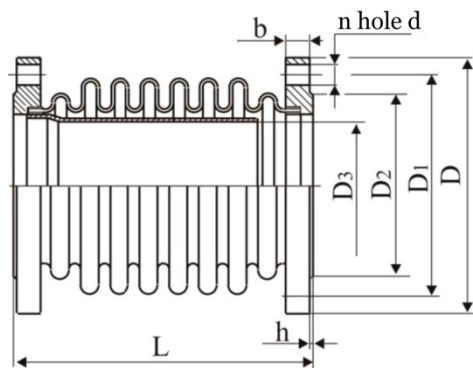


Axial expansion joints, HOBF type



HOBF type

HOBF type unbalanced axial expansion joints with flanges. They are installed directly in pipelines transferring water with a temperature up to 150 °C and at a velocity above 8 m/s, oil and oil products with a temperature up to 450 °C and at a velocity above 8 m/s, as well as steam and gaseous media not causing corrosion to the expansion joint material, with a temperature up to 500 °C and at a velocity of 20 to 80 m/s.

Table 10*

Serial product range**

Reference designation	Nominal pressure, PN, MPa (kgf/cm ²)	Nominal diameter, DN, mm	Dimensions, mm							n	Weight, kg
			D	D ₁	D ₂	L	b	h	d		
HOBF-2.5-65	0.25 (2.5)	65	160	130	110	140	11	3	14	4	5
HOBF-2.5-80		80	185	150	128	148	11	3	18	4	6
HOBF-2.5-100		100	205	170	148	158	11	3	18	4	6
HOBF-2.5-125		125	235	200	178	176	13	3	18	8	9
HOBF-2.5-150		150	260	225	202	188	13	3	18	8	11
HOBF-2.5-200		200	315	280	258	214	15	3	18	8	18
HOBF-2.5-250		250	370	335	312	230	18	3	18	12	26
HOBF-2.5-300		300	435	395	365	250	18	4	22	12	35
HOBF-2.5-350		350	485	445	415	258	18	4	22	12	43
HOBF-2.5-400		400	535	495	565	266	18	4	22	16	41
HOBF-2.5-500		500	640	600	570	274	20	4	22	16	53
HOBF-2.5-600		600	755	705	670	308	20	5	26	20	70
HOBF-2.5-700		700	860	810	775	286	21	5	26	24	91
HOBF-2.5-800		800	975	920	880	322	21	5	30	24	118
HOBF-2.5-900		900	1075	1020	980	308	23	5	30	24	135
HOBF-2.5-1000		1000	1175	1120	1080	328	25	5	30	28	162
HOBF-6.3-65	0.63 (6.3)	65	160	130	110	140	13	3	14	4	5
HOBF-6.3-80		80	185	150	128	158	15	3	18	4	7
HOBF-6.3-100		100	205	170	148	168	15	3	18	4	7
HOBF-6.3-125		125	235	200	178	178	17	3	18	8	12
HOBF-6.3-150		150	260	225	202	192	17	3	18	8	14
HOBF-6.3-200		200	315	280	258	216	19	3	18	8	20
HOBF-6.3-250		250	370	335	312	226	20	3	18	12	25
HOBF-6.3-300		300	435	395	365	254	20	4	22	12	37
HOBF-6.3-350		350	485	445	415	254	22	4	22	12	44
HOBF-6.3-400		400	535	495	465	288	24	4	22	16	53
HOBF-6.3-500		500	640	600	570	302	25	4	22	16	74
HOBF-6.3-600		600	755	705	670	338	25	5	26	20	97
HOBF-6.3-700		700	860	810	775	316	27	5	26	24	124
HOBF-6.3-800		800	975	920	880	342	27	5	30	24	152
HOBF-6.3-900		900	1075	1020	980	328	29	5	30	24	174
HOBF-6.3-1000		1000	1175	1120	1080	346	31	5	30	28	204
HOBF-10-65	1.0 (10)	65	180	145	122	146	17	3	18	4	8
HOBF-10-80		80	195	160	133	154	17	3	18	4	9
HOBF-10-100		100	215	180	158	174	19	3	18	8	11
HOBF-10-125		125	245	210	184	198	21	3	18	8	16
HOBF-10-150		150	280	240	212	194	21	3	22	8	19
HOBF-10-200		200	335	295	268	214	21	3	22	8	24
HOBF-10-250		250	390	350	320	240	23	3	22	12	35
HOBF-10-300		300	440	400	370	262	24	4	22	12	42
HOBF-10-350		350	500	460	430	268	24	4	22	16	54
HOBF-10-400		400	565	515	482	304	26	4	26	16	71
HOBF-10-500		500	670	620	585	308	28	4	26	20	90
HOBF-10-600		600	780	725	685	350	31	5	30	20	124
HOBF-10-700		700	895	840	800	330	34	5	30	24	171
HOBF-10-800		800	1010	950	905	370	37	5	33	24	228
HOBF-10-900		900	1110	1050	1005	358	40	5	33	28	262
HOBF-10-1000		1000	1220	1160	1110	378	43	5	33	28	325

