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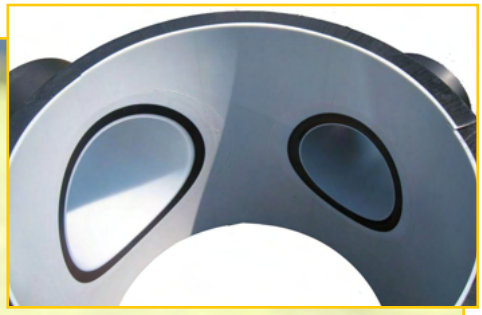
HAS

House connection fitting



Introduction

The Krah pipe system fulfills the highest requirements regarding tightness, long lifetime and installation. These high demands are being strictly and consequently met by the HAS-fitting- a fitting for house service connection.

Suitable for a new installation as well as a later integration in an open construction, the house connection pipes and lateral pipes in diameters DN 150(OD 160 SDR 17,6) and DN 200 (OD 225 SDR17,6) can easily, quickly and economically be jointed to the main pipe out of PE.

The HAS-fitting DN 150 is designed for connection of PE pipes OD 160 SDR 17,6 to all profiled PE pipes with a total wall thickness up to 145mm and to PE solid wall pipes up from OD225 SDR 17,6.

The HAS-fitting DN 200 is designed for connection of PE pipes DA 225 SDR 17,6 to all profiled PE pipes with a total wall thickness up to 145mm and to PE solid wall pipes up from OD355 SDR 17,6.

The advantages at all glance

- No special tools necessary for installation
- Easy and quick assembling
- Suitable for all solid wall and profiled pipes out of PE
- Durably tight thanks to welding
- For immediate use
- High security by automatization
- Shifting security and force absorption thanks to welding of the complete pipe wall
- Robust design
- No inside protruding elements thanks to concave peeling

HAS-fitting OD125

Connection pipe DN/ID110					Main pipe	
HAS-fitting OD125 SDR17,6	Welding depth (mm)	HAS Code No.	OD125, L60	OD125, L85	DN/ID (mm)	total wall thickness (mm)
WT/070.0/126/060	60	HAS125L60	x		from 200	5-55

Welding Device HAS125

Welding device for OD125	Application
HAS-OD125L60 WT/070.0/125/060	All PE pipes from OD225,SDR17,6 until OD1200 and until welding depth of 60 mm

HAS-fitting OD160

Connection pipe DN/ID150					Main pipe	
HAS-ftting OD160, SDR17,6	Welding depth	HAS Code No	OD160 L85	OD160, L145	DN/ID (mm	total wall-thickness (mm)
WT/070.0/161/060	60	HAS160L60	x	x	from 200	5-55
WT/070.0/161/085	85	HAS160L85	x	x	from 200	5-55
WT/070.0/161/110	110	HAS160L110		x	from 600	5-105
WT/070.0/161/145	145	HAS160L145		x	from 600	5-140

Welding device HAS160

Welding device OD160 L85	Application
WT/070.0/160/085	All PE pipes from OD 225,SDR 17,6 until OD 1200 And until welding depth of 85 mm
OD 160 L145 WT/070.0/160/145	All PE pipes from DN/ID600 until welding depth of 145 mm

Welding device OD200

Connection pipe DN/ID180					Main pipe	
HAS-ftting OD200, SDR17,6	Welding depth	HAS Code No	OD160 L85	OD160, L145	DN/ID (mm)	total wall-thickness (mm)
WT/070/0./201/085	85	HAS200L85	x	x	from 300	5-80
WT/070.0/201/145	145	HAS200L145	x	x	from 600	5-140

Welding device OD200

Welding device	Application
OD225 L85 WT070.0/225/085	All PE pipes from OD 355,SDR 17,6 until OD 1200 and until welding depth of 85 mm
OD225 L145 WT/070.0/225/145	All PE pipes from DN/ID 600 until welding depth of 145 mm

