



SYSTEM
KAN-therm

Instrukcja obsługi

narzędzi do montażu instalacji

z rur PE-RT, PE-Xc i PE-Xc/Al/PE-HD Platinum Systemu **KAN-therm**

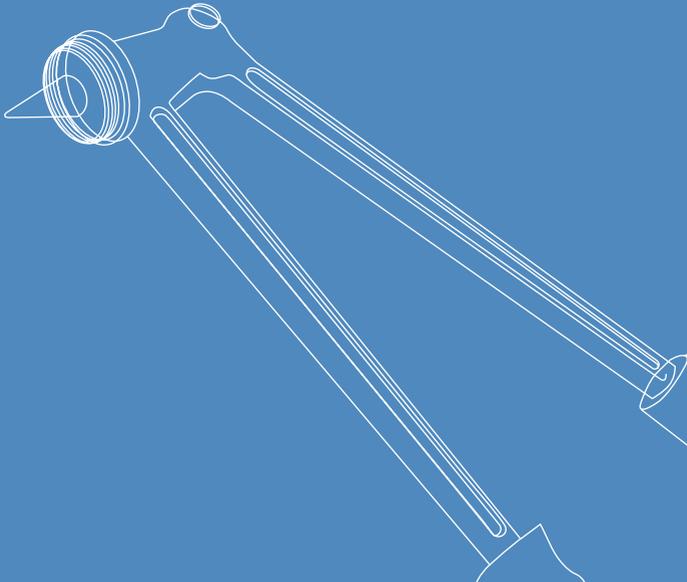
Инструкция обслуживания

инструмента для монтажа оборудования

из труб PE-RT, PE-Xc и PE-Xc/Al/PE-HD Platinum Системы **KAN-therm**

Operation manual

tools for pipes PE-Xc, PE-RT and PE-Xc/Al/PE-HD Platinum



OPERATION MANUAL

tools for pipes PE-Xc, PE-RT
and PE-Xc/Al/PE-HD Platinum

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General remarks

1. Complying with the present instruction manual will render your work safe and efficient and will increase tools' durability.
2. The tool kit is designed for **KAN-therm** System only.
3. The tools may be used only by those who know how to use them safely and correctly, after having read the present instruction manual.
4. Tools should be used only with its intended purpose.
5. Using the tools for any other purposes may result in injury and damage.
6. Because of very high pressure in the press hydraulic system making any changes is forbidden. To make survey or repairs take the tools to one of authorized service stations located in **KAN** branches. That will guarantee the use of proper materials and original spare parts.
7. The producer may introduce minor tool structural improvements which will not be shown in the present instruction manual.
8. If you have any doubts concerning the use of tools contact your seller.

Tools range

Tools range includes the following tools for **KAN-therm** System PE-RT, PE-Xc and PE-Xc/Al/PE-DH Platinum pipes installation:

- | | |
|---|-------------|
| 1. Hydraulic press with foot-operated drive | code PN01 |
| 2. Hand chain press | code PR01/N |
| 3. Press inserts for brazen fittings set: | |
| a) straight nickel insert 12×2 | code P8471 |
| b) straight nickel insert 14×2 | code P8469 |
| c) straight nickel insert 18×2 (18×2,5) | code P8468 |
| d) straight nickel insert 25×3,5 | code P8467 |
| e) insert for wallplate elbow 18×2 | code P8470 |
| f) insert for tees 14×2 | code P8465 |
| g) insert for tees 18×2 (18×2,5) | code P8463 |
| h) insert for tees 25×3,5 | code P8464 |

CAUTION

Inserts are used from the pipe fitting side only when installing wallplate elbows (with no separate flange) and for brazen tee-connections when a pipe is fixed on its arm. Normally, pipe fitting inserts are not included in tool kits. Straight inserts are used for gripping brazen rings and brazen pipe fittings flanges. For brazen pipe fittings diameter 32 mm use unarmed hydraulic press jaw both from the side of the pipe fitting and the ring.

