legris transair

> Advanced industrial water pipework systems

www.transair.legris.com

ADHOC 06/2008 COM1 00 27GB

legris A DIVISION OF GROUPE LEGRIS INDUSTRIES

> System benefits

COMPLETELY
ADAPTABLE

> Dismountable and reusable components

EASIER
HANDLING

Pipes and fitting are supplied ready for immediate installation
> NO PREPARATION REQUIRED

Quick assembly - no need to weld, glue or crimp
> TIME SAVING

Easy to assemble
> NO IN-DEPTH TRAINING REQUIRED

Lightweight, easy to cut pipe material
> EASIER WORKING ON SITE

Immediate Start-up
> SYSTEM QUICKLY READY FOR TEST AND USE

HIGH
RESISTANCE
TO

> corrosion
> aggressive environments
> thermal variations
> U.V.

COMPONENTS GUARANTEED FOR 10 YEARS

SAFETY

> Non-flammable with no propagation of flame

Legris has a policy of continual product development and, therefore, reserves the right to modify any products shown in this catalogue, without notification. All dimensions are indicative.

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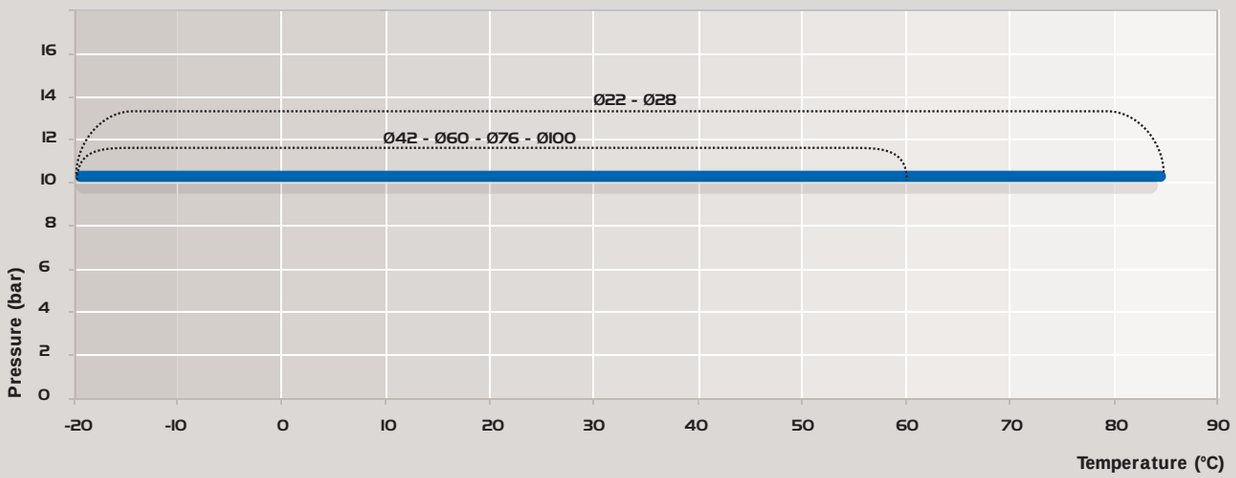
> Contents

> Technical specifications

> Fluids	Industrial water System compatible with additives (glycol or inhibitors) which prevent the formation of algae or fungus (list available upon request).
> Maximum working pressure	Ø22, Ø28: 10 bar from -20°C to +85°C Ø42, Ø60, Ø76, Ø100: 10 bar from -20°C to +60°C

Maximum working pressure versus operating temperature



> Working temperature	Ø22, Ø28: from -20°C to +85°C Ø42, Ø60, Ø76, Ø100: from -20°C to +60°C
> Expansion coefficient	Expansion coefficient of Transair® stainless steel pipe: 0.016 mm per metre per degree celsius
> Environment	• Materials are 100% recyclable. • For silicone free applications: please consult us.
> Water hammer	Ø22, Ø28: comply with norm BS. 7291 part 1 Ø42, Ø60, Ø76, Ø100: comply with norm NF T54-094

> Sizing

Select the Transair® diameter for your application based on required flow against pressure drop.

Estimated values for: a closed loop network, a pressure of 4 bar with less than 10% pressure drop. Velocity: 4 m/s.

Estimated flow rate				Equivalent length									
				32.8 ft	65.6 ft	98.4 ft	131.2 ft	164 ft	246 ft	328 ft	492 ft	656 ft	984 ft
m³/h	l/s	l/min	cfm	10 m	20 m	30 m	40 m	50 m	75 m	100 m	150 m	200 m	300 m
0,5	0,14	8	0,3	22	22	22	22	22	22	22	22	22	28
1	0,28	17	0,6	22*	22*	22*	22*	22*	28	28	28	28	42
2,5	0,69	42	1,5	22*	28*	28*	28*	42	42	42	42	42	42
3,5	0,97	58	2,1	28	28	42	42	42	42	42	42	42	60
5	1,39	83	3	28*	42*	42*	42*	42*	42*	42*	60	60	60
10	2,77	167	6	42*	42*	42*	60*	60*	60*	60*	60*	76	76
15	4,17	250	9	42*	60*	60*	60*	60*	60*	76	76	76	76
20	5,56	333	12	60*	60*	60*	60*	60*	76*	76*	76*	100	100
30	8,33	500	18	60*	60*	76*	76*	76*	76*	100*	100*	100*	100*
40	11,11	667	24	76*	76*	76*	76*	76*	100*	100*	100*	100*	
50	13,89	833	29	76*	76*	76*	100*	100*	100*	100*			
75	20,83	1250	44	100*	100*	100*	100*	100*					
80	22,22	1333	47	100*	100*	100*	100*	100*					
100	27,78	1667	59	100*	100*	100*	100*						

* These results should be taken into account in order to ensure the best practice for industrial water networks. An anti-water hammer device is necessary for the protection of regulation components or other fragile elements.

> Example

Main network length (ring main): 50 metres
Required flow rate: 15 m³/h
Working pressure: 4 bar
Pressure drop < 10 %
Velocity: 4 m/s
The most suitable Transair® diameter is: Ø60.

> DIN 1988

The pressure drop per diameter is stated for a flow rate and a velocity, at a temperature of 20°C.
Technical datasheet available upon request

> Safety and conformity

> Fire resistance

All TRANSAIR® components are non-flammable with no propagation of flame.

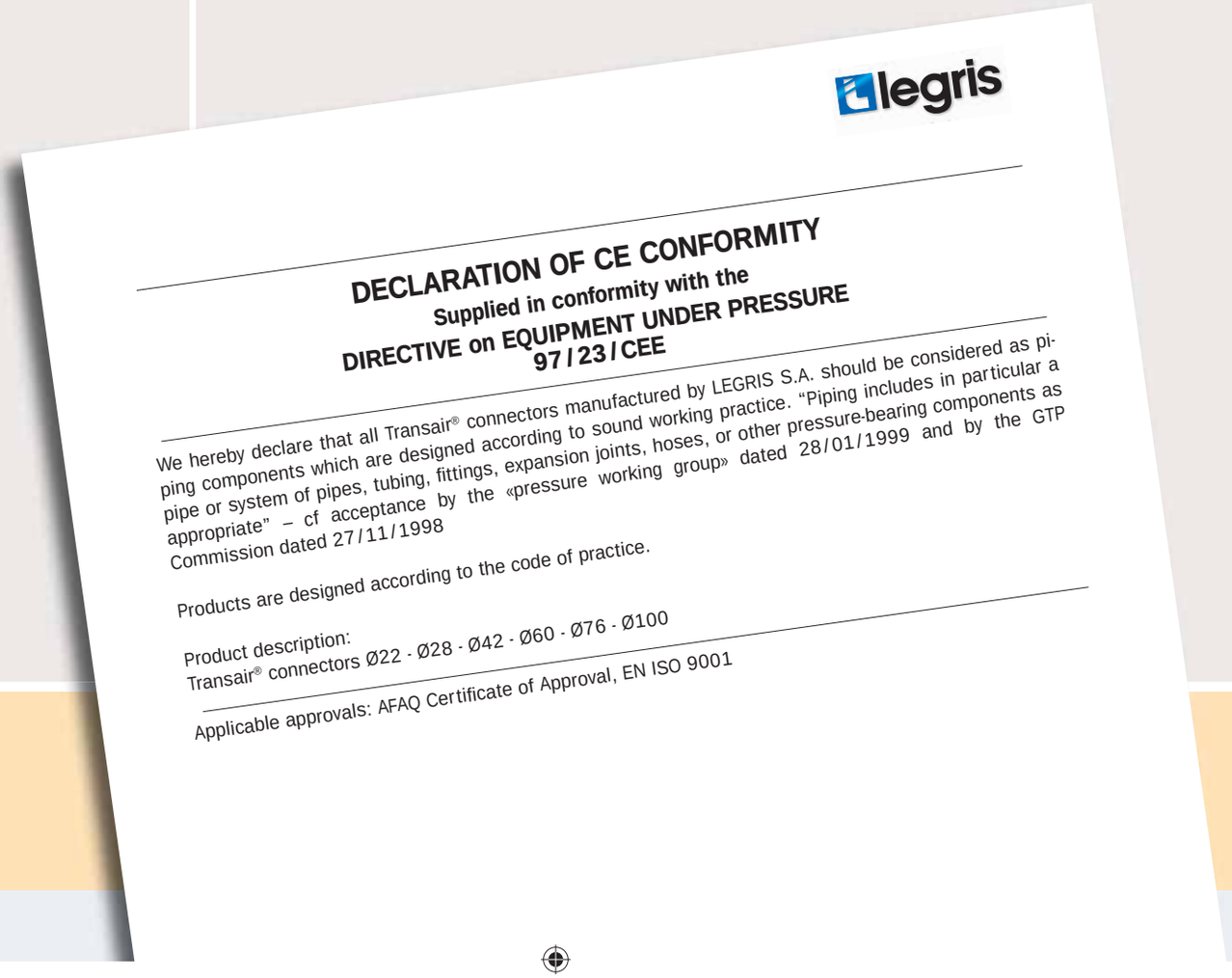
- Pipe-to-pipe and stud connectors, ball valves and butterfly valves: conform to the UL94HB standard.

