

Hiline Steel Duo Product Catalogue

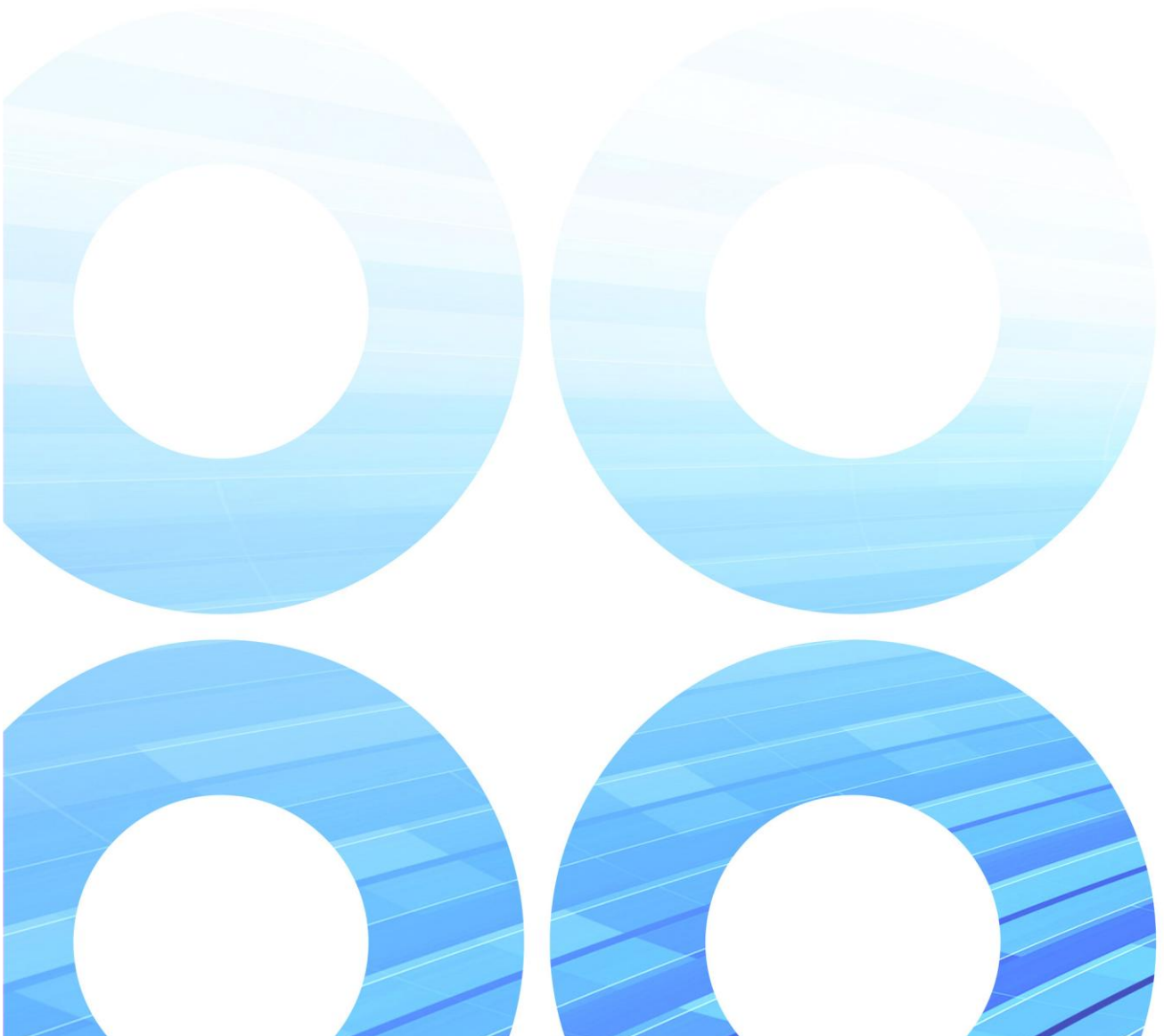


Table of contents

Section	Content
1	Specification for CPV Hiline-ZPUM Double Preinsulated Steel Pipes
2	Specification for Thermal Insulation
3	Surveillance System
4	General Principles of Laying Double Preinsulated Pipe in Soil
5	Cross-sections of Jacket and Carrier Pipes
6	Quality Assurance System
7	Information on Other Products
8	Preinsulated Pipes
8.1	Straight Preinsulated Pipes
9	Preinsulated Fittings
9.1	90° Elbow
9.2	75° Elbow
9.3	60° Elbow
9.4	45° Elbow
9.5	30° Elbow
9.6	15° Elbow
9.7	Vertical Elbow
9.8	Preinsulated Elevated Tee
9.9	Flat preinsulated tee
9.10	Double reducer
9.11	Wye transition fitting
9.12	Double anchor point
10	Preinsulated Steel Valve Fittings and Fixtures
10.1	Double Cut-off Valve
10.2	Vent Ball Valve
10.3	Double Strain Ball Valve
10.4	Double Cut-off Valve with Vent Ball Valve
10.5	Double Cut-off Valve with Strain Ball Valve
10.6	Double Cut-off Valve with Vent and Strain Ball Valves
11	Coupling Unit
11.1	Common Coupling
11.2	Heat shrinkable coupling fusion welded
11.3	PeX Crosslinked heat shrinkable coupling
11.4	Fusion welded DX coupling
12	Insulation and Pipeline Closing
12.1	Pipeline Closing – End Sleeve
12.2	End Cap – Heat Shrinkable Sleeve
13	Warning Tape
14	Rubber Ring

1. Specification for CPV Hiline-ZPUM Double Pre-Insulated Steel Pipes

MANUFACTURE

Manufactured within an ISO 9001:2008 accredited environment and in accordance with BS EN 253 as supplied by:

CPV Ltd

Tel: +44 (0)1794 322884 Fax: +44 (0)1794 322885

E-mail: sales@cpv.co.uk Web: www.cpv.co.uk

Woodington Road, East Wellow, Romsey, Hampshire, SO51 6DQ, UK

STANDARDS

CPV Hiline ZPUM is manufactured to EN253, EN 448, EN 488, EN489.

CARRIER PIPE

Seamless Pipe

Carrier pipe is a certified steel seamless pipe manufactured in compliance with standards for steel in accordance with EN-10216-2 steel grade P235GH, **or** DIN-1629 steel grade ST 37.0 **or** R-35: PN 84/H-74220

Seamed Pipe

Certified seamed / welded steel pipe in compliance with per EN 10217-2/A1 and EN 10217-5/A2 from steel P235GH, **or** EN10217-1 P235 TR1 **or** P235 TR2 **or** DIN-1626 steel St 37.0 **or** EN10255 (BS 1387).

If these pipes are to be used in the transmission of potable hot water, then seamless pipe is to be manufactured in compliance with EN-10216-2 steel grade P235GH, **or** DIN-1629 steel grade ST 37.0 **or** R-35: PN 84/H-74220 galvanised in accordance with EN 10240, EN 1461, EN 1179.

- Upper yield stress 235MPa;
- Tensile strength 348 - 480 MPa;
- Density 7850 kg/m;
- Pressure rating 5 MPa

To increase the adhesion of rigid polyurethane foam (PUR) to steel pipe, the external surface of the steel pipe is shot blasted till it attains grade one cleanliness. Pipe ends are bevelled and ready to be welded.

Inspection Certificate: EN 10204 – 3.1b.