- | | |
|--|-----------------|
| 4. Press inserts kit for PPSU plastic joints: | |
| a) straight insert 12×2 | code PT8471 |
| b) straight insert 14×2 | code PT8469 |
| c) straight insert 18×2 (18×2,5) | code PT8468 |
| d) straight insert 25×3,5 | code PT8467 |
| 5. Expanding tool for PE-RT, PE-Xc and PE-Xc/Al/PE-HD Platinum pipes expanding . | code 84550N |
| a) expanding tool's grease | code smar |
| 6. Expanding tool head set: | |
| for PE-RT and PE-Xc pipes: | |
| a) head 12×2 | code Z -P12N |
| b) head 14×2 | code Z -P14N |
| c) head 18×2 | code Z -P18N |
| d) head 18×2,5 | code Z -P185N |
| e) head 25×3,5 | code Z -P25N |
| f) head 32×4,4 | code Z -P32N |
| or expanding heads set for PE-Xc/Al/PE-HD Platinum pipes | |
| a) head 14×2 | code Z-P14PLAT |
| b) head 18×2,5 | code Z-P185PLAT |
| c) head 25×3,5 | code Z-P25PLAT |
| d) head 32×4,4 | code Z-P32PLAT |
| 7. Pipe cutters | code 0.2125 |

Tools range

Hydraulic press and hand-operated press are also available in a tool case.



Fig. 1 Case set for hydraulic press with foot-operated drive

- | | | | |
|---|--|---|---|
| 1 | foot-operated hydraulic press | 5 | ring inserts set (12, 14, 18, 25) - 2 pcs. each |
| 2 | expanding tool for PE-RT, PE-Xc and PE-Xc/Al/PE-HD Platinum pipes | 6 | plastic fittings inserts set (T12, T14; T18; T25) - 1 pcs. each |
| 3 | cutters for pipes | 7 | Allen's key |
| 4 | expanding tool head set PE-RT and PE-Xc (12x2; 14x2; 18x2; 18x2,5; 25x3,5; 32x4,4) | 8 | case |



Rys. 2 Case set for hand chain press

- | | | | |
|---|--|---|---|
| 1 | hand-operated chain press | 5 | ring inserts set (12, 14, 18, 25) - 2 pcs. each |
| 2 | expanding tool for PE-RT, PE-Xc and PE-Xc/Al/PE-HD Platinum pipes | 6 | plastic fittings inserts set (T12, T14, T18, T25) - 1 pcs. each |
| 3 | cutters for pipes | 7 | two pairs of jaws for connections of diameter range: 14-18mm and 25-32mm. |
| 4 | expanding tool head set PE-RT and PE-Xc (12x2; 14x2; 18x2; 18x2,5; 25x3,5; 32x4,4) | 8 | case |

Tools technical data

- | | |
|--|---------------|
| 1. Hydraulic press with foot-operated drive PN01 (Fig. 3) | |
| a) pressed pipes diameter range [mm]..... | 12×2 - 32×4,4 |
| b) press jaw spacing [mm] | |
| - range I..... | 18 - 85 |
| - range II..... | 50 - 118 |
| c) pressure pipe length [m] | 2 |
| d) mass [kg] | 6,6 |
| e) hydraulic system oil | VELOL 9 |
| 2. Hand-operated chain press PR01/N (Fig. 4) | |
| a) pressed pipes diameter range [mm]..... | 12×2 - 32×4,4 |
| press jaw spacing [mm] | |
| - range I..... | 17 - 51 |
| - range II..... | 32 - 66 |
| b) mass [kg] | 1,44 |
| 3. Expanding tool for PE-RT, PE-Xc and PE-Xc/Al/PE-HD Platinum pipes 84550N (Fig. 5) | |
| a) pressed pipes diameter range [mm]..... | 12×2 - 32×4,4 |
| b) mass [kg] | 1,5 |
| 4. Cutter for pipes 0.2125 (Fig. 6) | |
| a) pressed pipes diameter range [mm]..... | to 32 |
| b) mass [kg] | 0,3 |



Fig. 3 Hydraulic press with foot-operated drive PN01



Fig. 4 Hand chain press PR01/N



Fig. 5 Expanding tool for PE-RT, PE-Xc and PE-Xc/Al/PE-HD Platinum pipes 84550N



Fig. 6 Cutter for pipes 0.2125

Foot-operated hydraulic press operation

The press is a tool designed for sliding sleeves on **KAN-therm** System pipe fittings using PE-Xc, PE-RT or PE-Xc/Al/PE-HD Platinum pipes.

The press guarantees easy sliding of sleeves on pipes of diameter $\varnothing 12$ -32mm. Pay attention to a pipe type and press sleeves.

Using inappropriate sleeve will cause too little pressure in connection and no leaktightness guarantee or excessive pipe fitting load and its possible damage.

