BYRPEX

SUSTAINABLE
WATER SUPPLY
SYSTEMS

PRODUCT E-CATALOG

BYR PEX PREMIUM (6th OPERATION CLASS) AND BYR PEX STANDARD (5th OPERATION CLASS)
PIPING SYSTEM FOR CENTRAL, INDIVIDUAL HEATING AND WATER SUPPLY (HOT/COLD, DRINKING)

BYR PEX OPTIMA (5th OPERATION CLASS)
PIPING SYSTEM FOR CENTRAL, INDIVIDUAL HEATING AND WATER SUPPLY (HOT/COLD, DRINKING)

WARM FLOOR AND COLD PANEL SYSTEMS

MULTIPURPOSE COMPONENTS FOR ALL PIPING SYSTEMS

SHUT-OFF AND THERMOSTATIC VALVES EAGLE

www.byrpex.com

BYR PEX Corporation, established in 1998 with the aim of wide introduction of modern systems of polymeric pipelines in Russia and the CIS, unites companies operating in various areas of production activities, in the field of arrangement of modern internal engineering systems.

BYR PEX pipes installed up to 101 floors in the second tallest building in the world in Shanghai

BYR PEX pipeline systems are successfully operating for 24 years, both in serial / municipal housing construction – **an indicator of price**, and in elite housing construction – **an indicator of quality**.

In January 1999, for the first time in Russia, the team of the BYR PEX Firm mastered the serial production of pressure pipes made of molecularly cross-linked polyethylene on the equipment of Boston Matthews (Great Britain), as a result of the consistent expansion and modernization of the extrusion production in 2008 and 2012, the volume of manufactured pipe products reaches 45 km per day. *Today, the range of BYR PEX Firm is – four technologically completed systems of pressure pipes designed for different operating conditions; this is – four types of processed raw materials, 7 pipe diameters, as well as a corrugated protective pipe.*

Premium (PE-Xb; SDR 7.4; PN 22,4) – the only 6th operating class in the world
Standard (PE-Xb) – the highest according to GOST R 5th class of operation
Optima (PE-Xb / PE-RT; SDR 11; PN 12,5) –the best value for money for any purpose

In 2000, the BYR PEX Firm developed specifications for the production of compression and press fittings, where all the accumulated experience from world manufacturers was taken into account. Shaped parts are made of brass, resistant to dezincification, by hot stamping, which makes them exceptionally strong and durable. Brass fittings are produced under the trademark EAGLE-BYRPEX, in cooperation with SCE (Hong Kong).
In 2018, in Shanghai, the SCE group of companies celebrated its 20th anniversary and 18 years of cooperation with BYR PEX.

In the period from 2001 to 2008, with the help of our own production laboratory, we carried out deep study of polymeric materials most suitable for modern internal drinking water systems, hot / cold water supply systems, heating systems, including "Warm floor" and "Cold panels" in Russian opearing conditions. Due to the lack of data in the world on the service life of cross-linked polyethylene under operating temperature of 95 °C in the period from 2003 to 2007, a comparative analysis of the structure and properties of polyethylenes crosslinked by various methods was made. The analysis was carried out jointly with the Department of Processing plastics RCTU them. Mendeleev (Russian University of Chemical Technology named after D.I. Mendeleev) and had no analogues in the world. As a result, the concept of "6th class of pipe operation" was introduced.
This allowed to gain knowledge that helps today in assessing the quality and applicability of emerging materials.

In 2005, a 100% visual control unit, which had no analogues in the world, was developed and launched. Extrudate, which captures the slightest changes in the structure of the material, which provides a 99% guarantee the quality of the finished product.

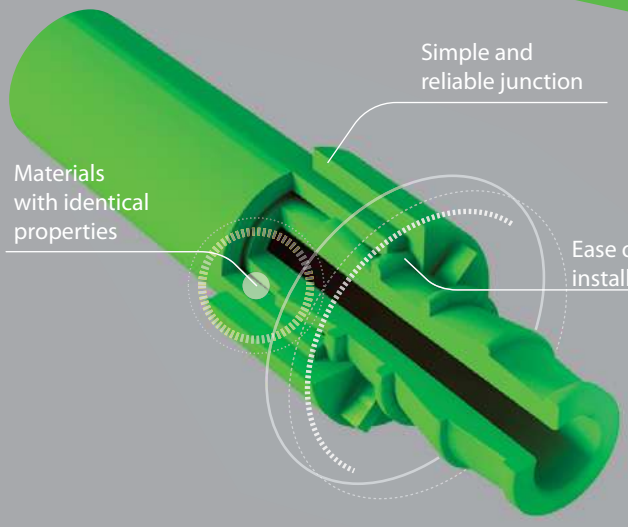
Despite the crisis of 2008, BYR PEX launched the second production line to prevent shortages, as demand for the company's products is constantly growing.
In January 2012, production was moved to its own production site in the Moscow region – 4 hectares, 6000 m^2 of capital buildings with developed energy in 17 km from MKAD.

In the process of design work, the shortcomings of the widely used by our competitors were taken into account a polymer such as PPSU, which has poor resistance to external influences (brittleness). And already In 2011, three patents for prototype moldings were obtained. Serial production started in 2014 fundamentally new fittings made of molecularly cross-linked polyethylene.
In 2017 and 2019 patented fittings were presented at the international exhibition ISH in Frankfurt, where they were recognized and appreciated by our potential competitors.

BYR PEX pipeline systems are opearing in the most known skyscrapers in Russia for more than 23 years!

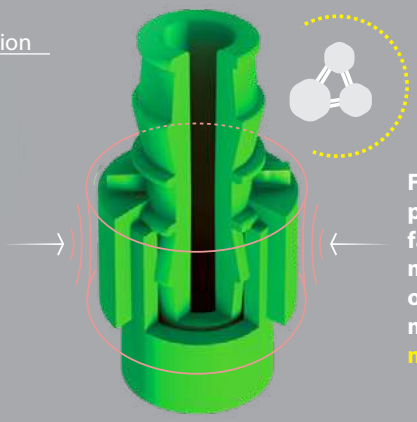
We bring to your attention a bright innovation of BYR PEX Corporation –

fundamentally new OPTIMA fittings made of molecularly cross-linked polyethylene



PATENTED

Life span more than 50 years



First used molecular polyethylene PE-Xb for fabrication fittings without mortgages parts. The principle of connecting pipes is simple – mechanically using sleeve with molecular memory

- **Environmentally friendly**
- **Economical**
- **Esthetics**
- **Energy efficient**

Versatility of application

Multipurpose application OPTIMA fittings and sleeves, created specifically for BYR PEX Optima pipes, together form an integral piping system **that fully complies with the highest class 5 according to GOST 32415-2013** and is recommended for use in systems of cold/hot water supply, high-temperature heating, floor heating, playgrounds, stadiums, as well as for the construction of artificial skating rinks and cooling systems of surfaces (ceilings/walls) that are gaining popularity.

OPTIMA fittings and sleeves **are made of molded molecularly cross-linked polyethylene**, which has all the best properties of the material that has proven itself in pipes, has identical physical and chemical properties, devoid of "problematic" properties of other raw materials used for these purposes (brittleness). And while the final product costs less than brass counterparts.

The connection of the pipe and fitting is made only with the help of a manual expander with nozzles for various pipe diameters, and the subsequent shrinkage of Optima sleeves occurs due to the molecular memory property of the material. At the same time, the connection is one-piece, and the fixation of the sleeve in its place is ensured by the original design of the fitting and guarantees the correctness and quality of the connection during the entire service life.

The OPTIMA piping system is the result of five years of research and development carried out at own premises and production facilities. This result was achieved thanks to a complex of unique Features of BYR PEX Corporation:

- accumulated over 20 years of knowledge and experience in the field of production and installation of systems using polymer pipelines made of cross-linked polyethylene and polyethylene of raised temperature resistance;
- effective direct and feedback communication between structural subdivisions of BYR PEX Corporation – from capabilities of modern production to the needs of sellers, designers, installers and consumers;
- own modern, well-equipped laboratory facilities for checking various system parameters polymer pipelines in the complex and each element separately.

The system of pipes and fittings BYR PEX OPTIMA is the optimal solution for most problems.
It has the following amazing properties:

- low cost of the special tool;
- low cost of pipes and fittings;
- conformity of operational characteristics to the highest Class 5 according to GOST 32415-2013
- high resistance to external impact and mechanical loads;
- high speed of installation.

SDR *(Standard Dimension Ratio) – standard dimensional ratio of the nominal outer diameter of the pipe to the nominal wall thickness. It is important to observe this value when selecting fittings for pipes. Based on the specifics of the application and operating conditions, BYR PEX Premium and Standard pipes have SDR 7.4, and Optima pipes – SDR 11.*

Gray color in the tables indicates products to be withdrawn from circulation

HEATING PIPING SYSTEM AND WATER SUPPLY BYR PEX PREMIUM / STANDARD

Recommended for use in heating systems and water supply in high-rise and serial construction.

PN (pressure nominal) – nominal pressure, corresponds to the maximum working pressure (in bar) for pipelines transporting water at 20 °C.

PREMIUM BYR PEX PIPE (PE-Xb) CLASS 6 PN 22,4

PREMIUM BYR PEX PIPE / CLASS 6 / PN 22,4

Pipes are made of molecularly cross-linked polyethylene PE-Xb according to TR 2248-001-49257437-2011 and comply with GOST 32415-2013, as well as DIN 16892, 16893, 4726, 4729, Israeli standard No. 1519

Operating pressure up to 8 bar (0.8 MPa)
Operating temperature up to **95 °C**

Service life of more than **50** *years*

Size (outer diameter x wall thickness), mm	Length, m	Weight 1 r.m., kg	Water volume, l/r.m.	Packing dimensions, mm		
				polyethylene	in a box	
16 x (2,2)	100	0,100	0,106	600, H200	630 x 630 x 200	0111
16 x (2,2)	200	0,100	0,106	730, H200	--	0112
20 x (2,8)	100	0,155	0,163	700, H200	720 x 720 x 200	0211
25 x (3,5)	50	0,242	0,255	700, H200	720 x 720 x 200	0311
25 x (3,5)	3,5	0,242	0,255	--	3600 x 130 x 130	0312
32 x (4,4)	50	0,389	0,423	840, H200	850 x 850 x 200	0411
32 x (4,4)	3,5	0,389	0,423	--	3600 x 130 x 130	0412
40 x (5,5)	6	0,594	0,661	--	--	0511
50 x (6,9)	6	0,926	1,029	--	--	0611
63 x (8,6)	6	1,470	1,647	--	--	0711

Production of a batch of pipes with a non-standard length of winding coils / sections is possible when ordering pipes of the same standard size in the amount of at least 350,000 rubles. Production time – no more than two weeks.

STANDARD BYR PEX PIPE (PE-Xb) CLASS 5 PN 20,0

STANDARD BYR PEX PIPE / CLASS 5 / PN 20,0

7,4Pipes are made of molecularly cross-linked polyethylene PE-Xb according to TR 2248-003-49257437-2015 and comply with GOST 32415-2013, as well as DIN 16892, 16893, 4726, 4729, Israeli standard No. 1519

Operating pressure up to 10 bar (1.0 MPa)
Operating temperature up to **80 °C**

Service life of more than **50** *years*

Size (outer diameter x wall thickness), mm	Length, m	Weight 1 r.m., kg	Water volume, l/r.m.	Packing dimensions, mm		
				polyethylene	in a box	
16 x (2,2)	100	0,100	0,106	600, H200	630 x 630 x 200	0161
16 x (2,2)	200	0,100	0,106	730, H200	--	0162
20 x (2,8)	100	0,155	0,163	700, H200	720 x 720 x 200	0261
25 x (3,5)	50	0,242	0,255	700, H200	720 x 720 x 200	0361
25 x (3,5)	3,5	0,242	0,255	--	850 x 850 x 200	0362
32 x (4,4)	50	0,389	0,423	840, H200	850 x 850 x 200	0461
32 x (4,4)	3,5	0,389	0,423	--	3600 x 130 x 130	0462

Production of a batch of pipes with a non-standard length of winding coils / sections is possible when ordering pipes of the same standard size in the amount of at least 350,000 rubles. Production time – no more than two weeks.

Operating parameters of BYR PEX pipes

Operation parameters of BYR PEX pipes GOST 32415, released in 2013, was rewritten from DIN standards without taking into account the difference in the duration of heating seasons Europe (62 days) and Russia (214 days). For this reason, the actual service life of pipelines operated in Russia, much lower than guaranteed. According to the established requirements of GOST, the maximum service life of thermoplastic pipes is the total time of their operation at different temperatures $T_{operating}$, $T_{maximum}$ and $T_{emergency}$ which is 50 years.

Service class	Temperature		Time at temperature	Application
5th service class GOST 32415-2013 (paragraph 4.3.1)	Operating	20 °C	14 years	High-temperature heating with heating devices
		60 °C	25 years	
		80 °C	**10 years**	
	Maximum	**90 °C**	**1 year**	
	Emergency	100 °C	100 hours	
6th service class Technical requirements 2248-001-49257437-2011	Operating	20 °C	14 years	High-temperature heating with heating devices, taking into account the increased duration of the heating season and the increased temperature of the coolant
		60 °C	10 years	
		80 °C	**15 years**	
		95 °C	**10 years**	
	Maximum	**100°C**	**1 year**	
	Emergency	110 °C	100 hours	

When operating pipelines with other temperature parameters, the service life increases or significantly is shrinking. In typical and high-rise construction, when choosing a specific brand of pipe, it is important to take into account the long-term resistance of the material to the operating temperature of the coolant. The maximum temperatures to which pipes made in three ways are stable for a long time, are given below:

- Peroxide – PE-Xa – up to 80 °C;
- Silane – PE-Xb – up to 95 °C;
- Radiation – PE-Xc – up to 70 °C

Regulatory documentation GOST 32415-2013 provides for the highest, 5th class of operation, working temperature – 80 °C, and the maximum – 90 °C. Thus, when selecting pipelines, it is necessary to understand that pipes that meet the requirements of GOST 32415-2013 ARE NOT SUITABLE for use at temperatures coolant 70/90 or 70/95. This circumstance prompted the engineers of the BYR PEX corporation in accordance with GOST 32415-2013, guided by paragraph 4.3.4, develop and implement a class of operation 6, taking into account customer experience in the operation of pipes, possible temperature and pressure drops of the coolant and an increased duration of the heating season in cold regions. Based on the developed TU 2248-001-49257437-2011 introduced the 6th class of operation complies with ISO 10508:2006 and provides for an operating temperature of 95 °C, and a maximum of 100 °C.

