

# MICRO-NANO

## PRODUCTS FOR COOLANT DISTRIBUTION

PRODUCTIVITY AND SAFETY IMPROVEMENT IN CNC MACHINE-TOOLS

# BANJOS AND BANJO BOLTS

**NA/MI-CA-01** (Fig. 1)

90° Short banjo (Female)



**NA/MI-CA-04** (Fig. 2)

90° Short banjo (Male)



**NA/MI-CA-04** (Fig. 3)

90° Long banjo (Female)



**NA/MI-CA-04** (Fig. 4)

45° Long banjo (Female)



**NA/MI-CA-04** (Fig.5)

Banjo bolt (Male)



**NA/MI-CA-04** (Fig. 6)

Double length banjo bolt (Male)



**NA-CA-04** (Fig. 7)

Banjo bolt for pre-assembled banjo (Male)



# FLOW ADJUSTMENT VALVES

**NA/MI-FA-01**

Flow adjustment valve straight



**NA/MI-FA-02**

Flow adjustment valve for banjo



# QUICK CONNECTION FITTINGS AND PLUGS

**NA/MI-CC-01** (Fig. 1)

Quick connection fitting (Female)



**NA/MI-CC-01** (Fig. 2)

Non-rotating quick connection fitting (Female)



**NA/MI-CC-01** (Fig. 3)

Non-rotating quick connection fitting (Male)



**NA/MI-CC-01** (Fig. 4)

Sealing plug for quick coupling



**NA/MI-CC-01** (Fig.5)

Sealing plug (Male)



**MI-CC-01** (Fig.6)

Sealing plug (Male)



# COPPER DISTRIBUTION TUBES

NA/MI-DT-02

Copper distribution tubes (Male)



# FLEXIBLE DISTRIBUTION TUBES

**NA/MI-DT-01**

Flexible distribution tubes (Male - Male)



**NA/MI-DT-03**

Distribution tubes (Male-Quick connector plug)



**NA/MI-DT-05**

Distribution tubes (Quick connector plug- Quick connector plug)



# COOLANT DISTRIBUTION BLOCKS

**NA/MI-DB** (Fig. 1)

Standard distribution block



**NA-DB** (Fig. 2)

Compact distribution block



# SEALING GASKETS

**UN-SG-01**

Copper sealing gasket



**UN-SG-02**

Aluminum sealing gasket



# WRENCHES

NA/MI-FK

Fastening keys



# BANJO KITS

**NA/MI-BK-01 (Fig. 1)** Banjo Kit (Short banjo + Bolt + Quick coupling fitting. Free rotation)



**NA/MI-BK-01 (Fig. 2)** Banjo Kit (Short banjo + Bolt + Quick coupling fitting. With positioning)



**NA/MI-BK-11 (Fig. 2)** Banjo Kit (2 x Short banjo + Bolt double length+ 2 x Quick coupling fitting)



# COPPER TUBE KITS

**NA/MI-CK-01**

Copper Kit (Copper tube NA/MI-DT-02 + Quick coupling. With positioning)



# FLEXIBLE TUBE KITS

## NA/MI-SK-01

Starter Kit (Flexible tube NA/MI-DT-03 + Quick coupling fitting)



## NA/MI-SK-02

Starter Kit (Flexible tube NA/MI-DT-05 + Quick coupling fitting x 2)



## NA/MI-SK-03

Starter Kit (Flexible tube NA/MI-DT-03 + Quick coupling fitting with short banjo and integrated rotary banjo bolt)



## NA/MI-SK-04

Starter Kit (Flexible tube NA/MI-DT-05 + Quick coupling fitting+ Quick coupling fitting with short banjo and integrated rotary banjo bolt)



# STARTER KITS

**NA-SK-10-00**

Basic set Swiss-type lathe NANO



**MI-SK-10-00**

Basic set Swiss-type lathe MICRO



**NA-SK-20-00**

Extended set Swiss-type lathe NANO



**MI-SK-20-00**

Extended set Swiss-type lathe MICRO



# INTRODUCTION

Coolant distribution system (for cutting oil and emulsion) totally flexible and modular, capable of withstanding pressures of 220 Bar and ideal for use with mid or high-pressure coolant equipment.

