VSH PowerPress

C9408 bend 90°

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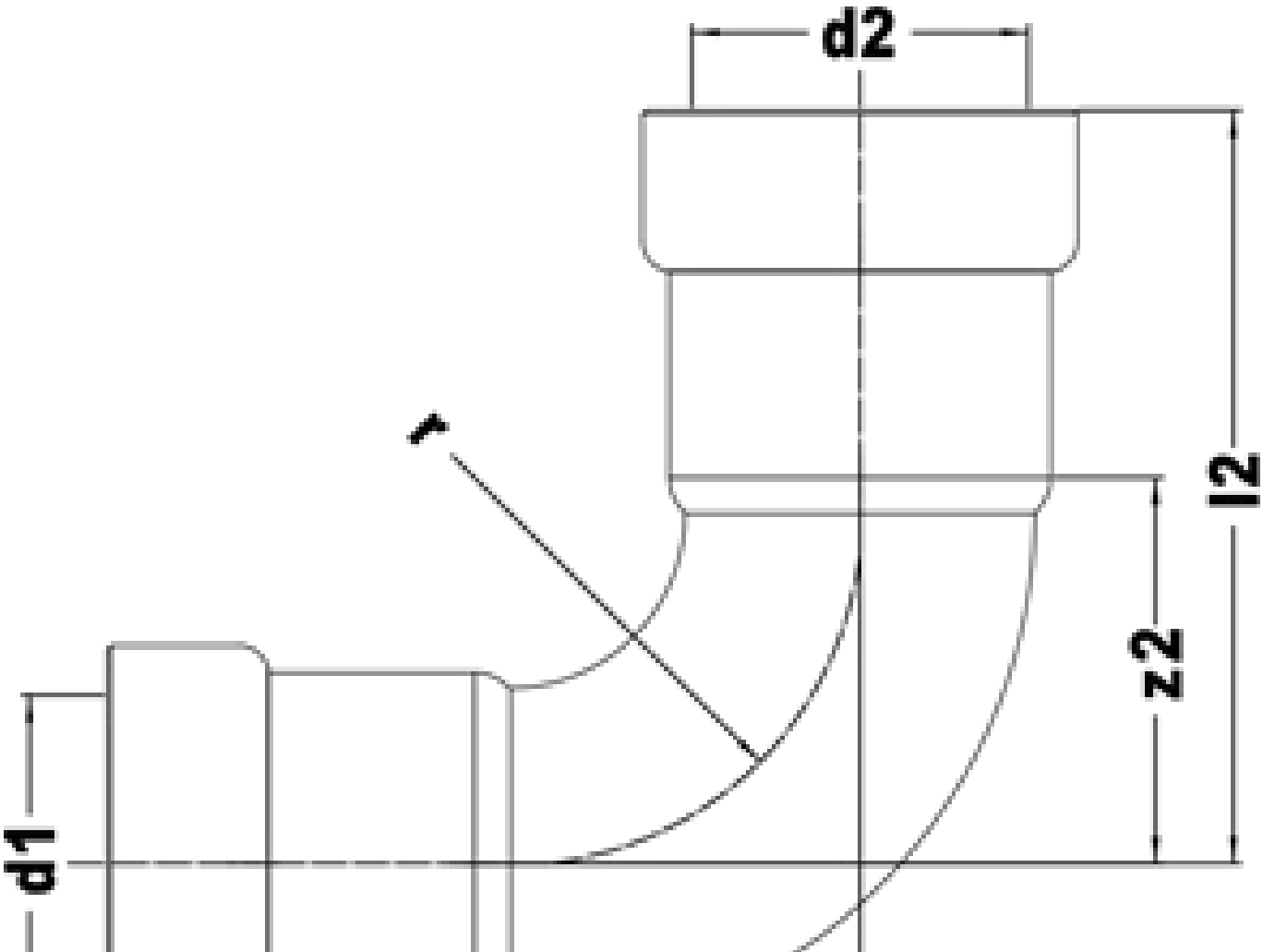