INSTALLATION TOOL FOR PRESS FITTINGS

Tool kit BYR PRESS-4

Description	
Plastic case, expander, assembly vise, secateurs, set of nozzles for expander and vise 16, 20, 25, 32, tool lubricant	8025

For the most up-to-date information, you can refer to the electronic version of the "Instructions" on our website / in our online store.

Adaptive jaws

Rehau Rautool M1

Kan

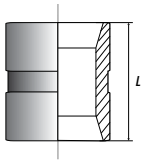
TC-flex

Brand	Description	
Rehau Rautool M1	Adaptation jaw set 16, 20, 25, 32 mm	8040
Kan	Adaptation jaw set 16, 20, 25 mm	8041
TC-flex	Adaptive jaws16 mm	8042-16
	Adaptive jaws20 mm	8042-20
	Adaptive jaws 25 mm	8042-25
	Adaptive jaws 32 mm	8042-32

PRESS (AXIAL) FITTINGS EAGLE – BYR PEX SDR 7.4

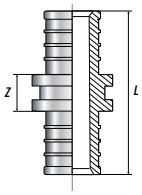
- Operating pressure – 2.0 MPa
- Operating temperature – 95 °C
- Material – dezincification resistant brass LS59-1

Sleeve



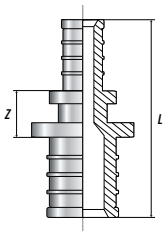
Size	L, mm	
16 (2,2)	17	5510
20 (2,8)	21	5511
25 (3,5)	26	5512
32 (4,4)	32	5513

Equal Coupler



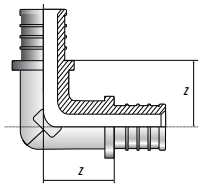
Size	L, mm	Z, mm	
16 (2,2) x 16 (2,2)	44	13	5310
20 (2,8) x 20 (2,8)	52	14	5311
25 (3,5) x 25 (3,5)	61	15	5312
32 (4,4) x 32 (4,4)	74	16	5313

Reducing Coupler



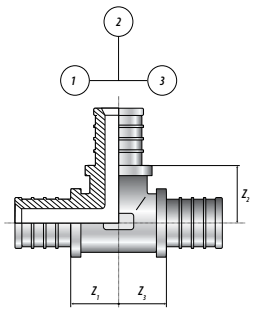
Size	L, mm	Z, mm	
20 (2,8) x 16 (2,2)	48	13	5410
25 (3,5) x 16 (2,2)	52	14	5411
25 (3,5) x 20 (2,8)	56	14	5412
32 (4,4) x 25 (3,5)	67	14	5413

Equal Elbow



Size	Z, mm	
16 (2,2) x 16 (2,2)	21	6010
20 (2,8) x 20 (2,8)	21	6011
25 (3,5) x 25 (3,5)	27	6012
32 (4,4) x 32 (4,4)	32	6013

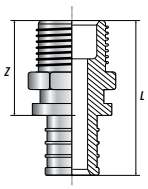
TEE



Size	Z_1, mm	Z_2, mm	Z_3, mm	
equal bore				
16 (2,2) x 16 (2,2) x 16 (2,2)	17	19	17	5610
20 (2,8) x 20 (2,8) x 20 (2,8)	19	23	19	5611
25 (3,5) x 25 (3,5) x 25 (3,5)	22	25	22	5612
32 (4,4) x 32 (4,4) x 32 (4,4)	29	29	29	5613
reducing bore				
16 (2,2) x 20 (2,8) x 16 (2,2)	20	21	20	5710
16 (2,2) x 25 (3,5) x 16 (2,2)	23	21	23	5711
20 (2,8) x 16 (2,2) x 16 (2,2)	17	19	17	5712
20 (2,8) x 16 (2,2) x 20 (2,8)	17	20	17	5713
20 (2,8) x 20 (2,8) x 16 (2,2)	22	21	18	5714
20 (2,8) x 25 (3,5) x 20 (2,8)	23	21	23	5715
25 (3,5) x 16 (2,2) x 16 (2,2)	18	24	18	5716
25 (3,5) x 16 (2,2) x 20 (2,8)	18	24	18	5717
25 (3,5) x 16 (2,2) x 25 (3,5)	18	24	18	5718
25 (3,5) x 20 (2,8) x 16 (2,2)	20	24	22	5719
25 (3,5) x 20 (2,8) x 20 (2,8)	18	24	20	5720
25 (3,5) x 20 (2,8) x 25 (3,5)	20	24	20	5721
25 (3,5) x 25 (3,5) x 20 (2,8)	24	24	22	5723
25 (3,5) x 32 (4,4) x 25 (3,5)	26	26	26	5724
32 (4,4) x 16 (2,2) x 32 (4,4)	20	26	20	5725
32 (4,4) x 20 (2,8) x 32 (4,4)	20	28	20	5726
32 (4,4) x 25 (3,5) x 25 (3,5)	25	30	30	5727
32 (4,4) x 25 (3,5) x 32 (4,4)	24	30	24	5728

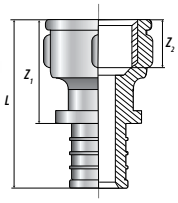
- Operating pressure – 2.0 MPa
- Operating temperature – 95 °C
- Material – dezincification resistant brass LS59-1

Straight connector with external thread



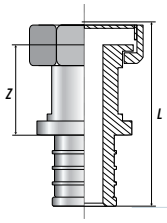
Thread	Ø pipe	L, mm	Z, mm	
1/2″	16 (2,2)	47	32	5010
3/4″	16 (2,2)	49	34	5011
1/2″	20 (2,8)	51	32	5012
3/4″	20 (2,8)	54	34	5013
3/4″	25 (3,5)	58	35	5014
1″x 2	25 (3,5)	62	39	5015
1″	32 (4,4)	68	39	5017

Straight connector with internal thread



Thread	Ø pipe	L, mm	Z_1, mm	Z_2, mm	
1/2″	16 (2,2)	42	27	13	5110
3/4″	16 (2,2)	46	30	15	5111
1/2″	20 (2,8)	46	27	13	5112
3/4″	20 (2,8)	50	31	16	5113
3/4″	25 (3,5)	52	29	15	5114
1″	25 (3,5)	57	35	17	5115
3/4″	32 (4,4)	59	29	16	5116
1″	32 (4,4)	64	34	17	5117

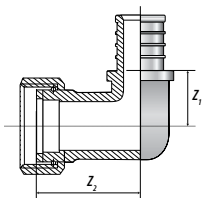
Straight connector with union nut



Thread	Ø pipe	L, mm	Z, mm		
UN 1/2″	16 (2,2)	47	22		5210
UN 3/4″	16 (2,2)	48	23		5211
UN 1/2″	20 (2,8)	51	23		5212
UN 3/4″	20 (2,8)	51	23		5213
UN 3/4″	25 (3,5)	65	32		5214
UN 1″	25 (3,5)	61	26		5215
UN 1″	32 (4,4)	67	27		5217
To connect the instruments					
UN 1/2″	16 (2,2) **nickel**	47	22	Ni	5280
UN 1/2″	20 (2,8) **nickel**	51	22	Ni	5282
UN M22	16 (2,2) **chromium**	47	22	Cr	5291

Material dezincification resistant brass DZR

Elbow with union nut



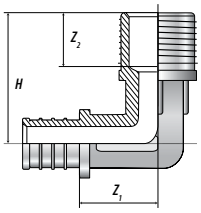
Thread	Ø pipe	Z_1, mm	Z_2, mm	
UN 1/2″	16 (2,2)	11	21	6410
UN 3/4″	20 (2,8)	22	29	6413
UN 1″	25 (3,5)	25	36	6415
UN 1″	32 (4,4)	24	36	6417

Material dezincification resistant brass DZR

PRESS (AXIAL) FITTINGS EAGLE – BYR PEX SDR 7.4

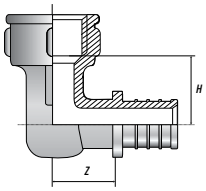
- Operating pressure – 2.0 MPa
- Operating temperature – 95 °C
- Material – dezincification resistant brass LS59-1

Elbow with external thread



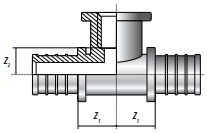
Thread	Ø pipe	H, mm	Z_1, mm	Z_2, mm	
1/2″	16 (2,2)	32	19	13	6210
3/4″	20 (2,8)	34	21	17	6213
1″	25 (3,5)	44	23	17	6215
1″	32 (4,4)	47	27	17	6217

Elbow with internal thread



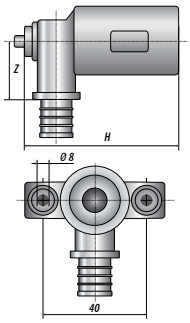
Thread	Ø pipe	H, mm	Z, mm	
1/2″	16 (2,2)	17	22	6110
1/2″	20 (2,8)	19	23	6112
3/4″	20 (2,8)	21	26	6113
3/4″	25 (3,5)	23	28	6114
3/4″	32 (4,4)	27	30	6116
1″	32 (4,4)	30	32	6117

Tee with internal thread



Thread	Ø pipe	Z_1, mm	Z_2, mm	
1/2″	16 (2,2)	24	0	5810
1/2″	20 (2,8)	24	3	5812
3/4″	20 (2,8)	26	3	5813
1″	25 (3,5)	31	3	5815
1″	32 (4,4)	31	10	5817

Water outlet



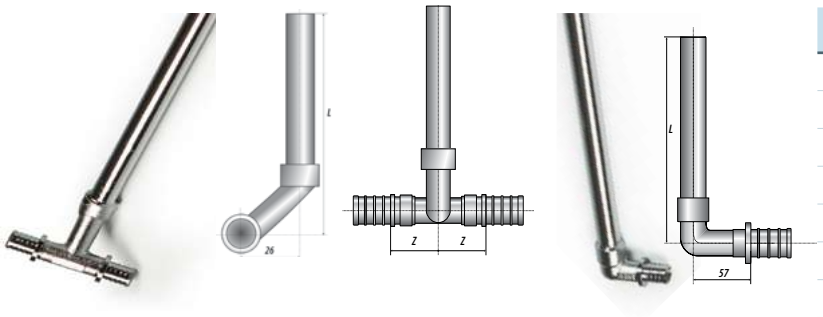
Thread	Ø pipe	H, mm	Z, mm	
1/2″	16 (2,2)	51	26	6610
1/2″	20 (2,8)	54	29	6612
3/4″	20 (2,8)	48	27	6613
3/4″	25 (3,5)	48	27	6614

Material – dezincification resistant brass DZR Cu + Zn

PRESS (AXIAL) FITTINGS EAGLE – BYR PEX SDR 7.4

- Operating pressure – 2.0 MPa
- Operating temperature – 95 °C
- Material – dezincification resistant brass LS59-1

Instrument tube T-shaped and L-shaped PRESS



*Material – **copper*** Cu
*Cu Coating – **nickel + chrome*** Ni + Cr

Note:
To fix the instrument tubes during installation, use the "fixed support" lock (see page 29).
Instrument tubes are used together with "O-ring fittings for instrument tubes" (see page 35).

shape	Ø copper	Ø pipe	L, mm	
T	15	16 (2,2)	300	7240
T	15	20 (2,8)	300	7241
T	15	25 (3,5)	300	7244
T	15	32 (4,4)	300	7246
T	15	16 (2,2)	800	7260
T	15	20 (2,8)	800	7261
T	15	25 (3,5)	800	7264
T	15	32 (4,4)	800	7266

shape	Ø copper	Ø pipe	L, mm	
L	15	16 (2,2)	300	7210
L	15	20 (2,8)	300	7211
L	15	16 (2,2)	800	7220
L	15	20 (2,8)	800	7221

COMPARISON OF CONNECTION UNITS OF HEATING DEVICES WITH THE APPLICATION OF:

L-SHAPED TUBE

The kit consists of:

- Instrument tube L-shaped
- Sleeve
- Sealing fitting for copper tube, Eurocone
- Retainer "Fixed support", single / double

- Aesthetic solution recommended for connecting heating devices.
- And also for connecting pipelines through the system "Warm floor" and/or "Cold panel" to manifold groups.

VS

DECORATIVE COVER

The kit consists of:

- Elbow
- Sleeve
- Sealing fitting for copper tube, Eurocone
- Retainer "Fixed support", single / double
- Casing decorative
- Decorative overlay

NEW

Profit 35%

Benefit from 35% in comparison with a node where brass tubes are used.

Description	
Casing gray 100 mm (2 pcs.) + cover plate gray (2 pcs.)	2066 x 2 x 2070
Casing gray 100 mm (2 pcs.) + trim brown (2 pcs.)	2066 x 2 x 2071
Casing gray 300 mm (2 pcs.) + cover plate gray (2 pcs.)	2067 x 2 x 2070
Casing gray 300 mm (2 pcs.) + trim brown (2 pcs.)	2067 x 2 x 2071

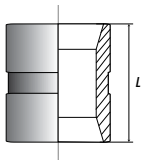
- They are used in finishing works and are designed for decorative design of polymer pipes Ø 16-20 exits from the floor or walls.
- Protect pipelines from ultraviolet radiation and give aesthetics to the connection unit.
- They can be used both separately (for a single output from a wall or floor) and in pairs – in this case, the center distance is 50 mm (for heating devices with a lower connection module). Material – polypropylene

An economical, aesthetic and practical solution using the "Decorative Casing and Trim" is shown on page 30.

