



Federazione - Federation
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CERTIFICAZIONE ITALIANA DEI SISTEMI QUALITÀ AZIENDALI
 ITALIAN CERTIFICATION OF COMPANY QUALITY SYSTEMS

SQP

CERTIFICATO n. 048
 CERTIFICATE No.

SI CERTIFICA CHE IL SISTEMA QUALITÀ DI
 WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

TECNO PLASTIC SPA

UNITÀ OPERATIVE
 OPERATIVE UNITS

VIA FONTANELLE, 22
 16012 BUSALLA (GE)

È CONFORME ALLA NORMA
 IS IN COMPLIANCE WITH THE STANDARD

UNI EN ISO 9001:2000

PER I REQUISITI DI QUALITÀ - PROCESS - SERVIZI
 CONCERNING THE FOLLOWING AREAS OF PRODUCTS - PROCESSES - SERVICES

Produzione di raccordi e valvole in materiali termoplastici mediante stampaggio ad iniezione

Settore EA: 14

01/01/1994
 16/09/2002

Il Presidente
 Dr. Giuliano Volante

Il Presidente del Plastic S.r.l.
 Dr. G. Volante

SINCERT

IQNet
 THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner
 CISQ/Istituto Italiano dei Plastici S.r.l.
 hereby certify that the organization

TECNO PLASTIC SPA
 VIA FONTANELLE, 22
 16012 BUSALLA (GE)

for the following field of activities

Produzione di raccordi e valvole in materiali termoplastici mediante stampaggio ad iniezione

has implemented and maintains a
Quality Management System
 which fulfills the requirements of the following standard

ISO 9001:2000

Registration Number: IT-3504

First issued on: 1994/01/01 Validity date: La validità del presente certificato è subordinata a compliance annuale e di rinnovo completo del sistema di gestione con cadenza triennale

IQNet *Fabio Roverati* President of IQNet **CISQ** *Giuseppe Prati* President of CISQ

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CERTIFICAZIONE ITALIANA DEI SISTEMI QUALITÀ AZIENDALI
 ITALIAN CERTIFICATION OF COMPANY QUALITY SYSTEMS

SGA

CERTIFICATO n. 018
 CERTIFICATE No.

SI CERTIFICA CHE IL SISTEMA DI GESTIONE AMBIENTALE DI
 WE HEREBY CERTIFY THAT THE ENVIRONMENTAL MANAGEMENT SYSTEM OPERATED BY

TECNO PLASTIC SPA

UNITÀ OPERATIVE
 OPERATIVE UNITS

VIA FONTANELLE, 22
 16012 BUSALLA (GE)

È CONFORME ALLA NORMA
 IS IN COMPLIANCE WITH THE STANDARD

UNI EN ISO 14001:96

PER I REQUISITI DI AMBIENTE - PRODOTTI - SERVIZI
 CONCERNING THE FOLLOWING AREAS OF PRODUCTS - PROCESSES - SERVICES

Stampaggio ad iniezione di raccordi e valvole in materiali termoplastici

Settore EA: 14

16/12/2001
 16/12/2001

Il Presidente
 Dr. Francesco Volante

Il Presidente del Plastic S.r.l.
 Dr. G. Volante

SINCERT

IQNet
 THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and
 CISQ/Istituto Italiano dei Plastici Srl
 hereby certify that the organization

TECNO PLASTIC SPA
 VIA FONTANELLE, 22
 16012 BUSALLA (GE)

for the following field of activities

Stampaggio ad iniezione di raccordi e valvole in materiali termoplastici

has implemented and maintains an
Environmental Management System
 which fulfills the requirements of the following standard

ISO 14001:96

Registration Number: IT-16165

First issued on: 2001/12/16 Validity date: La validità del presente certificato è subordinata a compliance annuale e di rinnovo completo del sistema di gestione con cadenza triennale

IQNet *Fabio Roverati* President of IQNet **CISQ** *Giuseppe Prati* President of CISQ

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APPLICATION

Tecno Plastic PVC-UH pressure fittings are suitable for irrigation, potable water supply, chemical installations, water treatment, swimming pools, food industries. Tecno Plastic PVC-UH pressure fittings can be used with any pipe made to the same international standards.

RANGE

Full range of fittings is available in following ranges: metric for solvent cement from 16 mm to 225 mm, BSP threaded from 3/8" to 6", adaptor set from 16x3/8" to 160x6".

STANDARDS

All dimensions of Tecno Plastic fittings are manufactured to international standard and conform to all relevant test requirements in tolerance. In the technical catalogue for each single item the following sizes indicates Z installing distance, L socket depth and other distances.

