

# VDA system for conducts of fluids under pressure

Polymer alloy pipes (PVC-A) for water transport systems in accordance with the technical specification **KQ KIWA QUALITY KIP-105133**, which fully implements **BS PAS 27:1999**, with Ministerial Health Circular **no. 102 of 02/12/1978 - D.M. n°174 of 04/06/2004** "Regulation concerning the materials and objects that can be used in fixed systems for the collection, treatment, supply and distribution of water intended for human consumption" and the **UNI EN 1622** standard (Odor and taste threshold ).

Color **RAL 5010**.

The VDA Lareter is **EPD** (Environmental Product Declaration) certified in accordance with **EN 15804+A2 & ISO 14025 / ISO 21930**, a certification that describes the environmental performance linked to the Life Cycle of the product.

VDA lines are produced in Lareter, a company with a quality system compliant with the standards:

- UNI EN ISO 9001**
- UNI EN ISO 14001**
- ISO 45001**



**KQ KIWA QUALITY KIP-105133**

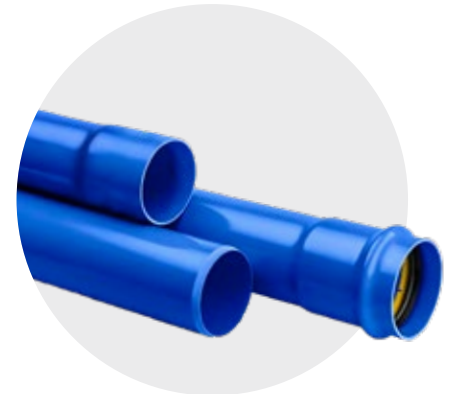


**EPD HUB, HUB-1151**

## Size range according to KIWA approval TD-KI0410 Annex K75 Based on the requests of bs Pas 27

OD Ø est. (mm)	Thikness (mm)					Lb (mm) Forsheda Ring	Packaging	
	PN 8	PN 10	PN 12,5	PN 16	PN 20		Pipes x Pallet	Pallet Height
50	-	-	2,4	3,0	3,9	6.000	194	110
63	-	2,1	2,9	3,2	4,7	6.000	123	110
75	-	2,3	2,9	3,7	5,6	6.000	87	120
90	2,6	2,6	3,1	4,0	5,9**	6.000	96	130
110	2,7	3,1	3,8	4,9	6,0	6.000	57	130
125	3,1	3,5	4,8	5,5	6,8**	6.000	51	150
140	3,5	3,9	5,4	6,2	7,6	6.000	45	160
160	3,6	4,5	5,6	7,0	8,7	6.000	33	165
200	4,5	5,6	6,9	8,8	11,5	6.000	20	180
225	5,5	6,3	8,6	9,9**	12,2**	6.000	18	200
250	5,6	7,0	9,2	11,0	13,6**	6.000	12	210
280	6,9	7,8	10,7	12,3	15,2**	6.000	11	210
315	7,1	8,8	10,9	13,8	17,1	6.000	9	230
355	8,5**	9,9	12,3**	15,6	-	6.000	6	250
400	9,4	11,2	15,0	17,5	-	6.000	5	250
500	11,9	13,9	19,1	21,9	-	6.000	2	255

\* Solvent cementing only \*\*Upon request \*\*\*Socket lenght



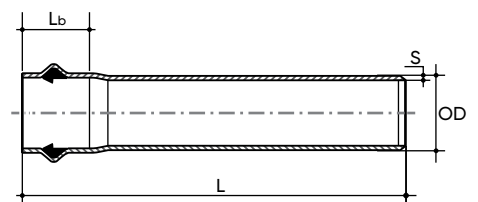
### The advantages of the VDA tube:

**Reduced weight:** VDA is 25% lighter than a Polyethylene pipe of the same PN.

**Easy assembly:** Higher installation rate than other types of pipe, manual assembly without specific tools.

**Better mechanical characteristics:** the VDA alloy combines the rigidity of PVC with the ductility of HDPE, guaranteeing high impact resistance.

**Better efficiency:** lower pressure drop and less pumping energy required for operation thanks to the larger internal diameter of the pipes.



### Below a few notes about the packaging:

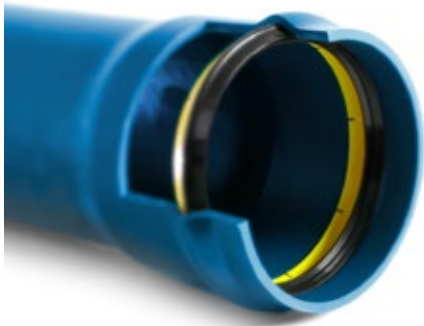
- Packaging width is always 1200 mm;
- Packaging lenght is equal to pipelenght plus 200 mm for pipes withring (for plain pipes there isn't theincrease of 200 mm);
- Packaging height depends from the external diameter as shown in the last column.

**Concerning Lb, a small tolerance must be considered:**

- ± 2 mm until Ø 110;
- ± 4 mm for the other pipes.
- ± 4 mm per tutti gli altri tubi.

## Connection

### Rubber ring socket type Forsheda 601 POWER-LOCK®



#### Description

This is an integrated sealing system for plastic pressure pipes consisting of:

- A flexible rubber element to seal effectively spigot and socket;
- A polypropylene reinforcement element, bonded to the rubber, which holds the seal firmly in place.

#### Its main advantages are the following:

- **Joint reliability:** less reject rate, minimal risk of seal displacement, high seal performance;
- **Low assembly forces:** saving in pipe assembly and manpower, no special machines needed;
- **Deflection Capability up to 3°:** minimal risk of incident, complaint and pipe displacement.

## Physical and mechanical characteristics

Properties	Values	Unit	Methods
Raw material used	First choice PVC	-	BS-PAS27
Stabilizers	OBS (organic nature)	-	BS-PAS27
Additives	According to legislative provisions for contact with drinking water	-	BS-PAS27
Longitudinal stresses (shrinkages)	< 5	%	BS-PAS27 - ISO 2505
Flame resistance	Self-extinguishing	-	-
Softening temperature (TVicat)	> 80	C°	BS-PAS27 - ISO 2507
Impact resistance (TIR)	< 5 to 0 C°	%	BS-PAS27 - EN 744
Yield load	> 40	Mpa	BS-PAS27 - EN ISO 6259
Appearance	Smooth inner and outer surface without irregularities	-	BS-PAS27
Degree of gelling	Resistant to dichloromethane	-	BS-PAS27
Short-term hydrostatic resistance	none	1h / 20 °C	BS-PAS27
Color	Blue RAL 5010	-	BS-PAS27 - UNI EN ISO 1452-2
Opacity (light transmission)	< 2	%	BS-PAS27
Junction	Socket with pre-inserted seal	-	-
Pipe length	6	m	-

## Working pressure

The operating pressures vary according to the temperatures ( $T_{max} = 60^{\circ}C$ ) as indicated in the following table.

Temperature (°C)	WORKING PRESSURE (bar)				
	PN 8	PN 10	PN 12,5	PN 16	PN 20
20	6	10	12,5	16	20
40	5	6	7	8	10
60	-	2	2	3	3

## Correspondence between nominal pressure and ring rigidity

Lareter VDA pressure pipe can be suitable to drain back fluids.

In this case the mechanical quantity is Ring Rigidity SN (KN/m<sup>2</sup>).

Standard	Values				
PN (bar)	8	10	12,5	16	20
SN (KN/m <sup>2</sup> )	3	5	10	20	40