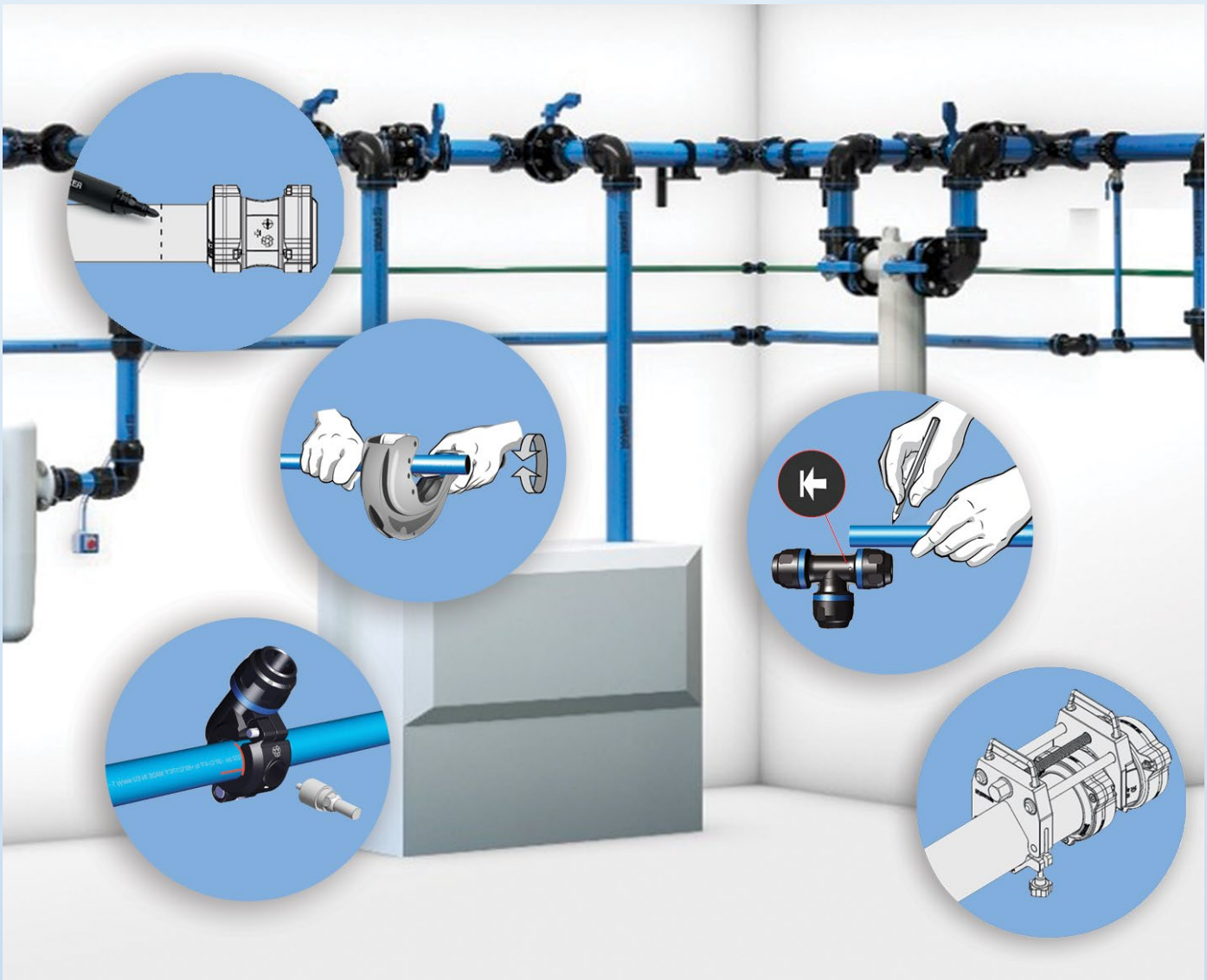
TOPRING

COMPRESSED AIR SYSTEM

Series 8

INSTALLATION GUIDE

mm ∅	16	20	25	32	40	50	63	80	100	160
in	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	6



TOPRING

Compressed air solutions

INSTALLATION GUIDE
COMPRESSED AIR SYSTEM • SERIES 08

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TOOLS REQUIRED FOR INSTALLATION

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Deburring tool

Tightening wrench

Hook spanner

Pipe cutter

Assembly gel

Drop coupling drill bit

Torque wrenche

Hex socket

Drill

Marker

Tape measure

Gloves

Protective goggles

IMPORTANT NOTICE

All product codes, photos and technical specifications can be found in the PPS catalogue. Please refer to our “Design Guide for Compressed Air Piping System Series 08” available on TOPRING.com before proceeding with the installation.

BASIC RULES FOR THE INSTALLATION OF AN OPTIMAL COMPRESSED AIR SYSTEM

Before installing the pipes and fittings or any other components part of the compressed air piping system, some basic rules should be followed.

For safety reasons, the main network must be installed at a **minimum height of 2.5 m from the ground.** The piping will be fixed with a sufficient number of mounting clips (P04-05) to ensure its stability while allowing the expansion or contraction of the pipe (P06). A slope of 1% is also recommended in order to direct the condensates towards the lower points (P04).

FOCUS ON VARIOUS ELEMENTS OF AN EFFICIENT COMPRESSED AIR NETWORK

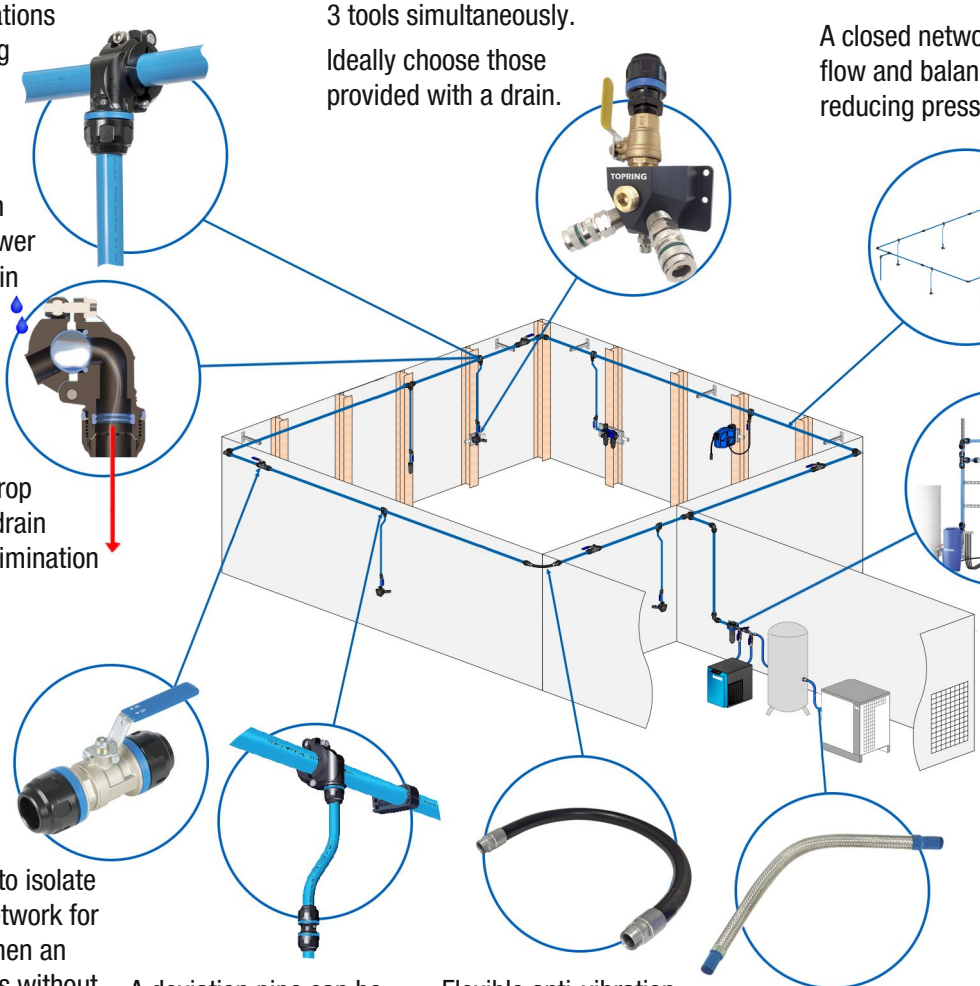
The take-off drop couplings are used to install drop legs to supply workstations on new or existing compressed air systems.

The installation of distributors with couplers powers up to 3 tools simultaneously.

Ideally choose those provided with a drain.

A closed network promotes good flow and balances pressure while reducing pressure drops.