ADAPTATION PRESSURE SLEEVES EAGLE – BYR PEX

- Operating pressure – 2.0 MPa
- Operating temperature – 95 °C
- Material – dezincification resistant brass LS59-1

Sleeve PRESS-STABIL

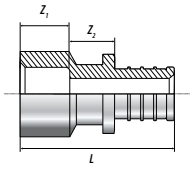


Size	L, mm	
16 for pipes 2 16 (2,7)	18	5520
20 for pipes 20 (3,3)	22	5521

For connections of metal-plastic pipes of other manufacturers

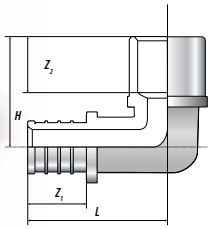
PRESS (AXIAL) FITTINGS EAGLE – BYR PEX SDR 7.4 (SOLDERING)

Connector for copper pipe



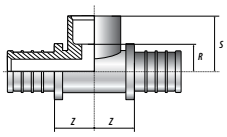
Ø copper	Ø pipes	L, mm	Z_1, mm	Z_2, mm	
15	16 (2,2)	40	13	12	6530
15	20 (2,8)	45	13	13	6531
18	20 (2,8)	45	13	13,5	6533
22	25 (3,5)	54	16	14	6535
28	32 (4,4)	63	19	15	6537

Elbow for copper pipe



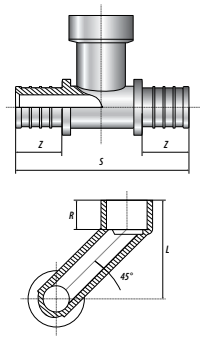
Ø copper	Ø pipes	L, mm	Z_1, mm	Z_2, mm		
15	16 (2,2)	20	38,5	15,5	11	6140
15	20 (2,8)	26	42,4	19	11	6142

Tee for copper pipe



Ø copper	Ø pipes	L, mm	Z_1, mm	Z_2, mm	
15	16 (2,2) x 16 (2,2)	14	27	15	6540
15	20 (2,8) x 20 (2,8)	17	30	17	6542
15	25 (3,5) x 25 (3,5)	12	25	22	6544
15	32 (4,4) x 32 (4,4)	12	30	25	6546

Angled tee for copper pipe

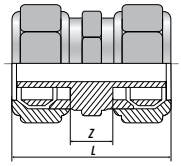


Ø copper	Ø pipes	L, mm	R, mm	S, mm	Z, mm	
15	16 (2,2) x 16 (2,2)	37	11	74	15,5	6560
15	20 (2,8) x 20 (2,8)	37	11	81,6	19	6562
15	25 (3,5) x 25 (3,5)	37	11	91	23	6564
15	32 (4,4) x 32 (4,4)	37	11	104,5	29,4	6566

COMPRESSION FITTINGS EAGLE – BYR PEX SDR 7.4

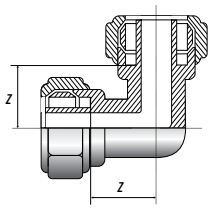
Working pressure and working temperature correspond to the characteristics of the pipe of this strength class.
Material – dezincification resistant brass LS59-1. Collet rings and nuts included with compression fittings.

Sleeve



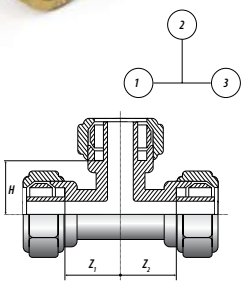
Size	L, mm	Z, mm	
Equal bore			
16 (2,2)	45	14	1210
20 (2,8)	45	14	1211
25 (3,5)	51	14	1212
32 (4,4)	65	22	1213
Reducing bore			
20 (2,8) x 16 (2,2)	45	14	1220
25 (3,5) x 16 (2,2)	48	14	1221
25 (3,5) x 20 (2,8)	48	14	1222
32 (4,4) x 25 (3,5)	60	20	1223

Elbow



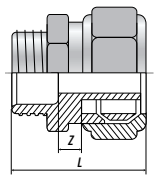
Size	Z, mm	
16 (2,2) x 16 (2,2)	18	1610
20 (2,8) x 20 (2,8)	21	1611
25 (3,5) x 25 (3,5)	30	1612
32 (4,4) x 32 (4,4)	34	1613

Tee



Size	H, mm	Z_1, mm	Z_2, mm	
Equal bore				
16 (2,2) x 16 (2,2) x 16 (2,2)	17	17	17	1310
20 (2,8) x 20 (2,8) x 20 (2,8)	21	21	21	1311
25 (3,5) x 25 (3,5) x 25 (3,5)	26	26	26	1312
32 (4,4) x 32 (4,4) x 32 (4,4)	35	35	35	1313
Reducing bore				
16 (2,2) x 20 (2,8) x 16 (2,2)	21	17	17	1320
20 (2,8) x 16 (2,2) x 16 (2,2)	21	21	21	1321
20 (2,8) x 16 (2,2) x 20 (2,8)	20	20	20	1322
20 (2,8) x 20 (2,8) x 16 (2,2)	21	21	21	1323
20 (2,8) x 25 (3,5) x 20 (2,8)	24	23	23	1324
25 (3,5) x 16 (2,2) x 20 (2,8)	24	23	23	1325
25 (3,5) x 16 (2,2) x 25 (3,5)	23	24	24	1326
25 (3,5) x 20 (2,8) x 16 (2,2)	23	23	23	1327
25 (3,5) x 20 (2,8) x 20 (2,8)	23	23	23	1328
25 (3,5) x 20 (2,8) x 25 (3,5)	23	24	24	1329
25 (3,5) x 25 (3,5) x 16 (2,2)	24	24	27	1330
25 (3,5) x 25 (3,5) x 20 (2,8)	24	24	23	1331
32 (4,4) x 25 (3,5) x 25 (3,5)	32	30	26	1332
32 (4,4) x 25 (3,5) x 32 (4,4)	33	30	30	1333

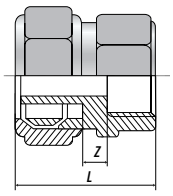
Straight connector with external thread



Thread	Ø pipes	L, mm	Z, mm	
1/2″	16 (2,2)	38	4	1010
3/4″	16 (2,2)	38	8	1011
1/2″	20 (2,8)	37	3	1012
3/4″	20 (2,8)	38	7	1013
3/4″	25 (3,5)	40	5	1014
1″	25 (3,5)	43	4	1015
3/4″	32 (4,4)	48	14	1016
1″	32 (4,4)	51	3	1017
1 1/4″	40 (5,5)	64	10	1071
1 1/2″	50 (6,9)	70	9	1073
2″	63 (8,6)	84	11	1074

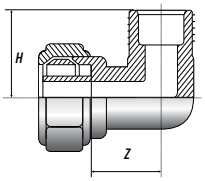
Working pressure and working temperature correspond to the characteristics of the pipe of this strength class.
Material – dezincification resistant brass LS59-1. Collet rings and nuts are included with the compression fittings.

Straight connector with internal thread



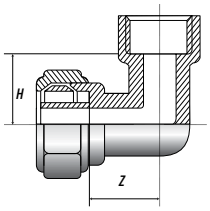
Thread	Ø pipes	L, mm	Z, mm	
1/2″	16 (2,2)	33	7	1110
3/4″	16 (2,2)	35	7	1111
1/2″	20 (2,8)	32	7	1112
3/4″	20 (2,8)	35	7	1113
3/4″	25 (3,5)	34	4	1114
1″	25 (3,5)	39	7	1115
3/4″	32 (4,4)	39	4	1116
1″	32 (4,4)	39	4	1117

Elbow with external thread



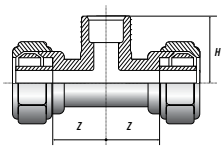
Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (2,2)	23	19	1810
3/4″	16 (2,2)	30	22	1811
1/2″	20 (2,8)	31	22	1812
3/4″	20 (2,8)	32	22	1813
3/4″	25 (3,5)	38	28	1814
1″	25 (3,5)	39	30	1815
1″	32 (4,4)	47	34	1817

Elbow with internal thread



Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (2,2)	16	19	1710
3/4″	16 (2,2)	22	24	1711
1/2″	20 (2,8)	20	18	1712
3/4″	20 (2,8)	22	24	1713
1″	25 (3,5)	26	32	1715
1″	32 (4,4)	30	34	1717

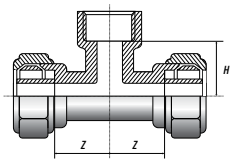
Tee with male thread



Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (2,2)	22	17	1410
3/4″	16 (2,2)	28	22	1411
1/2″	20 (2,8)	28	20	1412
3/4″)	20 (2,8)	32	22	1413
3/4″	25 (3,5)	35	24	1414
3/4″	32 (4,4)	39	30	1416
1″	32 (4,4)	46	37	1417

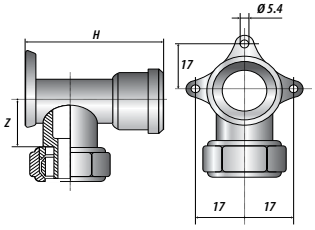
Working pressure and working temperature correspond to the characteristics of the pipe of this strength class.
Material – dezincification resistant brass LS59-1. Collet rings and nuts are included with the compression fittings.

Tee
with internal thread



Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (2,2)	19	19	1510
3/4″)	16 (2,2)	22	23	1511
1/2″	20 (2,8)	19	19	1512
3/4″	20 (2,8)	21	23	1513
3/4″	32 (4,4)	29	30	1516
1″	32 (4,4)	29	35	1517

Water outlet

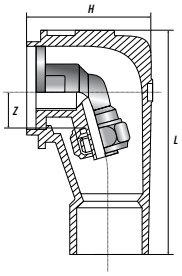


Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (2,2)	40	21	1910
1/2″	20 (2,8)	44	22	1912

For connecting sanitary appliances without using a casing.
Mounting strips are used to fix water sockets (see page 29)

Elbow 105° with plastic cover

1



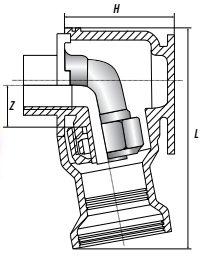
2

№	Size	Z, mm	
1	1/2″x 16 (2,2)	17	2010

№	Size	H, mm	L, mm	
2	105°	60	103	2050

For connecting sanitary appliances without using a casing.
Mounting strips are used to fix water sockets (see page 29)

Fitting elbow 100° with plastic cover



№	Size	Z, mm	
1	1/2″x 20 (2,8)	18	2112

№	Size	H, mm	L, mm	
2	100°	48	97	2150

For connecting sanitary appliances without using a casing.
Mounting strips are used to fix water sockets (see page 29)

SEALING FITTINGS – EUROCONE SDR 7.4

Working pressure and working temperature correspond to the characteristics of the pipe of this strength class.
Material – dezincification resistant brass LS59-1. Collet rings and nuts are included with the compression fittings.

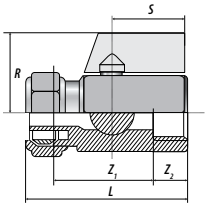
Sealing fitting
euro cone 3/4" for connection to devices

Thread	Ø pipes	
G 1/2″	16 (2,2)	2810
G 3/4″	16 (2,2)	2511
G 3/4″	20 (2,8)	2512

For connection to collectors and heating devices

MINI CRANES PEX SDR 7.4

Mini-cock
with female thread

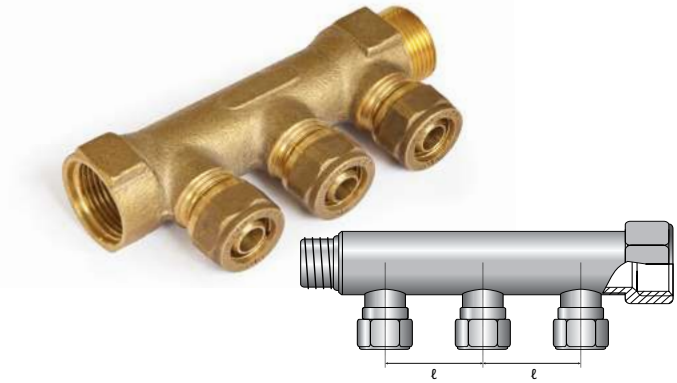


Thread	Ø pipes	L, mm	R, mm	S, mm	Z_1, mm	Z_2, mm	
1/2″	16 (2,2)	54	30	23	31	12	9210
1/2″	20 (2,8)	56	30	23	27	12	9212

Operating pressure – 1.0 MPa Operating temperature – 95 °C

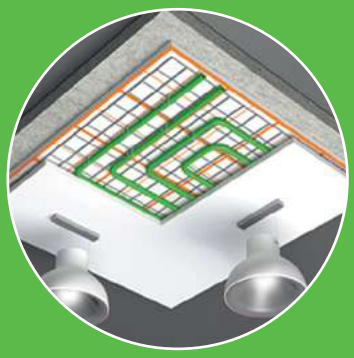
COMPRESSION MANIFOLDS EAGLE – BYR PEX SDR 7.4

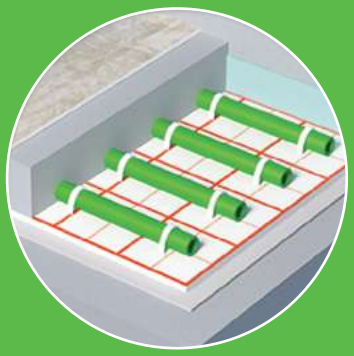
Compression manifold with fittings



Thread	Number of connections	Ø pipes	ℓ, mm	
3/4″	2	16 (2,2)	35	2212
3/4″	3	16 (2,2)	35	2213
3/4″	4	16 (2,2)	37	2214
1″	2	16 (2,2)	40	2312
1″	4	16 (2,2)	40	2314








PIPING SYSTEM FOR HEATING, COOLING AND WATER SUPPLY BYR PEX OPTIMA

Recommended for use in heating and water supply systems, underfloor heating systems, outdoor and lawn heating systems (stadiums), as well as in ceiling / wall cooling systems "cold panel" and ice rink cooling, irrigation systems (no need to drain water before winter).

Pipe BYR PEX Optima

pg. 16

Tool for mounting the Optima system

pg. 16

Self-crimp Polymer Optima Fittings

pg. 17

Self-crimp Brass Optima Fittings (Eagle – BP)

pg. 18

Compression Manifolds & Fittings Eagle – BYR PEX

pg. 19-22

PN (pressure nominal) – nominal pressure, corresponds to the maximum operating pressure (in bar) for pipelines transporting water at 20 °C.

Optima BYR PERT PIPE (PE-RT) CLASS 5 PN 12,5

Optima BYR PERT Pipe | Class 5 | PN 12.5 | SDR 11

Pipes are made of high temperature resistant polyethylene (PE-RT) according to TU 2248-002-49257437-2012 and comply with GOST 32415-2013.

