Trelleborg Antivibration Solutions

Rubber Expansion Joints

FLEXIBLE PARTS TO ENSURE FLAWLESS OPERATION OF PIPELINE SYSTEMS.

Product images are graphical representations. Actual items may differ in appearance

ERV Series

Pipeline systems are exposed to temperature variations, chemicals, setting in foundations, forces, and deformations causing movement and/or stress in the system. To ensure flawless operation of the system it is necessary to insert flexible parts to absorb the movements preventing structural damage.

To provide the vibration isolation and flexibility necessary, Trelleborg offers excellent rubber expansion joints. Our portfolio consists of a wide program of expansion joints for various applications. The expansion joint approvals are available upon request.

For every situation Trelleborg has the appropriate qualified-rubber expansion joints that can:

- Compensate movement and expansion
- Absorb stress in the system
- Reduce noise transmissions and vibration
- Compensate ground and foundation settling
- Compensate inaccurate assembly
- Serve as dismantling joints on fittings

Our rubber expansion joints are used worldwide for various applications.

APPLICATION EXAMPLES

- High-pressure pipelines
- Oil contaminated water pipelines
- Various chemical pipelines

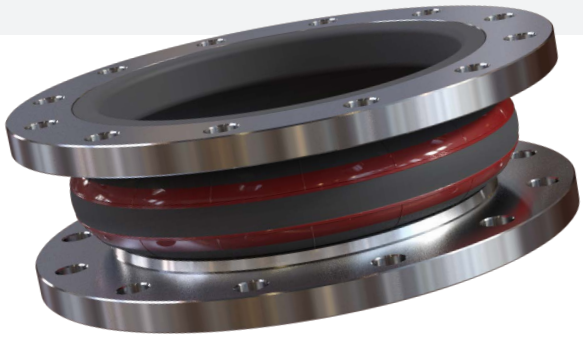
ADVANTAGES

- Suitable for high pressures up to 16 bar
- Various variations available (dimensions, medium, pressure)
- Most sizes available in different neutral lengths
- Also available for vacuum
- Flanges according to DIN or ASA (fixed or rotating)
- Available with fire protection cover
- Type approval by classification societies

Product images are graphical representations. Actual items may differ in appearance

ERV ROTEX DN25-1000

The ERV Rotex rubber expansion joint is used for flexible connections in pipeline systems for hot water, cooling water and hot air. It is not suitable for use with drinking water, oil-contaminated cooling water, oil-contaminated air and the continuous transport of steam. Its flanges are rotatable and standard available in DIN PN10 and PN16. The operating temperature depends on the medium and ranges from -40 °C to +130 °C. The maximum working pressure is 10 bar up to 100 °C, 6 bar up to 110 °C.



CONSTRUCTION

- Durable EPDM inner wall, seamless, hot water resistant
- Polymer textile reinforced, hot water and hydrolysis-proof
- EPDM outer wall, ozone and heat resistant
- Electrically conductive
- Rotating flanges, galvanized steel

APPROVALS

Approved by DNV-GL, Lloyd's Register, RINA and TÜV.

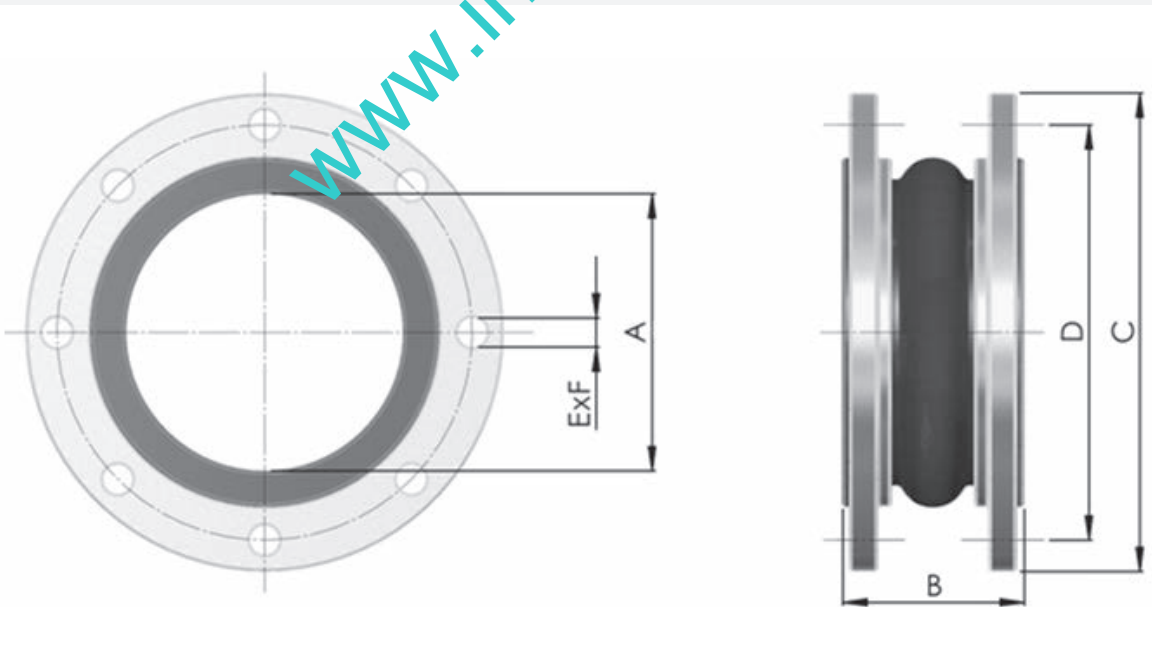
MOVEMENTS

The maximum movements for the ERV Rotex expansion joint stated below apply to the neutral length for operating temperatures up to +70 °C and are not in combination (no lateral/axial movements simultaneously). The permissible movements are reduced by 25% for temperatures between +70 °C and +100 °C and by 50% for temperatures between +100 °C and +130 °C. The use of the optional vacuum ring leads to a reduction of 50%.