With press head replaceable inserts are mated which enable correct grip of sliding sleeve ring and pipe fitting. They are adapted to particular pipe diameter - 12×2, 14×2, 18×2 (18×2,5), 25×3.5.

Installing brazen pipe fittings and sleeves of diameter 32 mm takes place without using inserts - pipe and fitting are embedded directly in head jaws.

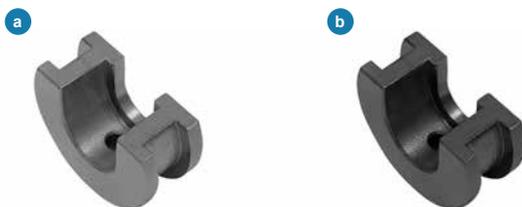


Fig. 7 Press straight inserts (a - nickel, b - black)

CAUTION

When installing elbows and tee-connections with sliding sleeves made of plastic (PPSU) strictly use only black inserts (Fig. 7b) from pipe fitting side marked with a letter T-grip only by pipe fitting flange.

To install plastic fittings $\varnothing 32$ use nickel insert 25.

It is prohibited to use inserts in tee-connections, elbows and wallplate elbows to support plastic pipe fitting bodies. It may lead to their damage.

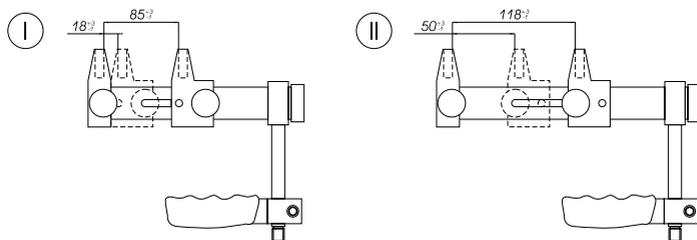


Fig. 8 Useful range of the foot operated hydraulic press machine jaws

Foot-operated hydraulic press operation

In moving press jaw there are two openings which enable to change slide range of moving jaw (Fig. 8):

- range I (pin in opening 1)..... jaw spacing 18 - 85 mm
- range II (pin in opening 2) jaw spacing 50 - 118 mm

Most connections are made in range I.

CAUTION

Pressing two rings at the same time is unacceptable because they may become skewed. Pipe fittings have interlocking flanges designed for gripping the press by insert. In such a case all connections can be made in slide range I. The exception are brazen tee-connection arms $\varnothing 25$ to which inserts for tee-connections are used in slide range II of moving jaw.

Head jaw movement is obtained by pressing foot pedal of hydraulic pump which is connected to the press by pressure pipe.

After pressing the ring, the jaw travels back to its resting position after pressing the pump check valve button.

When having to press the foot pedal again and again in order to make the correct pressing, check and fill up oil in hydraulic system, if necessary. Check the amount of oil using rod indicator (Fig.9).

During warranty period have it done in authorized service stations.

After the warranty has expired fill up oil yourself - it can be purchased in **KAN** stores. Using inappropriate oil may cause press malfunction and damage.

During press operation make sure it does not get dirty or that no corrosives are spilled over it. Keep the press clean at all times.

CAUTION

Minimum bend radius of press pressure pipe is 90 mm.

Bending the pressure pipe at a smaller radius may result in its damage.

During operation do not use any oils or lubricants to improve jaw movement. The result will be just the opposite - stuck dirt causes jaw blocking. In case of leakage from any part of the hydraulic system, have the press repaired in authorized service station. Self-repairs using unoriginal spare parts and lack of service tools may cause press malfunction or damage.

When operating the press, use original inserts only. This guarantees safe, correct, and long-lasting operation and high quality connections.

Press serial number is on data plate located on hydraulic pump base and it is engraved on press head sleeve.

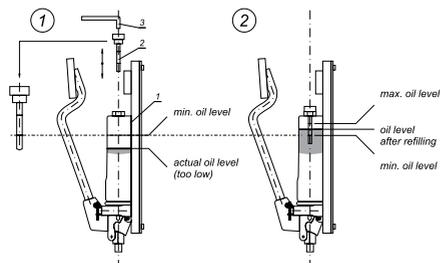
CAUTION

Presses have built-in overflow safety valve, safeguarding against too much pressing force. Pay attention to the moment of sliding the ring to the fitting so there is no unnecessary load. That will prolong the tool's life.

