4500
Linea - Line

Raccordi a compressione con anello tagliato per tubo in polietilene ad alta e bassa densità.

Compression fittings for low and high density polyethylene pipe with brass ring

General Fittings

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SYSTEM

FIELDS OF APPLICATION

Mainly used for constructing irrigation systems (low density) and for supplying drinkable water, in sanitary fittings and piping and supplying gaseous fuel (high density).

PIPE

MULTIPLE ADVANTAGES ON USING THE PE PIPE

- Extreme flexibility and an excellent capacity to reacquire the original state of shape after being bent.
- Extreme lightness.
- Chemically inert to the normal temperatures of use.
- Up to -60°C resistance to low temperatures.
- Low heat conductivity, maintaining its features up to temperatures not above 40°C.
- Being atoxic, it is excellent for piping drinkable water.

PIPE

STANDARDS

UNI EN 12201-1	"Plastics piping systems for water supply. Polyethylene (PE): General." This standard sets the features of Polyethylene (PE) pipes, meant for supplying water for human consumption, including conveyance before treatment.
UNI EN 12201-2	"Plastics piping systems for water supply. Polyethylene (PE) : Part 2: Pipes." This standard sets the features of Polyethylene (PE) pipes, meant for supplying water for human consumption, including conveyance before treatment.
UNI EN 1555-1	"Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 1: General." This standard sets Polyethylene (PE) piping system's general characteristics for the supply of gaseous fuels. In addition, this regulation also indicates test parameters, concerning testing methods it refers to.
UNI EN 1555-2	"Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE). Part 2: Pipes". This standard sets Polyethylene (PE) piping system's general characteristics for the supply of gaseous fuels. In addition, the regulation also indicates test parameters, concerning testing methods it refers to.

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.
Ϙ(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.

Given the definitions above, here are the relations existing between these elements:

S	PN	PN	Ǫ
(SDR-1)/2	10*Ǫ/S	20*Ǫ/(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		
Castings	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.
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.
Ring	NITRILICA	NBR – PP 7B DZ/70

NOTES CONCERNING MATERIALS USED

BRASS:
All casted pieces comply with the DIN 50930.6 standard limiting the amount of lead in the alloy below 2.2%

NBR – PP 7B DZ/70:
The nitrile gasket's work temperatures range between -25° and +125° and It is approved as per the following standards:DVGW DIN 3535/3 and DIN EN 682 (for gas) ; KTW 1.3.13 D2 (for drinkable water up to 90°).

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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.
UNI EN 1555-3	"Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 3: Fittings." sets characteristics of fittings for the supply of gaseous fuels.
EN 1254-3	"Plastics fittings with compression ends"
ISO 7/1	All the threading connections to the system are manufactured in compliance with this norm for conical gas threading having the threading seal. In order to assemble this kind of thread, the use of liquid Teflon is recommended. Avoid hemp or other elements.

SYSTEM

REFERENCE STANDARDS AND TESTS

UNI EN 12201-5	"Plastics piping systems for water supply. Polyethylene (PE) - Part 5 : system suitability of use."
UNI CEN/TS 12201-7	"Plastics piping systems for water supply. Polyethylene (PE) - Part 7: conformity assessment guidelines."
UNI EN 1555-5	"Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 5: system suitability of use."
UNI CEN/TS 1555-7	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 7: conformity assessment guidelines."
EN 1254-3	"Copper and copper alloys-Plumbing fittings-Part 3:fittings with compression ends for use with plastics pipes."
(UNI EN 712)	Disengagement test
(UNI EN 713)	Internal pressure resistance test when subject to bending
(UNI EN 715)	Hydraulic resistance test
(UNI EN 911)	External pressure test
(UNI EN 921)	Internal pressure resistance test at a constant temperature
(DVGW VP 600)	Basis of type examination (Certificate for a DVGW test mark)