2. Specification for Thermal Insulation

Insulation is made of rigid polyurethane foam CFC free foam (PUR) homogenously filling the space between the pipes over the total length and in compliance with standard **BS-EN- 253**

Thermal conductivity coefficient	w/mK	0.024 - 0.029
Minimum core mass density	kg/ m³	60
Radial compression strength	MPa	0.30
Thermal resistance	°C	152

Higher performing insulation is available upon request

CASING PIPE

Casing pipe is made in compliance with standard **BS-EN 253** in high density polyethylene (PEHD):

- Density 950 kg/m³;
- Upper yield stress 19 MPa;
- Elongation at break at least 350%;
- Expected life at least 50 years

All outer casing pipe inner surfaces are corona treated during production ensuring optimum adhesion of the insulation to the casing pipe.

FINISHED PIPES

Continuous operating temperature 140 Deg C for 30 years
Maximum short peak operating temperatures 152 Deg C.

INSTALLATION

CPV Hiline ZPUM pre-insulated pipes can be installed both above ground and underground and the installation shall be guided by the general principles and practices of EN13941 "Design and Installation of Pre-insulated Bonded Pipes for District Heating" and strictly in accordance with CPV's instructions.

3. Surveillance System

CPV Hiline ZPUM can be equipped with any system for detecting moisture ingress, such as Nordic pulse system 2 copper detection wires 1.5mm² (One tinned for identification) 16SWG BS4109, **or** resistance system (BRANDES), **or** HDW system **or** client specified system. Such a system comprises wires embedded in the insulation layer. The system signals moisture spots in any place of the pipeline.

4. General Principles of Laying Preinsulated Pipe in Soil

Preinsulated pipes and fittings are laid directly in ground in narrow trenches on a sand substrate at least 10 cm thick. Prior to welding steel carrier pipes, in each common joint or a heat shrinkable one, a sleeve has to be pushed on, which will protect the joint heat insulation.

Once the pipes have been welded and leak tests are over, a heat insulation layer has to be laid down and the joint tightness tested.

A completed preinsulated pipeline is then subject to a technical acceptance, and then is backfilled with sand up to 10 cm above the upper pipe surface. Both the substrate and backfilling layers have to be compacted, so that the line is placed in homogenous conditions. Once the backfilling layer has been stabilised, the remaining part is replenished with virgin soil. A minimal thickness of the covering layer is 40 cm. See CPV Hiline ZPUM installation guides for further details.

5. Cross-sections of Jacket and Carrier Pipes

CPV Hiline ZPUM double pipes and fittings are manufactured from jacket and carrier pipes of the following diameters:

Steel Carrier Pipe				PEHD Jacket Pipe		PEHD Jacket Pipe	
DN	D _{ext}	R-35	St-37.0	Standard insulation		Insulation Plus	
		g	g	D _{ext}	gp	D _{ext}	gp
mm	mm	mm	mm	mm	mm	mm	mm
2×20	26.9	2.6	2.9	125	3.0	140	3.0
2×25	33.7	2.6	2.9	140	3.0	160	3.0
2×32	42.4	2.6	2.9	160	3.0	180	3.0
2×50	60.3	2.9	3.2	200	3.2	225	3.4
2×65	76.1	2.9	3.2	225	3.4	250	3.6
2×80	88.9	3.2	3.6	250	3.6	280	3.9
2×100	114.3	3.6	4.0	315	4.1	355	4.5
2×125	139.7	3.6	4.0	400	4.8	450	5.2
2×150	168.3	4.0	4.5	450	5.2	500	5.6
2×200	219.1	4.5	6.3	560	6.0	630	6.6

DN – steel pipe nominal diameter;
thickness

D_{ext} – external diameter,

gp – wall

Recommended diameters of preinsulated jacket pipes and fittings are given on further pages of the catalogue.

Tables show pipe and fitting geometric dimensions up to a diameter of DN 600.

Geometric dimensions of products exceeding nominal diameters of DN 600 are ordered individually.

Specifications of preinsulated products should state carrier pipe steel grade (R-35 or St-37.0, and P 235GH seamless or seamed), type of thermal insulation, type of moisture detection embedded system or its lack, and for pipes their length and quote symbols used throughout the catalogue. Other carrier pipe materials are available upon request.

6. Quality Assurance System

CPV Hiline ZPUM preinsulated materials and products manufactured are presently compliant with the Integrated Quality Management System *Environment, compliant with standard BS 9001 and EN ISO 14001

The quality management and environment management system covers: design, development, manufacturing, supplies, service and installation of CPV Hiline ZPUM preinsulated pipes and fittings with due attention paid to environmental regulations.

We have been awarded a certificate by the international organisation associating preinsulated product customers Euroheat & Power, Sweden No. 01/05, which confirms the compliance and quality of our products with the requirements set out by standards EN 253, EN 448 and Euroheat & Power guidelines.

7. Information on Other Products

CPV also supplies:

- Above ground chemical drainage systems : CPV-Zurn
- Below ground chemical drainage systems : CPV-Floway
- Dual contained pipe systems : CPV-Safeflo
- Pressure pipes : CPV-Chemflo
- Fabricated tanks & vessels : CPV-Bulk
- Specialist extrusions, mouldings & fabrications : CPV-Custom
- polyethylene pipes grade PE 100 – navy blue, to be used in water mains, in diameters between Ø 25 and Ø 1200 mm, in the following diameter ranges: SDR 9, SDR 11, SDR 13.6, SDR 17, SDR 21, SDR 26, SDR 27.6, SDR 33 and SDR 41; supplied as straight units 12.5 m long (for diameters between 75 and 1200 mm), and coiled in lengths up to 200 m (for diameters between 25 and 110 mm), or in any other length as agreed with the customer;
- polyethylene pipes grade PE 100 – black, to be used in pressure sewer systems, in diameters between Ø 32 and Ø 1200 mm, in the following diameter ranges: SDR 9, SDR 11, SDR 13.6, SDR 17, SDR 21, SDR 26, SDR 27.6, SDR 33 and SDR 41; supplied as straight units 12 m long (for diameters between 75 and 1200 mm), and coiled in lengths up to 200 m (for diameters between 32 and 110 mm), or in any other length as agreed with the customer;
- polyethylene culvert pipes in diameters between Ø 50 and Ø 1200 mm, supplied in straight units 12 m long or any other lengths as agreed with the customer;
- preinsulated flex units to be used in hot water buried utilities with PEX carrier pipes;
- PE jacket pipes in diameters between Ø 75 and Ø 1200 mm;
- sleeves in diameters between 83 and 472 mm;
- heat shrinkable sleeves and cross-linked heat shrinkable sleeves and fusion welded DX couplings (to set up a coupling unit thermal insulation);
- preinsulated pipes featuring polyethylene carrier pipe (non-alloyed or alloyed) (diameters agreed with the customer);
- preinsulated pipes featuring single steel carrier pipe (non-alloyed or alloyed)
- preinsulated corrugated pipes (as per SPIRO catalogue);
- Preinsulated pipes to be used in water steam pipelines.

