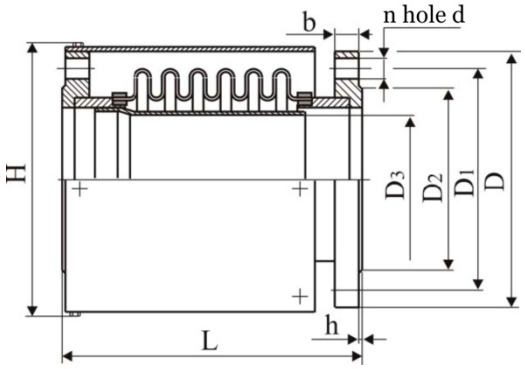
Axial expansion joints, НОФМ type



НОФМ type

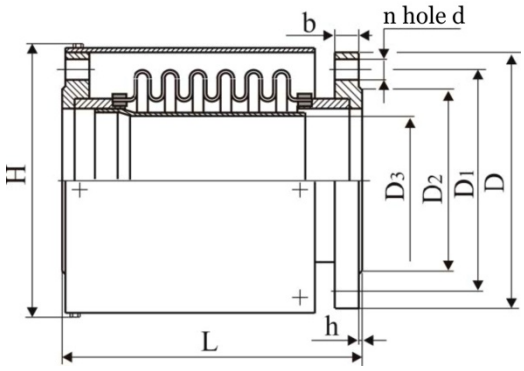
НОФМ type unbalanced axial expansion joints with flanges welded onto branch pipes, with a fixed casing and an internal guide branch pipe. They can be installed directly in pipelines transferring water with a temperature up to 150 °C and at a velocity above 8 m/s, oil and oil products with a temperature 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 8**

Serial product range**

Reference designation	Nominal pressure, PN, MPa (kgf/cm²)	Nominal diameter, DN, mm	Dimensions, mm								n	Weight, kg
			D	D_1	D_2	L	H	b	h	d		
НОФМ-2.5-65	0.25 (2.5)	65	160	130	110	258	178	11	3	14	4	7
НОФМ-2.5-80		80	185	150	128	266	203	11	3	18	4	8
НОФМ-2.5-100		100	205	170	148	286	223	11	3	18	4	10
НОФМ-2.5-125		125	235	200	178	302	253	13	3	18	8	13
НОФМ-2.5-150		150	260	225	202	314	278	13	3	18	8	17
НОФМ-2.5-200		200	315	280	258	392	333	15	3	18	8	28
НОФМ-2.5-250		250	370	335	312	416	388	18	3	18	12	41
НОФМ-2.5-300		300	435	395	365	440	453	18	4	22	12	52
НОФМ-2.5-350		350	485	445	415	446	504	18	4	22	12	62
НОФМ-2.5-400		400	535	495	565	456	554	18	4	22	16	68
НОФМ-2.5-500		500	640	600	570	484	659	20	4	22	16	93
НОФМ-2.5-600		600	755	705	670	518	774	20	5	26	20	118
НОФМ-2.5-700		700	860	810	775	506	879	21	5	26	24	144
НОФМ-2.5-800		800	975	920	880	540	994	21	5	30	24	185
НОФМ-2.5-900		900	1075	1020	980	536	1094	23	5	30	24	225
НОФМ-2.5-1000		1000	1175	1120	1080	554	1196	25	5	30	28	271
НОФМ-6.3-65	0.63 (6.3)	65	160	130	110	264	178	13	3	14	4	8
НОФМ-6.3-80		80	185	150	128	280	203	15	3	18	4	10
НОФМ-6.3-100		100	205	170	148	308	223	15	3	18	4	13
НОФМ-6.3-125		125	235	200	178	332	253	17	3	18	8	18
НОФМ-6.3-150		150	260	225	202	348	278	17	3	18	8	23
НОФМ-6.3-200		200	315	280	258	422	333	19	3	18	8	36
НОФМ-6.3-250		250	370	335	312	414	388	20	3	18	12	42
НОФМ-6.3-300		300	435	395	365	444	453	20	4	22	12	55
НОФМ-6.3-350		350	485	445	415	444	504	22	4	22	12	67
НОФМ-6.3-400		400	535	495	465	470	554	24	4	22	16	79
НОФМ-6.3-500		500	640	600	570	504	659	25	4	22	16	112
НОФМ-6.3-600		600	755	705	670	540	774	25	5	26	20	144
НОФМ-6.3-700		700	860	810	775	536	879	27	5	26	24	185
НОФМ-6.3-800		800	975	920	880	570	994	27	5	30	24	236
НОФМ-6.3-900		900	1075	1020	980	564	1094	29	5	30	24	280
НОФМ-6.3-1000		1000	1175	1120	1080	588	1196	31	5	30	28	347
НОФМ-10-65	1.0 (10)	65	180	145	122	278	198	17	3	18	4	11
НОФМ-10-80		80	195	160	133	284	213	17	3	18	4	12
НОФМ-10-100		100	215	180	158	318	233	19	3	18	8	16
НОФМ-10-125		125	245	210	184	340	263	21	3	18	8	22
НОФМ-10-150		150	280	240	212	330	298	21	3	22	8	25
НОФМ-10-200		200	335	295	268	400	353	21	3	22	8	37
НОФМ-10-250		250	390	350	320	426	408	23	3	22	12	52
НОФМ-10-300		300	440	400	370	454	458	24	4	22	12	63
НОФМ-10-350		350	500	460	430	458	519	24	4	22	16	81
НОФМ-10-400		400	565	515	482	494	584	26	4	26	16	102
НОФМ-10-500		500	670	620	585	538	689	28	4	26	20	148
НОФМ-10-600		600	780	725	685	572	799	31	5	30	20	195
НОФМ-10-700		700	895	840	800	558	914	34	5	30	24	249
НОФМ-10-800		800	1010	950	905	596	1029	37	5	33	24	325
НОФМ-10-900		900	1110	1050	1005	594	1129	40	5	33	28	393
НОФМ-10-1000		1000	1220	1160	1110	616	1241	43	5	33	28	497