The accumulation of water in the lower section of the main pipe will not fall into the take-off drop, it will flow to a lower point of the main line toward another drop equipped with a drain for condensate elimination



A bypass isolates a section of the air network requiring regular maintenance (water separator, refrigerated dryer, filters).

Ball valve allows to isolate portions of the network for maintenace or when an emergency occurs without cutting air from the entire system.

A deviation pipe can be used for correcting the alignment between main line and drop legs.

Flexible anti-vibration hose absorb expansion or contraction movements due to thermal variations.

A high temperature anti-vibration hose must always be installed between the compressor and the beginning of the air piping network to protect the air network against vibrations and heat.

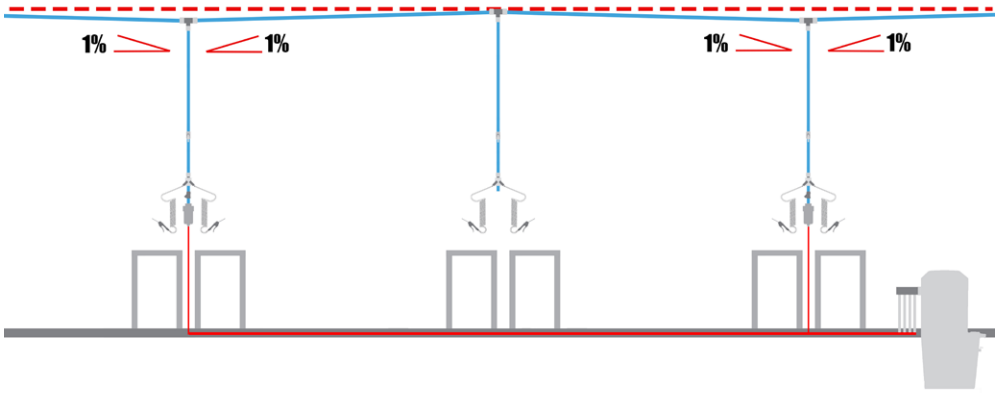
Cont. BASIC RULES FOR THE INSTALLATION OF AN OPTIMAL COMPRESSED AIR SYSTEM

DETERMINING THE SLOPE OF THE PIPING

All horizontal pipes must have a slope of 1% to allow drainage of condensate.

Descending slopes must lead to drain downspouts fitted with condensate drains, placed at the low points of the network.

Example: with a distance of 6 meter, a 60 mm slope is needed.



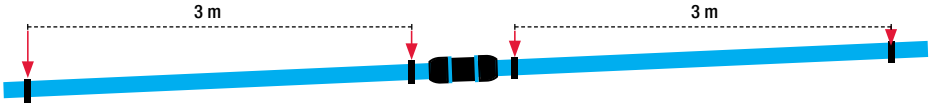
FIXING THE PIPES

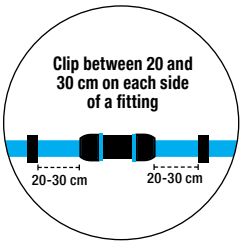
The pipe fixing methods are defined according to the configuration of the building and must be carried out in such a way as to obtain perfect alignment and good solidity of the whole. The maximum distance between each mounting clip must be 3 meters, regardless of the pipe diameter. It is strongly recommended to install a mounting clip between 20 and 30 cm from each side of the fitting or 20 cm from each side of a valve. This will eliminate the possibility of pipe bending and distortion.

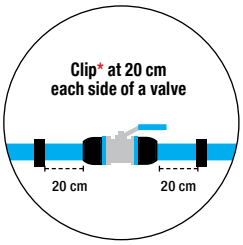
MOUNTING CLIP FOR PIPE

No	Tube mm	Tube in
08.700	16	1/2
08.701	20	3/4
08.702	25	1
08.703	32	1-1/4
08.704	40	1-1/2
08.705	50	2
08.706	63	2-1/2
08.707	80	3
08.788	100	4

Note: Integrated nut for ceiling installation with threaded rod 3/8 UNC







* If you are installing a valve equipped with a valve bracket (see next page 3.13), a mounting clip on each side of the valve is not required.

Clip spacer for mounting clip

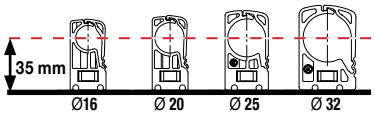
To securely fix the pipe to the wall, a combination of mounting clip and clip spacers may be necessary depending on the diameters of the pipe and the space to be filled between the wall and the piupe (see drawings below). A spacer compensates for the height difference created when connecting pipes with different diameters. The spacer allows perfect alignment.

SPACER FOR MONTING CLIP

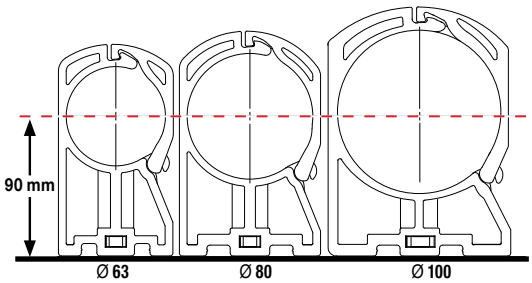
No	Thickness mm	For mpunting clip mm	For mpunting clip in
08.518	35	16 to 32	1/2 to 1-1/4

No de produit	Épaisseur mm	Pour support de mm	Pour support de po
08.519	20	40 to 50	1-1/2 to 2

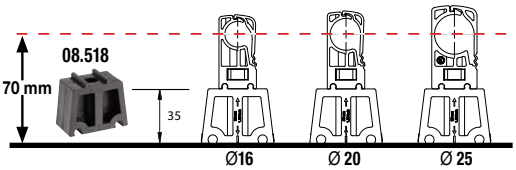
With a 35 mm gap between the wall and the center of the pipe, no spacers are required with a 16, 20, 25 or 32 mm mounting clip.

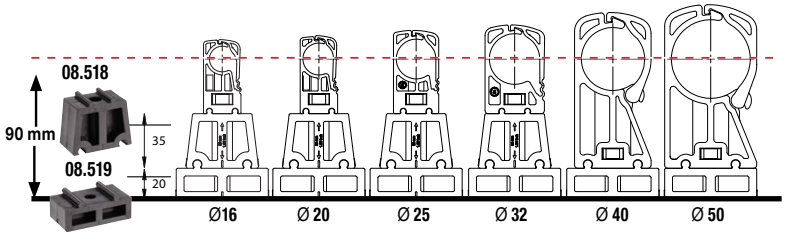


With a 90 mm gap, no clip spacers are required with a 63, 80 or 100 mm mounting clip.



Examples of installations requiring a combination of clip spacers and mounting clip with a 70 or 90 mm gap between the wall and the center of the tube.





Cont. BASIC RULES FOR THE INSTALLATION OF AN OPTIMAL COMPRESSED AIR SYSTEM

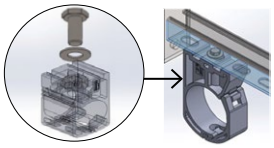
Ceiling installation

Several options are available. However, follow the project designer's instructions.

MOUNTING BRACKET KIT FOR INSTALLATION ON SLOTTED STRUT CHANNEL 1-5/8 X 1-5/8 IN

No	Pipe mm	Pipe in
08.514	16 to 100	1/2 to 4

Kit includes:
1 flat washer and 1 hex head 3/8 UNC bolt



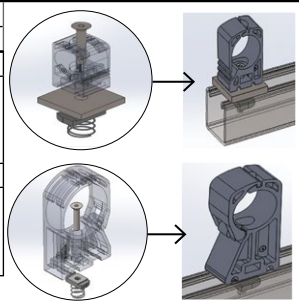
MOUNTING BRACKET KIT FOR INSTALLATION ON STANDARD STRUT CHANNEL 1-5/8 X 1-5/8 IN

No	Pipe mm	Pipe in
08.516	16 to 32	1/2 to 1-1/4

Kit includes:
1 spring nut, 1 Philip 1/4 flat head bolt and 1 square washer

No		
08.517	40 to 100	1-1/2 to 4

Kit includes:
1 spring nut and
1 Philip 1/4 flat head bolt



SWIVEL LOOP HANGER

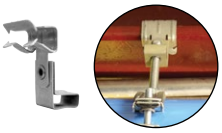
No	Pipe mm	Pipe in	Thread UNC
08.531	16 - 20	1/2 - 3/4	3/8 - 16
08.532	25	1	
08.533	32	1-1/4	
08.534	40	1-1/2	
08.535	50	2	
08.536	63	2-1/2	
08.537	80	3	
08.536.01	63	2-1/2	1/2 - 13
08.537.01	80	3	
08.538.01	100	4	
08.539.01	160	6	

I-BEAM CLAMP

No	Beam Thickness (in)	Thread UNC
08.543	0 - 3/4	3/8 -16
08.543.01	0 - 3/4	1/2 -13

