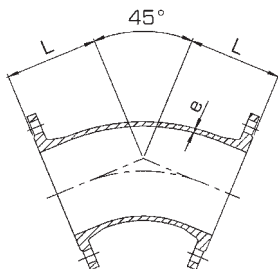
DN					Weight in kg ≈				Item no. Epoxy P4 blue		Item no. etec enamel	
	L	c	□ d	e	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 10	PN 16
50*	150	90	150	7.0	10.5	10.5	10.5	10.5	—	862905	—	308397
65*	165	99	165	7.0	16.0	16.0	16.0	16.0	—	870073	—	308400
80	165	110	170	7.0	12.9	12.9	12.9	12.9	—	750046	—	756556
100	180	125	200	7.2	17.5	17.5	17.5	17.5	—	862998	—	704333
125	200	140	225	7.5	25.0	25.0	25.0	25.0	—	873659	—	308391
150	220	160	250	7.8	32.0	32.0	32.0	32.0	—	877562	—	774236
200	260	190	300	8.4	52.0	52.0	52.0	52.0	878947	877014	784504	308392
250	350	225	350	9.0	78.0	78.0	80.5	101.0	866078	703202	308393	308394
300	400	255	400	9.6	113.0	113.0	114.0	145.0	874511	710573	784506	on request
350	450	290	450	10.2	179.0	186.0	154.8	201.0	709229	700049	308395	on request
400	500	320	500	10.8	244.0	255.0	209.0	277.0	706994	700121	308396	787290
450	550	355	550	11.4	—	295.0	309.0	395.0	—	—	—	—
500	600	385	600	12.0	300.0	335.0	335.0	402.0	711278	760502	308398	on request
600	700	450	700	13.2	462.0	525.0	506.0	612.0	715789	715730	308399	on request
700*	800	480	800	16.0	737.5	750.0	769.0	—	715800	on request	308401	on request
800*	900	540	900	19.0	920.0	953.0	1086.0	—	718922	717479	308402	on request
900	1000	645	1000	16.8	—	—	—	—	on request	on request	on request	on request
1000	1100	710	1000	18.0	—	1626.0	—	—	on request	on request	on request	on request
1200	1300	845	1300	20.4	2311.0	—	—	—	on request	on request	on request	on request

Base borehole on request. * acc. to manufacturer's standard

Double flanged bends 45° - FFK 45



249



Dimensions and weights (Dimensions in mm)

DN			Weight in kg ≈				Item no. Epoxy P4 blue		Item no. etec enamel	
	L	e	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 10	PN 16
40*	40	7.0	7.2	7.2	7.2	7.2	—	870077	—	307701
50*	150	7.0	10.0	10.0	10.0	10.0	—	857782	—	307711
65*	165	7.0	11.3	11.3	11.3	11.3	—	870078	—	307724
80	130	7.0	9.5	9.5	9.5	9.5	—	857838	—	758337
100	140	7.2	11.7	11.7	11.7	11.7	—	857951	—	707055
125	150	7.5	14.6	14.6	14.6	14.6	—	857996	—	758338
150	160	7.8	20.0	20.0	20.0	20.0	—	858029	—	728506
200	180	8.4	30.0	30.0	34.0	41.5	865870	700449	758339	770703
250	350	9.0	56.4	56.4	101.0	83.0	865963	700445	307689	770573
300	400	9.6	83.5	83.5	87.5	118.0	866101	700017	764594	784912
350	298	10.2	89.0	95.0	111.0	141.0	877997	700045	307696	307697
400	324	10.8	108.5	119.5	191.3	196.0	858368	700016	790710	307706
450	350	11.4	150.0	150.0	180.0	248.0	—	on request	—	—
500	375	12.0	186.0	217.0	259.2	264.0	858401	710441	307715	307716
600	426	13.2	260.0	316.0	292.0	397.0	706005	702848	792761	307720
700	478	14.4	458.0	489.0	392.0	—	873794	710442	307728	on request
800	529	15.6	652.0	500.0	535.0	—	878088	712338	307732	on request
900	581	16.8	—	480.0	—	—	on request	on request	on request	on request
1000	632	18.0	727.9	685.0	1099.0	—	on request	on request	on request	on request
1200	750	20.4	—	1251.0	—	—	on request	on request	on request	on request

* acc. to manufacturer's standard

B

10b

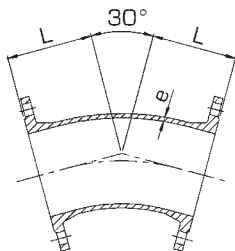
Double flanged bends

30° – FFK 30

acc. to manufacturer's standard



250



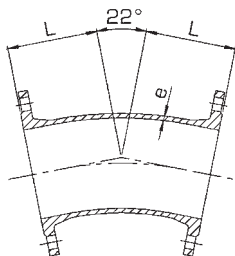
Dimensions and weights (Dimensions in mm)

DN			Weight in kg ≈				Item no. Epoxy P4 blue		Item no. etec enamel	
	L	e	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 10	PN 16
40	140	7.0	7.0	7.0	7.0	7.0	—	870991	—	307700
50	150	7.0	9.0	9.0	9.0	9.0	—	870992	—	307710
65	165	7.0	12.0	12.0	12.0	12.0	—	870993	—	307723
80	130	7.0	10.0	10.0	10.0	10.0	—	857822	—	758301
100	140	7.2	12.8	12.8	—	—	—	857927	—	707056
125	150	7.5	16.2	16.2	18.0	21.0	—	857991	—	758327
150	160	7.8	21.0	21.0	22.0	25.0	—	858020	—	758332
200	180	8.4	32.5	32.5	33.0	42.0	865849	701607	758336	799982
250	210	9.0	44.0	44.0	90.0	65.0	703959	720169	789384	729362
300	255	9.5	63.0	63.0	73.0	100.0	866087	711056	771814	307691
350	165	10.2	65.0	71.0	88.0	142.0	866130	775919	307694	307695
400	183	10.8	79.5	94.5	104.5	172.5	858052	714735	790709	307705
450	255	11.4	143.0	153.0	183.0	251.0	—	—	—	—
500	220	12.0	122.0	160.0	205.0	275.0	858393	708319	307714	on request
600	309	13.2	205.0	268.0	289.0	298.0	712279	752008	792759	on request
700	346	14.4	307.0	356.0	416.0	—	716620	745706	307727	on request
800	383	15.6	410.0	410.0	623.0	—	738465	772905	307731	on request
900	420	16.8	—	—	—	—	on request	on request	on request	on request
1000	455	18.0	—	—	1018.0	—	on request	on request	on request	on request
1200	530	20.4	—	—	—	—	on request	on request	on request	on request

Double flanged bends 22 ½° – FFK 22 acc. to manufacturer's standard



251



Dimensions and weights (Dimensions in mm)

DN			Weight in kg ≈				Item no. Epoxy P4 blue		Item no. etec enamel	
	L	e	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 10	PN 16
40	140	7.0	7.0	7.0	7.0	7.0	—	860251	—	307699
50	150	7.0	9.0	9.0	9.0	9.0	—	870988	—	307709
65	165	7.0	12.0	12.0	12.0	12.0	—	870990	—	307722
80	130	7.0	9.9	9.9	9.9	9.9	—	857809	—	758300
100	140	7.2	12.6	12.6	—	—	—	857896	—	758324
125	150	7.5	15.9	15.9	29.0	21.0	—	879211	—	758326
150	160	7.8	20.5	20.5	22.0	25.0	—	858010	—	758331
200	180	8.4	32.0	32.0	33.5	42.5	865465	877603	758335	306425
250	210	9.0	43.5	43.5	48.5	65.5	876790	876329	758888	307687
300	255	9.6	63.5	63.5	72.0	99.0	866006	874165	774304	784030
350	140	10.2	61.0	67.5	78.0	132.0	727239	700117	307693	on request
400	153	10.8	74.5	88.5	97.5	165.5	858044	703010	307704	on request
450	209	11.4	135.0	145.0	183.0	251.0	—	—	—	—
500	185	12.0	112.5	147.0	175.0	345.0	877175	712242	307713	on request
600	254	13.2	187.0	241.0	247.0	268.0	860246	714737	307718	on request
700	284	14.4	325.0	375.0	369.0	—	874257	712334	307726	on request
800	314	15.6	381.0	415.0	558.0	—	741914	712339	307730	on request
900	375	16.8	—	—	—	—	on request	on request	on request	on request
1000	410	18.0	575.0	655.0	—	—	on request	on request	on request	on request
1200	467	20.4	—	850.0	—	—	on request	on request	on request	on request

B

10b

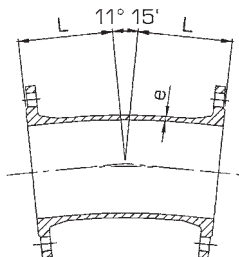
Double flanged bends

11 1/4° – FFK 11

acc. to manufacturer's standard



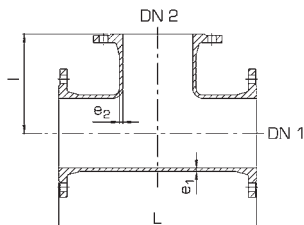
252



Dimensions and weights (Dimensions in mm)

DN			Weight in kg ≈				Item no. Epoxy P4 blue		Item no. etec enamel	
	L	e	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 10	PN 16
40	140	7.0	7.0	7.0	7.0	7.0	—	860247	—	307698
50	150	7.0	9.0	9.0	9.0	9.0	—	870984	—	307708
65	165	7.0	12.0	12.0	12.0	12.0	—	870985	—	307721
80	130	7.0	9.9	9.9	9.9	9.9	—	857795	—	758299
100	140	7.2	12.7	12.7	—	—	—	857870	—	702870
125	150	7.5	15.9	15.9	18.0	21.0	—	879210	—	758325
150	160	7.8	21.5	21.5	22.0	25.0	—	858002	—	758330
200	180	8.4	28.0	32.0	54.5	39.0	876791	874750	758333	306424
250	210	9.0	45.0	45.0	48.0	65.0	706111	708007	776116	307686
300	255	9.6	64.0	64.0	69.5	96.5	703503	709768	764595	307690
350	105	10.2	53.0	62.0	70.0	138.5	739416	737346	307692	—
400	113	10.8	66.5	72.5	89.5	168.5	858036	703009	307702	307703
450	144	11.4	108.0	118.0	145.0	213.5	—	—	—	—
500	135	12.0	100.5	130.5	137.0	237.5	858384	712244	307712	on request
600	174	13.2	152.5	206.0	229.0	260.5	858421	702847	307717	on request
700	194	14.4	265.0	292.0	370.0	—	875864	702846	307725	on request
800	213	15.6	298.0	327.0	490.0	—	709353	712341	307729	on request
900	280	16.8	—	397.5	—	—	on request	on request	on request	on request
1000	310	18.0	588.0	571.0	722.0	—	328047	328335	on request	on request
1200	346	20.4	820.0	870.0	—	—	331838	on request	on request	on request

All flanged tees – T



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Weight in kg ≈							
		L	l	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
40	40	280	140	7,0	7,0	10.8	—	—	—
50	40	300	145	7,0	7,0	10.5	—	—	—
	50		150		7,0	11.0	—	—	—
65	40	330	153	7,0	7,0	13.0	—	—	—
	50		158		7,0	13.0	—	—	—
	65		165		7,0	14.3	—	—	—
80	40*	330	155	7,0	7,0	13.6	14.7	14.7	14.7
	50		160		7,0	14.5	15.7	15.7	15.7
	65		160		7,0	15.2	16.4	16.4	16.4
	80		165		7,0	15.8	17.0	17.0	17.0
100	40*	360	170	7,2	7,0	16.5	17.8	17.2	17.2
	50		170		7,0	17.3	18.7	22.7	22.7
	65		170		7,0	18.0	19.4	20.4	18.6
	80		175		7,0	18.7	20.2	24.5	24.5
	100		180		7,2	19.5	21.3	22.0	22.0
125	40*	400	185	7,5	7,0	22.0	23.8	22.5	24.0
	50*		185		7,0	22.5	24.3	23.0	24.5
	65		185		7,0	24.8	24.8	24.0	25.5
	80		190		7,0	23.5	25.4	30.0	26.0
	100		195		7,2	25.0	27.0	26.0	28.5
	125		200		7,5	26.0	28.1	32.5	31.0

* acc. to manufacturer's standard



Item numbers

DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
40	40	—	867060	—	308448
50	40	—	867097	—	308456
	50	—	867121	—	750479
65	40	—	870555	—	308473
	50	—	870556	—	308474
	65	—	867152	—	753147
80	40*	—	701268	—	308482
	50	—	867172	—	772560
	65	—	702710	—	308483
	80	—	867202	—	725628
100	40*	—	875447	—	707057
	50	—	867245	—	867241
	65	—	874191	—	753144
	80	—	867271	—	867268
	100	—	867290	—	872778
125	40*	—	867310	—	308427
	50*	—	867318	—	728938
	65	—	on request	—	on request
	80	—	867333	—	758297
	100	—	867710	—	872777
	125	—	867717	—	703122



All flanged tees – T

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DN 1	DN 2					Weight in kg ≈			
		L	I	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
150	40	440	195	7.8	7.0	28.5	29.7	29.0	33.0
	50*		200		7.0	28.5	30.8	35.5	40.0
	65		200		7.0	29.0	31.3	30.5	34.5
	80		205		7.0	29.5	31.9	41.6	45.9
	100		210		7.2	30.0	32.4	42.1	35.5
	125		215		7.5	32.0	34.6	33.5	38.0
	150		220		7.8	33.5	36.2	49.1	58.3
175	80	550	215	8.1	7.0	58.0	58.0	—	—
	100		220		7.2	60.0	60.0	—	—
	150		230		7.8	64.0	64.0	—	—
200	40	520	220	8.4	7.0	42.0	42.0	56.5	68.5
	50		225		7.0	42.0	42.0	61.5	73.5
	65		230		7.0	40.0	40.0	64.0	74.0
	80		235		7.0	44.0	44.0	57.5	68.5
	100		240		7.2	46.0	46.0	58.5	75.1
	125		245		7.5	47.5	47.5	61.0	73.0
	150		250		7.8	48.0	48.0	54.0	80.0
	200		260		8.4	51.8	51.8	77.5	94.0
250	50	700	255	9.0	7.0	68.0	68.0	97.0	97.0
	65		260		7.0	64.0	64.0	69.0	89.0
	80*		265		7.0	68.5	68.5	78.0	114.0
	100		275		7.2	69.5	69.5	103.0	123.1
	125		280		7.5	69.5	69.5	75.5	95.5
	150*		300		7.8	72.5	72.5	110.7	128.5
	200		325		8.4	77.5	77.5	94.0	119.0
	250		350		9.0	85.0	85.0	121.0	130.0
300	40	800	275	9.6	7.0	95.5	95.5	105.5	139.5
	50		280		7.0	96.0	96.0	106.0	140.0
	65		285		7.0	97.0	97.0	107.0	141.0
	80*		290		7.0	96.5	96.5	109.0	127.0
	100		300		7.2	96.5	96.5	158.0	143.0
	125		305		7.5	113.0	103.0	111.0	145.0
	150*		325		7.8	100.0	100.0	116.0	179.5
	200		350		8.4	106.0	106.0	130.0	164.0
	250*		375		9.0	112.0	112.0	129.0	174.0
	300		400		9.6	121.5	121.5	194.0	188.0

* acc. to manufacturer's standard



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B

10b

DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
150	40	—	874196	—	—
	50*	—	870486	—	724694
	65	—	867748	—	308430
	80	—	867758	—	704334
	100	—	867775	—	867767
	125	—	875289	—	703124
	150	—	867802	—	872776
175	80	—	—	—	—
	100	—	—	—	—
	150	—	—	—	—
200	40	—	—	—	—
	50	705268	715350	308432	784031
	65	702921	—	on request	—
	80	867836	700039	722888	735256
	100	867859	875256	722891	781300
	125	867883	724028	757060	308431
	150	868102	706280	722892	735255
	200	868117	868130	703125	774393
250	50	on request	on request	on request	on request
	65	—	—	—	—
	80*	876792	711134	722887	301086
	100	868159	705635	726930	729363
	125	868175	739459	719263	308433
	150*	868193	705636	722890	301553
	200	875291	712674	722889	308434
	250	868262	868294	739974	750661
300	40	—	—	—	—
	50	327409	790314	on request	on request
	65	—	—	—	—
	80*	874212	706955	733303	774394
	100	874376	705738	771811	308435
	125	on request	on request	on request	on request
	150*	868498	708317	774306	764391
	200	875292	705973	763881	784032
	250*	876793	868528	308436	308437
	300	868533	705492	774238	784760



All flanged tees – T

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DN 1	DN 2					Weight in kg ≈			
		L	I	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
350	65	850	315	10.2	7.0	124.0	120.0	136.0	180.0
	80		320		7.0	121.5	128.0	167.4	181.0
	100		325		7.2	120.5	140.0	173.0	183.0
	125		325		7.5	131.8	129.0	145.0	189.0
	150		325		7.8	125.0	125.0	147.0	202.0
	200		325		8.4	127.5	127.5	160.0	210.0
	250		325		9.0	137.0	145.0	162.0	216.0
	300		425		9.6	152.5	158.0	172.0	222.0
	350		425		10.2	139.5	161.0	192.0	249.0
400	80*	900	350	10.8	7.0	155.0	167.0	186.0	253.0
	100		350		7.2	158.0	172.0	187.0	254.0
	125		350		7.5	171.2	170.5	192.0	258.0
	150*		350		7.8	159.0	171.0	192.0	262.0
	200		350		8.4	171.0	178.0	213.8	277.0
	250*		350		9.0	186.0	193.0	207.0	283.0
	300*		450		9.6	176.0	184.5	228.0	308.0
	350		450		10.2	189.0	201.5	240.0	330.0
	400		450		10.8	194.0	212.0	254.0	356.0
450	80	950	375	11.4	7.0	230.0	243.0	—	—
	100		375		7.2	249.5	244.0	—	—
	150		375		7.8	232.0	265.0	—	—
	200		375		8.4	242.0	258.0	—	—
	250		375		9.0	248.0	269.0	—	—
	300		475		9.6	282.0	282.0	—	—
	350		475		10.2	290.0	309.0	—	—
	400		475		10.8	292.0	312.0	—	—
	450		475		11.4	313.0	336.0	—	—

* acc. to manufacturer's standard



DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
350	65	—	—	—	—
	80	868546	712363	308446	308447
	100	703961	724704	308438	on request
	125	—	—	—	—
	150	725304	700047	308439	on request
	200	703963	725255	308440	308441
	250	738253	725256	308442	on request
	300	868572	724705	308443	308444
	350	703965	700044	308445	on request
400	80*	705787	706723	787180	772493
	100	868588	712366	777773	308449
	125	on request	—	on request	—
	150*	703990	700446	788493	308450
	200	868612	710335	783793	308451
	250*	712331	712364	787267	308452
	300*	701360	712365	751915	308453
	350	712374	330377	on request	on request
	400	868639	700447	785762	308455
450	80	on request	on request	on request	on request
	100	—	on request	—	on request
	150	—	on request	—	on request
	200	—	on request	—	on request
	250	—	on request	—	on request
	300	—	—	—	—
	350	—	—	—	—
	400	—	on request	—	on request
	450	750019	712240	on request	on request



All flanged tees – T

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DN 1	DN 2					Weight in kg ≈			
		L	I	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
500	80	1000	400	12.0	7.0	235.0	260.0	281.0	348.0
	100		400		7.2	208.0	261.0	305.6	349.0
	125		400		7.5	250.6	260.0	285.0	353.0
	150		400		7.8	209.0	245.0	288.0	362.0
	200		400		8.4	230.0	265.0	292.0	362.0
	250*		400		9.0	235.0	274.0	298.0	370.0
	300*		500		9.6	249.0	284.5	305.0	391.0
	350		500		10.2	259.0	301.0	325.0	408.0
	400		500		10.8	250.0	283.0	356.4	447.0
	450		500		11.4	282.0	319.0	354.0	458.0
	500		500		12.0	271.0	315.0	356.6	469.0
600	80	1100	450	13.2	7.0	333.0	380.5	374.0	468.0
	100		450		7.2	303.0	376.0	375.0	469.0
	125		450		7.5	307.0	356.0	378.0	473.0
	150*		450		7.8	305.0	380.0	380.0	476.0
	200		450		8.4	316.0	389.0	410.0	502.0
	250		450		9.0	318.0	400.0	416.0	508.0
	300		550		9.6	327.0	405.5	444.0	530.0
	350		550		10.2	378.0	400.0	460.0	574.0
	400		550		10.8	335.5	436.0	507.1	594.0
	450		550		11.4	348.0	453.0	476.0	609.0
	500*		550		12.0	348.0	453.0	493.0	623.0
700	600		550		13.2	364.0	470.5	480.0	659.0
	100*	650	525	14.4	7.2	289.0	320.0	473.0	—
	150*		525		7.8	293.0	335.0	474.0	—
	200		525		8.4	292.0	342.0	486.0	—
	250*		555		9.0	401.0	429.0	519.0	—
	300*		555		9.6	369.0	445.0	524.0	—
	350*	870	555		10.2	411.0	441.0	537.0	—
	400		555		10.8	376.0	431.5	566.0	—
	500*		600		12.0	501.0	570.0	675.0	—
	600*	1200	600		13.2	506.0	578.0	704.0	—
	700		600		14.4	552.0	598.0	726.0	—

* acc. to manufacturer's standard



DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
500	80	721897	712245	on request	on request
	100	868657	710529	772791	308457
	125	—	—	—	—
	150	868661	707422	765408	on request
	200	868667	707615	772790	308458
	250*	877176	710532	308459	on request
	300*	868679	700009	778775	308460
	350	723202	775050	308461	on request
	400	709782	736905	777669	308462
	450	—	—	—	—
	500	868695	707421	772789	308463
600	80	724994	700106	on request	on request
	100	705297	708922	751725	308465
	125	—	—	—	—
	150*	868711	700104	722661	on request
	200	868715	873650	308466	308467
	250	741825	715222	308468	on request
	300	868719	729760	308469	on request
	350	736574	715220	308470	on request
	400	868725	715351	743972	on request
	450	868732	710533	759465	on request
	500*	868732	710533	759465	on request
	600	700649	873663	308471	308472
700	100*	729447	710535	308476	on request
	150*	875862	710536	on request	on request
	200	873798	739300	308477	on request
	250*	—	—	—	—
	300*	877065	749135	on request	on request
	350*	—	—	—	—
	400	709485	761306	308478	on request
	500*	868754	724989	308479	on request
	600*	711225	724990	308480	on request
	700	702849	710540	308481	on request



All flanged tees – T

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DN 1	DN 2					Weight in kg ≈			
		L	I	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
800	80*	690	570	15.6	7.0	426.5	464.5	556.5	—
	100*		570		7.2	367.0	393.0	558.0	—
	150*		580		7.8	358.0	407.0	562.0	—
	200		585		8.4	360.5	409.5	570.0	—
	250*	910	585		9.0	443.0	481.0	578.0	—
	300*		600		9.6	440.0	499.0	640.0	—
	350*		615		10.2	514.0	556.0	653.0	—
	400		615		10.8	466.0	505.0	682.0	—
	500*	1350	630		12.0	639.0	695.0	841.0	—
	600		645		13.2	645.0	715.0	872.0	—
	700*		650		14.4	667.0	723.0	896.0	—
	800		675		15.6	704.0	769.0	967.0	—
900	100*	730	640	16.8	7.2	462.0	472.0	588.0	—
	200		645		8.4	455.0	550.0	593.0	—
	300*	950	660		9.6	596.0	566.0	685.0	—
	400		675		10.8	552.0	673.0	596.0	—
1000	100*	770	700	18.0	7.2	—	635.0	—	—
	150*		705		7.8	557.0	664.0	817.0	—
	200		705		8.4	561.0	670.0	820.0	—
	300*	990	735		9.6	369.0	445.0	915.0	—
	400		735		10.8	711.0	774.0	935.0	—
	500*	1650	825		12.0	1010.0	1114.0	1284.0	—
	600		765		13.2	1025.0	1141.0	1302.0	—
	700*		825		14.4	1048.0	1161.0	1351.0	—
	800*		825		15.6	1075.0	1182.0	1398.0	—
	900*		825		16.8	1095.0	1207.0	1415.0	—
	1000		825		18.0	1158.0	1299.0	1472.0	—

* acc. to manufacturer's standard



DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
800	80*	on request	on request	on request	on request
	100*	711961	727961	308484	on request
	150*	761425	332158	on request	on request
	200	877991	715359	308485	on request
	250*	—	—	—	—
	300*	711960	715257	308486	on request
	350*	—	—	—	—
	400	705183	715218	308487	on request
	500*	729287	723482	308488	on request
	600	711959	715217	308489	on request
	700*	726906	327063	308490	on request
	800	877990	724991	308491	on request
900	100*	314394	—	on request	—
	200	—	742906	—	on request
	300*	778841	on request	on request	on request
	400	—	327919	—	on request
1000	100*	—	—	—	—
	150*	762817	745428	on request	on request
	200	740586	on request	on request	on request
	300*	877065	749135	on request	on request
	400	320250	on request	on request	on request
	500*	on request	on request	on request	on request
	600	740588	765626	on request	on request
	700*	on request	on request	on request	on request
	800*	on request	on request	on request	on request
	900*	on request	on request	on request	on request
	1000	773377	760558	on request	on request



All flanged tees – T

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DN 1	DN 2					Weight in kg ≈			
		L	I	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
1200	150*	1240	840	20.4	7.8	—	—	—	—
	200*		840		8.4	—	—	—	—
	250*		840		9.0	—	—	—	—
	300*		840		9.6	—	1240.0	—	—
	400*		855		10.8	—	—	—	—
	500*		870		12.0	—	—	—	—
	600	1470	885		13.2	—	1292.0	—	—
	700*		900		14.4	—	—	—	—
	800		915		15.6	—	—	—	—
	900*		930		16.8	—	—	—	—
	1000	1700	945		18.0	—	—	—	—
	1200*		950		20.4	—	—	—	—

* acc. to manufacturer's standard



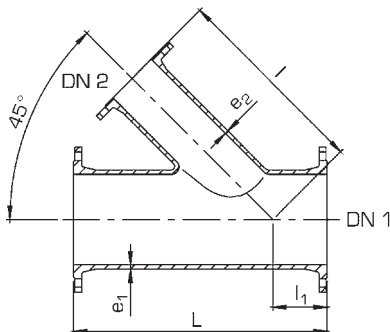
DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
1200	150*	on request	on request	on request	on request
	200*	on request	on request	on request	on request
	250*	on request	on request	on request	on request
	300*	on request	on request	on request	on request
	400*	on request	on request	on request	on request
	500*	on request	on request	on request	on request
	600	on request	on request	on request	on request
	700*	on request	on request	on request	on request
	800	on request	on request	on request	on request
	900*	on request	on request	on request	on request
	1000	on request	on request	on request	on request
	1200*	on request	on request	on request	on request



Double flanged pieces with 45° flanged branch – FFC acc. to manufacturer's standard



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B

10b

Dimensions and weights (Dimensions in mm)

DN 1	DN 2	L*	I ₁ *	I*	e ₁	e ₂	Weight in kg ≈	Item no. Epoxy P4 blue	
								PN 10	PN 16
50	50	300	70	230	7.0	7.0	14.5	—	861403
65	65	330	70	260	7.0	7.0	18.0	—	708753
80	80	360	80	280	7.0	7.0	22.0	—	711334
100	50	400	100	300	7.2	7.0	26.0	—	on request
	80		100	300		7.0	28.0	—	—
	100		90	310		7.2	28.0	—	711192
125	80	450	120	330	7.5	7.0	35.0	—	—
	100		100	350		7.2	37.0	—	—
	125		100	350		7.5	36.0	—	707041
150	80	500	140	360	7.8	7.0	39.5	—	740189
	100		125	375		7.2	42.0	—	702446
	150		110	390		7.8	56.5	—	709346



* Depending on the pattern equipment, differences in face-to-face dimensions are possible.
Please request.

