

4800

Linea - Line

raccordi a compressione con ghiera interna per tubo in polietilene ad alta e bassa densità.

compression fittings for low and high density polyethylene pipe with brass ring and internal nut.





SYSTEM

FIELDS OF APPLICATION

Mainly used in irrigation systems (low density), in distribution systems for drinking water and in sanitary installations (high density).

PIPE

MULTIPLE ADVANTAGES IN THE USE OF PE PIPES

- High resistance to abrasion. Low load loss due to good homogeneous surface.
- Extreme flexibility and excellent capability to regain its original shape after being bent.
- Extreme lightness.
- Chemically inert to the normal working temperatures.
- Resistance to low temperatures up to -60°C.
- Low thermal conductivity; it maintains its features up to temperatures not higher than 40°C.
- Non-toxic - therefore excellent for transporting drinking water.

PIPE

REGULATIONS

UNI EN 12201-1	“Plastic piping systems for water supply. Polyethylene (PE): Features”. This regulation sets the features regarding polyethylene (PE) pipes specifically manufactured for supplying drinking water including the water conveying before being treated.
UNI EN 12201-2	“Plastic piping systems for water supply. Polyethylene (PE): Pipes”. This regulation sets the general features for polyethylene (PE) piping systems (water and service pipes) to be used in distribution systems for drinking water included the water conveying before being treated

PIPE

DEFINITIONS AND RELATIONS BETWEEN NM - MRS - S - SDR

PN (bar)	Nominal pressure. A numerical denomination used for reference in terms of mechanical features of a piping system component. In water piping it corresponds to the maximum continuous rated pressure expressed in bars, bearable with water at 20°C, based on the minimum system coefficient.
MRS (Mpa)	Minimum resistance required. It corresponds to the maximum circumferential stress allowed, and it is used to indicate pipe production.
σ (Mpa)	Sigma. It is the initial system design circumferential stress used for scaling pipes.
C_s	Safety coefficient. For water pipes it is 1.25.
SDR	Normalized size ratio. It is the ratio between pipe external nominal diameter and wall nominal thickness.
S	Pipe series. Pipe denomination number.

After having given the definitions above, the relations existing between these elements are listed as follows:

S	PN	PN	σ
(SDR-1)/2	10*σ/S	20*σ/(SDR-1)	MRS/C_s



When using, at 20°C, a Cs (Safety coefficient) = 1.25 (for pipes meant for water supply) the following table indicating the PN (Nominal Pressure) of the pipes according to their classification can be drawn:

RELATIONS TABLE			
SDR	S	PN IN BARS ACC TO MATERIAL CLASS	
		PE80	PE100
26	12,5	—	6
17	8	8	10
11	5	12.5	16
7.4	3.2	—	25

N.B: the type of pipes shown in the table above, were chosen by Italy adhering to EN12207-2 standard..

PIPE

WORK PRESSURE FOR 20°<T<40°C

When a PE piping system works at a constant and continuous temperature higher than 20°C, up to 40°C, a pressure drop coefficient can be applied.

WORK TEMPERATURE	Pe MAXIMUM WORK PRESSURE (bars)			
	PN4	PN6	PN10	PN16
T=20°C	4.0	6.0	10.0	16.0
T=30°C	2.5	4.0	6.0	10.0
T=40°C	1.6	2.5	4.0	6.0
*T=50°C	1.0	1.6	2.5	4.0
*T=60°C	0.6	1.0	1.6	2.5

* These temperatures can be reached only for short period of time.

FITTINGS

CONSTRUCTION AND MATERIALS

All fittings are made using transfer machines (on casted parts) and multi-spindle machines (on bars). Castings and brass bars are used as raw materials

MATERIAL		
Hot-stamped pieces	UNI EN 12165-CW617N-CuZn40Pb2	Cu 57-59 Pb 1.6-2.2 Sn <0.3 Fe <0.3 Ni <0.3 Al <0.05 Zn Diff.
Casting	UNI EN 1982:2000-CC754S CuZn39Pb1Al-C	Cu 58-63 Pb 0.5-2.5 Sn <1.0 Fe <0.7 Ni <1.0 Al <0.8 Zn Diff.
Barra	UNI EN 12164-CW614N-CuZn39Pb3	Cu 57-59 Pb 2.3-3.5 Sn <0.3 Fe <0.3 Ni <0.3 Al <0.05 Zn Diff.
O-ring	UNI EN 681-1 Tipo WB	EPDM PEROX 70

REGULATIONS CONCERNING THE MATERIALS USED :

BRASS ALLOY:

All the items made from hot-stamping comply with the DIN 50930.6 norm which limits the lead content of the alloy to below 2.2%

EPDM PEROX 70:

All the gaskets are made up of peroxide EPDM homologated for drinking water

UNI EN 681-1 tipo WB.Perox grants excellent performances both at high and low temperatures in the presence of acids, ozone and water. Perfect resistance to atmospheric agents and aging. Working temperature: -55°C/+150°C.

