TIGRE

Line Cold Water

Technical Catalog and Products

Grupo TIGRE

A better world is in the making.

A BETTER TOMORROW FOR EVERYONE. THIS IS OUR BRAND IN THE WORLD.

Each of our actions or our products has a single goal: to build a better world for all.

Better for our professionals who, united and guided by solid values, create innovative solutions to transform reality and people's lives.

Better for our customers, who receive the technology and trust that only a market-leading brand for decades can offer.

And better for the planet, which has every drop of its most precious natural resource respected and preserved with all affection.

Today, we are an admired multinational worldwide, with 24 manufacturing units (10 in Brazil and 14 abroad), present in more than 40 countries. All this done by more than 5,000 dedicated and passionate employees.

These numbers fill us with pride, but what really inspires us is knowing that a better world is at work.

And if it depends on Tigre, he will be better and better for everyone.

Our solutions

When it comes to building or renovating, count on Tigre! More than 75 years of history and innovation with a complete line of products for each stage of your project. After all, as important as a pioneering and transformative stance, it is to bring to the homes of millions of Brazilians solutions that guarantee tranquility and comfort. Whether for home renovation, collective, industrial and building works, real estate and artistic painting, sanitary metals, drainage projects, basic sanitation, agriculture, mining, among other applications, Tigre products guarantee innovative solutions ranging from infrastructure to finishing. And the best part: they are easy to install and very safe.

- Water
- Sewage
- Drainage
- Accessories
- Electrical
- Painting Tools - Real Estate
- Painting Tools - Artistic
- Industry
- Irrigation
- Infrastructure
- Fire Fighting System
- Residential Gas

Summary

Weldable

COLD WATER

1. Weldable

Tigre offers the most complete line for cold water installations. The weldable pipes and fittings are joined by means of plastic adhesive, which does not require the use of special equipment. They are lightweight, easy to handle and can be used in all types and patterns of work: residential, commercial and industrial.

1.1. Function/Application

Conduct cold water in building systems. It can be used in all types and standards of work: residential, commercial and industrial. Withstands service pressure up to 75 m.c.a.

1.2. Benefícios e Diferenciais

Ease of Installation
Simple and intuitive installation that uses only the use of adhesive and dispenses with the use of tools and other accessories to attach the connection to the pipe.

Better fluidity and purity in water conduction
Oxidation-free material that prevents the formation of internal incrustations in the pipe, ensuring less head loss and preventing the release of waste into the water.

High strength
The product line meets all regulatory requirements, ensuring performance after installation.

Durability
It has a service life of 50 years.

Tradition
Products with the quality of the TIGRE brand, a pioneer in PVC hydraulic systems.

1.3. Technical Characteristics

Material: The raw material used for the manufacture of weldable pipes and fittings is PVC Polyvinyl chloride).

Color: Brown.

Maximum working temperature: 20 °C.

Gauges: Solderable pipes and fittings are available in diameters of 20, 25, 32, 40, 50, 60, 75, 85 and 110 mm.

Working pressure (at 20°C):
- Pipes: 7.5 kgf/cm2 (75 m.c.a.).
- Fittings between 20 mm and 50 mm: 7.5 kgf/cm2 (75 m.c.a.).
- Fittings between 60 mm and 110 mm: 10.0 kgf/cm2 (100 mca).

Pocket-tip pipes: Pipes supplied in 3 m or 6 m bars.

Below, see the list of reference standards that govern the manufacture of the Weldable Line and that ensure excellent performance, providing a high degree of safety to the facilities.

REFERENCE TECHNICAL STANDARDS	
NBR 5648	Cold water building systems PVC pipes and fittings 6.3, PN 750 kPa with weldable joint.
NBR 5626	Cold Water Building Installation.

1.4. Installation

1 Cut the non-square pipe and sand the surfaces to be welded. Note that the fitting must be quite tight, almost impractical without the adhesive, as without pressure welding is not established.

2 Clean sanded surfaces with TIGRE Preparing Solution, eliminating impurities and greases.

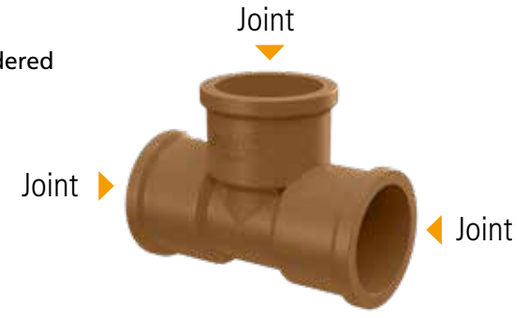
3 Evenly distribute the adhesive with a brush or with the nozzle of the tube itself on the bags and tips to be welded. Avoid excessive adhesive (follow recommendations presented in table 1).

4 Fit at once the ends to be welded, promoting, while fitting, a slight rotation movement of 1/4 turn between the parts, until they reach the definitive position. Remove excess adhesive and wait 1 hour to fill the water pipe and 12 hours to do the pressure test.

1.4.1. Plastic Adhesive Consumption and Preparing Solution

The consumption of plastic adhesive and preparer solution depends on the number of bags to be welded. Each pouch represents what is called a "gasket."

For pipes, 1 joint is considered
For elbows, 2 joints
For the tees, 3 joints



Before acquiring them, it is necessary to correctly calculate the quantity that will be used. For this, see the following table:

Table 1 - Consumption of Plastic Adhesive and Preparing Solution

	Adhesive (g/gasket)		Sol. Preparer (cm³/joint)	
Gauge (DN)	Tip Pipe Bag	Tip Connection Bag	Tip Pipe Bag	Tip Connection Bag
20	2,0	1,0	3,0	2,0
25	2,0	1,0	3,0	2,0
32	3,0	2,0	3,0	3,0
40	4,0	3,0	4,0	3,0
50	4,0	3,0	6,0	4,0
60	5,0	4,0	10,0	4,0
75	13,0	5,0	11,0	7,0
85	15,0	6,0	14,0	8,0
110	17,0	15,0	17,0	8,0

1.5. Maintenance

To solve problems that occur in the pipes in installations already completed, as a result of small accidents (holes by nails or holes), or leaks in poorly executed joints, TIGRE offers the sliding sleeve. For repair, proceed as follows:

1. Identify the damaged location.

2. Cut off the damaged site and replace with a new section of pipe.

3. Make the union using two sliding sleeves, one at each end of the new stretch.

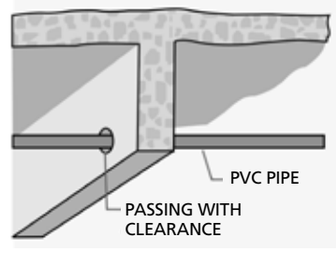
For installation of the sliding sleeves, the use of lubricating paste is recommended.

Important:
Do not use plastic adhesive on the sliding sleeves, as the seal is through the rubber ring.

1.6. Instructions

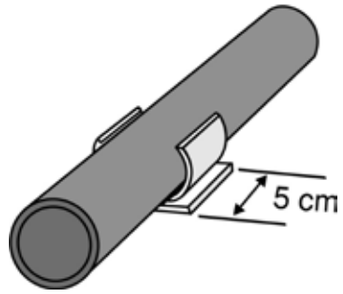
1.6.1. Embedded Facilities

The facilities shall allow easy access for any need for repair and shall not impair the stability of the construction. The pipe should not be solidary to the structure of the construction, and there should be clearance around the pipe in the crossings of structures or walls, to avoid damage to the pipe in the event of any settlements (lowering of the earth or wall after the construction of the work).



1.6.2. Apparent Installations

In the apparent installations, the pipes must be fixed with clamps with smooth and wide internal surfaces, with a contact length of at least 5 cm, hugging the pipe almost completely (at an angle of 180°).



The following spacing must be obeyed in the horizontal position:

Table 2 - Maximum Spacing Between Clamps for Weldable Pipes

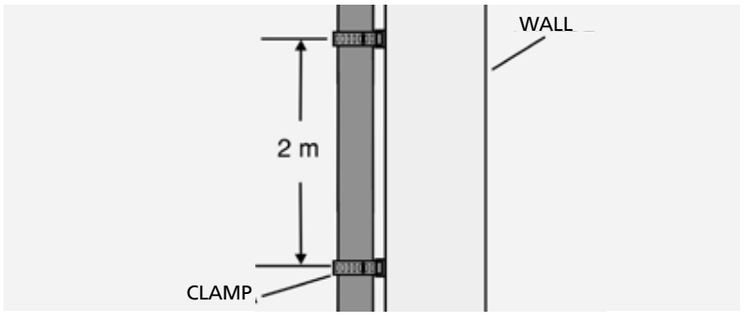
Gauge DE (mm)	Weldable Pipes (m)
20	0,9
25	1,0
32	1,1
40	1,3
50	1,5
60	1,7
75	1,9
85	2,1
110	2,5

Table 3 - Maximum Spacing Between Clamps for Threadable Pipes

Gauges DE (pol)	Threadable Pipes (m)
1/2″	1,0
3/4"	1,1
1"	1,3
1 1/4"	1,5
1 1/2"	1,6
2"	1,8
2 1/2"	2,0
3"	2,1
4"	2,4
5"	2,7
6"	2,8

For pipes in an upright position, a support (clamp) must be placed every 2 meters. The supports should always be as close as possible to the changes of direction (curves, tees, etc.).

In a support system, only one should be fixed to the pipe, the others should allow the pipe to move freely, due to the effect of thermal expansion.



1.6.3. Buried Facilities

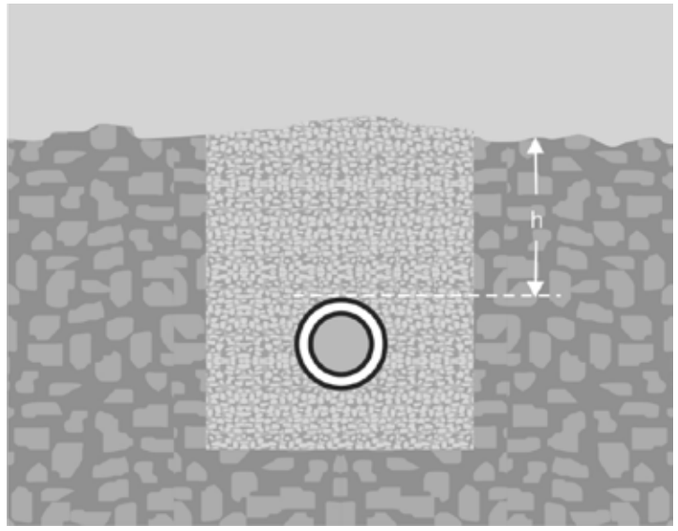
Pipes must be seated on resistant ground or on an appropriate base, free of debris or sharp materials. The bottom of the trench should be uniform. When it is necessary to regularize it, use sand or granular material.

Once the pipe is placed on its bed, fill the sides with the indicated material, manually compacting it in layers of 10 cm to 15 cm until it reaches the height of the top of the pipe. Complete the placement of the material up to 30 cm above the top of the pipe.

The following is a table of minimum seating depth according to the loads:

Table 4 - Minimum Settlement Depth According to Loads

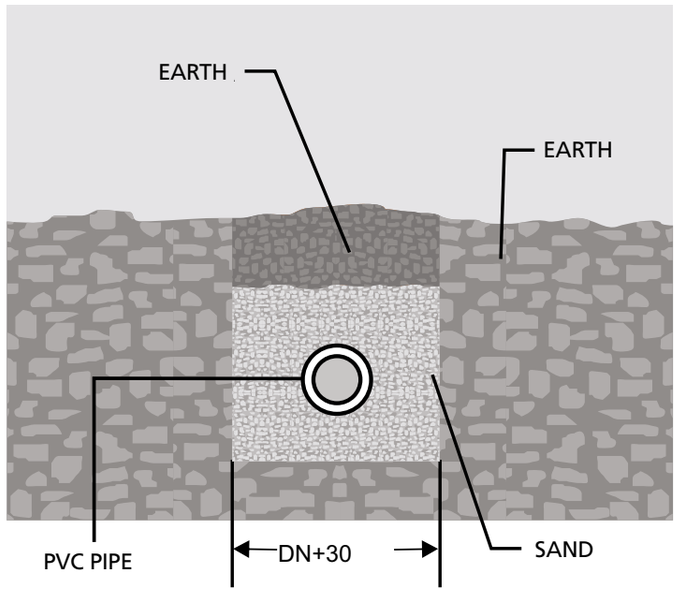
Loads	Depth “h” (m)
Batch interior	0,30
Passenger	0,60
Light vehicle traffic	0,80
Heavy and intense traffic	1,20
Rail	1,50



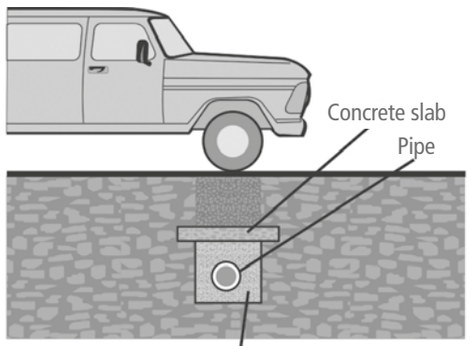
It is recommended that the width of the trench to be opened to carry out the laying of the piping be:

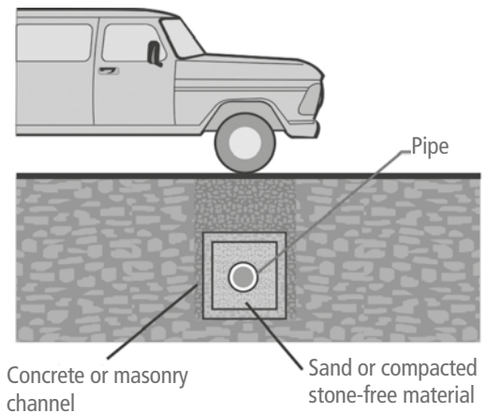
DN + 30 cm

For example, if you have a pipe with DN 110 (11 cm), you will have to open a ditch of 11 + 30 = 41 centimeters.



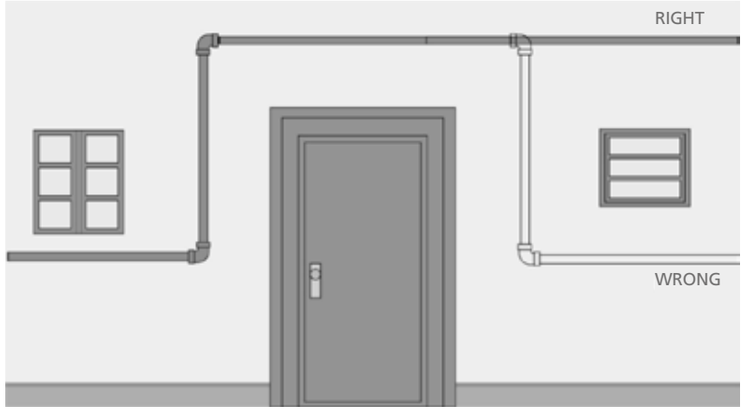
If it is not possible to perform the minimum covering, or if the piping is subject to wheel load, strong compressions or even located under a built-up area, there must be adequate protection, using concrete slabs or channels that prevent the action of these efforts on the piping.





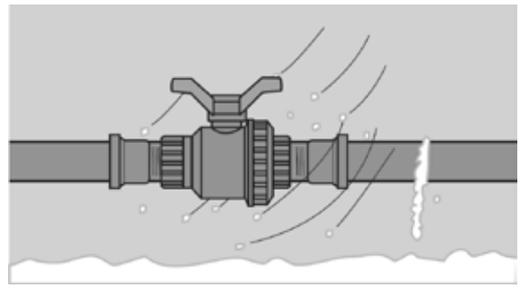
1.6.4. Transposition of Elements of the Work

The piping layout will eventually need to bypass doors and windows. These deviations should not be siphon-shaped, as this format causes the incidence of air in the piping, impairing the performance of the installation in cases of lack of water supply. Always use a straight line, as shown in the illustration:



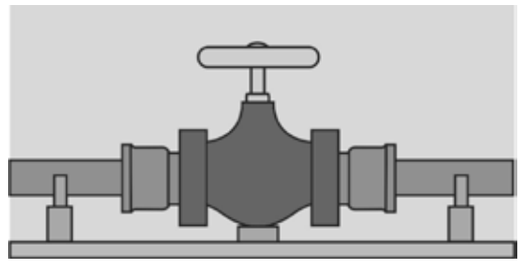
1.6.5. Freezing

In regions subject to water freezing, some measures must be taken to avoid the risk of pipe breaks (when frozen, the water increases in volume). One of the measures is to make thermal insulation of the piping, or even empty it.



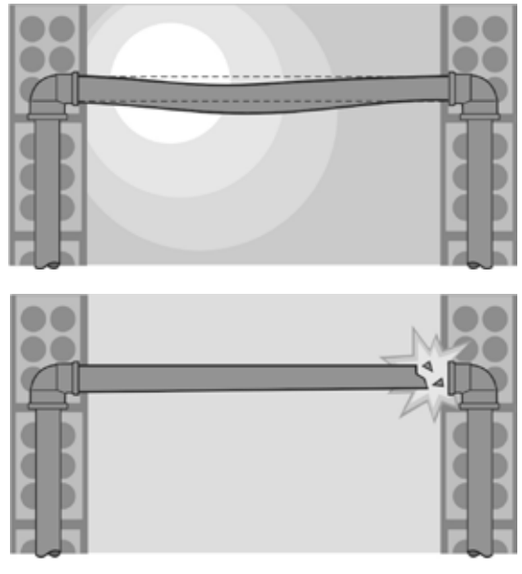
1.6.6. Concentrated Weights

The heavier fittings, coupled to the apparent pipelines, must always be supported to prevent them from forcing the piping.

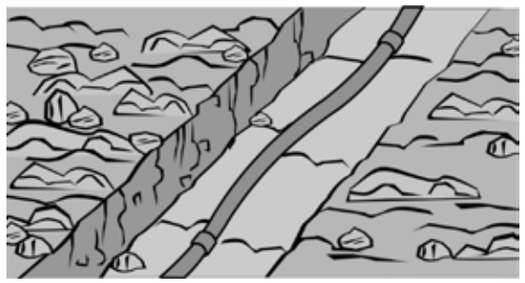


1.6.7. Thermal Expansion

When the size of a material increases due to temperature variations, it is said that it thermally expands, with a PVC pipe this phenomenon also happens.

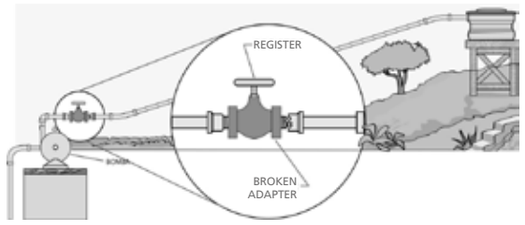


Therefore, certain precautions are necessary: in long stretches of buried pipes, it is recommended that the pipe be installed in a "snake" shape, that is, not very aligned, because in this form there is greater flexibility to absorb possible dilations.



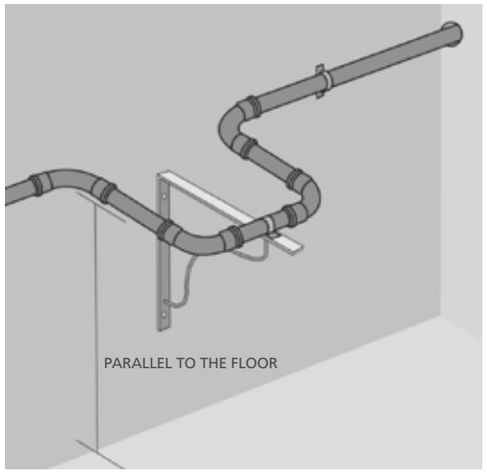
For example: imagine that a weldable PVC net was assembled on a hot sunny afternoon, to connect a pump to a water tank 500 meters away. After finishing the service, the plumber waits until the next day to start the pump. The ditches were open. The pipe was placed well aligned, straight.

The other day, at the pump outlet valve connection, the adapter was broken. What happened? During the night the piping cooled as the temperature dropped and retracted, forcing the adapter until it ruptured. If the tubing were at ease, not so aligned, its length would be sufficient to compensate for this retraction.



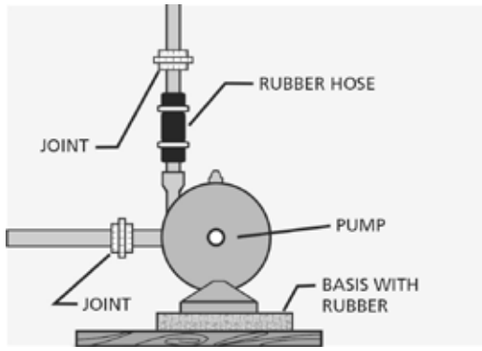
1.6.8. Use of horseshoe loops

For cases of long and apparent stretches, between two fixed points, a lyre must be performed to compensate for variations in pipe lengths.



1.6.9. Pump Vibrations

In order to prevent the discharge pipes from rupturing due to fatigue, it is recommended that a rubber hose be inserted between the pump and the piping, which will absorb the vibrations of the pump. This will prevent unpleasant noises and damage to the building structure.