* 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).



НОФМ type

НОФМ type unbalanced axial expansion joints with flanges welded onto branch pipes, with a fixed casing and an internal guide branch pipe. They can be 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 8 continued*

Serial product range**

Reference designation	Nominal pressure, PN, MPa (kgf/cm²)	Nominal diameter, DN, mm	Dimensions, mm								n	Weight, kg
			D	D_1	D_2	L	H	b	h	d		
НОФМ-16-65	1.6 (16)	65	180	145	122	298	198	21	3	18	4	13
НОФМ-16-80		80	195	160	133	306	213	21	3	18	4	15
НОФМ-16-10		100	215	180	158	312	233	23	3	18	8	17
НОФМ-16-125		125	245	210	184	328	263	25	3	18	8	23
НОФМ-16-150		150	280	240	212	344	298	25	3	22	8	29
НОФМ-16-200		200	335	295	268	492	353	27	3	22	12	45
НОФМ-16-250		250	405	355	320	462	423	28	3	26	12	65
НОФМ-16-300		300	460	410	370	474	478	28	4	26	12	79
НОФМ-16-350		350	520	470	430	484	539	30	4	26	16	104
НОФМ-16-400		400	580	525	482	530	599	34	4	30	16	136
НОФМ-16-500		500	710	650	585	580	729	44	4	33	20	228
НОФМ-16-600		600	840	770	685	628	859	45	5	39	20	312
НОФМ-16-700		700	910	840	800	604	929	47	5	39	24	336
НОФМ-16-800		800	1020	950	905	648	1039	49	5	39	24	432
НОФМ-16-900		900	1120	1050	1005	646	1139	54	5	39	28	523
НОФМ-16-1000		1000	1255	1170	1110	666	1276	58	5	45	28	679
НОФМ-25-65	2.5 (25)	65	180	145	122	282	198	21	3	18	8	12
НОФМ-25-80		80	195	160	133	290	213	23	3	18	8	14
НОФМ-25-100		100	230	190	158	322	248	25	3	22	8	21
НОФМ-25-125		125	270	220	184	338	288	27	3	26	8	28
НОФМ-25-150		150	300	250	212	354	318	27	3	26	8	35
НОФМ-25-200		200	360	310	278	436	378	29	3	26	12	54
НОФМ-25-250		250	425	370	335	466	443	31	3	30	12	74
НОФМ-25-300		300	485	430	390	488	503	32	4	30	16	97
НОФМ-25-350		350	550	490	450	500	569	38	4	33	16	136
НОФМ-25-400		400	610	550	505	556	629	40	4	33	16	179
НОФМ-25-500		500	730	660	615	602	749	48	4	39	20	266
НОФМ-25-600		600	840	770	720	648	859	49	5	39	20	354
НОФМ-25-700		700	960	875	820	636	979	55	5	45	24	455
НОФМ-25-800		800	1075	990	930	692	1094	63	5	45	24	631