HAS-fitting OD225

Connection pipe DN/ID200					Main pipe	
HAS-fitting OD225, SDR17,6	Welding depth	HAS Code No	OD225 L85	OD225, L145	DN/ID (mm)	total wall-thickness (mm)
WT/070.0/226/85	85	HAS200L85	x	x	from 300	5-80
WT/070.0/226/145	145	HAS200L145		x	from 600	5-140

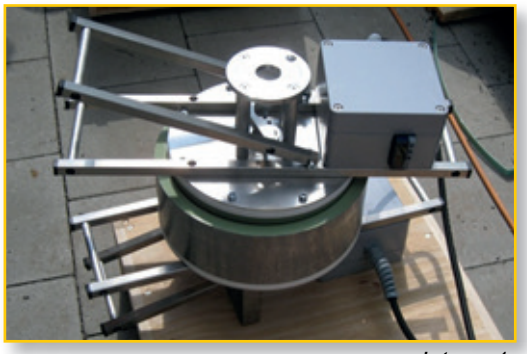
Welding Device OD225

Welding device	Application
OD225 L85 WT070.0/225/085	All PE pipes from OD 355,SDR 17,6 until OD 1200 and until welding depth of 85 mm
OD225 L145 WT/070.0/225/145	All PE pipes from DN/ID 600 Until welding depth of 145 mm

Installation manual for house connection fitting

1. Pre-heating

Connect both heating socket and pin and start the heating. Check the temperature setting. Adjust - if necessary - to 240° C. (Pic. 1)



picture 1

2. Drill hole for fitting of clamping device

For insertion of the clamping device firstly drill a hole with the key-hole-saw (Ø110mm). For profile pipes place the center drill on top of the profile. By working with the keyhole-saw make sure it does not tilt. (Pic. 2)

picture 2

3. Installation of clamping device

The Clamping Device has to be fitted with the appropriate extensions and pressure pads depending on the inner diameter of the pipe. (See last page / table: “Extensions for Clamping Device”). (Pic. 3)

picture 3

4. Insertion and fixing of clamping device

The clamping device has to be inserted through the hole in the pipe and the bracket has to be turned by 90 degrees. By turning the threaded spindle the device is fixed within the pipe. Please make sure that the strap is longitudinal to the pipe axis.

Tip:

Tap slightly against the threaded spindle in order to check the fi-xing of the clamping device.(Pic. 4)

picture 4

picture 5

5. Adjustment of the stop nut

The top edge of the stop nut has to be adjusted at the lever of the outer diameter. The nut has to be fixed on the threaded spindle. (Pic. 5)

Ensure that the nut is properly adjusted as otherwise faulty welds may occur!

picture 6

6. Drill conical hole for the fitting

The milling device has to be pushed along the threaded spindle up to the stop nut.

A conical hole is drilled into the pipe by turning the device clockwise with the hand wheel. The driller has to orbit slowly around the spindle. (Pic. 6)

After milling the device has to be returned to initial position.

picture 7

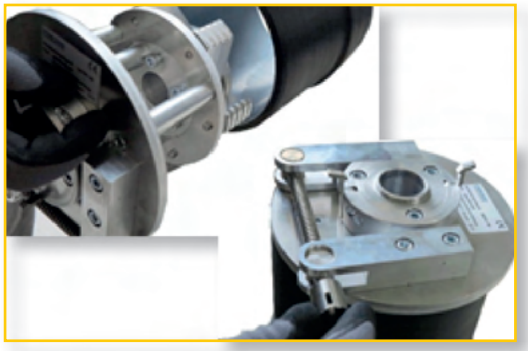
7. Removal of milled section

The milled section has to be removed from the pipe.
Please note that faulty welds may occur in case sections have not been removed properly!
(Pic. 7)

picture 8

8. Preparing of the HAS-fitting for welding

The fittings are aligned to the welding unit and available for maximum welding depths of 60mm or 85mm. Please note, that only with original welding-unit and original HAS-fitting the accuracy is guaranteed and a secure welding is ensured!(Pic. 8)



picture 9

9. Insertion of centering device

The HAS-fitting has to be provided with the centering device.