> Electrical conductivity

In areas of potential risk, the earthing and electrical continuity of metallic components are obligatory. The Transair® system can be used in such environments by undertaking the appropriate precautions. For more information, please consult us.

> CE conformity

Transair® conforms to European standard 97/23 CEE - §3.3 (equipment under pressure).



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DECLARATION OF CE CONFORMITY
Supplied in conformity with the
DIRECTIVE on EQUIPMENT UNDER PRESSURE
97/23/CEE

We hereby declare that all Transair® connectors manufactured by LEGRIS S.A. should be considered as piping components which are designed according to sound working practice. "Piping includes in particular a pipe or system of pipes, tubing, fittings, expansion joints, hoses, or other pressure-bearing components as appropriate" – cf acceptance by the «pressure working group» dated 28/01/1999 and by the GTP Commission dated 27/11/1998

Products are designed according to the code of practice.

Product description:
Transair® connectors Ø22 - Ø28 - Ø42 - Ø60 - Ø76 - Ø100

Applicable approvals: AFAQ Certificate of Approval, EN ISO 9001

>Certification and guarantee

>Certification ISO 9001 version 2000

Legris S.A. is certified ISO 9001 version 2000 and operates a Quality Management System in order to ensure the level of quality and service that is expected by its customers.

>TÜV certification

A product certified TÜV is a pledge of safety and quality. The Group TÜV thus certifies independent test results – in particular, the properties of the products and the standards whereby they were examined.

>ASME B31.1

TRANSAIR® meets the requirement of ASME B31.1. – which stipulates " the minimum requirements for the design, materials, fabrication, erection, test and inspection of power and auxiliary piping systems for industrial institutional plants".

All TRANSAIR® components are guaranteed for 10 years.

legris transair

N° certificate:

- TRANSAIR® GUARANTEE -

Legris SA agrees to replace free of charge any Transair® component which does not function due to a manufacturing or material defect, within a period of 10 years from the date of the installation.

The current guarantee is valid on condition that:
- Legris SA is given reasonable access to examine the products at issue.
- A material or an assembly defect in the fitting or other Transair® component must be clearly and obviously identified.

Claims under this Guarantee should be addressed in writing simultaneously to the distributor of the Transair® products concerned and to Legris SA, 74,rue de Paris, BP 70411 –35704 Rennes Cedex7 France, and its subsidiary

Excluded from this guarantee, which is limited to the cost of product replacement, are defects outside the control of Legris SA, in particular:

- Defects resulting from shocks, vibrations or wear due to contact with any element external to the Transair® installation.
- Defects due to installation not complying with Legris SA's guidelines and recommendations.
- Defects due to an installation being used outside the technical limits defined by Legris SA.
- Defects caused by product modifications not approved in advance by Legris SA.

Site owner: .....

Exact address: .....

Number..... Street ..... Town / City.....

Post Code ..... Country ..... New Extension

.....

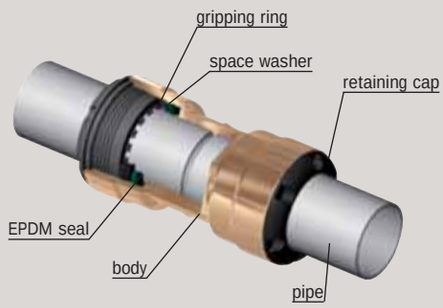
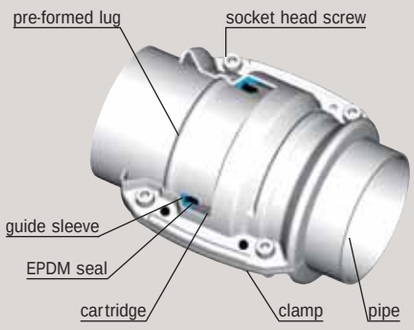
> Materials

	Ø22 - Ø28	Ø42 - Ø60	Ø76 - Ø100
Tube	stainless steel 316L	stainless steel 304	
Connector	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	body : engineering grade plastic nut : engineering grade plastic clamp : engineering grade plastic seal : EPDM	clamp: treated steel cartridge: engineering grade plastic and stainless steel seal: EPDM
90° Elbow	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	body : engineering grade plastic nut : engineering grade plastic seal : EPDM	body : stainless steel 304
45° Elbow	-	body : stainless steel 304	body : stainless steel 304
180° Elbow	-	body : stainless steel 304	-
Tee	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	body : engineering grade plastic nut : engineering grade plastic seal : EPDM	body : stainless steel 304
Reducing tee	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	-	body : stainless steel 304
Threaded tee	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	-	body : stainless steel 304
In-line reducer	treated brass	treated brass	body : stainless steel 304
End cap	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	treated brass	body : stainless steel 304
Male stud fitting	body: bronze gripping ring: stainless steel retaining cap: engineering grade plastic O-ring: EPDM	-	-
Male adaptor	-	treated brass	treated brass
Wall bracket	treated brass	-	-
Butterfly valve	-	body: cast iron disc and shaft: stainless steel handle: aluminium	body and handle: iron disc and shaft: stainless steel
Flange	-	stainless steel 304	stainless steel 304
Valve	body : nickel-plated brass seal : PTFE		
Fixing clip	stainless steel		
Non slip clip	collar : zinc-plated steel lining : elastomer		
Threaded rod	steel		
Screw type beam clamp	formed steel		

> For all silicone free applications : please consult us.

> Transair® technology

Innovative technology at the heart of TRANSAIR® enables rapid and easy assembly: quick connection of components to the stainless steel pipe.
This technology takes into account the specific requirements of each diameter and provides the user with an optimum safety coefficient and easy connection.

> Ø 22 **> Ø 28**	Pipe-to-pipe and stud connectors in Ø 22 and Ø 28 can be immediately connected to Transair® pipe – simply push the pipe into the connector up to the connection mark. The gripping ring of each fitting is then automatically secured and the connection is safe.	
> Ø 42 **> Ø 60**	Pipe-to-pipe and stud connectors in Ø 42 and Ø 60 can be quickly connected to Transair® stainless steel pipe by means of a double clamp ring. This secures the connection between the nut and the pipe – tightening of the nuts secures the final assembly.	
> Ø 76 **> Ø 100**	Pipe-to-pipe and stud connectors in Ø 76 and Ø 100 can be quickly connected to Transair® stainless steel pipe. Position the pipes to be connected within the Transair® cartridge and close/tighten the Transair® clamp.	

> Services

A number of additional Transair® services help you throughout your projects.

> Project assistance

Understanding, Proximity, Responsiveness.

Field support

TRANSAIR® technical-commercial teams are at your disposal to study and help design your pipe network. In particular, they assist you in your project with:

- Information on TRANSAIR® products and services,
- Guidance and training on how to assemble the system,
- Advice on “best practice” in order to reduce your consumption of energy,
- Ongoing assistance and follow-up.
- On-site advisory presence at construction and installation locations.

Internally

Our CUSTOMER SERVICE teams will co-ordinate a quick response to your requirements.

