

DISTRICT HEATING EXPANSION JOINTS PRODUCTS



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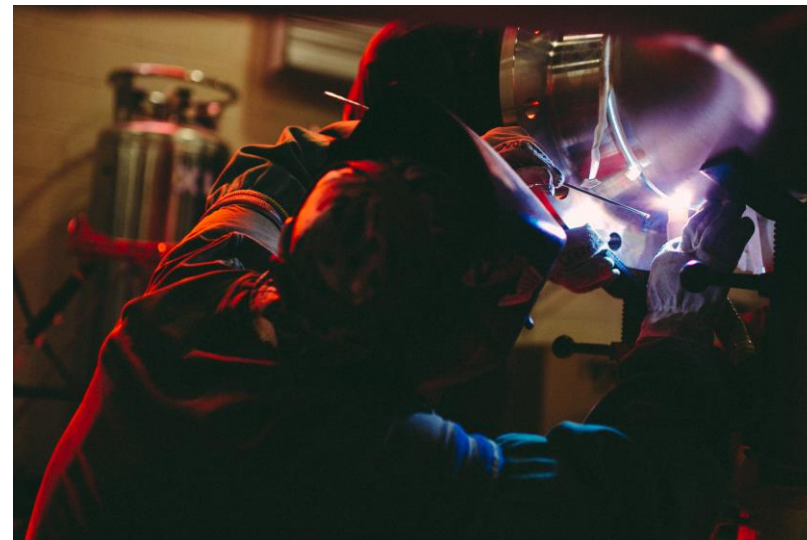
1. COMPANY

Tcomp is a family owned company, founded in 1986 as a sister company to Tjæreborg Industry A/S. We have developed many innovative technologies, design and manufactured to almost all industries.

Most of our products is produced, according customized solutions from our customers requirements. In addition to this, we have a wide range of standard products in our inventory. See www.tcomp.dk

Tcomp values:

- | | | |
|--|--|--|
|  Our know-how |  B2B |  Flexibility |
|  Quality |  Long-Lasting product |  Fast Delivery |



2. DISTRICT HEATING

District Heating expansion joints are used to absorb the thermal expansion parallel to the axis of the straight pipelines. Long piping systems are divided into shorter expanding sections, and isolated by main anchors.

Please read more about our different solutions to your pipeline.

Identification Sticker is attached to all District Heating Expansion Joints for Technical Data and traceability. The sticker is heat and water resistant.

ONE TIME COMPENSATOR

TECHNICAL DATA:

NOMINAL SIZE:	DN100
PIPE SIZE	Ø114,3 x 3,6 mm
NOMINAL PRESSURE:	PN25
PIPE MATERIAL:	P235GH (EN 1.0345)
BELLOW MATERIAL:	AISI 321 (EN 1.4541)
STANDARD:	EN448
AXIAL MOVEMENT:	-100mm
ITEM NUMBER:	ODH25-125
MAX. AXIAL FORCES:	265N/mm ²
COMPR/TENSILE:	163N/mm ²
TEMPERATURE DIFFERENCE:	130°C

