

NEPTUNTM

**INTELLECTUAL
WATER SYSTEMS**

**CORRUGATED STAINLESS
STEEL TUBE SS304**

NEPTUN IWS

**OPERATING MANUAL
(COMBINED WITH TECHNICAL CERTIFICATE)
AKC.00039.01 PЭ(П)**

POCC RU.AB87.H03869



CONTENTS

Purpose	2
Technical data	3
Installation and operation instructions	4
Storage and transportation conditions	5
Warranty	5
Warranty coupon	8

PURPOSE

The corrugated stainless steel tubes SS304 Neptun IWS are manufactured both in polyethylene jacket and without it .

The corrugated stainless steel tubes SS304 Neptun IWS without jacket are designed for application in systems of domestic drinking purpose, hot and cold water supply, heating systems and also as industrial pipelines which transport liquids not aggressive to the tube materials. The corrugated stainless steel tubes in jacket, in addition to the above mentioned, also may be applied in gas supply systems. The corrugated stainless steel tubes are manufactured in accordance with TU 1371-001-48774975-2013.

TECHNICAL DATA

The main technical data and dimension-types of tubes are specified in the table:

Item:	Tube without jacket / Tube in jacket			
	Dimension-type of tube (nominal bore):			
	15	20	25	32
Inner diameter, mm	14,1	21,0	27,0	32,0
Wall thickness, mm	0,30			
Minimum number of corrugates, pcs in 100 mm	20	19	18	18
Outer diameter, mm	18,1/19,1	25,6/26,6	32,0/33,0	37,6/38,6
Operating temperature at pressure 1,5 MPa, °C	150 / 90			
Minimum temperature, pressureless, °C	- / -40			
Maximum intermittent allowable temperature, °C	400 / 110			
Thickness of insulation layer , mm	- / 0,5			
Operating pressure, MPa	1,5	1,5	1,5	1,5
Minimum bending radius, mm	30 / 40	40 / 50	50 / 60	80 / 90
Length of tube in coil, m	50	30	30	20
Maximum (destructive) pressure at temperature 20°C, MPa	21			
Lineal expansion coefficient 10-6, 1/°C	17			
Heat-conduction coefficient, W/m·K	17			
Life-time period	30 years / 20 years			

INSTALLATION AND OPERATION INSTRUCTIONS

Tube without jacket	Tube in jacket
The installation of corrugated stainless steel tubes is performed by application of adjustable spanner. The installation temperature limit is -40 °C.	The installation of corrugated stainless steel tubes is performed by application of adjustable spanner. The installation temperature limit is -40 °C. Before the installation of fittings on the tube, it is necessary to remove the tube insulation layer on a length which doesn't exceed the length of the tube entry into the fitting.

Flattenings and breakings are not allowed during the installation. In case of «breakies», a deteriorated area must be removed.

The tube stretching is not allowed during the installation. The tube exposed ends are to be closed to avoid ingress of dirt, garbage and foreign objects into the tube.

During the installation of the floor heating pipeline, before the concrete pouring or floor covering, the test fluid supply is performed at operating pressure. During the concrete pouring, the tube must be at the pipeline operating pressure.

Arrangement of fixed supports at the horizontal pipeline installation should be designed in accordance with the table:

Tube type (nominal diameter):	Distance between supports, mm:
15	500
20	600
25	750
32	900

During the installation of vertical pipelines, the fastening must be performed with spacing not less than 1000 mm for tubes of outer diameter up to 32 mm and not less than 1500 mm for tubes of bigger diameter.

The pipeline installation should be performed in such a way, that distance between tubes and building structures is not less than 10 mm.

STORAGE AND TRANSPORTATION CONDITIONS

The corrugated stainless steel tubes are not classified as dangerous cargo, that allows their transportation by any means of transport in accordance with the shipping rules actual for a specified transportation mode.

At the rail or over-the-road transportations, the tube coils are allowed for transportation only in roofed rolling equipment.

To avoid tubes' damages, they should be laid onto the even surface, without nib points. The dropping of tubes from transportation vehicles is not allowed.

The tube storage must be performed in ventilated sheddings or premises.

The tube coils are allowed for storage in storage blocks of height up to three meters.

WARRANTY

Warranty period is 15 years from the date of sale.

The manufacturer guarantees stability of all the consumer properties of corrugated stainless steel tubes Neptun IWS, under condition of the following regulations of use, transportation, storage, installation and operation.

After-sales services provide the replacement of the product during the whole warranty period subject to the following requirements:

- use of product according to its intended purpose;
- maintenance of product is performed in accordance with a current technical certificate;
- product has no mechanical damages as a defect cause;
- Regulations and requirements for transportation and storage of product are followed.

If during the diagnostics or after its carrying out it has been determined that some of listed requirements is not followed, the Manufacturer or its representative has the right to deny after-sales services issuing a relevant conclusion.

It suspends the guarantee of the product and the product is not to be replaced in the following cases:

- if the guarantee period is expired;
- if the product was damaged during the transportation after the product had been received (during the storage, if the product was not placed in operation), or the installation and operation regulations, transportation and storage regulations were violated;
- if the terms of warranty obligations were violated, that is identified by a technical specialist of the Manufacturer or its representative in each specific case;
- if the product has indications of extraneous interference or unauthorized repair attempt.

Warranty and other obligations do not include the following fault conditions:

- mechanical damages: cracks, dents etc. which were formed as a result of shocks, drops or scratches;
- damages as a result of ingress of foreign substances and objects inside of the product;
- damages as a result of improper operation or application of nonstandard or not passed a compatibility test of equipment working or connecting in combination with a present;
- damages as a result of nature, fire and other ambient factors, climatic and other conditions.

In no event shall the Manufacturer or its representative be liable for any damages (including all, without exception, damages for loss of profits, interruption of business and the like), associated with the use or the impossibility of use of the purchased product. In any case, according to the present warranty obligations, a compensation may not exceed the cost actually paid for the product by the Buyer.

To implement the warranty obligations, it is necessary to provide the Manufacturer or its representative with the following documents:

- technical certificate of the product with a QCD stamp;
- claim of the Buyer with the specified class of defect and operation conditions;
- document with the specified date of sale.

WARRANTY COUPON

I have read and understood the storage and transportation conditions, instructions on operation of the corrugated tube made of stainless steel Neptun IWS, the guarantee submission terms, I do not make any claims to external appearance of the product:

_____, _____, _____ 20__ r.
signature of the Buyer clarification of signature date of sale

Seller _____ QCD stamp

Address of the Seller _____

Phone number of the Seller _____

Date of sale _____ Seller's stamp here