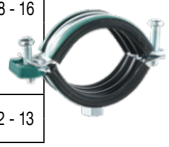
I-BEAM MOUNTING CLIP

No	Beam Thickness (in)	Thread UNC
08.540	1/8 - 1/4	3/8 -16
08.541	3/8 - 1/2	3/8 -16
08.542	1/2 - 3/4	3/8 -16



SUSPENSION PIPE CLIP

No	Pipe mm	Pipe in	Thread UNC
08.521	16 - 20	1/2 - 3/4	3/8 - 16
08.522	25	1	
08.523	32	1-1/4	
08.524	40	1-1/2	
08.525	50	2	
08.526	63	2-1/2	
08.527	80	3	
08.528	100	4	1/2 - 13
08.529	160	6	



CANTILEVER ARM • 1-5/8 X 1-5/8 IN

No	Length / in
08.510	6
08.511	12
For ceilling installation	

COUPLING NUT

No	Thread UNC
08.546	3/8 -16
08.549	1/2 -13

STRUT CHANNEL • 1-5/8 X 1-5/8 IN

No	Length / ft
08.513	10
For ceilling installation	

SCREW

No	Thread UNC
08.547	3/8 -16
08.550	1/2 -13

THREADED ROD • 10 FT

No	Thread UNC
08.545	3/8 -16
08.548	1/2 -13

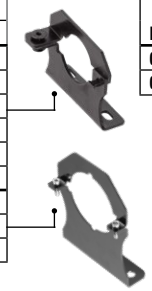
CEILING FLANGE

No	Thread UNC
08.508	3/8 -16
08.509	1/2 -13

Ball valve installation accessories

BRACKET FOR BALL VALVE

No	Pipe mm	Pipe in
08.984.01	16	1/2
08.984.02	20	3/4
08.984.03	25	1
08.984.04	32	1-1/4
08.984.05	40	1-1/2
08.984.06	50	2
08.985.07	63	2-1/2
08.985.08	80	3
08.985.09	100	4



BRACKET FOR BALL VALVE WITH FLANGE

No	Pipe mm	Pipe in
08.984.09	100	4
08.984.10	160	6

Typicial installations of valve bracket on a 16 to 50 mm ball valve

Manifold installation accessories

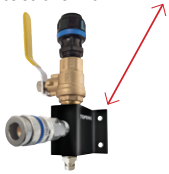
For an optimal drop installation

At application points (drop leg), a manifold spacer may be needed if the distance from the wall to the center of the pipe is greater than 35mm. The manifold should be properly aligned with the center of the pipe.

SPACER FOR 1 OUTLET

No	Thickness
47.596	18 mm

Requires screws #10

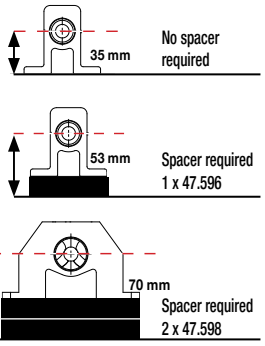


SPACER FOR 2 OR 3 OUTLETS

No	Thickness
47.598	18 mm

Requires screws #10

Examples of spacer installations



Watch **TOPRING** compressed air system videos: https://bit.ly/en-s08-catalogue

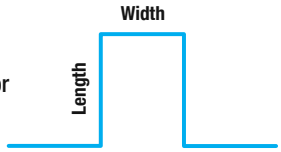
Cont. BASIC RULES FOR THE INSTALLATION OF AN OPTIMAL COMPRESSED AIR SYSTEM

ADDING EXPANSION LOOPS OR EXPANSION CONNECTORS

Aluminum compressed air piping is subject to temperature variations and expansion movements. **Each 50 meter straight section must contain an elastic element to absorb the expansion**, without causing excessive stress to the piping. If expansion joints are used to absorb expansion movements, prioritize **a distance of 30 meters maximum between the expansion joints**. However, the project designer will have previously chosen the method to counter thermal variations.

FOR Ø 20 TO 160 MM (3/4 TO 4 IN)

Expansion loops are a good way to absorb expansion.
The diagram and table beside indicate the recommended dimensions for the loops.



Pipe diameter		Width		Length	
mm	in	m	ft	m	ft
20 to 25	3/4 to 1	1.2	4	1.2	4
32 to 40	1-1/4 to 1-1/2	1.5	5	1.2	4
50	2	1.8	6	1.2	4
63 to 80	2-1/2 to 3	2.1	7	1.2	4
100	4	2.4	8	1.2	4
160	6	3	10	1.5	5

CAUTION

Dimensions for reference only. These dimensions are only valid for an expansion loop intended to absorb the expansion of a straight section of up to 50 meters in length, with an aluminum piping system subject to a temperature variation relative to the building of up to 60 °C maximum.

FOR Ø16 TO 80 MM (1/2 TO 3 IN)

Flexible anti-vibration hoses can also absorb expansion movements. During the installation, the anti-vibration hose must not be overly bent (too squared or not rounded enough).

Rubber anti-vibration hose*

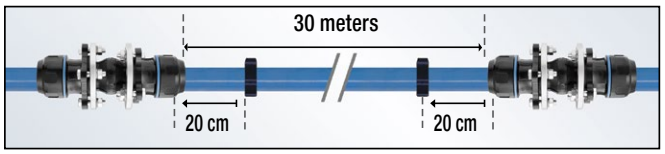
Inside diameter Pipe / Connector		Minimum Bending Radius	
mm	in	mm	in
16	1/2	89	3-1/2
20	3/4	121	4-3/4
25	1	152	6
32	1-1/4	210	8-1/4
40	1-1/2	254	10
50	2	318	12-1/2
63	2-1/2	381	15
80	3	451	17-3/4

Note
The anti-vibration hose is also used to change direction and bypass obstacles

* 16 to 50 mm rubber anti-vibration hoses are available with a Canadian Registration Number (CRN).

FOR FOR Ø 63, 80 AND 100 MM (2-1/2, 3 AND 4 IN)

Expansion loops may be replaced by expansion connectors installed every 30 meters. Their installation is quick and easy.



No	Pipe	
	mm	in
08.146	63	2-1/2
08.147	80	3
08.148	100	4


63 -80 mm


100 mm

ANTI-VIBRATIONS HOSES AT THE COMPRESSOR

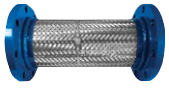
Rubber anti-vibration hose can also be installed at the compressor to neutralize sources of vibration.

Ideally a high temperature stainless steel anti-vibratoion hose at the start of the network helps reduce the vibration and heat produced by the compressor.

HIGH TEMPERATURE STAINLESS STEEL WITH THREADED FITTINGS 12 / 14 / 24 IN					
Fittings (M) NPT	Hose I.D. in	Length in	Maximum Misalignment in		Max Pressure PSI at 21°C
1/2	1/2	12	1.240	5/8	1225
3/4	3/4		1.104	1/2	1034
1	1		0.920	7/16	796
1-1/4	1-1/4		0.490	1/4	600
1-1/2	1-1/2		0.427	1/4	557
2	2		0.399	3/16	570
2-1/2	2-1/2	14	0.135		398
3	3		0.125		327
1/2	1/2	24	1.65	3-5/8	1225
3/4	3/4		1.650	3	1034
1	1		1.880	2-5/8	796
1-1/4	1-1/4		2.55	2	600
1-1/2	1-1/2		2.94	1-3/4	557
2	2		3.14	1-7/16	570

HIGH TEMPERATURE STAINLESS STEEL WITH FLANGE FOR COMPACT CONNECTION 12 / 24 IN					
Flange	Hose I.D. in	Length in	Maximum Misalignment in		Max Pressure PSI at 21°C
2-1/2	2-1/2	12	0.500	285	1225
3	3		0.440	285	1034
4	4		0.335	284	796
2-1/2	2-1/2	24	3.125	285	600
3	3		2.850	285	557
4	4		2.259	284	570


16 to 50 mm

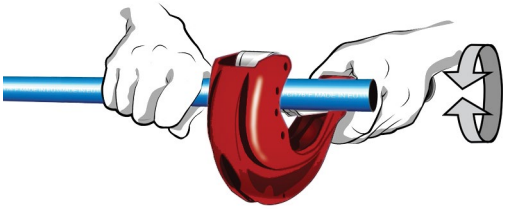

63 to 100 mm

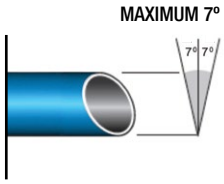
PREPARATION OF PIPES BEFORE ASSEMBLY

CUT THE PIPE

Use the proper pipe cutter to match to the pipe diameter. The cut must be straight and perpendicular to the pipe with a maximum tolerance of 7°.