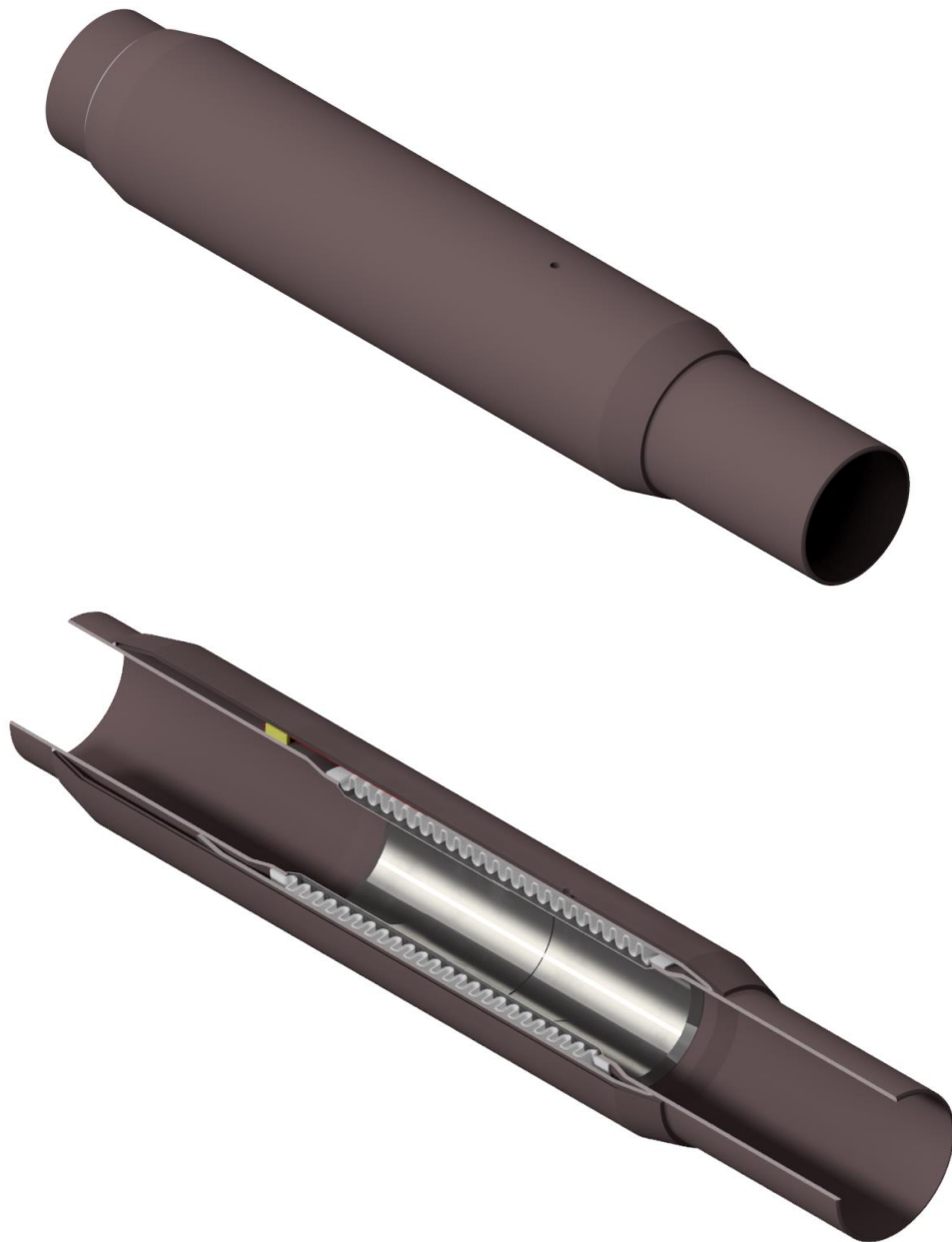


MATERIAL CERT:

BELLOW/1:	RP18-01
PIPES/2:	S.Nr5760
OUTER SHROUD/3:	S.Nr5712
INNER SHROUD/4:	S.Nr5711



3. OPERATING EXPANSION JOINT



Operating Expansion Joints (Operating compensators) are specially designed and adapted for installation in all district heating pipe systems. The operating compensator is designed so that, when it is fully compressed, the axial compressive forces of the pipeline, is transmitted directly through the exterior shroud. In case of shutdown and other situations where temperature drops, high tensile stresses occur, then bellow will retreat towards pre-stressed condition as installed.

This construction means that the number of clamps in the pipesystem can be reduced, since the compensatores can be installed in series on pipe sections, with a minimum of 2X6m pipe in between, without intermediate clamps. The drift/operating compensators will start each other individually.

To ensure against torsions in the bellow, when its in operation, 2 pcs. Guide beams is added. In addition the telescopic joint between the shroud, forms a guide, so that the pipeline can be welded and closed, without damaging the compensator.

The operating compensator is 100% pre-set from the factory. And is activated automatically when the system is put in operation.