Double flanged pieces with 45° flanged branch – FFC acc. to manufacturer's standard

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DN 1	DN 2	L*	I ₁ *	I*	e ₁	e ₂	Weight in kg ≈	Item no. Epoxy P4 blue	
								PN 10	PN 16
200	100	600	170	430	8.4	7.2	66.0	712728	329028
	150		170	430			66.0	879595	331195
	200		130	470			80.0	704605	734359
250	100	700	250	450	9.0	7.2	93.5	329806	329641
	150		200	500			102.0	702445	765052
	200		175	525			111.0	717236	on request
	250		150	550			126.5	734273	329655
300	80	800	320	480	9.6	7.0	130.0	782096	on request
	100		320	480			133.0	765789	315990
	150		300	500			136.0	716621	711157
	200		250	550			146.0	718115	713081
	300		130	670			177.5	704814	320490
350	100	900	350	550	10.2	7.2	180.0	on request	on request
	125		360	540			183.0	on request	on request
	150		340	560			186.0	on request	on request
	200		300	600			190.0	on request	on request
	250		240	660			200.0	on request	on request
	300		230	670			220.0	on request	on request
	350		200	700			225.0	on request	on request
400	100	1000	420	580	10.8	7.2	228.0	on request	on request
	150		420	580			230.0	on request	on request
	200		350	650			235.0	on request	on request
	250		300	700			255.0	on request	on request
	300		250	750			275.0	on request	on request
	350		280	720			290.0	on request	on request
	400		200	800			300.0	on request	on request



* Depending on the pattern equipment, differences in face-to-face dimensions are possible.
Please request.

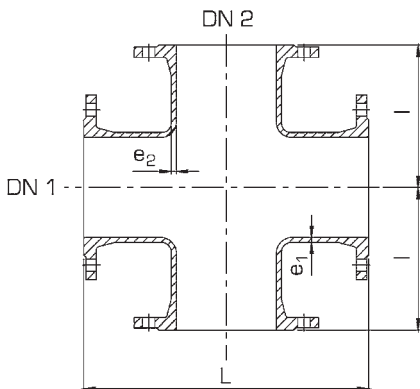


DN 1	DN 2	L*	I ₁ *	I*	e ₁	e ₂	Weight in kg ≈	Item no. Epoxy P4 blue	
								PN 10	PN 16
450	250	1000	250	750	11.4	9.0	320.0	on request	on request
	300		200	800		9.6	335.0	on request	on request
	350		200	800		10.2	345.0	on request	on request
	400		150	850		10.8	370.0	on request	on request
	450		150	850		11.4	380.0	on request	on request
500	200	1000	250	750	12.0	8.4	350.0	on request	on request
	250		230	770		9.0	360.0	on request	on request
	300		180	820		9.6	380.0	on request	on request
	350		200	800		10.2	400.0	on request	on request
	400		120	880		10.8	420.0	on request	on request
	450		130	870		11.4	440.0	on request	on request
	500	1200	350	1000		12.0	480.0	on request	on request
600	200	1100	300	800	13.2	8.4	430.0	on request	on request
	250		250	850		9.0	445.0	on request	on request
	300		200	900		9.6	460.0	on request	on request
	350		250	850		10.2	485.0	on request	on request
	400		100	1000		10.8	520.0	on request	on request
	450		100	1000		11.4	545.0	on request	on request
	500		130	970		12.0	560.0	on request	on request
	600	1300	200	1100		13.2	650.0	on request	on request
700	300	1000	50	950	14.4	9.6	580.0	on request	on request
	350	1000	30	970		10.2	600.0	on request	on request
	500	1400	350	1050		12.0	680.0	on request	on request
	700	1500	350	1150		14.4	750.0	on request	on request
800	400	1470	380	1090	15.6	10.8	835.0	on request	on request
	500	1100	50	1050		12.0	750.0	on request	on request
	600	1270	100	1170		13.2	836.0	on request	on request

* Depending on the pattern equipment, differences in face-to-face dimensions are possible.
Please request.

All flanged cross tees – TT acc. to manufacturer's standard

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Dimensions and weights (Dimensions in mm)

DN 1	DN 2					Weight in kg ≈	
		L	I	e ₁	e ₂	PN 10	PN 16
40	40	280	140	7.0	7.0	11.0	11.0
50	50	300	150	7.0	7.0	16.5	16.5
65	65	330	165	7.0	7.0	24.0	24.0
80	80	330	165	7.0	7.0	24.0	24.0
100	50	360	175	7.2	7.0	25.0	25.0
	80		175		7.0	24.5	24.5
	100		180		7.2	26.5	26.5
125	100	400	195	7.5	7.2	32.5	32.5
	125		200		7.5	34.0	34.0
150	50	440	200	7.8	7.0	37.0	37.0
	80		205		7.0	45.4	45.4
	100		210		7.2	40.5	40.5
	150		220		7.8	45.0	45.0



Item numbers

DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
40	40	—	—	—	—
50	50	—	874903	—	308505
65	65	—	—	—	—
80	80	—	868246	—	309590
100	50	—	on request	—	—
	80	—	700894	—	308492
	100	—	868282	—	749493
125	100	—	327775	—	on request
	125	—	702729	—	308493
150	50	—	750611	—	—
	80	—	721204	—	—
	100	—	868332	—	776259
	150	—	868345	—	784945



All flanged cross tees – TT acc. to manufacturer's standard

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DN 1	DN 2					Weight in kg ≈	
		L	I	e ₁	e ₂	PN 10	PN 16
200	50	520	230	8.4	7.0	40.0	40.0
	80		235		7.0	42.0	42.0
	100		240		7.2	50.0	50.0
	150		250		7.8	57.5	57.5
	200		260		8.4	66.0	66.0
250	80	700	270	9.0	7.0	97.0	97.0
	100		275		7.2	102.0	102.0
	125		275		7.5	107.0	107.0
	150		300		7.8	79.0	79.0
	200		325		8.4	124.5	124.5
	250		350		9.0	110.5	110.5
300	80	800	295	9.6	7.0	135.0	135.0
	100		300		7.2	148.0	144.0
	150		325		7.8	154.0	154.0
	200		350		8.4	160.0	160.0
	250		375		9.0	174.0	174.0
	300		400		9.6	187.0	187.0
350	100	850	325	10.2	7.2	136.5	142.5
	300		425		9.6	184.0	190.0
	350		425		10.2	209.0	203.0
400	80	900	345	10.8	7.0	164.0	174.0
	100		350		7.2	168.0	178.0
	150		350		7.8	173.0	183.0
	200		350		8.4	177.5	188.0
	250		350		9.0	197.5	193.0
	300		450		9.6	212.0	225.0
	350		450		10.2	234.0	247.0
	400		450		10.8	268.0	273.0



DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
200	50	328662	745708	—	—
	80	732215	745711	—	—
	100	874378	739432	749494	308494
	150	868368	728571	308495	308496
	200	874379	868390	771444	304738
250	80	783732	on request	on request	on request
	100	876456	779741	on request	on request
	125	—	—	—	—
	150	707933	on request	on request	on request
	200	on request	on request	on request	on request
	250	868425	713298	308497	308498
300	80	on request	on request	on request	on request
	100	on request	315990	on request	on request
	150	703992	711157	on request	on request
	200	706668	713081	on request	on request
	250	—	—	—	—
	300	700654	717804	308499	308500
350	100	on request	on request	on request	on request
	300	on request	on request	on request	on request
	350	on request	on request	on request	on request
400	80	on request	on request	on request	on request
	100	on request	on request	on request	on request
	150	on request	on request	on request	on request
	200	on request	on request	on request	on request
	250	on request	on request	on request	on request
	300	on request	on request	on request	on request
	350	on request	on request	on request	on request
	400	on request	on request	on request	on request



All flanged cross tees – TT acc. to manufacturer's standard

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DN 1	DN 2					Weight in kg ≈	
		L	I	e ₁	e ₂	PN 10	PN 16
450	150	950	375	11.4	7.8	306.0	324.0
	450		375		11.4	314.0	341.0
500	80	1000	400	12.0	7.0	232.0	260.0
	150		400		7.8	355.0	383.0
	200		400		8.4	358.0	386.0
	250		400		9.0	362.0	390.0
	300		500		9.6	392.0	420.0
	400		500		10.8	397.0	430.0
	500		500		12.0	365.0	450.0
600	150	1100	450	13.2	7.8	389.0	381.0
	200		450		8.4	334.0	384.0
	250		450		9.0	339.0	389.0
	300		550		9.6	397.0	447.0
	350		550		10.2	401.0	453.0
	400		550		10.8	406.0	469.0
	500		550		12.0	440.0	503.0
	600		550		13.2	555.0	572.0
700	150	650	315	14.4	7.8	—	333.0
	200	650	325		8.4	—	458.0
	250	870	435		9.0	—	465.0
	400	870	555		10.8	479.0	515.0
	500	1200	600		12.0	—	655.0
	700	1200	600		14.4	691.0	729.0

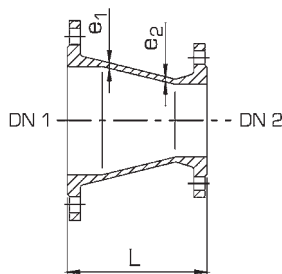


DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
450	150	on request	on request	on request	on request
	450	on request	on request	on request	on request
500	80	on request	on request	on request	on request
	150	on request	on request	on request	on request
	200	on request	on request	on request	on request
	250	on request	on request	on request	on request
	300	on request	on request	on request	on request
	400	on request	on request	on request	on request
	500	on request	on request	on request	on request
600	150	on request	on request	on request	on request
	200	on request	on request	on request	on request
	250	on request	on request	on request	on request
	300	on request	on request	on request	on request
	350	on request	on request	on request	on request
	400	on request	on request	on request	on request
	500	on request	on request	on request	on request
	600	on request	on request	on request	on request
700	150	on request	on request	on request	on request
	200	on request	on request	on request	on request
	250	on request	on request	on request	on request
	400	on request	on request	on request	on request
	500	on request	on request	on request	on request
	700	on request	on request	on request	on request



Double flanged tapers, concentric – FFR

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Dimensions and weights (Dimensions in mm)

DN 1	DN 2				Weight in kg ≈			
		L	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
50*	40	200	7.0	7.0	7.2	7.2	7.2	7.2
65*	40	200	7.0	7.0	8.0	8.0	8.0	8.0
	50	200		7.0	9.7	9.7	9.7	9.7
80	40*	200	7.0	7.0	7.5	7.5	8.1	8.1
	50*	200		7.0	7.8	7.8	8.6	8.6
	65	200		7.0	8.8	8.8	10.3	11.0
100	40*	200	7.2	7.0	8.5	8.5	9.1	9.1
	50*	200		7.0	9.0	9.0	9.7	12.9
	65*	200		7.0	10.0	10.0	—	14.0
	80	200		7.0	10.4	10.4	13.5	14.0
125	50*	200	7.5	7.0	14.0	14.0	—	—
	65*	200		7.0	12.5	12.5	—	—
	80*	200		7.0	12.0	12.0	19.4	19.4
	100	200		7.2	12.5	12.5	18.5	—
150	50	300	7.5	7.0	15.0	15.0	17.5	—
	65	300		7.0	15.5	15.5	18.0	—
	80*	200	7.8	7.0	14.3	14.3	16.2	19.5
	100*	200		7.2	15.2	15.2	16.4	23.8
	125	200		7.5	15.7	15.7	19.0	23.0



Item numbers					
DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
50*	40	—	859261	—	307749
65*	40	—	870752	—	797380
	50	—	870080	—	307759
80	40*	—	876030	—	777165
	50*	—	859325	—	751988
	65	—	859352	—	797381
100	40*	—	859370	—	778907
	50*	—	859381	—	750476
	65*	—	859427	—	750901
	80	—	859455	—	710225
125	50*	—	728963	—	—
	65*	—	702728	—	307735
	80*	—	859757	—	758292
	100	—	859764	—	705061
150	50	—	704407	—	786778
	65	—	733264	—	331506
	80*	—	859782	—	750902
	100*	—	859794	—	705062
	125	—	859803	—	705064



Double flanged tapers, concentric – FFR

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DN 1	DN 2				Weight in kg ≈			
		L	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
200	50*	300	8.4	7.0	24.0	24.0	—	—
	65*	300		7.0	—	28.0	—	—
	80*	300		7.0	19.5	19.5	29.1	36.1
	100*	300		7.2	22.0	22.0	27.0	33.0
	125*	300		7.5	23.0	23.0	—	—
	150	300		7.8	24.5	24.5	36.2	40.5
250	80*	300	9.0	7.0	25.0	25.0	—	—
	100*	300		7.2	28.0	28.0	48.0	—
	125*	300		7.5	31.0	31.0	—	—
	150*	300		7.8	33.0	33.0	41.0	50.2
	200	300		8.4	32.0	32.0	44.0	58.0
300	80*	300	9.6	7.0	33.0	33.0	—	—
	100*	300		7.2	34.5	34.5	53.0	—
	125*	300		7.5	32.0	32.0	—	—
	150*	300		7.8	34.0	34.0	—	—
	200*	300		8.4	37.0	37.0	47.5	84.8
	250	300		9.0	42.0	42.0	88.0	110.0
350	150*	300	10.2	7.8	47.0	—	—	—
	200*	300		8.4	47.0	51.0	—	—
	250*	300		9.0	51.5	51.5	77.0	100.0
	300	300		9.6	52.5	58.5	72.0	108.0
400	200*	300	10.8	8.4	50.5	60.0	—	—
	250*	300		9.0	57.5	69.5	86.4	136.0
	300*	300		9.6	58.0	60.0	86.0	130.0
	350*	300		10.2	68.5	70.0	106.5	146.0
450	400	300	11.4	10.8	85.0	107.0	—	—



DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
200	50*	739915	759651	on request	on request
	65*	on request	on request	on request	on request
	80*	874377	875255	758293	793512
	100*	866246	711066	758294	787373
	125*	877334	874210	758295	789912
	150	866324	700448	877354	758185
250	80*	703137	705639	785069	on request
	100*	866399	711598	762203	307736
	125*	701380	703203	307737	307738
	150*	870477	705637	874200	749914
	200	866489	877590	727144	711829
300	80*	703138	713432	on request	on request
	100*	866527	716798	776128	307739
	125*	732218	792063	on request	on request
	150*	866536	709769	742395	307740
	200*	872598	877672	771816	307741
	250	866564	866593	769749	794193
350	150*	on request	on request	on request	on request
	200*	874178	712362	307742	on request
	250*	701235	738581	307743	on request
	300	859934	702147	307744	784913
400	200*	860157	708781	790708	307745
	250*	860190	876263	750023	307746
	300*	860230	860258	767033	780773
	350*	860282	700120	785763	307747
450	400	715962	310038	on request	on request



Double flanged tapers, concentric – FFR

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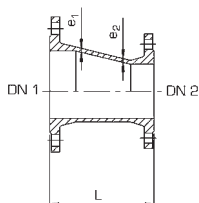
DN 1	DN 2				Weight in kg ≈			
		L	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
500	250*	600	12.0	9.0	120.0	128.0	—	—
	300*	600		9.6	131.0	145.0	—	—
	350*	600		10.2	136.0	163.0	—	—
	400	600		10.8	138.0	163.0	185.0	220.0
600	300*	600	13.2	9.6	175.0	221.0	—	—
	350*	600		10.2	162.0	227.0	—	—
	400*	600		10.8	204.7	233.0	—	—
	500	600		12.0	197.0	238.0	249.0	321.0
700	350*	600	14.4	10.2	251.6	—	—	—
	400*	600		10.8	263.0	—	—	—
	500*	600		12.0	285.0	308.0	—	—
	600	600		13.2	315.0	346.0	399.0	—
800	400*	600	15.6	10.8	264.5	—	—	—
	500*	600		12.0	356.4	389.0	—	—
	600*	600		13.2	361.3	416.0	475.0	—
	700	600		14.4	413.0	447.0	500.0	—
900	500*	600	16.8	12.0	320.0	398.0	—	—
	600*	600		13.2	357.0	410.0	—	—
	700*	600		14.4	374.0	390.0	—	—
	800	600		15.6	392.0	432.0	536.0	—
1000	600*	600	18.0	13.2	372.0	—	—	—
	700*	600		14.4	375.0	427.0	540.0	—
	800*	600		15.6	545.0	583.0	704.0	—
	900	600		16.8	550.0	612.0	—	—
1200	1000	790	20.4	18.0	—	824.0	—	—



DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
500	250*	708034	860442	307750	on request
	300*	701362	707394	765409	307752
	350*	711279	715360	307753	on request
	400	860529	877127	730389	307754
600	300*	on request	on request	on request	on request
	350*	on request	on request	on request	on request
	400*	on request	on request	on request	on request
	500	on request	on request	on request	on request
700	350*	on request	on request	on request	on request
	400*	on request	on request	on request	on request
	500*	on request	on request	on request	on request
	600	on request	on request	on request	on request
800	400*	on request	on request	on request	on request
	500*	on request	on request	on request	on request
	600*	on request	on request	on request	on request
	700	on request	on request	on request	on request
900	500*	on request	on request	on request	on request
	600*	on request	on request	on request	on request
	700*	on request	on request	on request	on request
	800	on request	on request	on request	on request
1000	600*	on request	on request	on request	on request
	700*	on request	on request	on request	on request
	800*	on request	on request	on request	on request
	900	on request	on request	on request	on request
1200	1000	on request	on request	on request	on request

Double flanged tapers, eccentric – FFRe acc. to manufacturer's standard

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Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Weight in kg ≈						
		L	e_1	e_2	PN 10	PN 16	PN 25	PN 40
80	40	200	7.0	7.0	—	—	—	9.0
	50	200		7.0	—	—	—	9.0
	65	200		7.0	—	—	—	11.0
100	50	200	7.2	7.0	12.0	12.0	12.0	12.0
	65	200		7.0	12.0	12.0	12.0	12.0
	80	200		7.0	12.0	12.0	12.0	12.0
125	65	200	7.5	7.0	15.0	15.0	15.5	16.8
	80	200		7.0	13.5	13.5	16.6	17.9
	100	300		7.2	15.0	15.0	17.6	18.9
150	50	300	7.8	7.0	19.5	19.5	22.0	24.0
	80	300		7.0	20.0	20.0	24.0	26.0
	100	200		7.2	18.5	18.5	23.0	25.0
	100	300		7.2	17.0	17.0	25.5	27.5
	125	300		7.5	24.5	24.5	26.5	30.0
200	80	300	8.4	7.0	26.0	26.0	28.0	34.5
	100	300		7.2	25.5	25.5	29.5	35.5
	125	300		7.5	30.0	30.0	30.5	36.5
	150	300		7.8	24.0	24.0	31.5	38.5
250	100	300	9.0	7.2	37.0	37.0	40.5	50.5
	125	300		7.5	39.0	39.0	41.5	52.5
	150	300		7.8	39.0	39.0	44.5	53.5
	200	300		8.4	42.5	42.5	50.0	66.0



Item numbers

DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
80	40	—	732240	—	307790
	50	—	714972	—	307791
	65	—	722038	—	309562
100	50	—	861708	—	307766
	65	—	712741	—	307767
	80	—	861714	—	743239
125	65	—	on request	—	307769
	80	—	713109	—	307770
	100	—	873902	—	307768
150	50	—	720648	—	307773
	80	—	on request	—	on request
	100	—	861759	—	307774
	100	—	875940	—	307771
	125	—	725391	—	307772
200	80	on request	on request	on request	on request
	100	720930	710446	776260	311112
	125	745455	873922	307775	on request
	150	866735	873926	307776	770629
250	100	735249	710450	331608	on request
	125	741975	—	307777	—
	150	713189	710452	307778	on request
	200	711272	712465	307779	on request



Double flanged tapers, eccentric – FFRe acc. to manufacturer's standard

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DN 1	DN 2				Weight in kg ≈			
		L	e ₁	e ₂	PN 10	PN 16	PN 25	PN 40
300	100	300	9.6	7.2	42.5	42.5	47.0	62.0
	150	300		7.8	46.0	46.0	61.5	84.5
	200	300		8.4	42.0	42.0	61.5	—
	250	300		9.0	53.5	53.5	69.5	97.0
350	200	500	10.2	8.4	71.0	72.0	105.0	128.0
	250	500		9.0	90.0	94.0	108.0	135.0
	250	600		9.0	98.0	103.0	114.0	141.0
	300	300		9.6	93.5	96.0	108.0	135.0
	300	500		9.6	108.0	114.0	125.0	162.0
400	150	500	10.8	7.8	88.0	97.0	109.0	145.0
	200	600		8.4	98.0	98.0	117.5	157.5
	250	500		9.0	92.0	97.5	130.0	170.0
	300	500		9.6	106.0	111.0	132.0	191.0
	300	600		9.6	115.0	129.0	141.0	200.0
	350	500		10.2	125.0	134.0	153.0	208.0
450	250	600	11.4	9.0	113.0	125.0	135.0	182.0
500	250	500	12.0	9.0	96.0	98.0	149.5	195.0
	300	500		9.6	125.0	144.0	162.0	213.0
	350	500		10.2	139.0	151.0	168.0	217.0
	400	500		10.8	159.0	186.0	204.0	172.0
	450	500		11.4	166.0	188.0	—	—
600	300	500	13.2	19.6	192.0	203.0	222.0	298.0
	400	500		10.8	207.0	252.0	263.0	356.0
	500	500		12.0	248.4	264.0	274.0	369.0
700	400	600	14.4	10.8	292.0	—	—	—
	500	600		12.0	320.0	356.0	—	—
	600	600		13.2	343.0	—	—	—
800	500	600	15.6	12.0	—	270.0	—	—
	600	600		13.2	275.0	327.0	—	—
	700	600		14.4	297.0	372.0	477.0	—
900	800	600	16.8	15.6	—	462.0	—	—
1000	800	600	18.0	15.6	429.0	—	—	—

Manufacturing of other dimensions and face-to-face lengths possible.