Operating pressure up to **6 bar** *(0.6 MPa)*
Operating temperature up to **80 °C**

For a service life of more than **50 years**

Tsize (outer diameter x wall thickness), mm	Lenght, m	Weight of 1 r.m., kg	Water volume, l / r.m.	Sizes of package, mm		
				polyethylene	in a box	
16 (1,8)	100	0,092	0,113	600, H200	630 x 630 x 200	0121
16 (1,8)	200	0,092	0,113	730, H200	--	0122
20 (2,0)	100	0,117	0,201	700, H200	720 x 720 x 200	0221
20 (2,0)	200	0,117	0,201	880, H200	--	0222
25 (2,3)	50	0,173	0,327	700, H200	720 x 720 x 200	0321
25 (2,3)	100	0,173	0,327	900, H200	--	0322
32 (3,0)	50	0,281	0,531	840, H200	850 x 850 x 200	0421
32 (3,0)	100	0,281	0,531	1000, H200	--	0422

Production of a batch of pipes with a non-standard winding length of coils / sections is possible when ordering pipes of the same standard size for an amount of at least 350,000 rubles. Production time – no more than two weeks.

Operating parameters of Optima pipes

Operating class	Temperature		Time at a temperature	Application area
5th class of operation GOST 32415-2013 (paragraph 4.3.1)	**Working**	20 °C	14 years	High-temperature heating with heating devices
		60 °C	25 years	
		80 °C	**10 years**	
	Maximum	90 °C	1 year	
	Emergency	100 °C	100 hours	

Optima BYR PERT pipes made of PE-RT are used in water supply and heating systems for buildings with the 5th class of operation (temperature conditions) established by the requirements of GOST 32415-2013 (clause 4.3.1), while the guaranteed service life is the total time operation at different temperatures T_{work}, $T_{maximum}$, $T_{temporary}$, which for the Optima pipe is 50 years at an operating pressure of up to 0.6 MPa.

INSTALLATION TOOL FOR PLASTIC FITTINGS

Tool for mounting plastic fittings Optima

Description	
Plastic case, collet expander, set of nozzles 16, 20, 25 mm, pipe secateurs, tool lubricant.	8050

For the most up-to-date information, you can refer to the electronic version of the "Instructions" on our website / in our online store.

Material – molecularly cross-linked polyethylene. One-piece connection, monolithic is allowed.

Fittings and Sleeves OPTIMA, created specifically for BYR PEX Optima pipes, combined with them with a fully compliant piping system that meets the requirements of GOST 32415-2013 class 5 and is recommended for use in sources of cold / hot water supply, high-temperature heating, floor heating, playgrounds, stadiums, as well as for the device artificial ice rinks and increasingly popular cooling systems for views (ceilings/walls).

PATENTED

The connection of the pipe and fitting is made only with the help of a manual expander with nozzles for various pipe diameters, and the subsequent shrinkage of the Optima sleeves occurs due to the molecular memory property of the material. At the same time, the connection is one-piece, and the fixation of the sleeve in its place is ensured by the original design of the fitting fitting and guarantees the correctness and quality of the connection throughout the entire service life.

Sleeve

Size	
16 (1,8)	5550
20 (2,0)	5551

Coupling

Size	
Equal bore	
16 (1,8) – 16 (1,8)	5350
20 (2,0) – 20 (2,0)	5351
Reductional	
20 (2,0) – 16 (1,8)	5450

Elbow

Size	
16 (1,8) – 16 (1,8)	6050
20 (2,0) – 20 (2,0)	6051

Tee

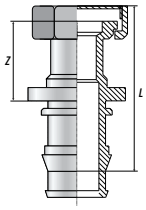
Size	
16 (1,8) – 16 (1,8) – 16 (1,8)	5650
20 (2,0) – 20 (2,0) – 20 (2,0)	5651

SELF-CRIMP FITTINGS EAGLE – BYR PEX SDR 11

- Operating pressure – 1.2 MPa.
- Operating temperature – 90 °C
- Material – dezincification resistant brass LS59-1.

Straight connector with union nut

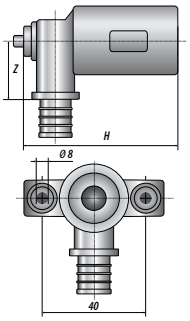
novelty



Thread	Ø pipes	L, mm	Z, mm	
UN 1/2"	16 (1,8)	50	20	5200
UN 1/2"	20 (2,0)	55,5	20	5202

Material – dezincification resistant brass DZR Cu + Zn

Water socket



Thread	Ø pipes	
1/2"	16 (1,8)	6600
1/2"	20 (2,0)	6602

Material – dezincification resistant brass DZR Cu + Zn

SELF-CRIMP FITTINGS EAGLE - BP SDR 11

Instrument tube T-shaped and L-shaped Optima

COMPARISON OF CONNECTION UNITS OF HEATING DEVICES WITH THE APPLICATION:

Decorative casing *L-shaped tubes*

Benefit 35%

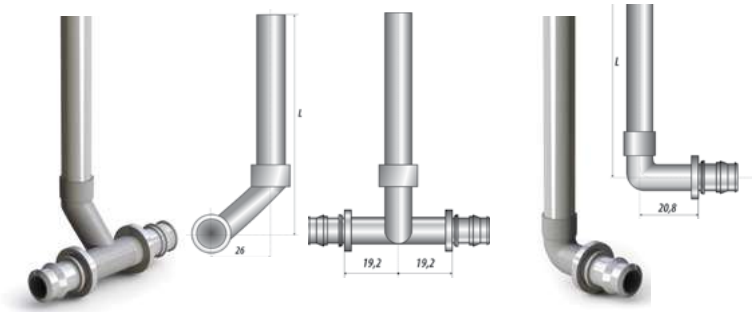
NEW

35% benefit, compared to the brass tube usage

VS

Description	
(Sheath 100 mm + gray trim) x 2	2066 x 2 x 2070
(Sheath 100 mm + brown trim) x 2	2066 x 2 x 2071
(Housing 300 mm + gray trim) x 2	2067 x 2 x 2070
(Housing 300 mm + brown trim) x 2	2067 x 2 x 2071

An economical, aesthetic and practical solution using the "Decorative Casing and cuff" is shown on page 30.



shape	Ø copper	Ø pipes	L, mm	
T	15	16 (1,8)	300	7290
T	15	20 (2,0)	300	7291

shape	Ø copper	Ø pipes	L, mm	
L	15	16 (1,8)	300	7200
L	15	20 (2,0)	300	7201

Material – copper Cu
Plating – nickel + chrome Ni + Cr

An aesthetic solution recommended for connecting heating devices, as well as for connecting pipelines via the "Heat floor" and / or "Cold panel" system to manifold groups.

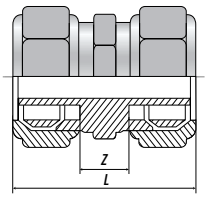
Note:
To fix the tubes during installation, use the "fixed support" lock (see page 29).

Instrument tubes are used together with "fittings for tubes" (see page 35).

COMPRESSION FITTINGS EAGLE – BYR PEX SDR 11

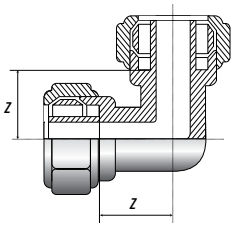
- Operating pressure – 1.2 MPa.
- Operating temperature – 90 °C
- Material – dezincification resistant brass LS59-1.

Sleeve



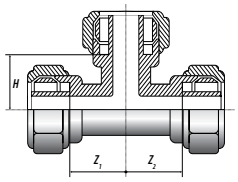
Size	L, mm	Z, mm	
16 (1,8)	45	14	1200
20 (2,0)	45	14	1201
25 (2,3)	51	14	1202
32 (3,0)	65	22	1203

Elbow



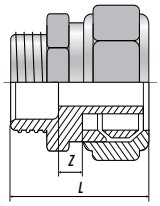
Size	Z, mm	
16 (1,8)	17	1600
20 (2,0)	20	1601
25 (2,3)	20	1602
32 (3,0)	34	1603

Tee



Size	H, mm	Z, mm	
16 (1,8) x 16 (1,8) x 16 (1,8)	18	18	1300
20 (2,0) x 20 (2,0) x 20 (2,0)	21	21	1301
25 (2,3) x 25 (2,3) x 25 (2,3)	26	26	1302
32 (3,0) x 32 (3,0) x 32 (3,0)	35	35	1303

Straight connector with external thread

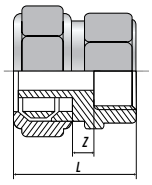


Thread	Ø pipes	L, mm	Z, mm		
1/2″	16 (1,8)	38	4		1000
3/4″	16 (1,8)	38	8		1001
1/2″	20 (2,0)	37	3		1002
3/4″	20 (2,0)	38	7		1003
3/4″	25 (2,3)	40	5		1004
1″	25 (2,3)	43	4		1005
3/4″	32 (3,0)	48	14		1006
1″	32 (3,0)	51	3		1007
		the radiators			
1/2″	16 (1,8) nickel	38	4	Ni	1080
1/2″	20 (2,0) nickel	37	3	Ni	1082

COMPRESSION FITTINGS EAGLE – BYR PEX SDR 11

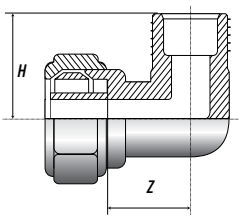
- Operating pressure – 1.2 MPa.
- Operating temperature – 90 °C
- Material – dezincification resistant brass LS59-1.

Elbow with external thread with internal thread



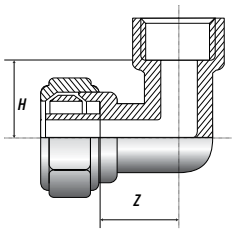
Thread	Ø pipes	L, mm	Z, mm	
1/2″	16 (1,8)	33	7	1100
3/4″	16 (1,8)	35	7	1101
1/2″	20 (2,0)	32	7	1102
3/4″	20 (2,0)	35	7	1103
3/4″	25 (2,3)	34	4	1104
1″	25 (2,3)	39	7	1105
3/4″	32 (3,0)	39	4	1106
1″	32 (3,0)	39	4	1107

Elbow with external thread



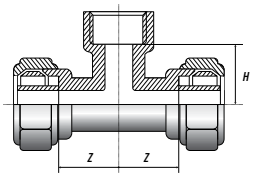
Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (1,8)	22,4	17	1800
3/4″	16 (1,8)	30,5	22	1801
1/2″	20 (2,0)	32,1	22	1802
3/4″	20 (2,0)	33	22	1803
3/4″	25 (2,3)	38	30	1804
1″	25 (2,3)	39	30	1805
1″	32 (3,0)	48	34	1807

Elbow with internal thread



Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (1,8)	17	19	1700
3/4″	16 (1,8)	24	24	1701
1/2″	20 (2,0)	17	20	1702
3/4″	20 (2,0)	23	23	1703
3/4″	25 (2,3)	24	29	1704
1″	25 (2,3)	27	32	1705
1″	32 (3,0)	30	31	1707

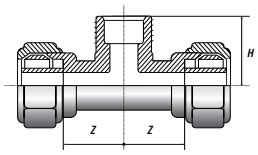
Tee with internal thread



Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (1,8)	22	22	1500
3/4″	16 (1,8)	19	19	1501
1/2″	20 (2,0)	28	20	1502
3/4″	20 (2,0)	21	22	1503
3/4″	25 (2,3)	22	24	1504
1″	25 (2,3)	24	26	1505
3/4″	32 (3,0)	30	30	1506
1″	32 (3,0)	31	36	1507

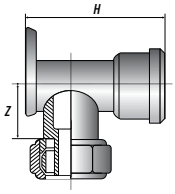
- Operating pressure – 1.2 MPa.
- Operating temperature – 90 °C
- Material – dezincification resistant brass LS59-1.

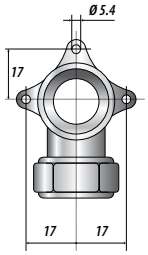
Tee with male thread



Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (1,8)	23	20	1400
3/4″	16 (1,8)	23	20	1401
3/4″	20 (2,0)	32	22	1403
3/4″	25 (2,3)	34	24	1404
3/4″	32 (3,0)	44	36	1406
1″	32 (3,0)	44	37	1407

Water socket



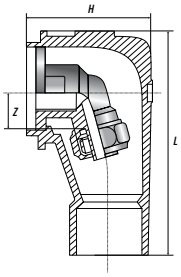


Thread	Ø pipes	H, mm	Z, mm	
1/2″	16 (1,8)	39	21	1900
1/2″	20 (2,0)	44	22	1902

For connecting sanitary appliances without using a casing.
Mounting strips are used for fixing (see page 29)

Elbow 105° with plastic cover

1



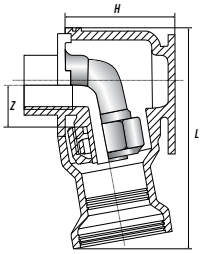
2

№	Size	Z, mm	
1	1/2″ x 16 (1,8)	17	2000

№	Size	H, mm	L, mm	
2	105°	60	103	2050

For connecting sanitary appliances without using a casing.
Mounting strips are used for fixing (see page 29)

Elbow 105° with plastic cover



№	Size	Z, mm	
1	1/2″ x 20 (2,0)	18	2102

№	Size	H, mm	L, mm	
2	100°	48	97	2150

Mounting strips are used to fix casings (see page 30)

SEALING FITTINGS – EUROCONE SDR 11

- Operating pressure – 1.2 MPa.
- Operating temperature – 90 °C
- Material – dezincification resistant brass LS59-1.