OPTIONS

- Most sizes available in different neutral lengths
- Flanges according to DIN PN6, PN25, PN40 or ASA 150Lbs
- Flanges in stainless steel or bronze
- Tie rods
- PTFE lining
- Vacuum support rings
- Fire protection cover.

TECHNICAL DRAWING



ERV ROTEX DN25-1000

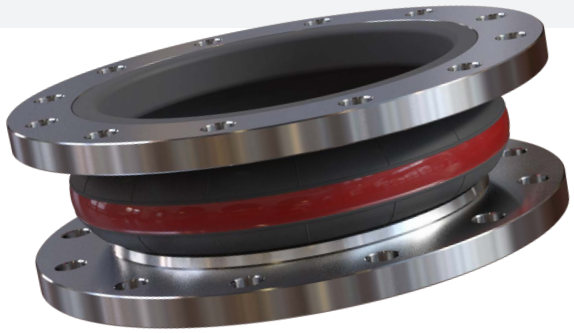
PRODUCT DATA

PART NO.	INSIDE DIAMETER A (MM)	LENGTH B (MM)	WORKING PRESSURE (BAR)	FLANGE DIMENSIONS CLASS	OUTSIDE DIAMETER C (MM)	PITCH D (MM)	E x F (NUMBER x MM)
300 043 025	25	130	16	DIN PN10/16	115	85	4x14
300 043 032	32	130	16	DIN PN10/16	140	100	4x18
300 043 040	40	130	16	DIN PN10/16	150	110	4x18
300 043 050	50	130	16	DIN PN10/16	165	125	4x18
300 043 065	65	130	16	DIN PN10/16	185	145	4x18
300 043 080	80	130	16	DIN PN10/16	200	160	8x18
300 043 100	100	130	16	DIN PN10/16	220	180	8x18
300 043 125	125	130	16	DIN PN10/16	250	210	8x18
300 043 150	150	130	16	DIN PN10/16	285	240	8x22
300 043 201	200	130	10	DIN PN10	340	295	8x22
300 043 200	200	130	16	DIN PN16	340	295	12x22
300 043 251	250	130	10	DIN PN10	395	350	12x22
300 043 250	250	130	16	DIN PN16	405	355	12x26
300 043 301	300	130	10	DIN PN10	445	400	12x22
300 043 300	300	130	16	DIN PN16	460	410	12x26
300 043 351	350	200	10	DIN PN10	505	460	16x22
300 043 401	400	200	10	DIN PN10	565	515	16x26
300 043 501	500	200	10	DIN PN10	670	620	20x26
300 043 601	600	200	10	DIN PN10	780	725	20x30
300 043 701	700	260	10	DIN PN10	895	840	24x30
300 043 801	800	250	10	DIN PN10	1015	950	24x33
300 043 901	900	300	10	DIN PN10	1115	1050	28x33
300 043 902	1000	300	10	DIN PN10	1230	1160	28x36

NOMINAL DIAMETER (MM)	COMPRESSION (MM)	ELONGATION (MM)	LATERAL (MM)	ANGULAR (DEGREES)
25-80	30	20	± 30	± 30
100-150	30	20	± 30	± 20
200	25	30	± 25	± 10
250-300	15	30	± 25	± 5
350-600	40	25	± 25	± 8
700-800	40	30	± 25	± 5
900-1000	40	35	± 30	± 5

Product images are graphical representations. Actual items may differ in appearance

ERV RED DN25-1000



ERV RED

The ERV Red rubber expansion joint is used for flexible connections in pipeline systems for hot water, drinking water (DVGW W270 and ACS certified), hot cooling water and hot wastewater. This expansion joint is also suitable for use with additives such as weak acids, alkalies, salt solutions, technical alcohols, esters and ketone, and a wide range of other chemicals. The ERV Red is not suitable for oil products. The flanges of the ERV Red are rotatable and standard available in DIN PN10 and PN16. The operating temperatures depend on the medium and range from -40 °C to +100 °C. The maximum working pressure is 16 bar or 10 bar for larger diameters.