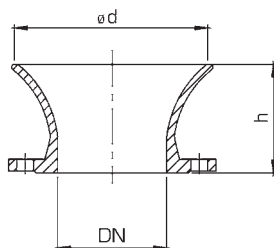


DN 1	DN 2	Item no. Epoxy P4 blue		Item no. etec enamel	
		PN 10	PN 16	PN 10	PN 16
300	100	733672	710455	on request	on request
	150	714208	753178	307780	770588
	200	715103	710457	307781	on request
	250	711335	710458	307782	on request
350	200	742818	772787	309561	on request
	250	735281	780931	307783	on request
	250	on request	on request	on request	on request
	300	741977	302964	307784	on request
	300	on request	on request	on request	on request
400	150	on request	on request	on request	on request
	200	on request	on request	on request	on request
	250	733789	710459	304201	on request
	300	866878	710460	307785	on request
	300	on request	on request	on request	on request
	350	740537	on request	307786	on request
450	250	on request	on request	on request	on request
500	250	774620	774704	—	—
	300	866895	on request	—	—
	350	741978	756903	307787	on request
	400	726607	710463	772793	307754
	450	on request	on request	on request	on request
600	300	on request	on request	on request	on request
	400	on request	on request	on request	on request
	500	on request	on request	on request	on request
700	400	on request	on request	on request	on request
	500	on request	on request	on request	on request
	600	on request	on request	on request	on request
800	500	on request	on request	on request	on request
	600	on request	on request	on request	on request
	700	on request	on request	on request	on request
900	800	on request	on request	on request	on request
1000	800	on request	on request	on request	on request

Single flange bells acc. to manufacturer's standard



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Dimensions and weights (in mm)

DN	ø d	h	Weight in kg ≈ PN 10	Item no. Epoxy blue PN 10	Item no. Epoxy blue PN 16
40	140	100	4.0	—	—
50	140	110	5.0	—	705090 (PN 40)
65	155	115	7.0	—	877089
80	170	120	9.0	—	703106 (PN 40)
100	190	130	10.0	—	700094
125	210	145	12.5	—	729430
150	260	150	16.0	—	700052
200	300	180	24.0	875566	700041
250	350	200	33.5	709230	700136
300	420	250	50.0	714207	710572
350	550	250	63.0	741826	700042
400	550	250	68.5	869487	700010
450	650	280	115.0	on request	729929
500	680	300	78.0	712255	715384
600	780	300	110.0	736819	715385
700	895	300	195.0	on request	on request
800	1015	320	250.0	on request	on request
900	1100	390	270.0	on request	on request
1000	1200	390	355.0	on request	on request
1200	1440	520	465.0	on request	on request

B

10b

Blank flanges – X

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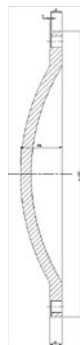
Dimensions and weights (Dimensions in mm)

DN	b				Weight in kg ≈			
	PN 10	PN 16	PN 25	PN 40	PN 10	PN 16	PN 25	PN 40
25	16.0	16.0	16.0	16.0	1.8	1.8	1.8	1.8
32	16.0	16.0	16.0	16.0	1.9	1.9	1.9	1.9
40	22.0	22.0	22.0	22.0	2.0	2.0	2.0	2.0
50	22.0	22.0	22.0	22.0	2.9	2.9	2.9	2.9
65	22.0	22.0	—	—	3.7	3.7	3.7	3.7
80	16.0	16.0	16.0	16.0	3.4	3.4	3.4	3.4
100	16.0	16.0	16.0	16.0	4.1	4.1	5.1	5.1
125	16.0	16.0	16.0	20.5	5.3	5.3	6.6	8.2
150	16.0	16.0	17.0	23.0	7.0	7.0	8.6	11.4
200	17.0	17.0	19.0	27.0	10.5	10.5	13.6	20.0
250	19.0	19.0	21.5	31.5	16.0	16.0	21.0	33.0
300	20.5	20.5	23.5	35.5	24.0	24.0	31.0	51.0
350	20.5	22.5	26.0	—	33.0	37.0	43.5	—
400	20.5	24.0	28.0	—	38.0	46.0	59.5	—
450	21.5	26.0	30.5	45.0	67.0	95.0	98.0	107.0
500	22.5	27.5	32.5	48.0	59.0	77.5	106.0	165.0
600	25.0	31.0	37.0	—	93.5	130.0	147.0	—
700	27.5	34.5	—	—	133.0	186.5	—	—
800	30.0	38.0	—	—	190.0	241.0	—	—
900	32.5	41.5	—	—	231.0	292.0	—	—
1000	35.0	45.0	—	—	334.0	470.0	—	—
1200	40.0	52.0	—	—	582.0	737.0	—	—



Item numbers

Item no. Epoxy PN 10	Item no. Epoxy PN 16	Item no. etec enamel PN 10	Item no. etec enamel PN 16
—	870019	—	785068
—	766517	—	754212
—	757740	—	785068
—	757744	—	754212
—	757753	—	784769
—	869808	—	753883
—	869819	—	753859
—	869832	—	760514
—	869839	—	723376
869855	869864	754082	711968
869877	869884	739975	308529
869899	869923	774268	784914
703743	704130	308530	308531
869962	714960	785757	772521
869977	712367	on request	on request
869992	874678	760946	308532
871251	873588	308533	308534
870010	738701	308535	on request
709855	715226	308536	on request
874684	773944	on request	on request
869828	729733	on request	on request
on request	on request	on request	on request



DN 400 PN 16
DN 450 PN 16 and PN 40
DN 500 PN 16 and PN 40

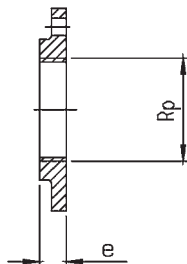
Flange connection dimension
acc. to EN 1092-2

Blank flanges with threaded bore – XG acc. to manufacturer's standard

290

Dimensions (in mm)

DN	PN	Rp (DIN EN 10226-1)	e			
			PN 10	PN 16	PN 25	PN 40
40	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	22.0	22.0	22.0	22.0
		2	27.0	27.0	27.0	27.0
50	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	22.0	22.0	22.0	22.0
		2 - 2 $\frac{1}{2}$	27.0	27.0	27.0	27.0
65	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	22.0	22.0	22.0	22.0
		2 - 2 $\frac{1}{2}$	27.0	27.0	27.0	27.0
80	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	16.0	16.0	16.0	16.0
		2 - 3	30.0	30.0	30.0	30.0
100	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	16.0	16.0	16.0	16.0
		2 - 4	36.0	36.0	36.0	36.0
125	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	16.0	16.0	16.0	20.5
		2 - 4	36.0	36.0	36.0	36.0
150	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	16.0	16.0	17.0	23.0
		2 - 4	36.0	36.0	36.0	36.0
175	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	16.0	16.0	—	—
		2 - 4	36.0	36.0	—	—
200	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	17.0	17.0	19.0	27.0
		2 - 4	36.0	36.0	36.0	36.0
250	10-40	$\frac{3}{8} - 1 \frac{1}{2}$	19.0	19.0	21.5	31.5
		2 - 4	36.0	36.0	36.0	36.0
300	10-40	$\frac{3}{8} - 3$	20.5	20.5	23.5	35.5
350			20.5	22.5	26.0	—
400			20.5	22.5	26.0	—
450			20.5	—	—	—
500			22.5	27.5	32.5	—
600			25.0	31.0	37.0	—
700			27.5	34.5	—	—
800			30.0	38.0	—	—
900			32.5	41.5	—	—
1000			35.0	45.0	—	—
1200			40.0	52.0	—	—



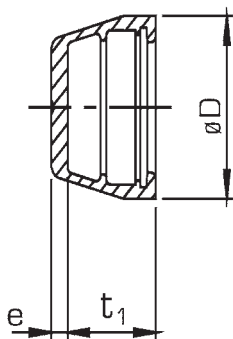


Item numbers

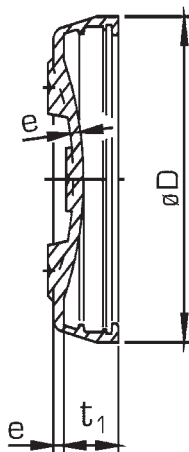
DN	PN	Item no. Epoxy blue Thread Rp 1"	Item no. Epoxy blue Thread Rp 1 ¼"	Item no. Epoxy blue Thread Rp 1 ½"	Item no. Epoxy blue Thread Rp 2"
40	40	757715	757716	757717	757718
50	40	757719	757720	757723	757724
65	16	757725	757726	757727	757728
80	40	703998	703993	703588	762324
100	16	704535	871037	870818	761998
125	16	702734	878925	876052	763632
150	16	876821	719721	871054	762325
200	10	702878	733212	705314	762809
200	16	713331	765732	730664	762836
250	10	701393	790490	871079	762326
250	16	795023	798332	729540	762865
300	10	—	—	877726	765486
300	16	—	—	716750	765497
350	10	—	—	752142	771385
350	16	—	—	779970	785376
400	10	—	—	704394	871103
400	16	—	—	707033	780725
450	10	—	—	—	—
450	16	—	—	—	—
500	10	—	—	729495	718272
500	16	—	—	722825	874680
600	10	—	—	—	871116
600	16	—	—	—	752388
700	10	—	—	—	739930
700	16	—	—	—	776840
800	10	—	—	—	754871
800	16	—	—	—	783959

**Pipe caps with TYTON®
or screw-gland socket – 0
acc. to manufacturer's standard**

292



DN 80 – 250



DN 300 – 1200

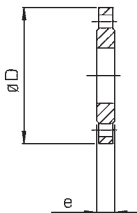
**Dimensions and weights** (Dimensions in mm)

DN	øD	t ₁	e		Weight in kg ≈		Item no. Epoxy blue
			PN 16	PN 25	PN 16	PN 25	
80	146.0	84		16.0		4.5	on request
100	166.0	88		16.0		4.8	on request
125	197.0	91		16.0		6.0	on request
150	224.0	94		17.0		8.0	on request
200	280.0	100		19.0		12.0	on request
250	336.0	105		21.5		19.0	on request
300	391.0	110		23.5		27.0	on request
350	450.0	110		26.0		34.0	on request
400	503.0	110		28.0		45.0	on request
450	541.5	120		30.0		—	on request
500	598.0	120		32.5		73.0	on request
600	707.0	120		37.0		110.0	on request
700	824.0	150	34.4		160.0		on request
800	935.0	160	38.0		220.0		on request
900	1042.0	175	41.5		345.0		on request

Conversion flanges DN 80
4 / 8 holes
acc. to manufacturer's standard



294



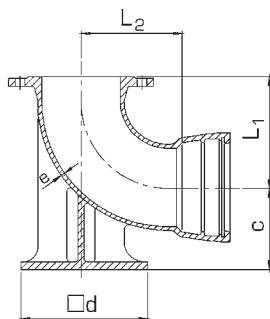
Dimensions and weights (Dimensions in mm)

DN	PN	$\varnothing D$	e	Weight in kg $\approx$	Item no. Epoxy blue
80	10/40	200	27	3.6	869414

Flanged socket duckfoot bends 90° – EN acc. to DIN 28650



295



B

10b

Dimensions and weights (Dimensions in mm)

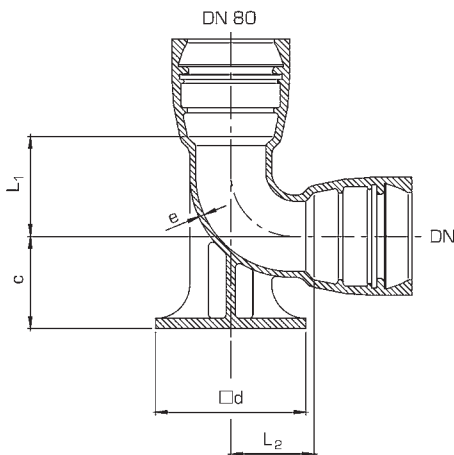
DN	L ₁	L ₂	c	d	e	Weight in kg ≈ ¹⁾		Item no. with screw- gland socket Epoxy blue	Item no. with screw- gland socket etec enamel	Item no. with TYTON® socket Epoxy blue	Item no. with TYTON® socket etec enamel
						with screw- gland socket PN 10 / PN 16	with TYTON® socket PN 10 / PN 16				
80	165	145	110	180	7.0	15.2	14.5	743248	307495	876739	703233
100	180	158	125	200	7.2	19.0	17.6	743256	307493	874763	780329
150	220	265	160	250	7.8		36.5	—	—	712227	307494

¹⁾ without screw ring

Double socket duckfoot bends 90° with Novo sockets – MMN / MMNR acc. to manufacturer's standard



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Dimensions and weights (Dimensions in mm)

DN	L ₁	L ₂	c	□ d	e	Weight in kg ≈ PN 10	Item no. etec enamel
80	119	100	110	180	7.0	16.0	308645
100	128	125	125	200	7.2	18.5	774436
150	157	150	160	250	7.8	29.0	864468
200	181	225	190	300	8.4	30.5	308592

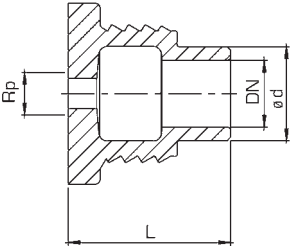
Also with 1, 2 or 3 draining bores with thread measured in inches available.

Also with PE connection.

Screw plugs for screw-gland sockets – PX acc. to manufacturer's standard



297



B
10b

Dimensions and weights (Dimensions in mm)					
DN	L	ød	Rp (EN 10226-1)	Weight in kg ≈ PN 10 / PN 16	Item no. Epoxy blue
40	97	56	1"	2.0	750529
40	97	56	1¼"	2.0	750530
40	97	56	1½"	2.0	750531
40	97	56	2"	2.0	750533

Flanged sockets EU Epoxy Line

300



Dimensions and weights (Dimensions in mm)

DN	Compensation length		Weight in kg ≈		Item no.	Item no.
	Lu	e	with TYTON® socket		with TYTON socket Epoxy blue	with TYTON socket Epoxy blue
			PN 10	PN 16	PN 10	PN 16
80	130	7.0	6.4	8.6	—	877729
100	130	7.2	10.5	8.8	—	856767
125	135	7.5	14.5	14.5	—	856805
150	135	7.8	16.0	13.7	—	857475
200	140	8.4	16.5	16.8	857507	857521
250	145	9.0	25.3	27.3	870061	873575
300	150	9.6	29.5	30.2	866772	866796
350	155	10.2	40.3	58.0	857553	712229
400	160	10.8	46.5	50.4	857741	873578





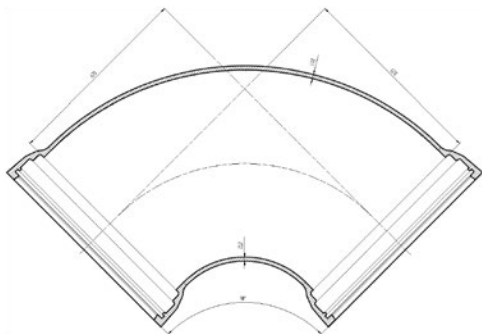
DN	Compensation length		Weight in kg $\approx$		Item no.	Item no.
	Lu	e	with TYTON® socket		with TYTON socket Epoxy blue	with TYTON socket Epoxy blue
			PN 10	PN 16	PN 10	PN 16
450	165	11.4	77.0	91.0	—	—
500	170	12.0	95.5	109.0	857871	857880
600	180	13.2	99.5	145.5	857937	702851
700	190	14.4	176.6	160.0	725570	715382
800	200	15.6	242.0	262.0	709853	715353
900	210	16.8	281.0	278.0	—	—
1000	220	18.0	340.0	355.0	737437	729759
1200	240	20.4	536.0	600.0	759114	733744



Double socket bends 90° MMQ Epoxy Line



302



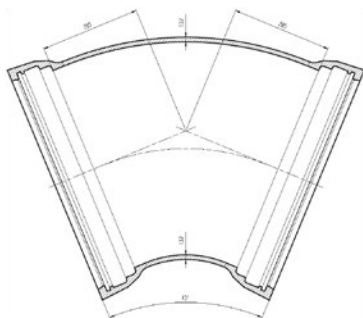
Dimensions and weights (Dimensions in mm)

DN	Lu	e	Weight in kg $\approx$ with TYTON® socket	Item no. with TYTON socket Epoxy blue
80	100.0	7.0	7.0	875320
100	120.0	7.2	8.7	863555
125	150.0	7.5	16.2	863762
150	170.0	7.8	17.8	863785
200	220.0	8.4	28.2	864717
250	270.0	9.0	36.5	870487
300	320.0	9.6	59.8	864809
350	410.0	10.2	104.8	714188
400	420.0	10.8	109.5	864861
450	457.0	11.4	208.0	—
500	550.0	12.0	214.4	876708
600	645.0	13.2	314.3	712291
700	720.0	14.4	480.0	719182
800	820.0	15.6	650.0	712916
900	950.0	16.8	869.0	—
1000	1050.0	18.0	1060.0	—
1200	1205.0	20.4	1600.0	—

Double socket bends 45° MMK 45 Epoxy Line



303



B

10b

Dimensions and weights (Dimensions in mm)

DN	Lu TYTON® screw-gland socket	e	Weight in kg ≈ with TYTON® socket	Item no. with TYTON socket Epoxy blue
80	55.0	7.0	5.9	875330
100	65.0	7.2	7.1	862424
125	75.0	7.5	14.5	862931
150	85.0	7.8	13.1	863195
200	110.0	8.4	20.4	863756
250	130.0	9.0	27.9	864568
300	150.0	9.6	42.4	873990
350	175.0	10.2	54.7	706870
400	195.0	10.8	75.8	864827
450	220.0	11.4	139.9	712233
500	240.0	12.0	130.0	864979
600	285.0	13.2	189.7	865042
700	330.0	14.4	312.1	724988
800	370.0	15.6	496.8	715214
900	415.0	16.8	578.0	733686
1000	460.0	18.0	646.0	712237
1200	550.0	20.4	1100.0	—

Double socket bends 22½° MMK 22 Epoxy Line



304



Dimensions and weights (Dimensions in mm)

DN	Lu TYTON® screw-gland socket	e	Weight in kg ≈ with TYTON® socket	Item no. with TYTON socket Epoxy blue
40	87.0	7.0	—	—
50	90.0	7.0	—	—
65	35.0	7.0	—	—
80	40.0	7.0	5.5	861817
100	40.0	7.2	7.5	862355
125	50.0	7.5	13.5	862873
150	55.0	7.8	11.4	863016
200	65.0	8.4	16.6	863654
250	75.0	9.0	22.6	873986
300	85.0	9.6	34.6	875335
350	100.0	10.2	67.0	864645
400	110.0	10.8	60.3	875337
450	120.0	11.4	128.0	—
500	130.0	12.0	93.5	864925
600	150.0	13.2	144.7	865025
700	175.0	14.4	242.0	724987
800	195.0	15.6	311.0	715349
900	220.0	16.8	422.0	—
1000	240.0	18.0	593.0	—
1200	285.0	20.4	820.0	—

Double socket bends 11¼° MMK 11 Epoxy Line



305



Dimensions and weights (Dimensions in mm)

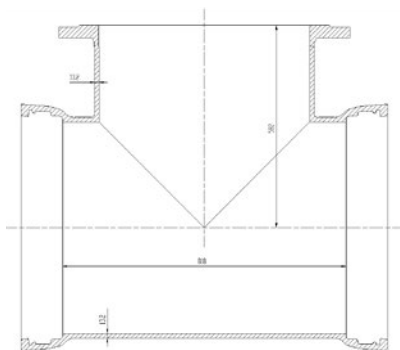
DN	Lu TYTON® screw-gland socket	e	Weight in kg ≈ with TYTON® socket	Item no. with TYTON socket Epoxy blue
40	63.0	7.0	—	—
50	65.0	7.0	—	—
65	25.0	7.0	—	—
80	30.0	7.0	6.0	861776
100	30.0	7.2	6.2	862223
125	35.0	7.5	13.0	873859
150	35.0	7.8	10.6	862974
200	40.0	8.4	15.8	863607
250	50.0	9.0	20.7	875332
300	55.0	9.6	29.0	873989
350	60.0	10.2	36.4	710164
400	65.0	10.8	52.4	864669
450	70.0	11.4	92.5	—
500	75.0	12.0	77.0	864890
600	85.0	13.2	114.3	865005
700	95.0	14.4	201.0	724986
800	110.0	15.6	294.3	715348
900	120.0	16.8	350.0	—
1000	130.0	18.0	506.0	—
1200	150.0	20.4	650.0	—

B

10b

Double socket tees with flanged branch MMA Epoxy Line

306



Dimensions and weights (Dimensions in mm)

DN 1	DN 2					Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu	e ₁	e ₂		
40	40	155	140	7.0	7.0	—	—
50	50	170	150	7.0	7.0	—	—
65	40	190	165	7.0	7.0	—	—
80	40	170	155	7.0	7.0	13.0	701383
	50	170	160		7.0	13.0	720059
	65	170	160		7.0	13.5	—
	80	170	165		7.0	12.3	876315
100	40	190	170	7.2	7.0	14.9	876025
	50	190	170		7.0	15.7	860149
	65	190	175		7.0	16.9	711084
	80	170	175		7.0	15.8	860204
	100	190	180		7.2	14.3	860257
125	40	195	185	7.5	7.0	19.4	877495
	50	195	185		7.0	20.0	876140
	80	195	190		7.0	21.6	860305
	100	195	195		7.2	22.7	875677
	125	225	200		7.5	24.3	701682



DN 1	DN 2					Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu	e ₁	e ₂		
150	40	195	195	7.8	7.0	23.8	877728
	50	195	200		7.0	24.3	860450
	80	170	205		7.0	18.5	860477
	100	195	210		7.2	27.0	860498
	125	255	220		7.5	31.3	731867
	150	255	220		7.8	25.5	860532
200	40	200	230	8.4	7.0	30.8	870501
	50	200	230		7.0	31.3	721068
	80	175	235		7.0	25.8	860585
	100	200	240		7.2	24.2	860607
	125	255	250		7.5	41.0	—
	150	255	250		7.8	32.0	878651
	200/10	315	260		8.4	49.7	701394
	200/16	315	260		8.4	49.7	712228
250	40	200	265	9.0	7.0	45.4	—
	80	200	265		7.0	48.0	874016
	100	200	270		7.2	37.5	861087
	150	260	280		7.8	38.8	875380
	200/10	315	290		8.4	60.5	701695
	200/16	315	290		8.4	60.5	701684
	250/10	375	300		9.0	75.6	703139
	250/16	375	300		9.0	75.6	720173
300	80	205	295	9.6	7.0	58.9	874018
	100	205	300		7.2	60.5	861168
	150	260	310		7.8	70.7	875383
	200/10	320	320		8.4	70.0	876278
	200/16	320	320		8.4	70.0	874019
	250/10	430	330		9.0	91.8	722444
	250/16	430	330		9.0	91.8	720851
	300/10	435	340		9.6	95.6	879021
	300/16	435	340		9.6	95.6	875384



Double socket tees with flanged branch MMA Epoxy Line

308

DN 1	DN 2					Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu	e ₁	e ₂		
350	80	205	325	10.2	7.0	73.4	711067
	100	205	330		7.2	73.4	712545
	150	325	340		7.8	89.1	733721
	200/10	325	350		8.4	97.2	709986
	200/16	325	350		8.4	97.2	778361
	250/10	495	360		9.0	98.0	—
	250/16	495	360		9.0	98.0	—
	300/10	495	370		9.6	114.0	—
	300/16	495	370		9.6	114.0	—
	350/10	495	380		10.2	125.0	741993
	350/16	495	380		10.2	125.0	733715
400	80	210	355	10.8	7.0	92.9	709764
	100	210	360		7.2	94.0	878360
	150	270	370		7.8	105.8	878361
	200/10	325	380		8.4	85.4	877615
	200/16	325	380		8.4	85.4	709762
	250/10	440	390		9.0	115.0	736133
	250/16	440	390		9.0	115.0	—
	300/10	440	400		9.6	132.3	728482
	300/16	440	400		9.6	132.3	733711
	350/10	560	415		10.2	150.0	—
	350/16	560	415		10.2	150.0	—
	400/10	560	420		10.8	177.0	711040
	400/16	560	420		10.8	177.0	725984



DN 1	DN 2					Weight in kg $\approx$ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu	e ₁	e ₂		
450	80	215	390	11.4	7.0	110.0	—
	100	215	390		7.2	110.0	—
	150	270	400		7.8	128.0	—
	200/10	300	410		8.4	132.0	—
	200/16	300	410		8.4	132.0	—
	250/10	450	420		9.0	145.5	—
	250/16	450	420		9.0	145.5	—
	300/10	450	430		9.6	161.5	—
	300/16	450	430		9.6	161.5	—
	350/10	560	450		10.2	226.0	—
	350/16	560	450		10.2	226.0	—
	400/10	560	450		10.8	236.0	—
	400/16	560	450		10.8	236.0	—
	450/10	620	460		11.4	267.0	—
	450/16	620	460		11.4	267.0	—
500	80	215	415	12.0	7.0	103.0	726835
	100	215	420		7.2	104.0	703728
	150	330	430		7.8	138.0	709868
	200/10	330	440		8.4	140.0	712965
	200/16	330	440		8.4	140.0	708320
	300/10	450	460		9.6	156.0	705335
	300/16	450	460		9.6	156.0	720526
	400/10	565	480		10.8	193.0	714933
	400/16	565	480		10.8	193.0	726008
	500/10	680	500		12.0	236.0	704924
	500/16	680	500		12.0	236.0	726005



Double socket tees with flanged branch MMA Epoxy Line

310

DN 1	DN 2					Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu	e ₁	e ₂		
600	80	340	475	13.2	7.0	169.0	on request
	100	340	470		7.2	170.0	712234
	150	340	480		7.8	174.0	728932
	200/10	340	500		8.4	178.0	705809
	200/16	340	500		8.4	178.0	715394
	300/10	460	520		9.6	210.0	720935
	300/16	460	520		9.6	210.0	733703
	400/10	570	540		10.8	245.0	741994
	400/16	570	540		10.8	245.0	715072
	500/10	800	550		12.0	330.0	741995
	500/16	800	550		12.0	330.0	on request
	600/10	800	580		13.2	339.0	741998
	600/16	800	580		13.2	339.0	715395
700	80	345	510	14.4	7.0	248.0	—
	100	345	510		7.2	260.0	—
	150	345	520		7.8	263.0	712333
	200/10	345	525		8.4	266.0	729642
	200/16	345	525		8.4	266.0	717690
	250/10	575	535		9.0	269.0	—
	250/16	575	535		9.0	269.0	—
	300/10	575	540		9.6	340.0	741999
	300/16	575	540		9.6	340.0	733699
	350/10	575	555		10.2	261.0	—
	350/16	575	555		10.2	261.0	—
	400/10	575	555		10.8	374.0	731443
	400/16	575	555		10.8	374.0	789869
	500/10	925	570		12.0	464.0	742000
	500/16	925	570		12.0	464.0	—
	600/10	925	585		13.2	505.0	742001
	600/16	925	585		13.2	505.0	751933
	700/10	925	600		14.4	545.0	742002
	700/16	925	600		14.4	545.0	—



DN 1	DN 2	Lu	lu	e ₁	e ₂	Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
800	80	350	570	15.6	7.0	307.0	—
	100	350	570		7.2	324.0	—
	150	350	580		7.8	332.0	on request
	200/10	350	585		8.4	342.0	709929
	200/16	350	585		8.4	342.0	715396
	250/10	580	590		9.0	415.0	—
	250/16	580	590		9.0	415.0	—
	300/10	580	600		9.6	431.0	742003
	300/16	580	600		9.6	431.0	739888
	350/10	580	615		10.2	423.0	—
	350/16	580	615		10.2	423.0	—
	400/10	580	615		10.8	437.0	742004
	400/16	580	615		10.8	437.0	715397
	500/10	1045	630	16.8	12.0	628.0	742005
	500/16	1045	630		12.0	628.0	733757
	600/10	1045	645		13.2	640.0	742006
	600/16	1045	645		13.2	640.0	740466
	800/10	1045	675		15.6	743.0	742008
	800/16	1045	675		15.6	743.0	715398
900	80	355	630		7.0	400.0	on request
	100		635		7.2	470.0	on request
	150		640		7.8	472.0	on request
	200		645		8.4	540.0	on request
	250		645		9.0	—	on request
	300	590	660		9.6	561.0	on request
	400	1170	675		10.8	572.0	on request
	600		705		13.2	820.0	on request
	700		720		14.4	868.0	on request
	900		750		16.8	898.0	on request