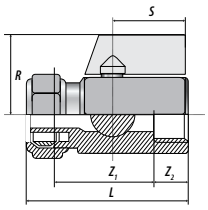
Compression sealing fitting eurocone 3/4" for connection to devices

Thread	Ø pipes	
G 1/2"	16 (1,8)	2800
G 3/4"	16 (1,8)	2501
G 3/4"	20 (2,0)	2503

For connection of a radiator or manifold

MINI CRANES PEX SDR 11

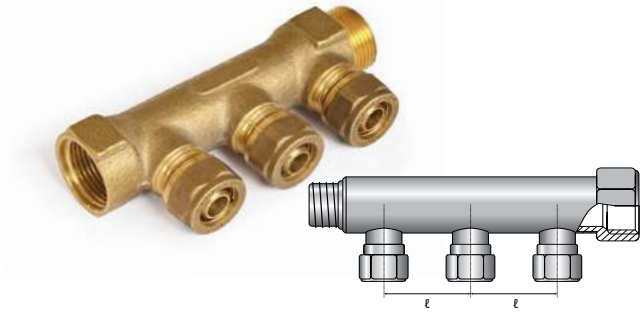
Mini-cock compression with female thread



Thread	Ø pipes	L, mm	R, mm	S, mm	Z_1, mm	Z_2, mm	
1/2"	16 (1,8)	54	30	23	31	12	9200
1/2"	20 (2,0)	56	30	23	27	12	9201

COMPRESSION MANIFOLDS EAGLE – BYR PEX SDR 11

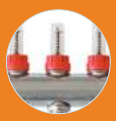
Compression manifold with fittings



Thread	Number of connections	Ø pipes	ℓ, mm	
3/4"	2	16 (1,8)	35	2202
3/4"	3	16 (1,8)	35	2203
3/4"	4	16 (1,8)	37	2204
1"	2	16 (1,8)	40	2302
1"	3	16 (1,8)	37	2303
1"	4	16 (1,8)	40	2304

SURFACE HEATING SYSTEM "WARM FLOOR"

CEILING/WALL COOLING SYSTEM "COLD PANEL"



Manifold groups
pg. 24

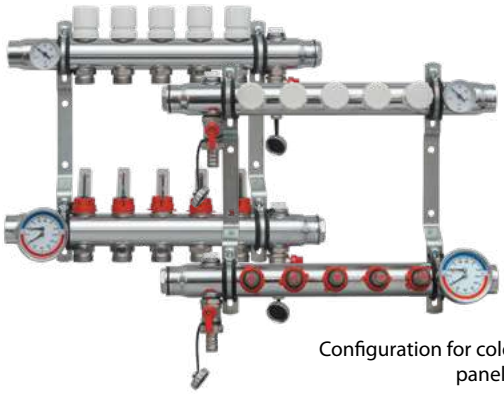
Thermal insulation boards and fasteners
pg. 25-26

Manifold groups

Material – stainless steel
Manifolds inlet – 1", female thread, outlets – 3/4" eurocone, distance between outlets L=50 mm
Included: Mayevsky tap 1/2" – 2 pcs, drain tap with plug 1/2" – 2 pcs, bracket – 2 pcs, plugs 1" – 2 pcs. not included in the total number of withdrawals

Stainless steel manifold with flow meters and thermostatic valves

Underfloor heating configuration



Configuration for cold panels

Description	Length, mm	
Group with flowmeters 1"-T2-3/4"EK L=50	250	2625-02
Group with flowmeters 1"-T3-3/4"EK L=50	300	2625-03
Group with flowmeters 1"-T4-3/4"EK L=50	350	2625-04
Group with flowmeters 1"-T5-3/4"EK L=50	400	2625-05
Group with flowmeters 1"-T7-3/4"EK L=50	500	2625-07
Group with flowmeters 1"-T8-3/4"EK L=50	550	2625-08
Group with flowmeters 1"-T9-3/4"EK L=50	600	2625-09
Group with flowmeters 1"-T10-3/4"EK L=50	650	2625-10
Group with flowmeters 1"-T11-3/4"EK L=50	700	2625-11
Group with flowmeters 1"-T12-3/4"EK L=50	750	2625-12

The configuration of the collector groups for the "Cold Panel" system is distinguished by a 90 ° angle of the location of the outlets to the drain faucet and Mayevsky's faucet.

Stainless steel manifold with regulating and thermostatic valves

Radiator heating configuration

Description	Length,mm	
Collector group 1"-T2-3/4"EK L=50	200	2635-02
Collector group 1"-T3-3/4"EK L=50	250	2635-03
Collector group 1"-T4-3/4"EK L=50	300	2635-04
Collector group 1"-T5-3/4"EK L=50	350	2635-05
Collector group 1"-T6-3/4"EK L=50	400	2635-06
Collector group 1"-T7-3/4"EK L=50	450	2635-07
Collector group 1"-T8-3/4"EK L=50	500	2635-08
Collector group 1"-T9-3/4"EK L=50	550	2635-09
Collector group 1"-T10-3/4"EK L=50	600	2635-10
Collector group 1"-T11-3/4"EK L=50	650	2635-11
Collector group 1"-T12-3/4"EK L=50	700	2635-12

Manifold groups with additional (muffled) inputs for thermometer and thermomanometer are made to order.

Thermomanometer

for manifold groups

Size/ Description	
(1/2") – Diameter 63 mm, 10 bars, 120°C	9001

Thermometer

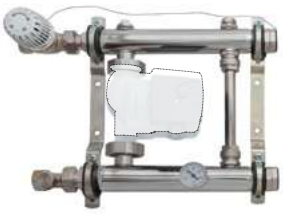
for manifold groups

Size/ Description	
(1/2") – Diameter 40 mm, 80 °C	9002

Pumping and mixing group

without pump

Size	
1"/130 mm /1"	2624-00



Thermostatic valve with sensor

Bypass manifold adjustable straight

Thermometer

Circulation pump

WCP 25-60G 130 – Wester

Size	
1"/130 mm /1"	2624-01

Three-position speed control

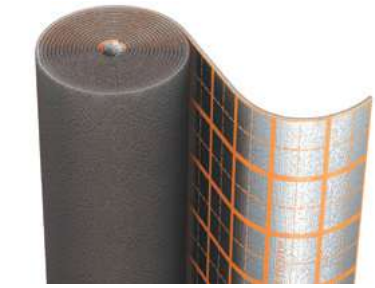
Power – 0.093 kW

Water pressure – 0.5 – 6.0 m

Productivity – 0.5 -2.7 m^3/h

INSULATION AND ACCESSORIES

Energofloor® Compact is the best solution for thermal insulation of underfloor heating in residential areas of multi-storey buildings. Foamed polyethylene is covered with a massive layer of aluminum foil, protected from corrosion by a chemically resistant polymer film. The 30 micrometer thick foil coating evenly distributes the heat from the heating elements over the entire floor surface, retaining all the benefits of flexible thermal insulation during installation. Thanks to the use of Energofloor® Compact, a uniform comfortable temperature is created on the floor surface, and the cement-sand screed and the floor covering are maximally protected from local overheating and destruction. At the same time, a small thickness of thermal insulation saves space in residential premises.



Rolls Energofloor®

Title	Description	
COMPACT 3/1-30	Roll 3 mm thick (length 30 m, width 1 m) per roll – 30 m²	03130COM
COMPACT 5/1-20	Roll 5 mm thick (length 20 m, width 1 m) per roll – 20 m²	05120COM

A roll of polyethylene foam 3-5 mm thick, laminated with aluminum foil, marked and protected by PET film.

The mounting plate is a ready-to-use thermal insulation system for underfloor heating with high thermal resistance. Fast and reliable connection of plates (overlapping or interlocking) allows to form an integral heat and noise insulating layer in a short time. Pipes can be installed in a straight line and diagonally without the use of additional accessories. Clamps hold the pipe and prevent it from floating during pouring with a cement screed. The test results showed that the use of expanded polystyrene provides effective protection against impact noise and meets the highest requirements for sound insulation in residential buildings according to SNiP 23-03-2003, SP 51.13330.2011 (edition 05.05.2017) "Noise protection".

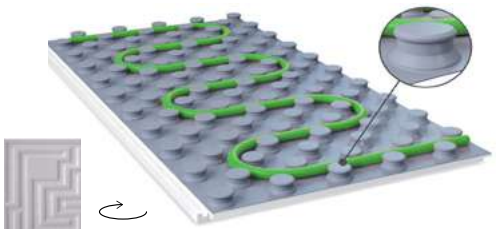
Energofloor® Pipelock Plate

Title	Description	
20/0,7-1,1 DES-sg	20 mm thick plate (length 1.1 m, width 0.7 m) **in the package – 10.01 m² (13 pcs.)**	200/71/1PLK
30/0,7-1,1 DES-sg	30 mm thick plate (length 1.1 m, width 0.7 m) **in the package – 7.7 m² (10 pcs.)**	300/71/1PLK

Clamps hold a pipe with a diameter of 16 mm with a laying step of 50 mm.
The laminated surface has a double-sided extension for overlapping the boards.

Format thermal insulation boards

1



№	Title	Description	
1	EasyFix L	40 mm thick plate (length 0.5 m, width 1 m) **in the package – 10 m² (10 pcs.)**	EasyFixL

Expanded polystyrene board with a density of 50 kg/m3, coating PSD 18.
20 mm high "mushroom" fixing bosses securely hold 16 or 20 mm pipe in 50 mm spacing. Acoustic labyrinth on the back of the stove; Self-centering locks; Convenient ruler around the perimeter of the slab for quick measurement and cutting during installation.

2

№	Title	Description	
2	*FT 25/45 PEX*	Plate 40 mm thick (length 0.5 m, width 1 m) **in a package – 10 m² (20 pcs.)**	FT25/45PEX

Expanded polystyrene board with a density of 40 kg/m³.
Clamps with a height of 25 mm hold a pipe with a diameter of 16 or 20 mm with a laying step of 150 mm.
Self-centering locks.

INSULATION AND ACCESSORIES

Damper tape and reinforced tape

Title	Description	
Energofloor 10/0,1-11	Tape 10 mm thick (length 11 m, width 100 mm)	1010011DM

The tape is designed to compensate for the thermal expansion of the cement screed. The polyethylene film serves to prevent liquid solution from penetrating under the bottom edge of the tape.

Title	Description	
Energoflex® TP 50 mm x 50 m	Adhesive tape 10 mm thick (length 50 m, width 50 mm)	04850ARS

Reinforced self-adhesive tape Energoflex® of gray color is used for the installation of thermal insulation. Application temperature: not lower than -10 °C.
Thanks to the reinforcing mesh, the tape has increased tensile strength.

Energofloor® slabs are a moisture-resistant expanded polystyrene material designed specifically to create a base or additional bottom layer as thermal insulation for underfloor heating systems. The flat surface of the plates allows the use of harpoon (anchor) brackets for fixing pipes, fixing tires or reinforcing mesh with clamps.

tacker energofloor®

Energofloor slabs

Title	Description	
20/1,0-0,8 DEO-dm	Plate 20 mm thick (d 2 length 1 m, width 0.8 m) in a package – 24 m (30 pcs.)	2010/8
50/1,0-0,8 DEO-dm	Plate 50 mm thick (d 2 length 1 m, width 0.8 m) in a package – 9,6 m (12 pcs.)	5010/8

Flat thermal insulation board made of expanded polystyrene.

Pipe fixing options

1

№	Title	Description	
1	Anchor shackle	Packing 1000 pcs	2064

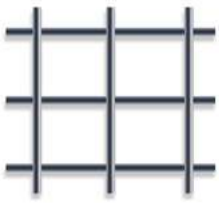
Designed for fastening pipes with a diameter of 16 to 20 mm to mounting mats.

2

№	Title	Description	
2	Fixing rail	Length 500 mm	2065

Designed for laying pipes with a diameter of 16 to 20 mm on any coatings, as well as mats, natural stone or ceramic tiles. Attaches with double sided tape. Allows you to fix the pipe at a distance that is a multiple of 50 mm.

3



3

№	Title	Description	
3	Reinforcing mesh	Length 30 m, width 1.5 m in rolls of 45 m2 weight – 37.5	ЛЕ1,8/50/50
3	Cable clamp	Packing 100 pcs.	XM4,8/200

Reinforcing mesh material – galvanized steel 1.8 mm. (Cells 50x50 mm)
Clamp material – ABS plastic (length – 200mm, width – 4.8 mm)

Other equipment / components / instrumentation for engineering systems at the prices of manufacturing plants are available on request to the specialists of the BYR PEX Procurement Department

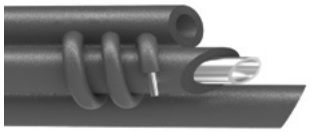
MULTIPURPOSE ELEMENTS FOR ALL PIPING SYSTEMS

BYR PEX corrugated pipe (painted)

For Ø pipe	Description		
16	Corrugation Ø 25 in coils of 50 m	0351B	0351R
20	Corrugation Ø 32 in coils of 50 m	0451B	0451R
25	Corrugation Ø 40 in coils of 30 m	0551B	0551R
32	Corrugation Ø 50 in coils of 30 m	0651B	0651R

It is used as a casing pipe (channel) for a pipe laid hidden. In most cases, it forms sufficient thermal insulation.
Material: polyethylene.

Theat-insulating cabins Energoflex Super



Colour	For Ø pipe	Size	
Blue	16	Internal Ø 18 mm, insulation 4 mm	180411SUPRS
Red	16	Internal Ø 18 mm, insulation 4 mm	180411SUPRK
Blue	16	Internal Ø 18 mm, insulation 6 mm	18062SU
Blue	20	Inner Ø 22 mm, insulation 4 mm	220411SUPRS
Red	20	Inner Ø 22 mm, insulation 4 mm	220411SUPRK
Grey	20	Internal Ø 22 mm, insulation 6 mm	22062SU
Grey	25	Internal Ø 25 mm, insulation 9 mm	25092SU
Grey	25	Internal Ø 25 mm, insulation 13 mm	25132SU
Grey	25	Inner Ø 28 mm, insulation 9 mm	35092SU
Grey	25	Internal Ø 28 mm, insulation 13 mm	28132SU
Grey	32	Internal Ø 35 mm, insulation 9 mm	35092SU
Grey	32	Inner Ø 35 mm, insulation 13 mm	35132SU

Energoflex® Super tubes are designed specifically for heat and noise insulation of heating and water supply pipes laid in floor and wall structures. The insulation has increased moisture resistance, durability and resistance to mechanical damage and aggressive building materials. Flexible heat-insulating tubes are easy to install, protect the surface of the equipment from condensate and corrosion, and prevent the coolant from freezing for a specified time.

Pipe bend clamp

1

2

№	For Ø pipe	D, mm	L, mm	
1	16	14-18 mm	110	2440
1	20	20-23 mm	150	2441
1	25	25-29 mm	180	2442

Material – fiberglass reinforced polyamide (RA).

№	For Ø pipe	D, mm	L, mm	
2	16	16 mm	80	2450

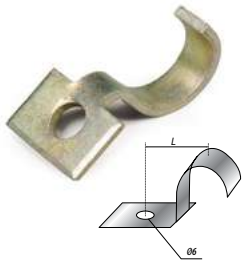
Material – steel 3 x / to. Coating – chromated zinc
It is used to fix the pipe turn by 90° without breaking the pipe and installing the elbow.