MECHANICAL PROPERTIES

Max working pressure in Bar

Series	Dimensions	NP
Solvent jointing	from D 16 to D 200	16
	D 225	10
Threaded	from G 3/8" to G 6"	16
Adaptor range	from D 16 to D 160	16

SANITARY REGULATIONS

Our PVC-UH is suitable for conveying potable water and food staff in accordance with the laws of Italian National Authorities (C.M. 102 02-12-78).

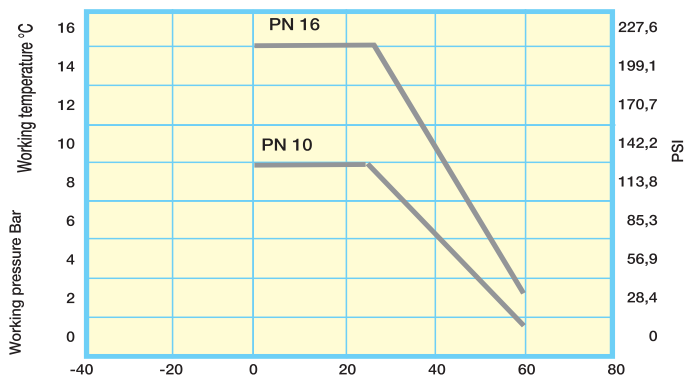
MATERIALS

The PVC-UH compound used by Tecno Plastic is stabilised unplasticized polyvinyl chloride. Material chemical resistances according to ISO/TR 10358.

GASKETS

Standard Gaskets for unions and stubs are in EPDM (ethylene - polypropylene rubber). Other materials are available upon request.

PRESSURE-TEMPERATURE RELATIONSHIP ACCORDING TO DIN 3441 BLATT 1 AND EN 1452/3/5



PIPE-FITTINGS TOLLERANCES FOR SOLVENT JOINTING ACCORDING TO:

Fittings: ISO 727 - EN 1452/2/3 - DIN 8063 - KIWA 54
NF T54-028
Pipes: ISO 161 - EN 1452/2 - DIN 8062 - KIWA 49
NF T54-016

Nominal DN	D	male fittings outside diam.		female fittings inside diam.	
		Min.	Max.	Min.	Max.
10	16	16	16,20	16,10	16,30
15	20	20	20,20	20,10	20,30
20	25	25	25,20	25,10	25,30
25	32	32	32,20	32,10	32,30
32	40	40	40,20	40,10	40,30
40	50	50	50,20	50,10	50,30
50	63	63	63,20	63,10	63,30
65	75	75	75,30	75,10	75,30
80	90	90	90,30	90,10	90,30
100	110	110	110,30	110,10	110,40
110	125	125	125,30	125,10	125,40
125	140	140	140,40	140,20	140,50
150	160	160	160,40	160,20	160,50
200	200	200	200,50	200,30	200,60
200	225	225	225,50	225,30	225,60

SAFETY FACTORS AT 20°C FOR NP 16 FITTINGS

Working pressure	Hours 1	1000	Corresponding to 50 years life
10 Bar	6.7	5.1	4.0
16 Bar DN _≤ 160	4.2	3.2	2.5
16 Bar DN _≥ 160	3,36	2,56	2

PHYSICAL PROPERTIES OF PVC-UH

Characteristics	Standard	Units	PVC
Density	ISO 1183	kg/dm ³	1,40
Elongation	ISO R527	%	154
Modulus of elasticity	ISO R527	MPa	2.600
Resistance to traction	ISO R527	MPa	40
Tensile strength	ISO R527	MPa	44
Vicat softening point with 5 Kgs	ISO 306	°C	> 76
Thermal conductivity 23°C	ASTM C177	$\frac{w}{mk}$	0,13 0,19
Coefficient of linear expansion	ASTM D696 UNI 6061	$\frac{mm}{mm °C}$	5 8 x 10 ⁻⁵
Water absorption	UNI 7449-75	mg/cm ²	< 0,1
Meets fire regulations	UL 94		V-O
Ash content	UNI 7449-75	%	< 3
Colour			9735

DIMENSIONS OF THREAD ACCORDING TO:

UNI ISO 228/1 - BS 21 - DIN 2999
(parallel threaded sockets)