Double socket tees with flanged branch MMA Epoxy Line



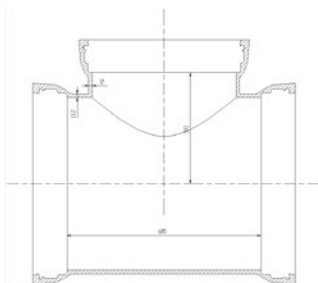
312

DN 1	DN 2					Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu	e ₁	e ₂		
1000	150	360	700	18.0	7.8	650.0	on request
	200	360	705		8.4	561.0	on request
	250	380	710		9.0	691.0	on request
	300	595	720		9.6	625.0	on request
	400	595	735		10.8	644.0	on request
	600	1290	765		13.2	1162.0	on request
	800	1290	825		15.6	1018.0	on request
	1000	1290	825		18.0	1248.0	on request
1200	200	840	835	20.4	8.4	949.0	on request
	400	840	835		10.8	960.0	on request
	500	840	850		12.0	969.0	on request
	600	840	885		13.2	985.0	on request
	700	1070	900		14.4	1135.0	on request
	800	1070	915		15.6	1160.0	on request
	900	1300	930		16.8	1296.0	on request
	1000	1300	945		18.0	1428.0	on request



All socket tees MMB Epoxy Line

314



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Lu		Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu		
40	40	156	78	—	—
50	40	170	83	—	—
	50	170	85	—	—
65	40	190	90	—	—
	50	190	92	—	—
	65	190	95	—	—
80	40	170	80	10.8	741763
	50	170	80	11.9	—
	65	170	80	—	—
	80	170	85	14.0	701674
100	40	190	90	14.0	722872
	50	190	90	15.1	741764
	65	190	90	13.0	—
	80	170	95	13.0	875388
	100	190	95	13.5	861248
125	40	195	100	18.4	741765
	50	195	105	18.5	741766
	80	195	105	20.5	701675
	100	195	110	21.6	701676
	125	225	110	23.2	701677



DN 1	DN 2	Lu	lu	Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
150	40	195	115	22.7	722874
	50	195	115	22.5	—
	80	195	120	24.8	701678
	100	195	120	15.0	861347
	125	255	125	30.2	875390
	150	255	125	20.4	875328
200	40	200	140	30.2	—
	50	200	140	31.3	741768
	65	200	140	28.0	—
	80	175	145	24.0	701679
	100	200	145	25.8	875340
	125	255	145	37.8	701680
	150	255	150	42.1	875346
	200	315	155	35.4	875160
250	80	180	170	30.8	701681
	100	200	175	46.4	875349
	125	200	175	46.4	877743
	150	260	180	51.8	875354
	200	315	185	56.2	875357
	250	375	190	46.6	876985
300	50	205	195	44.0	—
	65	205	195	44.5	—
	80	205	195	56.7	719673
	100	205	195	38.6	875363
	125	205	200	58.4	874564
	150	320	200	62.4	875366
	200	320	205	66.4	875368
	250	430	210	82.1	879651
	300	435	220	68.6	875369



All socket tees

MMB Epoxy Line

316

DN 1	DN 2			Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu		
350	80	205	220	74.0	757960
	100	205	220	79.0	741769
	200	325	240	88.0	741778
	250	495	245	118.8	741779
	300	495	250	126.4	741780
	350	495	260	125.0	741781
400	80	210	245	95.5	774369
	100	210	245	93.4	712978
	150	270	250	94.0	741782
	200	440	260	111.8	712349
	250	440	265	118.8	741783
	300	440	270	123.7	710900
450	400	560	285	175.5	710899
	80	215	270	110.0	—
	100	215	270	110.0	—
	150	330	280	128.0	—
	200	330	280	146.5	—
	250	450	290	155.0	—
	300	450	290	162.5	—
	350	560	305	174.0	—
	400	560	320	180.0	—
	450	620	380	185.0	—
500	80	215	295	128.0	757248
	100	215	295	131.0	733059
	125	215	295	134.0	—
	150	330	305	136.0	755690
	200	330	305	145.0	741784
	250	450	315	155.0	764609
	300	450	320	170.0	721210
	350	565	330	183.0	764609
	400	565	335	195.0	741785
	500	680	350	233.3	729900



DN 1	DN 2			Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu		
600	125	340	345	189.0	—
	150	340	345	197.0	751620
	200	340	365	205.0	757586
	250	460	365	222.0	305788
	300	460	365	231.0	774614
	350	570	375	236.0	—
	400	570	380	245.0	—
	500	800	390	325.0	787863
	600	800	400	340.0	741786
700	150	345	395	253.0	—
	200	345	400	264.0	—
	250	575	410	275.0	741787
	300	575	415	370.0	741788
	400	575	425	355.0	741789
	500	925	435	445.0	—
	600	925	430	545.0	—
	700	925	455	497.0	705563
800	125	350	475	408.0	—
	300	580	470	490.0	741791
	400	580	480	520.0	741792
	500	1045	490	528.0	—
	600	1045	500	760.0	—
	700	1045	510	805.0	741793
	800	1045	510	820.0	741796
900	500	1170	535	500.0	on request
	600	1170	540	525.0	on request
	900	1170	610	850.0	on request



All socket tees

MMB Epoxy Line



318

DN 1	DN 2			Weight in kg ≈ with TYTON® socket	Item no. with TYTON® socket Epoxy blue
		Lu	lu		
1000	150	360	570	507.0	on request
	200	360	580	508.0	on request
	250	595	590	597.0	on request
	300	595	600	613.0	on request
	400	595	600	619.0	on request
	600	1290	640	1028.0	on request
	800	1290	660	1102.0	on request
	900	1290	680	1108.0	on request
	1000	1290	680	1115.0	on request
1200	300	840	730	940.0	on request
	600	840	750	980.0	on request
	700	1070	750	1140.0	on request
	800	1070	760	1150.0	on request
	900	1300	760	1285.0	on request
	1200	1525	760	1536.0	on request



Ductile cast iron special fittings

Further to the special fittings shown on the following pages, the following items are also available on request:

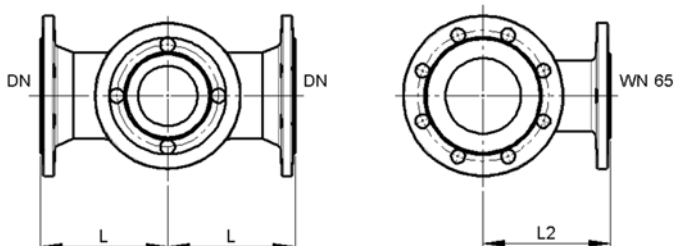
- **Single socket pieces with angled branch 45° – C**
with screw-gland socket – acc. to manufacturer's standard

For further information please give us a call or contact your specialist dealer.

Double-flanged ball fitting with upper flange DN 80 with special flange drilling as per WN 65



322



Dimensions and weights (Dimensions in mm)

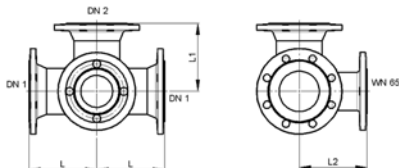
DN	PN	L	L2	Weight in kg ≈	Item no. Epoxy blue WN 65	Item no. Epoxy blue DN 80/8-hole	Item no. etec enamel WN 65	Item no. etec enamel DN 80/8-hole
80		200	200	23.0	724171	724172	311413	on request
100		175	175	21.0	874707	750130	311408	on request
125		225	225	38.5	874710	856700	311409	on request
150		200	200	31.5	874715	750135	311410	on request
200	10	250	250	50.5	724173	724175	311411	on request
200	16	250	250	50.5	322006	320459	on request	on request
250	10	325	325	118.0	712967	750138	on request	on request
250	16	325	325	118.0	332064	302002	on request	on request
300	10	375	375	173.0	761370	750141	on request	on request
300	16	375	375	175.0	784430	on request	779179	on request
400	10	450	450	290.0	—	—	—	—
400	16	450	450	290.0	—	—	—	—

also available with standard DN 80 upper flange

Flanged tee ball fitting with upper flange DN 80 with special flange drilling as per WN 65



323



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Pressure class	L, L1, L2	Weight in kg ≈	Item no. Epoxy blue WN 65	Item no. Epoxy blue DN 80/8-hole	Item no. etec enamel WN 65	Item no. etec enamel DN 80/8-hole
80	80	40	200	32.5	761372	869576	328646	326997
100	80	16	175	24.0	724168	724169	799378	329239
	100	16	175	25.5	869585	869591	301955	743817
125	100	16	225	45.0	874691	869601	311415	on request
	125	16	225	45.0	874692	869607	311416	on request
150	80	16	200	36.0	762427	316318	on request	on request
	100	16	200	36.5	874693	872697	784926	on request
	125	16	200	35.0	on request	on request	—	—
	150	16	200	39.5	877731	869633	780463	322511
200	80	10	250	50.0	—	—	—	—
	80	16	250	50.0	—	—	—	—
	100	10	250	54.4	761374	710671	311417	—
	100	16	250	54.4	762433	—	790024	—
	125	10	250	53.0	—	—	—	—
	125	16	250	53.0	—	—	—	—
	150	10	250	57.0	874694	876033	790020	—
	150	16	250	57.0	304601	740467	790094	—
	200	10	250	60.0	728067	876826	311418	—
	200	16	250	60.0	311890	724229	—	—
250	80	10	325	96.0	—	—	—	—
	80	16	325	96.0	—	—	—	—
	100	10	325	125.0	762429	—	331791	—
	100	16	325	125.0	—	—	—	—
	125	10	325	125.0	—	—	—	—
	125	16	325	125.0	—	—	—	—
	150	10	325	124.5	762428	878509	—	—
	150	16	325	124.5	787162	—	—	—
	200	10	325	128.0	728316	322796	331792	—
	200	16	325	128.0	—	329237	—	—
	250	10	325	132.5	712968	877445	790019	—
	250	16	325	132.5	760063	708831	790091	—

Other dimensions on request

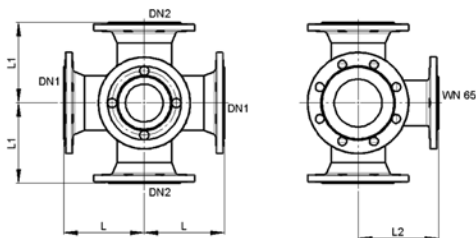
B

10c

All flanged cross tee ball fitting with upper flange DN 80 with special flange drilling as per WN 65



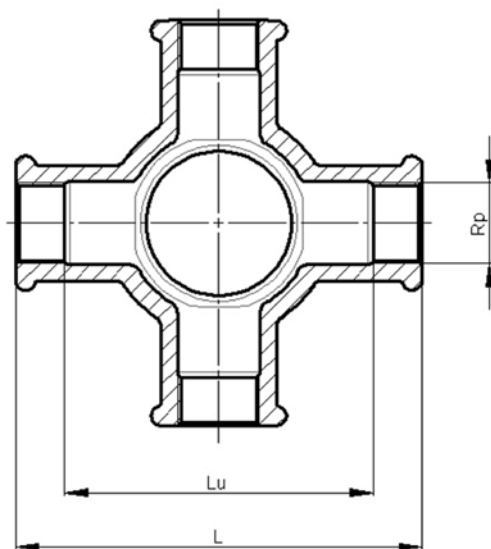
324



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	L, L1, L2	Weight in kg ≈	Item no. Epoxy PN 10	Item no. Epoxy PN 16	Item no. etec PN 10	Item no. etec PN 16
80	80	200	28.0	762436	762436	—	—
100	80	175	27.0	on request	on request	on request	on request
	100	175	31.0	874690	874690	311419	311419
125	80	225	39.0	—	—	—	—
	100	225	49.0	761379	761379	on request	on request
	125	225	57.0	874689	874689	on request	on request
150	80	200	36.0	on request	on request	—	—
	100	200	41.0	735047	735047	311420	311420
	125	200	40.0	on request	on request	—	—
	150	200	48.0	874688	874688	302128	302128
200	80	250	55.0	—	—	—	—
	100	250	60.5	761378	331587	on request	on request
	150	250	65.0	727692	on request	on request	on request
	200	250	71.5	761375	311892	311421	on request
250	100	325	124.0	712973	328404	on request	on request
	125	325	104.0	—	—	—	—
	150	325	111.0	on request	on request	on request	on request
	200	325	113.0	—	—	—	—
	250	325	150.0	761376	on request	on request	on request
300	100	375	152.0	on request	on request	on request	on request
	150	375	155.0	on request	on request	on request	on request
	200	375	159.0	—	—	—	—
	300	375	203.5	761377	on request	on request	on request
400	400	450	280.0	on request	—	on request	—

also available with standard DN 80 upper flange



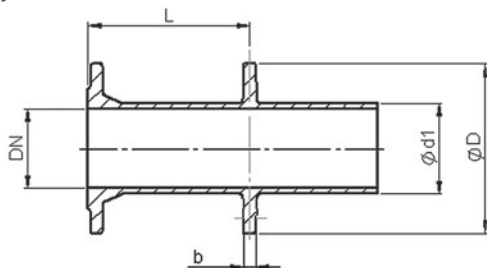
Dimensions and weights (Dimensions in mm)

DN	Thread Rp	Lu	L	Weight in kg ≈	Item no. Epoxy blue	Item no. etec enamel
65	1 ¼"	160	210	4.1	762193	305802
65	1 ½"	160	210	4.0	762194	311422

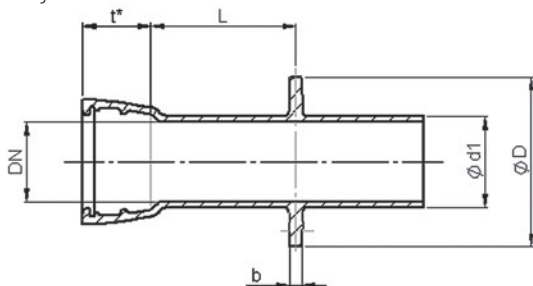
Fittings with Puddle Flanges

326

Flanged fittings:



Socket fittings:



* t = Socket length



Dimensions (in mm)

DN	d1	D	b	Item no.
40	56	150	16	on request
50	66	165	16	on request
65	82	185	16	on request
80	98	200	16	on request
100	118	220	16	on request
125	144	250	16	on request
150	170	285	16	on request
200	222	340	17	on request
250	274	400	19	on request
300	326	455	20	on request
350	378	505	20	on request
400	429	565	20	on request
450	480	615	21	on request
500	532	670	22	on request
600	635	780	25	on request
700	738	895	27	on request
800	842	1015	30	on request
900	945	1115	32	on request
1000	1048	1230	35	on request
1200	1255	1455	40	on request

The dimension L is subject to customer specification and is to be measured from the flange sealing seat or from the bottom of the socket up to the centre of the puddle flange.

Remarks for ductile cast iron fittings for plastic pipelines

These fittings for plastic pipelines are made of ductile cast iron and they are manufactured acc. to EN 12 842.

The flanges of the KS fittings are acc. to EN 1092-2.

All KS fittings are delivered with gaskets.

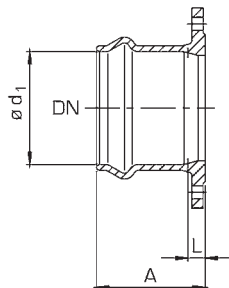
Coatings: see page 175

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B

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Flanged sockets E-KS



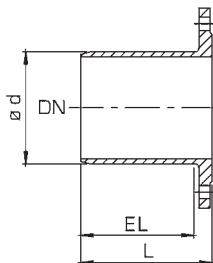
Dimensions and weights (Dimensions in mm)

DN 1	A	L min.	ø d ₁	Weight in kg ≈ PN 10	Item no. Epoxy P7 sky blue RAL 5015		Item no. etec enamel	
					PN 10	PN 16	PN 10	PN 16
50	100	20	63	3.1	—	750632	—	309357
65	110	14	75	3.9	—	750635	—	309359
80	120	13	90	5.3	—	750637	—	309360
100	125	11	110	6.1	—	750639	—	309349
125	155	18	140	9.1	—	750641	—	309350
150	150	25	160	10.7	—	750643	—	309351
200	180	29	225	18.3	750645	750647	309352	322247
250	220	36	280	28.5	750649	750650	309353	—
300	235	27	315	38.1	750652	750653	309354	—
400	310	36	450	73.8	750654	—	309355	—

Flanged spigots F-KS



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B

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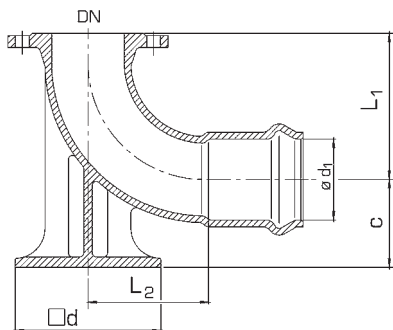
Dimensions and weights (Dimensions in mm)

DN 1	L	EL	$\varnothing d$	Weight in kg $\approx$ PN 10	Item no. Epoxy P7 sky blue RAL 5015	
					PN 10	PN 16
50	128	100	63	3.2	—	868900
65	130	105	75	4.5	—	868953
80	135	105	90	5.2	—	868956
100	150	120	110	6.5	—	868966
125	165	130	140	11.0	—	868968
150	170	140	160	11.1	—	868970
200	190	162	225	16.0	869574	869653
250	248	219	280	27.7	869656	757604
300	264	232	315	37.2	869658	877896
400	294	261	450	55.8	726079	877897

Flanged socket duckfoot bends 90° – EN-KS acc. to manufacturer's standard



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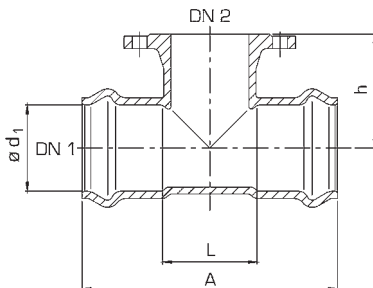
Dimensions and weights (Dimensions in mm)

DN	L ₁	L ₂	c	ø d ₁	□ d	Weight in kg ≈ PN 10	Item no. Epoxy P7 sky blue RAL 5015	Item no. etec enamel
80	165	140	110	90	180	13.1	750656	309367
100	180	150	125	110	200	18.5	750658	309363
150	220	145	160	160	250	36.4	750659	309365

Double socket tees with flanged branch MMA-KS



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B

11

Dimensions and weights (Dimensions in mm)

DN 1	DN 2	A	L	$\varnothing d_1$	h	Weight in kg $\approx$ PN 10	Item no. Epoxy P7 sky blue RAL 5015
50	50	250	63	63	140	7.1	750680
65	50	265	66	75	150	8.5	750681
	65	280	81	75	150	9.2	750682
80	50	285	69	90	160	9.4	750683
	65	300	84	90	160	10.7	750684
	80	315	99	90	165	11.5	750686
100	50	310	74	110	170	13.2	750692
	65	325	89	110	175	11.8	750687
	80	340	104	110	175	12.2	750688
	100*	360	124	110	180	12.7	750690
125	50*	335	80	140	185	16.5	754522
	65*	350	95	140	185	16.5	750693
	80	365	110	140	190	19.2	750695
	100	385	130	140	195	21.2	750697
	125	410	135	140	200	24.2	750699



* acc. to manufacturer's standard

Double socket tees with flanged branch MMA-KS

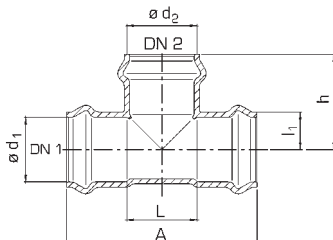


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DN 1	DN 2	A	L	ø d ₁	h	Weight in kg ≈ PN 10	Item no. Epoxy P7 sky blue RAL 5015	
							PN 10	PN 16
150	50	360	98	160	205	15.4	—	750701
	65	375	98	160	210	21.4	—	750702
	80	390	116	160	205	18.9	—	750704
	100	410	136	160	210	20.4	—	750706
	125	435	161	160	215	26.9	—	750707
	150	460	186	160	220	28.9	—	750709
200	80*	455	128	225	235	29.1	—	750711
	100*	475	148	225	240	30.1	—	750713
	125	500	173	225	245	39.8	—	—
	150	525	198	225	250	36.1	—	750714
	200*	575	248	225	260	48.6	750715	750716
250	80	515	140	280	265	41.5	—	750718
	100	535	160	280	270	44.7	—	750720
	150	585	210	280	280	45.1	—	750721
	200	635	260	280	290	72.4	750722	—
	250	673	310	280	300	64.9	750723	—
300	80	550	152	315	295	62.9	—	750725
	100	570	172	315	300	64.8	—	750726
	150	620	222	315	310	68.6	—	750727
	200*	670	272	315	320	77.7	754542	—
	250*	720	322	315	330	96.2	750729	—
	300*	770	372	315	340	91.2	750730	—
400	80*	660	200	450	355	124.7	on request	on request
	100	680	220	450	360	130.5	on request	on request
	200*	780	320	450	380	168.1	on request	on request
	400*	980	520	450	420	219.0	on request	on request

* acc. to manufacturer's standard

All socket tees MMB-KS



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Dimensions and weights (Dimensions in mm)

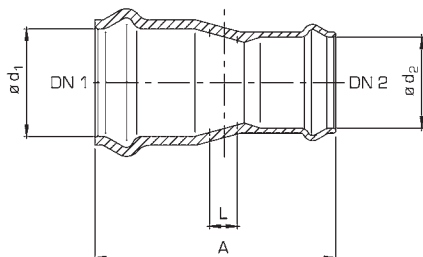
DN 1	DN 2	A	L	ø d ₁	l ₁	h	ø d ₂	Weight in kg ≈ PN 10	Item no. Epoxy P7 sky blue RAL 5015
50	50	257	70	63	35	129	63	5.1	750736
65	50	272	73	75	35	134	63	6.4	750737
	65	283	84	75	45	142	75	7.1	750738
80	50	292	76	90	50	141	63	7.3	750739
	65	303	87	90	50	148	75	8.6	750740
	80	216	101	90	55	158	90	9.3	750742
100	50	317	81	110	60	150	63	9.8	750743
	65	328	92	110	60	158	75	10.0	750744
	80*	341	106	110	60	168	90	12.5	750746
	100	360	124	110	65	180	110	10.7	750748
125	80	366	112	140	75	182	90	15.2	750751
	100*	385	130	140	80	194	110	18.9	750753
	125	412	157	140	80	206	140	18.9	750754
150	80	391	118	160	82	190	90	20.4	750757
	100	410	136	160	85	203	110	20.0	750759
	125*	437	163	160	90	215	140	22.2	750760
	150	455	181	160	95	228	160	25.2	750762
200	80	456	130	225	115	219	90	28.7	750763
	100	475	148	225	115	232	110	32.8	750765
	125	502	175	225	120	244	140	35.6	750766
	150	520	193	225	120	257	160	29.0	750767
	200	578	252	225	130	289	225	57.1	750768

* acc. to manufacturer's standard

B

11

Double socket tapers MMR-KS



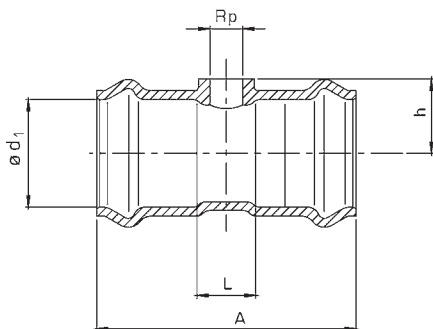
Dimensions and weights (Dimensions in mm)

DN 1	DN 2	A	L	ø d ₁	ø d ₂	Weight in kg ≈ PN 10	Item no. Epoxy P7 sky blue RAL 5015
65	50	213	20	75	63	3.9	750801
80	50	230	28	90	63	4.9	750803
	65	232	24	90	75	5.1	750804
100	50	238	35	110	63	5.8	750805
	65	254	36	110	75	5.8	750806
	80	257	31	110	90	6.8	750808
125	80	283	48	140	90	10.6	750809
	100	286	41	140	110	10.1	750811
150	80	305	44	160	90	11.1	750813
	100	308	53	160	110	11.3	750815
	125	307	42	160	140	12.7	750817
200	100	370	84	225	110	16.8	750819
	125	368	77	225	140	19.3	750821
	150	372	71	225	160	20.2	750823
250	100	420	114	280	110	29.7	750824
	150	427	102	280	160	32.9	750825
	200	430	79	280	225	35.0	750827

Double sockets with 2" internal thread branch MMI-KS



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B

11

Dimensions and weights (Dimensions in mm)

DN 1	Rp (EN 10226-1)	A	L	ø d ₁	h	Weight in kg ≈ PN 10	Item no. Epoxy P7 sky blue RAL 5015
50	2"	255	68	63	60	4.3	754544
65	2"	270	71	75	65	5.8	750775
80	2"	290	74	90	85	6.5	750779
100	2"	315	79	110	90	9.6	750784
125	2"	340	85	140	105	13.6	750788
150	2"	365	91	160	115	16.4	750793
200	2"	430	103	225	155	26.3	750797
250	2"	490	115	280	180	46.7	750798
300	2"	523	127	315	195	62.7	750799

Remarks for Ductile Iron Fittings for Sewage Pipelines

Fittings as per EN 598.

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Coatings:

inside and outside powder epoxy coating red / brown-red colour.
Blue colour on request.

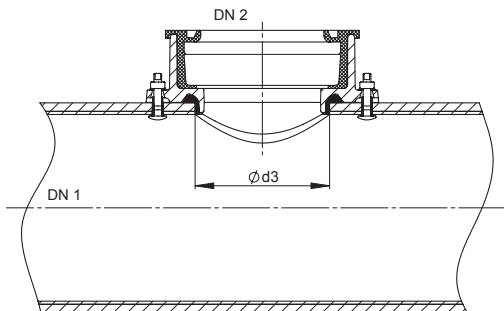
Further information see page 175 and 184.