> Commercial service - International

- Product availability
- Order processing and follow-up
- Delivery time-phasing and modification
- Technical information

> Costing service

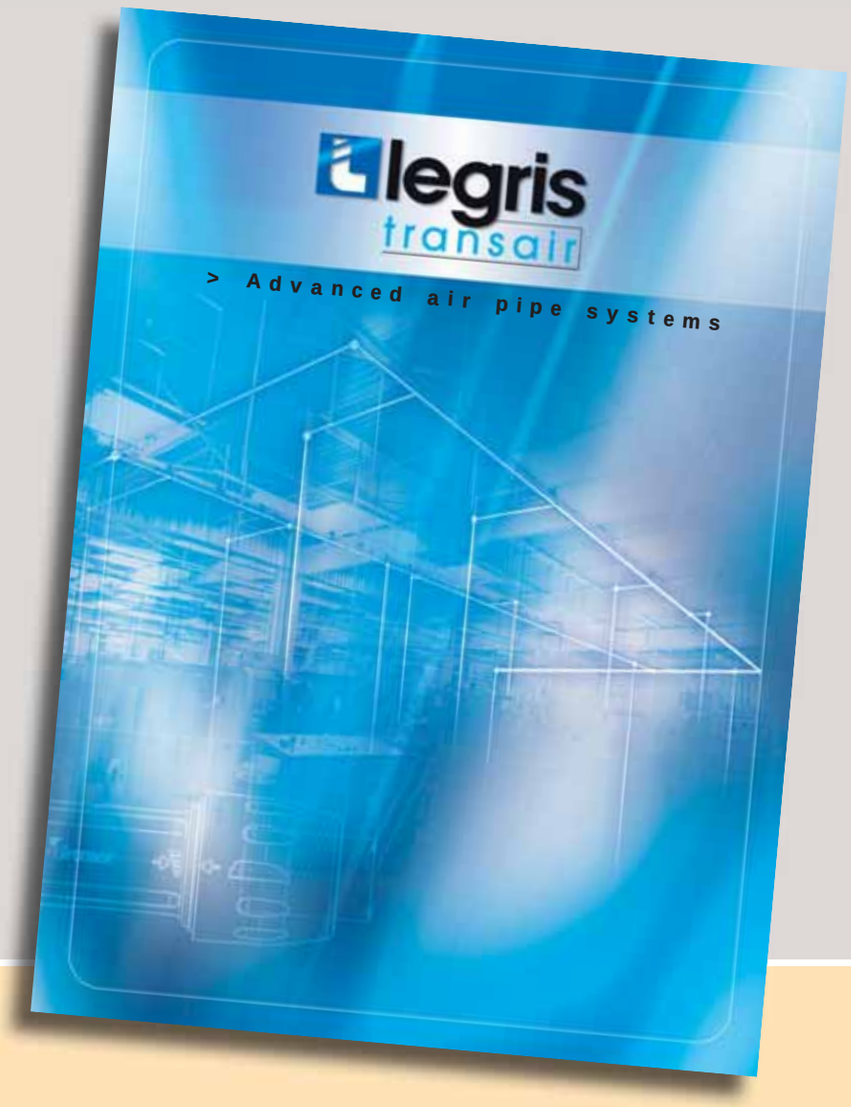
> Wherever you are in the world, you can contact us:

- by phone
- by fax
- by post
- by e-mail

To find the address of your nearest TRANSAIR® contact, please see the page 47 of this catalogue.

> The Transair® multi-fluid offer

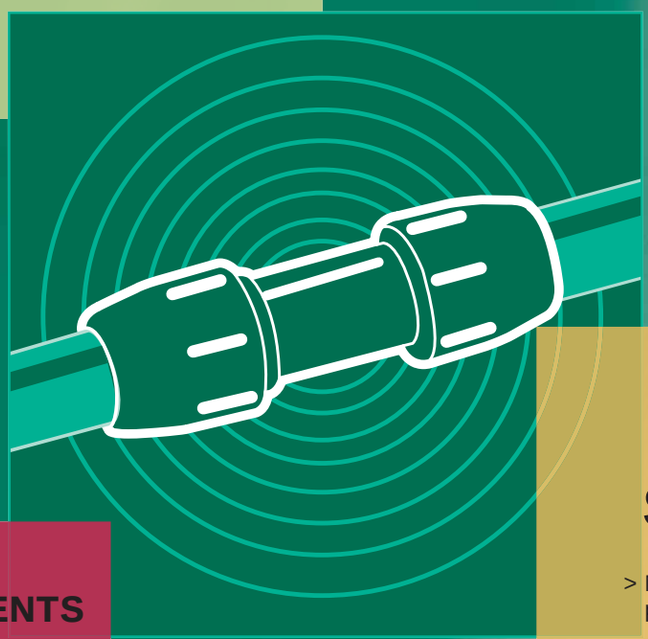
Transair® capitalizes on over 10 years proven experience which represents more than 100,000 of installations throughout the world, with an enthusiasm to continue to propose new products and services to support our customers.



COMPLETELY

ADAPTABLE

> Dismountable and reusable components



SAFETY

> Non-flammable with no propagation of flame

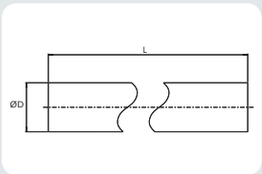
COMPONENTS GUARANTEED FOR 10 YEARS

> Products catalogue

> Stainless steel pipe

> Maximum working pressure: 10 bar
> Working temperature:
Ø22, Ø28: from -20°C to +85°C
Ø42, Ø60, Ø76, Ø100: from -20°C to +60°C

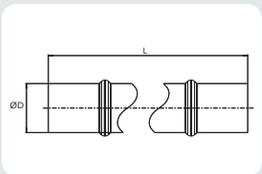
Ø 22 28

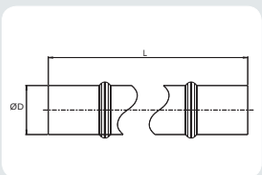


Stainless steel pipe

Transair®	Ø D	Ø ext	Ø int	L (m)
TF03 N7 00	22	22	19,6	3
TF06 N7 00	22	22	19,6	6
TF03 N9 00	28	28	25,6	3
TF06 N9 00	28	28	25,6	6

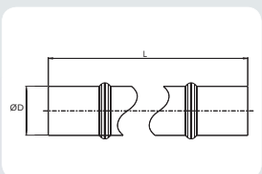
Ø 42 60

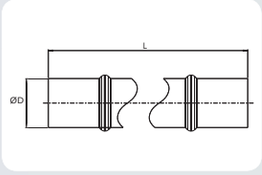




Transair®	Ø D	Ø ext	Ø int	L (m)
TX03 M4 00	42	42,3	39,1	3
TX06 M4 00	42	42,3	39,1	6
TX03 M6 00	60	60,3	57,1	3
TX06 M6 00	60	60,3	57,1	6

Ø 76 100





Transair®	Ø D	Ø ext	Ø int	L (m)
TX03 L1 00	76	76,1	72,9	3
TX06 L1 00	76	76,1	72,9	6
TX03 L3 00	100	101,6	97,6	3
TX06 L3 00	100	101,6	97,6	6

Please consult the installation guide on pages 28 to 39 of this catalogue

Norms

	Ø 22 - Ø 28	Ø 42 - Ø 60	Ø 76 - Ø 100
Manufacturing norms	EN 10088/2	EN 10088/2	EN 10088/2
Grade	1.4404 / AISI 316 L	1.4301 / AISI 304	1.4301 / AISI 304
Welding norm	DIN 17 457, NFA 49 147	DIN 17 457, NFA 49 147	DIN 17 457, NFA 49 147
Tolerances	DVGW - W541	EN 1127 D4 / T3	EN 1127 D4 / T3

Tolerances

Length	External diameter		Thickness	
Standard pipe	**mm**	**Tolerance (including non-roundness)**	**mm**	**Tolerance**
3 and 6 metres	22	± 0,11 mm	1,2	± 0,10 mm
3 and 6 metres	28	± 0,14 mm	1,2	± 0,10 mm
3 and 6 metres	42,3	± 0,45 mm	1,6	± 0,16 mm
3 and 6 metres	60,3	± 0,45 mm	1,6	± 0,16 mm
3 and 6 metres	76,1	± 0,38 mm	1,6	± 0,16 mm
3 and 6 metres	101,6	± 0,51 mm	2,0	± 0,20 mm

Volume and mass

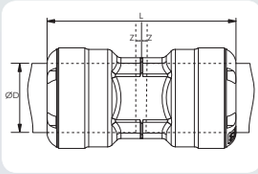
		Value for 1 metre of pipe		
Ø ext (mm)	**Ø int (mm)**	**volume (l)**	**pipe mass (kg**	**mass of the network full of water (kg)**
22,0	19,6	0,30	0,627	0,929
28,0	25,6	0,51	0,808	1,323
42,3	39,1	1,20	1,616	2,817
60,3	57,1	2,56	2,331	4,892
76,1	72,9	4,17	2,958	7,132
101,6	97,6	7,48	4,944	12,425

> Pipe-to-pipe and stud connectors

The range of Transair® pipe-to-pipe and stud connectors provides versatility of design and helps to overcome constraints often encountered with the structure of industrial buildings.