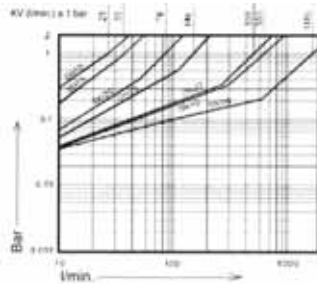
Nominal diameter G	Outside thread diameter	Pitch n° of threads/1"	Thread depth mm	Thread assembling length	
3/8"	16,66	19	1,337	0,856	11,4
1/2"	20,95	14	1,814	1,162	15,0
3/4"	26,44	14	1,814	1,162	16,3
1"	33,25	11	2,309	1,479	19,1
1 1/4"	41,91	11	2,309	1,479	21,4
1 1/2"	47,80	11	2,309	1,479	21,4
2"	59,61	11	2,309	1,479	25,7
2 1/4"	65,71	11	2,309	1,479	-
2 1/2"	75,18	11	2,309	1,479	30,2
2 3/4"	81,53	11	2,309	1,479	-
3"	87,88	11	2,309	1,479	33,3
4"	113,03	11	2,309	1,479	39,3
5"	138,43	11	2,309	1,479	43,6
6"	163,83	11	2,309	1,479	43,6

GENERAL CHARACTERISTICS

Compact double type ball valve: all types are realized with the same dimensions of our ball valves VSK/VSA and can be disassembled from the network simply by unscrewing the two unions nuts. VRO/VRK allows the passage of the liquid in one direction only. VRO type orientated as a foot valve allows the passage of the liquid acting as a foot valve. As an air release valve acts releasing the air until the liquid reaches the floating wedge closing the valve and maintaining therefore the liquid under pressure.

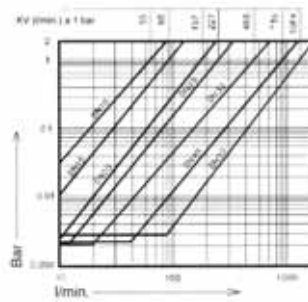
VR0-VRK CHARGE LOSS

The a. m. technical information should be used as a guide. Please consult our Technical dpt for specific questions.



With water at 20°C (valve with spring)

VRV-VRF CHARGE LOSS



With water at 20°C (valve without spring)

PRESSURE

D	G	VRO mm H ₂ O	VRV/VRF mm H ₂ O	Weight g
16	3/8"	150	23	4
20	1/2"	150	23	4
25	3/4"	70	25	8
32	1"	32	22	11
40	1 1/4"	40	21	17
50	1 1/2"	38	24	30
63	2"	44	29	56

Min. opening pressure of spring and own weight (water column).

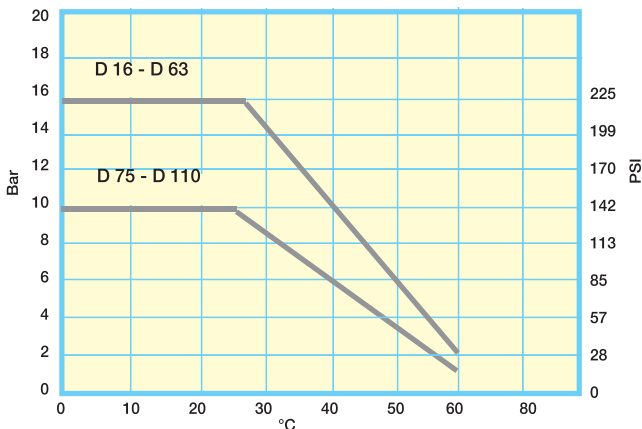
INSTALLATION AND USE

Be careful during the glueing of the end connector of the pipes; the glue or solvent must absolutely not run into the wedgw or O' ring of the valve. Threaded ends should not be connected with cone-shaped male threads and the use of hemp or similar materials should be carefully avoided.

A special attention should be paid to the correct line-up of the installation and to the pipe lenght. Tighten the union nut handtight only. The use of wrench is not allowed. It is important that the unions are not used to pull the system together. If there is any leakage from the union nuts, please check the correct line-up of the system and the pipe length. An excessive tightening of the unions could finally break them.

Before the valve is cycled, all dirt, sand or other material should be flushed from the system. This is to prevent scarring of the ball and/or seats. It is necessary that all installation and maintenance personnel become familiar with the proper solvent cement and thead joining procedure.

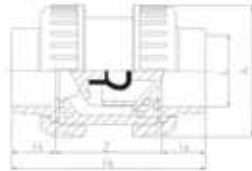
Tecno Plastic technical dpt. will be glad to support you with "Installation Instruction" leaflets.



Pressure temperature rating for water an harmless liquid.