No	Pipe	
	mm	in
08.581	16 to 25	1/2 to 1
08.583	16 to 63	1/2 to 2-1/2
08.585	50 to 100	2 to 4



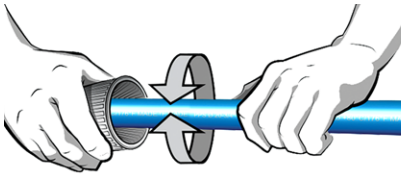


CAUTION

To ensure a proper seal, ends of the pipe must be smooth and free of scratches, impacts or distortions.

CHAMFER - DEBURR

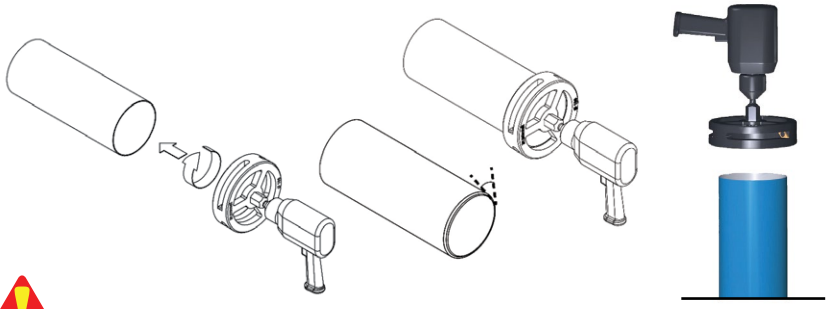
After cutting, deburr the inside of the pipe to remove the aluminum chips and chamfer the outside of the pipe. The chamfer MUST eliminate any edges sharp at the end of the pipe. The surface of the tube should not be sanded or scratched.



Chamfer tool		
No	Pipe	
	mm	in
08.587	16 to 32	1/2 to 1-1/4
08.588	16 to 50	1/2 to 2
08.589	63 to 100	2-1/2 to 4

MECHANICAL CHAMFERING

Check the direction of rotation of the drill prior to working on the pipe.
The tool must be rotating before contact with the pipe.
Push forward until reaching the bottom of the tool.



Chamfer tool for drill		
No	Pipe	
	mm	in
08.551	16 to 20	1/2 to 3/4
08.592	16 to 50	1/2 to 2
08.552	25	1
08.553	32	1-1/4
08.554	40	1-1/2
08.555	50	2
08.556	63	2-1/2
08.557	80	3
08.558	100	4
08.559	160	6

WARNING

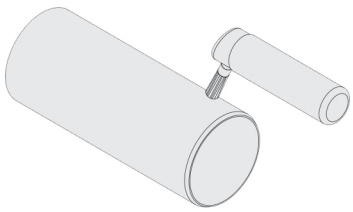
Protective gloves and goggles are recommended. These steps are essential to ease the eastallation and avoid damaging the fitting seal.

No	Deburring tool
08.590	Tool
08.591	Replacement blades (x2)

CLEANING AND LUBRICATING THE PIPE

After cutting, check the surface condition and remove residue using a damp cloth and a mild degreaser.

To facilitate the assembly of the different parts, it is imperative to use assembly gel **08.579** (the use of lubricants, oils or fatty sub stances whose chemical compatibility is not guaranteed is to be avoided).

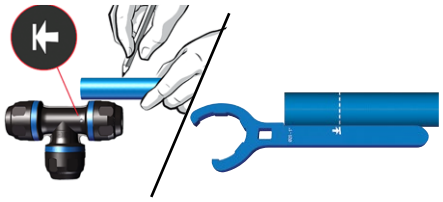


To order the correct quantity of assembly gel depending on the number of fittings to be installed, here is a simple formula which takes into account an adequate quantity per fitting and an average of 2.5 connections per fitting (1, 2 or 3 threads per connection = average 2.5): **Tube diameter in mm X number of connections ÷ 6400 = quantity.**
Example: 63 mm X100 fittings ÷ 6.400 = 0.98 4375 = 1 rounded.

ASSEMBLING THE FITTINGS ON THE PIPE

1) **Mark the pipe** to determine the length of the pipe insertion into the fitting. Using the mark on the fitting (or on the spanner wrench) makes it easy to determine the length of the fitting (see table for reference).

Marking methods 16 to 80 mm:
with mark on the fitting or with mark on the spanner wrench



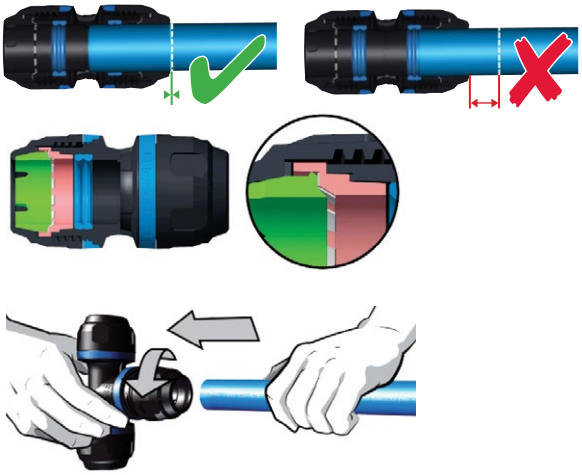
Marking methods 100 and 160 mm:
with mark on the fitting or with a tape measure

Pipe diameter		Insertion depth	
mm	in	mm	in
16	1/2	32	1-1/4
20	3/4	38	1-1/2
25	1	44	1-3/4
32	1-1/4	52	2-1/16
40	1-1/2	62	2-9/16
50	2	72	2-13/16
63	2-1/2	83	3-1/4
80	3	95	3-3/4
100	4	95	3-3/4
160	6	120	4-23/32

2) **Loosen the nut** a minimum of one turn without removing it.

3) Check the presence and positioning of all components in the fitting. Check the orientation of the grip ring's teeth without disassembling the fitting.(the stainless steel teeth must be oriented towards the inside of the fitting).

4) Push the pipe in with a slight rotation to reach the insertion length. In case of difficulty, it is recommended to brush the ends of the pipes and fittings with the assembly gel **08.579**.

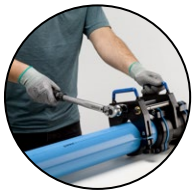


WARNING
The use of lubricants, oils or fatty substances whose chemical compatibility is not guaranteed is to be avoided.

PIPE/CONNECTOR INSERTION TOOL

FOR Ø 63, 80 AND 100

No	08.598

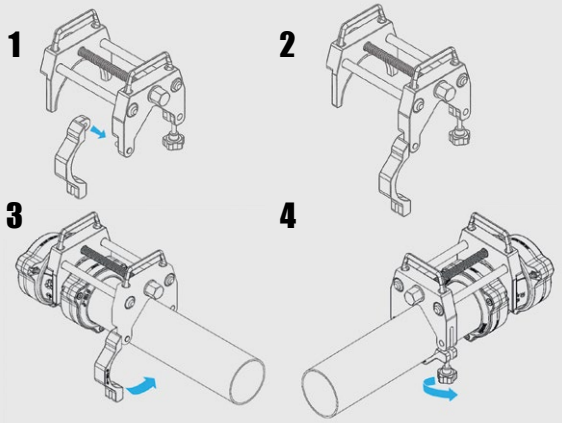


FOR Ø 160

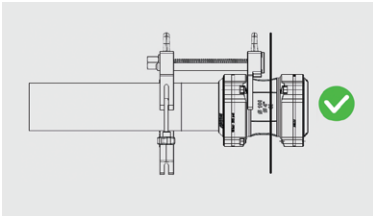
No	08.599

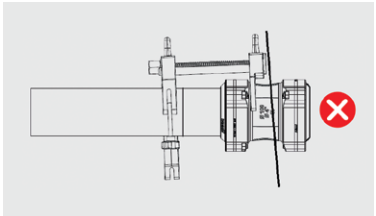
WARNING
The pipe must be deburred before using this tool.
Failure to do so may damage the seal.

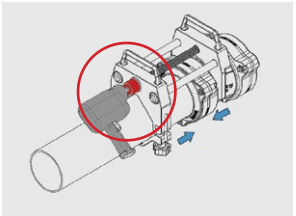
Align the tool on the pipe and fitting

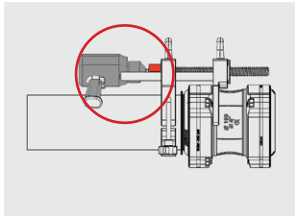


NOTE
Check the alignment of the parts to be assembled for quality tightening / By screwing, the pipe fits properly into the fitting



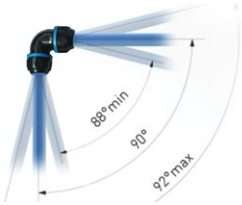






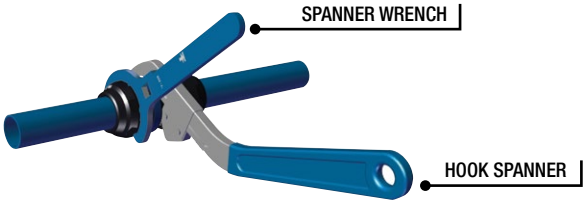
TIGHTENING COMPRESSION FITTINGS

CAUTION
Before tightening the nut, make sure that the pipe is properly aligned with the fitting to avoid leaks.