Drilling saddle piece 90°

90° branch with clay pipe socket
and NBR sealing SM 90



- 340** for cast iron, steel or fibre cement pipes
as per EN 598



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	suitable for clay pipe spigot end	$\varnothing d3$ drilling	Weight in kg $\approx$	Item no. Epoxy P7 brown-red RAL 3011
250 – 300	150	186	172	11.0	758433
350	150	186	172	11.0	758434
400 – 600	150	186	172	11.0	758435
700 – 1200	150	186	172	10.0	758436

Drilling saddle piece 45°

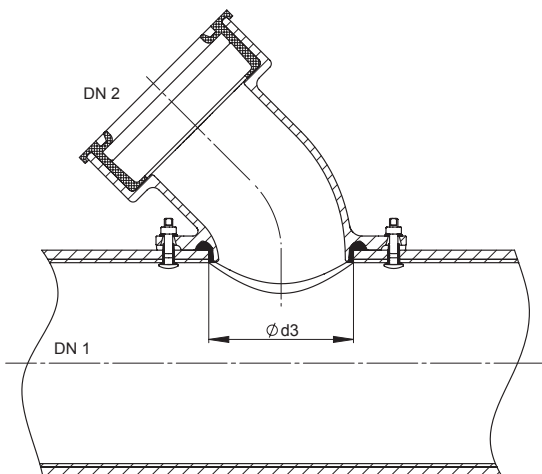
45° branch with clay pipe socket

and NBR sealing SM 45



for cast iron, steel or fibre cement pipes
as per EN 598

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B

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Dimensions and weights (Dimensions in mm)

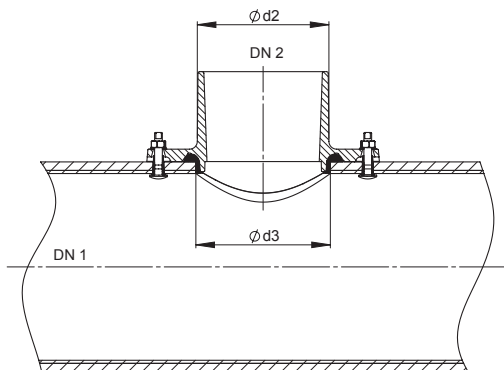
DN 1	DN 2	suitable for clay pipe spigot end	Ø d3 drilling	Weight in kg ≈	Item no. Epoxy P7 brown-red RAL 3011
250 – 300	150	186	172	11.0	760498
350 – 400	150	186	172	11.0	760499

Drilling saddle piece 90°

90° branch with spigot for ductile iron pipe
or clay pipe SI 90



- 342** for cast iron, steel or fibre cement pipes
as per EN 598



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	$\phi d2$ ductile iron	$\phi d2$ clay pipe	$\phi d3$ drilling	Weight in kg $\approx$	Item no. clay pipe Epoxy P7 brown-red RAL 3011	Item no. ductile iron Epoxy P7 brown-red RAL 3011
250 – 300	150	170	186	172	11.0	758445	758448
300	200	222	242	232	19.0	758441	758437
350	200	222	242	232	18.0	758453	765380
400	200	222	242	232	17.0	758454	758439
400 – 600	150	170	186	172	9.0	758447	758450
500 – 600	200	222	242	232	15.0	758452	758451
700 – 800	200	222	242	232	15.0	758443	758440
700 – 1200	150	170	186	172	8.0	758446	758449
900 – 1200	200	222	242	232	16.0	758444	758438

Drilling saddle piece 90°

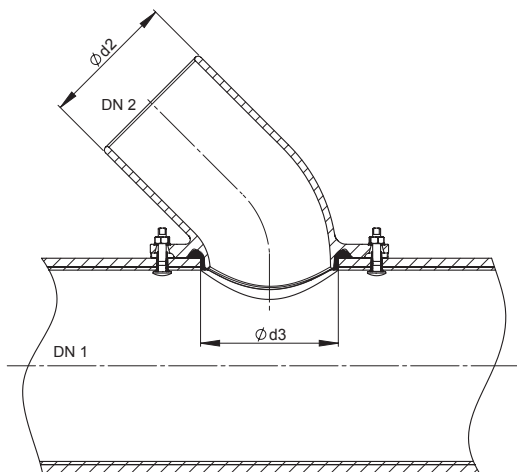
45° branch with spigot for ductile iron pipe

SI 45



for cast iron, steel or fibre cement pipes
as per EN 598

343



B

12

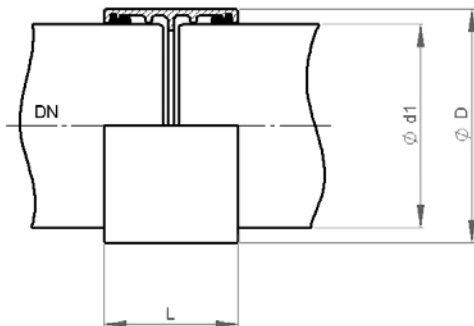
Dimensions and weights (Dimensions in mm)

DN 1	DN 2	$\phi d2$ ductile iron	$\phi d3$ drilling	Weight in kg $\approx$	Item no. Epoxy P7 brown-red RAL 3011
250 - 300	150	170	172	11.0	760500

TYTON®-couplings with TYTON® NBR seals MM



344 as per EN 598



Dimensions and weights (Dimensions in mm)

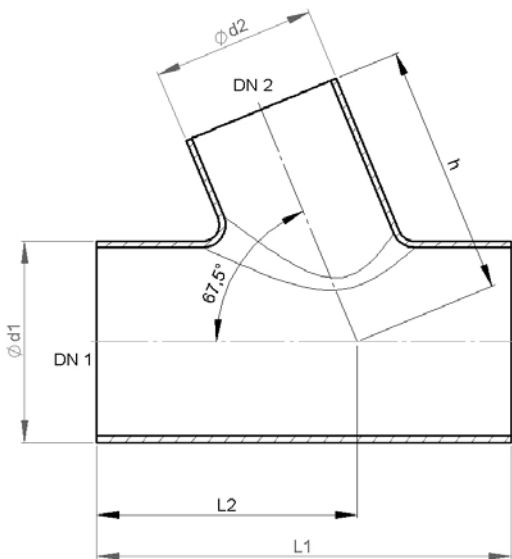
DN	ø d1	ø D	L	Deviation per socket	Weight in kg ≈	Item no. Epoxy P7 brown-red RAL 3011
150	170	210	160	5°	8.0	788333
200	222	262	165	5°	11.5	788332
250	274	315	180	5°	14.7	788335
300	326	370	200	5°	21.0	788336
350	378	425	215	4°	29.0	788337
400	429	480	210	4°	36.0	788340
500	532	590	225	3°	58.0	788341
600	635	695	250	3°	79.0	788342
700	738	810	305	3°	123.0	788343
800	842	920	325	3°	126.0	788344

Spigot end branch 67° ICI 67



suitable for ductile iron sewage pipes
as per EN 598

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B

12

Dimensions and weights (Dimensions in mm)

DN 1	DN 2	ø d1	ø d2	L1	L2	h	Weight in kg ≈	Item no. Epoxy P7 brown-red RAL 3011
200	150	222	170	568	326	310	26.0	757124

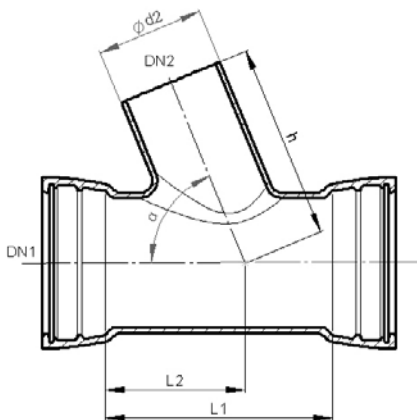
Double socket branch with TYTON® sockets

45° branch with spigot for clay pipe MMI 45 (VCP) or

67° branch with spigot for ductile iron pipe MMI 67 (DI)



346 as per EN 598



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	ø d2	L1	L2	h	α	Deviation per socket	Weight in kg ≈	Item no. Epoxy P7 brown-red RAL 3011
200	150 VCP	186	370	310	400	45°	5°	34.5	710644
200	150 DI	170	360	222	310	67°	5°	31.0	757126

Double socket branch with TYTON® sockets

45° branch with clay pipe socket

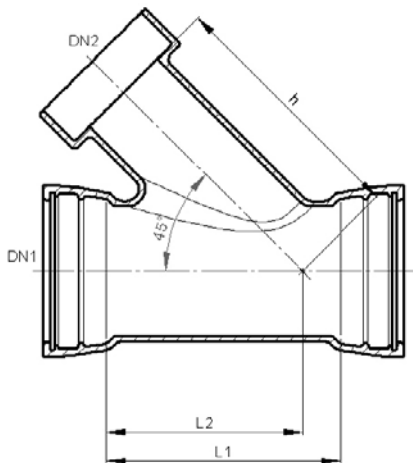
MMM



with NBR sealing

as per EN 598

347



B

12

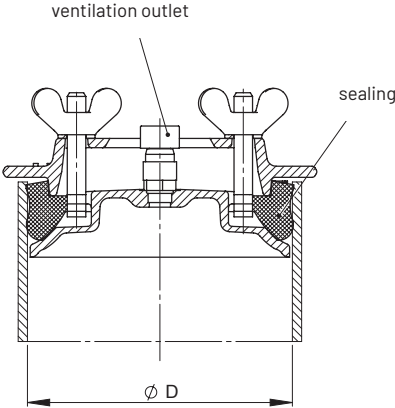
Dimensions and weights (Dimensions in mm)

DN 1	DN 2	ø d2	L1	L2	h	Deviation per socket	Weight in kg ≈	Item no. Epoxy P7 brown-red RAL 3011
200	150 VCP	186	370	310	400	5°	38.0	788347

Pipe sealing cap RVD



348 with ventilation outlet



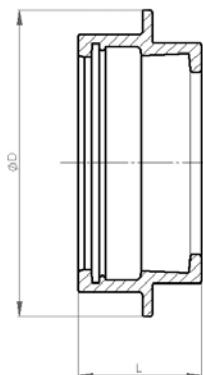
Dimensions and weights (Dimensions in mm)			
DN	ϕD	Weight in kg $\approx$	Item no. Epoxy P7 brown-red RAL 3011
150	143	0.8	590029

Manhole connection piece with TYTON® socket SA



as per EN 598

349



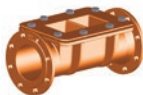
B

12

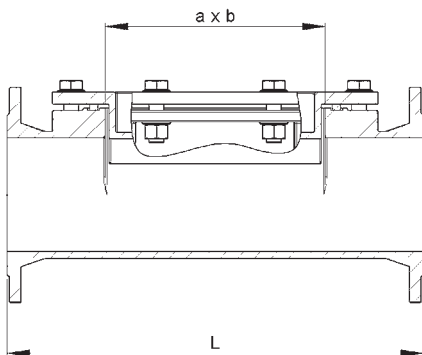
Dimensions and weights (Dimensions in mm)

DN	$\varnothing D$	L	Deviation	Weight in kg $\approx$	Item no. Epoxy P7 brown-red RAL 3011
150	260	100	5°	6.0	750534
200	310	100	5°	7.5	750535
250	360	110	5°	9.5	750536
300	415	110	5°	12.0	750537
400	520	110	4°	16.0	750538
500	635	110	3°	19.5	750539
600	730	120	3°	28.0	750540
700	845	160	3°	54.0	788348
800	950	160	3°	57.0	788349
900	1050	175	3°	76.0	788350
1000	1160	185	3°	82.0	788351

Double flanged hatchboxes acc. to manufacturer's standard



350



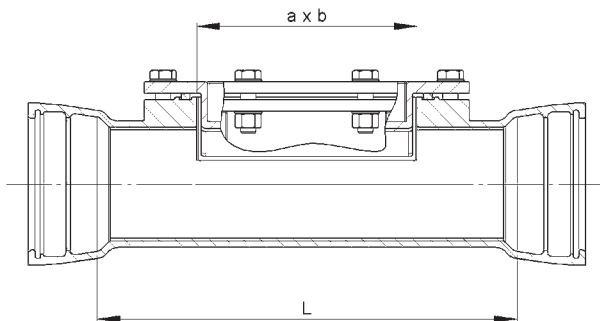
Dimensions and weights (Dimensions in mm)

DN	L	a x b	Weight in kg ≈ PN 10	Item no. Epoxy P7 brown-red RAL 3011	Item no. Epoxy P4 blue RAL 5005
80	500	250 / 80	33.0	767317	767318
100	500	250 / 100	41.0	767321	767320
125	550	300 / 125	56.0	767409	776882
150	550	290 / 150	59.0	767416	767412
200/10	650	330 / 200	90.0	767431	767430
250/10	700	360 / 250	124.0	767438	778432
300/10	750	400 / 300	163.0	767456	767455
350/10	800	500 / 350	232.0	767472	754674
400/10	900	480 / 400	268.0	767475	767474
500/10	900	550 / 500	414.0	767479	789669

Double socket hatchboxes acc. to manufacturer's standard



351



B

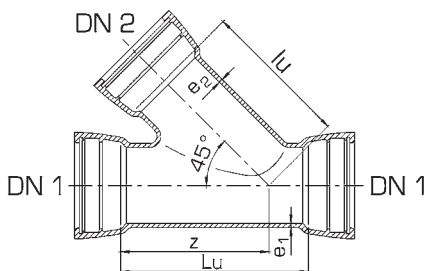
12

Dimensions and weights (Dimensions in mm)

DN	L	a x b	Weight in kg ≈ PN 10	Item no. Epoxy P7 brown-red RAL 3011
100	450	250 / 100	40.0	767404
150	550	290 / 150	68.0	767426
200	600	330 / 200	90.0	305108
250	650	360 / 250	120.0	767445
300	700	400 / 300	159.0	767462
350	750	500 / 350	227.0	767473
400	850	480 / 400	173.0	767805
500	850	550 / 500	385.0	on request

Double socket pieces with 45° socket branch – MMC acc. to manufacturer's standard

352



Dimensions and weights (Dimensions in mm)

DN 1	DN 2	Lu	lu	z	e ₁	e ₂	Weight in kg ≈ with TYTON® sockets	Item no.
80	80	270	200	200	7.0	7.0	22.0	on request
	100	300	250	250	7.2	7.0	25.0	on request
100	100	300	250	250		7.2	30.0	on request
	125	350	250	250	7.5	7.2	40.0	on request
125	125	350	250	250		7.5	41.0	on request
	150	380	300	300	7.8	7.0	33.0	on request
150	150	380	300	300		7.2	36.0	on request
	200	500	360	360	8.4	7.2	56.2	on request
200	200	500	380	380		7.8	62.0	on request
	250	600	460	460	9.0	7.2	67.0	on request
250	250	600	460	460		7.8	71.0	on request
	300	700	500	500	9.6	7.2	89.6	on request
300	300	700	525	525		7.8	93.4	on request
						8.4	95.0	on request
						9.0	128.0	on request
						9.6	142.6	on request





DN 1	DN 2	Lu	lu	z	e ₁	e ₂	Weight in kg ≈ with TYTON® sockets	Item no.
350	150	700	470	470	10.2	7.8	153.0	on request
	200	700	510	510		8.4	160.0	on request
	250	700	530	530		9.0	172.0	on request
	300	700	570	610		9.6	177.0	on request
	350	880	690	760		10.2	195.0	on request
400	100	440	480	440	10.8	7.2	131.0	on request
	125	440	490	450		7.5	138.0	on request
	150	440	490	450		7.8	141.0	on request
	200	640	570	580		8.4	159.0	on request
	300	850	650	700		9.6	181.0	on request
	400	850	650	650		10.8	209.0	on request
500	100	450	590	515	12.0	7.2	167.0	on request
	150	450	590	515		7.8	177.0	on request
	200	740	620	550		8.4	220.0	on request
	250	740	640	620		9.0	231.0	on request
	300	740	720	680		9.6	237.0	on request
	400	850	720	750		10.8	266.0	on request
	500	1040	845	845		12.0	385.0	on request
600	150	750	750	620	13.2	7.8	240.0	on request
	200	750	750	620		8.4	245.0	on request
	250	750	775	680		9.0	250.0	on request
	300	750	800	740		9.6	260.0	on request
	400	1150	800	765		10.8	400.0	on request
	500	1210	920	915		12.0	482.0	on request
	600	1210	985	975		13.2	506.0	on request
700	200	575	825	675	14.4	8.4	298.0	on request
	300	925	885	810		9.6	433.0	on request
	400	925	940	890		10.8	445.0	on request
	500	1080	1020	990		12.0	635.0	on request
	600	1380	1070	1055		13.2	693.0	on request
	700	1380	1140	1140		14.4	750.0	on request
800	600	1250	1150	1110	15.6	13.2	745.0	on request
	800	1550	1275	1275		15.6	1013.0	on request

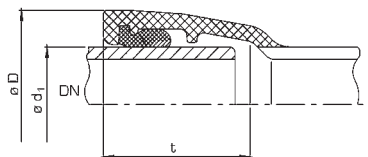
C

**Technical information
on joints for valves,
fittings and flanged pipes
made of ductile cast iron**

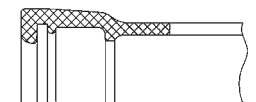
TYTON® socket joints (TYT) acc. to DIN 28 603



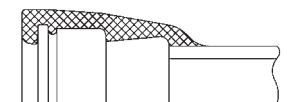
356



Socket for fittings



Socket for flange-socket and collar



Socket for pipe

Dimensions and weights

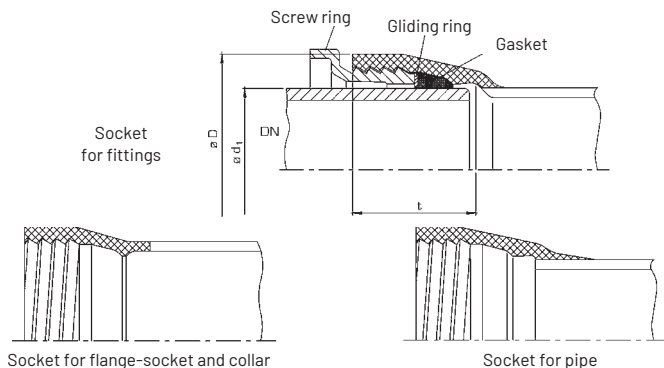
DN	Dimensions in mm			Weight in kg ≈ socket				Item no. EPDM	Item no. NBR
	$\varnothing d_1$	$\varnothing D$	t	Pipes	Fittings	Flanged sockets	Gasket		
80	98	141	84	3.4	2.8	2.4	0.1	101500	101499
100	118	161	88	4.3	3.3	3.1	0.2	502314	101488
125	144	188	91	5.7	4.5	4.0	0.2	101501	101531
150	170	215	94	7.1	5.6	4.9	0.2	101502	101489
200	222	271	100	10.3	8.0	7.1	0.4	101503	101498
250	274	324	105	14.2	11.1	9.7	0.4	101505	101510
300	326	381	110	18.6	14.3	12.5	0.6	101506	101511
350	378	434	110	23.7	17.1	15.2	0.7	101507	101512
400	429	489	110	29.3	20.8	18.6	1.1	101508	101513
450*	480	541.5	120	37.8	27.6	24.3	1.1	101509	101514
500	532	598	120	42.8	31.7	27.6	1.6	101527	101515
600	635	707	120	59.3	42.3	36.2	2.2	101528	101516
700	738	825	150	79.1	71.2	59.1	4.3	101529	101517
800	842	935	160	102.6	95.4	79.8	5.3	101530	101518
900	945	1042	175	129.9	150.3	122.7	11.5	501532	501534
1000	1048	1150	185	161.3	186.9	152.1	8.5	501533	705719
1200	1255	1368	215	—	250.0	193.0	9.5	714359	795372

* acc. to manufacturer's standard

Screw-gland socket joints (SMU) PN 16¹⁾ acc. to DIN 28601



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Dimensions and weights

DN	Dimensions in mm			Weight in kg ≈ socket					
	ø d ₁	ø D	t	Pipes	Fittings	Flanged sockets	Screw ring	Gliding ring	Gasket
40	56	101	74	—	1.4	1.3	0.9	0.1	0.1
50	66	113	77	—	1.8	1.6	1.6	0.1	0.1
65	82	129	80	—	2.2	1.9	1.3	0.1	0.1
80	98	146	84	3.4	2.8	2.4	1.7	0.1	0.1
100	118	166	88	4.3	3.3	3.1	2.0	0.1	0.2
125	144	197	91	5.7	4.5	4.0	2.8	0.1	0.2
150	170	224	94	7.1	5.6	4.9	3.3	0.1	0.2
200	222	280	100	10.3	8.0	7.1	5.0	0.2	0.4
250	274	336	106	14.2	11.1	9.7	9.0	0.2	0.5
300	326	391	110	18.6	14.3	12.5	11.5	0.3	0.7
350	378	450	113	23.7	18.6	16.2	15.5	0.3	0.8
400	429	503	116	29.3	22.2	19.5	18.5	0.4	1.1
450*	480	572	164	—	—	—	35.0	0.6	1.5
500*	532	626	174	—	—	28.5	31.5	0.7	1.6

* acc. to manufacturer's standard ¹⁾ higher pressures on request

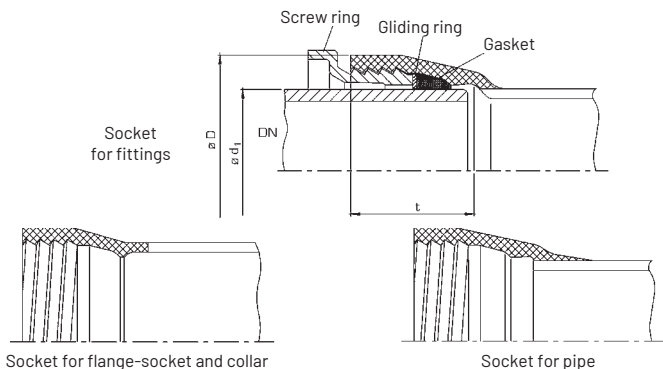
C

a

Screw-gland socket joints (SMU) PN 16¹⁾ acc. to DIN 28 601



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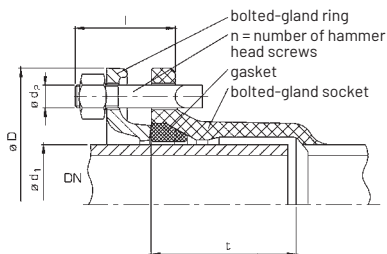
Item numbers

DN	Item no. Screw ring Epoxy blue	Item no. Screw ring Epoxy black	Item no. Gliding ring	Item no. Gasket EPDM	Item no. Gasket NBR
40	871260	871262	555907	102345	502301
50	873677	874081	555908	502346	102304
65	871268	871271	555909	502308	102307
80	871276	871278	555896	102311	502310
100	871283	871284	555897	102350	502313
125	871289	871290	555898	102317	502316
150	871296	871298	555899	502320	502319
200	871303	871304	555900	102326	102325
250	871697	871698	555901	502328	502329
300	871700	871701	555902	502332	502331
350	709984	874240	556026	502335	502334
400	871704	871705	555915	502338	102337
450*	726855	874005	556061	102341	502339
500*	701273	874242	555918	502344	102343

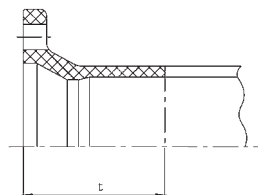
* acc. to manufacturer's standard ¹⁾ higher pressures on request

Bolted-gland socket joints (STB) PN 16¹⁾ acc. to DIN 28 602

360



Socket for pipes and fittings



Socket for flanged sockets

Dimensions and weights

DN	Dimensions in mm						Weight in kg $\approx$ socket				
	$\varnothing d_1$	$\varnothing D$	t	$\varnothing d_2$	l	n	Pipes	Flanged sockets collars	Bolted-gland ring	Gasket	Hammer head screws
100*	118	235	116	M 20	80	4	—	—	2.7	4.3	0.2
150*	170	290	118	M 20	80	8	—	—	4.0	7.1	0.2
200*	222	345	121	M 20	80	8	—	—	5.0	8.4	0.2
250*	274	400	124	M 20	80	8	—	—	6.0	9.6	0.2
300*	326	460	127	M 20	90	8	—	18.7	7.1	11.5	0.3
350*	378	515	129	M 20	90	12	26.6	22.9	9.6	15.5	5.5
400*	429	570	132	M 20	90	12	32.2	27.6	10.6	18.1	5.5
450*	480	625	135	M 20	100	12	45.3	38.7	13.0	18.6	6.0
500	532	680	138	M 20	100	16	45.3	38.7	15.0	24.4	7.7
600	635	790	143	M 20	100	16	61.2	52.2	20.9	30.2	7.7
700	738	900	149	M 20	110	20	80.0	67.9	27.2	39.0	10.0
800	842	1010	154	M 20	110	24	101.0	85.4	34.1	45.3	12.0
900	945	1125	160	M 20	120	24	128.0	108.4	44.0	57.4	12.0
1000	1048	1250	165	M 24	120	24	162.9	138.7	57.0	72.5	13.0
1200	1255	1450	176	M 24	130	28	232.4	196.5	75.0	102.5	18.0

Assembly instructions see page 408 – 411 ¹⁾ higher pressures on request



Item numbers

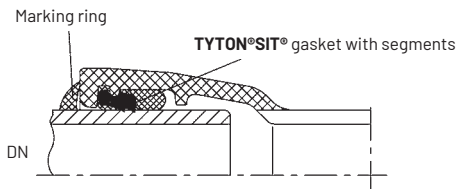
DN	Item no. EPDM	Item no. NBR
100*	751892	703861
150*	715501	703863
200*	715494	766128
250*	715495	762914
300*	715493	704582
350*	766097	785149
400*	755018	703941
450*	706024	—
500	724824	734869
600	724820	734870
700	315839	785474
800	724817	734920
900	724699	321214
1000	739768	777866
1200	752611	—

other coatings on request

TYTON® socket joints with TYTON® SIT®



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Pressure classes as per EN 545 : 2011-09

Definitions as per EN 805

Allowable operating pressure PFA (bar)

Allowable maximum operating pressure: PMA (bar) = 1.2 x PFA

Allowable site test pressure: PEA (bar) = 1.2 x PFA + 5

Dimensions and weights

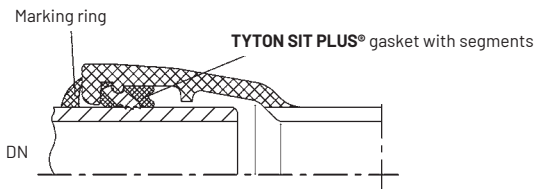
DN	Number of retaining segments	allowable operating pressure PFA	Pressure class	Deflection max.	Weight in kg ≈ TYTON®SIT® gasket	Item no. EPDM	Item no. NBR
80	4	16	C 100	3°	0.3	334903	874414
100	5	16	C 100	3°	0.2	334904	874416
125	5	16	C 64	3°	0.3	334905	874418
150	7	16	C 64	3°	0.4	334906	874420
200	10	16	C 64	3°	0.6	334907	874422
250	15	10	C 50	3°	0.7	334908	874424
300	20	10	C 50	3°	1.0	334909	874426
400	30	10	C 40	3°	1.7	334910	874428

Assembling acc. laying instruction for thrust resisting joint **TYTON® SIT®**, page 386 - 389

TYTON® socket joints with TYTON SIT PLUS®



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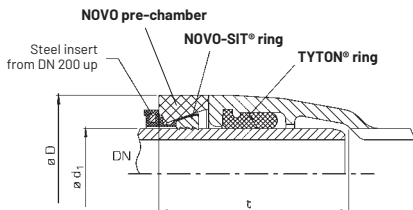
Dimensions and weights

DN	Number of retaining segments	allowable operating pressure PFA	Pressure class	allowable operating pressure PFA	Pressure class	Deflection max.	Weight in kg ≈ TYTON SIT PLUS® gasket	Item no. EPDM	Item no. NBR
80	4	32	C 100	16	C 50	3°	0.2	334892	718302
100	5	32	C 100	16	C 50	3°	0.2	334893	718303
125	5	25	C 100	16	C 50	3°	0.3	334894	718304
150	7	25	C 100	16	C 50	3°	0.3	334895	718305
200	10	25	C 64	16	C 50	3°	0.5	334896	718306
250	15	25	C 64	16	C 50	3°	0.7	334897	718307
300	20	25	C 50	16	C 40	3°	1.0	334898	718308
350	25	25	C 50	—	—	3°	1.2	334899	718309
400	28	16	C 50	—	—	2°	1.6	334900	718310
500	35	16	C 40	—	—	2°	2.3	334901	718311
600	42	10	C 40	—	—	2°	2.9	334902	718312

Novo socket joints with NOVO-SIT®



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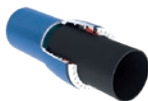
Note: The **Novo** socket does not change the standardised length of fittings and valves.