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SYSTEM ASSEMBLY DIRECTIONS

Photo N°.1 Photo N°.2 Photo N°.3 Photo N°.4

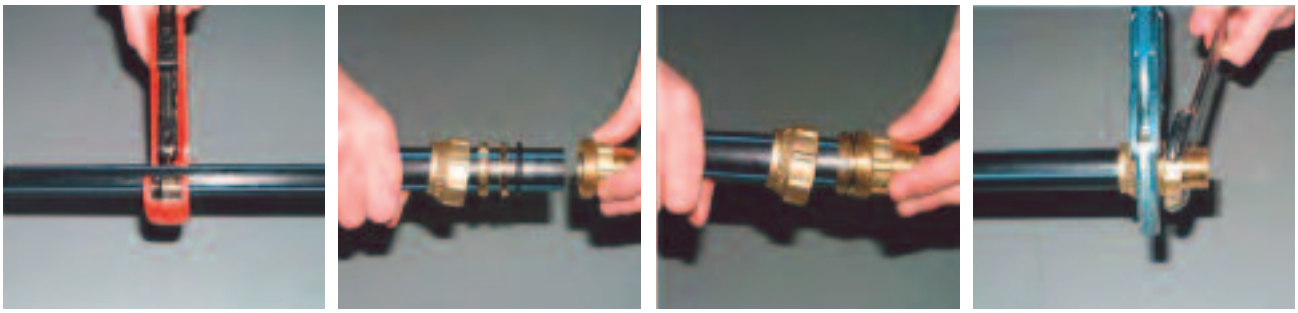

Photo n°1 - Mark and cut the pipe perpendicularly to its axis using a pipe-cutter or a fine toothed saw. The pipe must be marked in a way that once inserted into the body, before engaging the ring nut, IT can settle on the base of its seating covering about 3-5mm. The pipe must be adequately deburred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

Photos n°2/3 - Push the pipe into the body, applying a little rotation between them. If the engagement is troublesome, loosen the ring nut slightly, so that the internal brass ring widens facilitating the sliding of the pipe.

Photo n°4 - Tighten the ring nut with a face spanner applying a torque as shown on the table. It is always advisable to check on the ring nut tightening, once again after a gasket and pipe period (24h) of settlement.

N.B. When the fittings are used for gas systems, before inserting the pipe into the fitting, you MUST position it in a special reinforcement part, supplied ONLY at the customer's order.

Ø PIPE	CONNECTION THREAD	TORQUE (Nm)
20	M30X1.5	25
25	M36X2	34
32	M44X2	44
40	M54X2	55
50	M65X2	60
63	M80X2	130

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Art. 4500.00

Raccordo doppio - *Double straight*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450000H202000Y	20	40	4,74
450000H252500Y	25	20	5,99
450000H323200Y	32	15	8,42
450000H404000Y	40	12	13,70
450000H505000Y	50	8	21,07
450000H636300Y	63	3	32,25

Art. 4500.01

Raccordo maschio - *Male straight*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450001H042000Y	1/2" x 20	60	3,00
450001H052500Y	3/4" x 25	40	3,45
450001H103200Y	1" x 32	30	5,39
450001H124000Y	1.1/4" x 40	20	8,79
450001H145000Y	1.1/2" x 50	10	13,96
450001H206300Y	2" x 63	6	19,01

Art. 4500.02

Raccordo femmina - *Female straight*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450002H042000Y	1/2" x 20	60	3,06
450002H052500Y	3/4" x 25	40	3,78
450002H103200Y	1" x 32	20	5,62
450002H124000Y	1.1/4" x 40	20	9,15
450002H145000Y	1.1/2" x 50	10	14,21
450002H206300Y	2" x 63	6	21,01

Art. 4500.10

Raccordo tre vie - *Tee fitting*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450010H202020Y	20	30	7,67
450010H252525Y	25	15	8,87
450010H323232Y	32	10	14,00
450010H404040Y	40	6	24,13
450010H505050Y	50	4	37,59
450010H636363Y	63	2	56,74

Art. 4500.11

Raccordo tee maschio - *Male tee fitting*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450011H200420Y	20 x 1/2" x 20	30	5,91
450011H250525Y	25 x 3/4" x 25	20	7,28
450011H321032Y	32 x 1" x 32	15	11,59
450011H401240Y	40 x 1.1/4" x 40	6	19,60
450011H501450Y	50 x 1.1/2" x 50	4	30,80
450011H632063Y	63 x 2" x 63	3	47,10