> Quick connection
> Dismountable and reusable
> Full bore design
> Non-flammable materials (UL94HB standard)

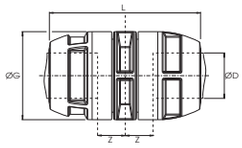
Ø
22
28



Pipe-to-pipe connector

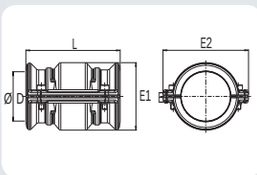
Transair®	ØD	L	Z
RR06 N7 01	22	63,2	1,2
RR06 N9 01	28	85,5	1,2

Ø
42
60



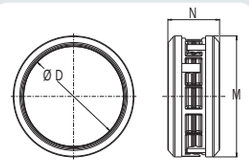
Transair®	ØD	ØG	L	Z
RP06 M4 01	42	82	155	2,6
RP06 M6 01	60	100	165	2,6

Ø
76
100



Connector (clamp + cartridge assembly)

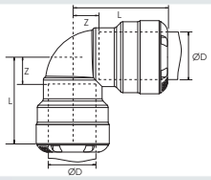
Transair®	ØD	L	E1	E2	M	N
RR01 L1 01	76	146	104	132	88,7	51,4
RR01 L3 01	100	146	128	157	125	52,7



> **Maximum working pressure: 10 bar**

> **Working temperature:**
Ø22, Ø28 : from -20°C to +85°C
Ø42, Ø60, Ø76, Ø100 : from -20°C to +60°C

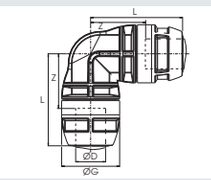
Ø 22 28



90° Elbow

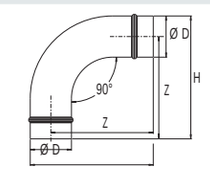
Transair®	ØD	L	Z
RR02 N7 01	22	43,6	13,2
RR02 N9 01	28	56	14,5

Ø 42 60



Transair®	ØD	ØG	L	Z
RP02 M4 01	42	82	130	55
RP02 M6 01	60	100	139	64

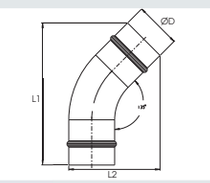
Ø 76 100



Transair®	ØD	H	Z
RX02 L1 00	76	227	189
RX02 L3 00	100	278	221

Use 2 connectors RR01 to connect 90° elbow RX02 to Transair® pipe.

Ø 42 60

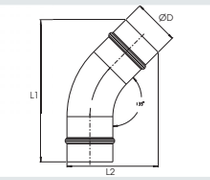


45° Elbow

Transair®	ØD	L1	L2
RX12 M4 00	42	288	149
RX12 M6 00	60	300	167

Use 2 connectors RP06 to connect 45° elbow RX12 to Transair® pipe.

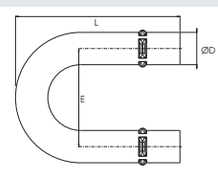
Ø 76 100



Transair®	ØD	L1	L2
RX12 L1 00	76	235,5	151,4
RX12 L3 00	100	271,4	184,3

Use 2 connectors RR01 to connect 45° elbow RX12 to Transair® pipe.

Ø 42 60



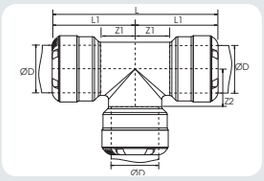
180° elbow

Transair®	ØD	L	E
RX32 M4 00	42	216	128
RX32 M6 00	60	271	120,4

Use 2 connectors RP06 to connect RX32 180° elbow to Transair® pipe.

> Pipe-to-pipe and stud connectors

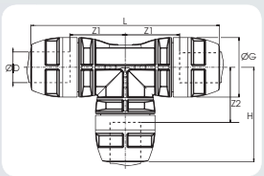
Ø 22 28



Equal tee

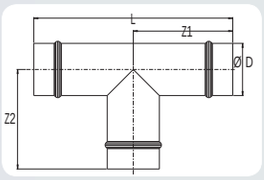
Transair®	ØD	L	L1	Z1	Z2
RR04 N7 01	22	42,1	43,6	11,7	11
RR04 N9 01	28	56	56	14,5	14,5

Ø 42 60



Transair®	ØD	ØG	L	H	Z1	Z2
RP04 M4 01	42	82	260	130	55	55
RP04 M6 01	60	100	279	139	64	64

Ø 76 100

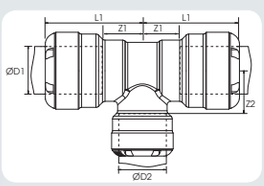


Transair®	ØD	L	Z1	Z2
RX04 L1 00	76	290	145	145
RX04 L3 00	100	310	135	135

Use 3 connectors RR01 to connect equal tee RX04 to Transair® pipe.

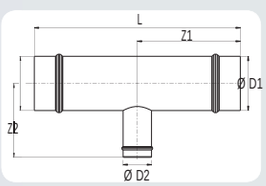
Reducing tee

Ø 22 28



Transair®	ØD1	ØD2	L	L1	Z1	Z2
RR04 N9 N7 01	28	22	53	46,6	11,5	16,2

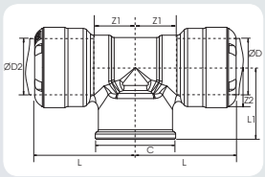
Ø 76 100



Transair®	ØD1	ØD2	L	Z1	Z2
RX04 L1 M4	76	42	290	145	183
RX04 L1 M6	76	60	290	145	183
RX04 L3 M4	100	42	310	155	195
RX04 L3 M6	100	60	310	155	195
RX04 L3 L1	100	76	310	155	135

Use 2 connectors RR01 to connect reducing tee RX04 to Transair® pipes 76 and 100 and connector RP06 to connect pipe-to-pipe connector RP06 to Transair® pipes 42 and 60.

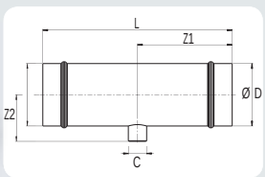
Ø 22 28



Threaded tee

Transair®	ØD	C	L	L1	Z1	Z2
RR23 N7 06 01	22	3/4”	42,1	30	11,7	13,7

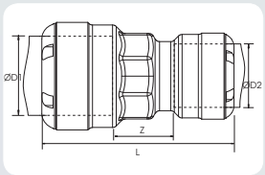
Ø 76 100



Transair®	ØD	C	L	Z1	Z2
RX23 L1 04	76	G1/2	290	145	63
RX23 L3 04	100	G1/2	310	155	75,8

Use 2 connectors RR01 to connect threaded tee RX23 to Ø 76 or Ø 100 Transair® pipe.

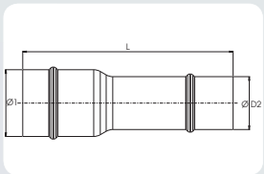
Ø 22 28



Plug-in reducer

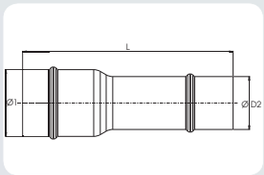
Transair®	ØD1	ØD2	L	Z
RR06 N9 N7 01	28	22	73,2	3,2

Ø 42 60



Transair®	ØD1	ØD2	L
RR14 M4 06	42	G 3/4	88
RR14 M4 08	42	G 1	88
RR14 M6 06	60	G 3/4	92
RR14 M6 08	60	G 1	92
RX66 M6 M4	60	42	220

Ø 76 100

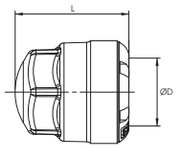


Transair®	ØD1	ØD2	L
RX66 L1 M6	76	60	240
RX66 L3 L1	100	76	192

Use connector RR01 to connect plug-in reducer RX66 to Transair® pipes Ø 76 or Ø 100 and pipe-to-pipe connector RP06 to connect to Transair® pipe Ø 60.

> Pipe-to-pipe and stud connectors

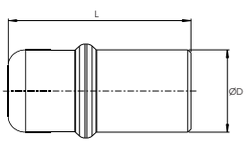
Ø 22 28



End cap

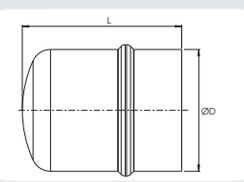
Transair®	ØD	L
RR25 N7 01	22	41,1
RR25 N9 01	28	54,5

Ø 42 60



Transair®	ØD	L
RR25 M4 00	42	85
RR25 M6 00	60	80

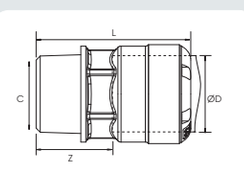
Ø 76 100



Transair®	ØD	L
RX25 L1 00	76	99,6
RX25 L3 00	100	107,4

Use connector RR01 to connect end-cap RX25 to Transair® pipe.

