

KALLER®



Micro-Tube™ System

Micro-Tube™ System

Micro-Tube™ is a system for linking gas springs together. As the name suggests, Micro-Tube™ is a tube system where all connections are soft sealed and self crimping. This ensures leak proof tube joints.

The tubes are easily cut into correct lengths and can be bent into the desired radius with a tube bending tool or even by hand.

There are numerous options for connecting tubes to gas springs and Control Blocks. Various adapters are available allowing Micro-Tube™ to connect to almost all KALLER gas springs and Control Blocks. On the following pages, all adapters with dimensions are displayed.

Using Micro-Tube™ System

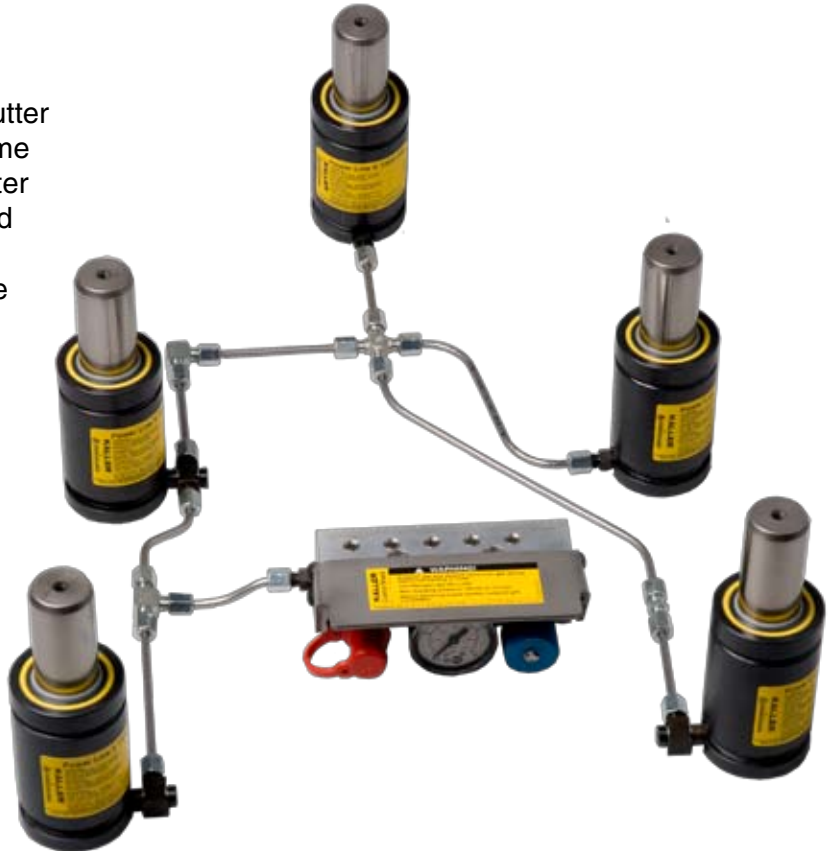
To cut the tube a hacksaw can be used.

Note! Cutting angle $90^{\circ} \pm 1^{\circ}$. If a regular tube cutter or cutting pliers are used, the tube might become clogged resulting in zero or limited gas flow. After cutting, the tube is to be deburred on inside and outside (max. $0.3 \times 45^{\circ}$ alt. R0.3). Make sure the tube is cleaned after cutting and deburring. Use compressed air to remove all loose particles.

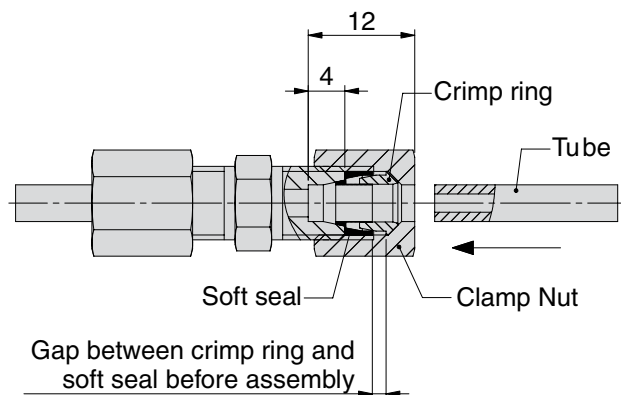
Fit the nut onto the adapter.

Note! Do not tighten! Run the tube through the nut until stop (~12 mm from the top surface of the nut). When tightening the nut, use a torque of 6 Nm.

Recommended tools to have available are: hacksaw, tube cutting fixture, tube bending tool, deburring tool, compressed air and a torque wrench (AF 10 mm, 6 Nm).



Tube Bending Tool (Bend radius 20 mm)
Order No. 504711



Basic Information

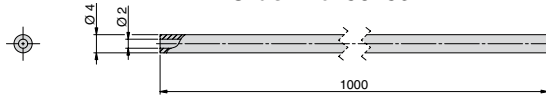
Tube external diameter.....	Ø 4 mm
Tube internal diameter.....	Ø 2 mm
Min. bend radius.....	12 mm (3 x e.d.)
Tube material.....	Seamless steel tube St. 37.4 (Parker Ord. No. R04X1CF)
Max. dynamic pressure (system).....	430 bar
Min. burst pressure (system).....	1100 bar
Max. working temperature.....	100 °C *

* Micro-Tube™ for high temperature applications is available on request.