8. Preinsulated Pipes

8.1 Straight Preinsulated Pipes

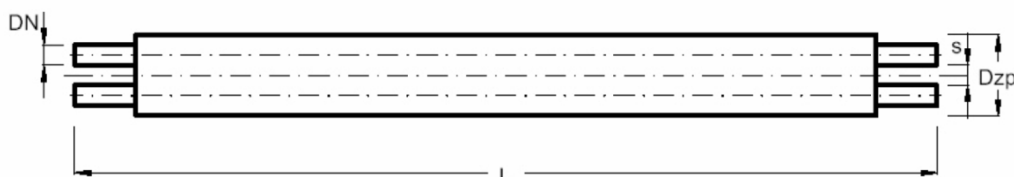


Table 1

Steel Carrier Pipe		Casing Pipe	Length	Pipe Spacing	Weight 1 m of pipe		Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter			seamed	seamless	
DN	Dz	Dzp	L	s	kg	kg	
mm	mm	mm	m	mm	kg	kg	
2x20	26,9	125	6/12	19	5,12	5,44	II-R20+20/125
2x25	33,7	140	6/12	19	6,36	6,77	II-R25+25/140
2x32	42,4	160	6/12	19	8,00	8,55	II-R32+32/160
2x40	48,3	160	6/12	19	8,83	9,47	II-R40+40/160
2x50	60,3	200	6,12	20	12,52	13,33	II-R50+50/200
2x65	76,1	225	6,12	20	15,86	16,90	II-R65+65/225
2x80	88,9	250	6,12	25	20,46	22,08	II-R80+80/250
2x100	114,3	315	6,12	25	29,96	32,06	II-R100+100/315
2x125	139,7	400	6,12	30	40,69	43,29	II-R125+125/400
2x150	168,3	450	6,12	40	53,23	57,17	II-R150+150/450
2x200	219,1	560	6,12	45	78,39	96,88	II-R200+200/560

Note: When ordering, specify steel grade (reference number P235GH, P235TR1, P235TR2).

9. Preinsulated Fittings

9.1 90° Elbow

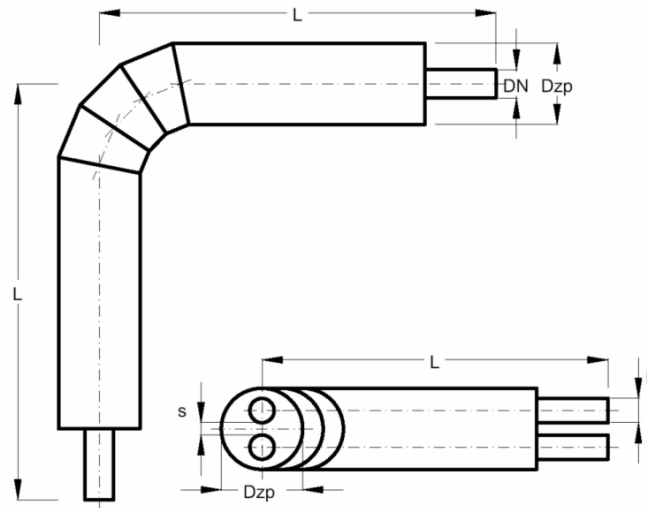


Table 2

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/90
2×25	33.7	140	1000	II-K25+25/90
2×32	42.4	160	1000	II-K32+32/90
2×40	48.3	160	1000	II-K40+40/90
2×50	60.3	200	1000	II-K50+50/90
2×65	76.1	225	1000	II-K65+65/90
2×80	88.9	250	1000	II-K80+80/90
2×100	114.3	315	1000	II-K100+100/90
2×125	139.7	400	1000	II-K125+125/90
2×150	168.3	450	1000	II-K150+150/90
2×200	219.1	560	1000	II-K200+200/90

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.2 75° Elbow

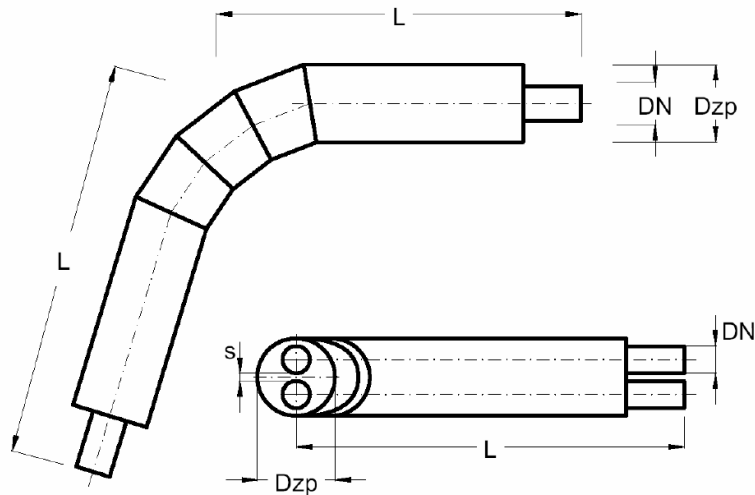


Table 3

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/75
2×25	33.7	140	1000	II-K25+25/75
2×32	42.4	160	1000	II-K32+32/75
2×40	48.3	160	1000	II-K40+40/75
2×50	60.3	200	1000	II-K50+50/75
2×65	76.1	225	1000	II-K65+65/75
2×80	88.9	250	1000	II-K80+80/75
2×100	114.3	315	1000	II-K100+100/75
2×125	139.7	400	1000	II-K125+125/75
2×150	168.3	450	1000	II-K150+150/75
2×200	219.1	560	1000	II-K200+200/75

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.3 60° Elbow

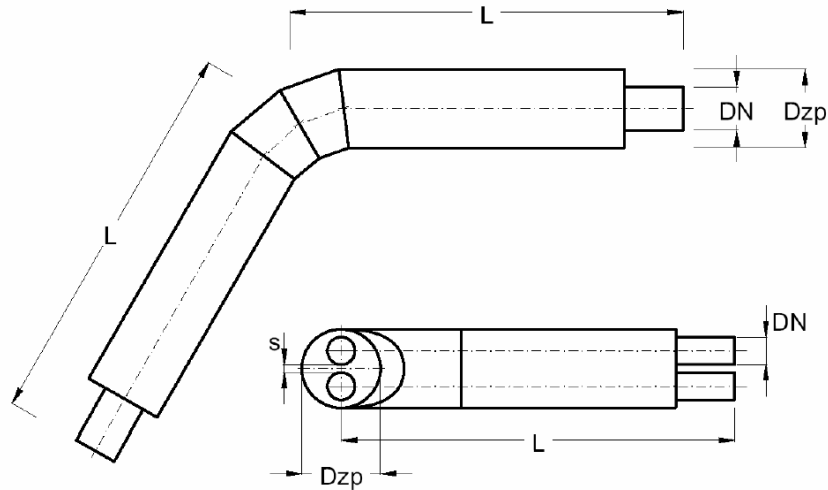


Table 4

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/60
2×25	33.7	140	1000	II-K25+25/60
2×32	42.4	160	1000	II-K32+32/60
2×40	48.3	160	1000	II-K40+40/60
2×50	60.3	200	1000	II-K50+50/60
2×65	76.1	225	1000	II- K65+65/60
2×80	88.9	250	1000	II -K80+80/60
2×100	114.3	315	1000	II-K100+100/60
2×125	139.7	400	1000	II-K125+125/60
2×150	168.3	450	1000	II-K150+150/60
2×200	219.1	560	1000	II-K200+200/60