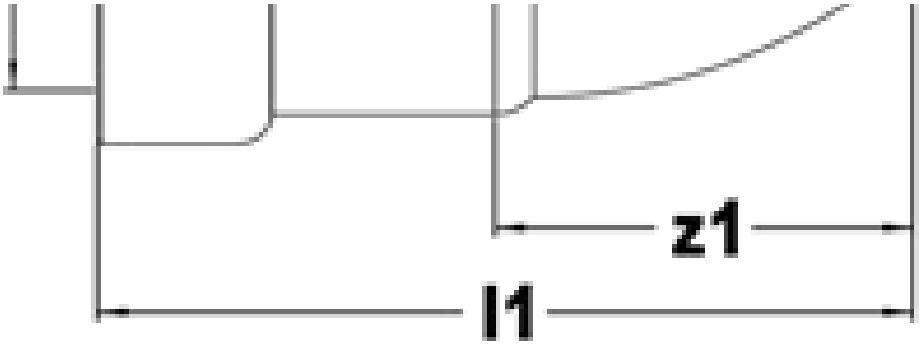
[General Information]

Size	Pattern No.	Pack 1 Qty	Pack 2 Qty	Code	Barcode	Price (£) each ex VAT
1/2"	C9408	10	20	PWR9400006	8711985467659	£15.19
3/4"	C9408	10	20	PWR9400017	8711985467666	£17.01
1"	C9408	5	10	PWR9400028	8711985467673	£20.57
1 1/4"	C9408	1	4	PWR9400039	8711985467680	£30.88
1 1/2"	C9408	1	4	PWR9400041	8711985467697	£34.91
2"	C9408	1	3	PWR9400050	8711985467703	£58.72

Code	Description	d1	D1	d2	D2	DN1	DN2	es1	es2	L1	L2	Vb	Vh	Vl	z1	Z1	z2	Z2
PWR9400006	VSH PowerPress bend 90° FF 1/2"	21	32	21	32	DN15	DN15	28	28	55	55	71	32	71	27	27	27	27
PWR9400017	VSH PowerPress bend 90° FF 3/4"	27	38	27	38	DN20	DN20	31	31	63	63	82	38	82	32	32	32	32
PWR9400028	VSH PowerPress bend 90° FF 1"	34	45	34	45	DN25	DN25	36	36	76	76	99	46	99	40	40	40	40
PWR9400039	VSH PowerPress bend 90° FF 1 1/4"	42	56	42	56	DN32	DN32	48	48	97	97	125	56	125	49	49	49	49
PWR9400041	VSH PowerPress bend 90° FF 1 1/2"	48	62	48	62	DN40	DN40	49	49	103	103	134	62	134	54	54	54	54
PWR9400050	VSH PowerPress bend 90° FF 2"	60	74	60	74	DN50	DN50	53	53	122	122	158	74	158	69	69	69	69

Pegler Yorkshire reserve the right to change specifications





Guarantee

Valves and Fittings

Pegler Yorkshire Customcare 5 Year Guarantee - Terms and Conditions

Products are subject to a 5 year guarantee that is between Pegler Yorkshire and the final purchaser of the product.

The guarantee is subject to proof of purchase being supplied.

This guarantee does not affect any statutory rights the consumer may have in law.

The guarantee covers manufacturing or material defects and does not cover parts subject to normal wear and tear.

This product range has been designed for the use of homeowners, domestic and commercial applications and therefore the guarantee is subject to the product being properly selected for their intended service conditions.

The guarantee is not applicable where the product is fitted contrary to the conditions in the fitting instructions.

This is reinforced where valves are covered by the European Pressure Equipment Directive (PED97/23/EC) where Installation, Operating and Maintenance Instructions are supplied with each product and/or carton.

Provided it is installed correctly and receives adequate preventative maintenance it should give years of trouble –free service.

Abusive behaviour and accidental damage to the product are not covered by this guarantee.

The extent of this liability is limited to the cost of the replacement of the defective item and not to fitting or consequential damages.

Materials

Component	Material
Material Connection 1	Steel
Material Connection 2	Steel

installation instructions

When installing VSH PowerPress always make sure to take proper care in using protective gear on the building site. Safety shoes, hat and glasses should be the minimum of protection when installing VSH PowerPress.

1. transport and storage



When transporting and storing VSH PowerPress fittings or valves, damage and contamination must be avoided. The optimal storage temperature for the fittings is between 10°C and 25°C. The products must be stored in a dry place (max. humidity 65%) in their original packaging. It is advised to not remove the product from the bag before installing.

2. cut the pipe to length

After measuring, the pipes can be cut to length using a pipe cutter, a fine-toothed handsaw or an electrical mechanical saw suitable for the pipe material. The pipe must always be cut completely through. Never partially cut the pipe and break it off as this could cause leakage. When cutting already installed pipes, always take into account a minimum distance to weldings and bends of 3 x d (but minimal 100 mm). Do not use oil-cooled saws, grinding wheels or flame cutters.