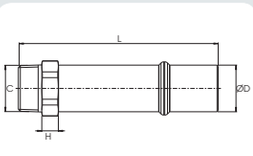
Ø 22 28



Male stud fitting, BSP taper

Transair®	ØD	C	L	Z
RR05 N7 04 01	22	1/2	51,1	20,7
RR05 N7 06 01	22	3/4	52,6	22,2
RR05 N9 08 01	28	1”	65,5	22,1

Ø 42 60

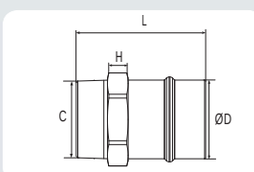


Male adaptor, BSP taper

Transair®	ØD	C	L	H
RR05 M4 06	42	3/4	117	10
RR05 M4 10	42	1”1/4	183	15
RR05 M4 12	42	1”1/2	183	15
RR05 M6 06	60	3/4	119	10
RR05 M6 16	60	2”	192	15
RR05 M6 20	60	2”1/2	195	15

Use connector RP06 to connect end-cap RR05 to Transair® pipe.

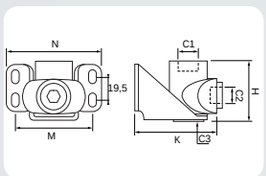
Ø 76



Transair®	ØD	C	L	H
RR05 L1 20	76	R2”1/2	125	20

Use connector RR01 to connect end-cap RR05 to Transair® pipe.

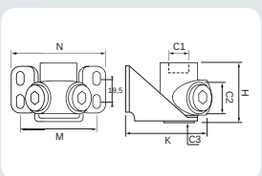
1 port wall bracket, BSP parallel



Transair®	C1	C2	C3	H	K	M	N
6685 21 21	G1/2	G1/2	G1/4	48	72,5	66,5	82

Supplied with blanking plug.

2 port wall brackets, BSP parallel



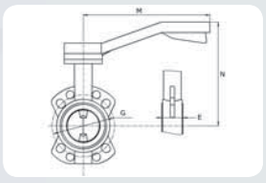
Transair®	C1	C2	C3	H	K	M	N
6686 21 21	G1/2	G1/2	G1/4	48	72,5	66,5	82

Supplied with blanking plug.

> Ball valves and butterfly valves

Transair® ball valves and butterfly valves placed regularly throughout the network and at key locations allow ease of system isolation, adaptation and maintenance.

Ø
42
60

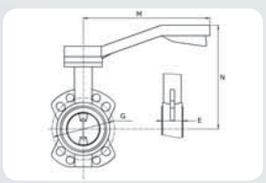


Butterfly valve

Transair®	ØD	DN	G	M	N	E
VR02 M4 01	42	32	100	180	155	33
VR02 M6 01	60	50	125	180	160	43

Seal cast in one piece (do not use any flange gasket for mounting with a flange).
Model with CE marking.
Supplied with fixing bolts.
Lockable version.

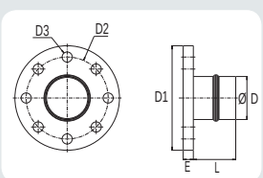
Ø
76
100



Transair®	ØD	DN	G	M	N	E
VR02 L1 01	76	80	145	300	250	50
VR02 L3 01	100	100	180	270	210	56

Seal cast in one piece (do not use any flange gasket for mounting with a flange).
Model with CE marking.
Supplied with fixing bolts.
Lockable version.

Ø
42
60

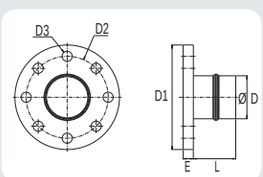


Flange and flange gasket

Transair®	ØD	DN	D1	D2	D3	E	L	Associated flange gasket
RX30 M4 00	42	32	140	100	18	10	163	EW05 M4 01
RX30 M6 00	60	50	165	125	18	10	141	EW05 M6 01

The flange can be directly connected to the butterfly valve (do not use an additional gasket). For any other type of fitting (to machinery for example), please use the flange gasket.

Ø
76
100



Transair®	ØD	DN	D1	D2	D3	E	L	Associated flange gasket
RX30 L1 00	76	65	185	145	18	10	75	EW05 L1 01
RX30 L1 00 01	76	80	200	160	18	10	75	EW05 L1 00 01
RX30 L3 00	100	100	220	180	18	10	75	EW05 L3 01

Performance conforms to standards EN 1092-1 and ISO 7005.

Flange bolt kit

Transair®	C	L
EW06 00 01	M16	90

Contains 8 bolts and 8 nuts.
Tightening torque: 200 Nm.

> Maximum working pressure. : 10 bar

> Working temperature :
Ø22, Ø28: from -20°C to +85°C
Ø42, Ø60, Ø76, Ø100: from -20°C to +60°C

Double female valve, BSP parallel

Transair®	C	DN	Max. pressure (bar)	E	F	H	L	M
VR03 00 02	G1/4	10	30	11,4	20	43	51,5	98
VR03 00 03	G3/8	10	30	11,4	20	43	51,5	98
VR03 00 04	G1/2	15	30	13,5	25	47	55	98
VR03 00 06	G3/4	20	30	12,5	31	58	57,5	122
VR03 00 08	G1"	25	30	15	38	60	69,5	122
VR03 00 10*	G1"1/4	32	25	17	48	77	81,5	153
VR03 00 12*	G1"1/2	40	25	28	54	83	95	153
VR03 00 16*	G2"	50	25	22	66	95	113	162
VR03 00 20*	G2"1/2	61	16	24	84	95	132,5	24

*Model with CE marking.

> Tools

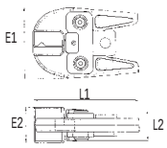
Portable tool kit

Transair®	V
EW01 00 01	220
EW01 00 03	110

This case contains: 1 portable tool, 1 12V battery and battery charger.

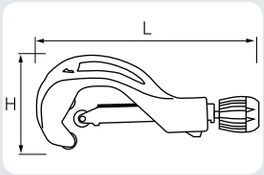
Jaw for portable tool

Ø
42
60
76
100



Transair®	ØD	E1	E2	L1	L2
EW02 M4 00	42	103	28	154	46
EW02 M6 00	60	103	42	154	46
EW02 L1 00	76	103	52	154	46
EW02 L3 00	100	103	71	154	46

Cutter for stainless steel pipe



Transair®	L	H	Use for Transair® pipe
6698 03 01	230	98	Ø 22 - 28 - 42 - 60
EW08 00 01	360	155	Ø 60 - 76 - 100

Spare rotary cutter blade for Transair® cutter 6698 03 01 : EW08 00 99
Spare rotary cutter blade for Transair® cutter EW08 00 01 : EW08 00 02

Dismounting tool

Ø
22
28

Transair®
EW11 00 01

Contains 1 key, 5 rings for dismounting Ø 22 and 5 rings for dismounting Ø 28

Maintenance set

Transair®	ØD
EW10 N7 01	22
EW10 N9 01	28

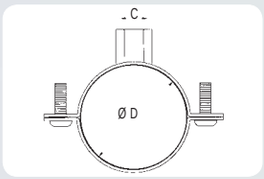
Contains 5 complete fitting accessories for Ø22 or Ø28 connectors.

Set of tightening spanners

Ø
42
60

Transair®
6698 05 03

Ø
22
28
42
60
76
100

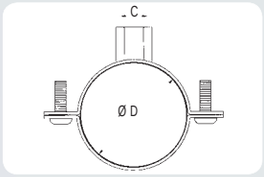


Fixing clip

Transair®	ØD	C
ER01 N7 00	22	M8 / M10
ER01 N9 00	28	M8 / M10
ER01 M4 00	42	M8 / M10
ER01 M6 00	60	M8 / M10
ER01 L1 00	76	M8 / M10
ER01 L3 00	100	M8 / M10

Maximum admitted static load: 210 daN

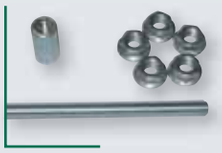
Ø
42
60
76
100



Non slip clip

Transair®	ØD	C
EX01 M4 00	42	M8 / M10
EX01 M6 00	60	M8 / M10
EX01 L1 00	76	M8 / M10
EX01 L3 00	100	M8 / M10

Maximum admitted static load: 200 daN



Threaded rod kit

Transair®	C
ER99 05 02	M8
ER99 05 03	M10

Contains 10 threaded rods 1 metre length, 50 nuts and 10 threaded connectors

Screw type beam clamp

Transair®	For screw
ER99 06 02	Ø 8
ER99 06 03	Ø 10

EASIER

HANDLING

Pipes and fitting are supplied ready for an immediate installation
> NO PREPARATION REQUIRED

Quick assembly - no need to weld, glue or crimp
> TIME SAVING

Easy to assemble
> NO IN-DEPTH TRAINING REQUIRED

HIGH

RESISTANCE

TO

> corrosion
> aggressive environments
> thermal variations
> U.V.

COMPLETELY

ADAPTABLE

> Dismountable and reusable components

> Installation guide

> Golden rules of installation

> Installation instructions

> General

Prior to the installation of a Transair® cooling water distribution system, the installer should ensure that the installation area complies with any regulations applicable to areas exposed to explosive hazards (in particular the effect of static electricity in a silo area).

When maintaining or modifying a Transair® system, the relevant section should be purged prior to the commencement of any work.