Dimensions and weights

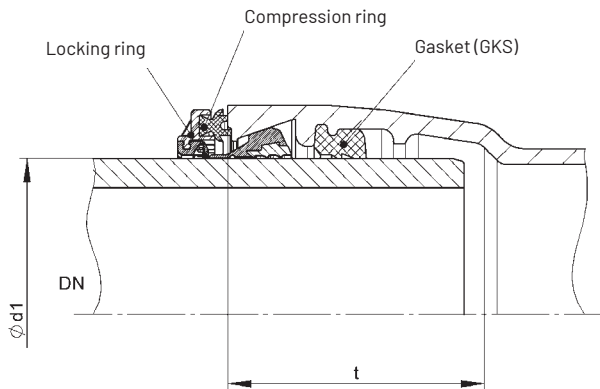
DN	Dimensions in mm			Number of locking segments	allow. o. p. PFA	Pressure class	allow. o. p. PFA	Pressure class	Deflection max.	Weight in kg ≈		Item no.
	ød ₁	øD	t							Novo pre-chamber	NOVO-SIT® ring	
80	98	141	119	5	60	C 100	25	C 50	3°	1.2	0.3	334882
100	118	161	123	6	56	C 100	16	C 50	3°	1.4	0.4	334933
125	140	188	126	7	25	C 100	16	C 50	3°	1.8	0.4	334934
125	140	188	126	10	52	C 100	16	C 50	3°	1.8	0.5	334935
150	170	215	129	12	48	C 100	16	C 50	3°	2.1	0.5	334936
200	222	271	138	18	43	C 64	16	C 50	3°	3.1	1.0	334937
250	274	324	143	26	40	C 64	16	C 50	3°	4.8	1.1	334938
300	326	381	152	30	40	C 50	16	C 50	3°	5.7	1.6	334939
350	378	434	154	32	25	C 50	—	—	3°	6.4	2.0	334940
400	429	505	154	25	16	C 50	—	—	3°	8.3	2.6	334941
400	429	505	154	36	25	C 50	—	—	3°	8.3	2.8	334942
450	480	572	164	40	25	C 40	—	—	3°	9.5	3.0	874608
500	532	598	168	35	16	C 40	—	—	2°	12.0	3.7	334943
500	532	598	168	50	25	C 40	—	—	2°	12.0	4.1	334944
600	635	707	168	45	16	C 40	—	—	2°	16.6	4.6	334945
700	738	824	205	62	10	C 40	—	—	2°	29.5	7.6	334947
800	842	934	217	70	10	C 40	—	—	1°	36.6	8.9	334948
800	842	934	217	88	16	C 40	—	—	1°	36.6	9.3	774928

Assembling acc. laying instruction for thrust resisting joint **NOVO-SIT®**, page 382 – 385

Restrained socket joints for plastic pipelines with NOVO-Grip® III



365



C

b

Dimensions and weights (Dimensions in mm)

DN	$\varnothing d1$ plastic pipelines DN/OD in mm	t	PFA at SDR 11 bar	PFA at SDR 17 bar	Weight in kg $\approx$ assembly set	Item no.
80	90	119	16	10	0.2	334881
100	110	123	16	10	0.3	334884
150	160	129	16	10	0.5	334886

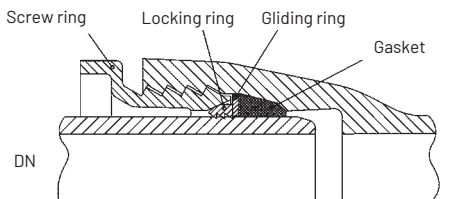
DN 80 up to DN 150 also available as **NOVO-Grip® PVC** for PVC pipes

Assembling acc. laying instruction for thrust resisting joint **NOVO-Grip® III**, page 404 - 407

Screw-gland socket joints with DÜKER thrust resisting joint SMU DN 40 – DN 65



366



Dimensions and weights

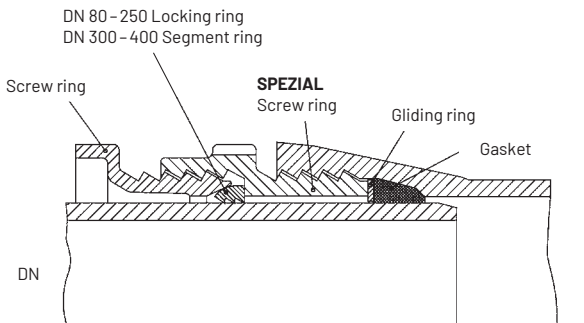
DN	allowable operating pressure PFA	Pressure class	Deflection max.	Weight in kg ≈ locking ring	Item no.
40	16	C 50	3°	1.0	334911
50	16	C 50	3°	0.1	334912
65	16	C 50	3°	1.6	334913

Assembling acc. laying instruction for thrust resisting joint **SMU**, page 396 – 399

Screw-gland socket joints with thrust resisting joint Düker SPEZIAL DN 80 – DN 400



367



C

b

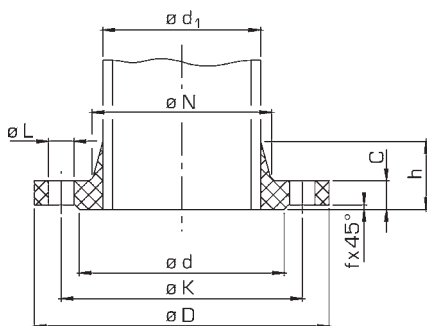
Dimensions and weights

DN	allowable operating pressure PFA	Pressure class	Deflection max.	Weight in kg ≈ SPEZIAL screw ring and locking ring	Weight in kg ≈ SPEZIAL screw ring and segment ring	Item no.
80	16	C 50	3°	5.3	—	334914
100	16	C 50	3°	6.4	—	334915
125	16	C 50	3°	8.6	—	334916
150	16	C 50	3°	10.2	—	334917
200	16	C 50	3°	15.2	—	334918
250	16	C 40	2°	21.7	—	334919
300	16	C 40	2°	—	24.7	334920
400	16	C 40	2°	—	41.8	334921

Assembling acc. laying instruction for thrust resisting joint **Düker SPEZIAL**, page 400 – 403

Flanged joints PN 10 acc. to EN 1092-2

368





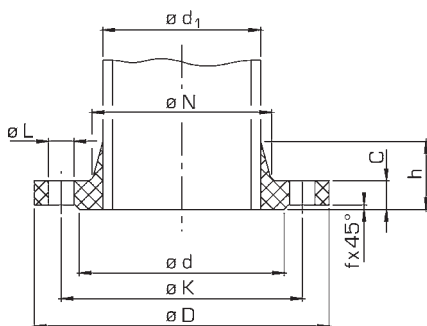
Dimensions and weights PN 10

DN	Dimensions in mm										Corner radius	Weight in kg ≈
	Pipe	Flange					Neck		Raised face			
	ø d ₁	ø D	C	ø K	n	ø L	ø N	h	ø d	f		
40	56	150	19.0	110	4	19	70	39.0	84	3	5	1.7
50	66	165	19.0	125	4	19	84	40.0	99	3	5	2.1
65	82	185	19.0	145	4	19	104	41.5	118	3	6	2.6
80	98	200	19.0	160	8	19	120	43.0	132	3	6	2.8
100	118	220	19.0	180	8	19	140	45.0	156	3	6	3.3
125	144	250	19.0	210	8	19	170	47.5	184	3	6	4.0
150	170	285	19.0	240	8	23	190	50.0	211	3	8	5.0
200	222	340	20.0	295	8	23	246	55.0	266	3	8	6.9
250	274	400	22.0	350	12	23	298	60.0	319	3	10	9.8
300	326	455	24.5	400	12	23	348	65.0	370	4	10	13.0
350	378	505	24.5	460	16	23	408	70.0	429	4	10	14.7
400	429	565	24.5	515	16	28	456	75.0	480	4	10	17.2
450	480	615	25.5	565	20	28	502	80.0	530	4	12	20.0
500	532	670	26.5	620	20	28	559	85.0	582	4	12	23.2
600	635	780	30.0	725	20	31	658	95.0	682	5	12	32.8
700	738	895	32.5	840	24	31	772	105.0	794	5	12	44.3
800	842	1015	35.0	950	24	34	876	115.0	901	5	12	58.8
900	945	1115	37.5	1050	28	34	976	125.0	1001	5	12	69.6
1000	1048	1230	40.0	1160	28	37	1080	135.0	1112	5	12	87.6
1200	1255	1455	45.0	1380	32	41	1292	155.0	1328	5	12	121.0

Tolerances according to EN 1092-2

Flanged joints PN 16 acc. to EN 1092-2

370





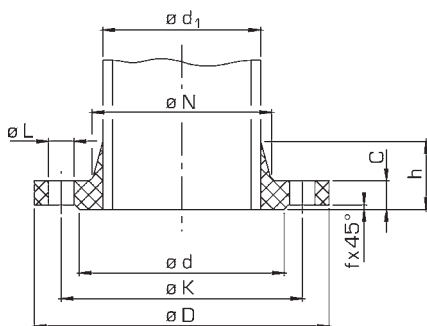
Dimensions and weights PN 16

DN	Dimensions in mm										Corner radius	Weight in kg ≈
	Pipe ø d ₁	ø D	Flange C ø K n ø L				Neck ø N h		Raised face ø d f			
40	56	150	19.0	110	4	19	70	39.0	84	3	5	1.7
50	66	165	19.0	125	4	19	84	40.0	99	3	5	2.1
65	82	185	19.0	145	4	19	104	41.5	118	3	6	2.6
80	98	200	19.0	160	8	19	120	43.0	132	3	6	2.8
100	118	220	19.0	180	8	19	140	45.0	156	3	6	3.3
125	144	250	19.0	210	8	19	170	47.5	184	3	6	4.0
150	170	285	19.0	240	8	23	190	50.0	211	3	8	5.0
200	222	340	20.0	295	12	23	246	55.0	266	3	8	6.7
250	274	400	22.0	355	12	28	296	60.0	319	3	10	9.4
300	326	455	24.5	410	12	28	350	65.0	370	4	10	12.6
350	378	520	26.5	470	16	28	410	70.0	429	4	10	17.5
400	429	580	28.0	525	16	31	458	75.0	480	4	10	22.1
450	480	640	30.0	585	20	31	516	80.0	548	4	12	30.2
500	532	715	31.5	650	20	34	576	85.0	609	4	12	37.4
600	635	840	36.0	770	20	37	690	95.0	720	5	12	57.6
700	738	910	39.5	840	24	37	760	105.0	794	5	12	57.4
800	842	1025	43.0	950	24	41	862	115.0	901	5	12	76.8
900	945	1125	46.5	1050	28	41	962	125.0	1001	5	12	91.4
1000	1048	1255	50.0	1170	28	44	1076	135.0	1112	5	12	127.0
1200	1255	1485	57.0	1390	32	50	1282	155.0	1328	5	12	185.0

Tolerances according to EN 1092-2

Flanged joints PN 25 acc. to EN 1092-2

372





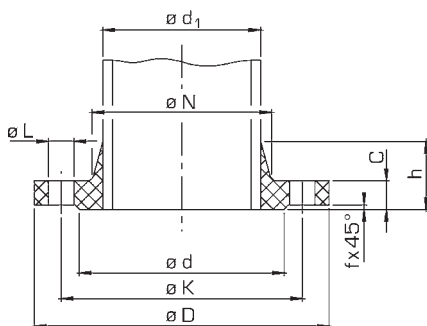
Dimensions and weights PN 25

DN	Dimensions in mm										Corner radius	Weight in kg ≈
	Pipe	Flange					Neck		Raised face			
	ø d ₁	ø D	C	ø K	n	ø L	ø N	h	ø d	f		
40	56	150	19.0	110	4	19	70	39	84	3	5	1.7
50	66	165	19.0	125	4	19	84	40	99	3	5	2.1
65	82	185	19.0	145	8	19	104	41.5	118	3	6	2.4
80	98	200	19.0	160	8	19	120	43	132	3	6	2.8
100	118	235	19.0	190	8	23	142	45	156	3	6	3.8
125	144	270	19.0	220	8	28	162	47.5	184	3	6	4.7
150	170	300	20.0	250	8	28	192	50	211	3	8	6.0
200	222	360	22.0	310	12	28	252	55	274	3	8	8.7
250	274	425	24.5	370	12	31	304	60	330	3	10	13.0
300	326	485	27.5	430	16	31	364	65	389	4	10	17.7
350	378	555	30.0	490	16	34	418	70	448	4	10	25.4
400	429	620	32.0	550	16	37	472	75	503	4	10	33.2
450	480	670	34.5	600	20	37	520	80	548	4	12	40.2
500	532	730	36.5	660	20	37	580	85	609	4	12	47.2
600	635	845	42.0	770	20	41	684	95	720	5	12	71.5
700	738	960	46.5	875	24	44	780	105	820	5	12	90.0
800	842	1085	51.0	990	24	50	882	115	928	5	12	123.0
900	945	1185	55.5	1090	28	50	982	125	1028	5	12	149.0
1000	1048	1320	60.0	1210	28	57	1086	135	1140	5	12	201.0
1200	1255	1530	69.0	1420	32	57	1296	155	1350	5	12	285.0

Tolerances according to EN 1092-2

Flanged joints PN 40 acc. to EN 1092-2

374





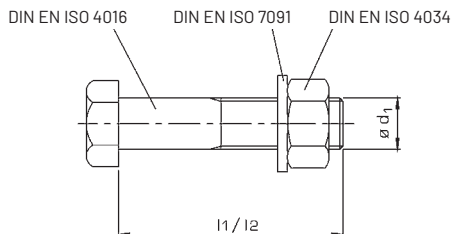
Dimensions and weights PN 40

DN	Dimensions in mm										Weight in kg ≈
	Pipe ø d ₁	ø D	C	Flange ø K n ø L			Neck ø N h		Raised face ø d f		
40	56	150	19.0	110	4	19	70	39.0	84	3	1.7
50	66	165	19.0	125	4	19	84	40.0	99	3	2.1
65	82	185	19.0	145	8	19	104	41.5	118	3	2.4
80	98	200	19.0	160	8	19	120	43.0	132	3	2.8
100	118	235	19.0	190	8	23	142	45.0	156	3	3.8
125	144	270	23.5	220	8	28	162	47.5	184	3	5.9
150	170	300	26.0	250	8	28	192	50.0	211	3	8.0
200	222	375	30.0	320	12	31	254	55.0	284	3	14.0
250	274	450	34.5	385	12	34	312	60.0	345	3	23.5
300	326	515	39.5	450	16	34	378	65.0	409	4	33.5
350	378	580	44.0	510	16	37	432	70.0	465	4	43.0
400	429	660	48.0	585	16	41	498	75.0	535	4	62.0
450	480	685	49.0	610	20	41	522	80.0	560	4	57.0
500	532	755	52.0	670	20	44	576	85.0	615	4	82.0
600	635	890	58.0	795	20	50	686	95.0	735	5	124.0

Tolerances according to EN 1092-2

Hexagon head screws for flanges PN 10 and PN 16 acc. to EN 1092-2

376



PN 10				
Dimensions in mm				
DN	$\varnothing d_1$	l_1^*	l_2^{**}	quantity per joint
40	M16	80	80	4
50	M16	80	80	4
65	M16	80	80	4
80	M16	80	80	8
100	M16	80	80	8
125	M16	80	80	8
150	M20	80	90	8
200	M20	80	90	8
250	M20	90	90	12
300	M20	90	90	12
350	M20	90	90	16
400	M24	100	100	16
450	M24	100	110	20
500	M24	100	110	20
600	M27	110	120	20
700	M27	120	120	24
800	M30	130	130	24
900	M30	130	140	28
1000	M33	140	150	28
1200	M36	160	160	32

PN 16				
Dimensions in mm				
$\varnothing d_1$	l_1^*	l_2^{**}	quantity per joint	
M16	80	80	4	
M16	80	80	4	
M16	80	80	4	
M16	80	80	8	
M16	80	80	8	
M16	80	80	8	
M20	80	90	8	
M20	80	90	12	
M24	90	100	12	
M24	100	100	12	
M24	100	110	16	
M27	110	110	16	
M27	110	120	20	
M30	120	120	20	
M33	130	140	20	
M33	140	150	24	
M36	150	160	24	
M36	160	160	28	
M39	170	180	28	
M45	190	200	32	

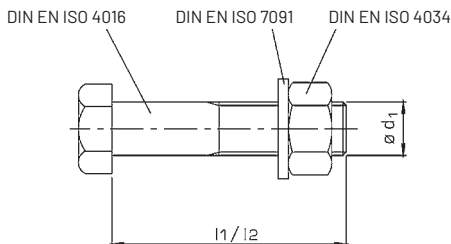
l_1^* = Screw length for connection with one washer

l_2^{**} = Screw length for connection with two washers

Hexagon head screws for flanges PN 25 and PN 40 acc. to EN 1092-2



377



PN 25

Dimensions in mm

DN	ø d ₁	l1*	l2**	quantity per joint
40	M 16	80	80	4
50	M 16	80	80	4
65	M 16	80	80	8
80	M 16	80	80	8
100	M 20	80	90	8
125	M 24	90	90	8
150	M 24	90	90	8
200	M 24	90	100	12
250	M 27	100	110	12
300	M 27	110	110	16
350	M 30	120	120	16
400	M 33	130	130	16
450	M 33	130	130	20
500	M 33	140	140	20
600	M 36	150	150	20
700	M 39	170	170	24
800	M 45	180	190	24
900	M 45	190	200	28
1000	M 52	210	210	28
1200	M 52	230	230	32

PN 40

Dimensions in mm

ø d ₁	l1*	l2**	quantity per joint
M 16	80	80	4
M 16	80	80	4
M 16	80	80	8
M 16	80	80	8
M 20	80	90	8
M 24	100	100	8
M 24	100	110	8
M 27	110	120	12
M 30	120	130	12
M 30	140	140	16
M 33	150	150	16
M 36	160	170	16
M 36	160	170	20
M 39	170	180	20
M 45	190	200	20

Not specified
in EN 1092-2

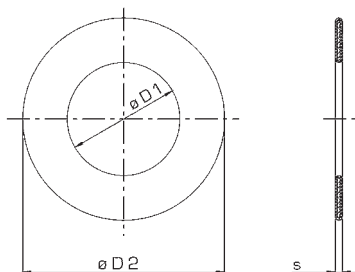
Special stipulations: M16 x 80: Thread length min. 44 mm,
M20 x 90: Thread length min. 52 mm, M24 x 100/110: Thread length min. 60 mm

C

c

Flat gaskets for Flanges acc. to EN 1514-1, type IBC

378



Dimensions (in mm)

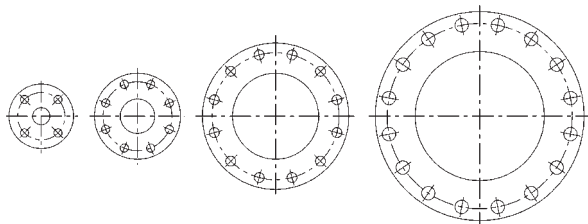
DN	ø D 1	ø D 2 PN 10	ø D 2 PN 16	s
40	49	92	92	4
50	61	107	107	4
65	77	127	127	4
80	90	142	142	4
100	115	162	162	5
125	141	192	192	5
150	169	218	218	5
200	220	273	273	6
250	274	328	330	6
300	325	378	385	6
350	368	438	445	7
400	420	490	497	7
500	520	595	618	7
600	620	695	735	7
700	720	810	805	8
800	820	915	910	8
900	920	1015	1005	8
1000	1020	1120	1110	8
1200	1220	1340	1340	8

Dimensions for gaskets with steel inlay.



Arrangement of bolt holes

379



Number of bolts

DN	EN 1092-2 PN 10	EN 1092-2 PN 16	EN 1092-2 PN 25	EN 1092-2 PN 40
40	4	4	4	4
50	4	4	4	4
65	4	4	8	8
80	8	8	8	8
100	8	8	8	8
125	8	8	8	8
150	8	8	8	8
200	8	12	12	12
250	12	12	12	12
300	12	12	16	16
350	16	16	16	16
400	16	16	16	16
450	20	20	20	20
500	20	20	20	20
600	20	20	20	20
700	24	24	24	—
800	24	24	24	—
900	28	28	28	—
1000	28	28	28	—
1200	32	32	32	—

The number of bolt holes is always divisible by 4.

The bolt holes are arranged symmetrically to the two main axes, but not on them.

C

c

Current and historical material designations of the cast iron qualities used by Düker

380

Valid Standard		Obsolete Standards			
EN 1563:2018		EN 1563:1997		DIN 1693-1:1973 and DIN 1693-2:1977	
Symbol	Number	Number Table 1	Number Table 3	Symbol	Number
EN-GJS-400-15	5.3106	EN-JS1030	EN-JS1072	GGG-40	0.7040
EN-GJS-400-18LT	5.3103	EN-JS1025	EN-JS1049	GGG-40.3	0.7043
EN-GJS-500-7	5.3200	EN-JS1050	EN-JS1082	GGG-50	0.7050
EN-GJS-500-14	5.3109	—	—	—	—

GJS stands for spheroidal or nodular graphite cast iron, ductile cast iron, formerly GGG

GJL stands for lamellar or flake graphite cast iron, grey cast iron, formerly GG

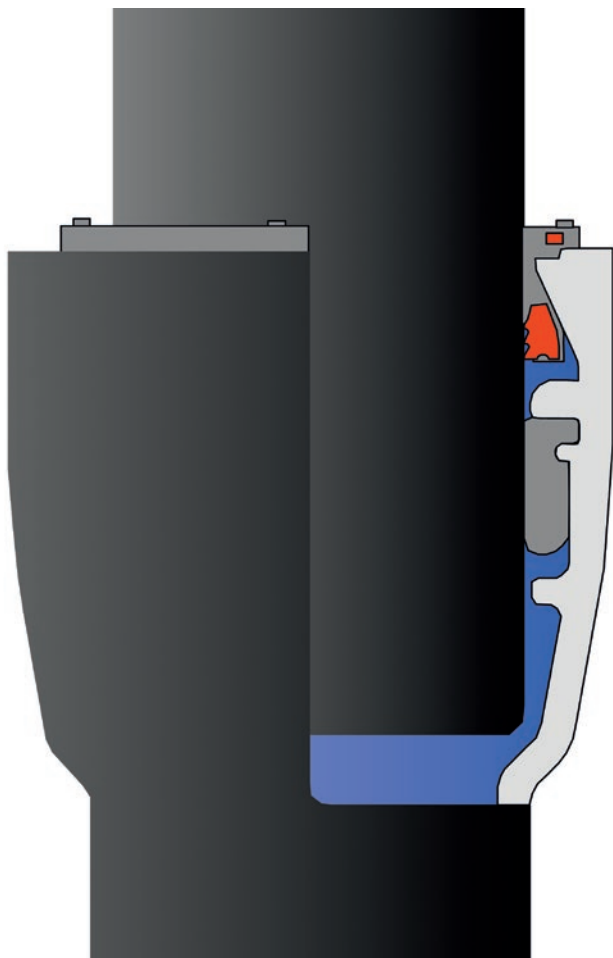
D

Laying and assembly instructions



Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint NOVO-SIT®

382





General instructions

For laying pressure pipes, fittings and valves with thrust resisting joint **NOVO-SIT**®, the "laying instructions for ductile cast iron pressure pipes and fittings with **TYTON**® joint" should be observed.

Application field

NOVO-SIT® locking rings are available for the nominal diameters DN 80 up to 800. For the allowable operating pressures, please refer to page 364.

This self-anchoring, thrust resisting socket joint substitutes concrete anchoring blocks.

The suitable number of thrust resisting connections has been laid down in DVGW standard GW 368 and has to be observed.

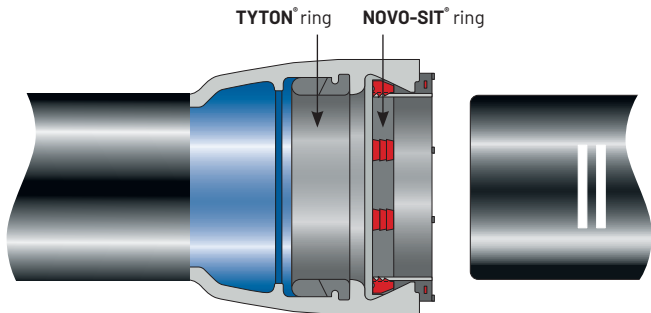
Before installation in lines for bridges, ducts or river-crossings, please contact our service team.