3. deburring the pipe

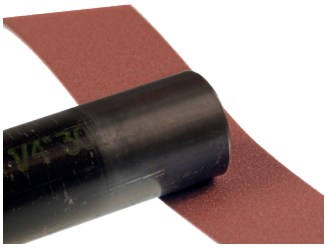


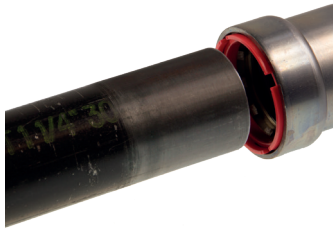
Pipe ends must be carefully and thoroughly deburred in and outside after being cut to length in order to avoid damage to the “O” ring when inserting the pipe into the press fitting. A file or hand deburrer or an electrical pipe deburrer suitable for the material may be used to deburr both inside and outside of the pipe. Burrs sticking to the pipe must be removed.

4. cleaning the outside of the pipe

Always ensure that any dirt, scale, excessive paint or corrosion particles are removed from the surface of the pipe. This can be done with a wire brush or fine grit sand paper.

The pipe surface of the pipe must be smooth, free of indentations, pits and deformations and must be free of oil and grease.





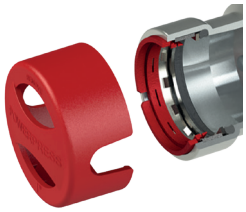
5. marking insertion depth



The required insertion depth must be marked on the pipe or the press fitting (the latter for fittings with pipe ends) in order to guarantee a safe and proper joint. The pressing operation behind the bead is of crucial importance for the tensile strength.

The marking on the pipe must remain visible (but close to the fitting) after the connection is pressed to identify any movement before or after pressing.

6. checking the fitting and pipe



Before assembly, the protective cap has to be taken from the fitting after which the fitting must be checked to ensure that the “O” rings are present and correctly positioned. Pipe, fitting and “O” ring must be examined for any foreign materials (e.g. dirt, burrs), which must be removed, if present. Please make sure that the Visu-Control® ring is properly aligned before pressing.

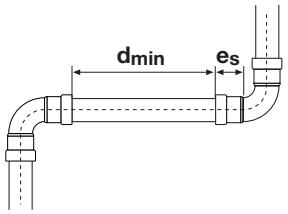
7. assembly of fitting and pipe



Insert the pipe carefully into the press fitting up to the marked insertion depth, without tilting, pushing it in the direction of the axis.

The insertion depth marking must remain visible. In the case of fittings without a stop the fittings should be inserted at least as far as the marked insertion depth. Rough and careless insertion of the pipe into the press fitting may result in damage to the “O” ring and is therefore not permitted.

If assembly is difficult because of the permitted tolerances in size, a lubricant, such as water or soap, may be used. Under no circumstances may oils, fats or grease be used as lubricants.



To optimise the installation time, time may be saved by first assembling a number of connections and then pressing the various pipe connections one after the other.

Marking the distance (dmin) provides a check that the pipe has not been pushed out of the fitting during the pressing process. Before starting the final pressing process of the various pipe connections, it is also important to check the minimum required distances for the installation (see table 1).

table 1

Outside Ø	Insertion depth es (mm)	Minimum distance d_{min} (mm)	Minimum pipe length2 x es + d_{min} (mm)
½"	28	5/15	61/71
¾"	31	5/15	67/71
1"	36	5	77
1 ¼"	48	10/15*	106/111*
1 ½"	49	10/15*	108/113*
2"	53	10/15*	116/121*

Minimum distances between pressings (*for slings).

Table 2 below gives the minimum required working space so that the pressing of the fittings can be carried out correctly using the appropriate press tools. These distances relate to the general installation configurations that are schematically depicted in figures 1, 2 and 3.