The centering device has to be inserted in the HAS-fitting up to the stop and then clamped accordingly. (Pic. 9)

Welding process

Heating time

The heating times are calculated as follows:

For PE-profiled pipes:

It is heated with the heating socket always first the HAS-fitting.

[Heating-up time HAS-fitting] = [minimum wall thickness of the inner liner] x 2 + 45 seconds.
[Heating-up time pipe surface] = [minimum wall thickness of the inner liner] x 2 in seconds.

For PE / PP solid wall pipes:

[Heating-up time HAS-fitting] = [wall thickness of the pipe] x 2 + 45 seconds.
[Heating-up time pipe surface] = [wall thickness] x 4 in seconds.

Change over time:

The change over time is the time from pulling out of the heating bolt until joining the HAS-fitting until it stops.

The max. change over time is 10 seconds.

Cooling time:

For PE-profile pipes: [Fixed cooling time] = 90 seconds
[Total cooling time] = 15 minutes

For PE solid wall pipes: [Fixed cooling time] = [wall thickness] x 10 seconds in
[cooling total] = [wall thickness] in minutes

picture 10

10. Heating of the HAS-fitting

The HAS-fitting has to be clamped in the heating-socket up to the stop. It is indicated on the heating lever whether the socket has been inserted properly.

By heating, the fitting adjusts to the heating element and forms a bead. This process takes until the welding-bead has a size of at least 3mm, after that the actual heating-time begins. (Pic. 10)

Please make sure that the HAS-fitting is not pressed in by force!

Please note: Solid wall pipes and Profiles pipes have different heating-times At profiled Pipes the HAS-fitting is heated 45 seconds longer!

picture 11

11. Heating up the joining surface with heating tool

For heating of the welding area the heating tool has to be fixed via quick nut fix up to the stop. (Pic. 11)

Please make sure that the heating element is not pressed in by force. Wait until the material is melted!

It is indicated on the lever if sufficient force has been applied.

Once starting position has been reached the warm-up time for the welding area begins.

picture 12

12. Preparing for joining process – step 1

Remove the clamping nut from heating device just before reaching the required warm-up time. (Pic. 12)

picture 13

13. Preparing for joining process – step 2

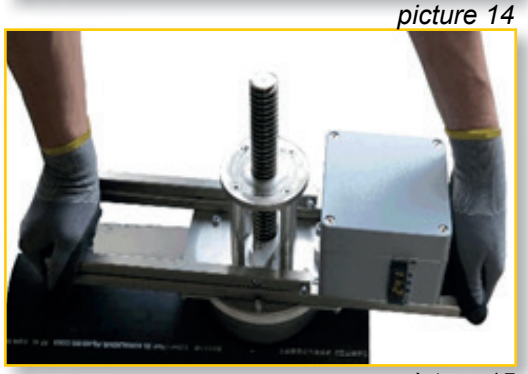
14. Preparing for joining process – step 3

Fix the clamping nut to the clamping device via “click into place”. (Pic. 14)

picture 14

15. Preparing for joining process – step 4

By reaching the required degree of heat the heating tool has to removed which can easily be reached by pulling the lever. (Pic. 15)



picture 15

16. Joining process

The HAS-fitting has to be placed upon the spindled threat and pressed by the quick-release nut into the plastic pipe steadily up to the stop.

Please stop turning by reaching the stop. (Pic. 16)

picture 16

17. Removing clamping device – step 1

The clamping device can be removed after expiration of cooling time. (Pic. 17)

Please proceed as follows:

1. Release the quick-release nut
2. Unscrew the socket centering device
3. Remove quick-release nut and centering device together.

picture 17

18. Removing clamping device – step 2

Thereafter the clamping device has to be unscrewed & removed.

The inner levers of the clamp hit against the protruding HAS-fitting, thus the clamp turns and can be removed. (Pic. 18)

picture 18

picture 19

19. Removal of protruding parts

The protruding part of the HAS-fitting has to be removed during the cool-down period, while it is still warm.

The peeling tool is inserted into the HAS-fitting. (Pic. 19)

picture 20

20. Clamping device

The clamping device has to be clamped within the socket.