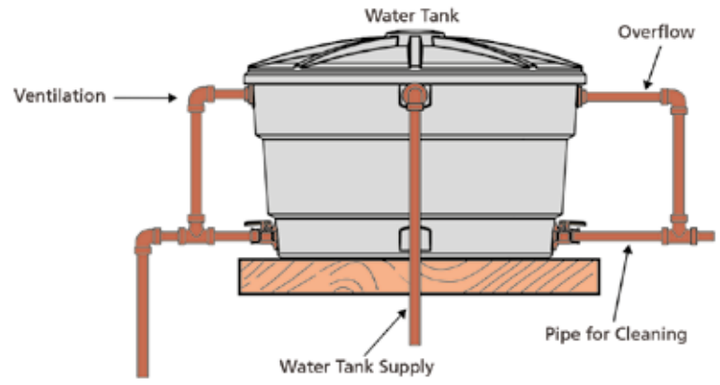


1.6.10. Column Ventilation

The NBR 5626 standard recommends that in the case of installations containing flush valves, the distribution column should be ventilated. This is a vertical pipe installed immediately at the cold water outlet of the reservoir. The following recommendations should be followed:

- The vent pipe must be connected to the string, after the existing pass-through register.
- Have its upper end open.
- Be above the maximum water level of the reservoir.
- Have a diameter equal to or greater than that of the column.

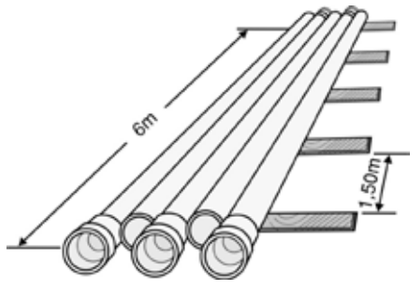
For example, if the column diameter is 40 mm, the fan pipe diameter should be at least 40 mm or 1 IA".



1.6.11. Storage

This product should be stored in places of easy access and shade, free of direct action or exposure to the sun. The stocked material must be protected with a cover formed by a slatted grid or cover structure for simple disassembly.

As in transportation, pipes not grouped in bundles must be stacked with alternating tips and bags. The first layer of pipes must be fully supported, leaving only the pouches free. To achieve this continuous support, a wooden table or rafters (level) spaced 1.50 m apart, placed transversely to the stack of tubes.



A stacking with a maximum height of 1.50 m can be done, regardless of the gauge or the thickness of the pipes. Another stacking alternative that can be adopted is cross-layered, in which the pipes are arranged with alternating tips and bags, but in transverse layers.

1.6.12. Sizing

The standard that sets the requirements regarding the manner and criteria for designing cold water building installations, taking into account the minimum technical conditions of hygiene, economy, safety and comfort of users, is NBR 5626 - Cold Water Building Installation.

Table 5 - Estimated Daily Building Consumption

Type of construction	Average consumption (liters/day)
Temporary stays	80 per person
Popular or rural homes	120 per person
Residences	150 per person
Apartments	200 per person
Hotels (kitchen and laundry only)	120 per guest
Schools - boarding schools	150 per person
Schools - semi-interns	100 per person
Schools - day schools	50 per person
Barracks	150 per person
Public or commercial buildings	50 per person
Offices	50 per person
Cinemas and theaters	2 per seat
Temples	2 per person
Restaurants and the like	25 per meal
Garages	50 per car
Laundry	30 per kg dry linen
Markets	5 per m2 of area
Slaughterhouses - large animals	300 per slaughtered animal
Slaughterhouses - small-sized animals	150 per slaughtered head
Service stations for cars	150 per vehicle
Stables	100 per horse
Gardens	1.5 per m2
Orphanage, nursing home, nursery	150 per person
Outpatient Clinic	25 per person
Daycare	50 per person
Sewing workshop	50 per person

Table 6 - Design Flow Rates and Relative Weights at Points of Use

Sanitary device:		Usage part	Design flow rate L/s	Relative weight
Toilet		Flush Tank	0.15	0.30
		Flush valve	1.70	32
Bathtub		Mixer (cold water)	0.30	1.0
Drinking fountain		Pressure Record	0.10	0.1
Bidet		Mixer (cold water)	0.10	0.1
Shower or shower		Mixer (cold water)	0.20	0.4
Electric shower		Pressure Record	0.10	0.1
Dishwasher or washing machine		Pressure Record	0.30	1.0
Washbasin		Faucet or mixer (cold water)	0.15	0.3
Urinal ceramic	with integrated siphon	Flush valve	0.50	2.8
	semi-siphon integrated	Flush tank, pressure register or flush valve for urinal	0.15	0.3
Gutter type urinal		Flush tank or pressure register	0.15 per meter of gutter	0.3
Sink		Faucet or mixer (cold water)	0.25	0.7
		Electric faucet	0.10	0.1
Tank		Faucet	0.25	0.7
Garden faucet or general washing		Faucet	0.20	0.4

According to NBR 5626 (ABNT Standard)

Table 7 - Number of People per Environment

Environment	Number of people
Dorm	2 people
Employee dormitory	1 people

Localized Load Losses - Equivalence in Rigid PVC Pipe Meters

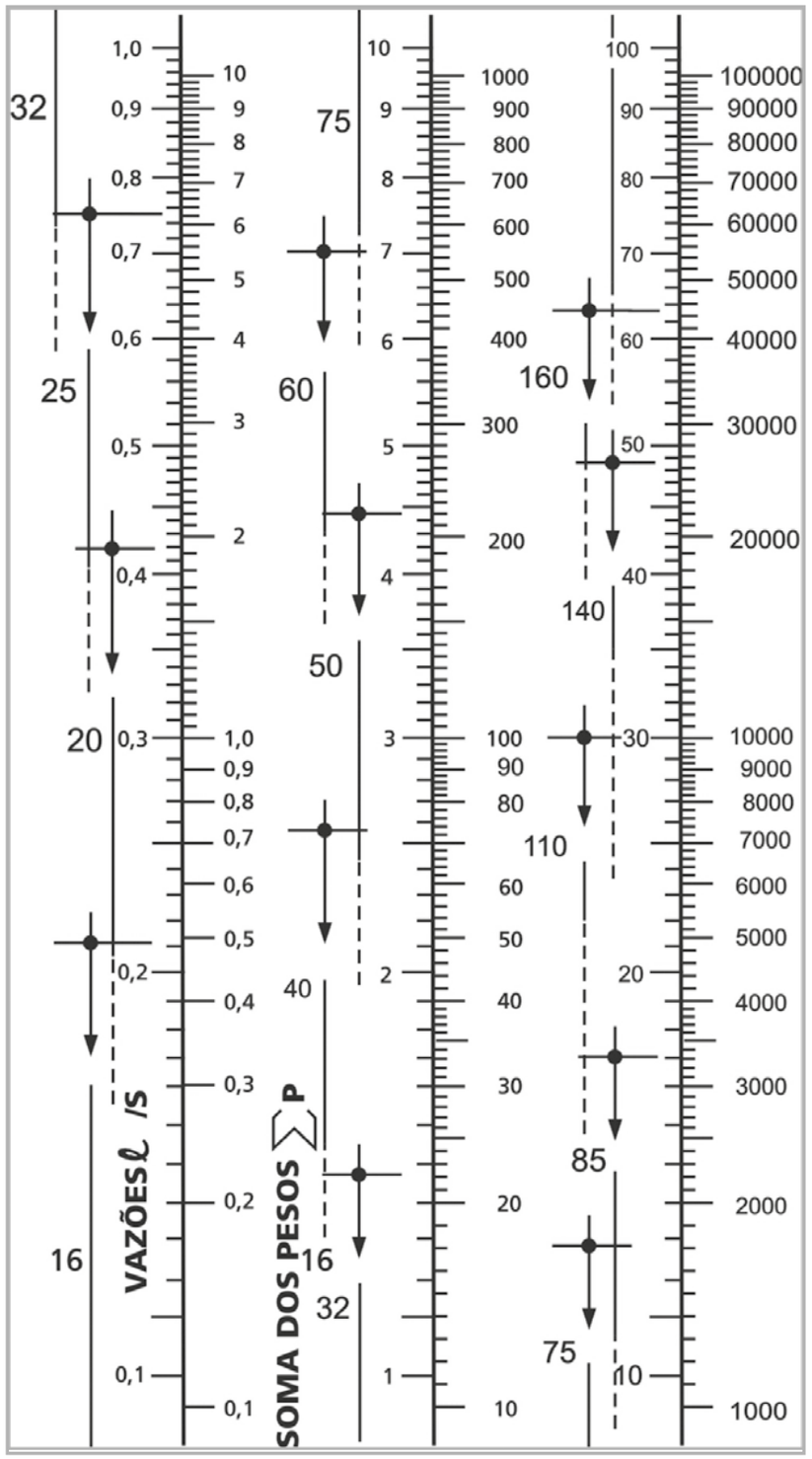


Table 8 - Localized Load Losses - Equivalence in Rigid PVC Pipe Meters

		90° El-bow	45° Elbow	90° curve	45° curve	90° Tee pass. Right	90° Tee Side exit	90° Tee Bilat. Exit	Normal Input	Border Input	Channel Output.	Foot and Sieve Valve	Check Valve Light Type	Check Valve Heavy Type	Open Globe Regis-ter	Gate Valve Open	Open Angle Regis-ter
DE (mm)	D. ref. (pol.)																
20	½″	1,1	0,4	0,4	0,2	0,7	2,3	2,3	0,3	0,9	0,8	8,1	2,5	3,6	11,1	0,1	5,9
25	¾″	1,2	0,5	0,5	0,3	0,8	2,4	2,4	0,4	1,0	0,9	9,5	2,7	4,1	11,4	0,2	6,1
32	1″	1,5	0,7	0,6	0,4	0,9	3,1	3,1	0,5	1,2	1,3	13,3	3,8	5,8	15,0	0,3	8,4
40	1¼″	2,0	1,0	0,7	0,5	1,5	4,6	4,6	0,6	1,8	1,4	15,5	4,9	7,4	22,0	0,4	10,5
50	1½″	3,2	1,3	1,2	0,6	2,2	7,3	7,3	1,0	2,3	3,2	18,3	6,8	9,1	35,8	0,7	17,0
60	2″	3,4	1,5	1,3	0,7	2,3	7,6	7,6	1,5	2,8	3,3	23,7	7,1	10,8	37,9	0,8	18,5
75	2½″	3,7	1,7	1,4	0,8	2,4	7,8	7,8	1,6	3,3	3,5	25,0	8,2	12,5	38,0	0,9	19,0
85	3″	3,9	1,8	1,5	0,9	2,5	8,0	8,0	2,0	3,7	3,7	26,8	9,3	14,2	40,0	0,9	20,0
110	4″	4,3	1,9	1,6	1,0	2,6	8,3	8,3	2,2	4,0	3,9	28,6	10,4	16,0	42,3	1,0	22,1

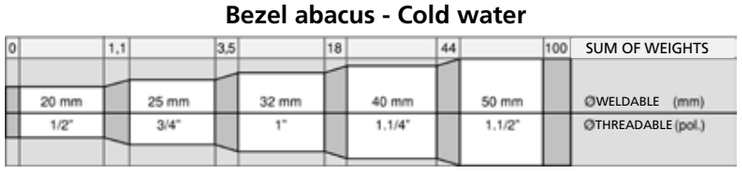
Table 9 - Minimum Diameters of Sub-Ranges

Sanitary device	DE (mm)	D. ref. (pol.)
High pressure heater	20	½
Low pressure heater	25	¾
Toilet basin with flush box	20	½
Toilet bowl with flush valve	50	1½
Toilet bowl with flush valve	50	1½
Bathtub	20	½
Drinker	20	½
Bidet	20	½
Shower	20	½
Pressure filter	20	½
washbasin	20	½
Dish washing machine	25	¾
Washing machine	25	¾
Continuous flush urinal per meter or device	20	½
Kitchen sink	20	½
Washing tank	25	¾

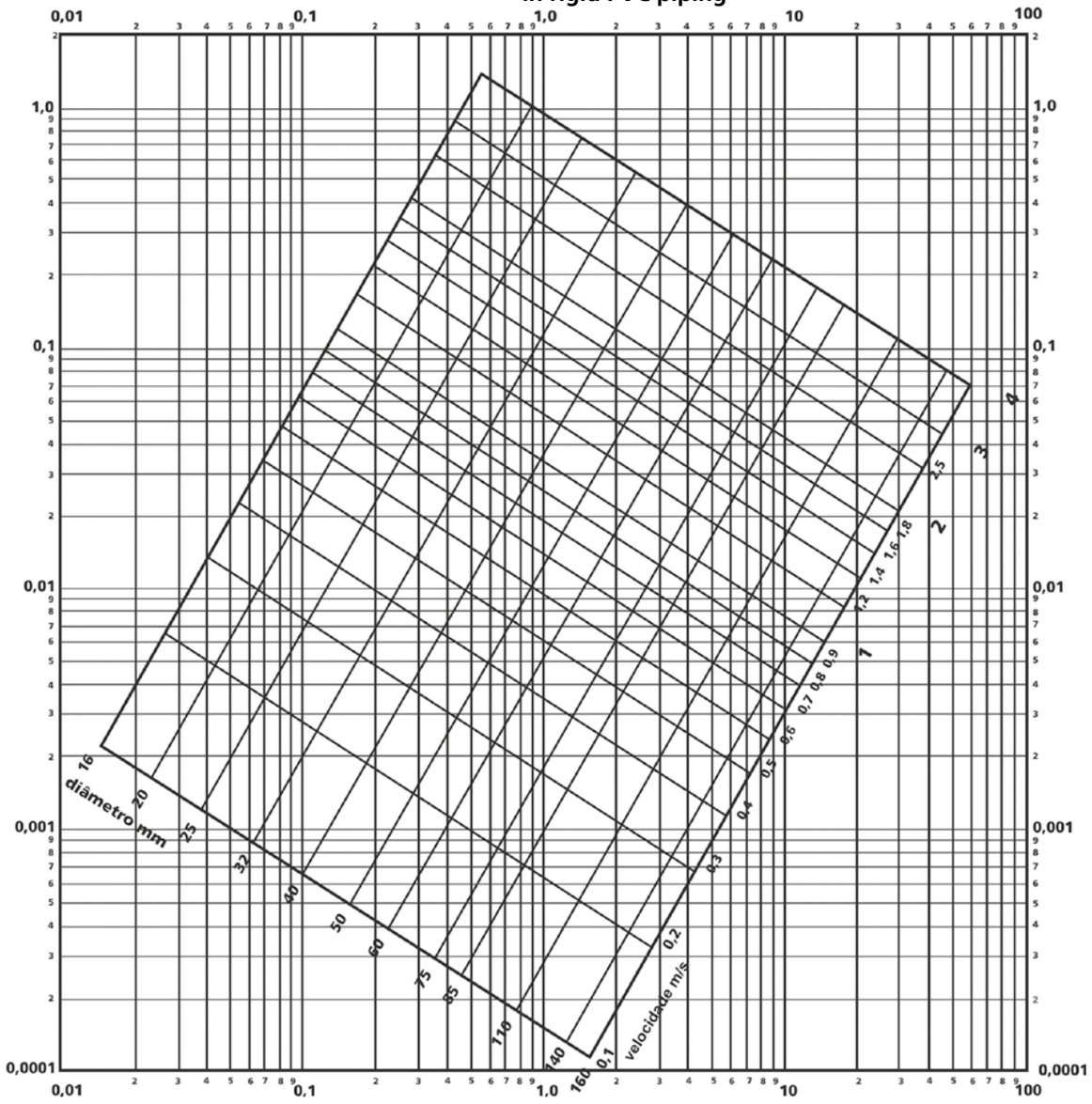
Table 10 - Maximum Flow Rates for each Diameter

DE (mm)	D. ref. (pol.)	Maximum flow rates
20	½″	0,2
25	¾″	0,6
32	1″	1,2
40	1¼″	2,5
50	1½″	4,0
60	2″	5,7
75	2½″	8,9
85	3″	12,0
110	4″	18,0

Bezel abacus - Cold water



Abacus for head loss calculation in rigid PVC piping

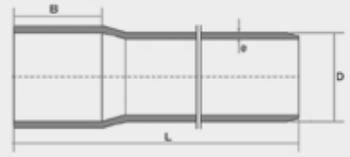


The abacus presented here was performed based on a calculation made at the Electronic Computing Center and the Department of Hydraulics and Sanitation of the School of Engineering of São Carlos - University of São Paulo.

The calculation was specially commissioned by Tigre Tubos e Conexões for its weldable and threadable pipes. This abacus is applicable for weldable pipes, as they are the most used, and the differences that appear when using the abacus for threaded pipes are perfectly absorbable by the degree of precision of the calculations.

1.7. Weldable Line Items

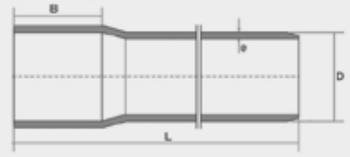
• Pipe Weldable 3m



DIMENSIONS (MM)

CODE	GAUGE	B	D	e	L
10121744	20	32	20	1,5	3000
10121787	25	32	25	1,7	3000
10121817	32	32	32	2,1	3000
10121841	40	40	40	2,4	3000
10121876	50	50	50	3,0	3000
10121906	60	60	60	3,3	3000

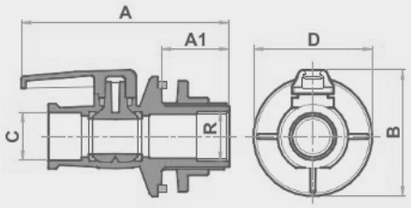
• Pipe Weldable 6m



DIMENSIONS (MM)

CODE	GAUGE	B	D	e	L
10120209	20	32	20	1,5	6000
10120250	25	32	25	1,7	6000
10120322	32	32	32	2,1	6000
10120403	40	40	40	2,4	6000
10120500	50	50	50	3,0	6000
10120608	60	60	60	3,3	6000
10120756	75	70	75	4,2	6000
10120853	85	77	85	4,7	6000
10121035	110	91	110	6,1	6000

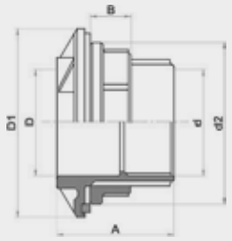
• Adapter for Water Tank with Registration



DIMENSIONS (MM)

CODE	GAUGE	R	A	A1	B	C	D
27955703	20	1/2"	125,7	43	72,6	20	64,3
27955657	25	3/4"	124	43	75	25	70,3
27955673	32	1"	139	43	84	32	79,6
27955738	40	1.1/4"	164,4	48	104,1	40	87,4
27955690	50	1.1/2"	164	48,1	106	50	94,95

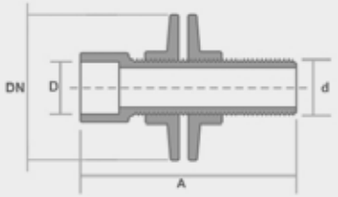
• Adapter Weldable with Ring for Water Tank



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d	D1	D2
22002406	20	61	17	20	1/2"	64,1	60
22002422	25	61	17	25	3/4"	70,1	66
22002449	32	64	20	32	1"	79,4	74
22002465	40	64	20	40	1.1/4"	87,4	82
22002481	50	67	23	50	1.1/2"	94,7	88
22002503	60	67	23	60	2"	108,7	102

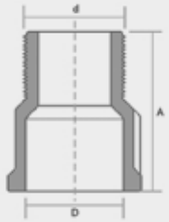
• Weldable Adapter with Free Flanges for Water Tank



DIMENSIONS (MM)

CODE	GAUGE	A	D	DN	d
22028081	75 x 2.1/2"	250	75	175	2.1/2"
22028138	85 x 3"	255	85	193	3"
22028189	110 x 4"	275	110	220	4"

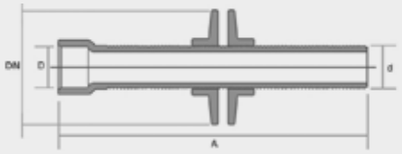
• Short Weldable Pouch and Thread Adapter for Registration



DIMENSIONS (MM)

CODE	GAUGE	A	D	DN
22190210	20 x 1/2"	37,1	20	1/2"
22190261	25 x 3/4"	40,3	25	3/4"
22190334	32 x 1"	50,7	32	1"
22000403	40 x 1.1/4"	56,7	40	1.1/4"
22007939	40 x 1.1/2"	53,3	40	1.1/2"
22007947	50 x 1.1/4"	66,1	50	1.1/4"
22190512	50 x 1.1/2"	63	50	1.1/2"
22000608	60 x 2"	72,7	60	2"
22000756	75 x 2.1/2"	86,3	75	2.1/2"
22000853	85 x 3"	94,3	85	3"
22001035	110 x 4"	115,9	110	4"

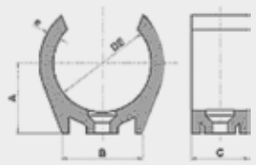
• Long Weldable Adapter with Free Flanges for Water Tank



