

Expansion joints, 2PΔH type

2PΔH type

2PΔH type balanced axial expansion joints with external pressure.

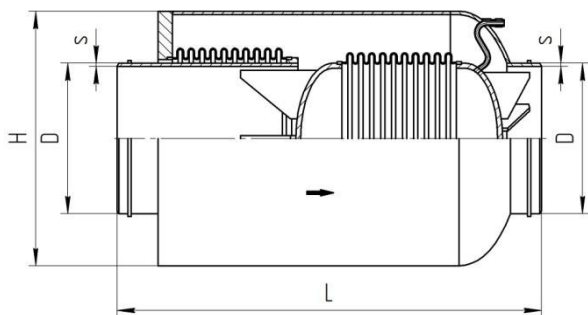


Table 37*

Serial product range**

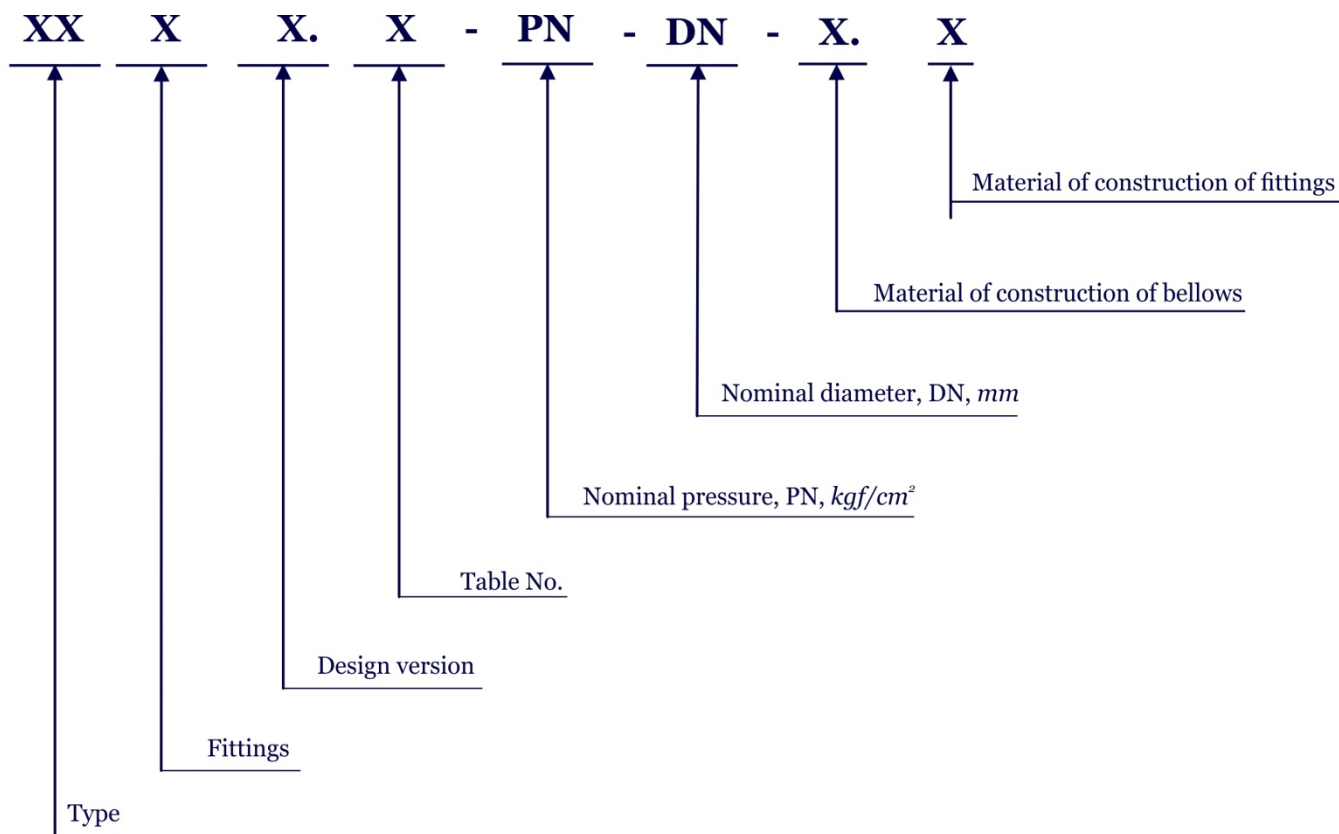
| Reference designation | Nominal pressure, PN, MPa (kgf/cm ²) | Nominal diameter, DN, mm | D | H | L | s | Axial stroke amplitude, λ, mm, at an operation time N | Preset operation time, N, cycles | Axial stiffness, C, kgf/mm | Handled medium temperature, °C | Weight, kg |
|-----------------------|--|--------------------------|------|------|------|----|---|----------------------------------|----------------------------|--------------------------------|------------|
| 2PΔH-16-1000 | 1.6 (16) | 1000 | 1020 | 1497 | 2000 | 12 | ±110 | 1000 | 184 | 70...150 | 2350 |
| 2PΔH-25-250 | 2.5 (25) | 250 | 273 | 611 | 1200 | 6 | ±17 | 3000 | 131 | 130 | 276 |
| 2PΔH-40-150 | 4.0 (40) | 150 | 159 | 395 | 1200 | 7 | ±30 | 3000 | 60 | 375 | 160 |
| 2PΔH-10-500 | 1.0 (10) | 500 | 530 | 938 | 1100 | 8 | ±20 | 10000 | 122 | 85 | 490 |
| 2PΔH-16-350 | 1.6 (16) | 350 | 377 | 748 | 1300 | 8 | ±20 | 10000 | 122 | 85 | 390 |
| DN800 P10 | 1.0 (10) | 800 | 813 | 1408 | 1565 | 10 | 90 (±45) | 10000 | 86 | 200 | 1350 |