Art. 4500.12

Tee femmina - *Female tee*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450012H200420Y	20 x 1/2" x 20	30	5,93
450012H250525Y	25 x 3/4" x 25	20	7,21
450012H321032Y	32 x 1" x 32	15	11,68
450012H401240Y	40 x 1.1/4" x 40	6	19,76
450012H501450Y	50 x 1.1/2" x 50	4	30,58
450012H632063Y	63 x 2" x 63	3	48,13

Art. 4500.20

Angolo doppio - *Double elbow*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450020H202000Y	20	40	5,39
450020H252500Y	25	20	6,81
450020H323200Y	32	15	10,76
450020H404000Y	40	10	17,37
450020H505000Y	50	5	27,60
450020H636300Y	63	3	41,69

Art. 4500.21

Angolo maschio - *Male elbow*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450021H042000Y	1/2" x 20	60	3,94
450021H052500Y	3/4" x 25	30	5,70
450021H103200Y	1" x 32	25	7,91
450021H124000Y	1.1/4" x 40	10	12,97
450021H145000Y	1.1/2" x 50	6	20,93
450021H206300Y	2" x 63	3	31,35

Art. 4500.22

Angolo femmina - *Female elbow*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450022H042000Y	1/2" x 20	60	4,44
450022H052500Y	3/4" x 25	30	6,11
450022H103200Y	1" x 32	25	8,25
450022H124000Y	1.1/4" x 40	10	12,79
450022H145000Y	1.1/2" x 50	6	21,45
450022H206300Y	2" x 63	3	32,74

Art. 4500.23

Angolo con flangia - *Wallplate elbow*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450023H042000Y	1/2" x 20	30	4,58
450023H052500Y	3/4" x 25	20	5,67
450023H103200Y	1" x 32	15	11,71

Art. 4500.43

Raccordo doppio prolungato - *Long double straight*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450043H323200Y	32	15	12,08
450043H404000Y	40	10	16,71
450043H505000Y	50	5	25,16
450043H636300Y	63	3	39,93

Art. 4800.94

Bussola di rinforzo - *Reinforcement part*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
480094H200000H	20 WATER	250	0,72
480094H2000G1H	20 GAS	250	0,72
480094H250000H	25 WATER	150	0,83
480094H2500G1H	25 GAS	150	0,83
480094H320000H	32 WATER + GAS	100	1,13
480094H400000H	40 WATER + GAS	50	2,16
480094H500000H	50 WATER + GAS	40	2,48
480094H630000H	63 WATER + GAS	20	4,91

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Art. 4500.70

Ghiera di ricambio - *Replacement nut*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450070H200000Y	ø 20		1,09
450070H250000Y	ø 25		1,41
450070H320000Y	ø 32		1,99
450070H400000Y	ø 40		2,76
450070H500000Y	ø 50		4,42
450070H630000Y	ø 63		6,12

Art. 4500.82

Rondella - *Ring*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450082H200000H	ø 20		0,20
450082H250000H	ø 25		0,28
450082H320000H	ø 32		0,38
450082H400000H	ø 40		1,81
450082H500000H	ø 50		2,38
450082H630000H	ø 63		2,89

Art. 4500.81

Anello tagliato - *Brass cut ring*

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
450081R200000H	ø 20		0,31
450081R250000H	ø 25		0,47
450081R320000H	ø 32		0,56
450081R400000H	ø 40		2,17
450081R500000H	ø 50		3,12
450081R630000H	ø 63		4,95

Art. OR00.10

O-Ring

Codice/*Code*	Misura/*Size*	Quant/*Q.ty*	Euro
OR0010H202600H	ø 20		0,10
OR0010H253500H	ø 25		0,13
OR0010H313501H	ø 32		0,15
OR0010H404000H	ø 40		0,16
OR0010H505300H	ø 50		0,20
OR0010H625300H	ø 63		0,26


DVGW-Baumusterprüfzertifikat
DVGW type examination certificate