* The parameters of expansion joints given in the Table are for reference only; for precise product performance please contact the factory's technical specialists;

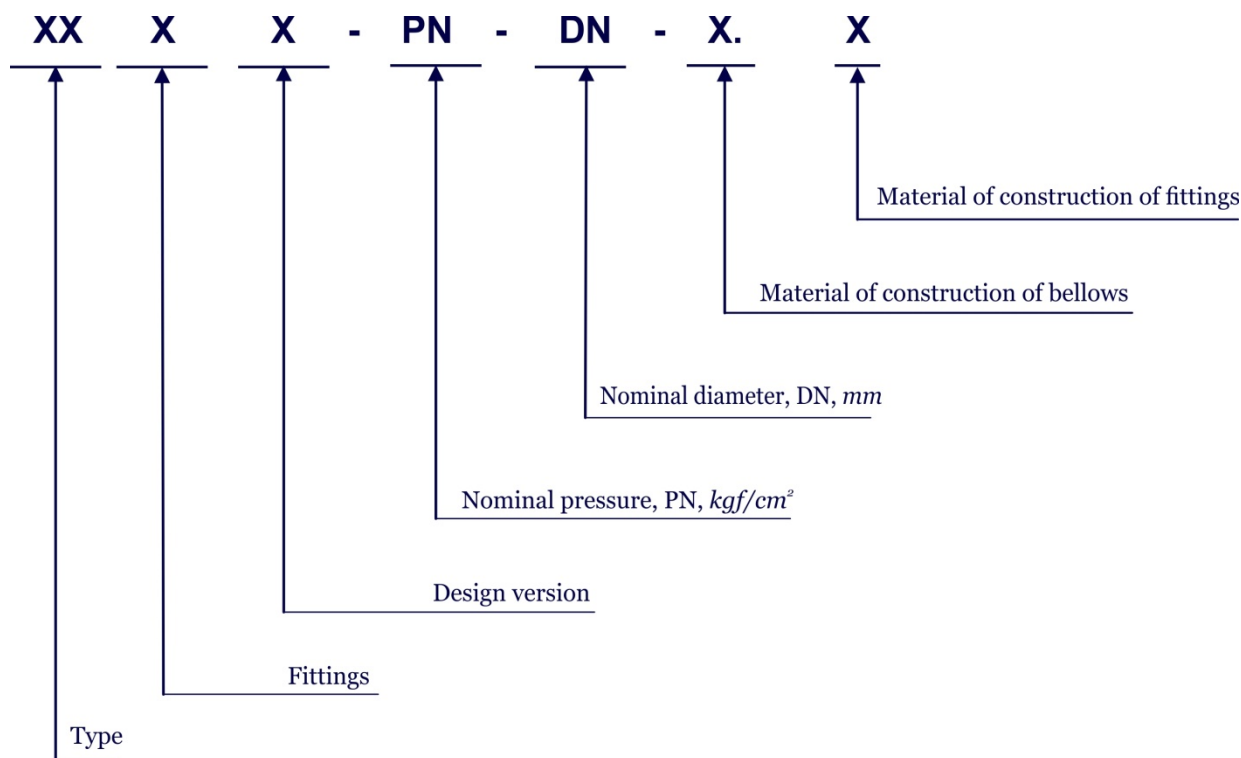
** The scientific, material and technical facilities, as well as testing equipment of the factory make it possible to supply both serial products and customized products (designed and manufactured according to the customer's ToR).