FEATURES

OPERATION RANGE

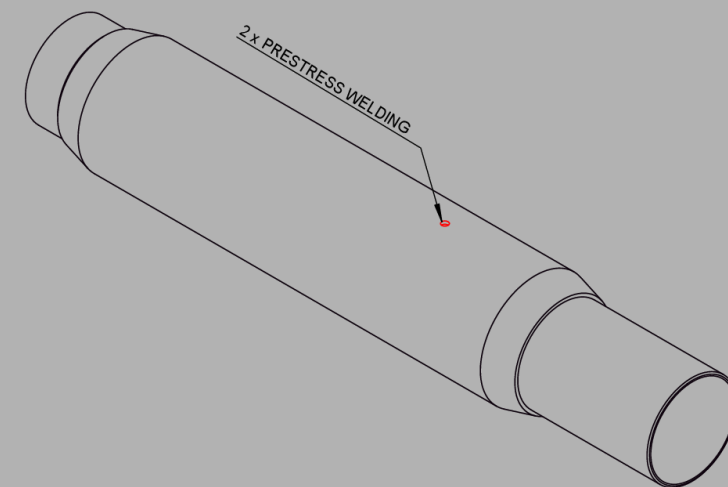
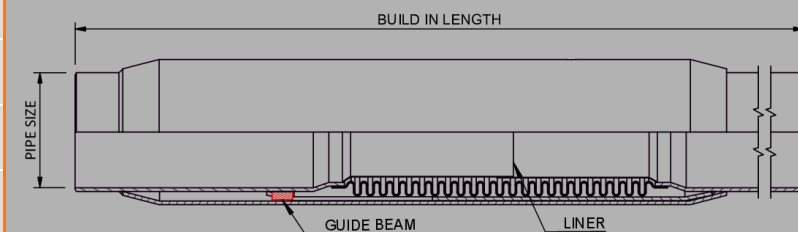
- Size: DN32 – DN700
- Temp: 120°C +
- Pressure: 16 BarG – 25 BarG

- Maintenance free
- Sealing Shroud
- Easy installation and isolation
- Can be installed in series
- Torsion prevention



1.1 OPERATING DISTRICT HEATING PN16

DN	TYPE	PIPE SIZE mm	BUILD IN LENGTH mm	AXIAL MOVEMENTS mm	SPRING RATE N/mm	EFFECTIVE AREA mm ²	WEIGHT Kg
32	DDH16-32	Ø42,4 x 2,6	605	100	63	1506	5
40	DDH16-40	Ø48,3 x 2,6	605	100	57	1940	5
50	DDH16-50	Ø60,3 x 2,9	605	100	71	2990	6
65	DDH16-65	Ø76,1 x 2,9	640	100	77	4645	8,5
80	DDH16-80	Ø88,9 x 3,2	620	100	124	6096	12
100	DDH16-100	Ø114,3 x 3,6	795	125	105	10400	16
125	DDH16-125	Ø139,7 x 3,6	765	125	108	15372	20
150	DDH16-150	Ø168,3 x 4	755	125	120	22778	32
175	DDH16-175	Ø193,7 x 4,5	750	125	126	30079	39
200	DDH16-200	Ø219,1 x 4,5	745	125	152	38400	48
250	DDH16-250	Ø273 x 5	815	125	203	59400	64
300	DDH16-300	Ø323,9 x 5,6	875	125	241	83420	81,5
350	DDH16-350	Ø355,6 x 5,6	790	125	265	100540	103
400	DDH16-400	Ø406,4 x 6,3	790	125	404	164173	112
450	DDH16-450	Ø457,2 x 6,3	790	125	434	164173	135
500	DDH16-500	Ø508 x 6,3	790	125	482	204282	155
600	DDH16-600	Ø609,6 x 7,1	790	125	578	294166	226



MATERIALS:

MEDIAPIPE: P235GH (EN 1.0345)

SHROUD: P235GH (EN 1.0345)

BELLOW: AISI 321 (EN 1.4541)