CONSTRUCTION

- Seamless Butyl/EPDM inner wall, low diffusion
- PA-textile reinforced, butyl-coated bellows
- EPDM outer wall, ozone- and heat-resistant
- Electrically conductive
- Rotating flanges, galvanized steel

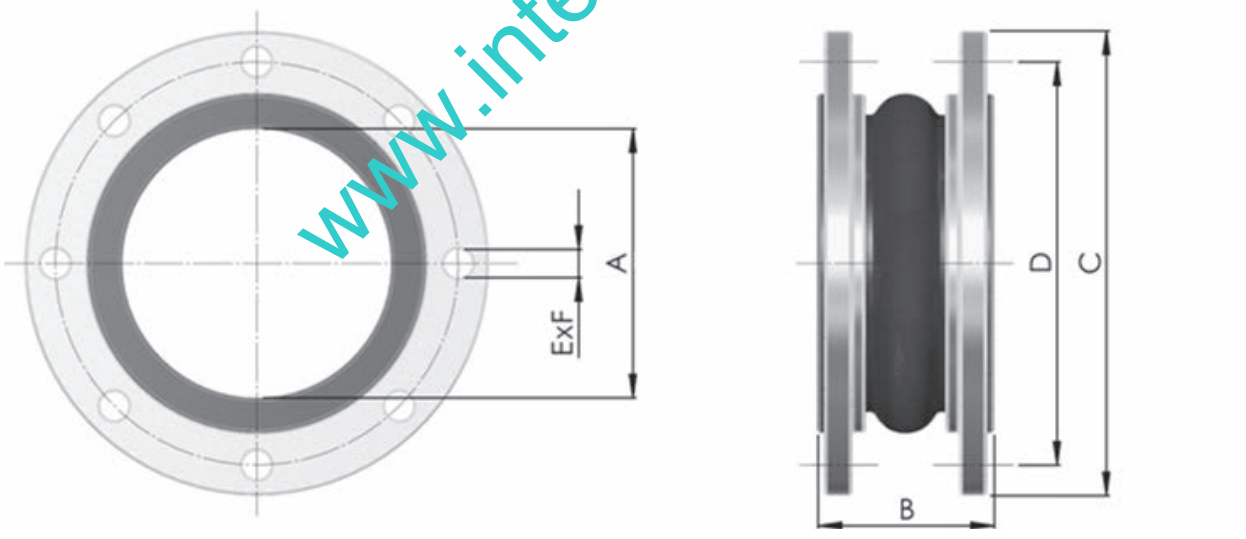
APPROVALS

Approved by DNV-GL, Lloyd's Register, Bureau Veritas, RINA, ABS, CCS, BWB, DVGW, ACS, and WRAS.

OPTIONS

- Most sizes available in different neutral lengths
- Flanges according to DIN PN6, PN25, PN40 or ASA 150 lbs
- Flanges in stainless steel or bronze
- Tie rods
- PTFE lining
- Vacuum support rings
- Fire protection cover

TECHNICAL DRAWING



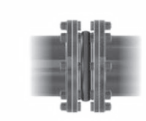
MOVEMENTS

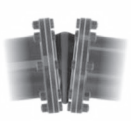
The maximum movements for the ERV Green expansion joint stated below apply to the neutral length for operating temperatures up to +50 °C and are not in combination (no lateral/axial movements simultaneously). The permissible movements are reduced by 25% for temperatures between +50 °C and +70 °C and by 40% for temperatures between +70 °C and +90 °C. Use of the optional vacuum ring leads to a reduction of 50%.

ERV RED DN25-1000

PRODUCT DATA

PART NO.	INSIDE DIAMETER A (MM)	LENGTH B (MM)	WORKING PRESSURE (BAR)	FLANGE DIMENSIONS CLASS	OUTSIDE DIAMETER C (MM)	PITCH D (MM)	E x F (NUMBER x MM)
300 040 025	25	130	16	DIN PN10/16	115	85	4x14
300 040 032	32	130	16	DIN PN10/16	140	100	4x18
300 040 040	40	130	16	DIN PN10/16	150	110	4x18
300 040 050	50	130	16	DIN PN10/16	165	125	4x18
300 040 065	65	130	16	DIN PN10/16	185	145	4x18
300 040 080	80	130	16	DIN PN10/16	200	160	8x18
300 040 100	100	130	16	DIN PN10/16	220	180	8x18
300 040 125	125	130	16	DIN PN10/16	250	210	8x18
300 040 150	150	130	16	DIN PN10/16	285	240	8x22
300 040 201	200	130	10	DIN PN10	340	295	8x22
300 040 200	200	130	16	DIN PN16	340	295	12x22
300 040 251	250	130	10	DIN PN10	395	350	12x22
300 040 250	250	130	16	DIN PN16	405	355	12x26
300 040 301	300	130	10	DIN PN10	445	400	12x22
300 040 300	300	130	16	DIN PN16	460	410	12x26
300 040 351	350	200	10	DIN PN10	505	460	16x22
300 040 401	400	200	10	DIN PN10	565	515	16x26
300 040 501	500	200	10	DIN PN10	670	620	20x26
300 040 601	600	200	10	DIN PN10	780	725	20x30
300 040 701	700	260	10	DIN PN10	895	840	24x30
300 040 801	800	250	10	DIN PN10	1015	950	24x33
300 040 901	900	300	10	DIN PN10	1115	1050	28x33
300 040 902	1000	300	10	DIN PN10	1230	1160	28x36



NOMINAL DIAMETER (MM)	COMPRESSION (MM)	ELONGATION (MM)	LATERAL (MM)	ANGULAR (DEGREES)
25-80	30	20	± 30	± 30
100-150	30	20	± 30	± 20
200	25	30	± 30	± 10
250-300	10	30	± 15	± 5
350-600	40	35	± 30	± 8
700	40	30	± 30	± 5
800	40	35	± 35	± 5
900-1000	40	40	± 40	± 5