DIMENSIONS (MM)

CODE	GAUGE	A	D	DN	d
22048082	75 x 2.1/2"	290	75	175	2.1/2"
22048139	85 x 3"	295	85	193	3"
22048180	110 x 4"	315	110	220	4"

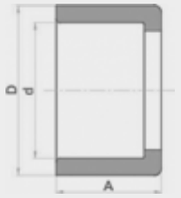
• Weldable Pipe Clamp



DIMENSIONS (MM)

CODE	GAUGE	A	B	C	e	D
22051202	20	14,25	20	15	2,8	20
22051253	25	17	20	15	3,5	25

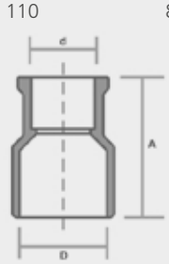
• Short Reducing Bushing



DIMENSIONS (MM)

CODE	GAUGE	A	D	d
22066676	25 x 20	18,5	25	20
22066773	32 x 25	22	32	25
22066838	40 x 32	26	40	32
22066927	50 x 40	31	50	40
22067044	60 x 50	36	60	50
22067273	75 x 60	43,5	75	60
22067338	85 x 75	48,5	85	75
22067559	110 x 85	31	110	85

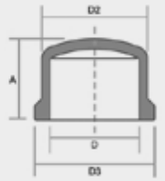
• Long Reducing Bushing



DIMENSIONS (MM)

CODE	GAUGE	A	D	d
22076752	32 x 20	44	32	20
22076825	40 x 25	51,8	40	25
22076930	50 x 25	31	50	25
22076914	50 x 32	61,3	50	32
22077015	60 x 25	70,5	60	25
22077023	60 x 32	70,9	60	32
22077040	60 x 50	71,8	60	50
22077260	75 x 50	95,1	85	60
22077325	85 x 60	95,1	85	60

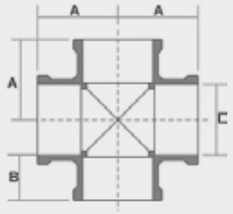
• Plain cap



DIMENSIONS (MM)

CODE	GAUGE	A	D	D2	D3
22080202	20	16	20	24,8	28,5
22080261	25	18,5	25	30,2	34,0
22080326	32	22	32	37,8	43,0
22080407	40	26	40	46,5	52,0
22080504	50	31	50	57,2	63,0
22080601	60	36	60	38,6	76,0
22080750	75	43,5	75	85,6	95,0
22080857	85	48,5	85	100,2	104,4
22081039	110	58,8	110	129,3	134,9

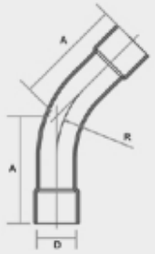
• Weldable Crosshead



DIMENSIONS (MM)

CODE	GAUGE	A	B	D
22090259	25	32	18,5	25
22090500	50	57	31	50

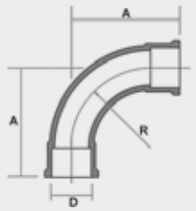
• 45° Weldable



DIMENSIONS (MM)

CODE	GAUGE	A	D	R
22110209	20	42	20	35
22110250	25	51	25	50
22110322	32	65	32	60
22110403	40	79	40	70
22110500	50	97	50	80
22110608	60	130	60	100
22110756	75	130	75	130
22110853	85	150	85	150
22111035	110	200	110	200

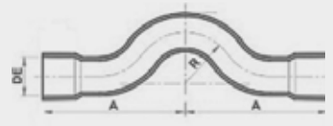
• 90° Weldable



DIMENSIONS (MM)

CODE	GAUGE	A	D	R
22120204	20	56	20	40
22120263	25	68,5	25	56,3
22120328	32	86	32	64
22120409	40	106	40	90,55
22120506	50	131	50	110,45
22120603	60	156	60	135,83
22120751	75	175	75	117,5
22120859	85	245	85	112
22121030	110	300	110	131

• Weldable Transposition Curve



DIMENSIONS (MM)

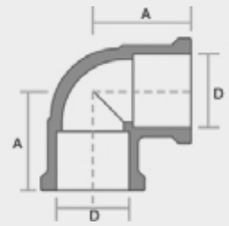
CODE	GAUGE	A	DE	R
22123050	25	84	25	32

• 45° Weldable

DIMENSIONS (MM)

CODE	GAUGE	A	D
22140205	20	20	22,3
22140264	25	24,5	25
22140329	32	29,5	32
22140400	40	35,5	40
22140507	50	42,5	50
22140604	60	49,5	60
22140752	75	60	75
22140850	85	67,5	85
22141031	110	85,5	110

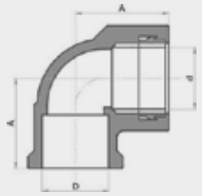
• 90° Weldable



DIMENSIONS (MM)

CODE	GAUGE	A	D
22150219	20	27	20
22150260	25	32	25
22150332	32	39	32
22150405	40	47	40
22150510	50	57	50
22150600	60	67	60
22150758	75	75	87,5
22150855	85	85	97,7
22151037	110	124	110

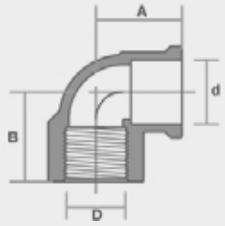
• 90° Weldable Elbow with Brass Bushing



DIMENSIONS (MM)

CODE	GAUGE	A	D	d
35217797	20 x 1/2"	27	20	1/2"
35227830	25 x 1/2"	31	25	1/2"
35217843	25 x 3/4"	31	25	3/4"
35227873	32 x 3/4"	37	32	3/4"

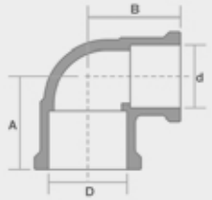
• 90º Weldable elbow with thread



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d
35407774	20 x 1/2"	30	28	20	1/2"
35427830	25 x 1/2"	34	32	25	1/2"
35407847	25 x 3/4"	32	30	25	3/4"
35427872	32 x 3/4"	37	32	32	3/4"

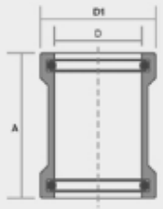
• 90° Weldable Reduction Elbow



DIMENSIONS (MM)

CÓDIGO	GAUGE	A	B	D	d
22166662	25 x 20	29,5	29	25	20
22166760	32 x 25	35,5	42	32	25

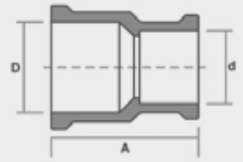
• Plain socket



DIMENSIONS (MM)

CODE	GAUGE	A	D	D1
22172107	20	46,0	20,4	30,6
22172204	25	51,5	25,4	36,0
22172239	32	59,0	32,4	46,2
22172263	40	75,0	40,4	59,3
22172301	50	83,0	50,4	66,5
22172352	60	94,5	60,4	80,1

• Weldable Reduction Sleeve

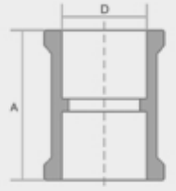


DIMENSIONS (MM)

CODE	GAUGE	D	d	A
22186663	25 x 20	25	20	41
22186760	32 x 25	32	25	53
22186833	40 x 32	40	32	68
22186906	50 x 25	50	25	65,2
22187040	60 x 50	60	50	72,5
22187279*	75 x 60	75	60	91,8
22187546*	110 x 75	110	75	132

*Available upon request of deadline

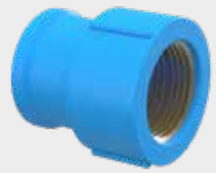
• Weldable Sleeve

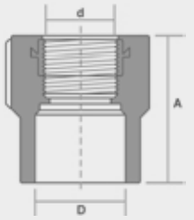


DIMENSIONS (MM)

CODE	GAUGE	A	D
22170210	20	35	20
22170260	25	42	25
22170325	32	48	32
22170406	40	56	40
22170503	50	67	50
22170600	60	80	60
22170759	75	102	75
22170856	85	102	85
22171038	110	130	110

• Weldable Sleeve with Brass Bushing

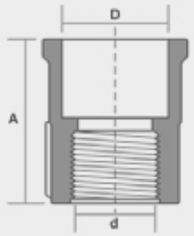




DIMENSIONS (MM)

CODE	GAUGE	A	D	d
35247785	20 x 1/2"	31	20	1/2"
35267824	25 x 1/2"	36	25	1/2"
35247840	25 x 3/4"	36	25	3/4"
35267867	32 x 3/4"	47,6	32	1"

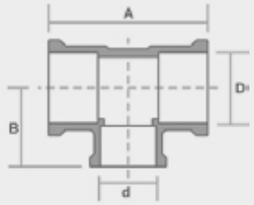
• Plain socket with thread



DIMENSIONS (MM)

CODE	GAUGE	A	D	D1
35447792	20 x 1/2"	33,0	20	1/2"
35467823	25 x 1/2"	38,5	25	1/2"
35447849	25 x 3/4"	38,0	25	3/4"
35447881	32 x 1"	49,0	32	1"
35447920	40 x 1.1/4"	54,4	40	1.1/4"
35447954	50 x 1.1/2"	60,0	50	1.1/2"

• Weldable Reduction Tee

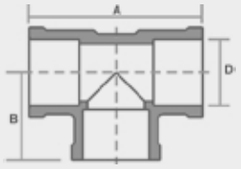


DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d
22216660	25 x 20	63	31	25	20
22216767	32 x 25	78	39	32	25
22216821	40 x 25	86,2	41,9	40	25
22216830	40 x 32	86	43	40	32
22216899	50 x 20	117	51	50	20
22216902	50 x 25	117	52	50	25
22216910	50 x 32	117	53	50	32
22216929	50 x 40	117	59	40	40
22217011	60 x 25	108,4	51,7	60	25
22217070	60 x 50	142,6	64,2	60	50
22217267	75 x 50	151	79	75	50
22217275*	75 x 60	176	81,7	75	60
22217372	85 x 60	187	90	85	60
22217380	85 x 75	195,4	91,35	85	75
22217526	110 x 60	228,6	109	110	60
22217542*	110 x 75	210	104	110	75

*Disponível sob consulta de prazo

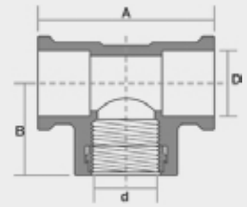
• Plain Tee



DIMENSIONS (MM)

CODE	GAUGE	A	B	D
22200216	20	54	27	20
22200267	25	64	32	25
22200321	32	78	39	32
22200402	40	94	47	40
22200518	50	114	57	50
22200607	60	142,6	71,3	60
22200755	75	174,5	87,2	75
22200852	85	195,4	97,7	85
22201034	110	248	124	110

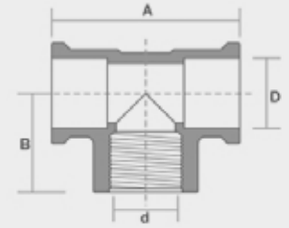
• Weldable Tee with Brass Bushing in the Central Pouch



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d
35288350	20 x 1/2"	54	27	20	1/2"
35308369	25 x 1/2"	59	30,5	25	1/2"
35288376	25 x 3/4"	65	32	25	3/4"
35308385	32 x 3/4"	72	35,5	32	3/4"

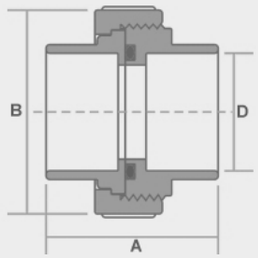
• Plain Tee with thread



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d
35488359	20 x 1/2"	53	29,5	20	1/2"
35508368	25 x 1/2"	61	34	25	1/2"
35488375	25 x 3/4"	58	32,5	25	3/4"
35508384	32 x 3/4"	78	35,5	32	3/4"

• Plain union



DIMENSIONS (MM)

CODE	GAUGE	A	B	D
22220209	20	46	48,0	20
22220250	25	51	54,5	25
22220322	32	55	64,0	32
22220403	40	58	79,0	40
22220500	50	68	87,5	50
22220608	60	78	105,0	60
22220756	75	94	128,0	75
22220853	85	109	138,5	85
22221035	110	150	184,0	110

• Plastic Adhesive for PVC-Blue

INFORMATION

CODE	DESCRIPTION
53020119	Adesivo Plástico Azul para PVC - Frasco 850g

• Plastic to PVC Adhesive
- Colorless

CODE	INFORMATION DESCRIPTION
53020151	Adesivo Plástico Incolor para PVC - Frasco 175g
53020178	Adesivo Plástico Incolor para PVC - Frasco 850g

• Plastic to PVC Adhesive
- Colorless

CODE	INFORMATION DESCRIPTION
53010229	Adesivo Plástico Incolor para PVC - Bisnaga 17g
53001025	Adesivo Plástico Incolor para PVC - Bisnago 75g

• Preparing Solution

CODE	INFORMATION DESCRIPTION
54001207	Solução Preparadora - Frasco 200 ml
54010001	Solução Preparadora - Frasco 1 L

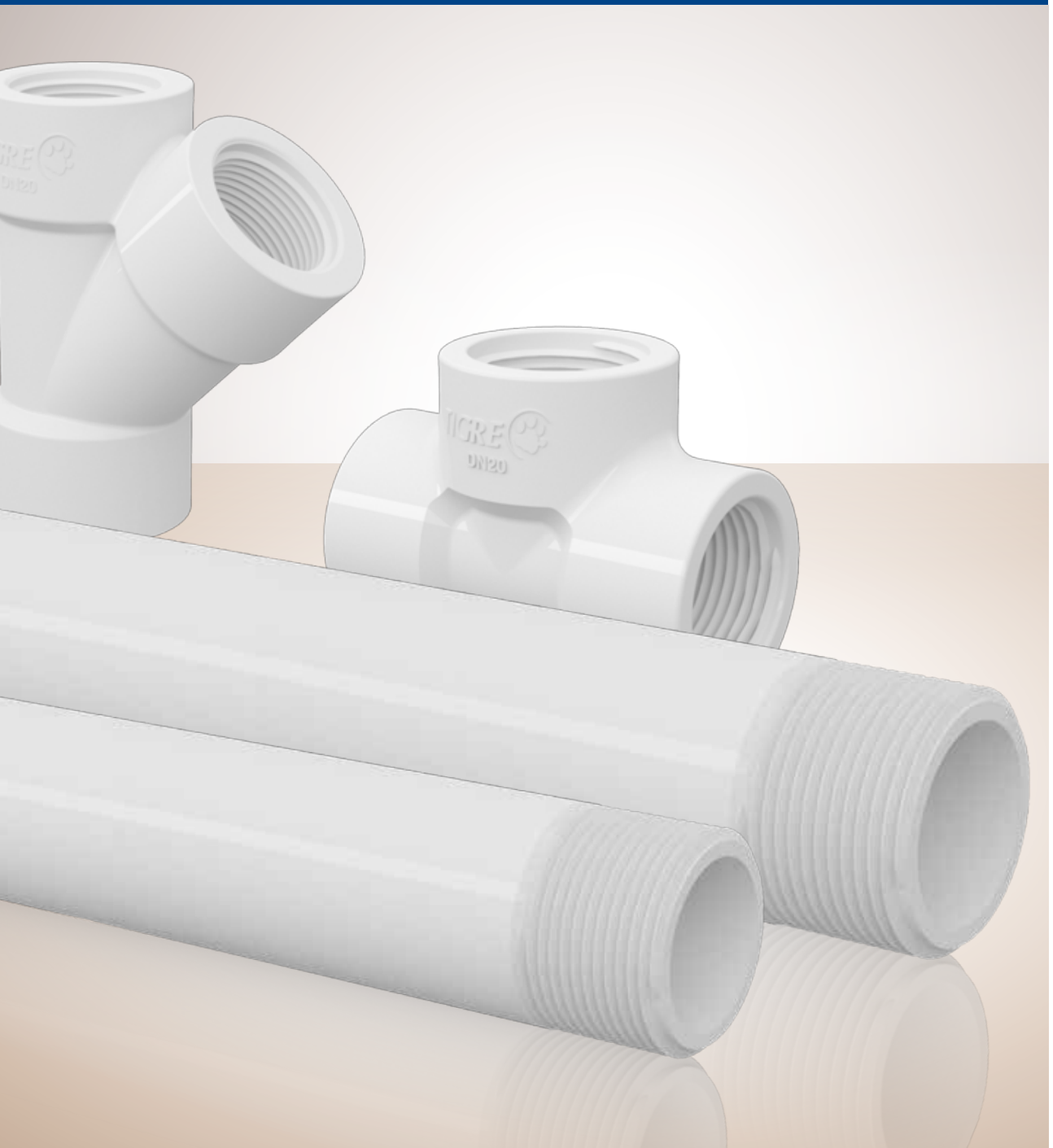
• Thread Sealing Tape

CÓDIGO	DIMENSIONS (MM) MEASUREMENTS
54501854	18 mm x 10 m
54501900	18 mm x 25 m
54501951	18 mm x 50 m

Notes

Threadable

COLD WATER



2. Threadable

Do you want to drive and store drinking water in an efficient and safe manner in your home? Tigre offers a complete line for cold water installations. Threaded pipes and fittings are easy to disassemble, ideal for points that need maintenance. They are lightweight, easy to handle and can be used in all types and patterns of work: residential, commercial and industrial.

2.1. Function/Application

Cold water conduction in plumbing and settlement systems to withstand the pressure of 12 kgf/cm2. Applicable in different construction standards, whether horizontal, vertical or industrial.

2.2. Benefits and Differentials

Full line
Meets all designs with available pipes and fittings.

High resistance
The product line meets all regulatory requirements ensuring performance after installation.

Versatility
The line allows disassembly between the pipe and the connection maintenance cases.

Zero loss
Because it is threadable and allows disassembly, the fittings can be reused after installation or maintenance.

2.3. Technical Characteristics

Material: Made of PVC Polyvinyl chloride).

Color: White.

Maximum working temperature: 20°C.

Available diameters *: 1/2", 3/4", 1", 1.1/4", 1.1/2" e 2".

Working pressure (at 20°C): 7,5 kgf/cm² (75 m.c.a.).

Thread Type: BSP.

Pipes: Supplied in 3.0 m and 6.0 m bars, with threaded tips.

* In addition to these diameters, TIGRE also manufactures 2.1/2 ", 3", 4", 5" and 6", which are mostly used for industrial facilities. For this purpose refer to maximum pressure and proper application via Tele Tigre.

Next, see the list of reference standards that govern the manufacture of the Threadable Line and that ensure excellent performance, providing a high degree of safety to the facilities.

REFERENCE TECHNICAL STANDARDS	
PeCp 34	Standard for the manufacture of threadable PVC pipes
NBR 5648	Cold water building systems, PVC fittings with threadable joint with threads manufactured according to NBR ISO 7/1.
NBR 5626	Cold Water Building Installation.

2.4. Installation

1 To make the cut in the pipe, fix it in a vise. Prevent it from being ovalized as the thread will become imperfect.

2 Cut the non-square pipe and remove the burrs. Then measure the maximum length of the thread to be made, to prevent it from becoming too large.

3 Fit the pipe to the faucet by the guide side, turning 1 turn to the right and 1/4 turn to the left, repeat the operation until the tip of the pipe reaches the end of the die. In this way, the optimal thread length is obtained.

4 Clean the pipe and apply the TIGRE Thread Sealing Tape on the threads, in favor of the thread, in such a way that each turn transpires the other by half a centimeter, in a total of 3 to 4 turns on average.

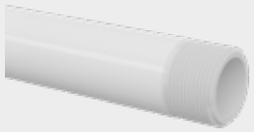
Notes: Do not use PVC adhesive on the threads of pipes and fittings, only use TIGRE Thread Sealing Tape.