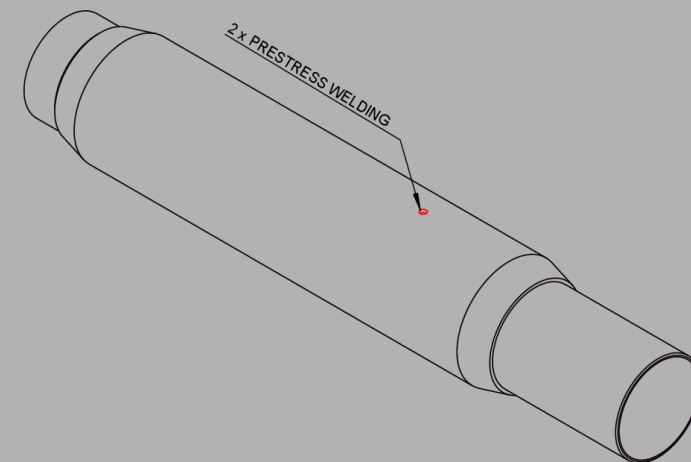
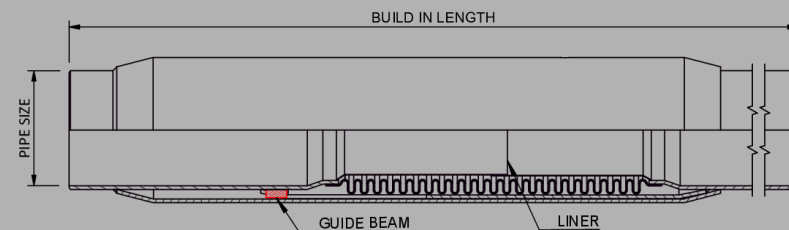
TEMP: 120°C +

P265GH (EN 1.0425)



1.2 OPERATING DISTRICT HEATING PN25

DN	TYPE	PIPE SIZE mm	BUILD IN LENGTH mm	AXIAL MOVEMENTS mm	SPRING RATE N/mm	EFFECTIVE AREA mm ²	WEIGHT Kg
80	DDH25-80	Ø88,9 x 3,2	620	90	271	1506	12
100	DDH25-100	Ø114,3 x 3,6	795	90	237	1940	16
125	DDH25-125	Ø139,7 x 3,6	765	90	265	2990	20
150	DDH25-150	Ø168,3 x 4	755	90	291	4646	32
175	DDH25-175	Ø193,7 x 4,5	750	90	360	6096	39
200	DDH25-200	Ø219,1 x 4,5	745	90	406	10400	48
250	DDH25-250	Ø273 x 5	815	90	402	15372	64
300	DDH25-300	Ø323,9 x 5,6	875	90	624	22778	81,5
350	DDH25-350	Ø355,6 x 5,6	875	90	625	30079	103
400	DDH25-400	Ø406,4 x 6,3	790	90	612	38400	135
450	DDH25-450	Ø457,2 x 6,3	745	90	689	59400	135
500	DDH25-500	Ø508 x 6,3	745	90	575	83420	155
600	DDH25-600	Ø609,6 x 7,1	745	90	862	100540	226



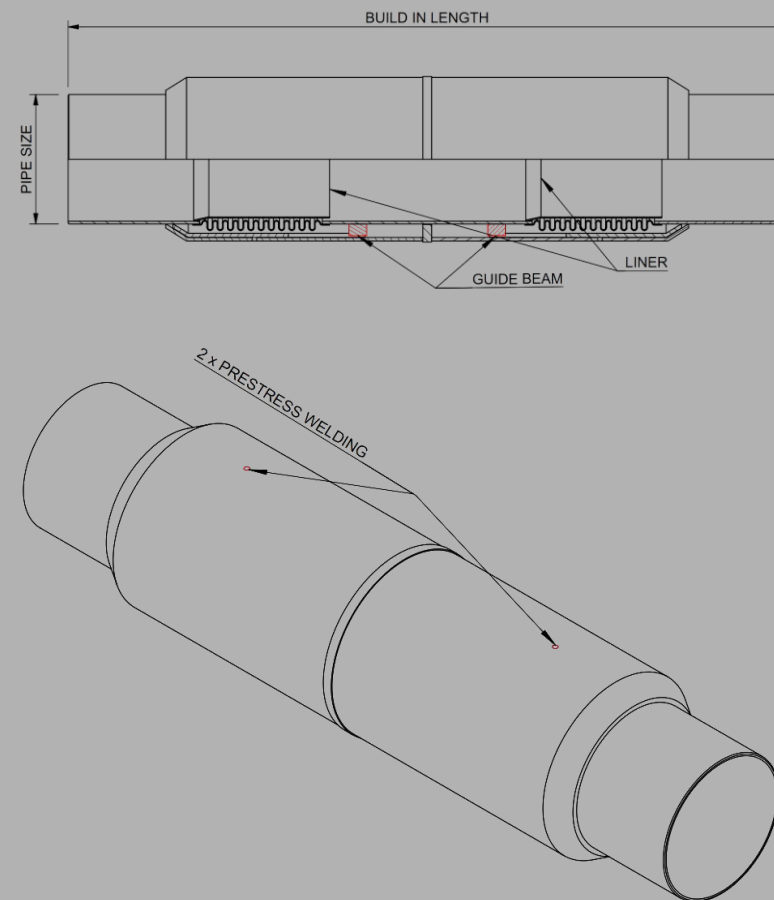
MATERIALS:
 MEDIPIPE: P235GH (EN 1.0345)
 SHROUD: P235GH (EN 1.0345)
 BELLOW: AISI 321 (EN 1.4541)