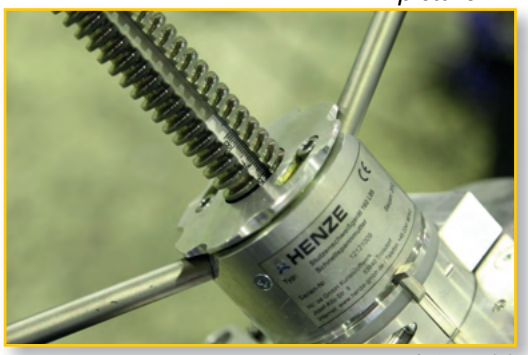
1. Make sure that the cutter head points in direction of the pipe axis. The groove of the threaded spindle has to be positioned crossways to the pipe axis.

2. Pull out the spindle (Pic. 20)

picture 21

21. Measuring profile height

Use the sawed piece of the pipe in order to measure the total height of the profile. (Pic. 21)



picture 22

22. Read-out of cutting tool scale

By turning the clamp nut the cutting tool will tense until the scales, which are located within the grooves, show the thickness of the walls of the main tube. The scale is read-out at the upper edge of the quick-release nut.
The locking of the clamping nut is loosened and turned back to the next groove in order to click into place. The clamping nut is now firmly connected to the cutting unit ready for chip removal. (Pic. 22)

picture 23

23. Peeling off protruding parts

By clockwise rotating the protruding parts of the HAS-fitting are peeled. Please make sure that rotary movement is performed to the right (clockwise). The process is completed when there is no more resistance during rotation. (Pic. 23)

24. Disassembling of peeling tool

Disassemble the peeling tool and check whether the protruding socket has been removed completely. Therefore the locking of the threaded spindle has to be loosened and inducted a little.
Then loose the clamping device. (Pic. 24)

picture 24

25. Disassembling of complete device

Finally the complete unit can be pulled out of the HAS-fitting. (Pic. 25)

picture 25

26. End of installation procedure

picture 26

Extensions for clamping device

Table 3: for extruded pipes acc. to DIN 8074

Outer pipe diameter (OD)	Extension
OD 225	without extension
OD 250	without extension
OD 280	without extension
OD 315	without extension
OD 355	without extension
OD 400	G1 (70 mm)
OD 450	G1 (70 mm)
OD 500	G2 (140 mm)
OD 560	G3 (210 mm)
OD 630	G4 (280 mm)
OD 710	G5 (350 mm)
OD 800	G6 (450 mm)
OD 900	G5+G3 (350 mm+210 mm)
OD 1000	G5+G4 (350 mm+280 mm)
OD 1100	G6+G4 (450 mm+280 mm)
OD 1200	G6+G5 (450 mm+350 mm)
OD 1300	G6+G5+G2 (450 mm+350 mm+140 mm)
OD 1400	G6+G5+G3 (450 mm+350 mm+ 210 mm)
OD 1500	G6+G5+G3 (450 mm+350 mm+280 mm)
OD 1600	G6+G5+G4+G2 (450 mm+350 mm+280 mm+140 mm)

Table 4: for structured wall pipes acc. to DIN 16961

Inner diameter (DN/ID)	Extension
DN/ID 500	G3 (210 mm)
DN/ID 600	G5 (350 mm)
DN/ID 700	G6 (450 mm)
DN/ID 800	G5+G3 (350 mm+210 mm)
DN/ID 900	G6+G3 (450 mm+210 mm)
DN/ID 1000	G6+G5 (450 mm+350 mm)
DN/ID 1100	G6+G5+G2 (450 mm+350 mm+70 mm)
DN/ID 1200	G6+G5+G2 (450 mm+350 mm+140 mm)
DN/ID 1300	G6+G5+G4 (450 mm+350 mm+280 mm)
DN/ID 1400	G6+G5+G4 (450 mm+350 mm+280 mm+70 mm)
DN/ID 1500	G6+G5+G4+G3 (450 mm+350 mm+280 mm+210 mm)

Get more information from your local Krah Pipe producer:

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With reservation for technical modification (01/2020)