Installers should use only Transair® components and accessories, in particular Transair® pipe clips and fixture clamps. The technical properties of the Transair® components, as described in the Transair® catalogue, must be respected.

> Commissioning the installation

Once the Transair® installation has been installed and prior to commissioning, the installer should complete all tests, inspections and compliance checks as stated in any contract and according to sound engineering practice and current local regulations.

> Transair® pipe and hoses

Transair® pipe should be protected from mechanical impact, particularly if exposed to collision with fork-lift trucks or when sited in an environment with moving overhead loads. Similarly, rotation of the pipe and pipe supports should be avoided.Transair® pipe must not be welded.

NB: In certain situations, Transair® stainless steel pipe may be formed with a bend - please contact us for further information.

> Component assembly

Transair® components are provided with assembly instructions for their correct use - simply follow the methods and recommendations stated in this document or separate data sheets.

> Transair® installations - situations to avoid

> installation within a solid mass (concrete, foam, etc.), especially underground

> the suspension of any external equipment from Transair® pipe

> the use of Transair® for earthing, or as a support for electrical equipment

> exposure to chemicals that are incompatible with Transair® components (please contact us for further details).

> Sound engineering practice for the optimization of an industrial water pipework system

> When installing a Transair® system, work should be completed in accordance with sound engineering practice.

> Maintain a consistent level of good quality fluid

> The diameter of the pipe will influence pressure drop and the operation of point-of-use equipment. Select the diameter according to the required flow rate and acceptable pressure drop at the point of use.

> Never encase the network in a hard solid mass, in order to facilitate maintenance or servicing.

> Position drops and feeds to take-off points as close as possible to the point of use.

> Pipe

> General

> Presentation

Deburred and chamfered pipe

Deburred and chamfered pipe

Pipe lugged at each end, deburred and chamfered

Pipe lugged at each end, deburred and chamfered

Pipe lugged at each end, deburred and chamfered

Pipe lugged at each end, deburred and chamfered

Transair® stainless steel pipe is supplied “ready for use”.

No particular preparation (cutting, deburring, chamfering, etc.) is required.

Thanks to the rigidity of Transair® stainless steel pipe, temperature-related expansion / contraction phenomena are reduced to a minimum. The Transair® network retains its straightness, and hence its performance, over time (reduction of pressure drop caused by surface friction).

Transair® stainless steel pipe is calibrated and fits perfectly onto all Transair® components. Each connection is automatically secured and sealing is, thus, optimized.

The use of Transair® stainless steel pipe minimises corrosion.

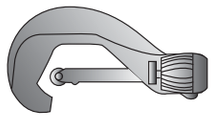
> Applications

Transair® Ø 22 - Ø 28 - Ø 42 - Ø 60 - Ø 76 - Ø 100 stainless steel pipes have been specially designed for the creation of primary and secondary networks for industrial water applications.

> Stainless steel pipe section

> Ø 22 - 28

> Tools



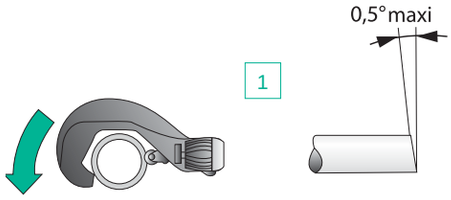
Pipe cutter
6698 03 01

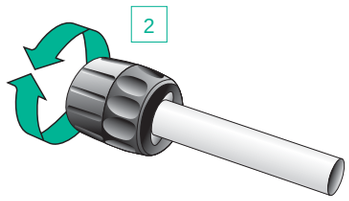
Chamfering tool
6698 04 01

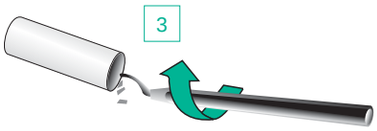
Deburring tool
6698 04 02

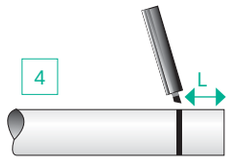
Marker pen

> Procedure









Ø22 : L = 30,4
Ø28 : L = 41,5

1 - Cutting the pipe:
- place the pipe into the pipe cutter
- position the blade onto the pipe
- rotate the pipe cutter around the pipe while gently tightening the wheel

2 - Carefully chamfer the outer edges

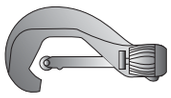
3 - Also deburr the interior end of the pipe

4 - Mark the connection indicator

> Pipe section

> Ø 42 - 60
Ø 76 - 100

> Tools



Pipe cutter

File

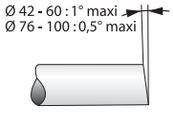
Deburring file

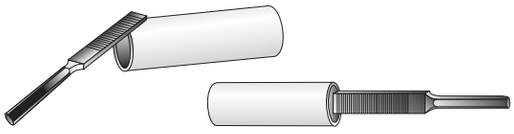
Portable tool kit ref.
EW01 00 01 (220V) or
EW01 00 03 (110V)

Pipe forming tool jaw set ref.
EW02 M4 00 (Ø 42)
EW02 M6 00 (Ø 60)
EW02 L1 00 (Ø 76)
EW02 L3 00 (Ø 100)

> Procedure

1 - Pipe section





- Cutting the pipe:
  - place the pipe into the pipe cutter
  - position the blade onto the pipe
  - rotate the pipe cutter around the pipe while gently tightening the wheel
- Carefully chamfer and deburr the end of the pipe with a file

> **Procedure**

2 - Preparation of the portable tool kit

Open the retaining pin at the front of the machine by pressing the jaw to release button*.

Place the jaws in the housing.

Lock in position by closing the retaining pin.

3 - How to create the lugs

Manually open the jaws of the clamp and insert the stainless steel pipe into the clamp as far as it will go.

Release the jaws. Press the trigger and crimp the tube until a 'snap' sound is heard.

Re-open the two jaws to remove the pipe and rotate the pipe slightly.

Renew the operation until the required minimum number of lugs for each diameter is achieved.

	Ø 42	Ø 60	Ø 76	Ø 100
Min. number of lugs	4	4	6	7

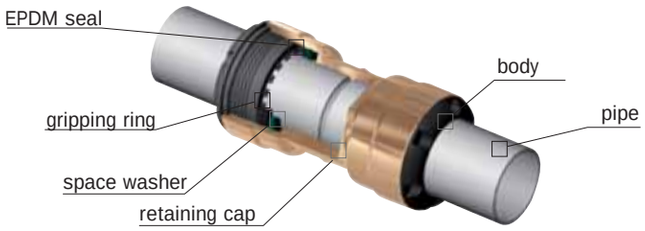
⚠ **Important**:
do not overlap the lugs!

> Transair® connectors

> General

> Ø 22 Ø 28

Instant connection by means of a gripping ring



Pipe-to-pipe and stud connectors in Ø 22 and Ø 28 can be immediately connected to Transair® pipe – simply push the pipe into the connector up to the connection mark. The gripping ring of each fitting is then automatically secured and the connection is safe.

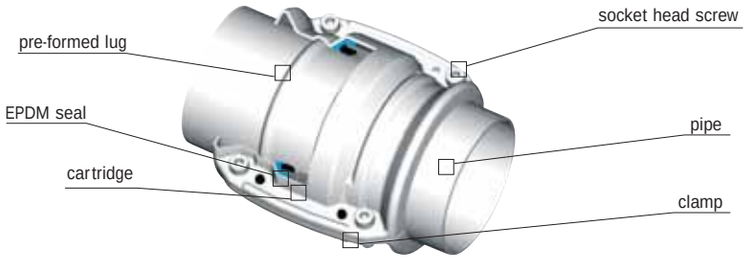
> Ø 42 Ø 60

Double-clamp quick-fit connection

Pipe-to-pipe and stud connectors in Ø 42 and Ø 60 can be quickly connected to Transair® stainless steel pipe by means of a double clamp ring. This secures the connection between the nut and the pipe – tightening of the nuts secures the final assembly.

> Ø 76 Ø 100

Clamp quick-fit connection



Pipe-to-pipe and stud connectors in Ø 76 and Ø 100 can be quickly connected to Transair® stainless steel pipe. Position the pipes to be connected within the Transair® cartridge and close/tighten the Transair® clamp.