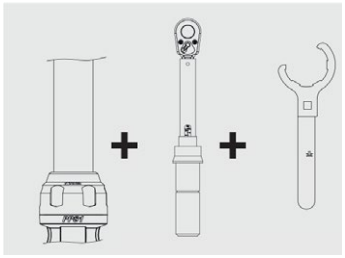


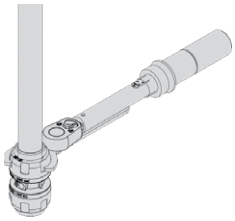
Ø 16 TO 80 mm

1) Use the neutral hook spanner to hold the body of the fitting in position while using the spanner wrench to tighten the nuts.



2) To tighten the fitting correctly, it is mandatory to use a torque wrench, using the "square" on the spanner wrench. Over-tightening and / or the use of pliers will damage the pipe and internal components of the fitting.





TORQUE REFERENCE TABLE

Pipe		Tightening torque (Nm)	lb-ft
mm	in		
16	1/2	12	9
20	3/4	25	18
25	1	35	26
32	1-1/4	50	37
40	1-1/2	50	37
50	2	85	62
63	2-1/2	95	70
80	3	100	74

WARNING
Tighten each nut to the recommended torque value.

CAUTION
Always replace the internal moving parts of a fitting each time it is loosened for repositioning or for future use.

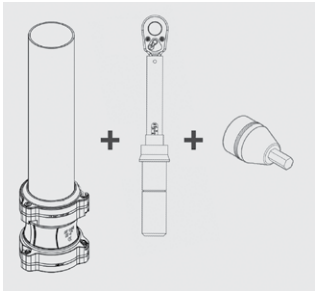
The gripping teeth and the double lobe seal cannot ensure a perfect seal if they have already been tightened even only once.

It is important to have extra sets of internal part kit (ring and teeth) and seals.

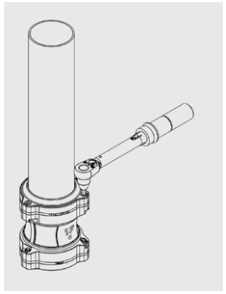
Ø 100 AND 160 mm

NOTE
When tightening keep the fitting in position at the end of the pipe.
Tighten the 3 or 4 M8 bolts reaching the recommended torque value of 28 Nm.
Repeat this step until you reach the desired tightening value.

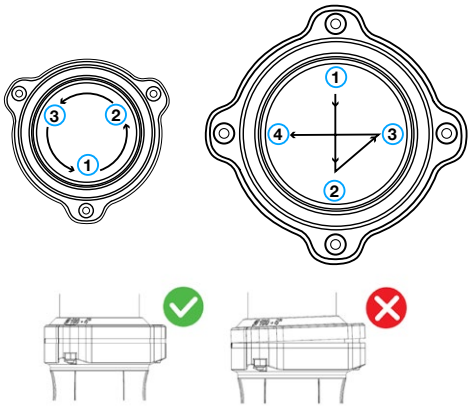
Torque wrench
+ Hed socket HW6 for Ø100
or HW8 for Ø160



Positionning of torque wrench



Tightening gradually



TORQUE REFERENCE TABLE

Ø mm	Tightening torque(Nm)	lb-ft
100 -160	28	21

WARNING
For quality tightening, check that the tightening is uniform for perfect alignment.

SPANNER WRENCH

No	Pipe	
	mm	in
08.560	16	1/2
08.561	20	3/4
08.562	25	1
08.563	32	1-1/4
08.564	40	1-1/2
08.565	50	2
08.566	63	2-1/2
08.567	80	3

NEUTRAL HOOK SPANNER

No	Pipe	
	mm	in
08.569	16 to 80	1/2 to 3

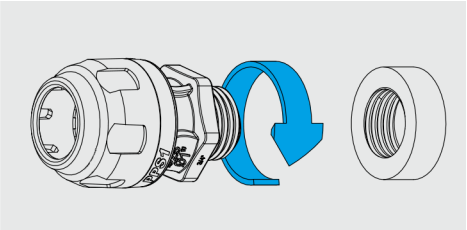
TORQUE WRENCH (Nm)

No	Square driver	Max. unscrew torque (Nm)
08.573*	3/8	6 to 30
08.574	3/8	20 to 100

* Supplied with 5 sockets
(HW4, HW5, HW6, HW7, HW8)

THREADED FITTING ASSEMBLY

To assemble the male and female threads, we recommend using Teflon® (TEFLON 12), Teflon tape or other plumber's sealant.

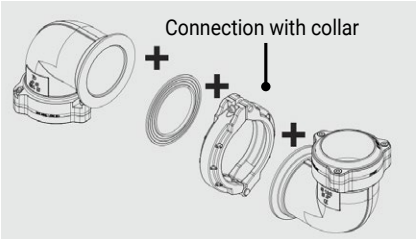


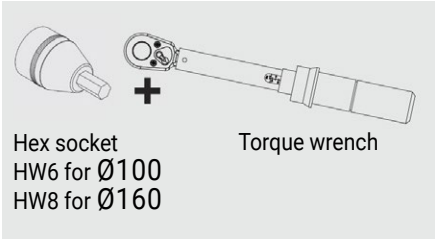
Thread in (M) NPT	Turns of Teflon	Wrench turns after hand tightening
3/8	2 - 3	2 - 3
1/2	2 - 3	2 - 3
3/4	2 - 3	2 - 3
1	2 - 3	2 - 3
1-1/4	3 - 4	2 - 3
1-1/2	3 - 4	2 - 3
2	3 - 4	2 - 3
2-1/2	4 - 5	2 - 3
3	4 - 5	3 -4

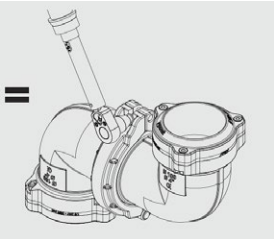
COMPACT CONNECTION ASSEMBLY

WITH COLLAR

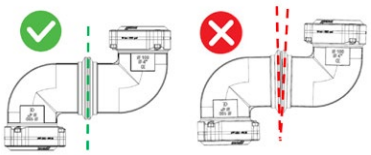
You can create the fitting configuration you need with the following options:







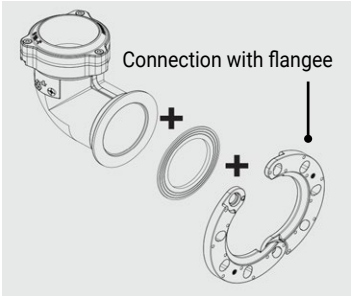
WARNING
For quality tightening, check the alignment between the flanges.

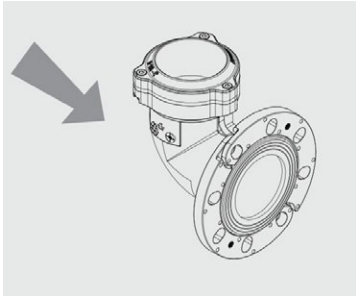


Collar Connection	Pipe diameter mm	Pipe diameter in	Tightening torque (Nm) for collar
08.947.06	50	2	25
08.947.07	63	2-1/2	
08.947.08	80	3	
08.947.09	100	4	
08.947.10	160	6	

WHIT FLANGE

You can create the fitting configuration you need with the following options:

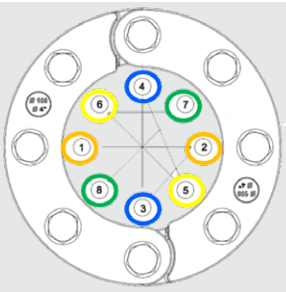




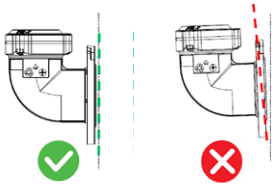
Tighten the bolts gradually in the indicated order

Follow the same order from 1 to 4 for the 4 bolts

Repeat this step 2 or 3 times, until the desired torque value is reached.



WARNING
For quality tightening, check that the assembly is correctly positioned on the support.