FITTINGS

NETWORK CONNECTION THREADS AND REFERENCE STANDARDS

UNI EN 12201-3	“Plastics piping systems for water supply. Polyethylene (PE): Fittings”. This part of standard outlines the characteristics of fittings meant for supplying water for human consumption, including piping water before treatment.
EN 1254-3	“Plastics fittings with compression ends”
ISO228	Cylindrical gas threads: all the system coupling threads comply with this norm.

SYSTEM

REFERENCE REGULATIONS AND TESTS

UNI EN 12201-5	“Plastic piping systems for water supply. Polyethylene (PE). Section no.5: Suitability of the system use”.
EN 1254-3	“Fittings for plastic pipes with compression ends”.
(UNI EN 712)	Extract test
(UNI EN 713)	Sealing test at internal pressure while subjected to bending
(UNI EN 715)	Hydraulic seal test
(UNI EN 911)	External pressure test
(UNI EN 921)	Resistance test to internal pressure at constant T
(DIN 8076-1)	Basis of type examination (Certificate for a DIN-DVGW test mark)

SYSTEM

ASSEMBLY INSTRUCTIONS

Photo N°.1

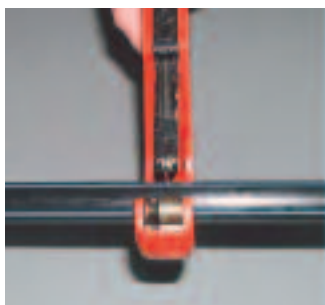


Photo N°.2



Photo N°.3



Photo N°.4

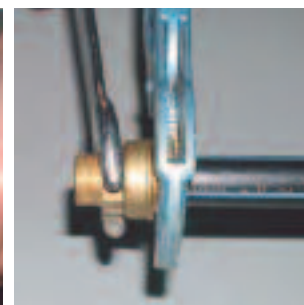


Photo n°1 - Mark and cut the pipe perpendicularly to its axis using a pipe-cutter. The pipe must be marked in a way that once inserted into the body, before screwing the ring nut, can be settled on the base of its seating covering about 3-5mm. The pipe must be properly deburred to avoid damaging the O-ring.

Photo n°2 – n°3 Push the pipe into the body applying a little rotation between them. If the insertion is troublesome, loosen the ring nut slightly so that the internal ring widens facilitating the sliding of the piping.

Photo n°4 - Tighten the ring nut using a face spanner until the torque reading is reached as shown in the following table. It is always advisable to check the ring nut tightening after a period of adjustment (24h) of the gasket and of the pipe.

Ø PIPE	COUPLING THREAD	TORQUE (Nm)
20	M28X1.5	23
25	M33X1.5	32
32	M42X1.5	38
40	M52X1.5	43
50	M64X1.5	60
63	M80X1.5	130
75-90-110	4 M10 SCREWS (THE RING IS COMPLETELY CLOSED)	



Art. 4800.00

Raccordo doppio - Double straight



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480000H202000A	20	40	4,92
480000H252500A	25	30	5,96
480000H323200A	32	20	7,90
480000H404000A	40	15	13,42
480000H505000A	50	9	18,43
480000H636300A	63	4	35,09

Art. 4800.10

Tee



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480010H202020A	20	20	7,90
480010H252525A	25	15	9,65
480010H323232A	32	15	13,16
480010H404040A	40	8	24,56
480010H505050A	50	4	35,09
480010H636363A	63	2	59,66

Art. 4800.01

Raccordo maschio - Male straight



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480001H042000A	1/2" x 20	70	2,89
480001H052500A	3/4" x 25	50	3,51
480001H103200A	1" x 32	30	4,74
480001H124000A	1.1/4" x 40	20	7,72
480001H145000A	1.1/2" x 50	10	11,41
480001H206300A	2" x 63	6	18,43

Art. 4800.11

Tee maschio - Male tee



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480011H200420A	20 x 1/2" x 20	30	6,14
480011H250525A	25 x 3/4" x 25	20	7,90
480011H321032A	32 x 1" x 32	15	10,53
480011H401240A	40 x 1.1/4" x 40	8	20,61
480011H501450A	50 x 1.1/2" x 50	4	27,20
480011H632063A	63 x 2" x 63	3	49,14

Art. 4800.02

Raccordo femmina - Female straight



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480002H042000A	1/2" x 20	70	2,89
480002H052500A	3/4" x 25	50	3,51
480002H103200A	1" x 32	30	4,84
480002H124000A	1.1/4" x 40	20	7,77
480002H145000A	1.1/2" x 50	10	11,41
480002H206300A	2" x 63	6	18,43