Reference designation of general purpose industrial grade angular expansion joints as per the ИРНС.300260.046ТУ specification

The reference designation of expansion joints consists of symbols and values of the main parameters:

| Reference designation of expansion joint types and versions | | | | | |
|---|--------|---|--------|---|--------|
| Type | Symbol | Fittings | Symbol | Design version | Symbol |
| Angular, single-plane | ИО | Weld branch pipe (on both sides) | И | Basic (bellows + 2 branch pipes or flanges) | Н |
| Angular, space | ИИИ | Flange (on both sides) | Φ | With a guide branch pipe | Г |
| Lateral, space | СИ | Flange on one side, weld branch pipe on the other side | Д | Enclosed | К |
| Lateral/angular | | | | | |
| Lateral, single-plane | СО | Weld branch pipe on one side, weld branch on the other side | ОИ | With a guide branch pipe and enclosed | М |
| Balanced, universal | РУ | | | | |

Expansion joint reference designation diagram



Depending on the operating conditions, the material of construction of expansion joints shall be specified at order placement in accordance with the tables below:

| Bellows | | |
|----------------|---|--|
| Design version | Material grade | Permissible operating temperature K (°C) |
| 1 | – Exterior layers (on the outside) and interior layers (on the side of the handled medium), steel grade 05X18H10T (08X18H10T or 12X18H10T) as per GOST 5632; – Intermediate layers, steel grade 08кп (08пс or 08ю) as per GOST 9045. | 253 to 423 (–20 to 150) |
| 2 | – All layers, steel grade 05X18H10T (08X18H10T or 12X18H10T) as per GOST 5632; | 20 to 773 (–253 to 500) |
| 3 | – All layers, steel grade 10X17H13M2T as per GOST 5632 | 20 to 773 (–253 to 500) |

| Fittings | | |
|----------------|---|--|
| Design version | Material grade | Permissible operating temperature K (°C) |
| 1 | Steel grade 20 as per GOST 1050 | 253 to 698 (–20 to 425) |
| 2 | Steel grade 17Г1С as per GOST 19281 | 233 to 748 (–40 to 475) |
| 3 | Steel grade 09Г2С, 09Г2 as per GOST 19281 | 203 to 748 (–70 to 475) |
| 4 | Steel grade 08X18H10T, 12X18H10T as per GOST 5632 | 20 to 823 (–253 to 550) |
| 5 | Steel grade 10X17H13M2T as per GOST 5632 | 20 to 823 (–253 to 550) |
| 6 | Steel grade 15X5M as per GOST 20072 | 223 to 873 (–50 to 600) |

Example of ordering information:

Example of ordering information and information to be included in other documentation on an angular space type expansion joint for welded attachment to a pipeline; nominal pressure, PN, 1.6 MPa (16 kgf/cm²); nominal diameter, DN, 500 mm; design version; material of bellows construction (all layers, steel grade 05X18H10T); material of construction of fittings (steel grade 20):

“Expansion joint ПППП.Т7-16-500-2.1 as per ИЯНШ.300260.046 ТУ”.

Basic parameters and characteristics of handled media of the products as per ИЯНШ.300260.046ТУ

| Handled media | Handled medium temperature, max., K (°C) | Handled medium velocity, m/s |
|--|--|------------------------------|
| Fresh delivery water, potable water, crude oil, oil products | 723 (450) | 8 maximum |
| Steam, natural gas, gaseous media not causing corrosion to expansion joint material | 773 (500) | 80 maximum |
| Note: <ol style="list-style-type: none"> The permissible content of chloride ions in fresh water, the handled medium for expansion joints to be installed in heating networks, shall not exceed 250 mg/l. The expansion joints may be used for other handled media not capable of causing sulphide stress corrosion cracking. | | |