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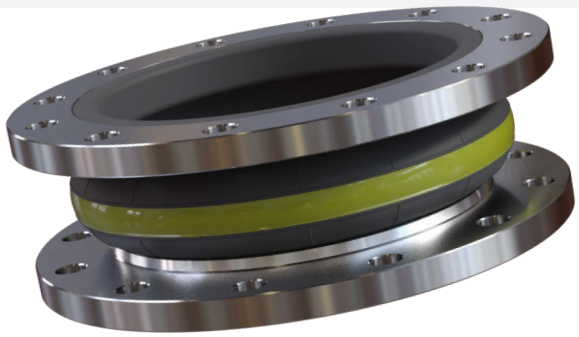
ERV YELLOW DN25-1000

ERV Yellow

The ERV Yellow rubber expansion joint is used for flexible connections in pipeline systems for petrochemical applications. It is suitable for use with fuels, fuels with ethanol additives such as E85, DIN fuels with up to 50% aromatics and natural gas. The ERV Yellow is not suitable for Liquefied Petrol Gas (LPG). The flanges of the ERV Yellow are rotatable and standard available in DIN PN10 and PN16. The operating temperature depends on the medium and ranges from -20 °C to +90 °C. The maximum working pressure is 16 bar, 10 bar for larger diameters.



CONSTRUCTION

- Durable nitrile rubber (NBR) inner wall, seamless
- PA textile reinforced
- Chloroprene (CR) outer wall
- Electrically conductive
- Rotating flanges, galvanized steel

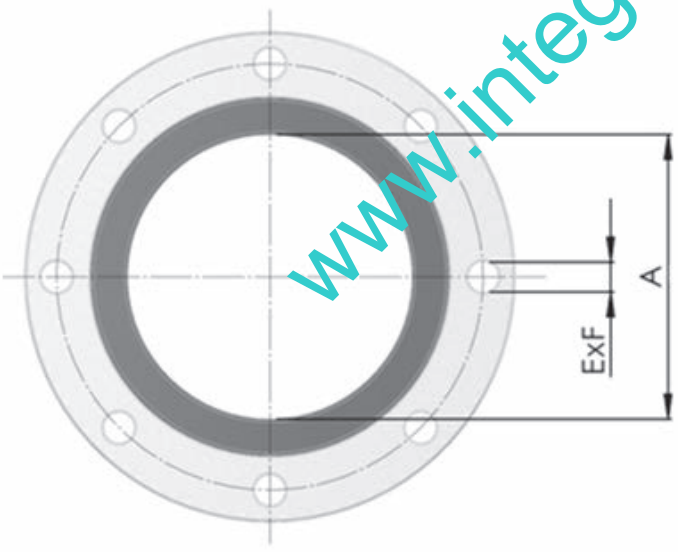
APPROVALS

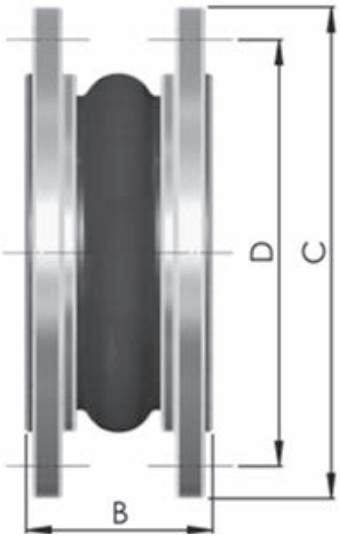
Approved by DNV-GL, Lloyd's Register, Bureau Veritas, RINA, ABS, CCS, BWB and DVGW. Complies with the DIN VG 95958/9 standard.

Options

- Most sizes available in different neutral lengths
- Flanges according to DIN PN6, PN25, PN40, ASA 150 lbs or BS10
- Flanges in stainless steel or bronze
- Tie rods
- PTFE lining
- Vacuum support rings
- Fire protection cover

TECHNICAL DRAWING





MOVEMENTS

The maximum movements for the ERV Yellow expansion joint stated below apply to the neutral length for operating temperatures up to +50 °C and are not in combination (no lateral/axial movements simultaneously). The permissible movements are reduced by 25% for temperatures between +50 °C and +70 °C and by 40% for temperatures between +70 °C and +90 °C. Use of the optional vacuum ring leads to a reduction of 50%.