## FAST, FLEXIBLE AND SAFE TOOL ASSEMBLY

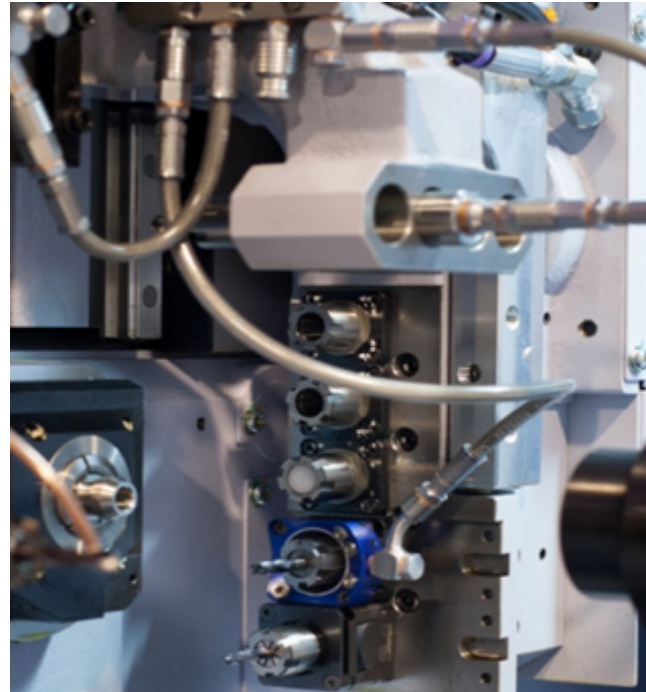


Reduce tool change time by up to 75%

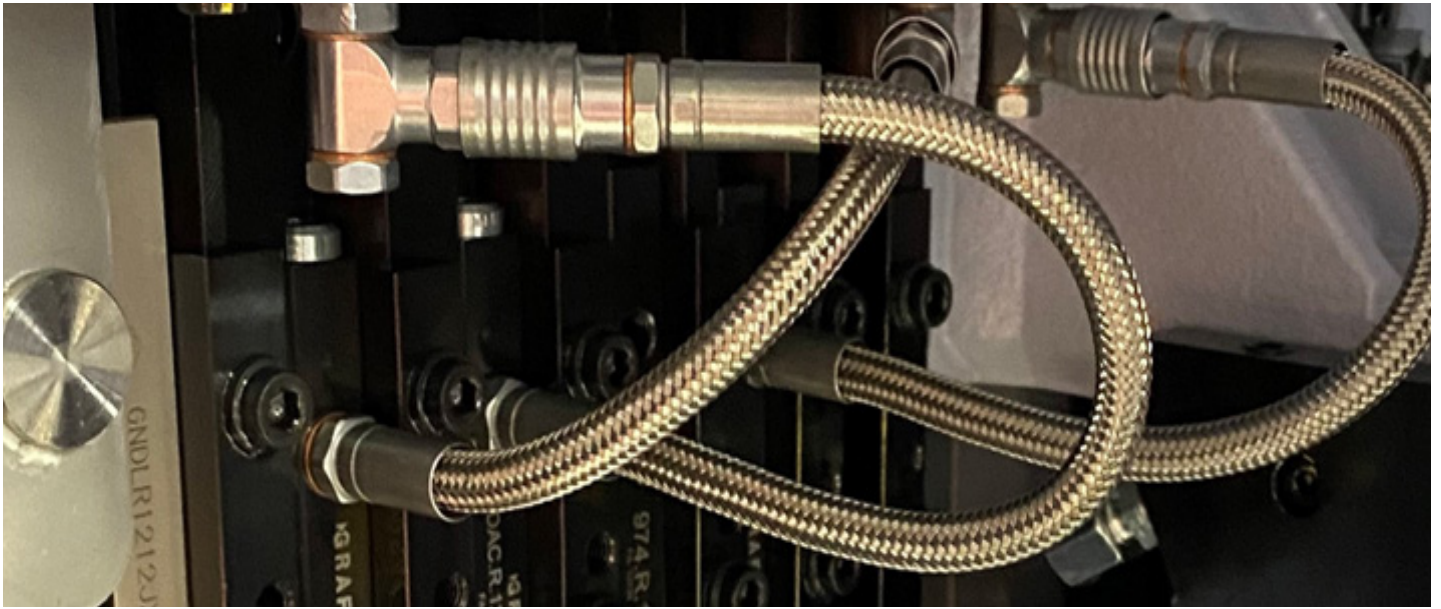
The SCS coolant distribution systems were born in response to the need to leverage all the advantages that high-pressure offers and make preparations for the machining of parts in a fast, flexible, safe, interference-free manner that guarantees correct orientation of the coolant flow to the cutting point of the tool and with the desired flow rate.