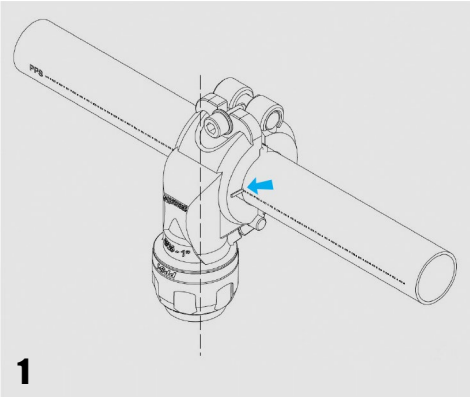


Flange Connection	Pipe diameter mm	Pipe diameter in	Bolt qty (short or long)	Tightening torque (Nm) for ANSI flange bolts
08.948.06	50	2	4 ou 8	30
08.948.07	63	2-1/2		
08.948.08	80	3		
08.948.09	100	4		
08.948.10	160	6		

WARNING
Each time a compact connection fitting is loosened for repositioning or future use, the NBR seal cannot provide a perfect seal if it has already been tightened even once.
It must therefore be replaced. It is important to have extra sets of seals.

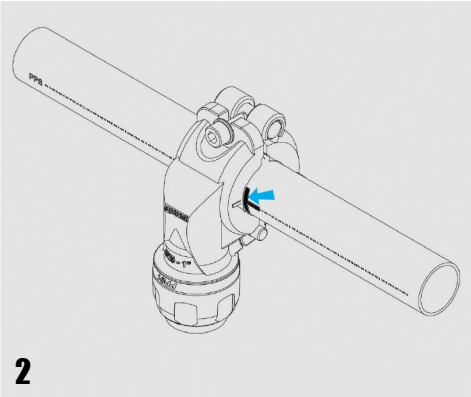

Seal

TAKE-OFF DROP COUPLING INSTALLATION ON A NON-PRESSURIZED SYSTEM



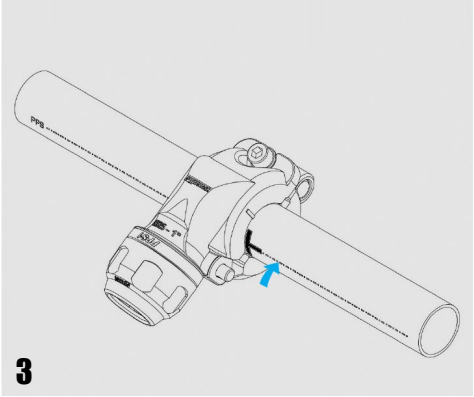
DROP COUPLING POSITIONNING

Use the notches on each side of the drop coupling to set the fitting to its desired position on the pipe.



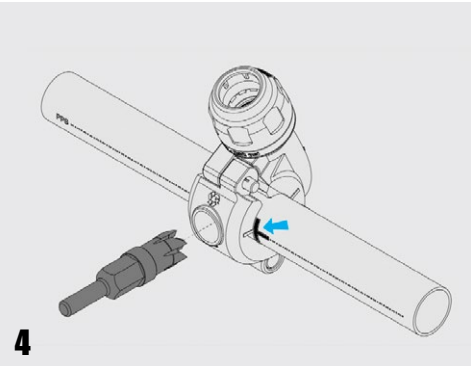
POSITION MARKING

Use the notches as a guide to mark the position on the pipe with a felt tip marker.



COUPLING REVERSAL

Rotate the drop coupling 180° by aligning with the marking on the tube.



DRILLING THE PIPE

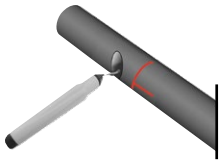
Insert the drilling tool into the drilling guide to drill the pipe.

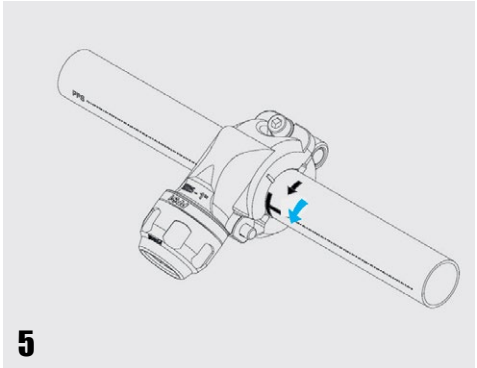
NOTE

The drill bits are specially designed to avoid damaging or puncturing the bottom of the tube, unlike conventional drilling tools. They are equipped with an integrated stop bumper to prevent a complete perforation of the pipe.

NOTE

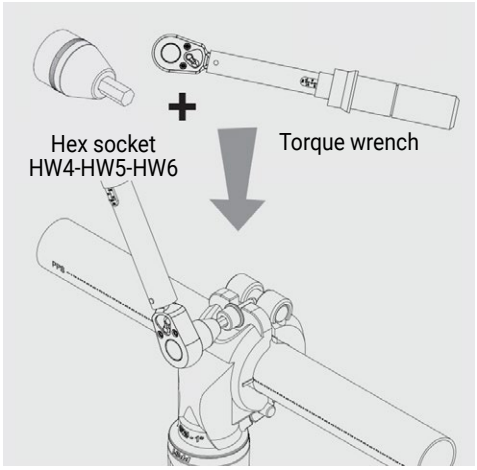
Check the drill hole and remove any aluminum chips if present using the deburring tool **(08.590)**.





TIGHTENING THE DROP COUPLING

Reposition the drop coupling in the initial position and tighten the M8 screw reaching the recommended torque value.



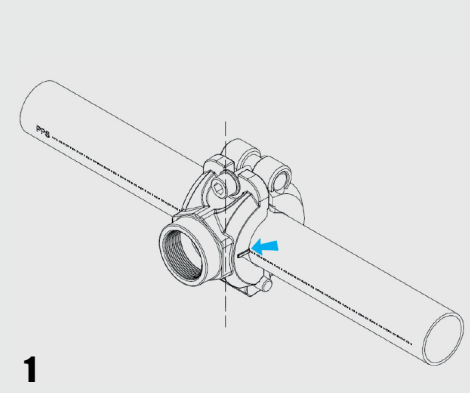
DRILL BIT

For pipe diameter (mm)	Bit No	Torque (Nm)	
		mm	in
25 to 32	**08.575**	16	5/8
40 to 50	**08.576**	22	55/64
63 to 80	**08.577**	30	1-11/64
100	**08.578**	41	1-39/64

TORQUE REFERENCE TABLE FOR TAKE-OFF DROP COUPLING BOLT

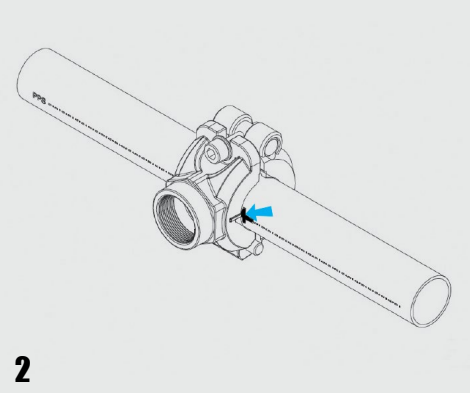
For pipe diameter (mm)	Torque (Nm)
25	10
32	10
40	12
50	12
63	14
80	14
100	14

STRAIGHT TAKE-OFF DROP COUPLING INSTALLATION ON A NON-PRESSURIZED SYSTEM



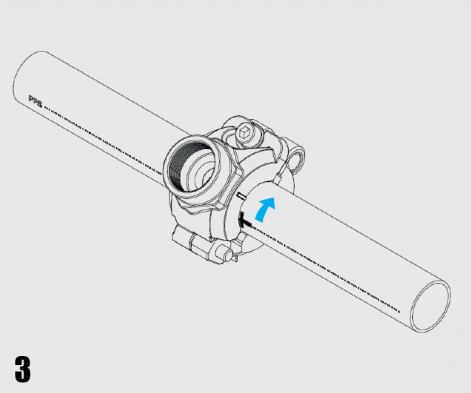
DROP COUPLING POSITIONNING

Use the notches on each side of the drop coupling to set the fitting to its desired position on the pipe.



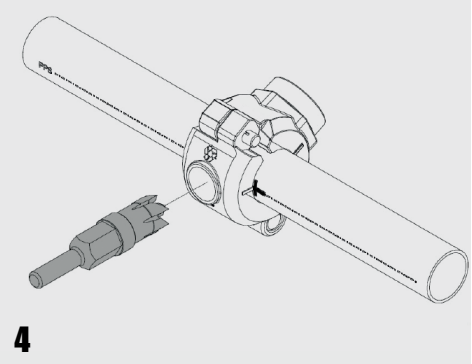
POSITION MARKING

Use the notches as a guide to mark the position on the pipe with a felt tip marker.



COUPLING REVERSAL

Rotate the drop coupling 180 ° by aligning with the marking on the tube.