ERV YELLOW DN25-1000

PRODUCT DATA

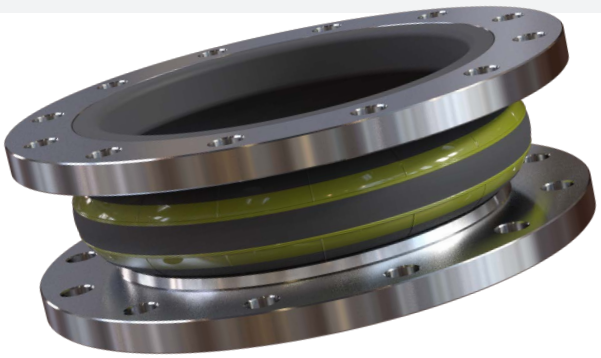
PART NO.	INSIDE DIAMETER A (MM)	LENGTH B (MM)	WORKING PRESSURE (BAR)	FLANGE DIMENSIONS CLASS	OUTSIDE DIAMETER C (MM)	PITCH D (MM)	E x F (NUMBER x MM)
300 041 025	25	130	16	DIN PN10/16	115	85	4x14
300 041 032	32	130	16	DIN PN10/16	140	100	4x18
300 041 040	40	130	16	DIN PN10/16	150	110	4x18
300 041 050	50	130	16	DIN PN10/16	165	125	4x18
300 041 065	65	130	16	DIN PN10/16	185	145	4x18
300 041 080	80	130	16	DIN PN10/16	200	160	8x18
300 041 100	100	130	16	DIN PN10/16	220	180	8x18
300 041 125	125	130	16	DIN PN10/16	250	210	8x18
300 041 150	150	130	16	DIN PN10/16	285	240	8x22
300 041 201	200	130	10	DIN PN10	340	295	8x22
300 041 200	200	130	16	DIN PN16	340	295	12x22
300 041 251	250	130	10	DIN PN10	395	350	12x22
300 041 250	250	130	16	DIN PN16	405	355	12x26
300 041 301	300	130	10	DIN PN10	445	400	12x22
300 041 300	300	130	16	DIN PN16	460	410	12x26
300 041 351	350	200	10	DIN PN10	505	460	16x22
300 041 401	400	200	10	DIN PN10	565	515	16x26
300 041 501	500	200	10	DIN PN10	670	620	20x26
300 041 601	600	200	10	DIN PN10	780	725	20x30
300 041 701	700	260	10	DIN PN10	895	840	24x30
300 041 801	800	250	10	DIN PN10	1015	950	24x33
300 041 901	900	300	10	DIN PN10	1115	1050	28x33
300 041 902	1000	300	10	DIN PN10	1230	1160	28x36

NOMINAL DIAMETER (MM)	COMPRESSION (MM)	ELONGATION (MM)	LATERAL (MM)	ANGULAR (DEGREES)
25-80	30	20	± 30	± 30
100-150	30	20	± 30	± 20
200	25	30	± 30	± 10
250-300	10	30	± 15	± 5
350-600	40	35	± 30	± 8
700	40	30	± 30	± 5
800	40	35	± 35	± 5
900-1000	40	40	± 40	± 5

Product images are graphical representations. Actual items may differ in appearance

ERV YELLOWSTEEL DN25-600

The ERV Yellowsteel rubber expansion joint is used for flexible connections in high-pressure pipeline systems for petrochemical applications. It is suitable for use with fuels, DIN fuels with up to 50% aromatics, oil-contaminated cooling water, lubricant, hydraulic oil, and saltwater. The flanges of the ERV Yellowsteel are rotatable and standard available in DIN PN10 and PN16. The operating temperature depends on the medium and ranges from -20 °C to +90 °C. The ERV Yellowsteel is flame-resistant for 30 minutes at 800 °C, allowing machine chamber applications without using the optional fire protection cover. The maximum working pressure is 16 bar, 10 bar for the largest diameters.



CONSTRUCTION

- Durable nitrile rubber (NBR) inner wall, seamless
- Steel wire reinforced
- Chloroprene (CR) outer wall
- Electrically conductive
- Rotating flanges, galvanized steel

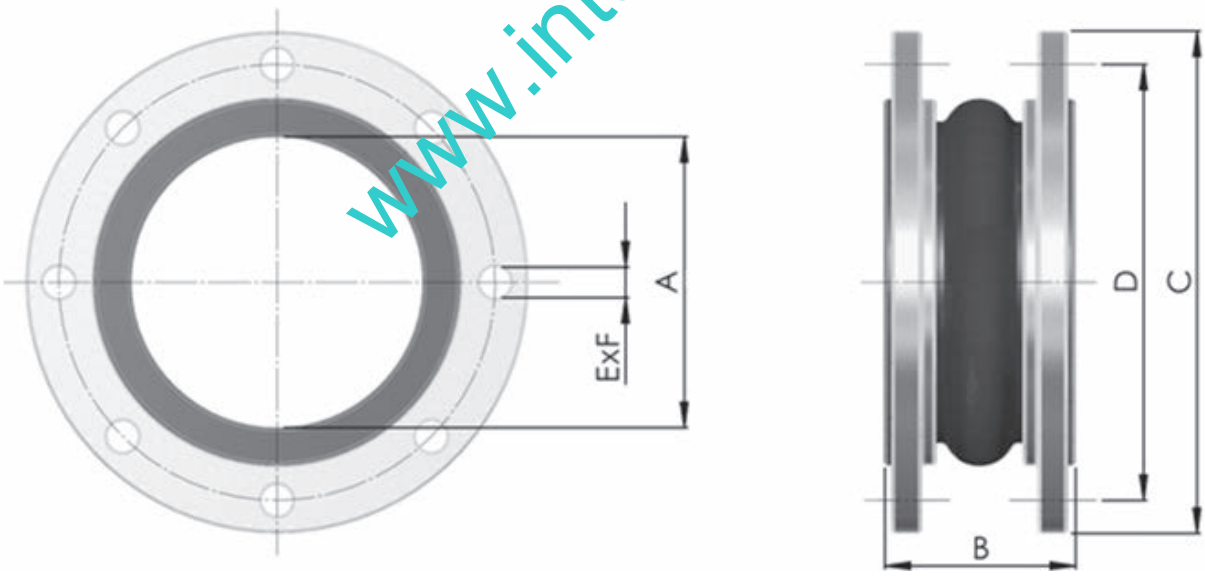
APPROVALS

Approved by DNV-GL, Lloyd's Register, Bureau Veritas, RINA, ABS, Nippon Kaiji Kyokai, CCS and Marine Equipment Directive.