Figure:

NOVO-SIT® ring with vulcanised segments made of chromium steel



Assembling steps



Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint NOVO-SIT®

384

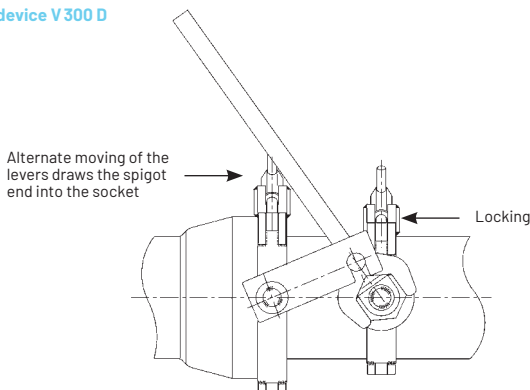
1. Clean the inside of the socket, particularly the **TYTON®** groove.
2. Insert gasket (**TYTON®** ring) by deflecting and squeezing, so that the gasket is firmly bedded in its seating. The inner part of the inserted **TYTON®** ring should be slightly lubricated.
3. Insert **NOVO-SIT®** ring into the pre-chamber.
4. Clean the spigot end and slightly lubricate it, particularly at the rounded end; then insert through the **NOVO-SIT®** ring until it touches the **TYTON®** ring concentrically. From DN 300 up, this already requires a laying tool.
5. Further assembly can be made, depending on the nominal dimension, with a lever or a laying tool.

Deviation should be avoided.

Important:

Changes of circumferential directions have to be arranged before connecting (e.g. installation of outlets, tees a.s.o.).

Laying device V 300 D

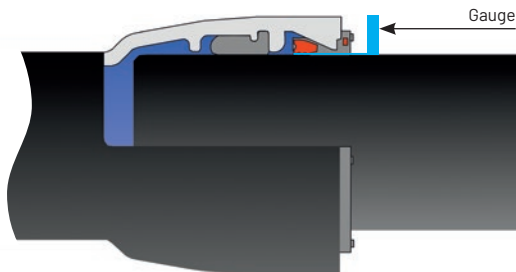


Attention:

After connecting both parts, the locking of the segments has to be accomplished by moving the levers in the opposite direction.



The exact position of the **TYTON**® ring has to be tested with a suitable gauge between the segments on the whole circumference.



Note:

Deviation of the installed thrust resisting joint is possible as follows:

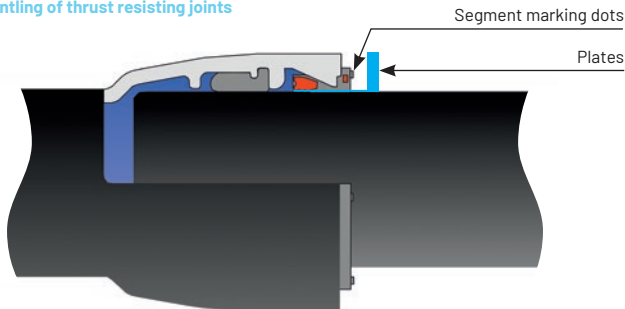
up to DN 400 – 3°

up to DN 700 – 2°

up to DN 800 – 1°

A pipe with 6 m length and 1° deflection deviates approx. 10 cm off the neutral pipe axis.

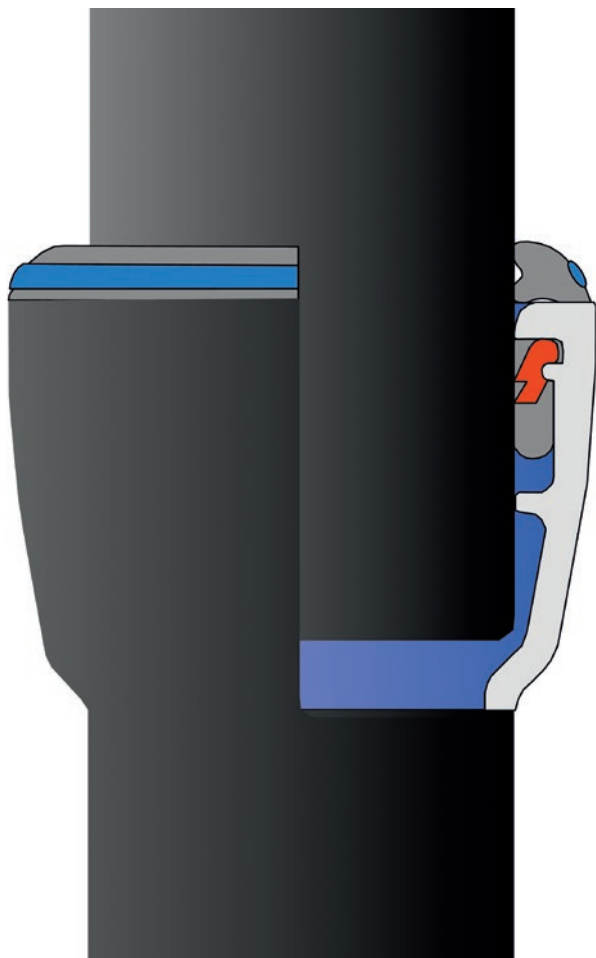
Dismantling of thrust resisting joints



Push the spigot completely into the socket. Lubricate the dismantling blades on both sides and drive them into the socket gap at the segment marking dots, with the help of the hammering device. Use the pipe laying tool or dismantling collar to draw the spigot out of the socket.

Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint TYTON® SIT®

386



General instructions:



387

For laying pressure pipes, fittings and valves with thrust resisting joint **TYTON®SIT®** the "laying instructions for ductile cast iron pressure pipes and fittings with **TYTON®** joint" should be observed.

Figure:

After cleaning, the **TYTON®SIT®** thrust resisting ring (with segments) has to be deformed acc. to the illustration and inserted into the socket.



Application field:

TYTON®SIT® locking rings are available for the nominal diameters DN 80 up to DN 400.

For the allowable operating pressures and pressure classes please refer to page 362.

This self-anchoring, thrust resisting socket joint substitutes concrete anchoring blocks. The suitable number of thrust resisting connections has been laid down in DVGW-standard GW 368 and has to be observed.

Before installation in lines for bridges, ducts or river crossings, please contact our service team.

Assembling steps

1. Clean the inside of the socket, particularly the **TYTON®** groove.
2. The **TYTON®SIT®** ring has to be cleaned, deformed acc. to the illustration and inserted into the socket. Ensure that the S-bend is located between two segments during deformation. The inner part of the inserted **TYTON®SIT®** ring should be slightly lubricated.
3. Clean the spigot end, slightly lubricate and insert concentrically into the socket until it touches the **TYTON®SIT®** ring.
4. Mount the laying tool as per the illustration and draw the spigot end into the socket (see page 382).

Deviation should be avoided!

D

a

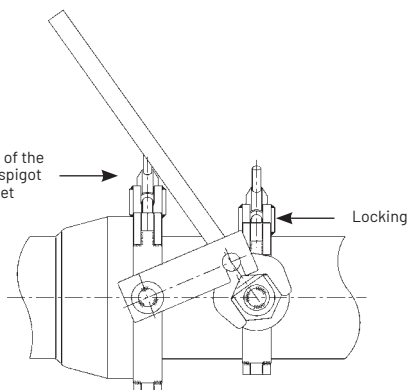
Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint TYTON® SIT®

388 Important:

Changes of circumferential directions have to be arranged before connecting (e.g. installation of outlets, tees a.s.o.).

Laying device V 300 D

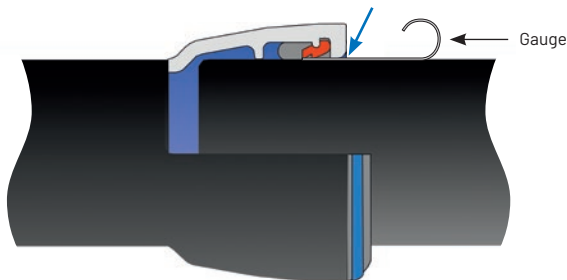
Alternate moving of the levers draws the spigot end into the socket



Attention:

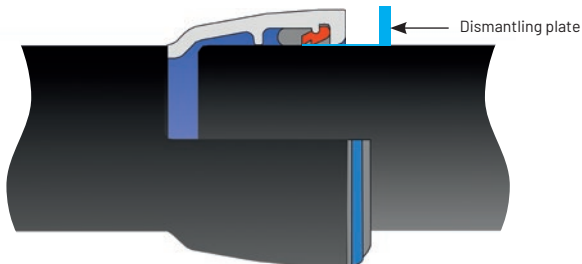
After connecting both parts, the locking of the segments has to be accomplished by moving the levers in the opposite direction.

The exact position of the TYTON® SIT® ring has to be tested with a suitable gauge between segments on the whole circumference.

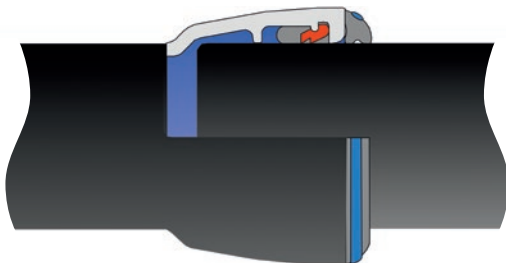


Note:

Deviation of the installed thrust resisting joint is possible up to 3° . A pipe with 6 m length and 1° deflection deviates approx. 10 cm off the neutral pipe axis.

Dismantling of thrust resisting joints

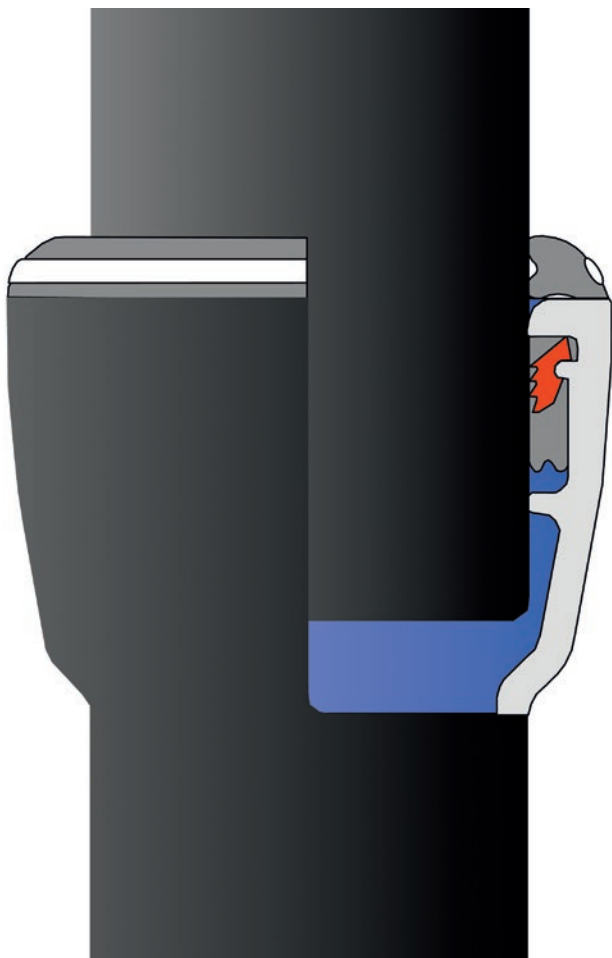
Push the spigot completely into the socket with the laying tool so the segments are no longer under pressure. Lubricate the dismantling blades on both sides and drive them into the socket gap around the complete circumference, with the help of the hammering device. Use the pipe laying tool or dismantling collar to draw the spigot out of the socket. If it should not be possible to insert the blades around the whole circumference, the pipeline has to be cut.

Marking of the installed thrust resisting joint

For a durable marking, we supply a profiled rubber ring with a blue-coloured strip. This marking ring should be applied as shown in the illustration.

Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint TYTON SIT PLUS® (TSP®)

390

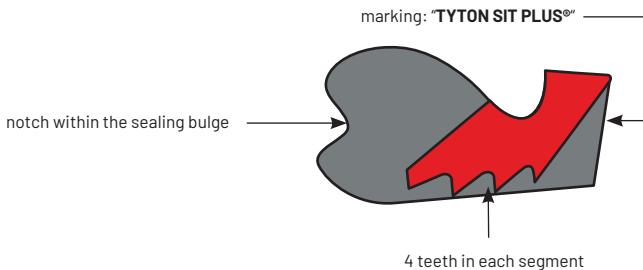




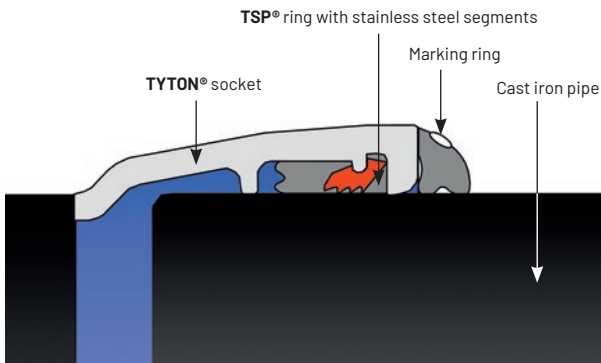
For laying pressure pipes, fittings and valves with thrust resisting joint **TYTON SIT PLUS® (TSP®)**, the “laying instructions for ductile cast iron pressure pipes and fittings with **TYTON®** joint” as well as special installation instructions of the pressure pipe manufacturer should be observed.

The **TYTON SIT PLUS®** sealing and locking ring is available for dimensions DN 80 up to DN 600.

Three basic attributes of the **TYTON SIT PLUS®** ring are:



Joint construction



Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint TYTON SIT PLUS® (TSP®)

392 For allowable operating pressures and pressure classes please refer to page 363.

This self-anchoring, thrust resisting socket joint substitutes concrete anchoring blocks. The suitable number of thrust resisting connections has been laid down in DVGW standard GW 368 and has to be observed.

Before installation in lines for bridges, ducts or river-crossings, please contact our service team.

Assembling steps

1. Clean the inside of the socket, particularly the **TYTON®** groove.
2. The **TYTON SIT PLUS®** ring has to be cleaned, deformed acc. to the illustration and inserted into the socket. Ensure that the S-bend is located between two segments during deformation. The inner part of the inserted **TYTON SIT PLUS®** ring should be slightly lubricated.
3. Push the marking ring, labeled with a white stripe, onto the cast iron pipe.
4. Clean the spigot end, slightly lubricate and insert concentrically into the socket until it touches the **TSP®** ring.
5. Mount the laying tool as per the illustration and draw the spigot end into the socket.

Deviation should be avoided!



Important:

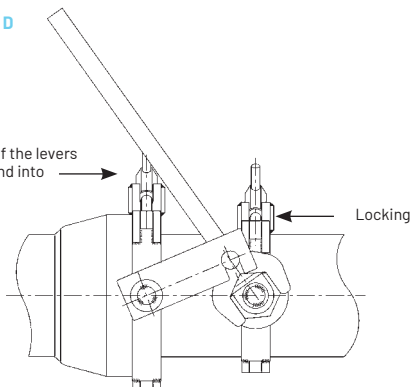
Changes of circumferential directions have to be arranged before connecting (e.g. installation of outlets, tees a.s.o.).



Laying device V 300 D

393

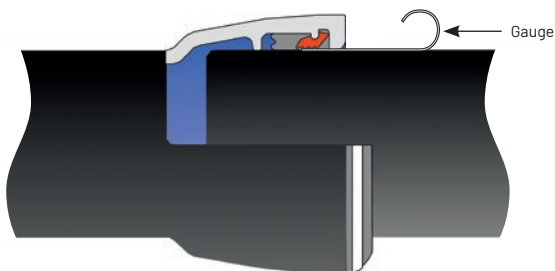
Alternate moving of the levers
draws the spigot end into
the socket



Attention:

After connecting both parts, the locking of the segments has to be accomplished by moving the levers in the opposite direction.

The exact position of the **TYTON SIT PLUS®** ring has to be checked with a suitable gauge between segments on the whole circumference.



Note:

Deviation of the installed thrust resisting joint is possible up to 3° . A pipe with 6 m length and 1° deflection deviates approx. 10 cm off the neutral pipe axis.

D

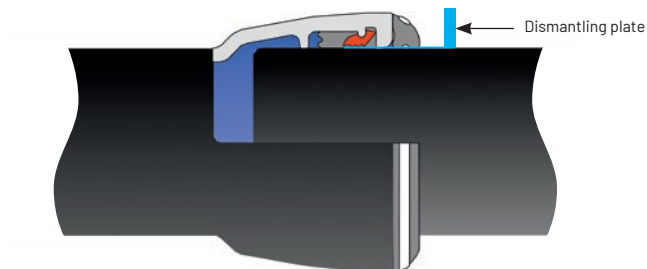
a

Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint TYTON SIT PLUS® (TSP®)

394 Marking of the installed thrust resisting joint

We supply profiled rubber-rings with white stripes. These marking rings should be applied as shown in the illustration.

Dismantling of thrust resisting joints



Push the spigot completely into the socket with the laying tool so the segments are no longer under pressure.

Lubricate the dismantling blades on both sides and drive them into the socket gap around the complete circumference, with the help of the hammering device.

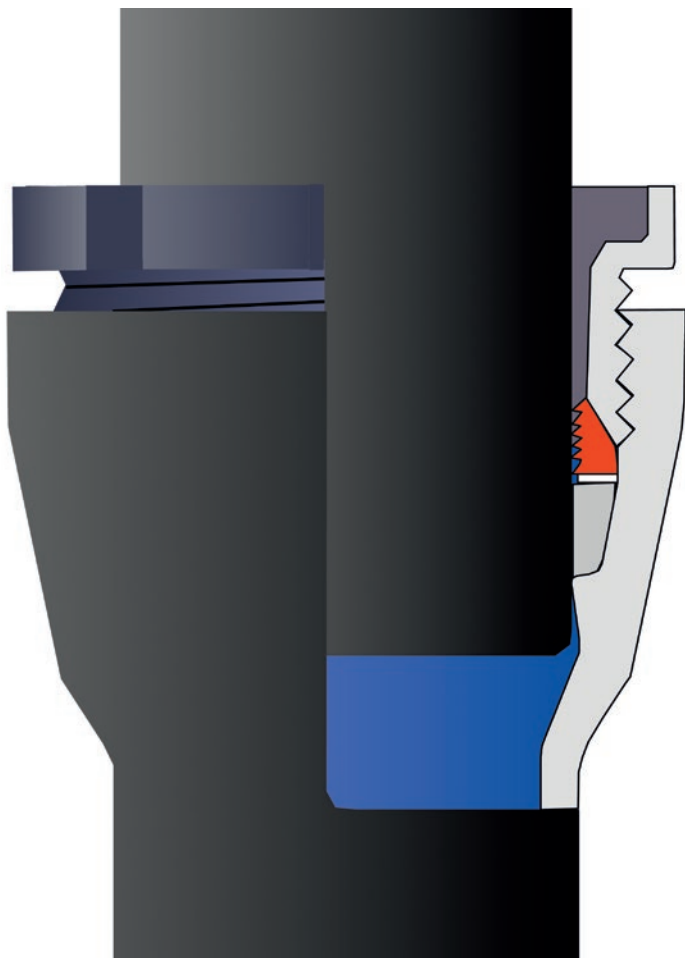
Use the pipe laying tool or dismantling collar to draw the spigot out of the socket.

If it should not be possible to insert the blades around the whole circumference, the pipeline must be separated.



Laying instructions for ductile cast iron pressure pipes and fittings, equipped with thrust resisting joint Düker SMU

396





General instructions:

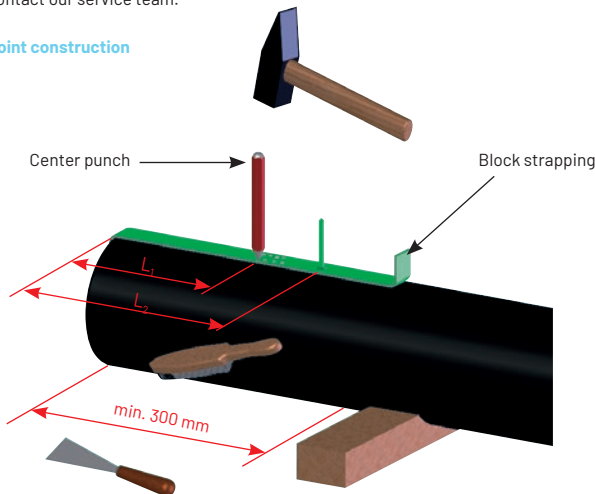
For laying pressure pipes and fittings with thrust resisting joint Düker **SMU**, the "laying instructions for ductile cast iron pressure pipes and fittings with screw-gland joint" should be observed.

The screw-gland joint Düker **SMU** only works as thrust resisting joint and gasket, if there is enough space between socket and spigot. The spigot should be drawn into the socket by tightening the screw ring. Only by this way a secure pressing of the gasket is guaranteed.

Application field:

The thrust resisting joint Düker **SMU** is available for dimensions DN 40 up to DN 65 and for nominal pressures up to 16 bar (pressure class C50). This self-anchoring, thrust resisting socket joint substitutes concrete anchoring blocks. The suitable number of thrust resisting connections has been laid down in DVGW-standard GW 368 and has to be observed. Before installation in lines for bridges, ducts or river-crossings, please contact our service team.

Joint construction



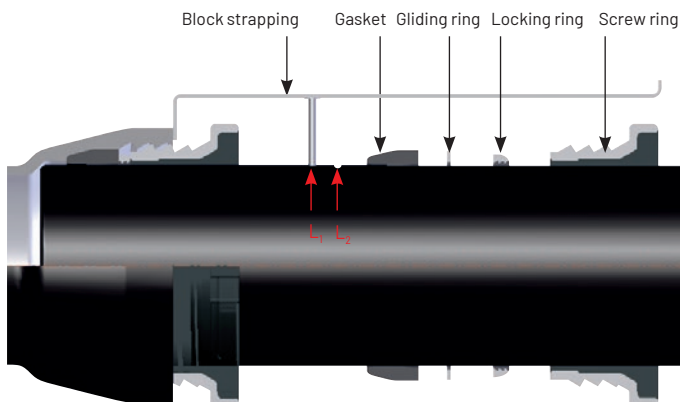
Clean the inside of the socket and the spigot and on a length of at least 300 mm. Drive in the clearance markings L_1 and L_2 with the center punch.

Laying instructions for ductile cast iron pressure pipes and fittings, equipped with thrust resisting joint Düker SMU

398

Dimensions L_1 and L_2 in mm

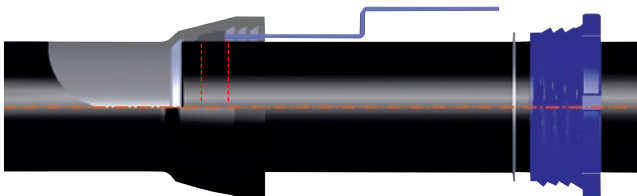
DN	40		50		65	
	L_1	L_2	L_1	L_2	L_1	L_2
Standard socket	161	161	164	172	170	178
Long socket	200	200	203	211	209	217



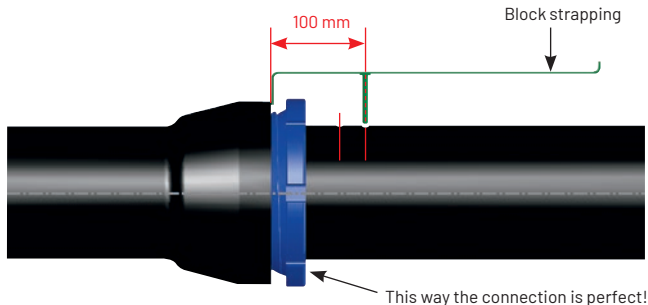
Insert the screw ring, locking ring, gliding ring and gasket in this sequence behind the centre punch marking L_2 . Lubricate the pipe end, face of gasket, gliding ring and locking ring as well as the face and the screw thread of the screw ring with the lubricant supplied by the pipe manufacturer.

Insert the pipe end into the socket, centre it and check the installation depth L_1 .

Do not remove lifting gear yet.



Press the gasket evenly into the socket (centering) with the help of the inserting device. Push in the gliding ring and locking ring until the gliding ring touches the gasket. Tighten the screw ring with a hammer or a ram until it cannot be turned any more.



Check the correct installation depth:
Block strapping must be within $L_2 \pm 3 \text{ mm}$.

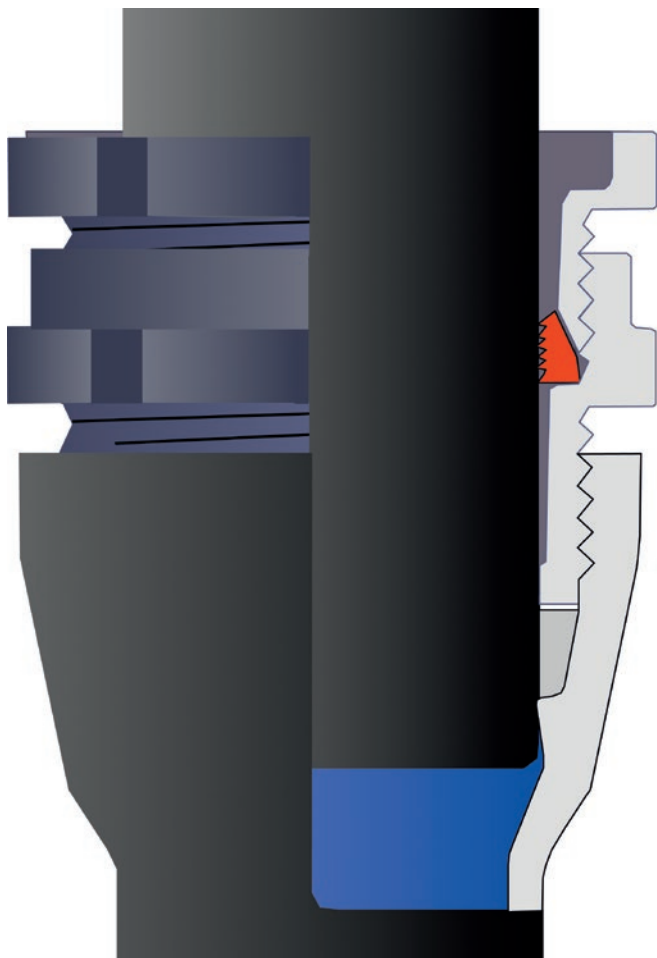
After installation of the connection in central position, pipes can be deviated

DN 80 - 200 up to 3° and

DN 250 - 400 up to 2°

Laying instructions for ductile cast iron pressure pipes and fittings, equipped with thrust resisting joint Düker SPEZIAL particularly for flanged sockets and collars

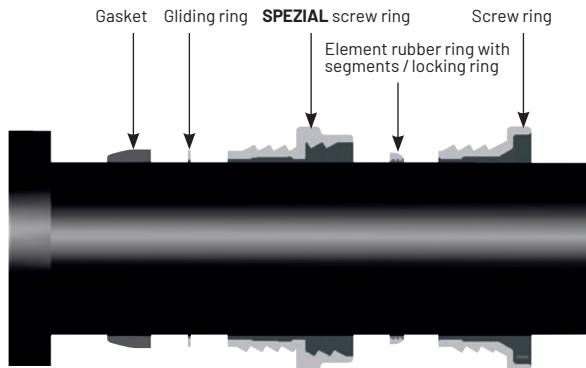
400





General instructions:

For laying pressure pipes and fittings with thrust resisting joint **Düker SPEZIAL**, the "laying instructions for ductile cast iron pressure pipes and fittings with screw-gland joint" should be observed.