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.4 45° Elbow

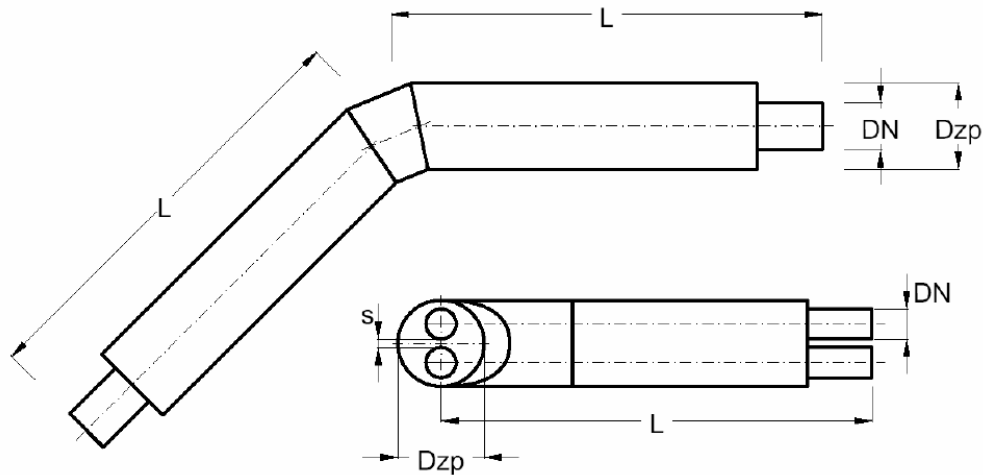


Table 5

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/45
2×25	33.7	140	1000	II-K25+25/45
2×32	42.4	160	1000	II-K32+32/45
2×40	48.3	160	1000	II-K40+40/45
2×50	60.3	200	1000	II-K50+50/45
2×65	76.1	225	1000	II-K65+65/45
2×80	88.9	250	1000	II-K80+80/45
2×100	114.3	315	1000	II-K100+100/45
2×125	139.7	400	1000	II-K125+125/45
2×150	168.3	450	1000	II-K150+150/45
2×200	219.1	560	1000	II-K200+200/45

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.5 30° Elbow

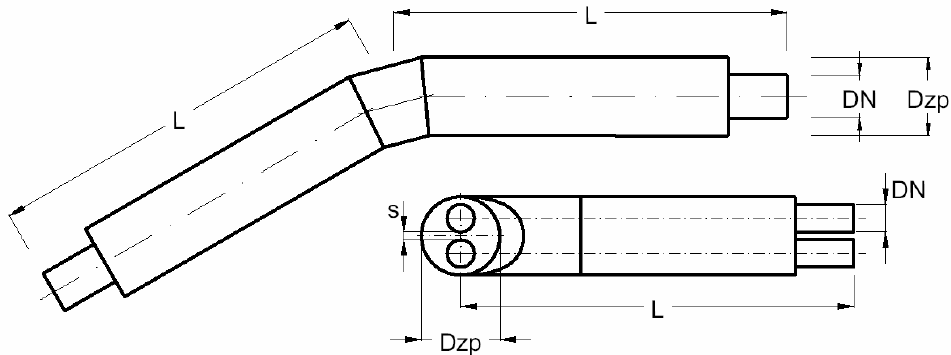


Table 6

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/30
2×25	33.7	140	1000	II-K25+25/30
2×32	42.4	160	1000	II-K32+32/30
2×40	48.3	160	1000	II-K40+40/30
2×50	60.3	200	1000	II-K50+50/30
2×65	76.1	225	1000	II-K65+65/30
2×80	88.9	250	1000	II-K80+80/30
2×100	114.3	315	1000	II-K100+100/30
2×125	139.7	400	1000	II-K125+125/30
2×150	168.3	450	1000	II-K150+150/30
2×200	219.1	560	1000	II-K200+200/30

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.6 15° Elbow

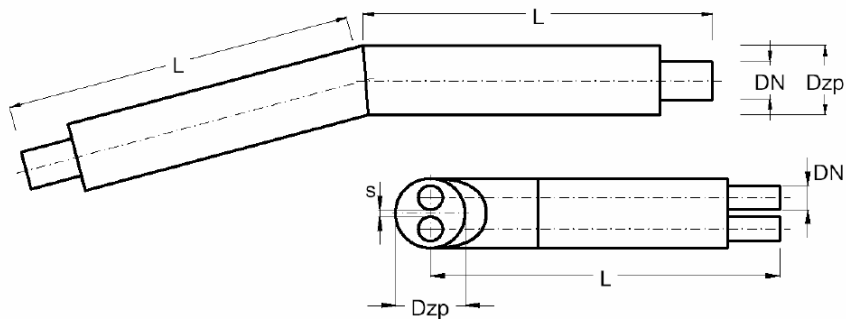


Table 7

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/15
2×25	33.7	140	1000	II-K25+25/15
2×32	42.4	160	1000	II-K32+32/15
2×40	48.3	160	1000	II-K40+40/15
2×50	60.3	200	1000	II-K50+50/15
2×65	76.1	225	1000	II-K65+65/15
2×80	88.9	250	1000	II-K80+80/15
2×100	114.3	315	1000	II-K100+100/15
2×125	139.7	400	1000	II-K125+125/15
2×150	168.3	450	1000	II-K150+150/15
2×200	219.1	560	1000	II-K200+200/15

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.7 Vertical Elbow

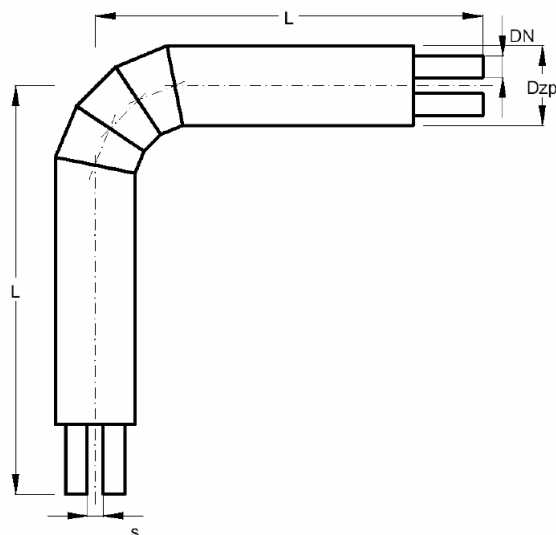


Table 8

Steel Carrier Pipe		Casing Pipe	Elbow Length	Catalogue Reference Number
Nominal Diameter	External Diameter	External Diameter		
DN	Dz	Dzp	A 90	
mm	mm	mm	mm	
2×20	26.9	125	1000	II-K20+20/P
2×25	33.7	140	1000	II-K25+25/P
2×32	42.4	160	1000	II-K32+32/P
2×40	48.3	160	1000	II-K40+40/P
2×50	60.3	200	1000	II-K50+50/P
2×65	76.1	225	1000	II-K65+65/P
2×80	88.9	250	1000	II-K80+80/P
2×100	114.3	315	1000	II-K100+100/P
2×125	139.7	400	1000	II-K125+125/P
2×150	168.3	450	1000	II-K150+150/P
2×200	219.1	560	1000	II-K200+200/P

Bend radius:

For diameters from DN 20 up to DN 40 – 3d

For diameters from DN 50 up to DN 200 – 2.5d

9.8 Preinsulated Cranked Tee

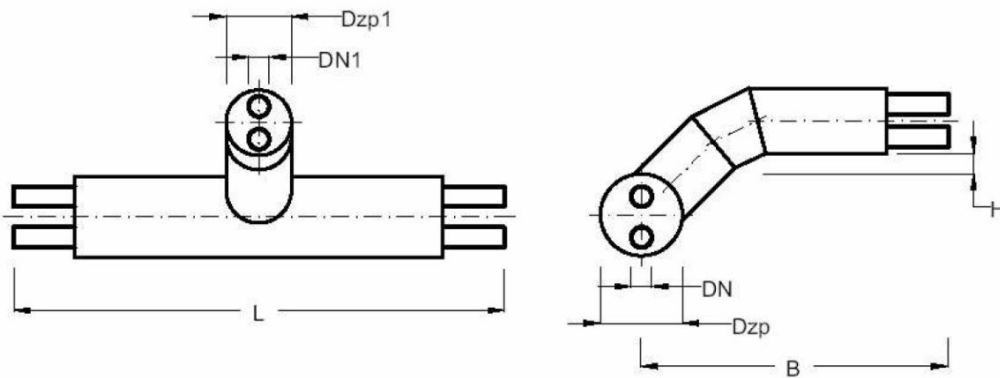


Table 9

Straight Section (pass)		Vertical Section (lateral)		Tee Length H	Dimension H	Dimension B	Catalogue Reference Number
Steel Pipe Nomina	Casing Pipe Diameter	Steel Pipe Nomina	Casing Pipe Diameter				
DN	Dzp	Dz1	Dzp1	mm	mm	mm	
mm	mm	mm	mm	mm	mm	mm	
2x20	125	2x20	125	1200	50	700	II-TW20/20
2x25	140	2x25	140	1200	50	700	II-TW25/25
2x32	160	2x32	160	1200	50	700	II-TW32/32
2x40	160	2x40	160	1200	50	700	II-TW40/40
2x50	200	2x50	200	1200	50	700	II-TW50/50
2x65	225	2x65	225	1200	50	900	II-TW65/65
2x80	250	2x80	250	1200	50	900	II-TW80/80
2x100	315	2x100	315	1200	50	900	II-TW100/100
2x125	400	2x125	400	1200	50	900	II-TW125/125
2x150	450	2x150	450	1200	50	900	II-TW150/150
2x200	560	2x200	560	1200	50	900	II-TW200/200

9.9. Flat preinsulated Tee

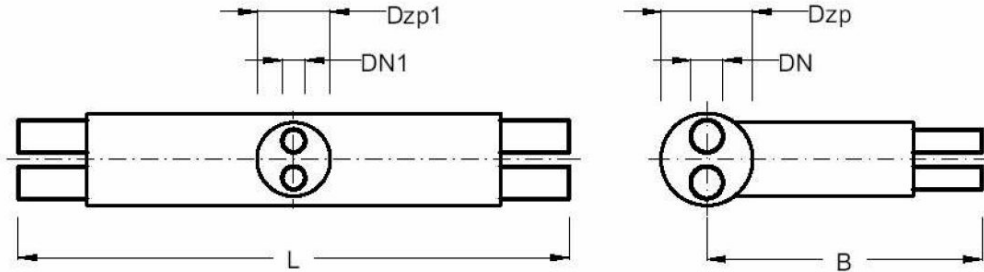


Table 10

Straight Section (pass)		Vertical Section (lateral)		Tee Length H	Dimension B	Catalogue Reference Number
Steel Pipe Nominal Diameter	Casing Pipe Diameter	Steel Pipe Nominal Diameter	Casing Pipe Diameter			
DN	Dzp	Dz1	Dzp1			
mm	mm	mm	mm	mm	mm	
2x20	125	2x20	125	1200	700	II-TP20/20
2x25	140	2x25	140	1200	700	II-TP25/25
2x32	160	2x32	160	1200	700	II-TP32/32
2x40	160	2x40	160	1200	700	II-TP40/40
2x50	200	2x50	200	1200	700	II-TP50/50
2x65	225	2x65	225	1200	900	II-TP65/65
2x80	250	2x80	250	1200	900	II-TP80/80
2x100	315	2x100	315	1200	900	II-TP100/100
2x125	400	2x125	400	1200	900	II-TP125/125
2x150	450	2x150	450	1200	900	II-TP150/150
2x200	560	2x200	560	1200	900	II-TP200/200

9.10 Double reducer

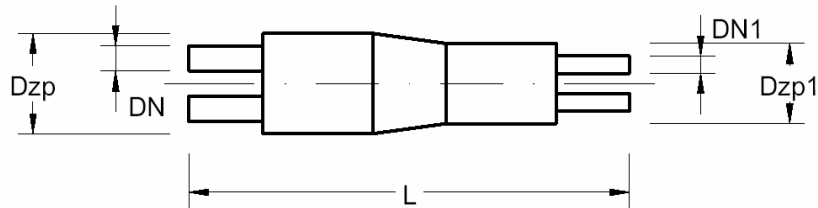


Table 11

Pass Pipe		Reducer		Reducer Length H	Catalogue Reference Number
Steel Pipe Nominal Diameter	Casing Pipe External Diameter	Steel Pipe Nominal Diameter	Casing Pipe External Diameter		
DN	Dzp	Dz1	Dzp1	mm	
2×25	140	2×20	125	1000	II-Z25/20
2×32	160	2×25	140	1000	II-Z32/25
2×40	160	2×32	160	1000	II-Z40/32
2×50	200	2×40	160	1000	II-Z50/40
2×65	225	2×50	200	1000	II-Z65/50
2×80	250	2×65	225	1000	II-Z80/65
2×100	315	2×80	250	1000	II-Z100/80
2×125	400	2×100	315	1000	II-Z125/100
2×150	450	2×125	400	1000	II-Z150/125
2×200	560	2×150	450	1000	II-Z200/150

9.11 Wye transition fitting

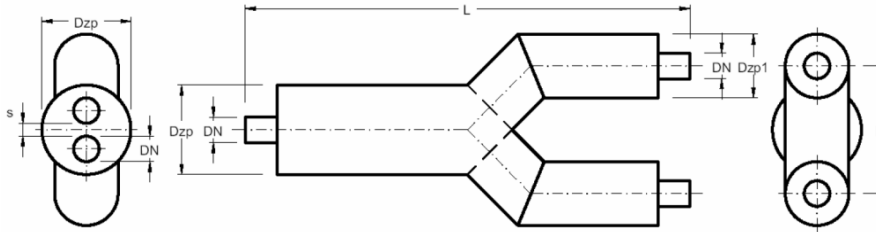


Table 12

Pass Pipe			Single Pipes			Length	Catalogue Reference Number
Steel Pipe Nominal Diameter	Casing Pipe Diameter	Spacing between Carrier Pipes	Steel Pipe Nominal Diameter	Casing Pipe External Diameter	Spacing between Pipes		
DN	Dzp	S	DN	Dzp1	B	L	
mm	mm	mm	mm	mm	mm	mm	
2×20	125	18	20	75	240	2000	KY-2×20/20
2×25	140	18	25	90	240	2000	KY-2×25/25
2×32	160	18	32	110	260	2000	KY-2×32/32
2×40	160	18	40	110	260	2000	KY-2×40/40
2×50	200	20	50	125	280	2000	KY-2×50/50
2×65	225	20	65	140	290	2000	KY-2×65/65
2×80	250	25	80	160	310	2000	KY-2×80/80
2×100	315	25	100	200	350	2000	KY-2×100/100
2×125	400	30	125	225	380	2000	KY-2×125/125
2×150	450	40	150	250	400	2000	KY-2×150/150
2×200	560	45	200	315	480	2000	KY-2×200/200

9.12 Double Anchor Point

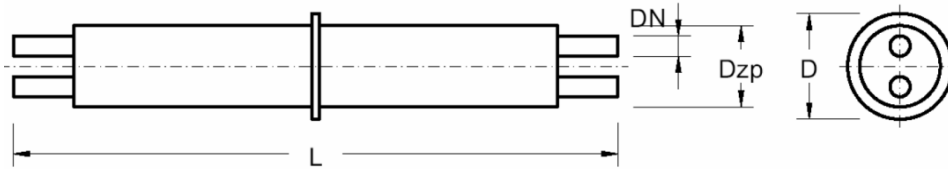


Table 13

Carrier Pipe Nominal Diameter	Spacing between Pipes	Casing Pipe Diameter	Ring Diameter	Length	Catalogue Reference Number
DN	S	Dzp	D	L	
[mm]	[mm]	[mm]	[mm]	[mm]	
2×20	18	125	170	2000	II-PS20
2×25	18	140	200	2000	II-PS25
2×32	18	160	220	2000	II-PS32
2×40	18	160	220	2000	II-PS40
2×50	20	200	260	2000	II-PS50
2×65	20	225	300	2000	II-PS65
2×80	25	250	320	2000	II-PS80
2×100	25	315	400	2000	II-PS100
2×125	30	400	500	2000	II-PS125
2×150	40	450	560	2000	II-PS150
2×200	45	560	680	2000	II-PS200