### ADVANTAGES:

- ✓ Quick and precise preparations - The coolant stream is directed to the tool cutting point and with the required flow. Time reduction in preparations and better machining conditions are easily achieved.
- ✓ Allows for optimal distribution of the stream of coolant to the different tool holders, thus not depending on the skills or ability of the operator making the preparation.
- ✓ Guarantees that after a tool change the coolant outlets remain in the same position and do not change even if done by different machine operators.
- ✓ Ease of adaptation - quick couplings and a huge range of adaptors to different types of threads for tool holders or distribution blocks.
- ✓ Flexible and reinforced tubes - Protected to withstand the impact of hot chips and pressures up to 220 Bar.
- ✓ Both programs can be connected with each other and with the Articulated Steel Flexible Distribution Tubes DECA and HECTO programs.
- ✓ Easy to identify different threads: BSP threads have 1 mark in the hexagon area and NPT threads have 2 marks. Metric threads have no marks.



Increased tool life and efficiency - Better surface quality, and higher productivity. (Ideal for sliding-head lathes, multi-spindle lathes, fixed-head lathes or transfer machines).



**Coolant distribution systems with quick connection for medium and high-pressure machining.**

Coolant distribution system with flexible tubes braided in stainless steel, quick connectors, copper tubes, adaptors and distribution blocks in 2 different size programs for both medium and high-pressure. Ideal for sliding and fixed headstock CNC lathes, multi-spindle lathes or transfer machines.

Features	MICRO	NANO
Minimum internal diameter of the program	3.8 mm	2.3 mm
Main program thread	M8x1	M6x1
Manufacturing material of components	Coated Steel	Coated Steel
Basic assembly wrench for the system	SW11	SW8
Ideal for square tool shank dimension	16x16, 20x20, 25x25	8x8, 10x10, 12x12
Ideal for cylindrical tool shank dimension	$\varnothing \geq 16$ mm	$\varnothing < 16$ mm
Ideal for collet holder size	Collet $\geq$ ER-16	Collet $\leq$ ER-11
External diameter of flexible distribution tube	8 mm	6.5 mm
Minimum bending radius of flexible distribution tube	30 mm	15 mm
External diameter of copper tube	4 mm	3 mm
Quick connector dimensions	OD: 13.5 mm L: 17 mm	OD: 9.8 mm L: 11.4 mm

NOTE: All dimensions in this catalogue are in mm.

**FOLLOW THE STEPS BELOW:**

**STEP 1:**

Select where you want to do the installation:  
- Coolant distribution block or machine's own connection.  
- SCS coolant distribution block.



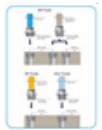
**STEP 2:**

Select product family MICRO (3.8 mm) or NANO (2.3 mm).  
Select according to the required flow rate, the available pressure and the size of the tools to be cooled.