Pipe secateurs

Description	
for cutting pipes with diameters 16, 20, 25, 32 mm	8033

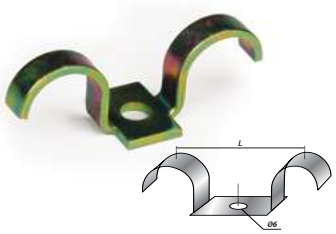
FASTENING FOR BYR PEX SYSTEMS

Retainer "Fixed support" single / double



Size	L, mm	
1 x 16	16	9870
1 x 20	18	9871
1 x 25	22	9872
1 x 32	25	9873

Single

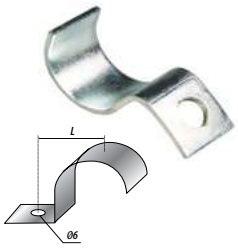


Size	L, mm	
2 x 16	35	9880
2 x 16	50	9881
2 x 20	35	9882
2 x 20	50	9883

Dual

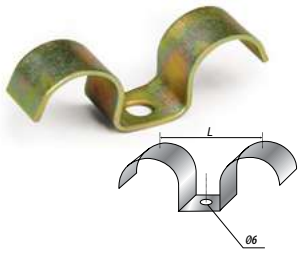
Material – steel 3 x / c. Coating – zinc chromated. Zn Cr

Pipe fasteners single / double



Size	L, mm	
1 x 16	26	9970
1 x 20	28	9971
1 x 25	31	9972
1 x 32	34	9973
1 x 40	39	9974
1 x 54	44	9975

Single



Size	L, mm	
2 x 16	52	9920
2 x 20	56	9921
2 x 25	62	9922
2 x 32	68	9923
2 x 40	78	9924
2 x 54	88	9925

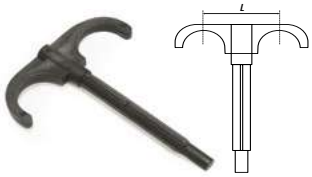
Dual

Material – steel 3 x / c. Coating – chromated zinc Zn Cr *For fixing pipes, it is possible to use a mounting gun PMT-1*

Plastic fasteners for pipes single / double

For pipes	AxisØ, mm	
16, 20, 25	10	9851

Single (axle height 80 mm)



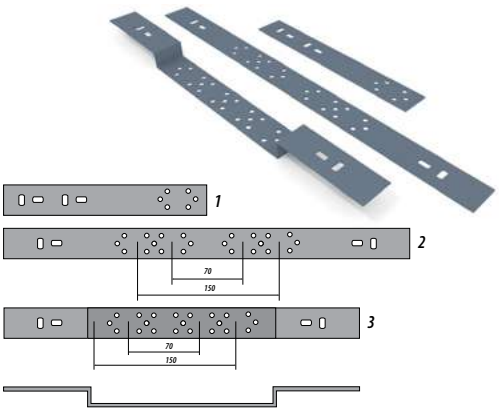
For pipes	AxisØ, mm	
16, 20, 25	8	9850
16, 20, 25	10	9852

Double (axle height 80 mm)

Fasteners for pipes plastic unary

Description	
1 x 20	9981
1 x 25	9982
1 x 32	9983
1 x 40	9984
1 x 50	9985

Mounting plate for water sockets



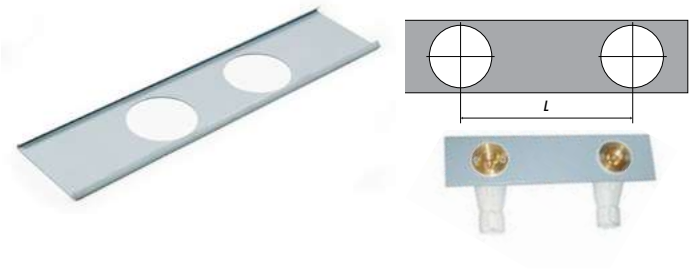
№	Description	
1	For installation of one water outlet	6650
2	For outdoor mounting of two water sockets with a center distance of 70 and 150 mm	6651
3	for concealed mounting (in a strobe) of two water sockets with a center distance of 70 and 150 mm	6652

Material – steel 10 x / c.
Coating – zinc Zn *+ lacquer 2 layers.*

The strips are used to fix water sockets of the SDR 7.4 or SDR 11 series.
The delivery set includes self-tapping screws for fastening water sockets.

FASTENING FOR BYR PEX SYSTEMS

Mounting plate for fastening casings



L, mm	
80 (sink)	2055
150 (mixer)	2056
500 (radiator)	2058

For fixing the center distance between the mounting brackets in the casing.
Material – steel 0.8 KP.
Coating – zinc + lacquer Zn *painting 2 layers.*
The strips are used for fastening casings of the SDR 7.4 or SDR 11 series

BYR PEX DECORATIVE ELEMENTS FOR ALL SYSTEMS

Decorative casing for adjoining to a wall or floor

novelty

Ø 27 mm

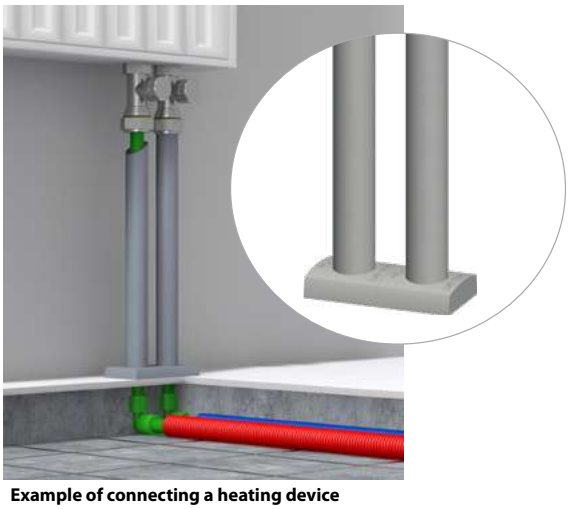
Description	Colour	Size, mm	
Cuff	Gray	50 x 50	2070
Cuff	Brown	50 x 50	2071

Description	For Ø pipe	Length, mm	
Casing	16-20	100	2066
Casing	16-20	300	2067

They are used in finishing works and are intended for decorative design of exits of polymer pipes Ø 16-20 from the floor or walls.
Protect pipelines from ultraviolet radiation and give aesthetics to the connection unit. They can be used both separately (for a single output from a wall or floor), and in pairs – in this case, the center distance is 50 mm (for heating devices with a lower connection module).
Material – polypropylene

Decorative pipe connection kit

novelty



Example of connecting a heating device

Description	
Casing gray100 mm (2) + overlay gray (2)	2066 x 2 x 2070
Casing gray100 mm (2) + brown lining(2)	2066 x 2 x 2071
Casing gray 300 mm (2) + overlay gray (2)	2067 x 2 x 2070
Casing gray300 mm (2) +brown lining (2)	2067 x 2 x 2071

Benefits of using this solution:
Versatility of application;
Aesthetic view of the connection node;
Safety epluatation.

An economical solution recommended for connecting heating devices, as well as for connecting pipelines throughout the system "Warm floor" and/or "Cold panel" to collector groups.

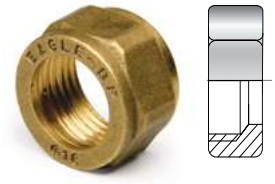
ACCESSORIES FOR BYR PEX SYSTEMS

Material – dezincification resistant brass LS59-1.

Spare parts for compression fittings SDR 7.4 and SDR 11

Size	
16	2420
20	2421
25	2422
32	2423

Split ring (collet)

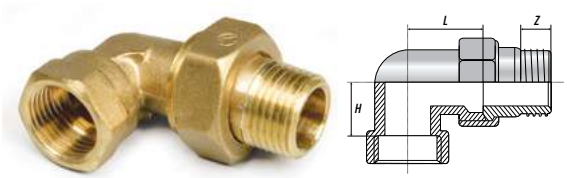


Size	
16	2430
20	2431
25	2432
32	2433

Nut

THREADED FITTINGS EAGLE – BYR PEX

Detachable angle connection with union nut



Size	H, mm	L, mm	Z, mm	
1/2″	17	26	10	4261
3/4″	37	30	13	4262
1″	24	39	14	4263

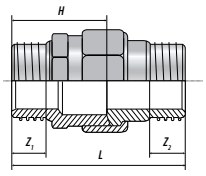
Internal – external thread.

Detachable straight connection with union nut

Size	H, mm	L, mm	Z_1, mm	Z_2, mm	
1/2″	18	49	10	12	4271
3/4″	20	55	14	14	4272
1″	22	57	14	14	4273
1 1/4″	32	68	16	16	4274
1 1/2″	44	80	17	17	4275

Internal – external thread.

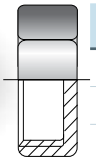
Detachable straight connection with union nut



Size	H, mm	L, mm	Z_1, mm	Z_2, mm	
1/2″	16	36	8	8	4371
3/4″	18	44	10	10	4372
1″	22	46	11	11	4373

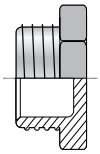
External – external thread.

Plug with internal / external thread



Size	
1/2″	3171
3/4″	3172
1″	3173

Internal thread

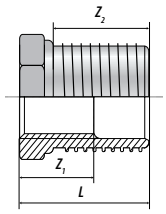


Size	
1/2″	3271
3/4″	3272
1″	3273

External thread.

Material – dezincification resistant brass LS59-1.

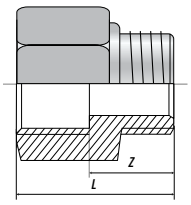
Transition fuse



Size	L, mm	Z_1, mm	Z_2, mm	
3/4" x 1/2"	19	13	13	4672
1" x 1/2"	22	12	15	4673
1" x 3/4"	18	10	12	4674
1 1/4" x 3/4"	21	10	15	4676
1 1/4" x 1"	16	16	23	4677
1 1/2" x 1"	22	10	15	4679

Internal – external thread.

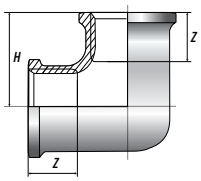
Thread adapter with pointed end plate



Size	L, mm	Z, mm	
1/2"	25	16	4041
3/4"	29	16	4042
1"	29	14	4043

Internal – external thread.
They are used to connect fittings (with union nut art.: 5210-5217, 6410-6417, and 5200, 5202 Optima) with threads on steel pipelines.

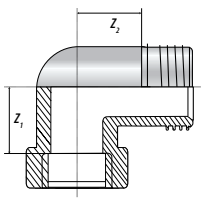
Elbow with female thread



Size	H, mm	Z, mm	
1/2"	27	11	3971
3/4"	29	11	3972
1"	35	15	3973
1 1/4"	45	15	3974
1 1/2"	41	17	3975
2"	52	21	3976

Internal thread.

Elbow FM

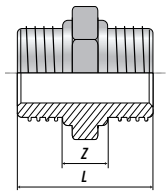


Size	Z_1, mm	Z_2, mm	
1/2"	13	19	4071
3/4"	25	29	4072
1"	28	34	4073

Internal – external thread.

Material – dezincification resistant brass LS59-1.

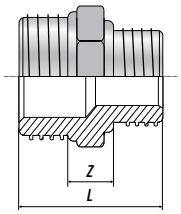
Nipple



Size	L, mm	Z, mm	
1/2″	26	8	3471
3/4″	29	9	3472
1″	37	12	3473

External thread.

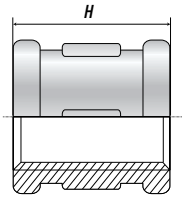
Reducing nipple



Size	L, mm	Z, mm	
3/4″ x 1/2″	29	9	4572
1″ x 1/2″	32	10	4573
1″ x 3/4″	32	10	4574
1 1/4″ x 3/4″	35	6	4576

External thread.

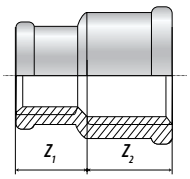
Coupling



Size	H, mm	
1/2″	27	3671
3/4″	31	3672
1″	32	3673
1 1/4″	32	3674
2″	55	3676

Internal thread.

Reducing coupling

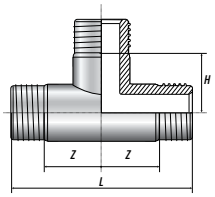


Size	Z_1, mm	Z_2, mm	
3/4″ x 1/2″	14	16	4872
1″ x 1/2″	15	18	4873
1″ x 3/4″	21	18	4874

Internal thread.

Material – dezincification resistant brass LS59-1.

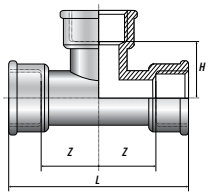
Male tee



Size	H, mm	L, mm	Z, mm	
1/2″	26	54	26	3871
3/4″	30	56	30	3872
1″	38	68	38	3873

External thread.

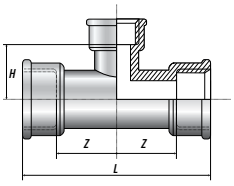
Female tee



Size	H, mm	L, mm	Z, mm	
1/2″	18	54	10	3771
3/4″	18	56	15	3772
1″	20	68	18	3773
1 1/4″	22	90	29	3774
1 1/2″	24	82	24	3775
2″	31	104	31	3776

Internal thread.

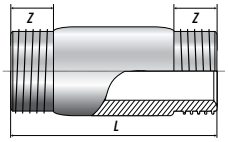
Reducing tee with internal thread



Size	H, mm	L, mm	Z, mm	
3/4″x1/2″x3/4″	18	56	15	4972
1″x1/2″x1″	20	68	18	4973
1″x3/4″x1″	22	90	29	4974

Internal thread.

Male to Male Extension (Stainless)

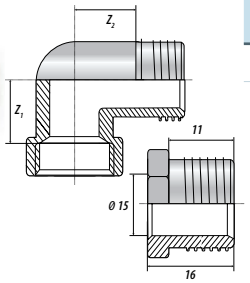


Size	L, mm	Z, mm	
1/2 x 60″	60	12	9850-60
1/2 x 70″	70	12	9850-70

External thread.

Material – dezincification resistant brass LS59-1.