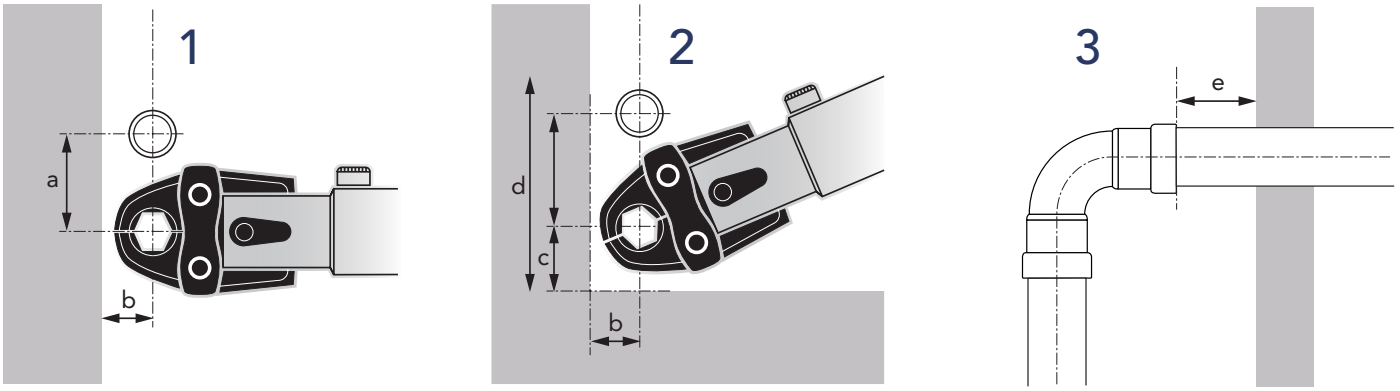


table 2

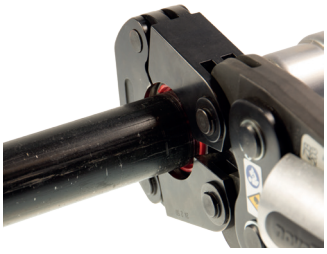
	Fig. 1		Fig. 2			Fig. 3
Outside Ø	a (mm)	b (mm)	d (mm)	b (mm)	c (mm)	e (mm)
½"	70/75	30/60	80/75	35/60	50/80	50/20
¾"	80/85	35/65	90/85	40/65	55/80	50/20
1"	95	45	105	50	65	50
1 ¼"	125*	65*	125*	95*	80*	20*
1 ½"	135*	105*	135*	105*	80*	20*
2"	140*	105*	140*	105*	80*	20*

Space needed for installation (*for slings).

pressing
Before starting to press, the press jaws and slings must be checked for dirt, which must be removed if present. Furthermore, the press machine must be in good condition and the instructions for operating the device, maintenance and the manufacturer's instructions must be observed.

In order to create a correctly pressed connection, the groove of the press tool must enclose the press fitting "O" ring bead. Once the pressing has started, always complete the press cycle and under no circumstances interrupt the process. The approved machine, press jaws and press slings are shown on our online toolselector: **www.vsh.eu/presstool.**

it is not permitted to press a connection more than once
The pressing process can cause deflection (angular displacement). This behaviour can be corrected by alternating the position of the press tool/jaw on each connection. As an example you could choose to place the machine first left, then for the next connection the machine would be placed on the right side. The deflection of the joint is not something which can be prevented, but it can be minimized using the above method.





further details

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Pipe Fittings

These fittings are suitable for interconnecting piping, valves and other components in both wet and dry automatic sprinkler systems. Installation should be according to applicable sprinkler system fabrication rules. These rules limit the minimum size of sprinkler piping to 1 in., nominal. FM Approved pipe fittings of smaller sizes are intended for use as valve trim, gauge connections, and for other peripheral service. The water flow path of the sprinkler system cannot be designed using smaller sizes than 1 in., nominal. Unless otherwise noted in the listing, these fittings have 175 psi (1205 kPa) rated working pressure.

Threaded connections on fittings can be made to FM Approved threadable thinwall pipe or to Schedule 40 pipe. Refer to the "Steel Pipe" listings for a summary of the various types of FM Approved steel pipe suitable for threading or grooving."

The fittings manufacturer's installation instructions must be observed in all cases. When connections are made to FM Approved pipe, the pipe manufacturer's installation instructions must also be followed.

Unless otherwise stated below, the maximum ambient temperature to which these fittings should be subjected is 225°F (107°C).

Compression Type

These fittings are designed to be assembled onto plain end pipe with a compression tool. Unless otherwise specified in the listing the fittings are Approved for use with Schedule 5 steel pipe. The fittings are suitable for use in aboveground sprinkler systems only. The assembled system of pipe and compression fittings is considered rigid.