**STEP 3:**

Identify the necessary thread type or ball diameter to connect to the block or to the machine.  
Identify the type of thread where to connect the coolant distribution system. Example: M6x1, M8x1, BSPP 1/8", NPT 1/8", ...



**STEP 4:**

What do you want to mount on the side of the connection to the block?  
You can place a straight spacer, a 45° outlet (curved banjo) or a 90° outlet (banjo) and then connect a quick coupling, a flexible tube, a copper tube or directly these elements.  
If the thread of the distribution block does not match the thread of the range of banjo bolts, quick release couplings, flexible tubes, etc., you can use the necessary adaptor.  
If you fit a quick coupling, you can attach a flexible tube or a copper tube with the quick connection system.



**STEP 5:**

What length of tube do you need?  
Whether it is a flexible or copper tube, determine the required length. In case of selecting a flexible tube, identify the necessary length to connect the coolant distribution block to the tool. Special lengths are available under request.  
In case of selecting a copper tube to duct coolant from the distribution block to the cutting edge of the tool, then no additional parts are required.



Continuation:

**STEP 6:**

Identify the type of thread on the shank of the tool or tool holder.  
Example: M6x1, M8x1, BSPP 1/8", NPT 1/8", etc.



**STEP 7:**

What do you want to mount on the side of the cutting tool connection?

You can fit a straight spacer, a 45° outlet (curved banjo) or a 90° outlet (banjo) and then connect a quick coupling or just connect the flexible tube directly.

If the thread of the tool does not match the thread of the range of spacers, banjo bolts, quick release couplings or flexible tubes, you can use the necessary adapter.

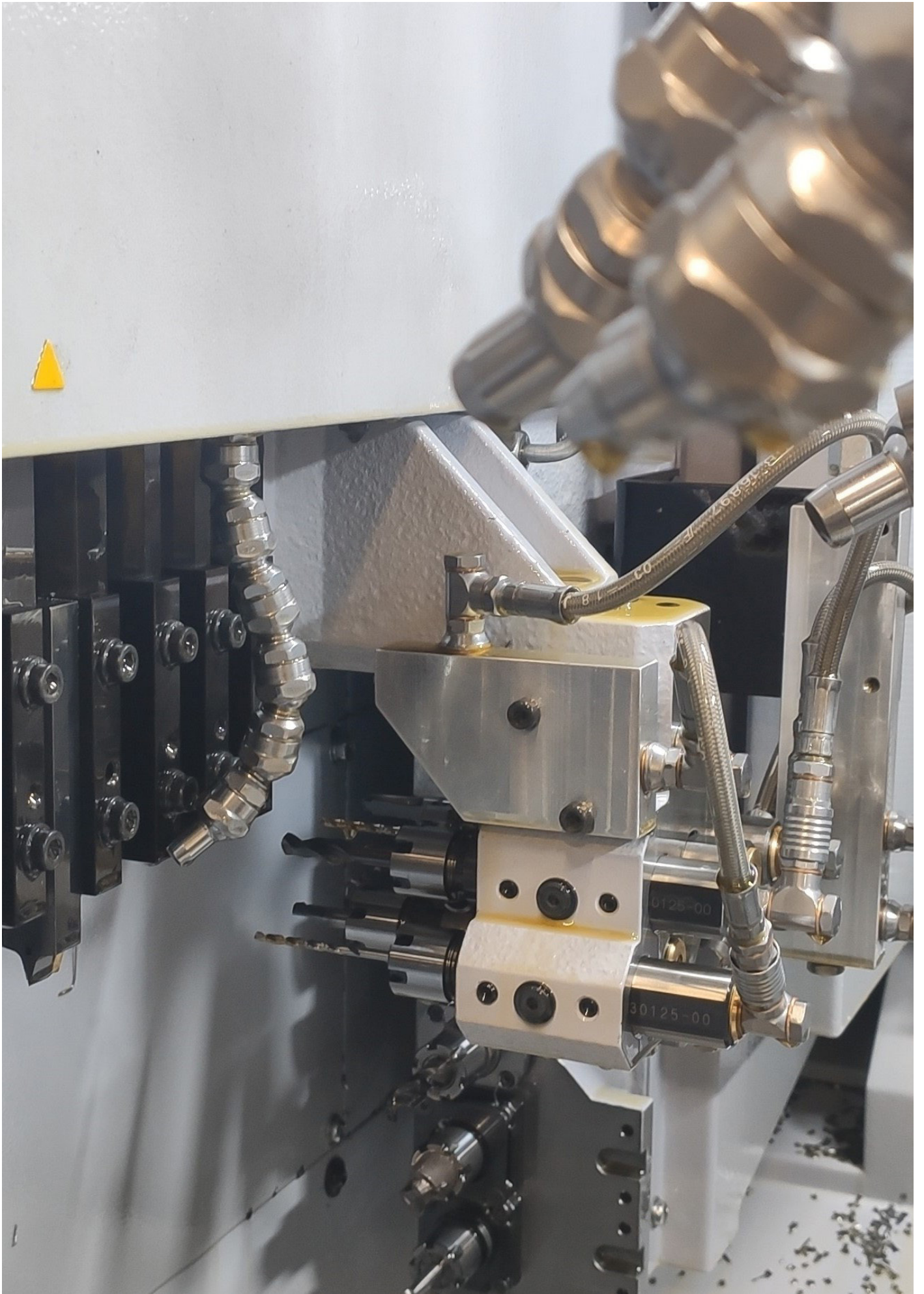
At least one quick connection coupling must be always included either on the connection side to the distribution block or on the connection side to the tool.