2.5. Instructions

The threadable line instructions follow the same guidelines already presented in item 1.6, on page 13 to 24, of the Weldable Line

2.6. Threadable Line Items

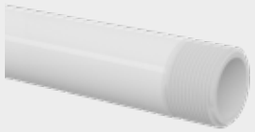
• Threadable PVC pipe 3m



DIMENSIONS (MM)

CODE	GAUGE	B	Dr	L	e
10011850	1/2"	13,2	1/2"	3000	2,6
10011884	3/4"	14,5	3/4"	3000	2,9
10011906	1"	16,8	1"	3000	3,5

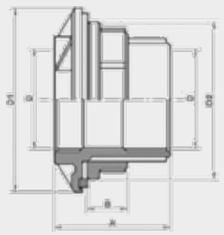
• Threadable PVC pipe 6m



DIMENSIONS (MM)

CODE	GAUGE	B	Dr	L	e
10001854	1/2"	13,2	1/2"	6000	2,6
10001889	3/4"	14,5	3/4"	6000	2,9
10001900	1"	16,8	1"	6000	3,5
10001927	1.1/4"	19,1	1.1/4"	6000	3,7
10001943	1.1/2"	19,1	1.1/2"	6000	4,0
10001960	2"	23,4	2"	6000	4,7
10001994	2.1/2"	26,7	2.1/2"	6000	4,7
10002010	3"	29,8	3"	6000	4,8
10002060	4"	35,8	4"	6000	5,0

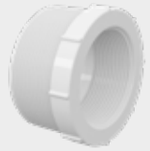
•Threadable Adapter with Ring for Water Tank

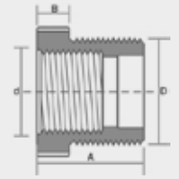


DIMENSIONS (MM)

CODE	GAUGE	A	B	D	D1	D2
20002409	1/2"	61	17	1/2"	64,1	60
20002425	3/4"	61	17	3/4"	70,1	66
20002441	1"	64	20	1"	79,4	74
20002468	1.1/4"	64	20	1.1/4"	87,4	82
20002484	1.1/2"	67	23	1.1/2"	94,7	88
20002506	2"	67	23	2"	108,7	102

• Threadable reducing bushing

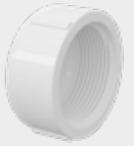


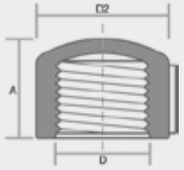


DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d
20022512	3/4" x 1/2"	26,5	8	3/4"	1/2"
20022531	1" x 1/2"	31	9	1"	1/2"
20022540	1" x 3/4"	31	9	1"	3/4"
20022574	1.1/4" x 3/4"	34,5	10	1.1/4"	3/4"
20022582	1.1/4" x 1"	34,5	10	1.1/4"	1"
20022612	1.1/2" x 3/4"	35,5	11	1.1/2"	3/4"
20022620	1.1/2" x 1"	35,5	11	1.1/2"	1"
20022639	1.1/2" x 1.1/4"	35,5	10	1.1/2"	1.1/4"
20022663	2" x 1"	31,5	9	2"	1"
20022671	2" x 1.1/4"	31,9	10,5	2"	1.1/4"
20022680	2" x 1.1/2"	38,5	10	2"	1.1/2"
20022710	2.1/2" x 1.1/4"	46	13	2.1/2"	1.1/4"
20022728	2.1/2" x 1.1/2"	46	13	2.1/2"	1.1/2"
20022736	2.1/2" x 2"	33	11	2.1/2"	2"
20022779	3" x 2"	30,4	10,3	3"	2"
20022787	3" x 2.1/2"	31	10,5	3"	2.1/2"
20022833	4" x 3"	52	19,8	4"	3"

• Threadable cap





DIMENSIONS (MM)

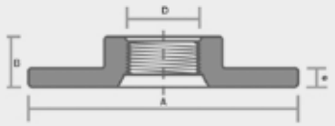
CODE	GAUGE	A	D	D2
20031859	1/2"	23,5	1/2"	30
20031883	3/4"	26,2	3/4"	36,5
20031905	1"	31,1	1"	44
20031921	1.1/4"	35,5	1.1/4"	54
20031948	1.1/2"	37	1.1/2"	61
20031964	2"	43,9	2"	74,5
20031999	2.1/2"	53,5	2.1/2"	92,5
20032014	3"	65,1	3"	100,4
20032065	4"	84,4	4"	134,5

• 90º threadable bend

DIMENSIONS (MM)

CODE	GAUGE	A	D	R
20061855	1/2"	50,5	1/2"	42
20061880	3/4"	62,3	3/4"	53
20061901	1"	78	1"	67
20061928	1.1/4"	123,4	1.1/4"	65,9
20061944	1.1/2"	134,2	1.1/2"	85,5
20061960	2"	165,3	2"	99,8

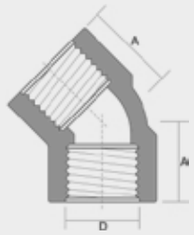
• Threadable Flange with Hexagon



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	e
20081856	1/2"	75	15,5	1/2"	5,5
20081880	3/4"	89	16,5	3/4"	6,2
20081902	1"	99	17,8	1"	6,5
20081929	1.1/4"	103	19,4	1.1/4"	7
20081945	1.1/2"	109,2	19,3	1.1/2"	6,4
20081961	2"	127	20,2	2"	7,2
20081996	2.1/2"	175	45,6	2.1/2"	13,2
20082011	3"	192,8	44,8	3"	13,8
20082062	4"	219,4	53,5	4"	15

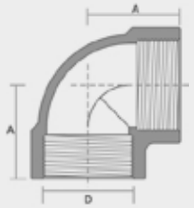
• 45º Threadable elbow



DIMENSIONS (MM)

CODE	GAUGE	A	D
20091851	1/2"	22	1/2"
20091886	3/4"	25	3/4"
20091908	1"	30	1"
20091924	1.1/4"	34,5	1.1/4"
20091940	1.1/2"	36	1.1/2"
20091967	2"	48,35	2"

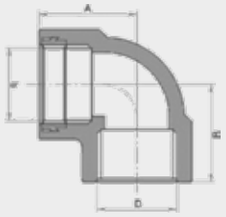
• 90° elbow Threadable



DIMENSIONS (MM)

CODE	GAUGE	A	D
20101857	1/2"	28	1/2"
20101881	3/4"	32,5	3/4"
20101903	1"	39,5	1"
20101920	1.1/4"	46,5	1.1/4"
20101946	1.1/2"	50	1.1/2"
20101962	2"	60,5	2"
20101997	2.1/2"	70,4	2.1/2"
20102012	3"	81	3"
20102063	4"	103,5	4"

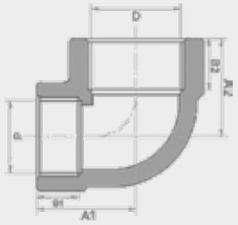
• 90º Threadable elbow with brass bushing



DIMENSIONS (MM)

CODE	GAUGE	A	D	d	B
35001859	1/2"	28	1/2"	1/2"	28
35001883	3/4"	32,5	3/4"	3/4"	32,5
35022503	3/4" x 1/2"	31	3/4"	1/2"	29,5

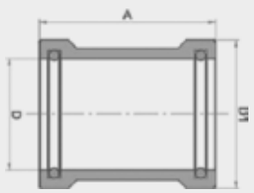
• 90° Threadable Reduction Elbow



DIMENSIONS (MM)

CODE	GAUGE	A1	A2	B!	D	d	B2
20112506	3/4" x 1/2"	31	29,7	17	3/4"	1/2"	18,5
20112549	1" x 3/4"	36	36	18,5	1"	3/4"	22

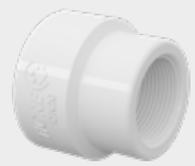
• Threadable slide coupling

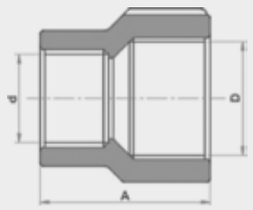


DIMENSIONS (MM)

CODE	GAUGE	A	D	D1
20122609	1/2"	46,0	21,4	32,8
20122706	3/4"	51,5	26,9	38,7
20122730	1"	59,0	33,6	46,2
20122765	1.1/4"	75,0	42,4	59,3
20122803	1.1/2"	83,0	48,4	66,5
20122854	2"	94,5	60,4	80,1

• Threadable reducing socket

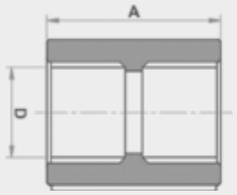




DIMENSIONS (MM)

CODE	GAUGE	A	D	d
20132507	3/4" x 1/2"	40,2	3/4"	1/2"
20132540	1" x 3/4"	45,7	1"	3/4"

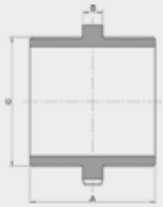
• Threadable Sleeve



DIMENSIONS (MM)

CODE	GAUGE	A	D
20121874	1/2"	37	1/2"
20121882	3/4"	40	3/4"
20121904	1"	47,5	1"
20121920	1.1/4"	53	1.1/4"
20121947	1.1/2"	53	1.1/2"
20121963	2"	61,5	2"
20121998	2.1/2"	71	2.1/2"
20122013	3"	78,5	3"
20122064	4"	91	4"

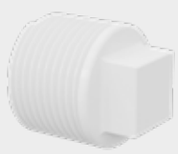
• Threadable Nipple

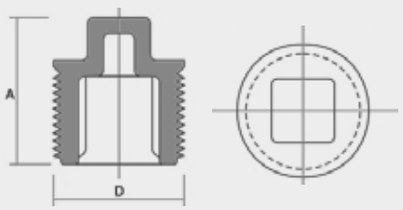


DIMENSIONS (MM)

CODE	GAUGE	A	B	D
20151862	1/2"	41	7	1/2"
20151897	3/4"	43	8	3/4"
20151900	1"	53	9	1"
20151927	1.1/4"	59	10	1.1/4"
20151943	1.1/2"	60	11	1.1/2"
20151960	2"	67,5	10,5	2"
20151994	2.1/2"	74,5	13,7	2.1/2"
20152010	3"	87	14	3"
20152060	4"	100	15	4"

• Threadable Plug

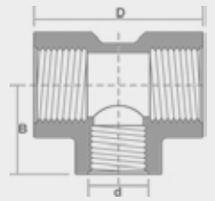




DIMENSIONS (MM)

CODE	GAUGE	A	D
20161868	1/2"	25,5	1/2"
20161892	3/4"	28,5	3/4"
20161906	1"	29,8	1"
20161922	1.1/4"	30,5	1.1/4"
20161949	1.1/2"	38,5	1.1/2"
20161965	2"	44	2"

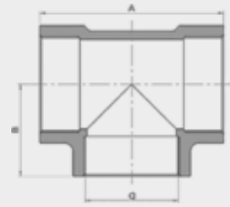
• Threadable Reduction Tee



DIMENSIONS (MM)

CODE	GAUGE	B	d	D
20202505	3/4" x 1/2"	31	1/2"	59
20202610	1.1/2" x 3/4"	44	3/4"	79
20202548	1" x 3/4"	36	3/4"	72

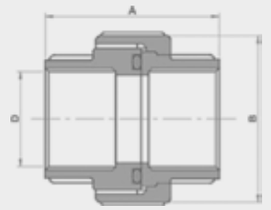
• Threadable Tee



DIMENSIONS (MM)

CODE	GAUGE	A	B	D
20191864	1/2"	56	28	1/2"
20191896	3/4"	65	32,5	3/4"
20191902	1"	79	39,5	1"
20191929	1.1/4"	93	46,5	1.1/4"
20191945	1.1/2"	100	50	1.1/2"
20191961	2"	121	60,5	2"
20191996	2.1/2"	139,4	69,7	2.1/2"
20192011	3"	168	84	3"

• Threadable union



DIMENSIONS (MM)

CODE	GAUGE	A	B	D
20211857	1/2"	45	48	1/2"
20211881	3/4"	49,3	54,5	3/4"
20211903	1"	56	64	1"
20211920	1.1/4"	68,5	77,5	1.1/4"
20211946	1.1/2"	72	86,5	1.1/2"
20211962	2"	82,5	101	2"
20211997	2.1/2"	100,5	134	2.1/2"
20212012	3"	109	153	3"
20212063	4"	142,5	185	4"

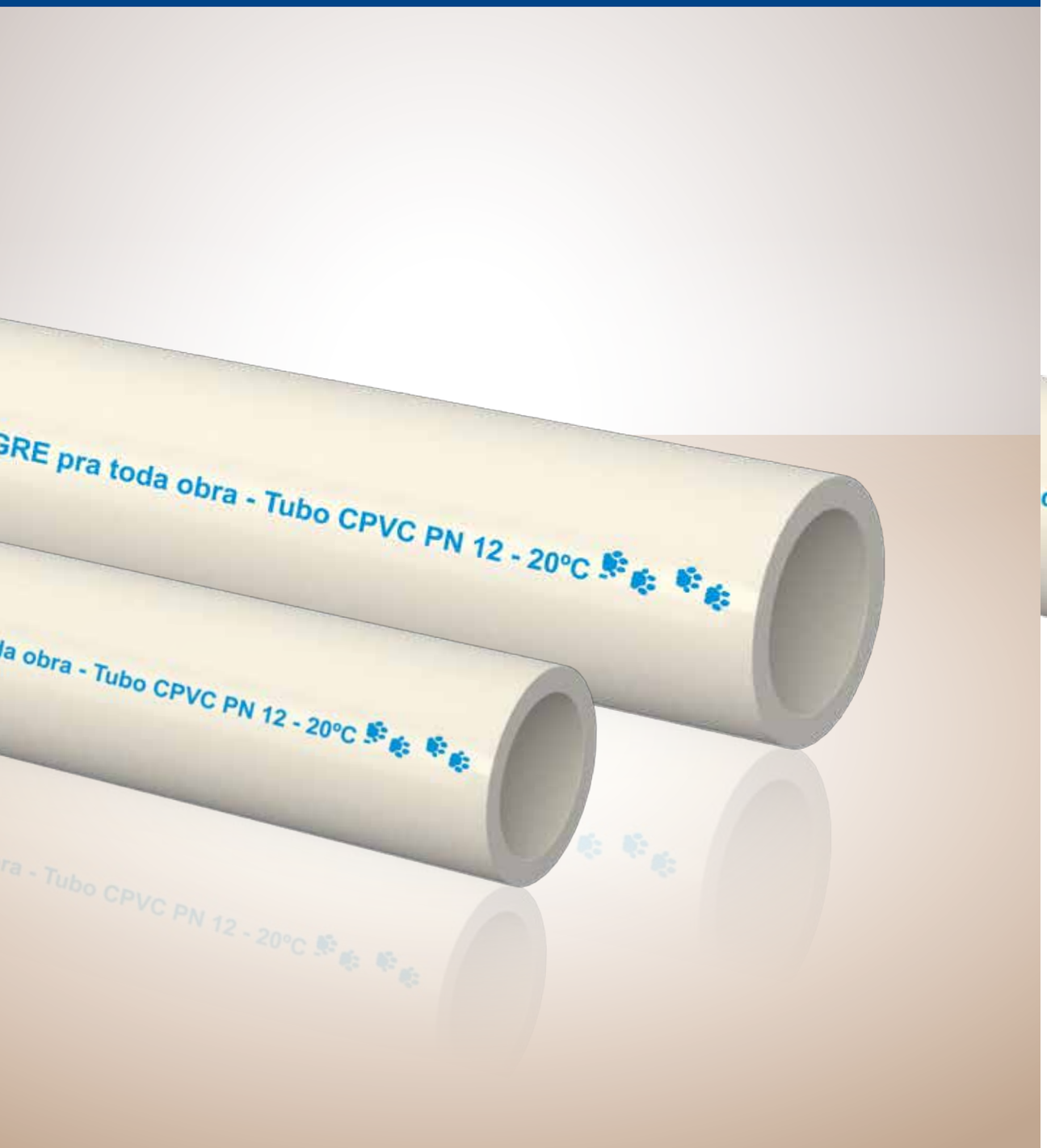
• Thread Sealing Tape

DIMENSIONS (MM)

CODE	COTAS
54501854	18 mm x 10 m
54501900	18 mm x 25 m
54501951	18 mm x 50 m

CPVC PN12

COLD WATER



3. CPVC PN12

Do you want to conduct cold water and know that your facility needs to withstand more pressure? The PN 12 Tube is ideal for application in building and industrial works, vertical or horizontal, or for points that need to withstand greater pressure. They are lightweight, easy to handle and can be used in all types and work patterns.

3.1. Function/Application

Cold water conduction in plumbing and settlement systems to withstand the pressure of 12 kgf/cm2. Applicable in different construction standards, whether horizontal, vertical or industrial.

3.2. Benefits and Differentials

Ease of Installation
It dispenses with special equipment such as socket fusion devices and specialized labor. The joints are cold weldable (with their own adhesive).

Increased productivity
The combination of 6-meter pipes that optimize the use of fittings, plus the condition of being installed only with the use of adhesive, guarantee greater agility and productivity to the installer.

Durability
CPVC Pipes PN 12 do not suffer chemical attacks from substances contained in the water, such as chlorine, iron, fluorine, etc. This prevents oxidation, rust or corrosion of the components, and fouling that compromises the design flow rate throughout the service life.

Synergy
Can be used with Aquatherm® line fittings.

3.3. Technical Characteristics

Material: line components manufactured from CPVC Poly(chlorinated vinyl chloride).

Color: Beige.

Working pressure: 12.0 kgf/cm2 at 20°C.

Coefficient of Linear Thermal Expansion: 6.12 x 107°C (medium).

Chemical resistance: (see CPVC chemical resistance table).

Pipes: supplied in 6.0 m bars.

3.4. Installation

Before welding, check that the fit between the pipe tip and the connection bag is tight. It is necessary that there is an interference between the parts, as welding is not established if there is no pressure between the surfaces that are being joined.

1. Using the applicator brush, distribute the Aquatherm® Adhesive evenly in the connection bag and then at the tip of the pipe.

2. Fit at once at the ends to be welded, give 1/4 turn and keep the joint under manual pressure for approximately 30 seconds, until the adhesive acquires strength.

3.5. CPVC PN12 Line Items

• **CPVC PN12 Pipe**

DIMENSIONS (MM)

CODE	GAUGE	DE	e	L
100002233	54	53,9	2,9	6000
100002234	73	73,1	3,5	6000
100002235	89	89	4,5	6000
100002237	114	114,4	5,5	6000

Notes

Stopcocks and Valves

COLD WATER

4. Stopcocks and Valves

Stopcocks and valves are indispensable in homes, businesses, industries and in the agricultural area for hot or cold water systems. Tigre has a complete line with emphasis on the durability and resistance of its materials. In the thread or weldable option, the valves and valves are easy to install.

4.1. Function/Application

The main purpose of TIGRE records is to allow the simple and effective blocking or release of water flow. We have in our portfolio different models, whether they are in the closing and opening system by ball or by pressure and gate.

4.2. Ball Valve VS

4.2.1. Function/Application

PVC ball registration, used in building barrels, distribution piping in water tanks, swimming pools, irrigation, washing machines, fish farming, sanitation, industry, agriculture and others. It is simple and easy to operate, with only 1/4 turn.

4.2.2. Benefits and Differentials

Ease of Installation
Simple installation that uses only the use of adhesives or thread sealing tape to attach the valve to the pipe or connection.

Simplified maintenance
Model VS allows the removal of the nut for possible maintenance on the hydraulic network.

Complete disassembly
It is possible to completely disassemble the product * to have access to its interior in order to facilitate maintenance.

Smooth opening and closing
This model presents greater lightness when opening the water flow or closing.

4.2.3. Technical Characteristics

Material: Made of PVC Polyvinyl chloride).

Color: Brown.

Gauges:
- Weldable 20, 25, 32, 40, 50 and 60 mm.
- Threadable 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2” and 2”.

Maximum working temperature: 60 °C.

Working pressure:
- Up to 16 kgf/cm2 (diameters: 1/2”, 3/4”, 1”, 20, 25 and 32 mm).
- Up to 10 kgf/cm2 (diameters: 1 1/4”, 1 1/2”, 2”, 40, 50 and 60 mm).

Next, see the list of reference standards that govern the manufacture of the Sphere Registry VS and that ensure excellent performance, providing a high degree of safety to the facilities.

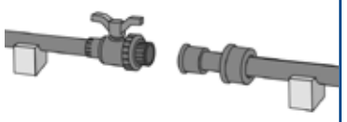
REFERENCE TECHNICAL STANDARDS	
NBR 5626	Building Installation of Cold Water.

4.2.4. Installation of Ball Record VS

1 Determine pipe alignment and weld valve body. When the valve is installed in a section of piping longer than 8.0 m, make horseshoe loops or changes of direction soon after the valve, so that it is not damaged by the effect of expansion or contraction of the piping

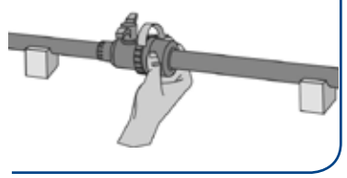
2 Place the registration nut on the piping and weld the registration end (collar).

Notes: Caution when applying adhesive to the valve body pouch, prevent the adhesive from dripping in and damaging the ball and seals.



3 Make the adjustment by tightening the nut with your hands, with the valve in the closed position. Do not use tools.

Notes: The record should not be used as a union. It must be used fully open or closed, never semi-open, as this damages the seals. It should not be embedded in walls.



4.2.5. Sphere Record Maintenance VS

As it is removable, it is possible to change the sealing rings, simply unscrew the tightening nut. Caution: Never disassemble the register with the net filled with water as the sphere will be thrown out of the body of the register.

Notes: The Ball Record VS should not be used as a union.

4.3. Registration Two Nuts

4.3.1. Function/Application

For installations in sanitation, agriculture, industrial and building applications, such as building barrels, cisterns, large reservoirs, etc.

4.3.2. Benefits and Differentials

Practicality
The 2 nut model allows complete disassembly of the valve, which assists the product installation and maintenance process. The steering wheel comes with an attached key, which allows total disassembly and complete access to the interior of the part. This allows the internal components to be easily changed to effect any repair.

Savings
Prevents water waste, ensuring greater savings to the user.