Options

- Most sizes available in different neutral lengths
- Flanges according to DIN PN6, PN25, PN40, ASA 150 lbs or BS10
- Flanges in stainless steel or bronze
- Tie rods
- PTFE lining
- Vacuum support rings
- Fire protection cover

TECHNICAL DRAWING



ERV YELLOWSTEEL DN25-600

PRODUCT DATA

PART NO.	INSIDE DIAMETER A (MM)	LENGTH B (MM)	WORKING PRESSURE (BAR)	FLANGE DIMENSIONS CLASS	OUTSIDE DIAMETER C (MM)	PITCH D (MM)	E x F (NUMBER x MM)
300 042 025	25	130	16	DIN PN10/16	115	85	4x14
300 042 032	32	130	16	DIN PN10/16	140	100	4x18
300 042 040	40	130	16	DIN PN10/16	150	110	4x18
300 042 050	50	130	16	DIN PN10/16	165	125	4x18
300 042 065	65	130	16	DIN PN10/16	185	145	4x18
300 042 080	80	130	16	DIN PN10/16	200	160	8x18
300 042 100	100	130	16	DIN PN10/16	220	180	8x18
300 042 125	125	130	16	DIN PN10/16	250	210	8x18
300 042 150	150	130	16	DIN PN10/16	285	240	8x22
300 042 201	200	130	10	DIN PN10	340	295	8x22
300 042 200	200	130	16	DIN PN16	340	295	12x22
300 042 251	250	130	10	DIN PN10	395	350	12x22
300 042 250	250	130	16	DIN PN16	405	355	12x26
300 042 301	300	130	10	DIN PN10	445	400	12x22
300 042 300	300	130	16	DIN PN16	460	410	12x26
300 042 351	350	200	10	DIN PN10	505	460	16x22
300 042 401	400	200	10	DIN PN10	565	515	16x26
300 042 501	500	200	10	DIN PN10	670	620	20x26
300 042 601	600	200	10	DIN PN10	780	725	20x30

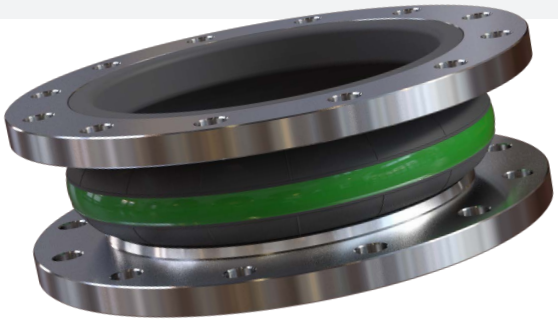
MOVEMENTS

The maximum movements for the ERV Yellowsteel expansion joint stated below apply to the neutral length for operating temperatures up to +100 °C and are not in combination (no lateral/axial movements simultaneously). The use of the optional vacuum ring leads to a reduction of 50%.

NOMINAL DIAMETER (MM)	COMPRESSION (MM)	ELONGATION (MM)	LATERAL (MM)	ANGULAR (DEGREES)
25-80	30	15	± 15	± 20
100-150	30	15	± 15	± 15
200-300	15	20	± 10	± 5
300-350	30	30	± 25	± 10
400-600	40	30	± 25	± 5

Product images are graphical representations. Actual items may differ in appearance

ERV GREEN DN25-600



INTRODUCTION

The ERV Green rubber expansion joint is used for flexible connections in pipeline systems for chemicals, acids, alkalies, and chemically aggressive wastewater. The flanges of the ERV Green are rotating and standard available in DIN PN10 and PN16. The maximum working pressure is 16 bar or 10 bar for larger diameters. The operating temperature of this expansion joint ranges from -20° to 100 °C. Additionally, the ERV green can also be used for applications with oil-contaminated air with temperatures up to 90 °C.

CONSTRUCTION

- Durable seamless Hypalon (CSM) inner wall
- PA-textile reinforced bellows
- Hypalon (CSM) outer wall
- Electrically non-conductive
- Rotating flanges, galvanized steel