10. Preinsulated Steel Valve Fittings and Fixtures

10.1 Double Cut-off Valve

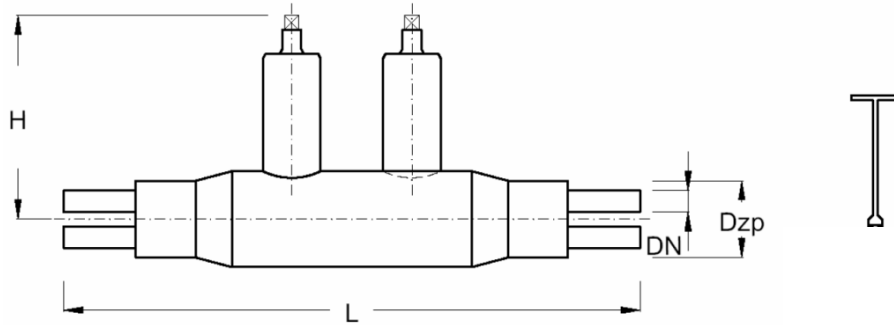


Table 14

Steel Carrier Pipe		Casing Pipe Diameter	Spacing between Pipes	Height	Length	Catalogue Reference Number
Nominal Diameter	External Diameter					
DN	Dz	Dzp	S	B	L	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
2×20	26.9	125	18	380	1200	II-ZK20
2×25	33.7	140	18	384	1200	II-ZK25
2×32	42.4	160	18	388	1200	II-ZK32
2×40	48.3	160	18	403	1200	II-ZK40
2×50	60.3	200	20	410	1200	II-ZK50
2×65	76.1	225	20	414	1200	II-ZK65
2×80	88.9	250	25	427	1200	II-ZK80
2×100	114.3	315	25	450	1500	II-ZK100
2×125	139.7	400	30	455	1500	II-ZK125
2×150	168.3	450	40	457	1500	II-ZK150
2×200	219.1	560	45	515	1800	II-ZK200

10.2 Vent Ball Valve

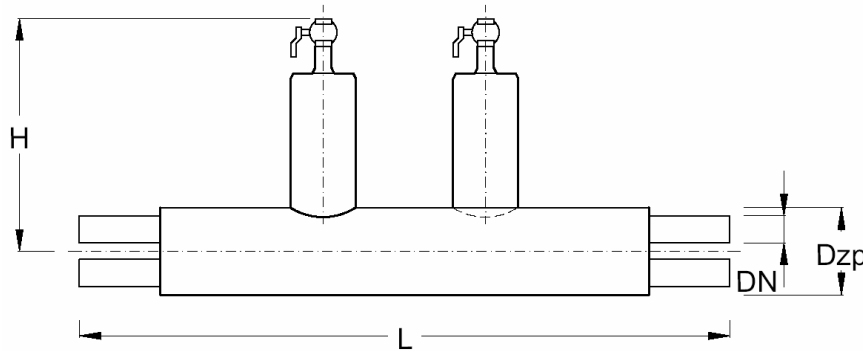


Table 15

Steel Carrier Pipe		Casing Pipe Diameter	Spacing between Pipes	Height	Length	Catalogue Reference Number
Nominal Diameter	External Diameter					
DN	DZ	Dzp	S	B	L	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
2×25	33.7	140	18	384	1200	II-ZD25
2×32	42.4	160	18	388	1200	II-ZD32
2×40	48.3	160	18	403	1200	II-ZD40
2×50	60.3	200	20	410	1200	II-ZD50
2×65	76.1	225	20	414	1200	II-ZD65
2×80	88.9	250	25	427	1200	II-ZD80
2×100	114.3	315	25	450	1500	II-ZD100
2×125	139.7	400	30	455	1500	II-ZD125
2×150	168.3	450	40	457	1500	II-ZD150
2×200	219.1	560	45	515	1500	II-ZD200

10.3 Double Strain Ball Valve

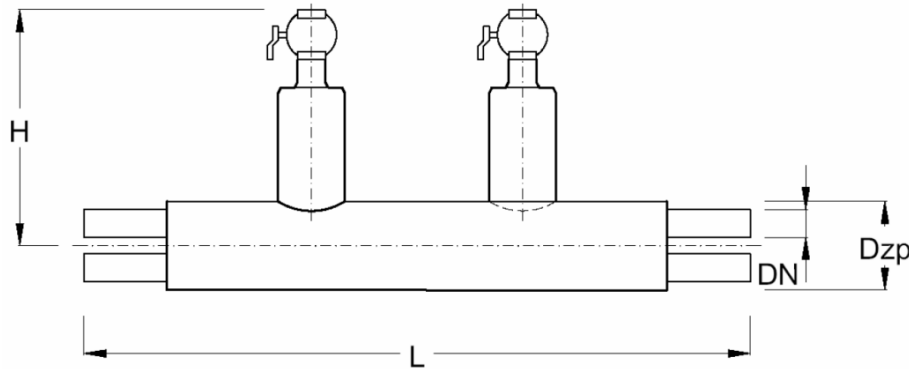


Table 16

Steel Carrier Pipe		Casing Pipe Diameter	Spacing between Pipes	Height	Length	Catalogue Reference Number
Nominal Diameter	External Diameter					
DN	DZ	Dzp	S	B	L	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
2×40	48.3	160	18	403	1200	II-ZO40
2×50	60.3	200	20	410	1200	II-ZO50
2×65	76.1	225	20	414	1200	II-ZO65
2×80	88.9	250	25	427	1200	II-ZO80
2×100	114.3	315	25	450	1500	II-ZO100
2×125	139.7	400	30	455	1500	II-ZO125
2×150	168.3	450	40	457	1500	II-ZO150
2×200	219.1	560	45	515	1500	II-ZO200

10.4 Double Cut-off Valve with Vent Ball Valve

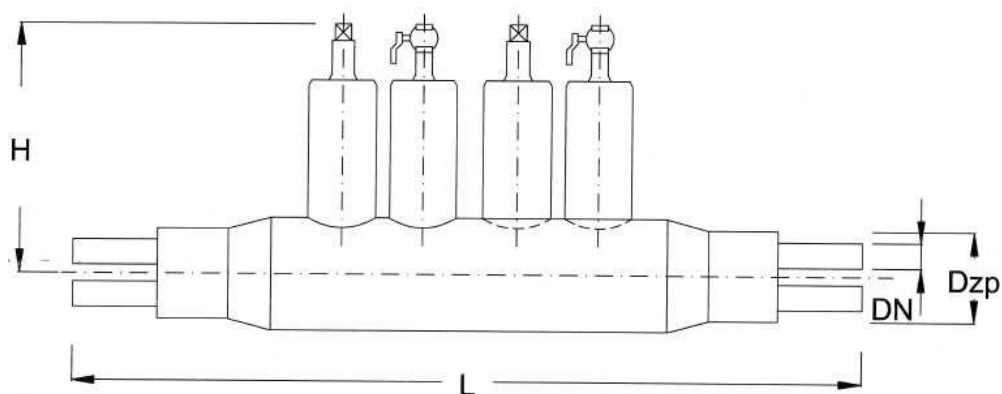


Table 17

Steel Carrier Pipe		Casing Pipe Diameter	Spacing between pipes	Height	Length	Catalogue Reference Number
Nomin al Diameter	External Diameter					
DN	DZ	Dzp	s	H	L	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
2x25	33,7	140	18	384	1800	II-ZKD25
2x32	42,4	160	18	388	1800	II-ZKD32
2x40	48,3	160	18	403	1800	II-ZKD40
2x50	60,3	200	20	410	1800	II-ZKD50
2x65	76,1	225	20	414	1800	II-ZKD65
2x80	88,9	250	25	427	1800	II-ZKD80
2x100	114,3	315	25	450	2100	II-ZKD100
2x125	139,7	400	30	455	2100	II-ZKD125
2x150	168,3	450	40	457	2100	II-ZKD150
2x200	219,1	560	45	515	2100	II-ZKD200