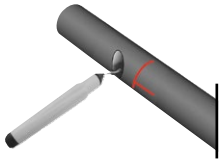


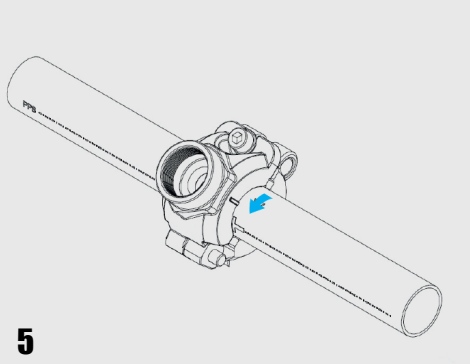
DRILLING THE PIPE

Insert the drilling tool into the drilling guide to drill the pipe.

NOTE
The drill bits are specially designed to avoid damaging or puncturing the bottom of the tube, unlike conventional drilling tools. They are equipped with an integrated stop bumper to prevent a complete perforation of the pipe.

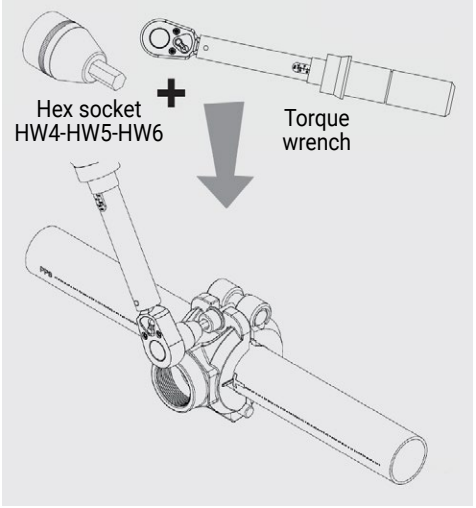
NOTE
Check the drill hole and remove any aluminum chips if present using the deburring tool **(08.590)**.





TIGHTENING THE DROP COUPLING

Reposition the drop coupling in the initial position and tighten the M8 screw reaching the recommended torque value.



DRILL BIT

For pipe diameter (mm)	Bit No	Torque (Nm)	
		mm	in
25 to 32	**08.575**	16	5/8
40 to 50	**08.576**	22	55/64
63 to 80	**08.577**	30	1-11/64
100	**08.578**	41	1-39/64
160	**08.580**	64	2-33/64

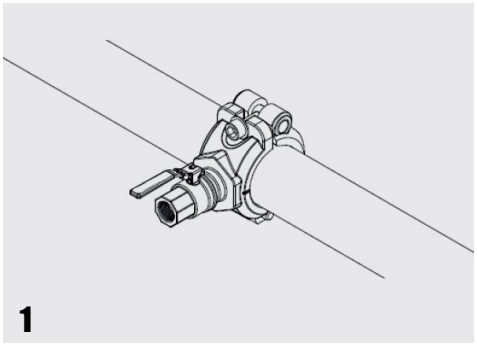
TORQUE REFERENCE TABLE FOR TAKE-OFF DROP COUPLING BOLT

For pipe diameter (mm)	Torque (Nm)
25	10
32	10
40	12
50	12
63	14
80	14
100	14
160	25

STRAIGHT TAKE-OFF DROP COUPLING INSTALLATION ON A PRESSURIZED SYSTEM

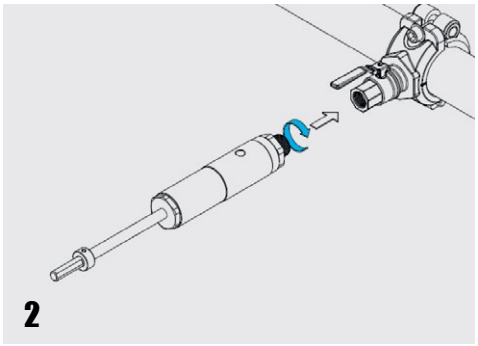
NOTE

The installation of a take-off drop coupling on a pressurized system can only be done with a take-off drop coupling equipped with a ball valve and with the help of the drilling tool specially designed for this type of flange.



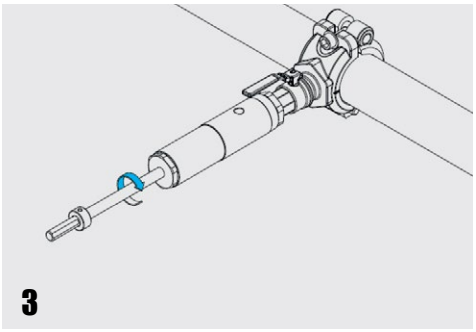
DROP COUPLING POSITIONNING

Position the drop coupling in the desired position. Tighten the M8 screw reaching the recommended torque value.



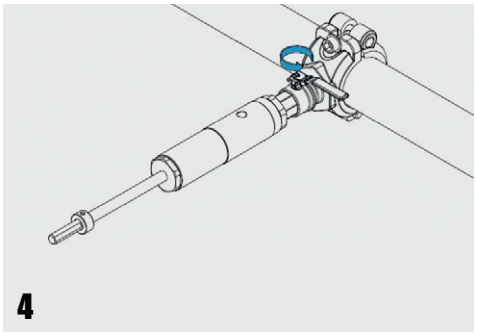
DRILLING TOOL INSTALLATION

Open the valve (perpendicular to pipe) before screwing on the drilling tool.



DRILLING THE PIPE

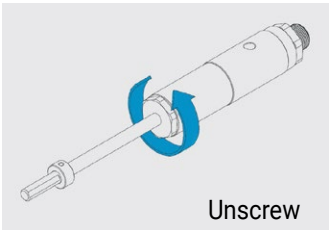
Drill the pipe using a standard drill.

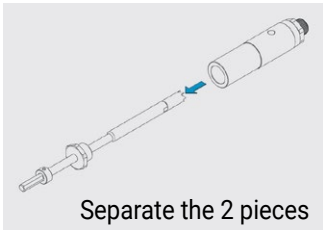


CLOSE THE VALVE

Before removing the drilling tool, close the ball valve (in line with pipe).

MAINTENANCE OF THE DRILLING TOOL


Unscrew


Separate the 2 pieces


Empty shavings

TAKE-OFF DROP COUPLING FOR PRESSURIZED DRILLING

Product No	Main pipe diameter mm	Main pipe diameter in	Thread (F) NPT
08.710.01	25	1	1/2
08.713.01	32	1-1/4	1/2
08.716.01	40	1-1/2	1/2
08.718.01	40	1-1/2	1
08.720.01	50	2	1/2
08.722.01	50	2	1
08.724.01	63	2-1/2	1/2
08.726.01	63	2-1/2	1
08.729.01	80	3	1/2
08.731.01	80	3	1
08.733.01	100	4	1/2
08.735.01	100	4	1

DRILL BIT FOR PRESSURIZED DRILLING

No	Drilling diameter mm	Drilling diameter in	For drop coupling Thread (F) NPT
08.596	13	1/2	1/2
08.597	19	3/4	1

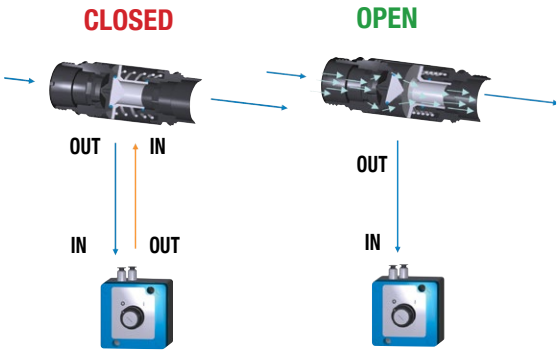
TORQUE REFERENCE TABLE FOR TAKE-OFF DROP COUPLING BOLT

For pipe diameter (mm)	Torque (Nm)
25	10
32	10
40	12
50	12
63	14
80	14
100	14

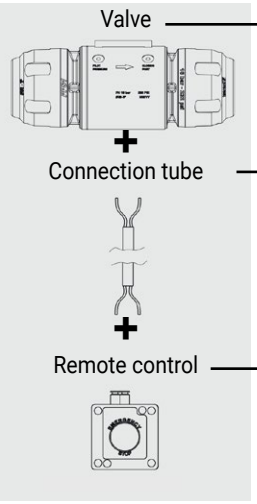
REMOTE CONTROLLED PNEUMATIC VALVES

FUNCTIONNING

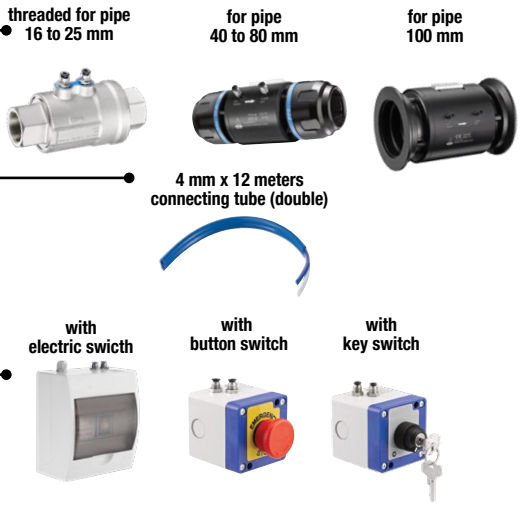
Service pressure > 36 to 232 PSI



COMPONENTS

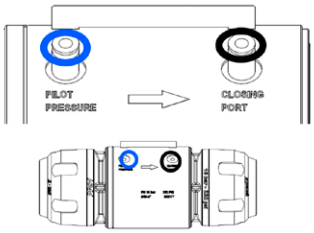


POSSIBLE COMBINATIONS



CONNECTION

Create the connection between the pneumatic valve and the control unit by connecting the 2 PA Ø 4 tubes while respecting the “PILOT PRESSURE” and “CLOSING PORT” markings as indicated on each product,