VSH PowerPress Press-Fit Pipe Fittings

Product Designation	*Fitting Description*	*Nominal Pipe Size, Inch*	*Rated Working Pressure, psi (kPa)*	*Remarks*
C9414	Equal Tee P x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9408	90° Elbow P x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9411	90° Elbow P x F	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9413	45° Elbow P x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9412	45° Elbow P x F	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9418	Reducing Tee P x P x P	3/4 x 3/4 x 1/2 1 x 1 x 1/2, 3/4 1-1/4 x 1-1/4 x ½, x 3/4, 1 1-1/2 x 1-1/2 x 1/2, 3/4, 1, 1-1/4 2 x 2 x 1/2, 3/4, 1, 1-1/4, 1-1/2	175 (1205)	a, b, c, d
C9415	Reducing Tee P x P x F	3/4 x 3/4 x 1/2 1 x 1 x 1/2, 3/4 1-1/4 x 1-1/4 x ½, 3/4, 1 1-1/2 x 1-1/2 x 1/2, 3/4, 1, 1-1/4 2 x 2 x 1/2, 3/4, 1, 1-1/4, 1-1/2	175 (1205)	a, b, c, d
C9429	End Cap	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9407	Reducer P x P	3/4 x 1/2 1 x 1/2	175 (1205)	a, b, c, d
C9439	Reducer P x P	3/4 x 1/2 1 x 1/2, 3/4 1-1/4 x ½, x 3/4, x 1 1-1/2 x ½, x 3/4, 1, 1-1/4 2 x x ½, x 3/4, 1, 1-1/4, 1-1/2	175 (1205)	a, b, c, d
C9426	Flange Adapter FL x P	1 ¼ x DN32, 1 ½ x DN40, 2 x DN50	175 (1205)	a, b, c, d
C9427	Flange Adapter FL x P	1 ¼ x DN32, 1 ½ x DN40, 2 x DN50	175 (1205)	a, b, c, d
7434	Union	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9435	Straight Union	1/2, 3/4, 1, 1-1/4,	175 (1205)	a, b, c, d

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C9401	Adapter M x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9402	Adapter F x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9403	Adapter F x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9405	Adapter F x P	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	175 (1205)	a, b, c, d
C9420	Reducing Adapter F x P	3/4 x 1/2 1 x 1/2, 3/4 1-1/4 x 1/2, 3/4, 1 1-1/2 x 1/2, 3/4, 1, 1-1/4 2 x 1/2, 3/4, 1, 1-1/4, 1-1/2	175 (1205)	a, b, c, d
C9440	Straight Connector P x P	½ x 15mm, ¾ x 15mm, 1 x 15mm, 1 x 28mm, 1-1/4 x 35mm, 1-1/2 x 42mm, 2 x 54mm	175 (1205)	a, b, c, d
C9441	XPR Straight Connector P x P	½ x 15mm, ¾ x 15mm, ¾ x 22mm, 1 x 15mm, 1 x 28mm, 1-1/4 x 35mm, 1-1/2 x 42mm, 2 x 54mm	175 (1205)	a, b, c, d
C9446	Coupling with Nut	½ x ¾, ¾ x 1, 1 x 1 ¼, 1 x 1 ½, 1 ¼ x 1 ½, 1 ¼ x 2	175 (1205)	a, b, c, d
C9448	Groove Connector	1 x 33.7mm, 1 ¼ x 42.4mm, 1 ½ x 48.3mm, 2 x 6.3mm	175 (1205)	a, b, c, d

P = Press Joint, F = Female Thread, FL = Flange, M = Male Thread, G = Grooved End

Remarks
a. FM Approved for use with Schedule 10 pipe in wet pipe sprinkler systems in sizes ½ through 2 inch NPS.
b. FM Approved for use with Schedule 40 pipe in wet pipe sprinkler systems in sizes ½ through 2 inch NPS.
c. FM Approved for use with R/Rp thread type
d. FM Approved for use with EN10255 Medium pipe and EN10255 Heavy pipe in wet pipe sprinkler systems in sizes ½ through 2 inch NPS.

Company Name:	VSH Fittings B. V.
Company Address:	Oude Amersfoortseweg 99, 1212 AA Hilversum, Box 498, 1200 AL Hilversum, The Netherlands
Company Website:	http://vsh-fittings.com
New/Updated Product Listing:	No
Listing Country:	Netherlands
Certification Type:	FM Approved
Class of Work:	1920-Coupling & Fitting, All Type

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