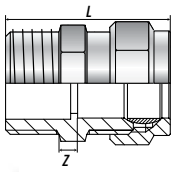
Elbow M 1/2" x 15 with collet ring (set)



Size	Z_1, mm	Z_2, mm	
1/2"	13	19	4052

For connecting Premium/Standard and Optima radiator tubes to any shut-off and control valves with 1/2" internal thread

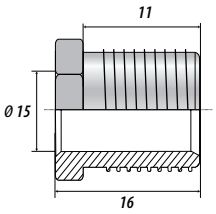
Sealing fitting M with collet ring DN15 – G1/2" universal



Size	L, mm	Z, mm	
Ø 15 x 1/2"	35	4	4050

For connecting Premium/Standard and Optima radiator tubes to any shut-off and control valves with 1/2" internal thread

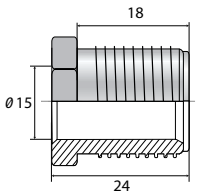
Sealing fitting M with collet ring DN15 – G1/2" for EAGLE valves



Size	
Ø 15 x 1/2"	4051

For connecting Premium/Standard and Optima radiator tubes to EAGLE valves (ART 8221, 8231, 8321,8331)

Sealing fitting M DN15 – G1/2", f or Danfoss valves RA-N/RLV



Size	
Ø 15 x 1/2"	4061

For connection radiator tubes Premium/Standard and Optima

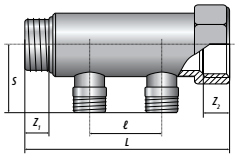
Sealing fitting M with collet ring DN15 – 3/4" eurocone

Size	
Ø 15 x 3/4"	4062

For connection of radiator tubes Premium/Standard and Optima

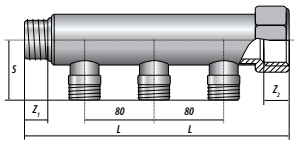
Material – dezincification resistant brass LS59-1.
Dimension of the manifold: flow area x number of branches x size of the branch.

Manifold with external thread ℓ=40/50mm



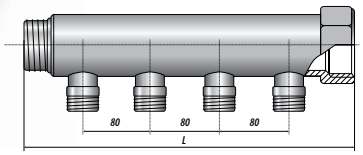
Size	ℓ, mm	L, mm	S, mm	Z_1, mm	Z_2, mm	
3/4"x T2 x 1/2"	40	88	28	13	13	2522
3/4"x T3 x 1/2"	40	123	31	13	13	2523
3/4"x T4 x 1/2"	40	156	31	13	13	2524
1"x T2 x 1/2"	50	105	32	13	13	2532
1"x T3 x 1/2"	50	156	32	13	13	2533
1"x T4 x 1/2"	50	207	32	13	13	2534

Manifold with male thread, ℓ=80mm



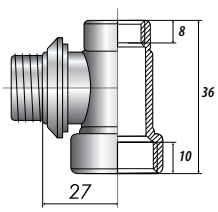
Size	L, mm	S, mm	Z_1, mm	Z_2, mm	
1"x T2 x 1/2"	174	32	13	13	2932
1"x T3 x 1/2"	254	32	13	13	2933
1"x T4 x 1/2"	334	32	13	13	2934
1"x T2 x 3/4"	174				2935
1"x T3 x 3/4"	254				2936
1"x T4 x 3/4"	334				2937
1 1/4"x T2 x 1/2"	176	37	13	13	2942
1 1/4"x T3 x 1/2"	256	37	13	13	2943
1 1/4"x T4 x 1/2"	336	37	13	13	2944
1 1/4"x T2 x 3/4"	176				2945
1 1/4"x T3 x 3/4"	256				2946
1 1/4"x T4 x 3/4"	336				2947

Main manifold with external thread, ℓ=80 mm



Size	L, mm	
2"x T4 x 3/4"	330	2984

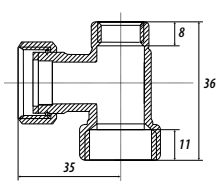
Manifold ending



Size	
3/4" x 1/2" x 3/8"	2972
1" x 1/2" x 3/8"	2973
1 1/4" x 1/2" x 3/8"	2974

For installation on the manifold of the automatic air valve and drain valve.

Manifold end with union nut



Size	
3/4" x 1/2" x 3/8"	2962
1" x 1/2" x 3/8"	2963
1 1/4" x 1/2" x 3/8"	2964
2" x 1/2" x 3/8"	2966

For installation on the manifold e and drain valve.

BYR PEX STAINLESS MANIFOLDS

Material – stainless steel.
Collector dimensions: flow area – number of outlets – outlet size (L = center distance).

Manifold with outlet center distance 50 mm

Description	Length, mm	
Manifold with fitting 1"-T2-3/4"EK L=50	150	2724-02
Manifold with fitting 1"-T3-3/4"EK L=50	200	2724-03
Manifold with fitting 1"-T4-3/4"EK L=50	250	2724-04
Manifold with fitting 1"-T5-3/4"EK L=50	300	2724-05
Manifold with fitting 1"-T6-3/4"EK L=50	350	2724-06
Manifold with fitting 1"-T7-3/4"EK L=50	400	2724-07
Manifold with fitting 1"-T8-3/4"EK L=50	450	2724-08
Manifold with fitting 1"-T9-3/4"EK L=50	500	2724-09
Manifold with fitting 1"-T10-3/4"EK L=50	550	2724-10
Manifold with fitting 1"-T11-3/4"EK L=50	600	2724-11
Manifold with fitting 1"-T12-3/4"EK L=50	650	2724-12

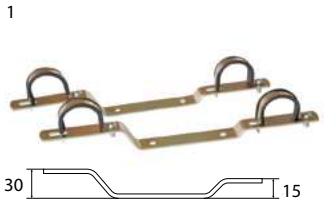
Internal thread.
Included: Mayevsky crane – 1 pc, cap – 1 pc.

Manifold with outlet center distance 100 mm

Description	Length, mm	
Manifold with fitting 1"-T2-1/2" L=100	200	2733-02
Manifold with fitting 1"-T3-1/2" L=100	300	2733-03
Manifold with fitting 1"-T4-1/2" L=100	400	2733-04
Manifold with fitting 1"-T5-1/2" L=100	500	2733-05
Manifold with fitting 1"-T6-1/2" L=100	600	2733-06
Manifold with fitting 1"-T7-1/2" L=100	700	2733-07
Manifold with fitting 1"-T8-1/2" L=100	800	2733-08

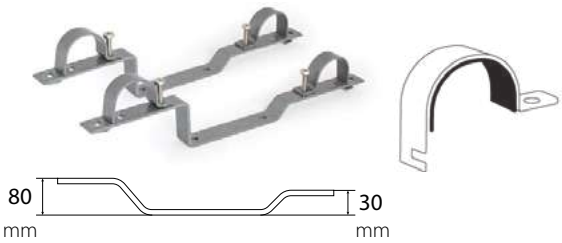
Internal thread.
Included: Mayevsky crane – 1 pc, cap – 1 pc.

Accessories



№	Description	
1	Mounting for stainless manifold 1" (pair)	9835
2	Plug for stainless manifold 1"	3283
3	End cap for stainless manifold 1"	2983

Fastening for manifold (pair)



Description / Size	
Manifold mounting kit with brackets1" (pair)	9831
Additional bracket 3/4" (1)	9832
Additional bracket1 1/4" (1)	9833

4 brackets are required per manifold mounting pair

MANIFOLD CABINETS

Built-in manifold cabinet / outdoor

Size	
648 x 120 x 450	9821
648 x 120 x 550	9822
648 x 120 x 700	9823
648 x 120 x 850	9824
648 x 120 x 1000	9825
648 x 120 x 1150	9826
648 x 120 x 1300	9827

Size	
652 x 118 x 450	9811
652 x 118 x 550	9812
652 x 118 x 697	9813
652 x 118 x 848	9814
652 x 118 x 998	9815
652 x 118 x 1147	9816
652 x 118 x 1300	9817

Manufacture of manifold cabinets of non-standard sizes is made to order.

Built-in manifold cabinet / outdoor for mounting a manifold with a pump

Size	
650 x 250 x 1000	9805
650 x 250 x 1300	9807

Size	
650 x 250 x 1000	9865
650 x 250 x 1300	9867

Manufacture of manifold cabinets of non-standard sizes is made to order.

SHUT-OFF AND THERMOREGULATE VALVES

SHUT-OFF VALVES EAGLE

- Stop fittings made of dezincification-resistant DZR brass.
- cope: heat and cold supply, water supply.
- Working temperature: -20…+120 °C.
- Sealing: high temperature Teflon – PTFE. Aluminum handle.
- Medium: fluids that are non-aggressive to valve parts, compressed air.

Full bore ball valve with internal thread (handle)

Size	PN, atm	
1/2″	40	9721
3/4″	40	9722
1″	25	9723
1 1/4″	25	9724
1 1/2″	25	9725
2″	25	9726

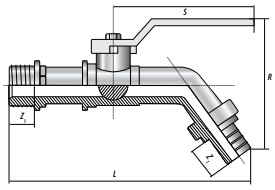
Full bore ball valve with union nut (handle)

Size	PN, atm	
1/2″	40	9781
3/4″	40	9782
1″	25	9783
1 1/4″	25	9784

Butterfly handle for ball valve EAGLE 3/4″ and 1″

Description	
It is used to replace the lever type handle on the following faucet references: 9721, 9781	9701
It is used to replace the lever type handle of the taps of the following articles: 9722, 9723, 9782, 9783	9702

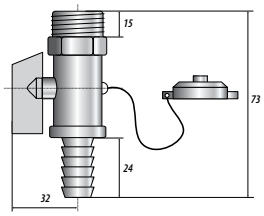
Ball drain valve with external thread with branch pipe



Size	L, mm	R, mm	S, mm	Z_1, mm	Z_2, mm	
1/2″ x 3/4″ x 15	97	85	85	11	23	9610

For connecting a hose. Tilt angle 70°.

Drain valve with stopper

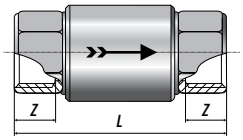


Size	
1/2″	9621

EAGLE VALVES AND FILTERS

Material – dezincification resistant brass LS59-1.

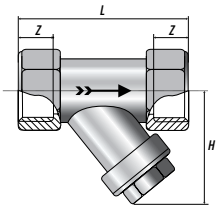
Check valve (spring) with metal seat



Size	L, mm	Z, mm	
1/2″	50	13	9111
3/4″	57	13	9112
1″	60	14	9113
1 1/4″	66	15	9114
1 1/2″	76	17	9115
2″	86	17	9116

Working pressure – 1.6 MPa. Operating temperature – 110 °C.
For horizontal and vertical installation.

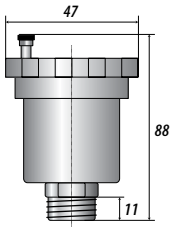
Coarse filter



Size	H, mm	L, mm	Z, mm	
1/2″	40	55	13	9141
3/4″	45	67	15	9142
1″	60	79	17	9143
1 1/4″	72	102	18	9144
1 1/2″	80	115	21	9145
2″	94	127	21	9146

Operating pressure – 1.6 MPa. Operating temperature – 110 °C.
For water supply and heating systems.

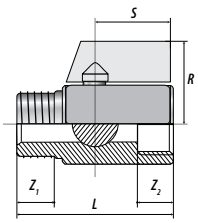
Automatic air valve



Size	
3/8″	9190
1/2″	9191

Operating pressure – 1.0 MPa. Operating temperature – 110 °C. Type: automatic with cut-off.
Designed for automatic air release; The cut-off valve is necessary for quick replacement of the air vent without depressurizing the system.

Mini ball valve with handle

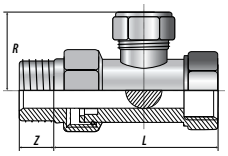


Size	L, mm	R, mm	S, mm	Z_1, mm	Z_2, mm	
1/2″	43	30	22	12	12	9281

External and internal thread. For installation on manifolds or other parts of the system through pipe threads.

Material – dezincification resistant brass LS59-1, coating – chrome Cr

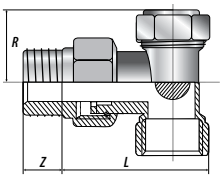
Adjusting straight radiator valve



Size	L, mm	R, mm	Z, mm	
1/2", kvs = 0,30-1,8	57	28	10	8221
3/4", kvs = 0,38-3,0	63	33	10	8222

Working pressure – 1.6 MPa.
For presetting the resistance in the heating device.
Internal – external thread.

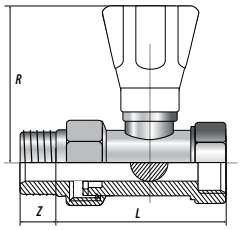
Adjusting elbow radiator valve



Size	L, mm	R, mm	Z, mm	
1/2", kvs = 0,30-3,0	52	28	10	8231
3/4", kvs = 0,32-4,2	57	33	10	8232

Working pressure – 1.6 MPa.
For presetting the resistance in the heating device.
Internal – external thread.

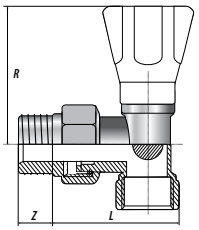
Thermostatic straight radiator valve



Size	L, mm	R, mm	Z, mm	
1/2"	50	55	11	8321
3/4"	50	55	11	8322

Working pressure – 1.6 MPa.
For manual temperature control in a heating appliance.
Internal – external thread.

Thermostatic elbow radiator valve



Size	L, mm	R, mm	Z, mm	
1/2"	55	45	11	8331
3/4"	55	45	11	8332

Working pressure – 1.6 MPa.
For manual temperature control in a heating appliance.
nternal – external thread.

The press-on type of connection is one-piece, since it is impossible to disassemble the connection without destroying the fitting / sleeve or pipe, so it can be embedded in concrete.

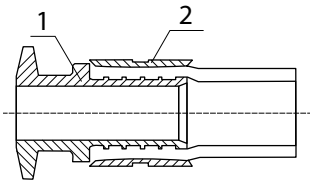
Making a press-on connection requires the installer to have some skills in handling a special tool, however, it practically eliminates an error or undertightening (undertightening) of the connection.

For pressing, manual, electric or hydraulic tools can be used. The tool is made of light, high-strength metal, and its design allows you to connect quickly and effortlessly. The tool is supplied in a transport case.