Valve marking

TECH TIP

In order to avoid mechanical shocks in the piping and downstream equipment when opening the remote-controlled valve, it is recommended to install a speed controller on the “Closing Port” line near the control box.

This will allow a gradual opening in 3 to 5 seconds instead of a sudden opening of 0.5 second.

4 mm push-to-connect flow control valve with check valve

42.890 46.952

THREADED VALVE FOR TUBE 16 TO 25 MM

No	Tube mm	Tube po	Filetage (F) NPT
08.479	16	1/2	1/2
08.480	20	3/4	3/4
08.481	25	1	1

VALVE FOR PIPE 40 TO 80 MM

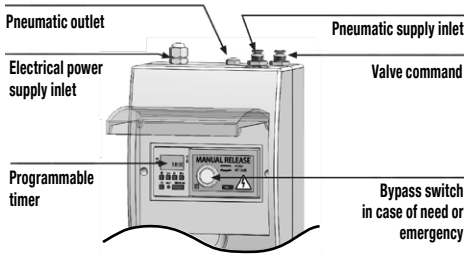
No	Tube mm	Tube po
08.482	40	1-1/2
08.483	50	2
08.484	63	2-1/2
08.485	80	3

VALVE FOR PIPE 100 MM

No	Tube mm	Tube po
08.970.09	100	4

PROGRAMMABLE CONTROL UNIT / 24 VAC

No
08.487



CONTROL UNIT WITH BUTTON

No
08.488

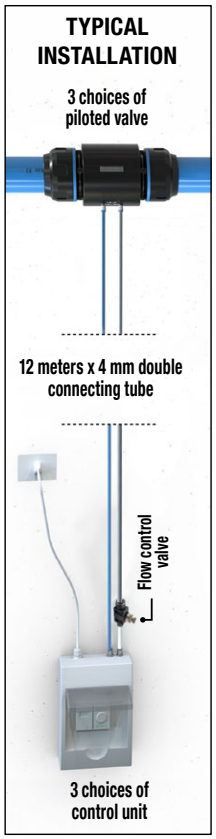
CONTROL UNIT WITH KEY

No
08.489

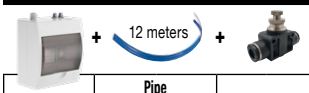
TUBE 12 M (40 FT) x2 / 4 MM DIA.

No
08.490

TYPICAL INSTALLATION

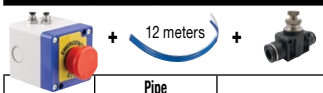


KIT WITH PROGRAMMABLE UNIT



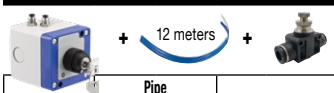
No	Pipe mm	Pipe in	+ choice of valve
			Threaded valve (F) NPT
08.487.02	16	1/2	1/2
08.487.03	20	3/4	3/4
08.487.04	25	1	1
			Non threaded valve
08.487.05	40	1-1/2	
08.487.06	50	2	
08.487.07	63	2-1/2	
08.487.08	80	3	
08.487.09	100	4	

KIT WITH BUTTON UNIT



No	Pipe mm	Pipe in	+ choice of valve
			Threaded valve (F) NPT
08.488.02	16	1/2	1/2
08.488.03	20	3/4	3/4
08.488.04	25	1	1
			Non threaded valve
08.488.05	40	1-1/2	
08.488.06	50	2	
08.488.07	63	2-1/2	
08.488.08	80	3	
08.488.09	100	4	

KIT WITH KEY UNIT



No	Pipe mm	Pipe in	+ choice of valve
			Threaded valve (F) NPT
08.489.02	16	1/2	1/2
08.489.03	20	3/4	3/4
08.489.04	25	1	1
			Non threaded valve
08.489.05	40	1-1/2	
08.489.06	50	2	
08.489.07	63	2-1/2	
08.489.08	80	3	
08.489.09	100	4	

IMPORTANT NOTICE

TOPRING assumes no responsibility for the installation of any particular piping system. It is the responsibility of the project designer to ensure that the installer complies with the standards in force, in particular the installation guidelines for pipes (main line and drop legs) and components, including the configuration of slopes and expansion loops.

WARNING BEFORE PRESSURIZING / RESIDUAL RISK

Without respecting the safety information and requirements provided in this document, an inadequate assembly of the system can result in:

- Ejection of pressurized fluid, in case of disconnection caused by inadequate tightening.
- Ejection of pressurized fluid, in case of damage to the pipe caused by shocks.
- Ejection of pressurized fluid, if the operating pressure is higher than 232 PSI* (16 BAR).

When identified, defective parts must be repaired immediately.

PRESSURIZING (TWO PHASES)

1- Run a preliminary test by gradually raising the pressure to a maximum of 43.5 PSI (3 BAR) and hold for 5 minutes.
This will allow the operator to identify leaks or faulty connections and make the necessary corrections. Gradual pressurization will also remove all the aluminum residue in the system.
2- Gradually and continuously increase the pressure, 14.5 PSI (1 BAR) every 5 seconds, until it reaches working pressure.

PRESSURIZING VERIFICATION

1- Once working pressure has been reached, it must be maintained for at least 10 minutes (slight dips are tolerated).
2- After the first 48 to 72 hours, check all seals and verify that nuts are secured.

WARNING

THE PIPING SYSTEM SHOULD NEVER SUPPORT LOADS OTHER THAN ITS OWN WEIGHT, OR BE EXPOSED TO MOVEMENT OTHER THAN THE NORMAL EXPANSION OF ITS COMPONENTS. WHEN PLANNING THE LAYOUT OF A WORKSTATION, FLEXIBLE HOSES SHOULD BE CONNECTED THROUGH STURDILY ATTACHED HOSE REELS OR MANIFOLDS TO ISOLATE PIPING FROM TOOL WEIGHT AND MOVEMENT.

WARNING

ANY TYPE OF INTERVENTION MUST BE CARRIED OUT ON A DEPRESSURIZED SYSTEM OR DEPRESSURIZED SECTION (USING A QUARTER TURN BALL VALVE OR A LOCKABLE SAFETY VALVE).

MAINTENANCE

Here is a list of recommended checks and controls by TOPRING:

- Review the status of the installation on an annual basis.
- Check the tightening of the nuts.
- In the event of an impact, check the condition of the pipe and replace any damaged parts.
- Check for air leaks.

* 100 and 160 mm diameter fittings operate at a maximum pressure of 191 PSI (13 BAR)

LIABILITY OF ALL BUYERS AND/OR USERS

In addition to carefully reading the TOPRING design guide, product guidelines, system and/or network (hereinafter referred to as « TOPRING Product(s) »), purchasers and/or users of a TOPRING Product that involves compressed air must inquire, prior to its use, about the health and safety risks associated with compressed air.

Buyers and/or users acknowledge that by purchasing and using a TOPRING Product, they understand and accept that he or she is solely responsible for the installation, identification, maintenance, and use of the TOPRING Product, as well as the configuration of any system or network that uses a TOPRING Product. Subject to the limits of public policy as expressed in the law, buyers and/or users assume any risk and liability that may arise from loss, damage or injury caused by the improper installation, identification, maintenance and/or use of a TOPRING Product, or caused by a misconfiguration of any system or network using a TOPRING Product, to the extent to completely and entirely exonerate TOPRING, as well as its subsidiaries and affiliated corporations (hereinafter referred to as « TOPRING »). Buyers and/or users must take into consideration among other factors, the regulations in force, the type use of any TOPRING Product, preventative measures, as well as the particular nature of the premises or location, and the activities or operations that take place.

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TOPRING
Compressed air solutions