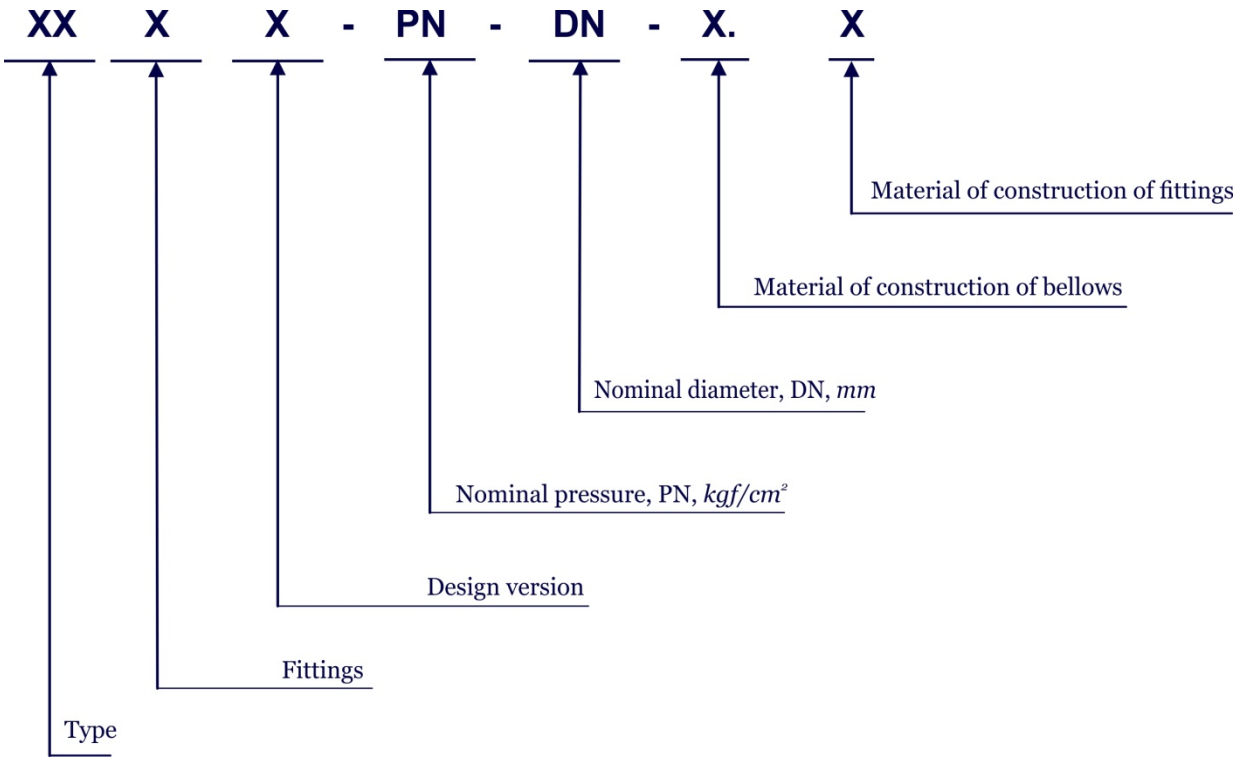
* The parameters of expansion joints given in the Table are for reference only; for precise product performance please contact the factory's technical specialists;
** The scientific, material and technical facilities, as well as testing equipment of the factory make it possible to supply both serial 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 ИЯНШ.300260.052ТУ 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	**НО**	Weld branch pipe (on both sides)	**П**	Basic (bellows + 2 branch pipes or flanges)	**Н**
		Butt welded plate flange (on both sides)	**Ф**	With a guide branch pipe	**Г**
		Plate flange (on both sides)	**В**	Enclosed	**К**
				With a guide branch pipe and enclosed	**М**

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 08Х18Н10Т (12Х18Н10Т) as per GOST 5632	20 to 773 (–253 to 500)
2	Steel 10Х17Н13М2Т 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 17ГС, 17Г1С as per GOST 19281	233 to 748 (–40 to 475)
3	Steel 09Г2С , 09Г2 as per GOST 19281	213 to 748 (–60 to 475)
4	Steel 08Х18Н10Т, 12Х18Н10Т as per GOST 5632	20 to 823 (–253 to 550)
5	Steel 10Х17Н13М2Т as per GOST 5632	20 to 823 (–253 to 550)
6	Steel 12МХ, 12Х1МФ 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 12Х18Н10Т steel; nominal pressure, PN, 1.6 MPa (16 kgf/cm^2); nominal diameter, DN, 250 mm; mounted casing; material of bellows construction, 08Х18Н10Т steel as per GOST 5632; material of construction of fittings, 12Х18Н10Т 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/cm^2); nominal diameter, DN, 250 mm; mounted casing and guide branch pipe; material of bellows construction, 08Х18Н10Т 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: **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.**			