TEMP: 120°C +
 P265GH (EN 1.0425)



1.3 OPERATING DISTRICT HEATING PN16 DUO

DN	TYPE	PIPE SIZE mm	BUILD IN LENGTH mm	AXIAL MOVEMENTS mm	SPRING RATE N/mm	EFFECTIVE AREA mm ²	WEIGHT Kg
32	DDH16D-32	Ø42,4 x 2,6	1100	200	32	1506	6
40	DDH16D-40	Ø48,3 x 2,6	1100	200	29	1940	8
50	DDH16D-50	Ø60,3 x 2,9	1100	200	36	2990	10
65	DDH16D-65	Ø76,1 x 2,9	1350	200	38,5	4645	17
80	DDH16D-80	Ø88,9 x 3,2	1150	200	62	6096	19,5
100	DDH16D-100	Ø114,3 x 3,6	1450	250	53	10400	35
125	DDH16D-125	Ø139,7 x 3,6	1400	250	54	15372	42
150	DDH16D-150	Ø168,3 x 4	1400	250	60	22778	57,5
175	DDH16D-175	Ø193,7 x 4,5	1400	250	63	30079	81
200	DDH16D-200	Ø219,1 x 4,5	1350	250	76	38400	95
250	DDH16D-250	Ø273 x 5	1470	250	102	59400	120
300	DDH16D-300	Ø323,9 x 5,6	1600	250	121	83420	165
350	DDH16D-350	Ø355,6 x 5,6	1450	250	133	100540	175
400	DDH16D-400	Ø406,4 x 6,3	1450	250	202	131000	200
450	DDH16D-450	Ø457,2 x 6,3	1450	250	217	164173	233
500	DDH16D-500	Ø508 x 6,3	1450	250	241	204282	265



MATERIALS:

MEDIAPIPE: P235GH (EN 1.0345)
SHROUD: P235GH (EN 1.0345)
BELOW: AISI 321 (EN 1.4541)

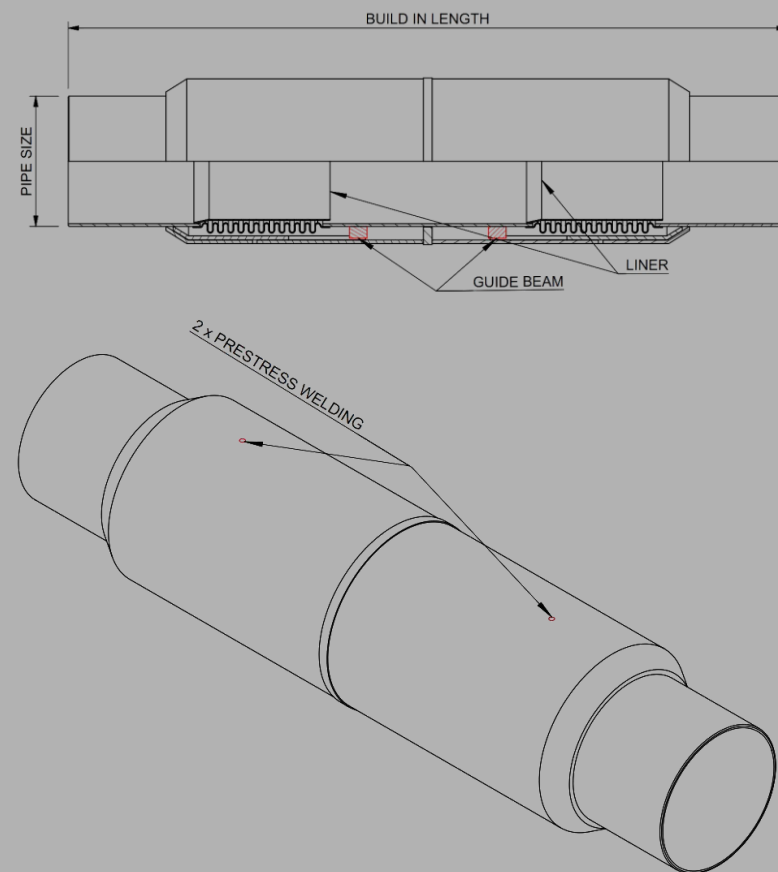
TEMP: 120°C +

P265GH (EN 1.0425)