Lightness
The rotation of the steering wheel is light and smooth, which gives less effort to open and close the valve.

Security Against Leaks
They have total tightness, ensuring maximum safety against leaks.

Resistance
Possibility of application in different locations, with different types of liquids.

4.3.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Brown.

Gauges: Available in diameters 75, 85 and 110 mm.

Maximum working temperature: 60°C.

Maximum pressure: 10 kgf/cm².

Next, see the list of reference standards that govern the manufacture of the Two Nuts Registry and that ensure excellent performance, providing a high degree of safety to the facilities.

REFERENCE TECHNICAL STANDARDS	
NBR 5626	Building Installation of Cold Water.

4.3.4. Installation of the Two-Nut Registry

1. Sand the end of the pipe and the end of the valve bag.

2. Apply the preparer solution, and then the adhesive on the tip of the pipe and on the valve.

3. Fit between the parts and remove excess adhesive.

CAUTIONS

- The tightening of the nut must be done manually and the necessary to obtain the sealing adjustment (ball backrest).
- Do not use tools.
- The pipes connected to the valve must be aligned with it, so as not to transmit mechanical efforts.
- The record should not be used as a union.
- Do not use with water temperature above 60°C, as it may damage it.
- It must be used fully open or closed, never semi-open, as this damages the seals.
- It should not be embedded into walls, it is designed for outdoor use only.

4.4. Compact VS Ball Register

4.4.1. Function/Application

Used in different applications such as building barrels, distribution piping in water tanks, washing machines and others. It is simple and easy to operate, with only 1/4 turn.

Notes: Product not indicated for applications where there are solid residues in the water, as these residues may compromise the opening and closing of the product. Example: not suitable for swimming pools.

4.4.2. Benefits and Differentials

Ease of Installation
Simple installation that uses only adhesives to attach the valve to the pipe or connection.

Smooth opening and closing
Smooth turn of the steering wheel to block or release the flow of water.

Compact product
Model suitable for applications with space limitations.

High safety
100% watertight product due to efficient sealing system.

4.4.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Brown.

Gauges: Available in diameters 20, 25, 32, 40, 50 and 60 mm.

Maximum working temperature: 60°C.

Maximum pressure: 10 kgf/cm² at 20°C.

The maximum pressures vary depending on the temperature, according to the indices reported in table 11.

Table 11 - Indexes for Correction of Maximum Pressure as a Function of Temperature

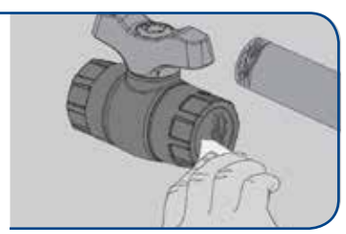
Temperature (°C)	25	25 to 35	35 to 45	45 to 60
Index	1	0,8	0,6	0,4

Below, see the list of reference standards that govern the manufacture of the Compact VS Ball Register and that ensure excellent performance, providing a high degree of safety to the facilities.

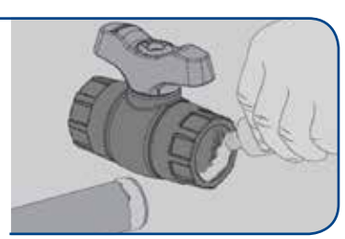
REFERENCE TECHNICAL STANDARDS	
NBR 5626	Building Installation of Cold Water.

4.4.4. Installation of Compact VS Ball Register

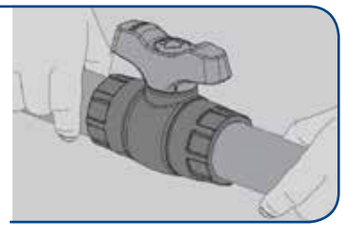
1. With a sandpaper, remove the gloss from the surfaces to be welded (bag and pipe tip), aiming to increase the adhesive attack area.



2. Clean sanded surfaces with TIGRE Preparing Solution, eliminating impurities and greases. Evenly distribute the plastic adhesive with brush or the nozzle of the tube itself on the treated surfaces.

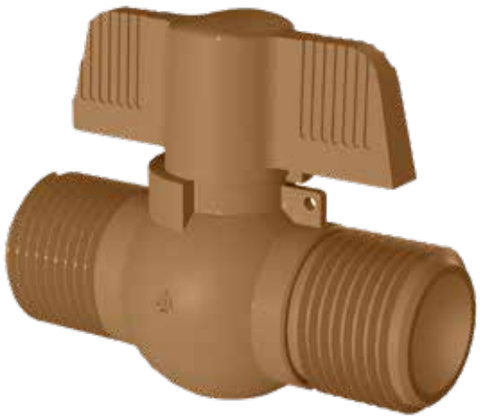


3 Fit the parts together and remove any excess adhesive.



Notes: Caution when applying adhesive to the valve body pouch, prevent the adhesive from dripping in and damaging the ball and seals.

4.5. Ball Register with Butterfly



4.5.1. Function/Application

Ball registration used in building fittings and PVC ball registration piping, used in building barrels, entrance to water tanks. Made of PVC in 1/2" and 3/4" gauges, it resists a pressure of 7.5 kgf/cm2 at room temperature.

Notes: This register must be installed with thread sealing tape at the male thread ends.

4.5.2. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Brown.

Gauges: Available in 1/2" and 3/4" diameters.

Ambient working temperature.

Maximum pressure: 7,5 kgf/cm² at 20°C.

Below, see the list of reference standards that govern the manufacture of the Butterfly Ball Registry and that ensure excellent performance, providing a high degree of safety to the facilities.

REFERENCE TECHNICAL STANDARDS	
NBR 11306	Rigid PVC valve, for building extension - Specification

The pipes connected to the valve must be aligned with it, so as not to transmit mechanical efforts. It must be used fully open or closed, never semi-open, so as not to damage the seals. Perform only manual tightening. It should not be embedded in walls

4.6. Adapter for Water Tank with Registration

4.6.1. Function/Application

It serves to allow opening and closing maneuvers of the water flow and connect the pipes of the water supply and distribution systems to the reservoir in residential and commercial works.

4.6.2. Benefits and Differentials

Ease of Installation
Easier and faster installation because it has the least number of joints. Comes with template on connection diameter and installation instructions.

Complete and cost-effective solution
Fewer pieces. Dispense maintenance.

Safety
Lower risk of leaks.

Durable
Durability thanks to the materials used in the manufacture of the product and its seals.

4.6.3. Technical Characteristics

Working pressure: 7.5 kgf/cm2 at a temperature of 20°C.

Gauges: Available in the weldable version in diameters 20, 25, 32, 40, 50 and 60 mm.

Threadable end for coupling with float valve: With BSP standard female thread according to ISO-7 standard.

O-ring: In SBR rubber. It already comes with the product.

Steering wheel: Allows opening and closing of the valve with 1/4 turn.

Inner ball: In PVC with polyurethane sealing rings.

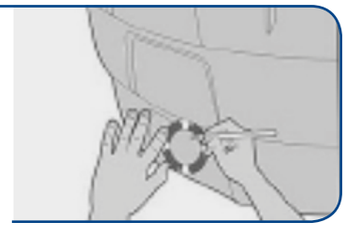
Free flange: With fins for easy hand tightening.

Fixed flange: It has a channel for housing the rubber ring.

4.6.4. Installation of the Adapter for Water Tank with Registration

1 Clean and remove impurities from the surfaces where the Tigre water tank adapter will be installed.

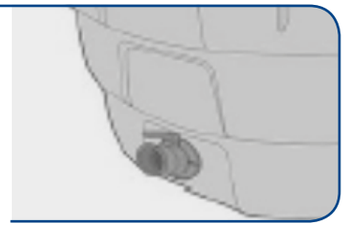
2 To drill the hole in the wall of the water tank, use the inside diameter of the instruction template that comes with the product as a reference.



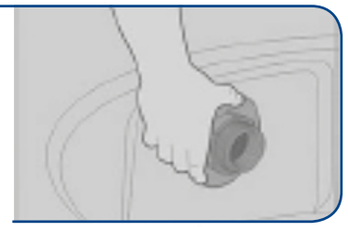
3 Drill the hole with a drill equipped with a cup saw according to the expected diameter.

Important: Drill the hole carefully, avoiding causing chips or ripples in the region where the adapter will be installed. If you use a drill, finish it using a file.

4 Mount the adapter leaving the fixed flange with the valve facing the outside of the water tank, keeping the rubber ring in the housing existing in this fixed flange.



5 Hand-tighten the free flange from the inner side of the case, until the part locks. It is not necessary to use any other sealing material. The tightness will be guaranteed by the compression of the rubber ring against the wall of the water tank.



Attention: Do not use tools to tighten the connection! This procedure causes tension and ends up damaging the product.

4.7. Shower Valve

4.7.1. Function/Application

PVC registration for cold water building installations, especially aimed at residential showers. The practicality of this record is one of its differentials: it only takes a half-turn turn to open or close the water passage.

4.7.2. Benefits and Differentials

Leakage insurance
Adequate to NBR 1 5704-2 and 1 5705 standards.

Smooth turn
Opens and closes quickly.

Does not undergo oxidation
It has high chemical resistance.

Best value
Durability, beauty and watertightness in cold and hot water registers.

4.7.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Chrome and white.

Gauges: Available in diameters 20 and 25 mm.

Working pressure: Up to 7.5 kgf/cm2 at 20°C following the requirements of building installations.

Next, see the list of reference standards that govern the manufacture of the Shower Record and that ensure excellent performance, providing a high degree of safety to the facilities.

REFERENCE TECHNICAL STANDARDS	
NBR 15704-2	Registration Requirements and Test Methods Part 2: Records with non-compressible sealing mechanisms.

There are 2 finishing options:

Chrome and White

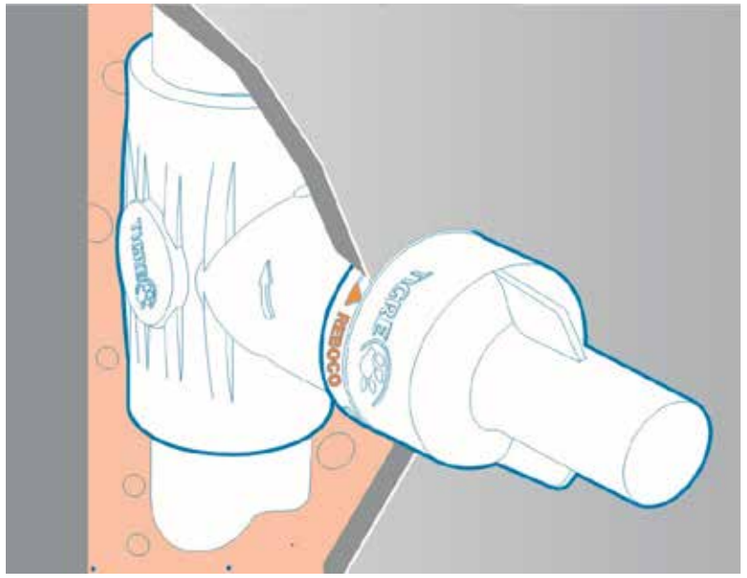
4.7.4. Shower Valve Installation

Choose the appropriate registration model for the type of piping of your installation (weldable or threadable) and follow the installation according to the following guidelines:

Step 1: Install the registration base using Tigre plastic adhesive (weldable model) or thread sealing tape (threadable model). Note the arrow indicating the flow of water over the product body.

Step 2: The register can be embedded in the wall up to the plaster marking that exists on the protective cover. Consider this marking as the level of the plaster, to ensure sufficient height of the register to later place the finish.

The protective cover should be removed only when the registration finish is assembled.



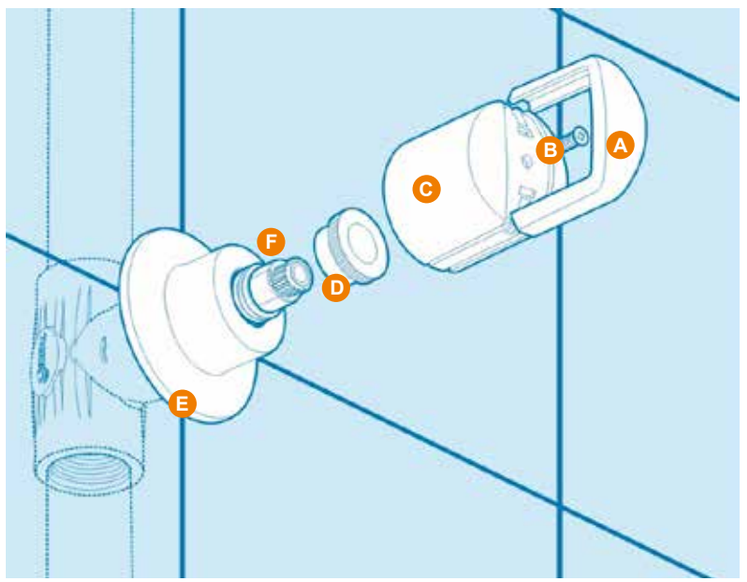
To install the finish, follow these steps:

Step 1: Remove the frame (A) and save the screw (B).

Step 2: Fit the escutcheon (E) and fix it using the press (D).

Step 3: Fit the handwheel (C) to the mechanism (F) and secure it with the screw (B).

Step 4: Replace the frame (A) on the steering wheel (C) taking care to fit it correctly on the guides.

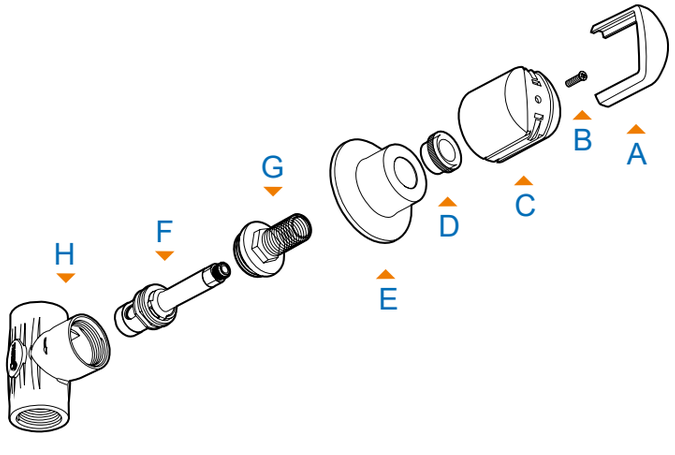


4.7.5. Shower Record Maintenance

If it is necessary to replace the replacement mechanism, follow the following procedure:

Step 1: Undo the frame (A) and set aside the screw (B). Then release the steering wheel (C) and unscrew the press (D) to release the escutcheon (E).

Step 2: With the aid of a spanner, release the bonnet (G) and loot the damaged mechanism (F) from the base (H), replacing it with the new mechanism.



Step 3: Place the new mechanism inside the valve, obeying the correct alignment.

Step 4: Reassemble the other components in reverse.

Important:
When replacing the frame (A) on the steering wheel (C), observe the snap-in guides.

4.8. Gate Valve

4.8.1. Function/Application

PVC register for cold water building installations, used as a general register in environments such as kitchens, bathrooms, service areas, allowing blocking the flow of water for maintenance in the network.

4.8.2. Benefits and Differentials

Leakage insurance
Adequate to NBR 15704-2 and 1 5705 standards.

Smooth turn
Opens and closes quickly.

Does not undergo oxidation
It has high chemical resistance.

Best value
Durability, beauty and watertightness in cold and hot water registers.

4.8.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Chrome and white.

Gauges Available in diameters 25 mm.

Working pressure: Up to 7.5 kgf/cm2 at 20°C following the requirements of building installations.

Next, see the list of reference standards that govern the manufacture of the Gate Valve and that ensure excellent performance, providing a high degree of safety to the facilities.

REFERENCE TECHNICAL STANDARDS	
NBR 15705	Building Hydraulic Installations - Gate Valves - Requirements and Test Methods

Because it is made of PVC, the same raw material as the pipes and fittings, it is enough to weld with the plastic adhesive for Tigre PVC. Comes with the protective cover that has a plaster level marking.

Tigre offers 2 options in colors: chrome and white. For the placement of finishes of other brands, consult our technical assistance.

There are 2 finishing options:

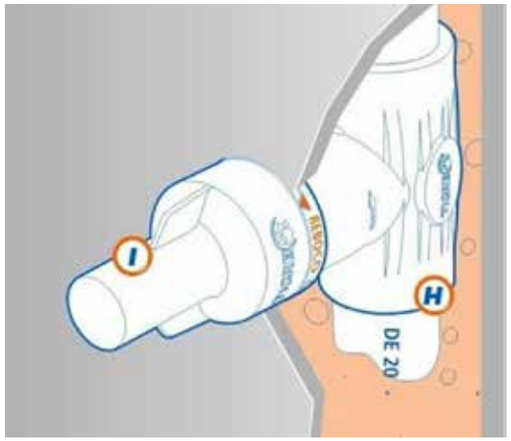
Chrome and White

4.8.4. Gate Valve Installation

Choose the appropriate registration model for the type of piping of your installation (weldable or threadable) and follow the installation, according to the following guidelines:

Step 1: Install the registration base (H) using plastic adhesive for Tigre PVC (weldable model) or thread sealing tape (threadable model).

Step 2: Rely on the marking of the protective cover (I) to assist in determining the depth of embedding, considering the limit of the level of the plaster.



The protective cover should be removed only when the registration finish is assembled.

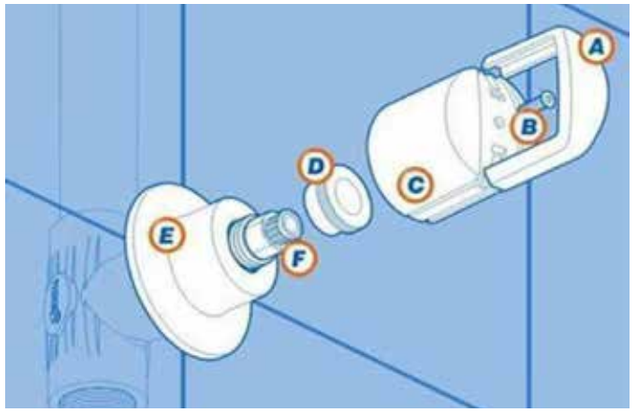
To install the finish, follow these steps:

Step 1: Remove the frame (A) and set aside the screw (B).

Step 2: Fit the escutcheon (E) and fix it using the press (D).

Step 3: Fit the handwheel (C) to the mechanism (F) and secure it with the screw (B).

Step 4: Replace the frame (A) on the steering wheel (C) taking care to fit it correctly on the guides.



4.8.5. Gate Valve Maintenance

If it is necessary to replace the drive mechanism, follow the following procedure:

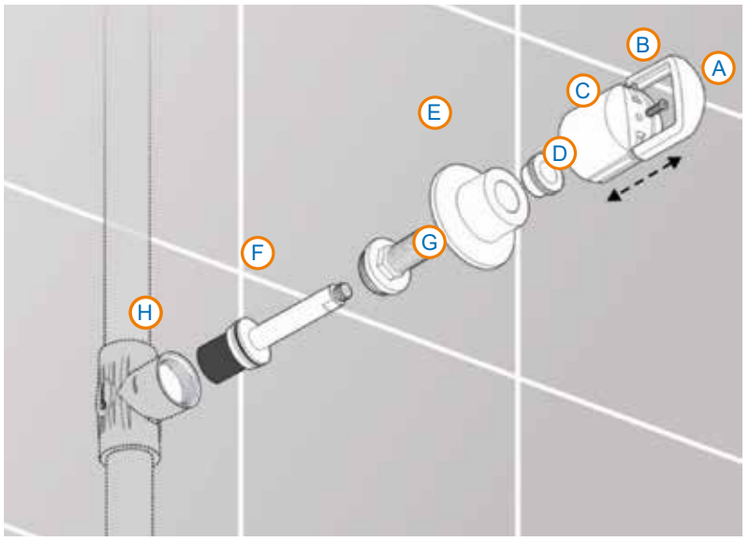
Step 1: Undo the frame (A) and set aside the screw (B). Then release the steering wheel (C) and unscrew the press (D) to release the escutcheon (E).

Step 2: With the aid of a spanner, release the bonnet (G) and loot the damaged mechanism (F) from the base (H).

Step 3: Place the new mechanism inside the valve, obeying the correct alignment.

Step 4: Reassemble the other components in reverse.