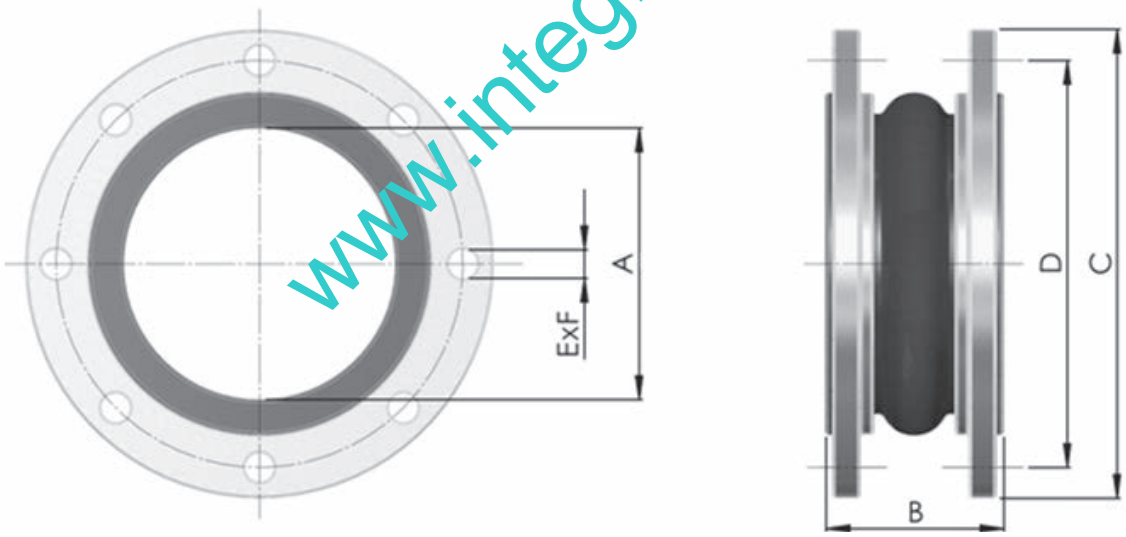
APPROVALS

Approved by DNV-GL

OPTIONS

- Most sizes available in different neutral lengths
- Flanges according to DIN PN6, PN25, PN40, ASA 50 lbs or BS10
- Flanges in stainless steel or bronze
- Tie rods
- PTFE lining
- Vacuum support rings
- Fire protection cover

TECHNICAL DRAWING



ERV GREEN DN25-600

PRODUCT DATA

PART NO.	INSIDE DIAMETER A (MM)	LENGTH B (MM)	WORKING PRESSURE (BAR)	FLANGE DIMENSIONS CLASS	OUTSIDE DIAMETER C (MM)	PITCH D (MM)	E x F (NUMBER x MM)
300 044 025	25	130	16	DIN PN10/16	115	85	4x14
300 044 032	32	130	16	DIN PN10/16	140	100	4x18
300 044 040	40	130	16	DIN PN10/16	150	110	4x18
300 044 050	50	130	16	DIN PN10/16	165	125	4x18
300 044 065	65	130	16	DIN PN10/16	185	145	4x18
300 044 080	80	130	16	DIN PN10/16	200	160	8x18
300 044 100	100	130	16	DIN PN10/16	220	180	8x18
300 044 125	125	130	16	DIN PN10/16	250	210	8x18
300 044 150	150	130	16	DIN PN10/16	285	240	8x22
300 044 201	200	130	10	DIN PN10	340	295	8x22
300 044 200	200	130	16	DIN PN16	340	295	12x22
300 044 251	250	130	10	DIN PN10	395	350	12x22
300 044 250	250	130	16	DIN PN16	405	355	12x26
300 044 301	300	130	10	DIN PN10	445	400	12x22
300 044 300	300	130	16	DIN PN16	460	410	12x26
300 044 351	350	200	10	DIN PN10	505	460	16x22
300 044 401	400	200	10	DIN PN10	565	515	16x26
300 044 501	500	200	10	DIN PN10	670	620	20x26
300 044 601	600	200	10	DIN PN10	780	725	20x30

MOVEMENTS

The maximum movements for the ERV Green expansion joint stated below apply to the neutral length for operating temperatures up to +50 °C and are not in combination (no lateral/axial movements simultaneously). The permissible movements are reduced by 25% for temperatures between +50 °C and +70 °C and by 40% for temperatures between +70 °C and +90 °C. The use of the optional vacuum ring leads to a reduction of 50%.

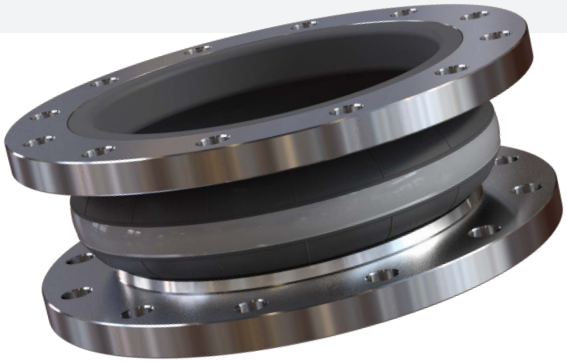
NOMINAL DIAMETER (MM)	COMPRESSION (MM)	ELONGATION (MM)	LATERAL (MM)	ANGULAR (DEGREES)
25-80	30	20	± 30	± 30
100-150	30	20	± 30	± 20
200	25	30	± 30	± 10
250-300	10	30	± 15	± 5
350-600	40	35	± 30	± 8

Product images are graphical representations. Actual items may differ in appearance

ERV WHITE DN25-600

ERV White

The ERV White rubber expansion joint is used for flexible connections in pipeline systems for food applications. The inner wall of this expansion joint complies with German legislation on food-processing and is suitable for vegetable oils and fats. The expansion joint is not suitable for drinking water. The flanges of the ERV White are rotatable and standard available in DIN PN10 and PN16. The operating temperature depends on the medium and ranges from -20 °C to +90 °C. The maximum working pressure is 16 bar, 10 bar for larger diameters.