> Connection / disconnection

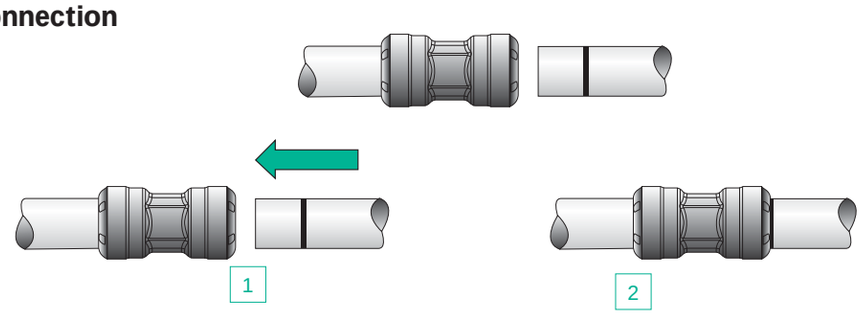
> Ø 22-28

> Tools

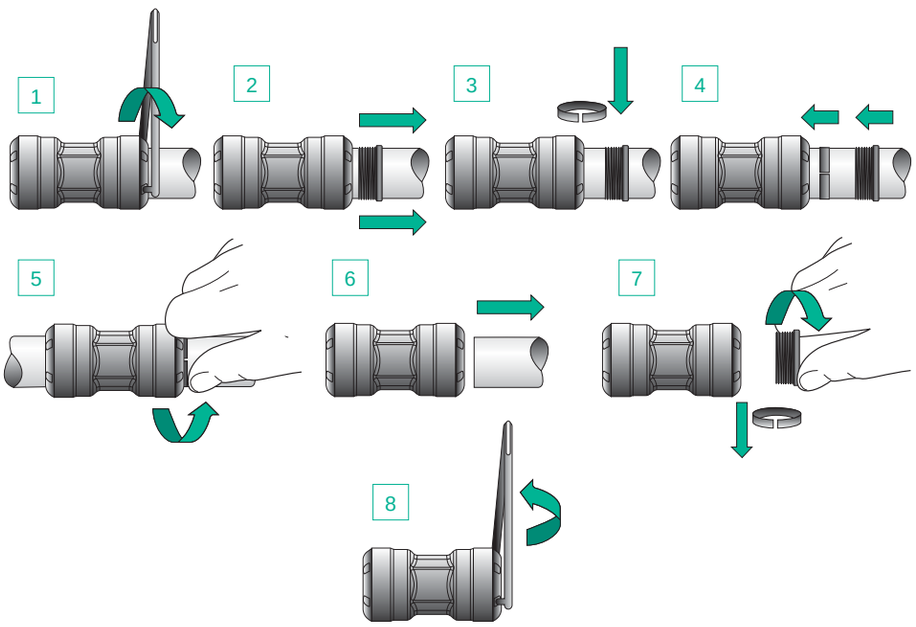
Dismounting tool
EW11 0 0 01

> Procedure

Connection



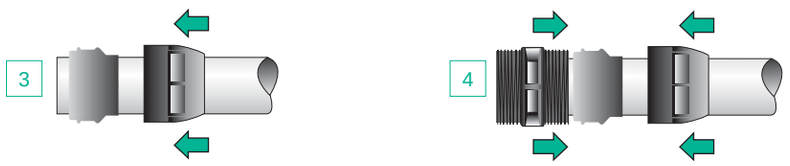
Disconnection

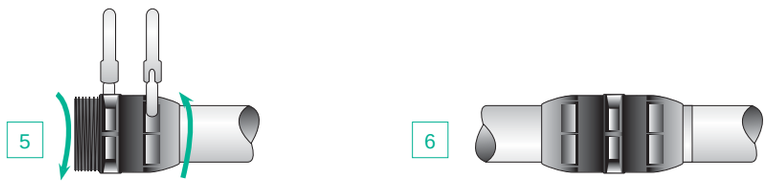


> Connection / disconnection

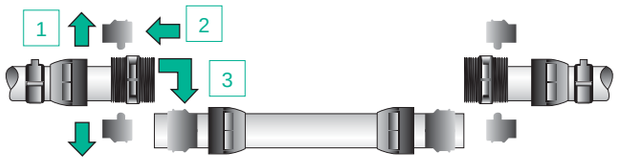
> Ø 42
Ø 60

> Connection / disconnection



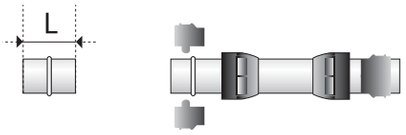


> Lateral dismounting

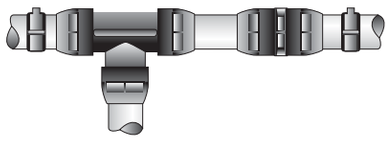


Replace 1 connector by a tee

Ø	L (mm)
42	105
60	123

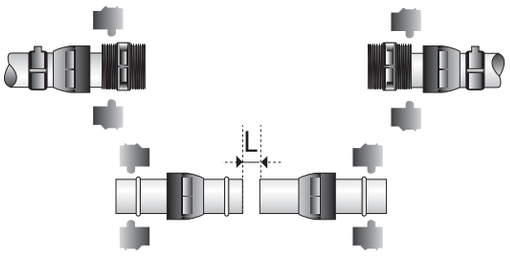


1 - Cut the pipe and create the lugs (see pages 32/33)



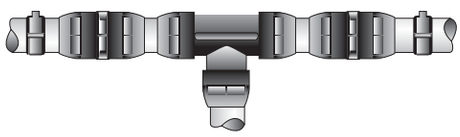
2 - Connect the pipe

Add 1 tee



1 - Cut the pipe and create the lugs (see pages 32/33)

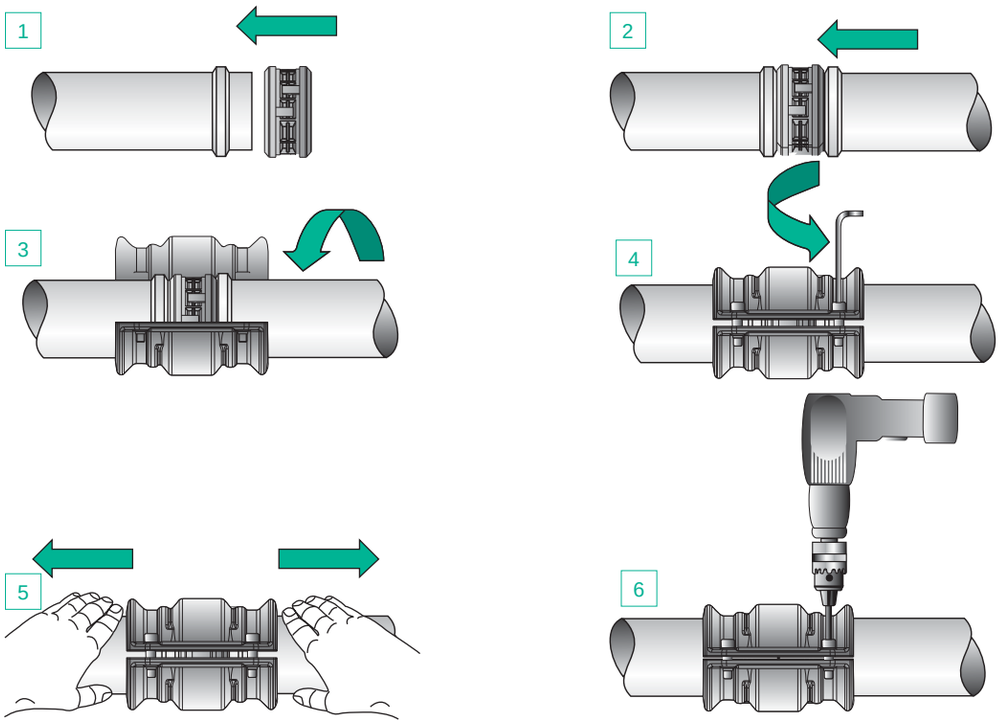
Ø	L (mm)
42	110
60	128



2 - Connect the pipe

> Ø 76
Ø 100

Connection / Disconnection



1 - Slip the cartridge over the end of the first pipe fully up to the shoulder.

2 - Bring the second pipe to the cartridge and slide fully up to the shoulder.

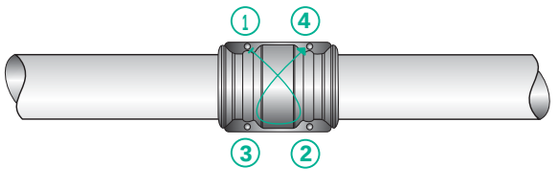
3 - Position the clamp over the cartridge / pipe assembly.

4 -Hand tighten the pre-fitted screws with an Allen key.

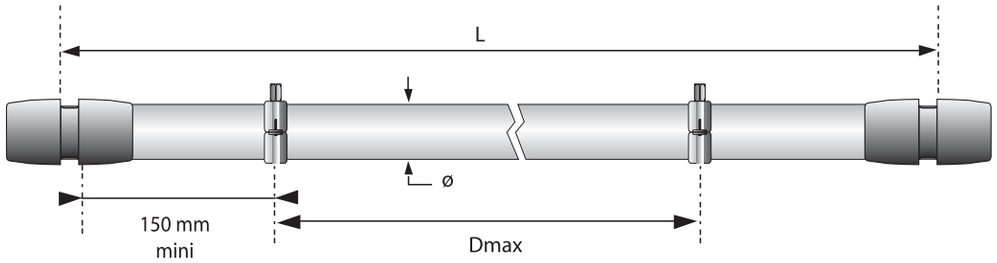
5 - Pull the pipes fully back towards the outside of the clamp.

6 - Fully tighten the clamp screws.