**STEP 8:**

Select type of sealing washers, if liquid tightness is required (fittings with parallel threads).  
You can select the washers of the required size and material: copper or aluminum.

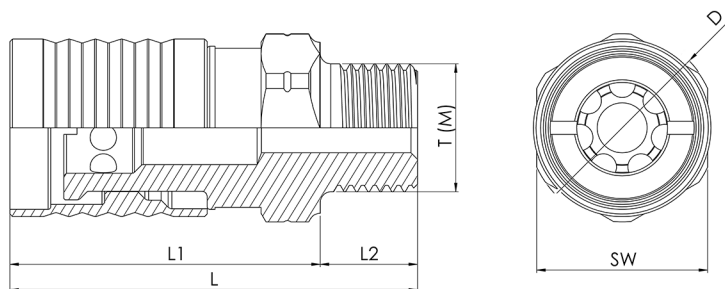
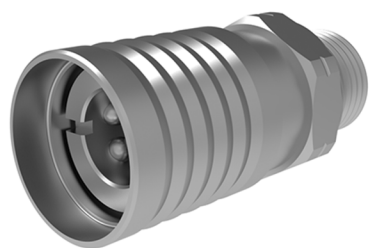




# QUICK COUPLING FITTINGS

## NA/MI-QC-01

Quick coupling fitting.  
For quick connection of distribution tubes.  
Material: Coated Steel.