Art. 4800.12

Tee femmina - Female tee



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480012H200420A	20 x 1/2" x 20	30	6,14
480012H250525A	25 x 3/4" x 25	20	7,90
480012H321032A	32 x 1" x 32	15	10,97
480012H401240A	40 x 1.1/4" x 40	8	20,61
480012H501450A	50 x 1.1/2" x 50	4	27,20
480012H632063A	63 x 2" x 63	3	49,14



Art. 4800.20

Angolo doppio - Double elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480020H202000A	20	40	5,45
480020H252500A	25	20	6,84
480020H323200A	32	15	9,50
480020H404000A	40	8	15,80
480020H505000A	50	4	24,56
480020H636300A	63	3	42,12

Art. 4800.23

Angolo con flangia - Wallplate elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480023H042000A	1/2" x 20	40	7,02
480023H052500A	3/4" x 25	20	8,67

Art. 4800.21

Angolo maschio - Male elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480021H042000A	1/2" x 20	50	3,77
480021H052500A	3/4" x 25	40	4,65
480021H103200A	1" x 32	20	6,70
480021H124000A	1.1/4" x 40	12	12,29
480021H145000A	1.1/2" x 50	9	18,43
480021H206300A	2" x 63	4	30,71

Art. 4800.70

Ghiera - Nut



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480070H200000A	20		1,14
480070H250000A	25		1,36
480070H320000A	32		1,97
480070H400000A	40		2,57
480070H500000A	50		5,70
480070H630000A	63		7,90

Art. 4800.22

Angolo femmina - Female elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480022H042000A	1/2" x 20	50	3,77
480022H052500A	3/4" x 25	40	4,65
480022H103200A	1" x 32	20	7,07
480022H124000A	1.1/4" x 40	15	12,29
480022H145000A	1.1/2" x 50	10	18,43
480022H206300A	2" x 63	4	30,71

Art. 4800.94

Bussola di rinforzo - Reinforcement part



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480094H200000H	20	250	0,72
480094H250000H	25	150	0,83
480094H320000H	32	100	1,13
480094H400000H	40	50	2,16
480094H500000H	50	40	2,48
480094H630000H	63	20	4,91
480094H750000H	75	15	8,86
480094H900000H	90	8	11,66
480094HB10000H	110	6	16,76



Art. 4800.81

Ogiva tagliata - Cut ring



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480081R200000H	20		0,46
480081R250000H	25		0,68
480081R320000H	32		1,10
480081R400000H	40		1,62
480081R500000H	50		2,89
480081R630000H	63		4,21
480081R750000H	75	prezzi a richiesta	
480081R900000H	90	prezzi a richiesta	

Art. 4800.00

Raccordo doppio - Double straight



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480000H757500Y	75	4	70,93
480000H909000Y	90	4	135,78
480000HB1B100Y	110	2	171,72

Art. 4800.82

Rondella - Flat ring



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480082H200000H	20		0,15
480082H250000H	25		0,20
480082H320000H	32		0,22
480082H400000H	40		0,43
480082H500000H	50		1,06
480082H630000H	63		1,32

Art. 4800.01

Raccordo maschio - Male straight



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480001H247500Y	2.1/2" x 75	6	43,54
480001H309000Y	3" x 90	5	70,93
480001H40B100Y	4" x 110	3	117,30

Art. OR00.21

O-Ring



Codice/Code	Misura/Size	Quant/Q.ty	Euro
OR0021H193600H	20		0,07
OR0021H243600H	25		0,08
OR0021H314500H	32		0,11
OR0021H405300H	40		0,18
OR0021H506000H	50		0,22
OR0021H636000H	63		0,30

Art. 4800.02

Raccordo femmina - Female straight



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480002H247500Y	2.1/2" x 75	6	43,41
480002H309000Y	3" x 90	5	73,70
480002H40B100Y	4" x 110	3	120,02

Art. 4800.10

Tee



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480010H757575Y	75 x 75	2	168,83
480010H909090Y	90 x 90	1	241,03
480010HB1B1B1Y	110 x 110	1	325,50

Art. 4800.21

Angolo maschio -Male elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480021H247500Y	2.1/2" x 75	4	73,99
480021H309000Y	3" x 90	2	142,79
480021H40B100Y	4" x 110	1	186,87

Art. 4800.12

Tee femmina - Female tee



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480012H752475Y	75 x 2.1/2" x 75	2	157,78
480012H903090Y	90 x 3" x 90	1	207,05
480012HB140B1Y	110 x 4" x 110	1	264,85

Art. 4800.22

Angolo femmina -Female elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480022H247500Y	2.1/2" x 75	4	72,71
480022H309000Y	3" x 90	2	142,62
480022H40B100Y	4" x 110	1	184,07

Art. 4800.20

Angolo doppio -Double elbow



Codice/Code	Misura/Size	Quant/Q.ty	Euro
480020H757500Y	75	3	97,34
480020H909000Y	90	1	178,38
480020HB1B100Y	110	1	230,84