CONSTRUCTION

- Durable white nitrile rubber (NBR) inner wall, seamless
- PA textile reinforced
- Chloroprene (CR) outer wall
- Electrically non-conductive
- Rotating flanges, galvanized steel

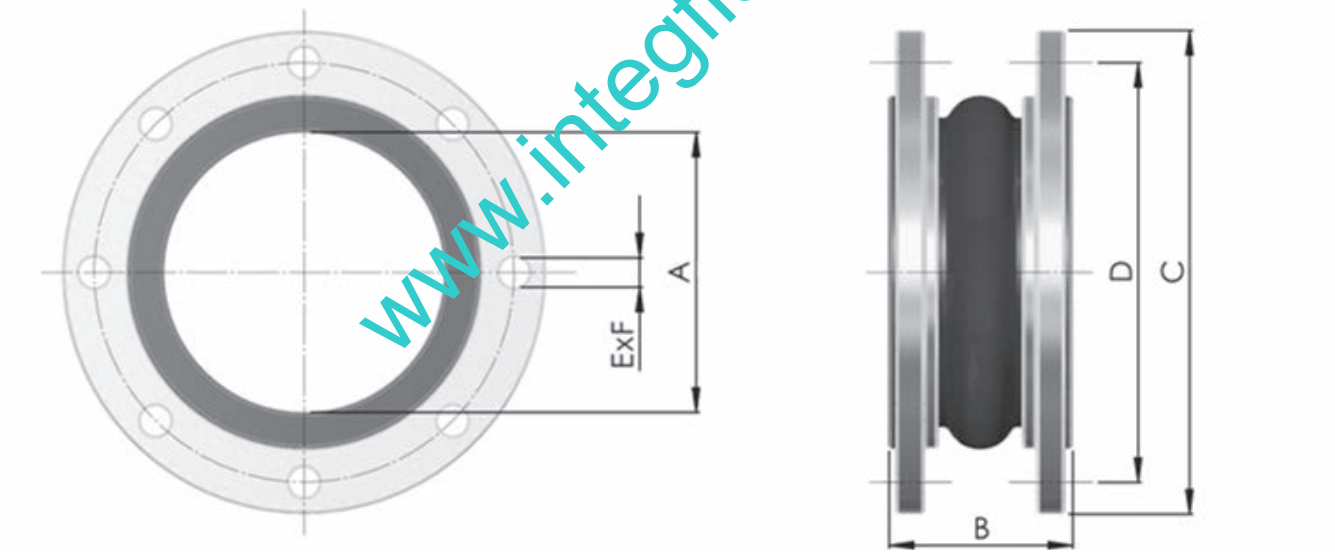
APPROVALS

Approved by DNV-GL

Options

- Most sizes available in different neutral lengths
- Flanges according to DIN PN6, PN25, PN40, ASA 150 lbs or BS10
- Flanges in stainless steel or bronze
- Tie rods
- PTFE lining
- Vacuum support rings
- Fire protection cover

TECHNICAL DRAWING



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PRODUCT DATA

PART NO.	INSIDE DIAMETER A (MM)	LENGTH B (MM)	WORKING PRESSURE (BAR)	FLANGE DIMENSIONS CLASS	OUTSIDE DIAMETER C (MM)	PITCH D (MM)	E x F (NUMBER x MM)
300 045 025	25	130	16	DIN PN10/16	115	85	4x14
300 045 032	32	130	16	DIN PN10/16	140	100	4x18
300 045 040	40	130	16	DIN PN10/16	150	110	4x18
300 045 050	50	130	16	DIN PN10/16	165	125	4x18
300 045 065	65	130	16	DIN PN10/16	185	145	4x18
300 045 080	80	130	16	DIN PN10/16	200	160	8x18
300 045 100	100	130	16	DIN PN10/16	220	180	8x18
300 045 125	125	130	16	DIN PN10/16	250	210	8x18
300 045 150	150	130	16	DIN PN10/16	285	240	8x22
300 045 201	200	130	10	DIN PN10	340	295	8x22
300 045 200	200	130	16	DIN PN16	340	295	12x22
300 045 251	250	130	10	DIN PN10	395	350	12x22
300 045 250	250	130	16	DIN PN16	405	355	12x26
300 045 301	300	130	10	DIN PN10	445	400	12x22
300 045 300	300	130	16	DIN PN16	460	410	12x26
300 045 351	350	200	10	DIN PN10	505	460	16x22
300 045 401	400	200	10	DIN PN10	565	515	16x26
300 045 501	500	200	10	DIN PN10	670	620	20x26
300 045 601	600	200	10	DIN PN10	780	725	20x30

MOVEMENTS

The maximum movements for the ERV White expansion joint stated below apply to the neutral length for operating temperatures up to +50 °C and are not in combination (no lateral/axial movements simultaneously). The permissible movements are reduced by 25% for temperatures between +50 °C and +70 °C and by 40% for temperatures between +70 °C and +90 °C. The use of the optional vacuum ring leads to a reduction of 50%.

NOMINAL DIAMETER (MM)	COMPRESSION (MM)	ELONGATION (MM)	LATERAL (MM)	ANGULAR (DEGREES)
25-80	30	20	± 30	± 30
100-150	30	20	± 30	± 20
200	25	30	± 30	± 10
250-300	10	30	± 15	± 5
350-600	40	35	± 30	± 8

Product images are graphical representations. Actual items may differ in appearance