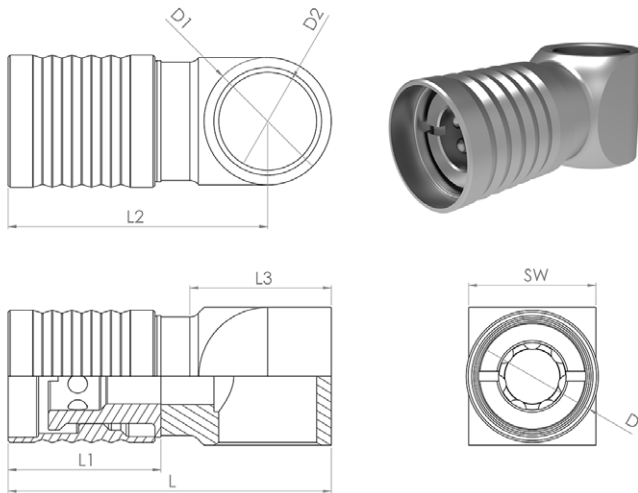


ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(M)	L	L1	L2	SW	D
NA-QC-01-02	QUICK COUPLING NANO M5x0.8(M)	NANO	Ø2.3	M5x0.8	18.4	13.9	4.5	8	Ø9.8
NA-QC-01-00	QUICK COUPLING NANO M6x1(M)			M6x1	18.4	13.9	4.5	8	Ø9.8
NA-QC-01-04	QUICK COUPLING NANO M8x1(M)			M8X1	23.8	17.3	6.5	10	Ø11
NA-QC-01-01	QUICK COUPLING NANO M8x1 KEG(M)			M8x1 KEG	20.4	13.6	6.8	8	Ø9.8
NA-QC-01-03	QUICK COUPLING NANO UNF5/16"(M)			UNF5/16"-24(M)	23.8	17.3	6.5	8	Ø11
MI-QC-01-00	QUICK COUPLING MICRO M8x1(M)	MICRO	Ø3.8	M8x1	25.3	18.8	6.5	11	Ø13.5
MI-QC-01-01	QUICK COUPLING MICRO M10x1 KEG(M)			M10x1 KEG	26.4	18.5	7.9	11	Ø13.5
MI-QC-01-03	QUICK COUPLING MICRO BSPP1/8"(M)			BSPP1/8"-28	30.4	23.6	6.8	13	Ø13.5
MI-QC-01-02	QUICK COUPLING MICRO BSPT1/8"(M)			BSPT1/8"-28	25.9	18.8	7.1	11	Ø13.5

# NA/MI-QC-02



Quick coupling fitting with integrated banjo.  
 For quick connection of distribution tubes at 90° angle saving space and assembly time.  
 Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	L	L1	L2	L3	L4	SW	D	D1	D2
NA-QC-02-00	QUICK COUPLING NANO WITH INTEGRATED SHORT BANJO FOR M5 OR M6 BOLT	NANO	Ø4.0	22.6	11.1	18.1	9.7	9.0	9	Ø9.8	Ø9.0	Ø6.0
MI-QC-02-00	QUICK COUPLING MICRO WITH INTEGRATED SHORT BANJO FOR M8 BOLT	NANO	Ø5.6	33.0	15.6	26.5	14.4	11.0	11	Ø13.5	Ø11.0	Ø8.0
MI-QC-02-01	QUICK COUPLING MICRO WITH INTEGRATED SHORT BANJO FOR M10 OR BSPP1/8" BOLT		Ø3.8	30.8	15.6	25.3	12.2	13.0	13	Ø13.5	Ø13.0	Ø10.0

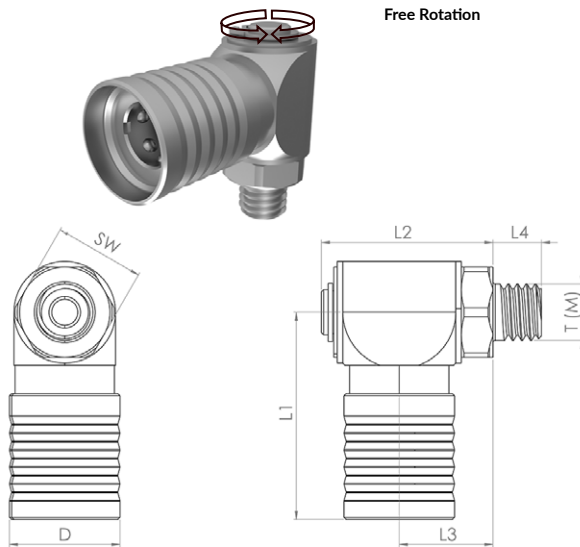
# NA/MI-QC-03



Quick coupling fitting with short banjo and integrated rotary banjo bolt.