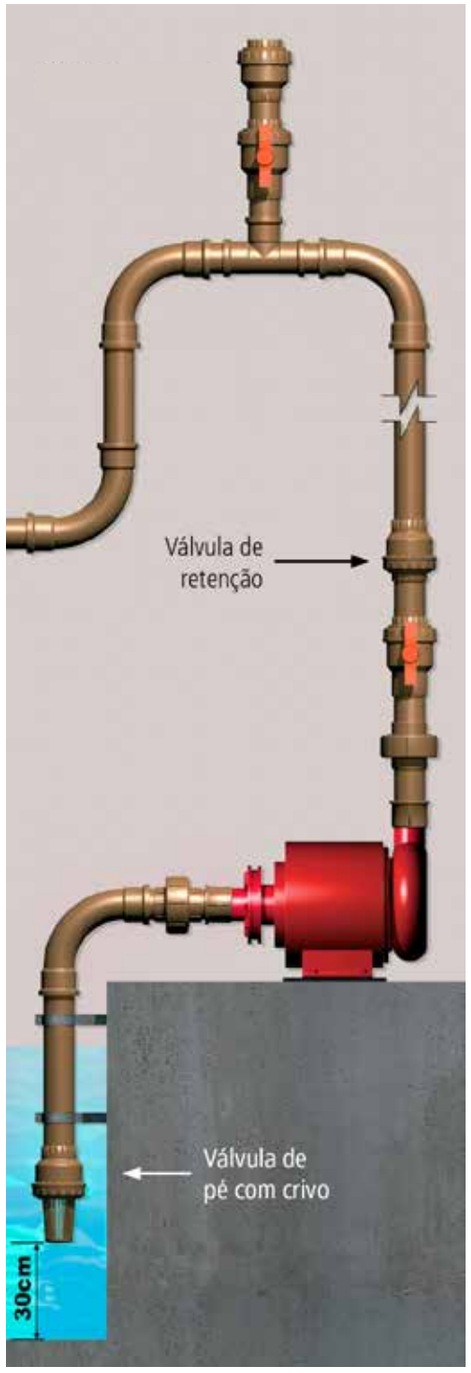
Important:
When replacing the frame (A) on the steering wheel (C), observe the snap-in guides.



4.9. Check Valve and Foot Valve with Sieve

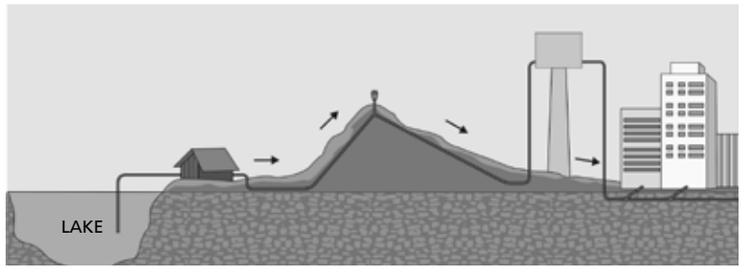
Made of PVC, they are lightweight and have a simpler installation and operation than those on the market. In addition, they are much more economical solutions and have high durability, due to the raw material of the connection and the sealing rings.

Next, get to know each of them in detail.



Valve Position

Check the best position for the installation of the TIGRE Valve, normally at the highest points of the pipelines. This valve must be used vertically, with the nut up, according to the indicative arrow on its body.



4.9.1. Check Valve

4.9.I.I. Function/Application

It is widely used in the pipes that feed the upper water tanks of buildings, where water is pumped. When the pump is switched off, the water that was being pumped up tends to go down. The valve automatically holds the return of this water, preventing it from causing a great impact on the pump.

4.9.I.2. Benefits and Differentials

Ease of installation
Light material that can be installed in horizontal and vertical positions. It comes with exclusive protective film that prevents dripping of adhesive at the time of valve installation (weldable version).

Leakage insurance
Efficient sealing due to inner rubber rings.

Versatile
Easy replacement of internal components by unthreading the nut. Opens and closes quickly.

Best value
Much more economical plastic solution. Offers high durability and maintenance-free.

4.9.1.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Brown.

Gauges:

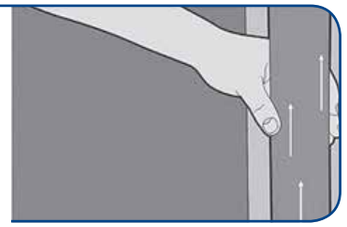
- Weldable 25, 32, 40, 50 and 60 mm.
- Threadable 3/4", 1", 1 1/4", 1 1/2" and 2".

Working pressure: up to 10 kgf/cm2 at 20°C.
In the supply pipes of upper reservoirs with height above 20 meters or in horizontal pipes where the pressure is greater than 200 m.c.a., more than one valve must be used.

The valve works only in installations with a minimum pressure of 0.08 m.c.a. If the pressure is less than this value, it will remain closed.

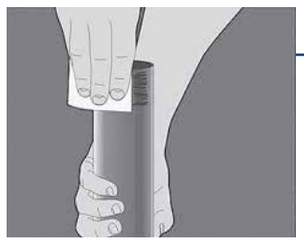
4.9.1.4. Check Valve Installation

1 Check the best position for the installation of the Tigre Check Valve, respecting the direction of water passage, according to the indicative arrow on the valve body.



2 Sand the surface of the pipes and pockets of the valve only to remove the shine, use Tigre sandpaper No. 100. Then clean the surfaces using the Tigre Cleaning Solution.

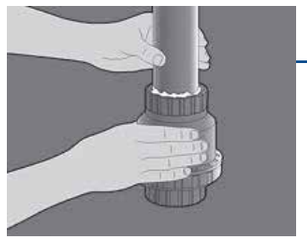
Notes: The standard welding procedure can be used (loosen the nut to effect welding). If this weld is made with the assembly assembled, the film should not be removed until the completion of this operation.



3 Distribute the Tigre adhesive first into the valve bag, then onto the pipe surface.

4 Fit the parts and wipe off excess adhesive.

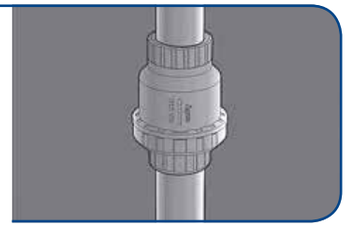
Notes: The valve must be installed with the position of the nut (ring) down.



5 Remove the protective film only 2 minutes after welding. This film will ensure that there will be no leakage of adhesive into the valve, which could lead to leaks.

Notes: If using the threadable version, apply thread sealing tape or liquid thread sealing to the male thread of the tubing. If using the tape, pass three or four turns observing the direction of the threads. Tighten manually, without the use of tools in the assembly.

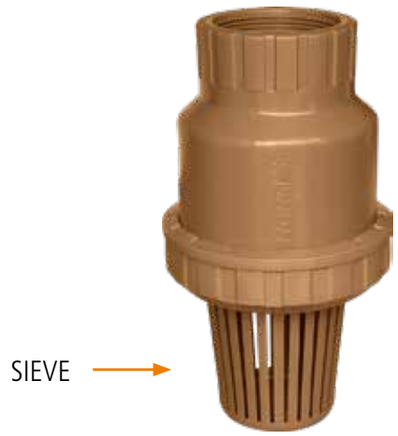
6 Release the installation for use after 12 hours and check the operation of the system.



4.9.1.5. Check Valve Maintenance

If there is a need to replace the sealing rings, simply unscrew the nut that allows access to the inside of the valve.

4.9.2. Foot Valve with Sieve



4.9.2.I. Function/Application

The sieve foot valve is indicated for use in water suction pipes in cisterns or wells for:

- Keep the suction pipe full of water, preventing air from entering the pump.
- Avoid the entry of residues that may damage the pump through the sieve.

A minimum pressure of 1 m.c.a. in the network is required for total valve tightness.

4.9.2.2. Benefits and Differentials

Ease of Installation
Due to the practicality and lightness of the material.

Leakage insurance
Sealing guaranteed due to the inner rubber rings.

Versatile
Easy replacement of internal components by unthreading the nut. Avoids the need for frequent pump priming as it keeps the suction pipe constantly filled even with the pump turned off.

Best value
Much more economical plastic solution.

Durable
Corrosion resistant.

4.9.2.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Brown.

Gauges:

- Weldable 25, 32, 40, 50 and 60 mm.
- Threadable 3/4", 1", 1 1/4", 1 1/2" and 2".

Working pressure: up to 10 kgf/cm2 at 20°C.

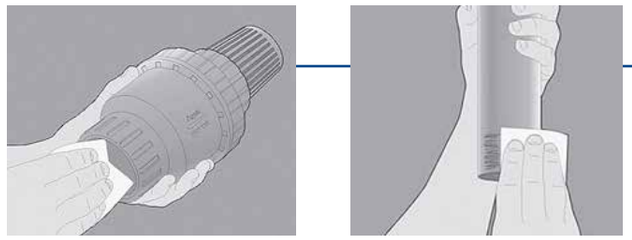
4.9.2.4. Foot Valve Installation with Sieve

This valve is designed for fully immersed use

1 Check the correct position of the suction piping and valve, observing the arrow indicating the flow of water in its body.

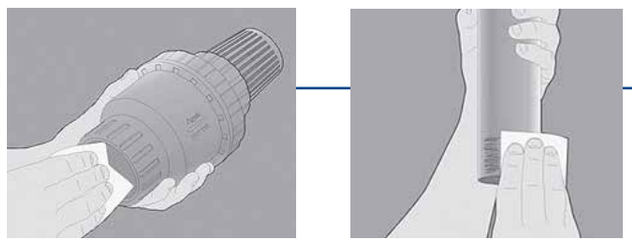
Notes: Install the Tigre Foot Valve at least 30 cm above the bottom of the reservoir, this prevents suction of impurities or debris.

2 Sand the surface of the piping and the valve bag to remove the gloss from the surfaces, use Tigre n° 100 sandpaper. Then clean the surfaces using the Tigre Cleaning Solution.

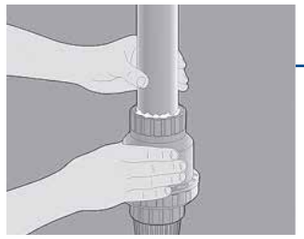


3 Distribute the Tigre adhesive first into the valve bag, then onto the pipe surface.

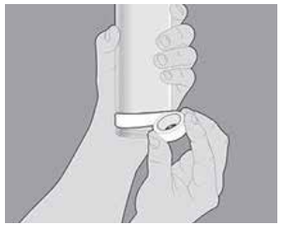
Note: the valve must be installed with the nut (ring) position down.



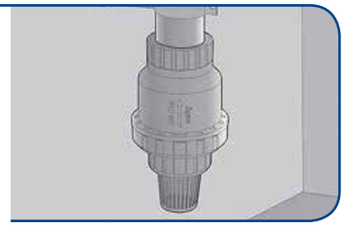
4 Fit the parts and wipe off excess adhesive. Observing the direction of the threads.



Notes: If using the Thread Valve, apply thread sealing tape or liquid thread sealing tape to the male thread of the tubing. If using the tape, pass three or four turns observing the direction of the threads.



5 Try to fix the end of the pipe avoiding harmful vibrations to the system. Release the plant for use after 12 hours.



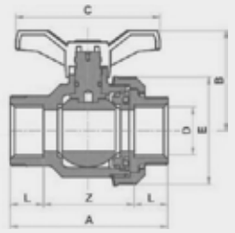
4.9.2.5. Foot Valve Maintenance with Screen

- If there is a need to replace the sealing rings, simply unscrew the nut that allows access to the inside of the valve.
- If there is evidence of leakage, check and remove any residues present in the valve sealing region.

Important:
The foot valve with sieve does not require sealing inside, so the sealing ring does not accompany the product.

4.10. Stopcock and Valve Line Items

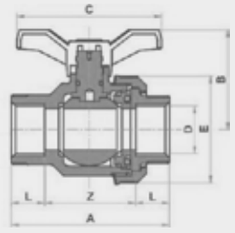
• Ball Register VS Weldable



DIMENSIONS (MM)

CODE	GAUGE	A	B	C	D	E	Z	L
27958001	20	74	56	76	20	50	42	16
27958028	25	87,9	64	80	25	61	50,9	18,5
27958044	32	99,5	70	90	32	68	55,5	22
27958060	40	118,6	74	110	40	83	66,6	26
27958087	50	138,2	96,5	140	50	96	76,2	31
27958109	60	165,1	107	170	60	115	93,1	36

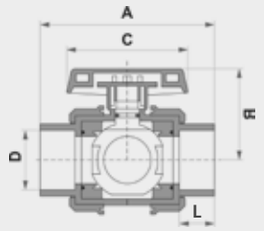
• Threadable VS Ball Register



DIMENSIONS (MM)

CODE	GAUGE	A	B	C	D	E	Z	L
27958281	1/2"	78	56	76	1/2"	50	44	17
27958303	3/4"	87,9	64	80	3/4"	61	50,9	18,5
27958320	1"	99,5	70	90	1"	68	55,5	22
27958346	1.1/4"	113,6	74	110	1.1/4"	83	64,6	24,5
27958362	1.1/2"	127,2	96	140	1.1/2"	96	78,2	24,5
27958389	2"	152	107	170	2"	115	95	28,5

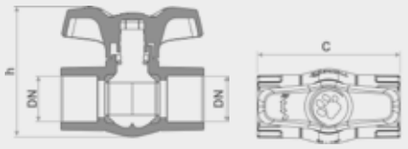
• Ball Registration VS Two Nuts



DIMENSIONS (MM)

CODE	GAUGE	A	B	C	D	L
300000788	75	228	112,5	161	75	40
300000789	85	269	160,5	200	85	48
300000792	110	309	173,5	240	110	56

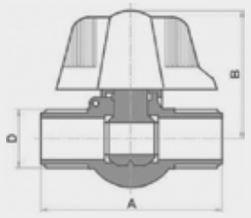
• Threadable VS VS Compact



DIMENSIONS (MM)

CODE	GAUGE	DN	h	C
27950302	20	20	57	63
27950310	25	25	63	70
27950329	32	32	78	90
27950337	40	40	68	104
27950345	50	50	110	120
27950353	60	60	123	142

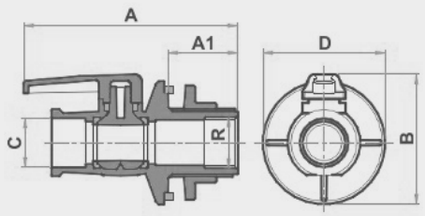
• Ball Register with Butterfly



DIMENSIONS (MM)

CODE	GAUGE	A	B	D
100002625	1/2"	65	45	1/2"
100002626	3/4"	75	47,5	3/4"

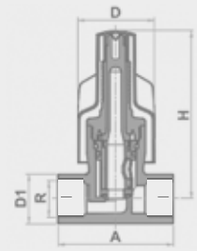
• Adapter for Water Tank with Registration



DIMENSIONS (MM)

CODE	GAUGE	A	A1	B	C	D	R
27955703	20	125,7	43	72,6	20	64,5	1/2"
27955657	25	124	43	75	25	70,3	3/4"
27955673	32	139	43	84	32	79,6	1"
27955738	40	164,4	48	104,1	40	87,4	1.1/4"
27955690	50	164	48,1	106	50	94,95	1.1/2"

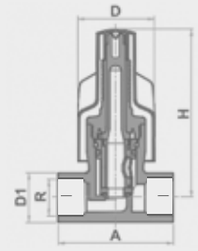
• White Shower Record



DIMENSIONS (MM)

CODE	GAUGE	A	D	D1	H	R
27952186	20	66	39,5	26	99,1	20
27952194	25	71	39,5	31	99.1	25

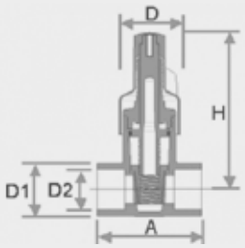
• Chrome Shower Record



DIMENSIONS (MM)

CODE	GAUGE	A	D	D1	H	R
27940102	20	66	39,5	26	99,1	20
27940110	25	71	39,5	31	99.1	25

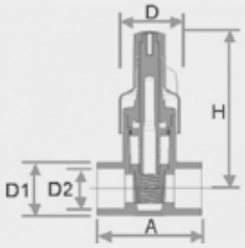
• White Gate Valve



DIMENSIONS (MM)

CODE	GAUGE	A	D	D1	D2	H
27940412	25	67,6	39,5	31	25	104

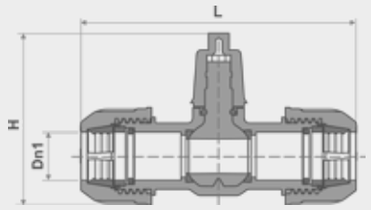
• Chrome Gate Valve



DIMENSIONS (MM)

CODE	GAUGE	A	D	D1	D2	H
27940510	25	67,6	39,5	31	25	104

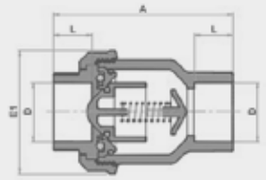
• Butterfly Valve for Building Branch Connection



DIMENSIONS (MM)

CODE	GAUGE	Dn1	H	L
27950604	20	20,5	61,15	117,3

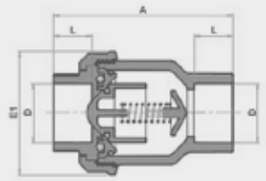
• Weldable Check Valve



DIMENSIONS (MM)

CODE	GAUGE	A	D	L	E1
27957013	25	87,9	25	18,5	61
27957153	32	99,5	32	22	68
27957161	40	118,6	40	26	83
27957188	50	138,2	50	31	96
27957196	60	165,1	60	36	115

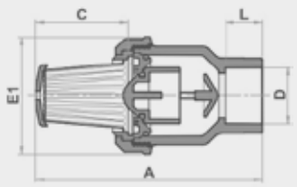
• Threadable Check Valve



DIMENSIONS (MM)

CODE	GAUGE	A	D	L	E1
27957200	3/4"	87,9	3/4"	18,5	61
27957218	1"	99,5	1"	22	68
27957226	1.1/4"	118,6	1.1/4"	26	83
27957234	1.1/2"	138,2	1.1/2"	31	96
27957242	2"	165,1	2"	36	115

• Foot Valve with Sieve



DIMENSIONS (MM)

CODE	GAUGE	A	C	E1	L	D
27957366	3/4"	115,4	48	61	18,5	3/4"
27957374	1"	132,7	58	68	22	1"
27957382	1.1/4"	160,1	68	83	26	1.1/4"
27957390	1.1/2"	189	84	96	31	1.1/2"
27957404	2"	216,65	94	115	36	2"

Notes

Water Tanks

COLD WATER

5. Water Tanks

Product made of resistant and non-toxic material, designed to store water intelligently and safely. Tigre water tanks are designed to ensure maximum protection of stored water, with a safe closing system that prevents insects from entering, thus avoiding any risk of damage to health. Versatile, they can also be used in agriculture, fish farming and other activities where it is necessary to reserve water.

5.1. Function/Application

Polyethylene water tanks for storing drinking water in homes, businesses and industries. Manufactured with non-toxic material, they do not smell or taste like water.

5.2. Benefits and Differentials

Simple and intuitive installation
Made of polyethylene, the water tanks are lighter and already have pre-markings to guide the points of entry and exit of the water, facilitating the installation.

Ease of cleaning
Smooth internal surface that makes it difficult to accumulate dirt and the lower height facilitates access to the inside of the tank.

Safer closure
The closure through the cover fitting and the body of the water tank offer maximum safety against the entry of insects and impurities, keeping the water clean for consumption.

Longer durability
High durability due to the UV protection system that.

Easy storage and transportation
The open water tanks allow stacking, facilitating storage and optimizing transportation.

5.3. Technical Characteristics

Material: LDPE - Low Density Polyethylene.

Color: Blue.

Manufacturing process: Rotational molding.

Storage capacity: 310, 500, 750, 1000, 1500, 2000, 3000 e 5000 litros.

Table 12 - Weight and Volume of Water Tanks

Model	Weights and Volumes			
	Thickness (mm)	Nominal Vol. (L)	Effective Vol. (L)	Weight with Cover (Kg)
310	2,4	310	336,0	7,5
500	2,4	500	522,0	10,1
750	2,7	750	741,5	13,8
1000	2,8	1000	969,4	17,0
1500	3,0	1500	1450,7	24,2
2000	3,6	2000	1895,9	34,5
3000	4,1	3000	3061,1	54,7
5000	5,5	5000	5100,0	94,9

*Approximate values

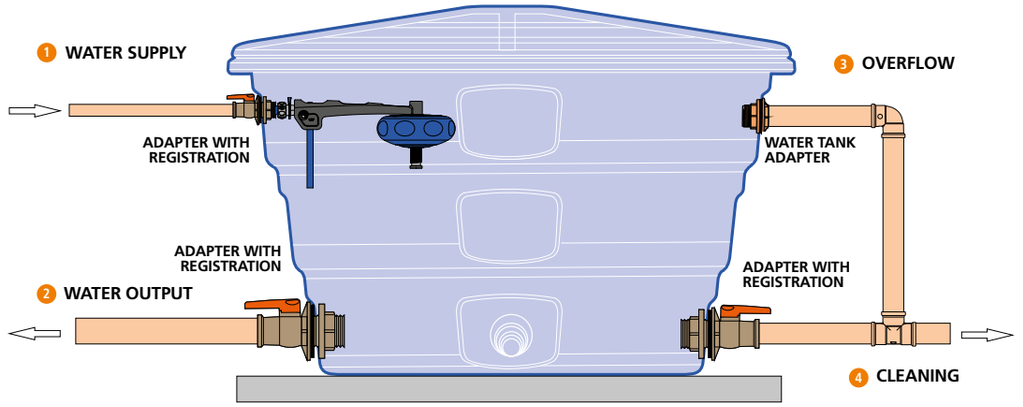
Below, see the list of reference standards that govern the manufacture of the Water Tank Line and that ensure excellent performance, providing a high degree of safety to the facilities.