1.4 OPERATING DISTRICT HEATING PN25 DUO

DN	TYPE	PIPE SIZE mm	BUILD IN LENGTH mm	AXIAL MOVEMENTS mm	SPRING RATE N/mm	EFFECTIVE AREA mm ²	WEIGHT Kg
80	DDH25D-80	Ø88,9 x 3,2	1100	180	136	1506	23
100	DDH25D-100	Ø114,3 x 3,6	1100	180	119	1940	32
125	DDH25D-125	Ø139,7 x 3,6	1100	180	133	2990	40
150	DDH25D-150	Ø168,3 x 4	1100	180	146	4645	50
175	DDH25D-175	Ø193,7 x 4,5	1150	180	180	6096	72
200	DDH25D-200	Ø219,1 x 4,5	1200	180	203	10400	88
250	DDH25D-250	Ø273 x 5	1200	180	201	15372	104
300	DDH25D-300	Ø323,9 x 5,6	1200	180	312	22778	148
350	DDH25D-350	Ø355,6 x 5,6	1200	180	313	30079	164
400	DDH25D-400	Ø406,4 x 6,3	1200	180	306	38400	190
450	DDH25D-450	Ø457,2 x 6,3	1200	180	344	59400	207
500	DDH25D-500	Ø508 x 6,3	1200	180	288	83420	233
600	DDH25D-600	609,6 x 7,1	1300	180	431	100540	389



MATERIALS:

MEDIAPIPE: P235GH (EN 1.0345)
SHROUD: P235GH (EN 1.0345)
BELLOW: AISI 321 (EN 1.4541)

TEMP: 120°C +

P265GH (EN 1.0425)



4. ONE-TIME EXPANSION JOINT

One-Time Expansion Joint is a one-off axial expansion joint as used in district heating pipelines during start up. Variations in the temperature causes tensions and movement in the pipeline. Once the One-time expansion joint have absorbed the movement, it has a normal function as a pipe. It is used to absorb the tensile and compressive stresses in the pipeline.

When compensators are correctly installed, pipesystem has been filled with hot water, and design pressure, they should be locked by fully weld, the non-welded end of shroud. Always remember to check installation, has been done correctly according to EN13941.

At inspection of pipeline, where One time Compensators are installed. They can be inspected trough the leak hole (Small screw in shroud), if any water is leaking trough the bellow.

ONE-TIME RANGE

- Size: DN25 – DN700
- Temp: 120°C +
- Pressure: 25 BarG

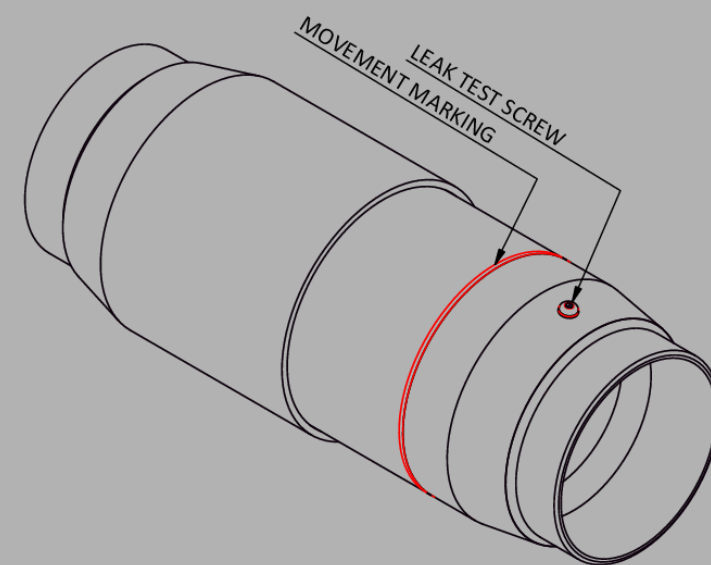
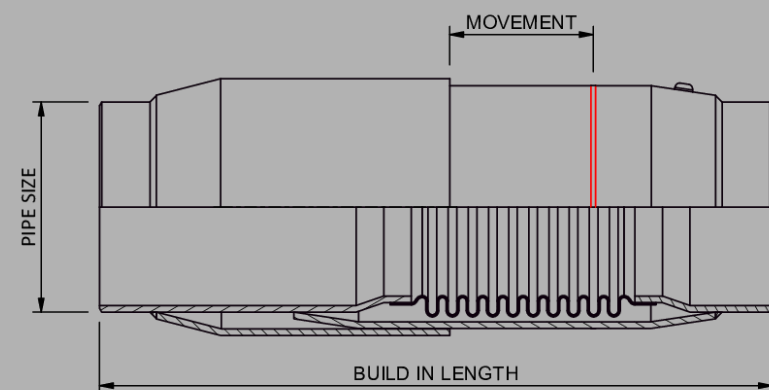
FEATURES