Foot-operated hydraulic press operation

REMARKS ON SAFETY AND OPERATION

After filling up oil and reducing pressure to zero perform the following activities:



- 1 Place pump (1) vertically (Fig. 9)
- 2 Unscrew screw (2) with oil indicator rod using Allen key (3) (included in the kit).
- 3 Check oil level (it should be between upper and lower marks). If oil indication is below lower mark, fill up with VELOL 9 oil but no more than up to upper mark. Use a funnel or a syringe.
- 4 Screw back screw (2).

Fig. 9 Filling up oil in foot-operated hydraulic press PN01

Elastic pressure pipe is inseparably connected from both sides. Do not tighten up!

For filling up the press hydraulic system use only VELOL 9 oil - it can be purchased in **KAN** stores.

Any oil leakage in the hydraulic system should be instantly stopped.

It is advised to have an annual technical survey of the press in **KAN** service - oil change, seals change and operation parameters adjustment.

Hand-operated chain press maintenance

Hand-operated chain press is designed for sliding sleeves on **KAN-therm** System fittings using PE-Xc, PE-RT and PE-Xc/Al/PE-HD Platinum pipes. The press guarantees efficient sliding of sleeves on pipes of diameter Ø12-32. Pay attention to a pipe type and press rings.

Using inappropriate ring will cause too little pressure in connection and no leaktightness guarantee or excessive pipe fitting load and its possible damage.

Hand-operated chain press comes in the shape of cutters with one swivel arm. The arm has a chain-rack-and-pinion mechanism which increases pressure during installation. The press is mated with jaws in two sizes: 12-18 (Fig. 11) and 25-32 (Fig. 12). The jaws are fixed by means of pins. Inside jaws are placed replaceable inserts that enable correct grip of sliding ring and pipe fitting. Inserts are fitted to particular diameters - 14, 18, 25. Brazen fittings and rings of diameter 32 mm installation takes place with no insert application - pipe and pipe fitting are mounted directly in head jaws.



Fig. 10 Hand-operated chain press PR01/N

CAUTION

Pressing two rings at the same time is unacceptable because they may become skewed.



Fig. 11



Fig. 12

Hand-operated chain press maintenance

REMARKS ON SAFETY AND OPERATION

During press operation make sure it does not get dirty or that no corrosives are spilled over it. Keep the press clean at all times. Particularly, make sure chain and rack-and-pinion are clean. In the case of long storage, clean and dry the press thoroughly. Cover metal surfaces with preservative, e.g. VELOL 9 oil. Hand-operated chain press is a powerful tool so take extra care when operating it. Use only original inserts. This guarantees safe, correct, and long-lasting operation. Parts of the press with visible damage should be replaced immediately.

Additional producer remarks:

- for installing plastic (PPSU) press elbows and tees use (from pipe fitting side) only black inserts (12, 14, 18 or 25). (Fig. 2 no. 6).
- for PPSU pipe fittings do not use shape inserts used for installing brazen pipe connectors!

Hand-operated chain press maintenance

HAND-OPERATED CHAIN PRESS OPERATION PRINCIPLES:



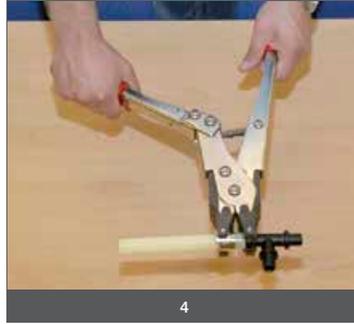
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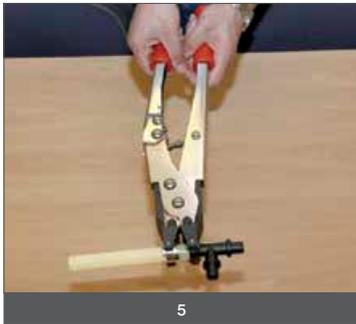
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3



4



5



6

1 Fold arm.

2 Swivel the arm.

3 Move jaws to connection elements.

4 Release folded arm till inserts rest on ring and fitting flange.

5 Complete slide ring on pipe fitting by means of pendulous movement of folded arm ("pumping").

6 After the connection has been done, release jaws.

Expanding tool and cutter for polyethylene pipes operation

The expanding tool (Fig. 13) is a hand-operated tool designed only to expand PE-Xc, PE-RT and PE-Xc/Al/PE-HD Platinum pipe ends of diameter up to $\varnothing 32$. In tool kit there are expanding tool heads for every pipe diameter PE-RT and PE-Xc (12×2; 14×2; 18×2; 18×2,5; 25×3,5; 32×4,4). PE-Xc/Al/PE-HD Platinum pipes expanding heads have to be ordered separately. In the front of the head there is a marking showing pipe diameter which it should be applied for. Connecting the head with the expanding tool is obtained by screwing the head home.