WEIGHTS AND VOLUMES	
NBR 14799	Polyolefin reservoir for drinking water of nominal volume up to 2000 liters - Requirements.
NBR 15682	Rotomolded stationary tank in polyethylene (PE) for water conditioning - Requirements.

5.4. Instructions

5.4.1. Pipeline Installation

The essential pipelines for the proper installation of the water tank are:

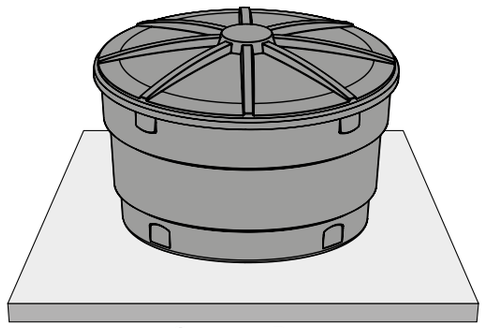


1. **Intake** (for tank supply).
2. **Outlet** (for water distribution to the building).
3. **Spillway** (to allow flow of any excess water, avoiding overflow).
4. **Cleaning** (for water drainage after cleaning the water tank).

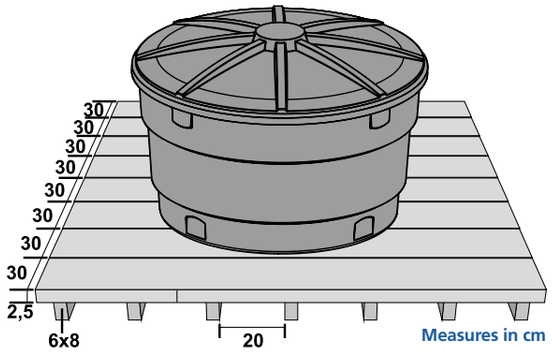
Notes: Despite the non-mandatory, it is foreseen and recommended by NBR 5626 - Cold Water Building Installation, that the distribution column be ventilated to protect against water reflux, as presented in item 1.6.10. of this catalog.

5.4.2. Pipe Laying

It is recommended that the base for installing the tank be smooth, level, free of dirt or sharp materials, which can be:



Concrete Base



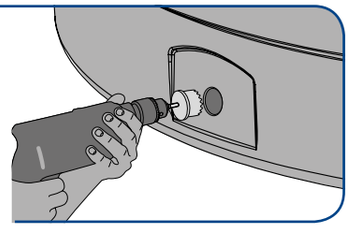
wood Base

If it is made of wood, the boards must be of the same thickness and strength, without spacing between them.

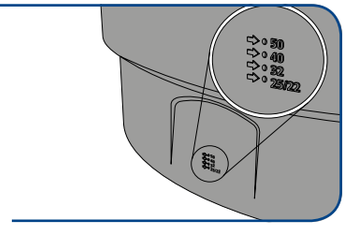
Important
The base must have resistance compatible with the weight of the full tank (e.g. 1000 liters = 1000 kg) and must be greater than the width of the bottom of the tank.

5.4.3. Drilling

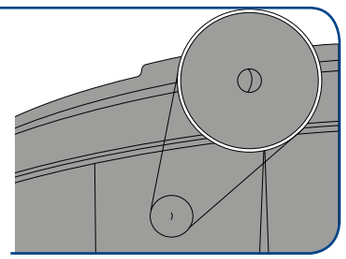
1 The holes for placing the pipes must always be made in the flat recesses on the side of the tank, through a cup saw. Always finish the drilling carried out with a file.



2 When drilling, use the marking corresponding to the adapter gauge. The hole should not be larger than 50mm (maximum pipe gauge).



3 THE hole for placing the inlet pipe must be made in the upper flat relief. When drilling, use the existing marking considering it as the center of the hole.



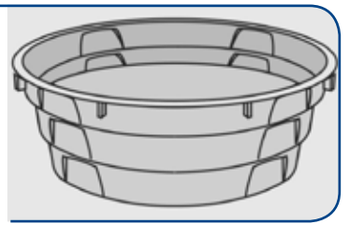
5.4.4. Maintenance of Water Tanks

1 Start with closing the house entrance register or tie the buoy.

Tips: A good solution for this case is the installation of the exclusive Water Tank Adapter with Registration, the best technical solution to avoid the improvisation of tying the float valve rod.

Adapter for Water Tank with Registration

2 Separate a quantity of water from the tank for its use in the final steps of cleaning the tank. Leave a reserve of water in the tank of approximately one hand.



3 Use this water to wash the walls and bottom of the tank with a damp cloth, avoiding the use of a steel brush and broom. Never use soap, detergent or other product. Cover the water outlets of the tank, so that this dirty water that was left at the bottom does not go down the distribution pipe of the house. Remove the washing water and dirt with a plastic shovel, bucket and cloths, leaving it very clean. Use clean cloths to dry the bottom; avoid rubbing them on the walls.

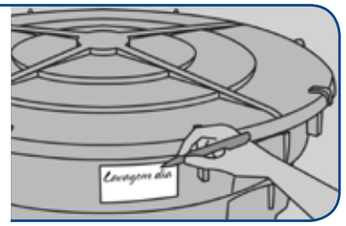
4 Still with the outlets of the tank closed, let in a handful of water, add 2 liters of bleach and leave for 2 hours. With a plastic bucket or mug, wet the inner walls with this disinfectant solution.

Every 30 minutes, check that the inner walls of the tank have dried; if this occurs, reapply this mixture until 2 hours. Do not use this water for 2 hours at all. After 2 hours, still with the tank float tied or the register closed, open your exits to empty it. Open all the faucets and activate the flush (so that the pipes in the residence will be disinfected).

Obs.: Essa água poderá ser utilizada para a lavagem de quintais, banheiros e outros pisos.

5 Tampe adequadamente a caixa d'água TIGRE, fixando com os parafusos, para que não entrem pequenos animais, insetos ou sujeiras. Lave a tampa antes de sua utilização.

6 Anote em uma etiqueta autoadesiva a data da limpeza e cole na caixa.



5.4.5. Estocagem

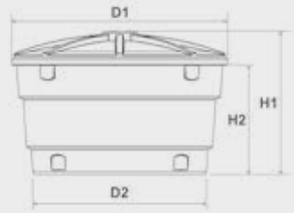
The shape of the tanks allows one to fit inside the other, saving space in storage. They must be stacked on a flat surface, according to the quantity specified in the table.

Table 13 - Maximum Stacking

Model	Body/Cover
310 L	15 + 6 e 6 + 20
500 L	50 + 50
750 L	18 + 18
1000 L	35 + 35
1500 L	12 + 12
2000 L	12 + 12
3000 L	5 + 5
5000 L	3 + 3

5.5 Water Tank Line Items

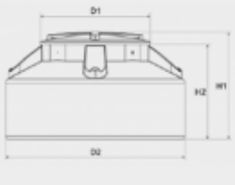
• Open Water Tank



DIMENSIONS (MM)

CODE	MEASUREM	D1	D2	H1	H2
22993119	310L	1039,0	812,9	644,0	523,4
100017470	500L	1230,0	918,0	780,0	638,0
22993313	750L	1308,0	1053,9	861,7	702,7
100017471	1000L	1064,0	1064,0	1006,0	835,0
22993372	1500L	1702,2	1419,4	980,0	768,4
22992058	2000L	1821,5	1520,3	1106,0	877,8
22992066	3000L	2155,0	1721,7	1380,0	1124,1
22992074	5000L	2530,0	1849,0	1810,0	1505,0

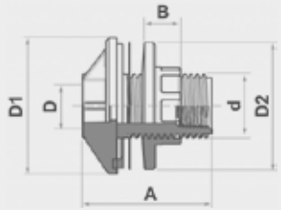
• Closed Water Tank



DIMENSIONS (MM)

CODE	MEASUREM	D1	D2	H1	H2
22992082	310L	645	1000	556	490
22992120	500L	645	1153	666	620
22992147	1000L	645	1360	866	800

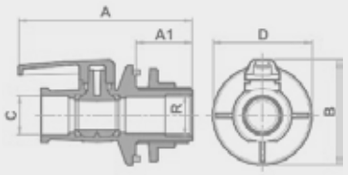
• Aquatherm® Water Tank Adapter



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d	D1	D2
22855816	22	61,2	18	30	15,25	64,3	60
22855824	28	64	21	28,3	44	79,4	74

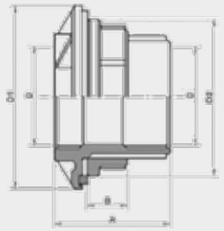
• Adapter for Water Tank with Registration



DIMENSIONS (MM)

CODE	GAUGE	A	A1	B	C	D	R
27955703	20	125,7	43	72,6	20	64,3	1/2"
27955657	25	124	43	75	25	70,3	3/4"
27955673	32	139	43	84	32	79,6	1"
27955738	40	164,4	48	104,1	40	87,4	1.1/4"
27955690	50	164	48,1	106	50	94,95	1.1/2"

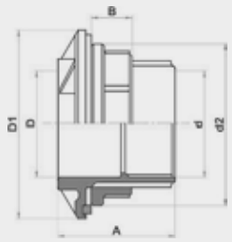
• Threadable Adapter with Ring for Water Tank



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	D1	D2
20002409	1/2"	61	17	1/2"	64,1	60
20002425	3/4"	61	17	3/4"	70,1	66
20002441	1"	64	20	1"	79,4	74
20002468	1.1/4"	64	20	1.1/4"	87,4	82
20002484	1.1/2"	67	23	1.1/2"	94,7	88
20002506	2"	67	23	2"	108,7	102

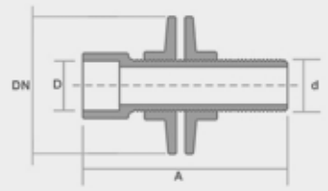
• Weldable Adapter with Ring for Water Tank



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	d	D1	D2
22002406	20	61	17	20	1/2"	64,1	60
22002422	25	61	17	25	3/4"	70,1	66
22002449	32	64	20	32	1"	79,4	74
22002465	40	64	20	40	1.1/4"	87,4	82
22002481	50	67	23	50	1.1/2"	94,7	88
22002503	60	67	23	60	2"	108,7	102

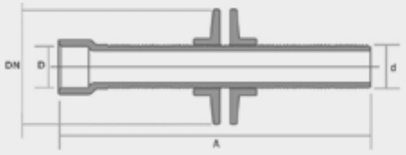
• Weldable Adapter with Free Flanges for Water Tank



DIMENSIONS (MM)

CODE	GAUGE	A	D	d	DN
22028081	75 x 2.1/2"	250	75	2.1/2"	175
22028138	85 x 3"	255	85	3"	193
22028189	110 x 4"	275	110	4"	220

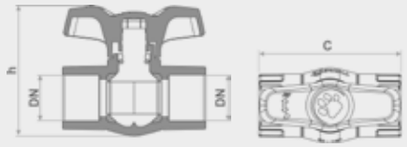
• Long Weldable Adapter w/Free Flanges for Water



DIMENSIONS (MM)

CODE	GAUGE	A	D	d	DN
22048082	75 x 2.1/2"	290	75	2.1/2"	175
22048139	85 x 3"	295	85	3"	193
22048180	110 x 4"	315	110	4"	220

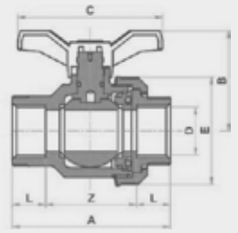
• Plain compact valve



DIMENSIONS (MM)

CODE	GAUGE	DN	h	C
27950302	20	20	57	63
27950310	25	25	63	70
27950329	32	32	78	90
27950337	40	40	68	104
27950345	50	50	110	120
27950353	60	60	123	142

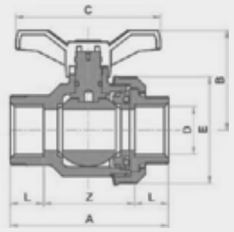
• Thread VS ball valve



DIMENSIONS (MM)

CODE	GAUGE	A	B	C	D	E	Z	L
27958001	20	74	56	76	20	50	42	16
27958028	25	87,9	64	80	25	61	50,9	18,5
27958044	32	99,5	70	90	32	68	55,5	22
27958060	40	118,6	74	110	40	83	66,6	26
27958087	50	138,2	96,5	140	50	96	76,2	31
27958109	60	165,1	107	170	60	115	93,1	36

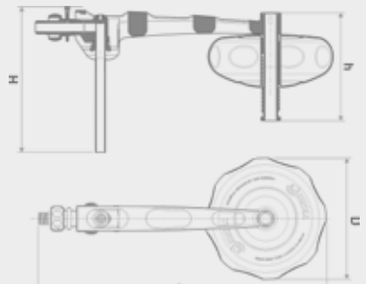
• Threadable VS Ball Register



DIMENSIONS (MM)

CODE	GAUGE	A	B	C	D	E	Z	L
27958281	1/2″	78	56	76	1/2″	50	44	17
27958303	3/4″	87,9	64	80	3/4″	61	50,9	18,5
27958320	1″	99,5	70	90	1″	68	55,5	22
27958346	1.1/4″	113,6	74	110	1.1/4″	83	64,6	24,5
27958362	1.1/2″	127,2	96	140	1.1/2″	96	78,2	24,5
27958389	2″	152	107	170	2″	115	95	28,5

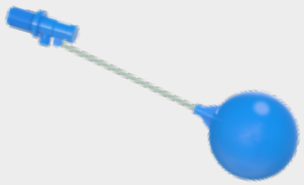
• Click Float Valve



DIMENSIONS (MM)

CODE	GAUGE	D	H	h	L
22994107	1/2″, 3/4″, 1″	200	231,7	172,2	475,8

• Tigre Float Valve w/Metal Rod



DIMENSIONS (MM)

CODE	GAUGE	DE
100002305	DN 1/2″	1/2″
100002306	DN 3/4″	3/4″

Notes

PBS

COLD WATER

6. PBS

The PBS product line consists of pipes and fittings that utilize the weldable joint system for installation. The system is characterized by simplicity in the execution of the weld and also by the safety provided for the installation. Among the main advantages of the line, we can highlight its high tensile strength and the joint itself, made entirely of PVC.

6.1. Function/Application

Conduct water at room temperature in industries, large vertical works and swimming pools.

6.2. Benefits and Differentials

Fast and secure installation
With the use of Adhesive.

Greater agility during handling, transportation and installation
Lighter products than some metal solutions.

Greater flexibility and agility in assembly and disassembly during installation and maintenance
Flanged gasket options.

6.3. Technical Characteristics

Material: Made of PVC Poly(vinyl chloride).

Color: Brown.

Pocket-tip pipes: Ends with tip and weldable bag in pipes supplied in 6.0 m bars.

Gauges: Available in diameters of 60, 75, 85, 110, 160 and 200 mm.

Working pressure: 12.1 5 and 20, for service pressures of 6 kgf/cm2 (60 m.c.a.), 7.5 kgf/cm2 (75 m.c.a.) and 10 kgf/cm2 (100 m.c.a.), respectively.

The maximum pressures vary depending on the temperature, according to the indices informed in the following table.

Table 14 - Indexes for Correction of Maximum Pressure as a Function of Temperature

°C	25°C	25 a 35°C	35 a 45°C	45 a 60°C
index	1	0,8	0,6	0,4

Notes: Its use in temperatures above 60°C is not recommended.

Flanges

- 2 models: with holes and without holes.
- Standard ABNT NBR 7669 and ANSI B16.5 class 1 50 lbs.

Fittings

- For service pressures up to 10 kgf/cm2 (class 20).

6.4. Instructions

6.4.1. Buried pipes

For laying the PBS TIGRE pipes, the trench should have a rectangular section as much as possible. In the case of soils of low strength, high depths or with high water table problems, a perfect shoring of the walls of the trench and equipment for its depletion must be provided..

For greater economy, the width of the trench should be reduced as much as possible, respecting, at the base of the trench, the minimum limit D + 30 cm (D = external diameter of the pipe in cm).

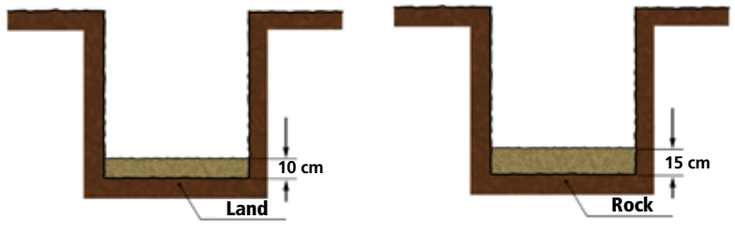
As for depth, in cases where there is no traffic, a minimum coating of 60 cm in the pipe is recommended; in cases where there is traffic, a minimum coating of 80 cm above the upper generator of the PBS pipes.

6.4.2. Pipe Laying

The piping must be seated on good quality soil. When this type of soil is not found, a base made of material free of stones and foreign bodies must be used.

If the bottom of the trench is made of earth material, the thickness of the base must not be less than 10 cm and, when made of rock or decomposed rock, the base must be at least 1 5 cm.

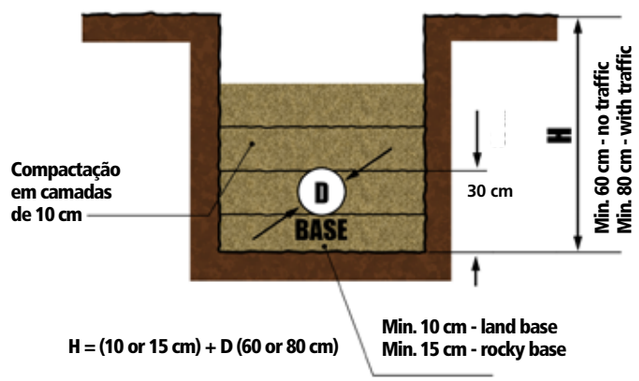
The soil applied to the base and the involvement of the piping may be natural or borrowed, but of good quality and compacted properly.



6.4.3. Backfill

As soon as the pipe is laid, the backfill begins with suitable soil, free of stones, up to a height of 30 cm above the upper generator of the pipe and compacted in layers not exceeding 10 cm at a time.

The rest of the landfill should preferably be run with the same type of soil, free of materials of notable dimensions. In the backfill, it is necessary to seek to obtain a final density of the soil close to that of the initial one.



6.4.4. Apparent Pipes

On occasions when the plumbing is apparent, either horizontally or vertically, it is recommended to:

- Adequate and safe protection to prevent shocks to piping.
- That the piping does not suffer the effects of stresses arising from deformations or settlements of the structure on which it is supported or fixed.
- Additional precautions when the piping undergoes expansion due to temperature variation. In practice, these variations are compensated with the use of lyres.

6.4.5. Lyre Calculation

The "L" dimensions of the lyres depend on the following aspects:

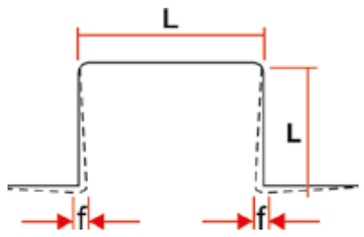
- The outside diameter of the pipe in mm.
- Temperature variation (minimum, maximum and mounting).
- Of the total length of the net (straight stretch).

Knowing that the linear expansion coefficient a of rigid PVC pipes ranges from 6.5 to 8.5 x 1 CP5 / °C, in the temperature range from 0°C to 40°C.

For calculation purposes, we can take the average value of the coefficient of linear expansion of PVC:

α = 0,07 mm/°C.m

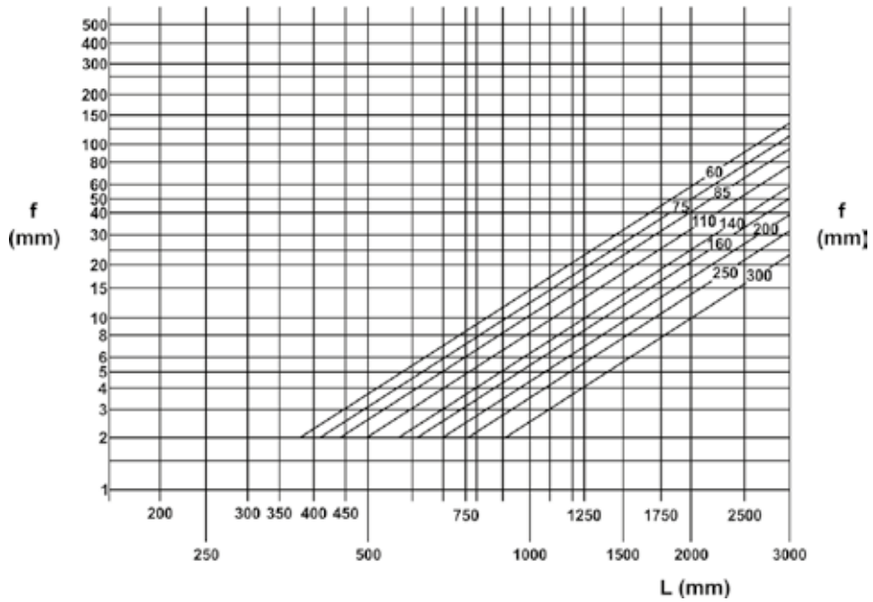
The maximum bending allowed (2f) by the horseshoe loop will depend, in addition to the factors already mentioned, on the dimensions "L", as shown in the drawing on the side.