Reference designation of unbalanced general purpose industrial grade axial expansion joints as per the ИРНС.300260.052TV 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	Fitting	Symbol	Design version	Symbol
Axial	HO	Weld branch pipe (on both sides)	Π	Basic (bellows + 2 branch pipes or flanges)	H
		Butt welded plate flange (on both sides)	Φ	With a guide branch pipe	Γ
		Plate flange (on both sides)	B	Enclosed	K
				With a guide branch pipe and enclosed	M

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		
Material of construction	Material grade	Permissible operating temperature, K (°C)
1	Steel 08X18H10T (12X18H10T) as per GOST 5632	20 to 773 (-253 to 500)
2	Steel 10X17H13M2T as per GOST 5632	20 to 773 (-253 to 500)

Fittings		
Material of construction	Material grade	Permissible operating temperature, K (°C)
1	Steel 20 as per GOST 1050	253 to 698 (-20 to 425)
2	Steel 17ГC, 17Г1C as per GOST 19281	233 to 748 (-40 to 475)
3	Steel 09Г2C, 09Г2 as per GOST 19281	213 to 748 (-60 to 475)
4	Steel 08X18H10T, 12X18H10T as per GOST 5632	20 to 823 (-253 to 550)
5	Steel 10X17H13M2T as per GOST 5632	20 to 823 (-253 to 550)
6	Steel 12MX, 12X1MΦ as per GOST 20072	223 to 773 (-50 to 500)

Also, depending on the operating conditions of expansion joints, a heat-resistant corrosion-protection and waterproof coating can be applied onto outer surfaces of bellows and fittings.

Example of ordering information for:

1. An axial expansion joint for welded attachment to a pipeline made of 12X18H10T steel; nominal pressure, PN, 1.6 MPa (16 kgf/cm²); nominal diameter, DN, 250 mm; mounted casing; material of bellows construction, 08X18H10T steel as per GOST 5632; material of construction of fittings, 12X18H10T steel as per GOST 5632: “Expansion joint **НОПК-16-250-1.4** as per ИЯНШ.300260.052 ТУ”.

2. An axial expansion joint for flanged attachment to a pipeline made of grade 20 steel; nominal pressure, PN, 2.5 MPa (25 kgf/cm²); nominal diameter, DN, 250 mm; mounted casing and guide branch pipe; material of bellows construction, 08X18H10T steel as per GOST 5632; material of construction of fittings, grade 20 steel as per GOST 1050: “Expansion joint **НОФМ-16-250-1.1** as per ИЯНШ.300260.052 ТУ”.

Basic parameters and characteristics of handled media of the products as per ИЯНШ.300260.052 ТУ

Handled media	Handled medium temperature, K (°C)	Handled medium velocity, m/s	
		Without a guide branch pipe	With a guide branch pipe
Oil, oil products	723 (450)	up to 8	over 8
Fresh water	423 (150)		
Steam, natural gas, gaseous media not causing corrosion to expansion joint material	773 (500)	up to 20	above 20 to 80
Note:	<ol style="list-style-type: none"> 1. 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. 2. The expansion joints may be used for other handled media not capable of causing sulphide stress corrosion cracking. 3. The data provided in the table do not cover the expansion joints, dwg. ИЯНШ.302667.700-01.61, ИЯНШ.302667.701-01.61, ИЯНШ.302667.732-01.41. 		