Enables mounting without block strapping as well as the thrust-resisting end connection of flanged sockets and collars. Screw ring and **SPEZIAL** screw ring are delivered in blue-grey colour.

Application field:

DN 80 – 400, PN 16

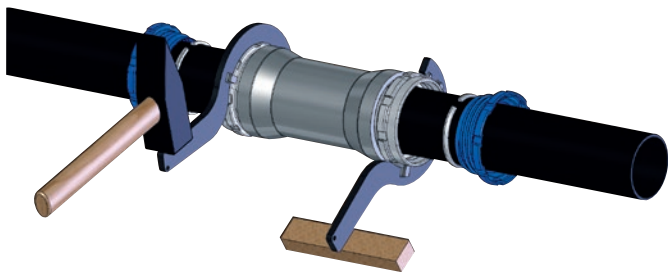
For allowable operating pressures and pressures classes please refer to page 367.

Laying instructions for ductile cast iron pressure pipes and fittings, equipped with thrust resisting joint **Düker SPEZIAL** particularly for flanged sockets and collars

402 Assembling steps

- Clean spigot/s in the area of sealing moves and mark the installation depth.
- Insert screw ring, locking ring/s (DN 80 – 250) or element rubber ring/s (DN 300 + 400), **SPEZIAL** screw ring/s, gliding ring/s (DN 80 – 400, $t = 3$ mm) and gasket/s (lubricate inside) in this sequence onto the spigot and pay attention to the correct position (see mounting drawing).
- Lubricate spigot/s, thrust-face/s and outside surface/s of gasket/s, gliding ring/s and locking ring/s (element rubber ring/s), the thrust-face/s and thread of screw rings as well as sealing chambers and the thread of the sockets with lubricant.
- Insert spigot into the socket and check the installation depth. In case of installing a collar also lubricate sealing chambers and thread of screw and insert them onto a spigot. After the axial positioning of spigots to each other (avoid deflection and observe installation depth), put the collar in centre to the spigots and adjust centrally.
- Press the gasket evenly into the sealing chamber, push the gliding ring up to the gasket, screw in the **SPEZIAL** screw ring by hand as far as possible and tighten it firmly with the help of a hammer or a ram. Avoid the turning of the socket itself.

In case of installing a collar tighten both sides alternately. The turning of the socket can be avoided by using a second hook wrench (see illustration). Because of the setting behaviour of the gasket, a subsequent tightening after 5 to 10 minutes is recommended.



- Push in the locking rings (element rubber rings) until it touches the **SPEZIAL** screw ring. Insert the screw rings by hand and tighten them with hammer blows.
- Deflection: After finishing the connection in central position, pipes can be deflected up to 3° .



For mounting the connection, the following parts are necessary:

Pos. 1: Screw ring made of ductile cast iron, inside chamfered

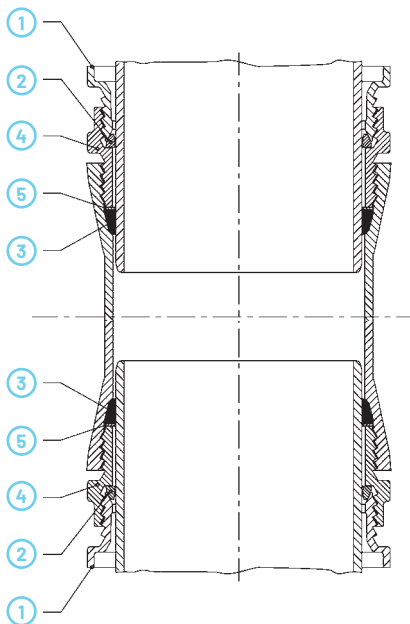
Pos. 2: Element rubber-ring with segments made of steel

Pos. 3: gasket

Pos. 4: Special screw ring made of ductile cast iron, with internal and external screw thread

Pos. 5: Simple gliding ring made of steel

Mounting drawing for collars with thrust resisting joint Düker SPEZIAL



Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint NOVO-Grip® III

404

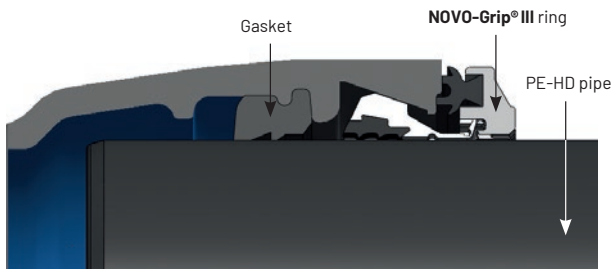




Application field:

405

NOVO-Grip® III locking rings are available for dimensions DN 90 / 110 / 140 / 160 / 225 and for operating pressures PN 10/16. This self-anchoring, thrust resisting socket joint substitutes concrete anchoring blocks. The suitable number of thrust resisting connections has been laid down in DVGW-standard GW 368 and has to be observed. Before installation in lines for bridges, ducts or river-crossings, please contact our service team.



Assembling steps

1. Clean the inside of the socket and the spigot end.
2. Insert gasket into **TYTON®** chamber.
3. Insert **NOVO-Grip® III** ring into pre-chamber.
4. Spigot of pipe has to be rounded and smoothened.
5. Insert stabilising bush completely.
6. Drive the spreading wedge into the stabilising bush until stretching. Any protruding end of the spreading wedge has to be cut off so it is flush with the bush.
7. Insert pipe into the socket through **NOVO-Grip® III** ring until touching the gasket.
8. Connect the joint by employing commercial pipe-laying tools.

Please avoid deviation while drawing the spigot into the socket!

Important:

Changes of circumferential directions have to be arranged before connecting.
(e.g. installation of outlets, tees a.s.o.).

Note:

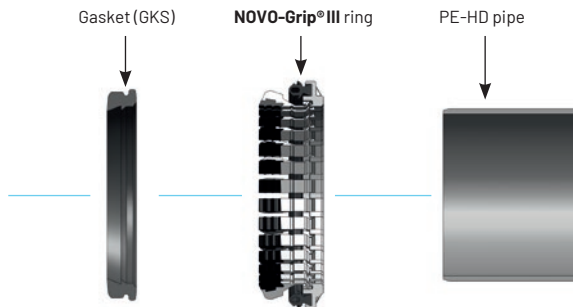
Fittings and valves with a nominal dimension of DN 200 for pipeline diameters of 225 mm do not have a standard **Novo** socket! These parts are equipped with an adapted geometry and are marked with the sign "for PE-HD Pipes". Please consider this when you order your pipeline components. These instructions are also applicable for the thrust resisting joint **NOVO-Grip®** PVC combined with PVC pipes.

D

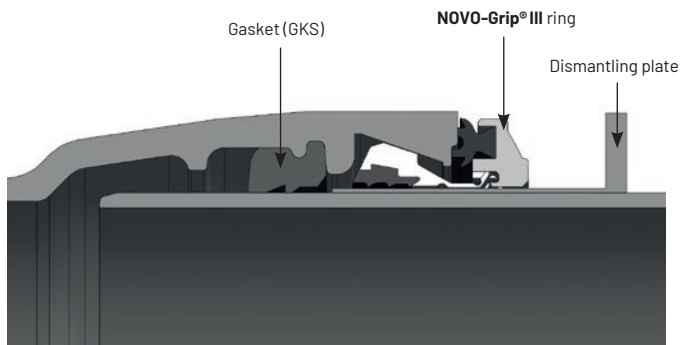
a

Laying instructions for ductile cast iron pressure pipes, fittings and valves, equipped with thrust resisting joint NOVO-Grip® III

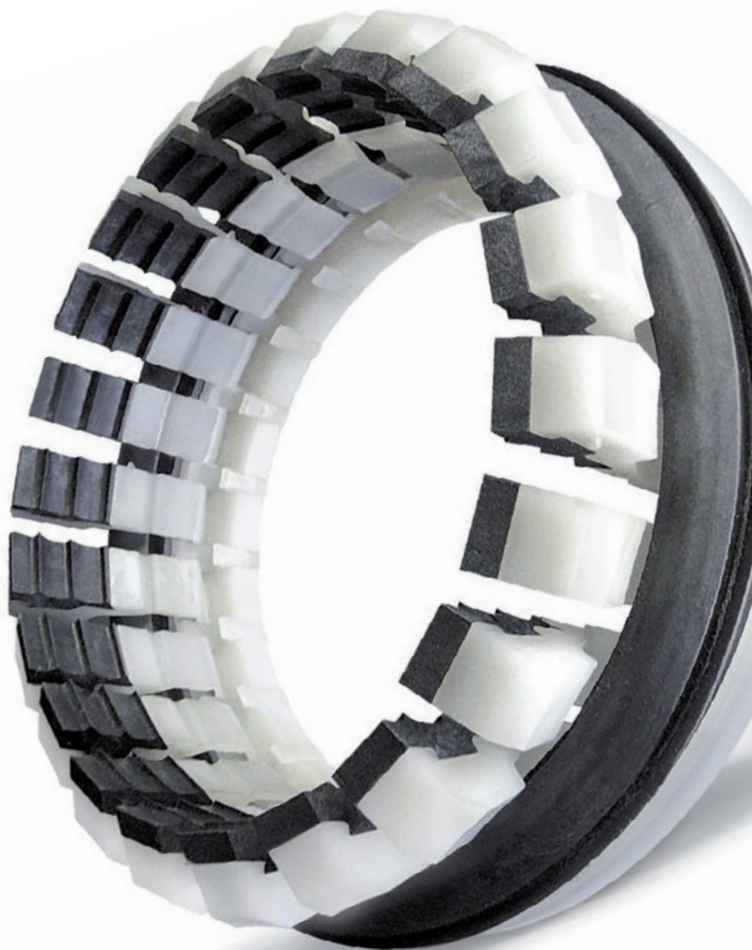
406



Dismantling of thrust resisting joints



1. Push in the spigot until it touches the ground of the socket.
2. Lubricate the dismantling plates and drive them in on the whole circumference with the help of the hammering device.
3. Dismantle by using the laying tool.



Laying Instructions for Bolted-Gland Socket Joints

408 Installation:

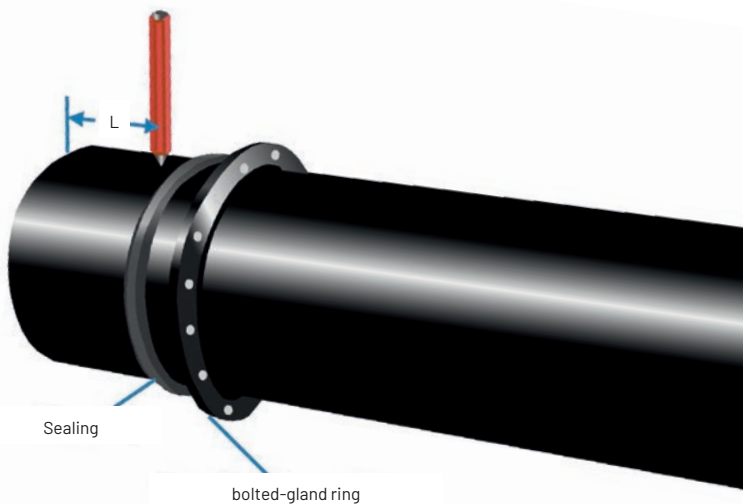
- Clean the socket (particularly the sealing seat), the spigot to be inserted, the sealing and the bolted-gland ring
- Mark the distance measure:

Length of measure L in mm

DN	100	125	150	200	250	300	350	400
L	160	160	160	162	162	165	165	170
DN	450	500	600	700	800	900	1000	1200*
L	172	172	180	182	190	197	200	215

*DN 1200: please observe page 411!

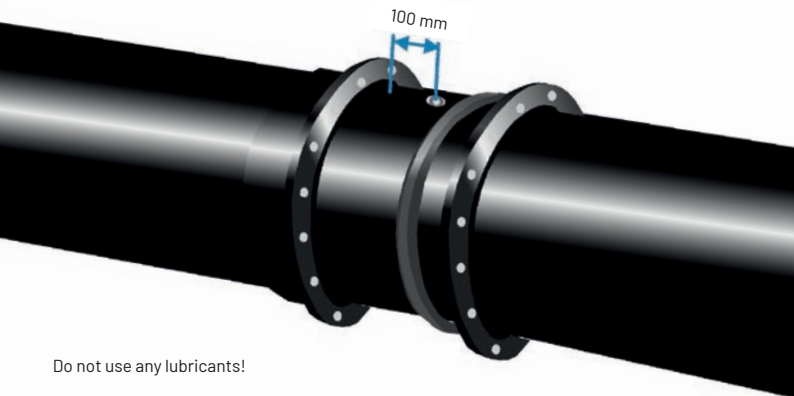
- Push the bolted-gland ring and sealing ring behind the marking





- Insert the spigot into the socket so a distance of 100 mm is kept between the mark and the flange

409



Do not use any lubricants!

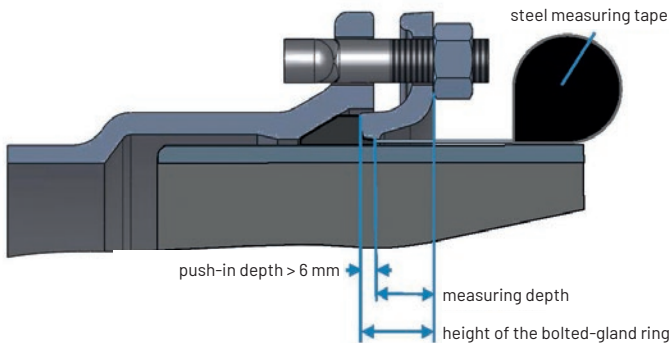
- Push the sealing into the sealing seat
- Push the bolted-gland ring onto the sealing and align it using hardwood wedges
- Insert hammer head bolts into the bolted-gland flange and the bolted-gland ring
- Screw on the nuts by hand as tightly as possible
- Tighten the nuts with ring spanners one by one (always two nuts facing each other) by a half or one turn each time

D

b

Laying Instructions for Bolted-Gland Socket Joints

- 410** The tightening is correct when the bolted-gland ring has pushed itself at least 6 mm into the sealing. The depth can be determined by measuring the height of the bolted-gland ring, and the depth from the edge of the bolted-gland ring up to the sealing ring before and after tightening the bolts. The depth on one bolted-gland socket joint should be as uniform as possible.



Control the correct depth once more.

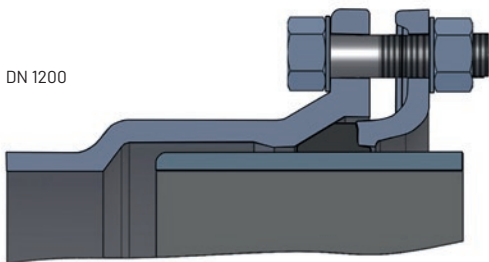
Deflection:

After tightening the joint in a centred and aligned position, the pipes can be put in an angle of up to 3° .

An angle of 1° results in a deviation of a 6 m pipe from the axis of the connected pipe or fitting by approx. 10 cm; for 3° it is approx. 30 cm.



DN 1200



Hexagonal head bolts and washers instead of hammer head bolts

Fittings with bolted-gland socket joints in DN 1200 are supplied with specific installation instructions which must be observed in detail.

The marking of the distance measure and the insertion of the bolted-gland ring and the sealing correspond to page 408.

Then assemble the bolts with the washers and insert them. Lubricate the bolt threads and screw on the nuts and washers by hand while aligning the sealing.

Then tighten the nuts one by one, always two nuts facing each other. The socket flange and the bolted-gland ring must remain parallel and never differ by more than 15 mm. The required torque is 150 ± 20 Nm.

Before the pressure test, control the torque once more.

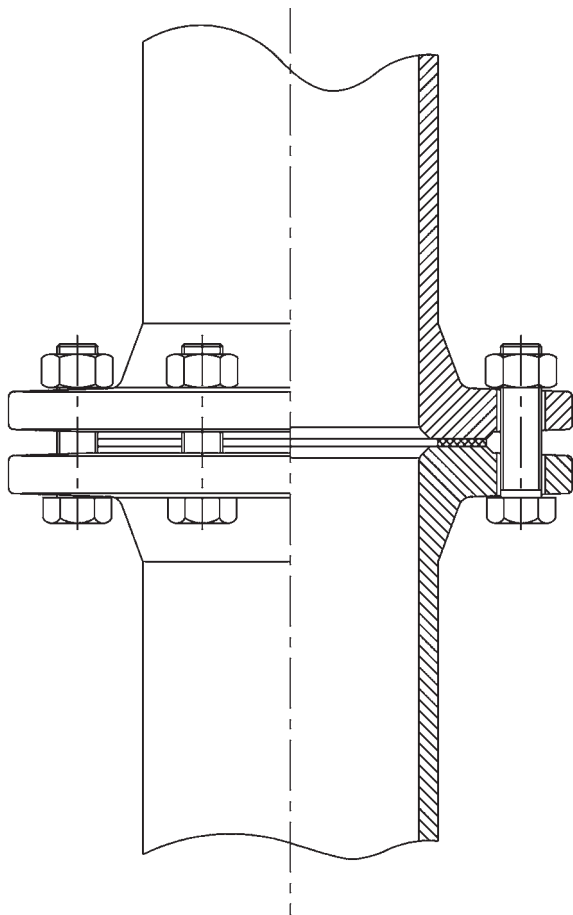
Deflection:

After mounting the joint in a centred and aligned position, the pipes can be deflected by up to 2° .

Attention: in this case tighten the bolts at first with a torque of only 60 ± 10 Nm, and after deflection tighten with 150 ± 20 Nm.

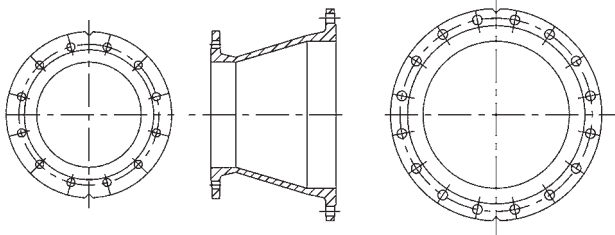
Assembly instructions for pressure pipes and fittings with flanges

412





1. Clean the flange, raised face and gasket. Check all parts for proper conditions. Do not use damaged parts.
2. In case of installation with unprotected screws, especially in soils with corrosion risk, the screw connections must be protected (f. e. with bituminous tapes).
3. Pipes and fittings must be bedded carefully and the filling and compacting of the pipe ditch must be done carefully as well. Pipes and fittings should never be supported with stones or similar hard material and must be laid on stonefree base. Rocky base must be covered with min. 15 cm layer of sand, gravel or split.
4. For flanged pipes and fittings the general rule for the arrangements of the boltholes is that no bolthole is located in the flange axis, which is upright to the pipeline level.
5. Notes for the installation of flanged fittings (in particular double flanged tapers / FFR).

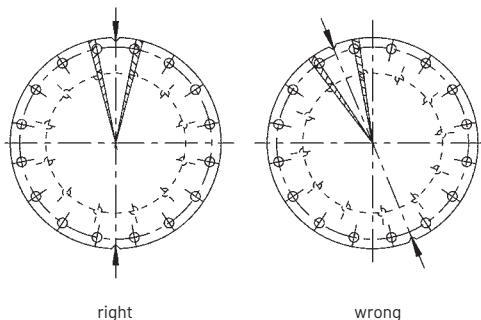


To avoid installation errors, special installation marks (notches) are cast on at the flanges in opposite positions. It is necessary to ensure that these marks are arranged for installation in vertical or horizontal direction.

Assembly instructions for pressure pipes and fittings with flanges



414 Example: Double flanged taper (FFR) 350 / 250 PN 10



In case of wrong installation and due to the unequal number of boltholes on double-flanged tapers, the connecting valves or fittings will be slanting from the vertical axis. Possible deviations are up to 22.5° , depending on the diameter.

Attention:

On large diameters, a deviation is hardly detectable!

Assembly instructions for drilling saddle pieces



Required tools:

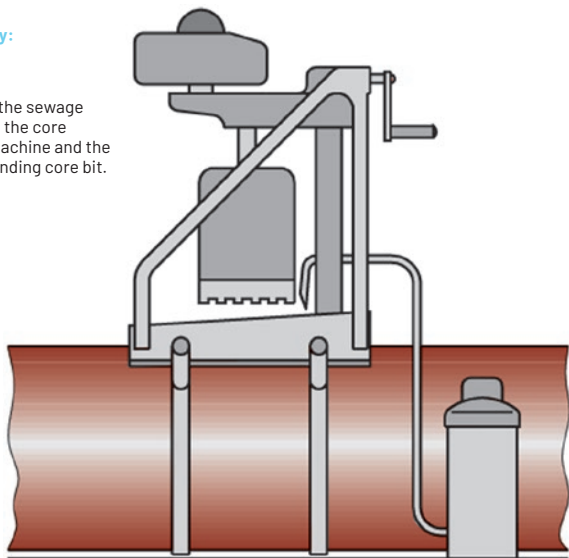
- core drilling machine
- core bit $\varnothing 172 +1,5/-0$ mm for DN 150
- core bit $\varnothing 232 +1,5/-0$ mm for DN 200
- drilling machine or cordless electric drill
- hammer
- punch
- carbide drill $\varnothing 13$ mm (e.g. DIN 8037)
- file
- brush
- lubricant (included in the delivery)
- protective paint

415

Assembly:

Step 1:

Drill into the sewage pipe with the core drilling machine and the corresponding core bit.



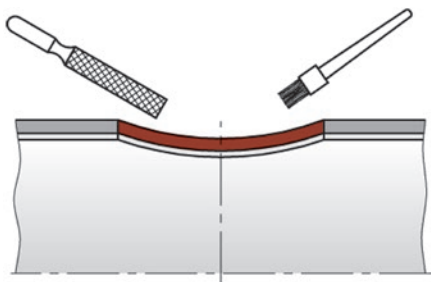
D

d

Assembly instructions for drilling saddle pieces

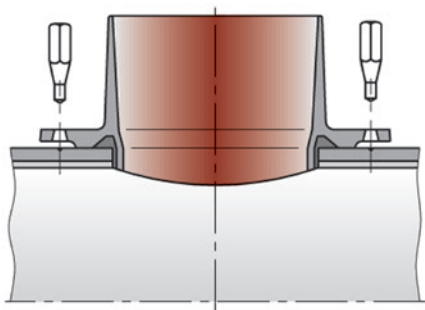
416 Step 2:

Deburr, clean, dry and repaint the drilling edges with a fast-drying epoxy resin paint. On sewage pipes with external cement mortar coating, this coating is to be removed in the contact area of the spot-drilling saddle piece.



Step 3:

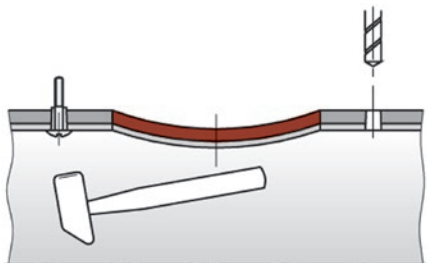
Insert the saddle sealing into the drill hole. Fit on the saddle piece and mark the position of the screw holes on the pipe by punching through the screw holes of the saddle piece. Then remove the saddle piece and the sealing.





Step 4:

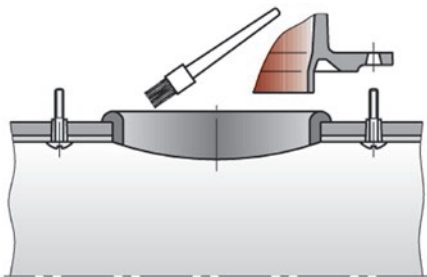
Drill two holes on the punch marks with the 13 mm carbide drill. Then insert the screws and sealing sleeves contained in the delivery into the drill holes from the inside and drive them cautiously through with a hammer.



417

Step 5:

Re-insert the saddle sealing into the drill hole. Watch out for exact positioning. Apply lubricant to the sealing and put on the saddle piece.



D

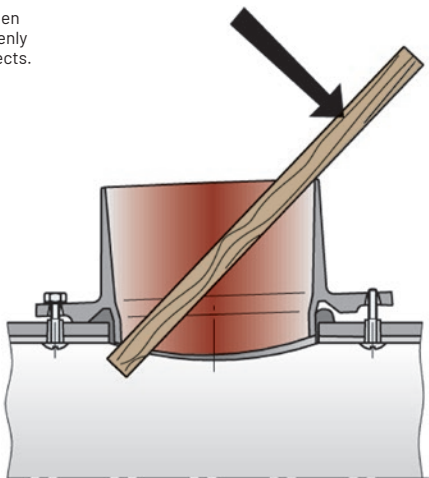
d

Assembly instructions for drilling saddle pieces



418 Step 6:

Screw on the nuts lightly, then tighten alternatively and evenly until the saddle piece connects. Do not use any lever that might damage the coating (use e.g. a square timber).





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