FITTING COMPONENTS

1. Fitting body with nipple

2. Press sleeve



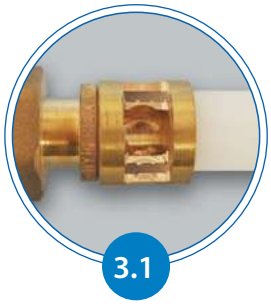
Connection principle: the end of the pipe, expanded with a special tool, is put on the fitting, after which, thanks to molecular memory, the pipe shrinks, and for a guaranteed reliable connection, a compression sleeve is pushed onto the pipe, which provides a tight pressing of the pipe to the fitting fitting.

INSTALLATION OF THE PRESS FITTING

Cut a section of pipe to the required length with a pruner. Push the compression sleeve onto the pipe. It should not fall into the expansion zone of the pipe.
Insert the expander into the pipe.

Evenly bring the handles of the expander to the stop, fixing them in this position for 3-5 seconds. Open the expander handles, rotate it by 10 – 45 ° and repeat several expansion cycles.
Insert the fitting nipple into the pipe as far as it will go.

Press in sleeve on the fitting with a manual or hydraulic press until it stops.



An example of a correctly installed pipe connection and fitting (in section).

OPTIMA fittings and sleeves are designed specifically for BYR PEX pipes (SDR 11) and together form an integral system. The connection is made using a special expander, and the subsequent shrinkage of the OPTIMA sleeves occurs due to the molecular memory property of the material. At the same time, the connection is one-piece, and the fixation of the sleeve in its place is ensured by the original design of the fitting fitting and guarantees the correctness and quality of the connection throughout the entire service life.

1 PIPE CUT

Cut the OPTIMA pipe to the desired length.

2 SHRINKING SLEEVE

Push the OPTIMA sleeve onto the pipe until it stops.

3 EXPANSION PROCEDURE

Install an expansion head suitable for the diameter of the pipe on the tool. Fully extend the tool handles and insert the reaming head segments as far into the pipe as possible.

Slowly and evenly close the handles of the tool completely, fixing them in this position for 3-5 seconds. Then again fully spread the handles of the tool to the sides and turning it in a circle 10-45º, enter deeper into the expanded hole of the pipe and bring the tool handles together again. Repeat several expansion cycles, each time plunging the head segments as far into the pipe as possible.

Pipe expansion cycles must be carried out until the pipe abuts against the limiting ledge on the expansion head of the tool. Do one more, last cycle of expansion, fixing the reduced handles in this case for 5-7 seconds.

Remove the tool from the pipe and immediately insert the union of the PE-SS fitting "Optima" into the expanded hole of the pipe so that the sleeve tightly, without a gap, abuts against the restrictive protrusions of the fitting. Hold the fitting in this position for a few seconds until the shrink sleeve shrinks the pipe around the fitting nipple.

INSTALLATION EXAMPLE

An example of a correctly performed installation of a pipe and fitting connection

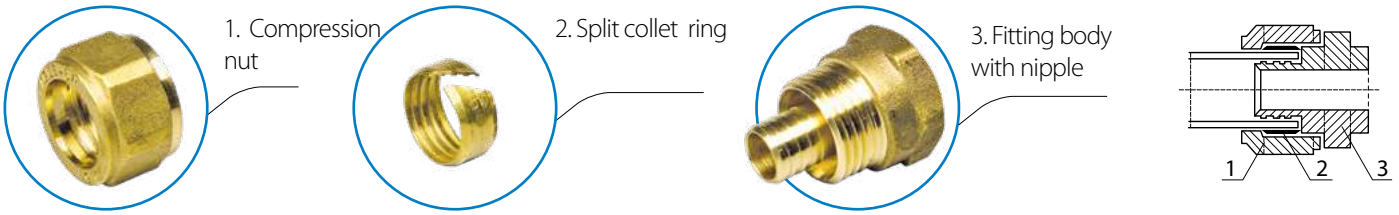
Failure to comply with the above rules for the installation of a connection using a PE-SS "OPTIMA" fitting, i.e. rapid, jerky expansion of a pipe with a s hrink sleeve or the absence of the necessary fixation time between expansion cycles (clause 3.2), will lead to rapid compression of the pipe opening, which will not allow you to correctly fulfill the requirements of clause 3.4

The connection installation is completed. After 60 minutes, the joints can be tested by pressure testing. We recommend warming up the assembled joint with hot air up to +50 ºC.

Installation work is recommended to be carried out at an ambient temperature of at least +5 ºC. If it is necessary to carry out installation work at lower temperatures, it is necessary to heat the shrink ring, previously put on the pipe, with hot air to a temperature of + 20 ºC ... +50 ºC.

Connecting pipes with compression fittings is the simplest in execution and does not require highly qualified installers. This type of connection is used in the installation of cold / hot water supply and heating systems. In the process of making such connections, it is not required to use a special tool. To work with compression type fittings, only two wrenches and pruning shears are needed.

FITTING COMPONENTS

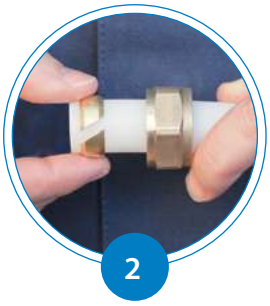


Connection principle: When the nut is tightened, the split ring is compressed due to the conical chamfers on its two sides, as well as inside the nut body and on the fitting body. Annular notches on the inner surface of the split ring fix the pipe and seal it on the fitting, which also has annular notches.

Thus, the function of the thread in this connection is only to provide a collet clamp (compress the pipe with a split ring on the fitting fitting), and not to directly create a threaded connection. The installation of the connection does not require any winding or sealing. When using this type of fitting in mass construction, it should be considered collapsible, so it is not recommended to monolith it in the floor or wall structure.

INSTALLATION OF THE COMPRESSION FITTING

Cut a section of pipe to the required length with a pruner.



In a place of instalation of fitting:
- Push the compression nut onto the pipe with the thread towards the connector.
- Put a split ring on the pipe. The edge of the ring must stand from the pipe cut by 1 mm.

Push the pipe onto the fitting socket as far as it will go. It is not necessary to chamfer the pipe and carry out any additional actions.

Tighten the compression nut with two wrenches to the following nominal torques:

for pipes16 mm – 2 ÷ 2,5 kgs·m;
for pipes 20 mm – 3 ÷ 3,5 kgs·m;
for pipes25 mm – 5 ÷ 5,5 kgs·m;
for pipes 32 mm – 6 ÷ 6,5 kgs·m.

Polyethylene pipes are used in systems with hidden wiring. External laying of polyethylene pipes is allowed in basements or niches (technical underground, technical floor, boxes, baseboards).

Please note that the pipe material is not resistant to ultraviolet (solar) radiation if exposed to it for a long time.

BYR PEX pipes of the Premium "UV Stop" line are resistant to ultraviolet (solar) radiation and can be used in open wiring.

Installation work is recommended to be carried out at an air temperature of at least +5 °C.
Installation work at an air temperature below +5 °C is allowed to be carried out by heating the pipe at the fitting installation site to +20 ... +50 °C. It is recommended to heat the pipe with a heat gun or hot water.

It should be noted that excessive heating of a pipe made of cross-linked polyethylene BYR PEX (Premium / Standard) with a heat gun, accompanied by a change in its color, browning, leads to a change in the physical properties of the material. This section of pipe needs to be replaced.

The limiting degree of heating is 180 ° C. At the same time, heating the pipe to a transparent state (160 °C) does not lead to any changes in the properties of the material, and, after cooling, further use of this pipe section is allowed.

Pipe cutting is allowed to be carried out with any serviceable cutting tool (we recommend – pipe secateurs). In this case, the cut must be made perpendicular to the longitudinal axis of the pipe, avoiding the formation of burrs.

BEFORE ASSEMBLING ANY TYPE OF CONNECTION, IT IS NECESSARY TO

Make sure that the SDR values of the pipe and the selected fitting match.
Make sure that there are no deformations or other damages on the body of the fitting and on the pipe.
Disassemble the fitting, make sure that all its parts are available:

For compression connection:
- fitting body with a fitting (s) with annular notches;
- split ring(s) with annular notches on the inside and tapered chamfers on the outside;
- nut(s) with a conical chamfer on the inside.

For press fitting:
- fitting body with a fitting (s) with annular notches;
- pressing sleeve(s) with conical chamfers on the inside.

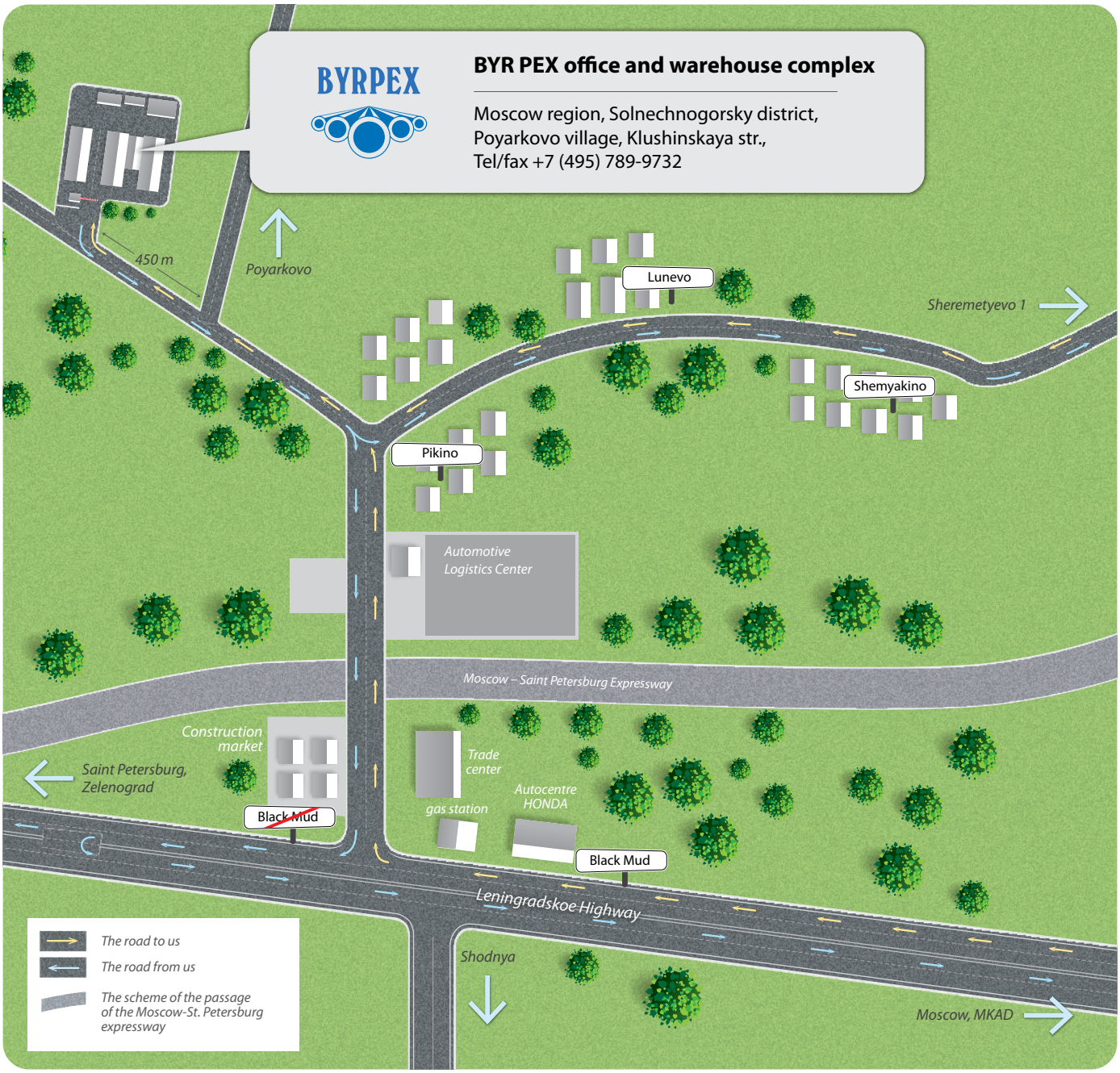
For Optima polymer compound:
- fitting body with a fitting (s) with cone-shaped notches;
- polymer sleeve(s) with a limiting collar on the inside.

NOT ALLOWED TO

- After assembling the fitting, bend the pipe closer than 10 diameters from the connection point.
- Make a bend with a radius less than 5 pipe diameters.
- Install the pipe with a kink.
- Heat the pipe with an open fire.
- Use BYR PEX Pipes to equalize the electrical potential and as a protective or grounding conductor.

GENERAL RULES AND RECOMMENDATIONS FOR THE INSTALLATION OF BYR PEX PIPES ARE AVAILABLE ON THE OFFICIAL WEBSITE OF THE MANUFACTURER BYRPEX.COM IN THE DOCUMENTATION SECTION:"INSTALLATION INSTRUCTIONS".

DRIVING DIRECTIONS



PUBLIC TRANSPORT

WAREHOUSE WORKING TIME [9:00 – 16:45]

Option 1 & 2

From metro stations "Rechnoy vokzal" or "Vodniy stadion":
bus number 350 (route: metro station "Vodny Stadion" – Mendeleevo)
bus number 440 (route: metro "Vodniy Stadion" – Solnechnogorsk)

By bus No. 350 or No. 440 from the Vodniy stadion metro station, get to the Chernaya gryaz stop, go to the next stop, then take a bus or fixed-route taxi No. 44, get to the Povorot stop. Then return to the main road (before the turn) and go in the direction of travel, turn right at the second turn.

Option 3

From the station "Skhodnya" bus number 44 (route: Station "Skhodnya" – Krugloye Ozero)

Get to the Skhodnya station. The train departs from the Leningradsky railway station. At the station, take a bus or fixed-route taxi No. 44, get to the stop "Povorot". Then return to the main road (before the turn) and go in the direction of travel, turn right at the second turn.

MAIN OFFICE

Moscow	**+7 (495) 789-97-32**	*multichannel*

REPRESENTATIVES IN RUSSIA

Single call number	**+7 (495) 789-97-32**	*Dial the extension number to contact the representative office you need*

NORTHWESTERN FEDERAL DISTRICT

Saint Petersburg	**5078**

VOLGA FEDERAL DISTRICT

Kazan	**5011**
Nizhny Novgorod	**5270**
Perm	**5070**
Saratov	**5020**

SOUTH FEDERAL DISTRICT

Volgograd	**5340**
Kransnodar	**5230**

URAL FEDERAL DISTRICT

Yekaterinburg	**5060**