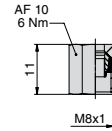
Micro-Tube™ Adapters

Micro-Tube™

Micro-Tube™
(delivered in 1 m lengths)
Order No. 504594



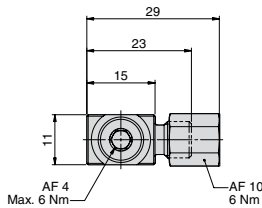
Clamp Nut (spare part)
Order No. 504589



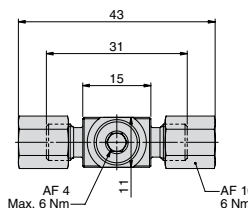
Adapters for Gas Spring Charge Ports

To use adapters 4022059 and 4022061 together with G1/8" Charging Ports, use adapter (G1/8" to M6) Order No. 503764 from Micro-Hose™ system.

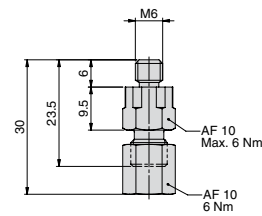
One-way M6 adapter, 90° elbow
Order No. 4022059



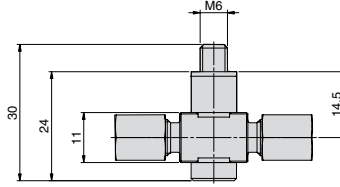
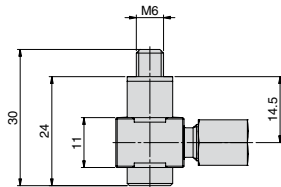
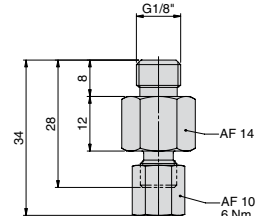
Two-way M6 adapter
Order No. 4022061



M6 straight adapter
Order No. 4022057

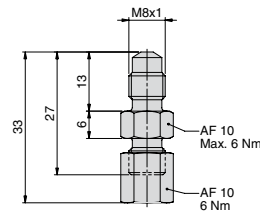
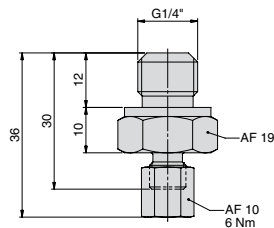


G1/8" straight adapter
Order No. 4022058



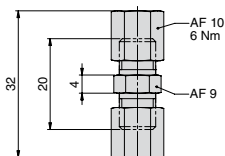
Adapters for Control Blocks

Micro Tube™ to G1/4"
Order No. 4022063

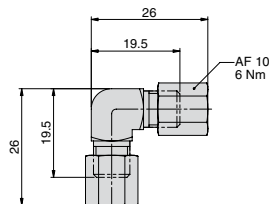


Micro Tube™ to M8x1
(for Micro-hose™ Control Block)
Order No. 4022065

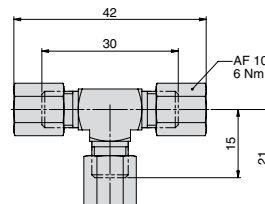
Tube to Tube adapters



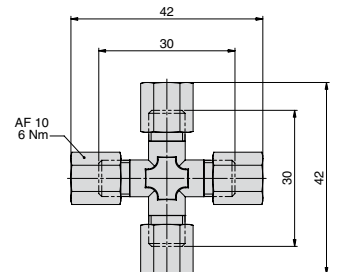
Two-way Coupling
straight
Order No. 504590



Two-way Coupling
90° elbow
Order No. 504591



Three-way Coupling
Order No. 504592



Four-way Coupling
Order No. 504593

KALLER®

The Safer Choice



Selection Guide

Gas Springs

Kaller developed the first nitrogen gas spring for press tools and today offers a comprehensive selection of high quality gas springs for use in different tool & die applications.



Controllable Gas Spring - KF2

Controllable Gas Springs-KF2

Kaller controllable springs are a family of gas springs, for use in press tools, that can be locked in their bottom position and where the return stroke of the spring can be controlled.



Flange Stripper LW, LT

Flange Stripper Unit

Kaller Flange Stripper Unit is used in flanging dies for stripping/lifting a flanged part after forming. It provides 200 daN of stripping force, can be top or bottom mounted and is self guiding.



Flex Cam®

Flex Cam®

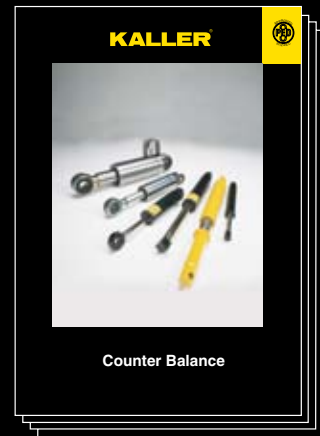
The Flex Cam is used for piercing, cutting, forming and flanging operations. The system allows for a flexible distribution of forces with optimal direction and velocity. By using a Flex Cam, fewer tools are required in production.



Roller Cam RC2, RCP2

Roller Cam

Kaller Roller Cam is used for piercing, trimming, flanging and restriking. The Roller Cam can be mounted in both vertical and horizontal angles.



Counter Balance

Counter Balance

Kaller Counter Balance gas springs can be used to lift, lower, assist, balance, and hold in a multitude of applications.

KALLER®

Strömsholmen AB

Box 216 • SE-573 23 Tranås

Sweden

Phone +46 140 571 00

info@kaller.com



For more information see our website

www.kaller.com

KALLER®

GAS SPRINGS

USA +1 586 415 6677

Korea +82 31 422 4591

China +86 22 83962995

Mexico +11 5281 81450570