10.5 Double Cut-off Valve with Strain Ball Valve

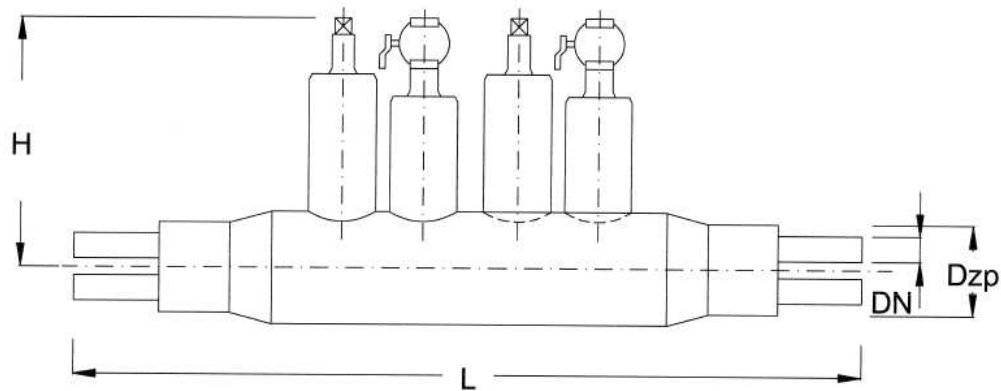


Table 18

Steel Carrier Pipe		Casing Pipe Diameter	Spacing between Pipes	Height Length		Catalogue Reference Number	
Nominal Diameter	External Diameter			H	L		
DN	DZ						Dzp
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
2x32	42,4	160	18	388	1800	II-ZKO32	
2x40	48,3	160	18	403	1800	II- ZKO40	
2x50	60,3	200	20	410	1800	II-ZKO50	
2x65	76,1	225	20	414	1800	II-ZKO65	
2x80	88,9	250	25	427	1800	II-ZKO80	
2x100	114,3	315	25	450	2100	II-ZKO100	
2x125	139,7	400	30	455	2100	II-ZKO125	
2x150	168,3	450	40	457	2100	II-ZKO150	
2x200	219,1	560	45	515	2100	II-ZKO200	

10.6 Double Cut-off Valve with Vent and Strain Ball Valves

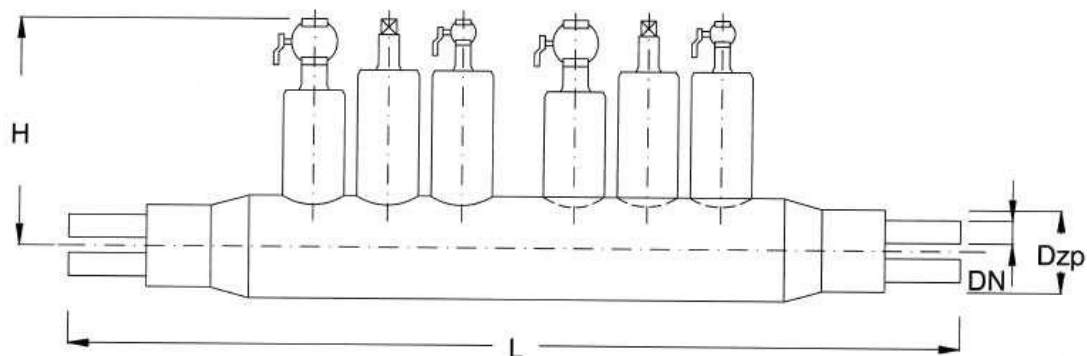


Table 19

Steel Carrier Pipe		Casing Pipe Diameter	Spacing between Pipes	Height	Length	Catalogue Reference Number
Nominal Diameter	External Diameter					
DN	DZ	Dzp	s	H	L	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
2x40	48,3	160	18	403	2400	II-ZKOD40
2x50	60,3	200	20	410	2400	II-ZKOD50
2x65	76,1	225	20	414	2400	II-ZKOD65
2x80	88,9	250	25	427	2400	II-ZKOD80
2x100	114,3	315	25	450	2700	II-ZKOD100
2x125	139,7	400	30	455	2700	II-ZKOD125
2x150	168,3	450	40	457	2700	II-ZKOD150
2x200	219,1	560	45	515	2700	II-ZKOD200

11. Coupling Unit

11.1 Common Coupling

(HPDE sleeve sealed with heat shrinkable tape)

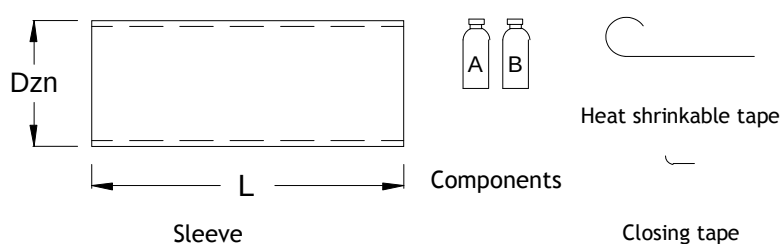
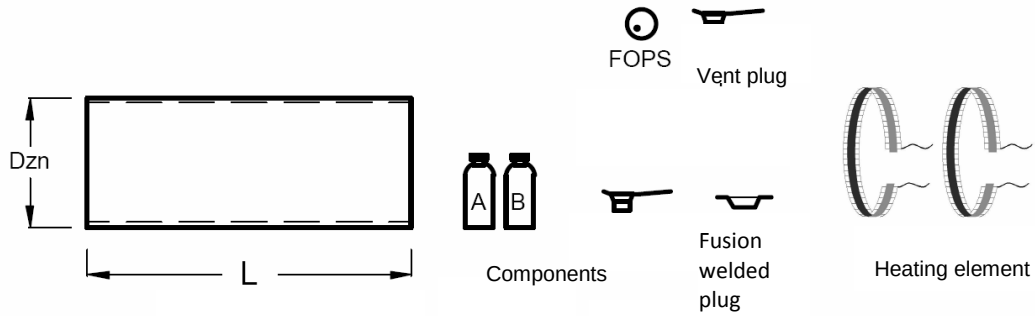


Table 20

Nominal Diameter	Casing Pipe External Diameter	Sleeve External Diameter	Length	Components		Heat Shrinkable Tape	Closing tape	Catalogue Reference Number
DN mm	Dzp mm	Dzn mm	L mm	A g	B g	cm	cm	
2×20	125	136	600	189	319	105	30	II-N-20/136
2×25	140	153	600	237	399	114	30	II-N-25/153
2×32	160	174	600	302	509	129	30	II-N-32/174
2×40	160	174	600	289	486	129	30	II-N-40/174
2×50	200	216	600	450	757	155	30	II-N-50/216
2×65	225	243	600	542	911	171	30	II-N-65/243
2×80	250	269	600	644	1083	187	30	II-N-80/269
2×100	315	338	600	1003	1686	233	30	II-N-100/338
2×125	400	428	600	1641	2758	288	30	II-N-125/428
2×150	450	472	600	1882	3164	320	30	II-N-150/472