For effective clamp sealing, screw tightening should be performed on alternate sides of the clamp as shown below:



To disconnect, perform the same operations in reverse order.



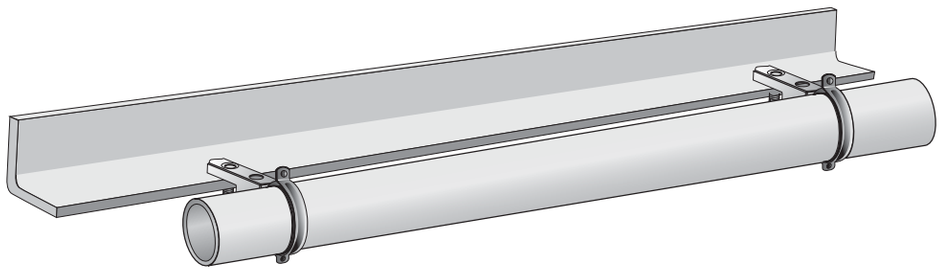
L = 3 m

ø	Dmax (m)
22	2,5
28	2,5
42	2,5
60	2,5
76	2,5
100	2,5

L = 6 m

ø	Dmax (m)
22	3
28	3
42	4
60	4
76	5
100	5

> Screw type beam clamps

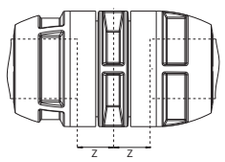


Position the clamps ref. ER onto the RSJ or beam in accordance with the minimum recommended number of attachments per length of pipe and the required distance between attachments, according to the diameter of the pipe

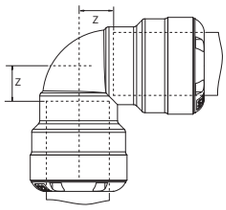
> Cotes Z

Transair	Z	Z1	Z2
RP02 M4 01	55	-	-
RP02 M6 01	64	-	-
RP06 M4 01	2,6	-	-
RP06 M6 01	2,6	-	-
RR02 N7 01	13,2	-	-
RR02 N9 01	14,5	-	-
RR04 N7 01	-	11,7	11
RR04 N9 01	-	14,5	14,5
RR04 N9 N7 01	-	11,5	16,2
RR05 N7 04 01	20,7	-	-
RR05 N7 06 01	22,2	-	-
RR05 N9 08 01	22,1	-	-
RR06 N7 01	1,2	-	-
RR06 N9 01	1,2	-	-
RR06 N9 N7 01	3,2	-	-
RR23 N7 06 01	-	11,7	13,7
RX02 L1 00	189	-	-
RX02 L3 00	221	-	-
RX04 L1 00	-	145	145
RX04 L1 M4	-	145	183
RX04 L1 M6	-	145	183
RX04 L3 00	-	135	135
RX04 L3 L1	-	155	135
RX04 L3 M4	-	155	195
RX04 L3 M6	-	155	195
RX23 L1 04	-	145	63
RX23 L3 04	-	155	75,8

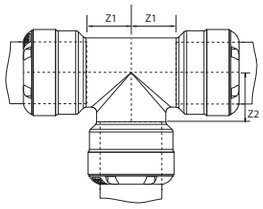
RP06 M4 01 - RP06 M6 01



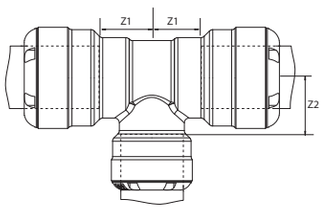
RR02 N7 01 - RR02 N9 01



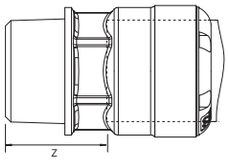
RR04 N7 01 - RR04 N9 01



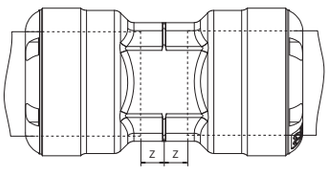
RR04 N9 N7 01



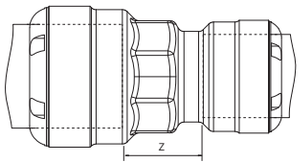
RR05 N7 04 01 - RR05 N7 06 01
RR05 N1 09 01



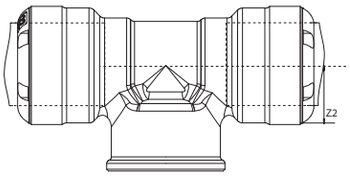
RR06 N7 01 - RR06 N9 01



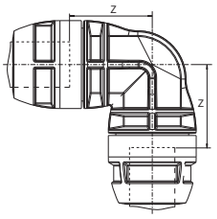
RR06 N9 N7 01



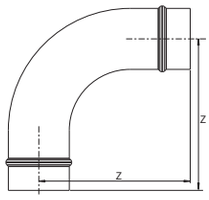
RR23 N7 06 01



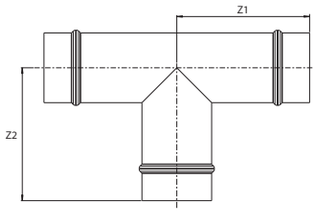
RP02 M4 01 - RP02 M6 01



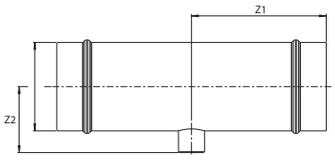
RX02 L1 00 - RX02 L3 00



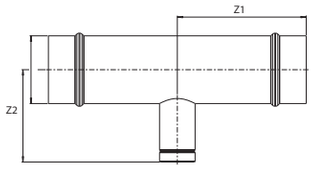
RX04 L1 00 - RX04 L3 00



RX23 L1 04 - RX23 L3 04



RX04 L1 M4 - RX04 L1 M6 - RX04 L3 M4 - RX04 L3 M6 - RX04 L3 L1



> Conversion charts

> Length

millimetre (mm)	metre (m)	inch (in)	foot (ft)	yard (yd)
10	0,01	0,39	0,03	0,01
20	0,02	0,79	0,07	0,02
30	0,03	1,18	0,10	0,03
40	0,04	1,57	0,13	0,04
50	0,05	1,97	0,16	0,05
60	0,06	2,36	0,20	0,07
70	0,07	2,76	0,23	0,08
80	0,08	3,15	0,26	0,09
90	0,09	3,54	0,30	0,10
100	0,10	3,94	0,33	0,11
150	0,15	5,91	0,49	0,16
200	0,20	7,87	0,66	0,22
250	0,25	9,84	0,82	0,27
300	0,30	11,81	0,98	0,33
350	0,35	13,78	1,15	0,38
400	0,40	15,75	1,31	0,44
450	0,45	17,72	1,48	0,49
500	0,50	19,69	1,64	0,55
550	0,55	21,65	1,80	0,60
600	0,60	23,62	1,97	0,65
700	0,70	27,56	2,30	0,76
800	0,80	31,50	2,62	0,87
900	0,90	35,43	2,95	0,98
1 000	1,00	39,37	3,28	1,09

> Pressure

Bar	Kilo Pascal (KPa)	Atmosphere (atm)	PSI	Torr (mm Hg)
1	100	0,99	14,50	750
2	200	1,97	29,00	1 500
3	300	2,96	43,50	2 250
4	400	3,95	58,00	3 000
5	500	4,93	72,50	3 750
6	600	5,92	87,00	4 500
7	700	6,91	101,50	5 250
8	800	7,90	116,00	6 000
9	900	8,88	130,50	6 750
10	1000	9,87	145,00	7 500
11	1100	10,86	159,50	8 250
12	1200	11,84	174,00	9 000
13	1300	12,83	188,50	9 750
14	1400	13,82	203,00	10 500
15	1500	14,80	217,50	11 250
16	1600	15,79	232,00	12 000
20	2000	19,74	290,00	15 000

> Flow rate

litre per second (l/s)	litre per minute (l/min)	cubic metre per minute (m^3/min)	cubic metre per hour (m^3/h)	cubic feet per minute (cfm)
10	600	0,60	36	21
20	1 200	1,20	72	42
30	1 800	1,80	108	64
40	2 400	2,40	144	85
50	3 000	3,00	180	106
60	3 600	3,60	216	127
70	4 200	4,20	252	148
80	4 800	4,80	288	169
90	5 400	5,40	324	191
100	6 000	6,00	360	212
150	9 000	9,00	540	318
200	12 000	12,00	720	424
250	15 000	15,00	900	530
300	18 000	18,00	1 080	635
350	21 000	21,00	1 260	741
400	24 000	24,00	1 440	847
450	27 000	27,00	1 620	953
500	30 000	30,00	1 800	1 059
550	33 000	33,00	1 980	1 165
600	36 000	36,00	2 160	1 271
700	42 000	42,00	2 520	1 483
800	48 000	48,00	2 880	1 694
900	54 000	54,00	3 240	1 906
1 000	60 000	60,00	3 600	2 118

> Transair® in situ

> Part numbers Index