Expanding head for PE-Xc/Al/PE-HD Platinum pipes



Expanding head for PE-Xc and PE-RT pipes

Pipe expanding should be performed in three stages. First two expansions are not full, with rotating the expanding tool against the pipe at approx. 30° and 15°. The third expansion is full. After the expansion neither outer nor inner pipe surface should be damaged (no cracks or cavities). Pipes with damaged surface cannot be used for making connections.

If the temperature is below +5°C, before expanding heat up the pipe tip with a stream of hot air or by submerging it in warm water in order to improve its elastic properties.

REMARKS ON SAFETY AND OPERATION

1. Use only original heads to work with the expanding tool. This guarantees safe, correct, and long-lasting operation.
2. Do not use heads or expanding tools with visible damage, e.g. surface cracks.
3. Keep the expanding tool in dry, clean and safe place.
4. In the case of long storage, clean and dry the expanding tool thoroughly. Cover metal surfaces with preservative, e.g. VELOL 9 oil.
5. The graphite grease (supplied with the tool as a set) should be used during a use of expanding tool with expanding head - grease expanding bolt head. Use of grease ensure correct and long-term exploitation of the tool.

Cutter (Fig. 14) is designed for PE-Xc, PE-RT and PE-Xc/Al/PE-HD Platinum pipes of diameter up to 32 mm only. Blades move to initial position by open out cutter arms. Cutting takes place after making a few "pumping" movements with the hand. Thanks to a special design you do not have to use much force. Make sure to cut pipes perpendicularly, which is important for installation purposes.



Fig. 13 Expanding tool for polyethylene pipes.



Fig. 14 Cutter for polyethylene pipes.

Connections assembly principles



1



2



3



4



5



6

1 Cut PE-RT, PE-Xc or PE-Xc/Al/PE-HD Platinum pipe at desired length using cutter.

2 Put ring on pipe with inner beveled end from fitting side.

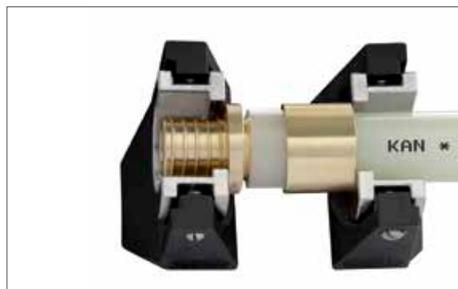
3 Pipe expanding should be performed in three stages. First two expansions are not full, with rotating the expanding tool against the pipe at approx. 30° and 15°. The third expansion is full.

4 Insert fitting into pipe till the last bead.

5 Using a pressing tool (hydraulic press or hand-operated press) slide ring on pipe.

6 Connection is ready for pressure testing.

Implementation of typical connections with sliding sleeve in **KAN-therm** System



Installation of connectors $\varnothing 12 \times 2$, $\varnothing 14 \times 2$, $\varnothing 18 \times 2$, $\varnothing 18 \times 2,5$



Installation of connectors (opposite side)
 $\varnothing 12 \times 2$, $\varnothing 14 \times 2$, $\varnothing 18 \times 2$, $\varnothing 18 \times 2,5$



Installation of connector $\varnothing 25 \times 3,5$



Installation of connector $\varnothing 32 \times 4,4$



Installation of PPSU elbows and tees
 $\varnothing 12 \times 2$, $\varnothing 14 \times 2$, $\varnothing 18 \times 2$, $\varnothing 18 \times 2,5$



Installation of PPSU elbows and tees $\varnothing 25 \times 3,5$

Implementation of typical connections with sliding sleeve in **KAN-therm** System



Installation of PPSU elbows and tees Ø32×4,4



Installation of GZ and GW pipe connectors
Ø12×2, Ø14×2, Ø18×2, Ø18×2,5



Installation of GZ and GW pipe connectors Ø25×3,5



Installation of GZ and GW pipe connectors Ø32×4,4



Installation of wallplate elbows PPSU



Installation of brazen wallplate elbows

Implementation of typical connections with sliding sleeve in **KAN-therm** System



Installation of connecting element to radiator (series 9027)



Installation of screw joint with sliding ring



Installation of elbows and bracket (single and combined)

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