11.2 Heat shrinkable coupling fusion welded (HPDE sleeve fusion welded)



Option 2

Table 22

Nominal Diameter	Casing Pipe External Diameter	Sleeve External Diameter	Length	Components		Heating Element	Variant 1 or Variant 2	Catalogue Reference Number
				A	B			
DN	Dzp	Dzn	L	A	B			
mm	mm	mm	mm	g	g	pc	set	
2×20	125	143	600	212	358	2	2	II-DT-20/143
2×25	140	156	600	248	417	2	2	II-DT-25/156
2×32	160	178	600	319	536	2	2	II-DT-32/178
2×40	160	178	600	306	514	2	2	II-DT-40/178
2×50	200	224	600	492	828	2	2	II-DT-50/224
2×65	225	255	600	642	1079	2	2	II-DT-65/255
2×80	250	278	600	703	1181	2	2	II-DT-80/278
2×100	315	341	600	1042	1729	2	2	II-DT-100/341
2×125	400	430	600	1662	2794	2	2	II-DT-125/430
2×150	450	480	600	1973	3317	2	2	II-DT-150/480
2×200	560	590	600	3028	5091	2	2	II-DT-200/590

11.3 PeX Crosslinked heat shrinkable coupling (Crosslinked HPDE sleeve)



Table 23

Nominal Diameter	Casing Pipe External Diameter	Sleeve External Diameter	Length	Components		Variant 1 or Variant 2	Catalogue Reference Number
DN	Dzp	Dzn	L	A	B	set	
mm	mm	mm	mm	g	g		
2×20	125	143	600	212	358	2	II-TS-20/143
2×25	140	156	600	248	417	2	II-TS-25/156
2×32	160	178	600	319	536	2	II-TS-32/178
2×40	160	178	600	306	514	2	II-TS-40/178
2×50	200	224	600	492	828	2	II-TS-50/224
2×65	225	255	600	642	1079	2	II-TS-65/255
2×80	250	278	600	703	1181	2	II-TS-80/250
2×100	315	341	600	1042	1729	2	II-TS-100/341
2×125	400	430	600	1662	2794	2	II-TS-125/430
2×150	450	480	600	1973	3317	2	II-TS-150/480

11.4 Fusion welded DX coupling

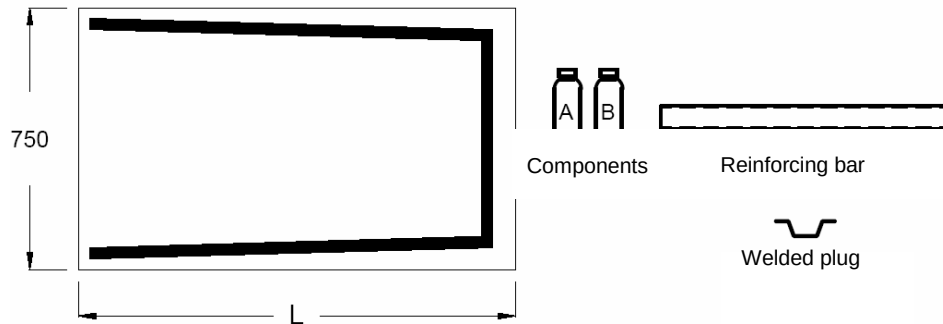


Table 24

Nominal Diameter	Casing Pipe External	Plate Length	Components		Plug	Catalogue Reference Number
			A	B		
DN	Dzp	L	A	B	pc	
mm	mm	mm	g	g		
2×32	160	690	270	455	2	II-DX-160/750
2×40	160	690	257	433	2	II-DX-160/750
2×50	200	820	402	676	2	II-DX-200/750
2×65	225	900	480	807	2	II-DX-225/750
2×80	250	990	574	965	2	II-DX-250/750
2×100	315	1230	899	1511	2	II-DX-315/750
2×125	400	1500	1487	2500	2	II-DX-400/750
2×150	450	1660	1795	3017	2	II-DX-450/750
2×200	560	2000	2676	4500	2	II-DX-560/750

12. Insulation and Pipeline Closing

12.1 Pipeline Closing – End Sleeve

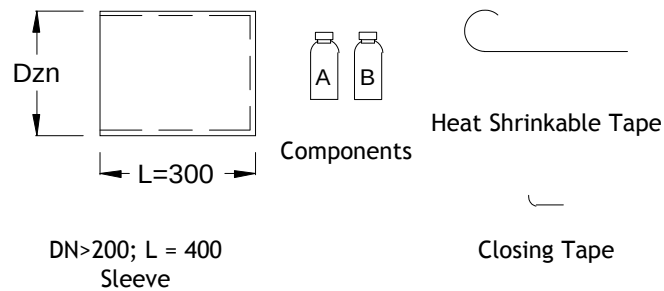


Table 25

Nominal Diameter	Casing Pipe External	Sleeve External Diameter	Components		Heating Element	Variant 1 or Variant 2	Catalogue Reference Number
DN	Dzp	Dzn	A	B			
mm	mm	mm	g	g	pc	set	
2×20	125	143	53	89	52	15	II-NK-20/143
2×25	140	156	62	104	56	15	II-NK-25/156
2×32	160	178	80	134	64	15	II-NK-32/178
2×40	160	178	77	129	64	15	II-NK-40/178
2×50	200	224	123	207	76	15	II-NK-50/224
2×65	225	255	161	270	86	15	II-NK-65/255
2×80	250	278	176	295	94	15	II-NK-80/278
2×100	315	341	260	432	115	22	II-NK-100/341
2×125	400	430	416	698	145	22	II-NK-125/430
2×150	450	480	493	829	161	22	II-NK-150/480
2×200	560	590	757	1272	196	30	II-NK-200/590

12.2 End Cap – Heat Shrinkable Sleeve

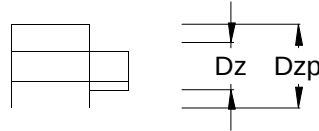


Table 26

Jacket Pipe Nominal Diameter	Catalogue Reference Number
125	E-125/2
140	E-140/2
160	E-160/2
200	E-200/2
225	E-225/2
250	E-250/2
315	E-315/2
400	E-400/2
450	E-450/2
500	E-500/2
520	E-520/2
560	E-560/2

13. Warning Tape

To be placed above a pipeline. Supplied in coils in 350m multiple lengths. Carries a wording "CAUTION! HEATING MAINS BELOW" and a CPV Hiline ZPUM logo.



Table 27

	Colour	Width [mm]	Catalogue Reference Number
Warning Tape	yellow	155	T-150

14. Rubber Ring

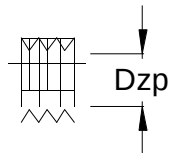


Table 28

Jacket Pipe Nominal Diameter	Catalogue Reference Number
125	P-125
140	P-140
160	P-160
200	P-200
225	P-225
250	P-250
315	P-315
400	P-400
450	P-450
500	P-500
520	P-520
560	P-560

CPV Ltd
Woodington Mill
Woodington Road
East Wellow
Romsey
Hampshire
SO51 6DQ
United Kingdom

Tel: +44 (0)1794 322 884
Fax: +44 (0)1794 322 885
Email: enquiries@cpv.co.uk
Follow us on Twitter:
@CPVltd
Follow us on LinkedIn:
/cpv-limited
www.cpv.co.uk

Registered Office:
Station Road West,
Ash Vale
Hampshire, GU12 5LZ
Registered in England
and Wales No: 468471
VAT No. 1234567