VRO.21L

B.S. F/F solvent cement check valve with EPDM spring

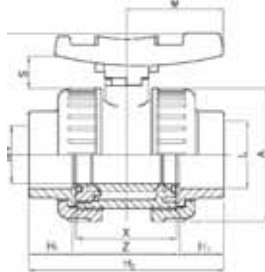


L	A	X	PN _a 20° bar	H ₁	Z	H ₂	Weight g
3/8"	50	42	16	14	48	76	110
1/2"	50	42	16	16	48	80	110
3/4"	59	48	16	19	53	91	175
1"	68	54	16	22	58	102	245
1 1/4"	80	62	16	26	68	120	375
1 1/2"	94	72	16	31	78	140	580
2"	115	86	16	38	93	169	1.000
2 1/2"	168	128	10	44	118	206	2.900
3"	168	128	10	51	140	242	3.000

EPDM				
L	Code	Box	Bag	
3/8"	VRO.21L.160	65 M	1	
1/2"	VRO.21L.200	65 M	1	
3/4"	VRO.21L.250	65 M	1	
1"	VRO.21L.320	42 M	1	
1 1/4"	VRO.21L.400	16 P	1	
1 1/2"	VRO.21L.500	18 M	1	
2"	VRO.21L.630	10 M	1	
* 2 1/2"	VRO.21L.750	2 P	1	
3"	VRO.21L.900	2 P	1	

VSA.22L

Solvent cement double union B.S. F/F safeblock valve



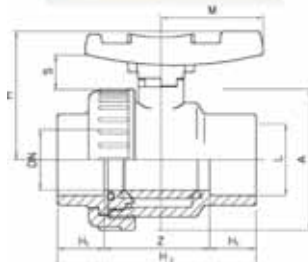
L	A	H	M	S	X	PN _a 20° bar	H ₁	Z	H ₂	Weight g
3/8"	50	53	40	19	42	16	14	48	76	130
1/2"	50	53	40	19	42	16	16	48	80	130
3/4"	59	60	45	19	48	16	19	53	91	205
1"	68	67	51	21	54	16	22	58	102	300
1 1/4"	80	79	59	25	62	16	26	68	120	435
1 1/2"	94	90	70	27	72	16	31	78	140	670
2"	115	107	84	29	86	16	38	93	169	1.125
2 1/2"	145	129	103	32	110	10	44	118	206	2.090
3"	168	143	120	36	128	10	51	140	242	3.310
4"	210	169	141	43	150	10	61	160	282	5.925

EPDM				
L	Code	Box	Bag	
3/8"	VSA.22L.160	150 M	-	
1/2"	VSA.22L.200	150 M	-	
3/4"	VSA.22L.250	100 M	-	
1"	VSA.22L.320	60 M	-	
1 1/4"	VSA.22L.400	18 P	-	
1 1/2"	VSA.22L.500	24 M	-	
2"	VSA.22L.630	13 M	-	
2 1/2"	VSA.22L.750	8 M	-	
3"	VSA.22L.900	5 M	-	
4"	VSA.22L.910	2 M	-	

Standards: ISO 727, EN 1452, DIN 8063, NF T54-028, BS 4346/1

VSA.18L

Solvent cement single union B.S. safeblock F/F valve



L	A	H	M	S	X	PN _a 20° bar	H ₁	Z	H ₂	Weight g
3/8"	50	53	40	19	42	16	14	48	76	100
1/2"	50	53	40	19	42	16	16	48	80	100
3/4"	59	60	45	19	48	16	19	53	91	160
1"	68	67	51	21	54	16	22	58	102	230
1 1/4"	80	79	59	25	62	16	26	68	120	340
1 1/2"	94	90	70	27	72	16	31	78	140	525
2"	115	107	84	29	86	16	38	93	169	890
2 1/2"	145	129	103	32	110	10	44	118	206	1.620
3"	168	143	120	36	128	10	51	140	242	2.450
4"	210	169	141	43	150	10	61	160	282	4.100

EPDM				
L	Code	Box	Bag	
3/8"	VSA.18L.160	180 M	-	
1/2"	VSA.18L.200	180 M	-	
3/4"	VSA.18L.250	120 M	-	
1"	VSA.18L.320	75 M	-	
1 1/4"	VSA.18L.400	24 P	-	
1 1/2"	VSA.18L.500	30 M	-	
2"	VSA.18L.630	16 M	-	
2 1/2"	VSA.18L.750	8 M	-	
3"	VSA.18L.900	5 M	-	
4"	VSA.18L.910	2 M	-	

Standards: ISO 727, EN 1452, DIN 8063, NF T54-028, BS 4346/1

2 1/2" and 5" dimensions are equal to 75mm and 140mm the code is therefore metric

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