- Maintenance free
- Sealing Shroud
- Easy installation and isolation
- Can be delivered with customized pre-settin.



2.1 ONE-TIME DISTRICT HEATING PN25

DN	TYPE	PIPE SIZE mm	BUILD IN LENGTH Mm	AXIAL MOVEMENTS mm	SPRING RATE N/mm	EFFECTIVE AREA mm ²	WEIGHT Kg
25	ODH25-25	Ø33,7 x 3,2	275	50	176	973	1,3
32	ODH25-32	Ø42,4 x 2,6	275	50	204	1514	1,7
40	ODH25-40	Ø48,3 x 2,6	275	50	177	1633	1,8
50	ODH25-50	Ø60,3 x 2,9	275	50	224	2588	2,4
65	ODH25-65	Ø76,1 x 2,9	335	70	219	4208	3,8
80	ODH25-80	Ø88,9 x 3,2	345	70	180	6778	5,5
100	ODH25-100	Ø114,3 x 3,6	390	80	212	10992	9,8
125	ODH25-125	Ø139,7 x 3,6	400	80	226	15993	12,5
150	ODH25-150	Ø168,3 x 4	475	100	261	23046	14,5
175	ODH25-175	Ø193,7 x 4,5	475	100	648	30338	15,4
200	ODH25-200	Ø219,1 x 4,5	515	120	361	38394	27,5
250	ODH25-250	Ø273 x 5	515	120	362	59396	35
300	ODH25-300	Ø323,9 x 5,6	660	140	353	83418	57,5
350	ODH25-350	Ø355,6 x 5,6	650	140	617	100434	60
400	ODH25-400	Ø406,4 x 6,3	650	140	505	130997	75,5
450	ODH25-450	Ø457,2 x 6,3	660	150	528	165612	86
500	ODH25-500	Ø508 x 6,3	660	150	537	204282	93
600	ODH25-600	Ø609,6 x 7,1	690	150	864	293782	162



MATERIALS:

MEDIAPIPE: P235GH (EN 1.0345)
SHROUD: P235GH (EN 1.0345)
BELLOW: AISI 321 (EN 1.4541)

TEMP: 120°C +

P265GH (EN 1.0425)



5. CUSTOMIZED SOLUTIONS

Customized Solutions is more than 70% of our product program. We make the design and produce bellows or Expansions Joints in accordance with the customers requirements.

We can with our know-how and our partners, produce nearly everything within steel Expansion Joints.

Sent us an mail on tcomp@tcomp.dk or visit our website www.tcomp.dk if you have any questions or inquiries to your project.

See some of our customized solutions in District Heating to the right.



PRODUCTION RANGE

- Size: DN25 – DN5000
- Temperatur: -240°C – +1.050°C
- Pressure: Vacuum – +100Bar*

FEATURES

- All type of metal Expansion Joints
- A wide range of materials
- 3000 Cycles long-lasting product



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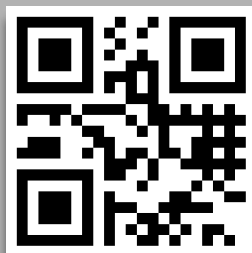
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You are welcome to contact us with your inquiry, we can handle other things than just expansion joints, as we are a sister company to Tjæreborg Industri A/S. We look towards receiving your inquiries.

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