Notes:

- Use curves and not elbows.
- The lyres should always be installed in the horizontal plane, to avoid the formation of siphons.

To calculate the number of lire required, the abacus shown below is used.



The total expansion of the pipe is calculated and it is checked how much expansion (2f) the lyre absorbs. The amount of horseshoe loops required is then determined.

For example:
Suppose a section of network executed with PBS pipes, DE 60, with a total length, between two fixed points, of 10 m. We know that the temperature, at the time of assembly, is 15°C. Determine the dimensions and amounts of lire required to negate the effects of thermal expansion.

l = 10 m (length of net).
α = 0,07 mm/°C.m (linear expansion coefficient of PVC).
DE = 60 mm (outside diameter of pipe).
Δl = Variation of pipe length as a function of temperature variation.
f = Divergence in mm.
L = Free length of the pipe in the lyre in mm.
tmín. = 10°C (minimum temperature).
tmáx. = 25°C (maximum temperature).
t_m = (mounting temperature).

Solution:

Δl = l. α. Δt

A) $\Delta l = l.\alpha.(t_m - tmin)$
$\Delta l = 10 \times 0,07 \times (15 - 10) = 3,5$ mm
This is the length corresponding to how much is decreased from the total length (retraction).

B) $\Delta l = l\ \alpha.(tmax - t_m)$
$\Delta l = 10 \times 0,07 \times (25 - 15) = 7$ mm

This is the length corresponding to how much the total length is increased (dilation). Therefore, the highest value of the length variation is used to determine the lyre, that is: Al = 7 mm.

Referring to the abacus, for OD 60 mm, and fixed for f a value of 3.5 mm, the corresponding L will be 500 mm.

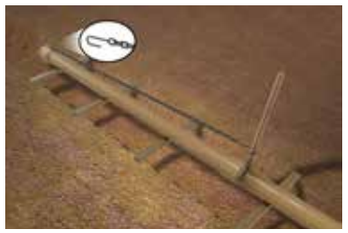
Note that each lyre absorbs twice the value corresponding to f. Therefore, a 500 mm x 500 mm lyre should absorb 3.5 mm x 2 = 7 mm. Therefore, a single lyre of L = 500 mm is sufficient to absorb the maximum and minimum dilations of the section considered.

6.4.6. Assembly and Installation

The PBS connection can be made manually up to 140 mm gauge and with the use of appropriate lever or "Tirfor" for upper gauges.

For the latter case, a trained team is required, which initiates the fitting as soon as the pipe tip and bag surfaces are prepared for welding.

When pulling the lever, a single operation must be performed, as an imperfect weld is obtained when this is done in steps.



6.4.7. Weldable Joint Execution

1. Measure the depth of the connection bag and mark on the end of the pipe.

2. With the aid of a brush, apply the Aquatherm TIGRE Adhesive to the tip of the pipe to be welded, according to the following table. Subsequently, immerse the brush again in the Aquatherm TIGRE Adhesive and apply it to the connection bag. Lastly, dip the brush back into the Aquatherm TIGRE Adhesive and reapply to the tip of the pipe where the Adhesive had already been applied initially. It is not necessary, in this case, to spin Al back.

Table 15 - Consumption of Adhesives and Cleaning Solution for PBS Pipes

Gauge (mm)	Adhesive (g/gasket)	Cleaning Solution (g/gasket)
60	6,0	6,0
75	7,5	7,0
85	10,0	9,0
110	18,0	18,0
140	26,0	25,0
160	30,0	40,0
200	40,0	60,0
250	70,0	100,0
300	100,0	150,0

Note: The consumptions of Adhesive and TIGRE Cleaning Solution contained in this table are approximate and may vary depending on the ambient temperature and the installer himself.

3. Once the assembly is completed, clean the excess Adhesive.

Notes: For the DE 60 gauge, simply apply the Adhesive homogeneously first to the tip of the pipe and then to the connection bag, without dipping the brush back into the Adhesive.

6.4.7.I. Serrated Pipes

The PBS pipes are supplied with the beveled tip. If it is necessary to saw a pipe, the tips must be perfectly chamfered with a file, to facilitate the fitting. The tips can be used with the use of PBS sleeves.

6.4.7.2. Execution of Repairs

Repairs to PBS pipes can be performed easily with the use of PBA line sliding sleeves. When working with PBS sleeves, the Adhesive must be applied on clean and dry surfaces, therefore, special care is required to obtain a perfect weld with water in the trench.

6.4.8. Interconnection with Other Materials

The interconnection of PBS pipes with other materials can be done with the proper fittings for this purpose.

We will mention some examples of fittings with metal parts and other accessories, such as valves and check valves, with the following types of joints:

Flanged: by applying separate PVC flanges directly to the pipes.

Threaded: using the tip/thread or bag/thread adapters.

Elastic: in the case where cast iron registers with PVC elastic joint pouches are used, their coupling to PBS pipes is done directly.

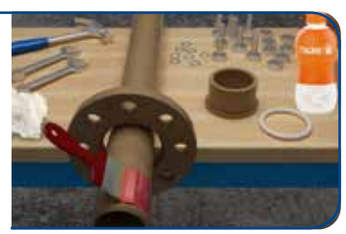
The elastic joint is widely used when the piping needs frequent modifications, disassembly for cleaning and replacement with reuse of the material.

Important
We advise that materials with female PVC threads and metallic male threads are not used, as this combination can damage the PVC product and compromise the installation performed.

6.4.9. Flanged Joint Execution

1. Clean the tube end and flange pocket.

2. Place the free flange on the pipe and apply the TIGRE Adhesive to the flange bag and the tip of the pipe.



3. Using a piece of wood and using a hammer, insert the nozzle of the flange into the pipe until it reaches its backrest.

4. Place the sealing gasket in position.

5. Alignment of the holes is easily achieved as the flanges are free.

6. The screws should be tightened gradually, always trying to tighten the one diametrically opposite the one being tightened.

Notes:

- It is important that the flanges to be joined in an installation follow the same drilling pattern. Attention should be paid to the correct choice of parts, especially when transitioning with other materials.
- Sealing: The joints supplied with the TIGRE flanged pipes and fittings are of flat type EPDM rubber.

6.4.9.I. Drilling and Screws

- When assembling the flanges, it is essential to use screws and washers of appropriate dimensions.

- As for drilling, we present a table with dimensions of the flanges supplied by TIGRE and manufactured in accordance with ABNT NBR 7669.

Table 16 - Dimensions of Flanges and Drilling in accordance with ABNT NBR 7669

Gauge OF DE pipes (mm)	DN Ref.	Flange gauge (ABNT) DN (mm)	Disc Dia. (mm)	Disc Thick-ness (mm)	Drilling Dia. (mm)	Qty. of screws	Hole diam. per screw (mm)	Screw gauge (mm)
60	2	50	165	16,0	125	4	20	16
75	2.1/2	60	175	16,0	135	4	20	16
85	3	75	194	17,0	154	4	20	16
110	4	100	220	18,5	180	8	20	16
160	6	150	285	24,0	240	8	24	20
200	8	180	340	40,0	295	8	24	20

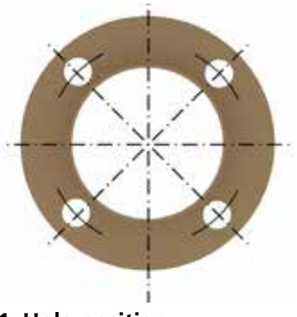
- The flange can be supplied with the drilling according to ANSI B16.5, according to the following dimensions:

Table 17 - Drilling in Accordance with ANSI B16.5

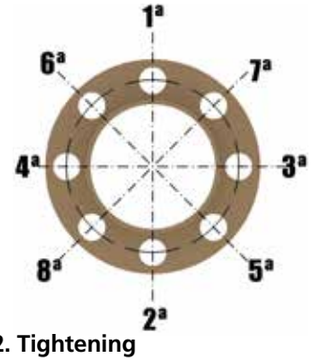
DN Ref.	Drilling Dia. (mm)	Qty. of screws	Hole diam. per screw (mm)	Screw gauge (mm)
2	121	4	19	16
2.1/2	140	4	19	16
3	152	4	19	16
4	191	8	19	16
6	241	8	22	20
8	298	8	22	20

6.4.9.2. Fastening

With regard to fixation, it is recommended to observe two aspects:



1. Hole position
The drilling of the flanges must be symmetrical in relation to the main axes, as shown in the figure on the side.



2. Tightening
The screws should be tightened gradually, always trying to tighten the one diametrically opposite the one being

The recommended torque for tightening the screws of the PBS Flanges varies according to table 18. Try not to torque more than mentioned, as it may damage the fittings.

Table 18 - Torque for Tightening the Flange Screws

Gauge (DE)	Torque (Nxm)
60 a 110	34
160 a 200	54

6.4.9.3. Supports

Every flanged connection requires that the pipes are perfectly supported and aligned to avoid efforts on the flanges. This is also one of the reasons that leads technicians to strictly use the flanged joint, as alignment is only achieved on the flange faces when proper supports are built.

The types of support may be concrete, for apparent lines, and clamps, for aerial use.

6.4.9.4. Buried Pipes

A flanged line should not be buried, but eventually some parts, such as registers, will have to be interspersed in a given network.

In these cases, a masonry or concrete tank will solve the problem, also allowing ease of operation and maintenance.

6.4.9.5. Vibrations

In places where the flanged pipes are connected to equipment that produces vibrations, it is necessary to use sleeves (rubber hoses) or soft starter device, to mitigate pump blow and prevent transfer to the rest of the piping.

6.4.10. Overhead Pipelines

For the execution of installations with overhead pipes, special care is required as to the correct distance from the supports.

The supports must have a semicircular shape, with a radius equal to that of the pipe and a length equal to the diameter of the pipe.

It is convenient for the pipe joints to be located close to the supports. Table 19 presents the recommendation and was calculated to conduct water at 20°C.

If you need to paint the piping, use a water-based paint and do not sand the piping. Periodically maintain the painting.

Table 19 - Maximum Distance Between Supports According to the Gauge

Gauge (mm)	Maximum distance between supports (m)	
	Class 15	Class 20
60	1,7	1,8
75	1,9	2,0
85	2,1	2,2
110	2,5	2,6
140	2,9	3,1
160	3,2	3,4
200	3,7	3,9

Recomended supports:

To perform the fixation of industrial pipes, we recommend the use of our Tigre Fixation System.

Available in different sizes, it allows you to fix pipes with an external diameter of up to 114 mm.

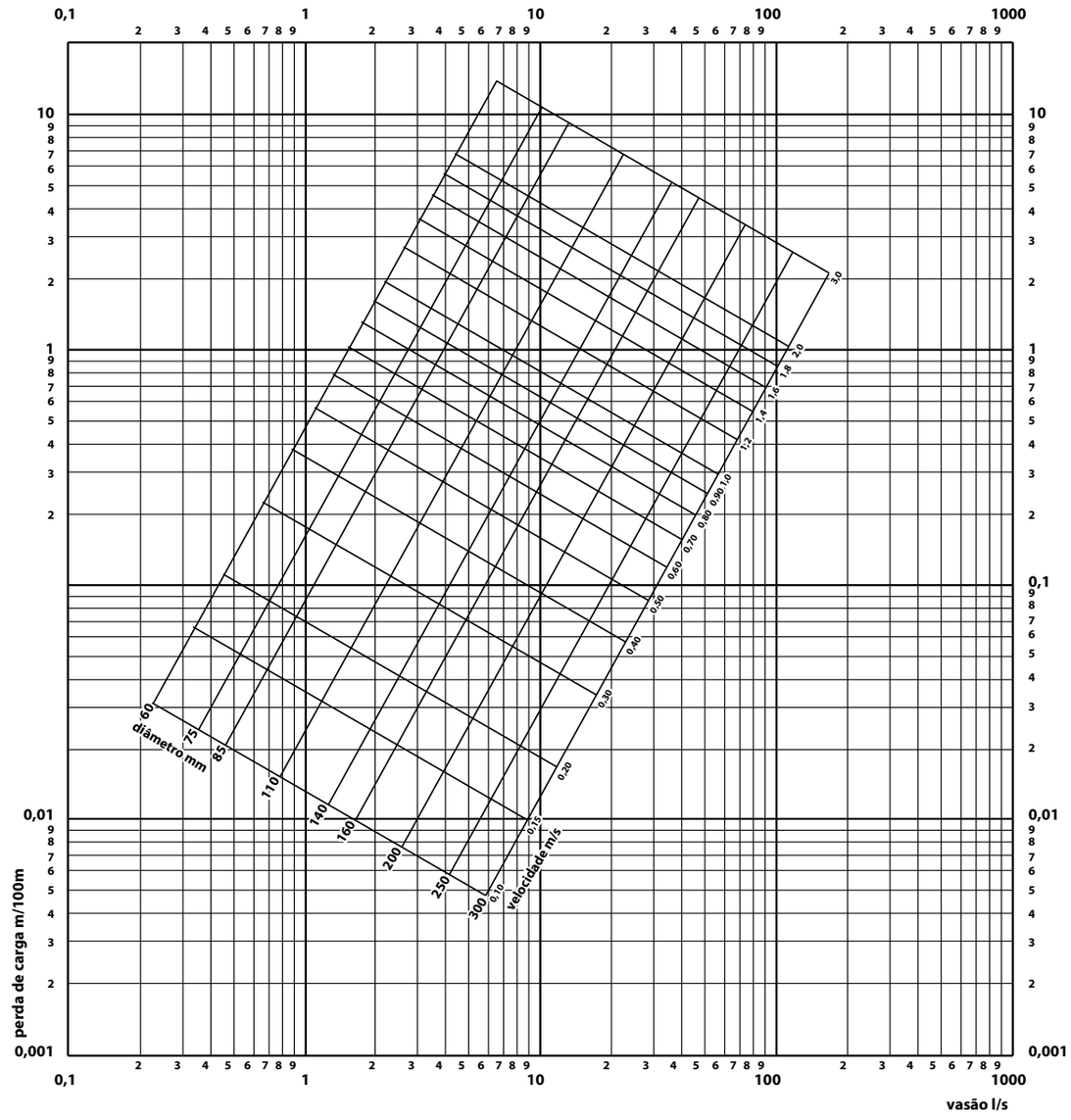
6.5. Load Loss

Abacus for the calculation of load losses in PBS pipelines.

Hazen Williams formula:

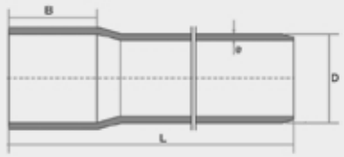
$$V = 0{,}355.C.D^{0{,}63}\ J^{0{,}54}$$

Where:
C=150



6.6. PBS Line Items

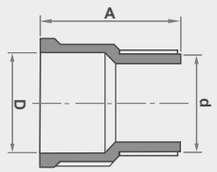
• Pipe PBS



DIMENSIONS (MM)

CODE	GAUGE	B	D	e	L	Class
10340608	50	90	60	4,5	6000	20
10340756	65	70	75	5,3	6000	20
10340853	75	77	85	6,1	6000	20
10341035	100	91	110	7,8	6000	20
10321182	140	121	160	7,3	6000	12
10331188	140	121	160	8.9	6000	15
10341183	140	121	160	11,4	6000	20
10321301	180	145	200	9,1	6000	12
10331307	180	145	200	14,3	6000	15
10341302	180	145	200	11,1	6000	20

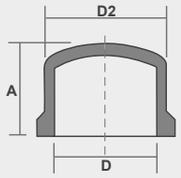
• PBS Adapter with Pouch and Thread



DIMENSIONS (MM)

CÓDIGO	GAUGE	B	D	d
24013235	DN 140 / DE 160	207	160	6”

• Cap PBS

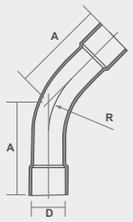


DIMENSIONS (MM)

CODE	GAUGE	A	D	D2
29955794	DN 160	117	160	184

• 45° PBS curve

Reduction sleeve for DN140 pipes



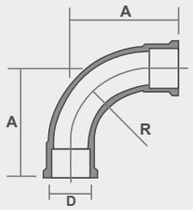
DIMENSIONS (MM)

CODE	GAUGE	A	D	R
24071189	DN 140 / DE 160	335	160	115,4

45° bend for DN140 pipes.

• 90° PBS curve

Reduction sleeve for DN140 pipes



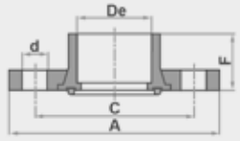
DIMENSIONS (MM)

CODE	GAUGE	A	D	R
24101185	DN 140 / DE 160	423	160	300

90° bend for DN140 pipes.

• Free Flange with PBS

Standard Drilling NBR 7669

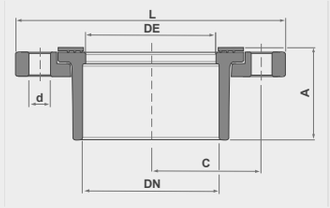


DIMENSIONS (MM)

CODE	GAUGE	F	A	C	DE	d
24350606	60	44,5	165	125	20	1
24350754	75	175	135	20	49	1
24350851	85	194	135	20	50	1
24351033	110	220	180	20	63,5	1
24351181	160	285	242	23,7	85	1

• Free Flange with Holes for PBS Pipe*

Standard Drilling ANSIB16.5

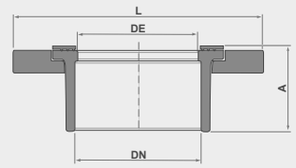


DIMENSIONS (MM)

CODE	GAUGE	DN	DE	D	A	C	L
24353060	DN 50 / DE 60	60	57	20	49,5	62,5	165
24353176	DN 60 / DE 75	75	72	20	52	72,5	175
24353281	DN 75 / DE 85	85	80	20	57	80	194
24353419	DN 100 / DE 110	110	105	20	67,5	90	220

*Available upon request of deadline.

• Free Flange without Holes PBS*

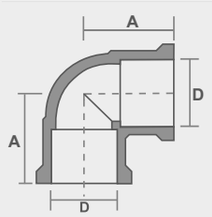


DIMENSIONS (MM)

CODE	GAUGE	DN	DE	A	L
24370607	DN 50 / DE 60	60	57	49,5	165
24370755	DN 60 / DE 75	75	72	52	185
24370852	DN 75 / DE 85	85	80	57	200
24371034	DN 100 / DE 110	110	105	67,5	220
24371182	DN 140 / DE 160	160	154	94,5	285
24371190	DN 180 / DE 200	200	193	120,8	340

*Available upon request of deadline.

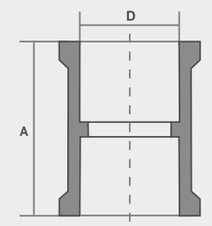
• 90° PBS elbow



DIMENSIONS (MM)

CODE	GAUGE	A	D	F/PIPE
29955183	DN 140 / DE 160	172	160	DN 140

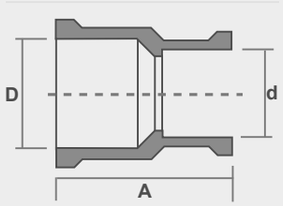
• PBS sleeves



DIMENSIONS (MM)

CODE	GAUGE	A	D	F/PIPE
29955700	DN 140 / DE 160	180	160	DN 140

• PBS Reduction

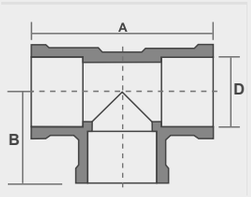


DIMENSIONS (MM)

CODE	GAUGE	A	d	D
24278824	DN 140 / DE 160 x DN 100 / DE 110	200	110	160

Reduction sleeve for DN140 and DN100 pipes.

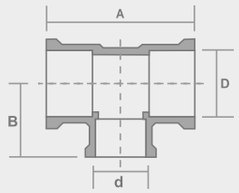
• PBS Tee



DIMENSIONS (MM)

CODE	GAUGE	A	B	D	P/Tubo
29955277	DN 140 / DE 160	344	172	160	DN 140

• Reduction Tee PBS



DIMENSIONS (MM)

CODE	GAUGE	A	B	d	D
24298825	DN 140 / DE 160 x DN 100 / DE 110	390	180	110	160

For DN140 and DN100 pipes.

• Aquatherm® Adhesive Tube

INFORMATION

CODE	DESCRIPTION
53010423	Aquatherm® Adhesive Tube 17g
53010431	Aquatherm® Adhesive Tube 75g

• Aquatherm® Bottle Adhesive

INFORMATION

CODE	DESCRIPTION
53010407	Aquatherm® Adhesive Bottle 175g
53010415	Aquatherm® Adhesive Bottle 850g

Notes

Notes

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