For quick connection of flexible distribution tubes at 90° angle and especially useful when installing it in a moving gang as it allows the distribution tube to move.

Material: Coated Steel.

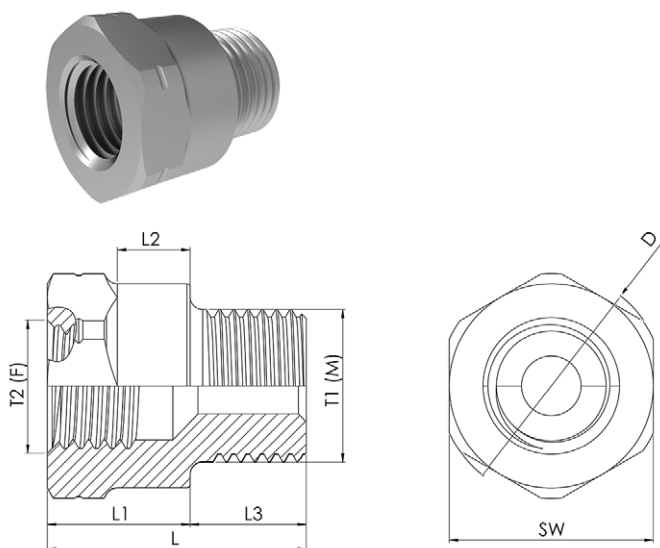


ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(M)	L1	L2	L3	L4	SW	D
NA-QC-03-01	QUICK COUPLING NANO W/ ROTARY SHORT BANJO + BOLT M5x0.8	NANO	Ø2.3	M5x1	18.3	15.2	8.3	4.3	8	Ø9.8
NA-QC-03-00	QUICK COUPLING NANO W/ ROTARY SHORT BANJO + BOLT M6x1			M6x1	18.3	15.9	8.4	5.0	8	Ø9.8
NA-QC-03-03	QUICK COUPLING NANO W/ ROTARY SHORT BANJO + BOLT M8x1			M8x1	18.3	17.1	9.6	6.5	11	Ø9.8
NA-QC-03-02	QUICK COUPLING NANO W/ ROTARY SHORT BANJO + BOLT UNF5/16"-24			UNF5/16"-24	18.3	17.1	9.6	6.5	11	Ø9.8
MI-QC-03-00	QUICK COUPLING MICRO W/ ROTARY SHORT BANJO + BOLT M8x1	MICRO	Ø3.8	M8x1	24.3	21.0	11.3	6.5	11	Ø13.5
MI-QC-03-02	QUICK COUPLING MICRO W/ ROTARY SHORT BANJO + BOLT M10x1			M10x1	24.3	22.0	12.3	7.5	13	Ø13.5
MI-QC-03-01	QUICK COUPLING MICRO W/ ROTARY SHORT BANJO + BOLT BSPP1/8"			M10x1	24.3	22.0	12.3	7.5	13	Ø13.5

# ADAPTORS, NUTS, COMPRESSION RINGS, SPACERS AND BALL ADAPTORS

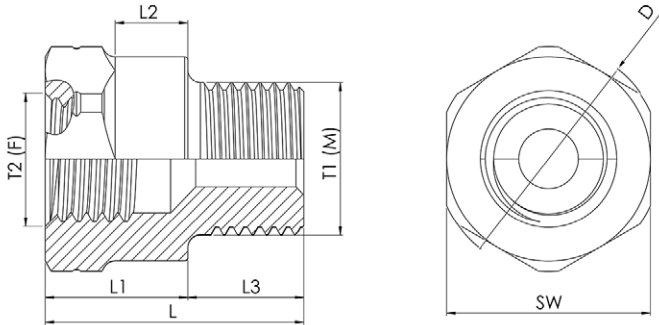
## NA/MI-CA-01 (Fig. 1)

Adaptors (Female to Male).  
To adapt different elements of the system.  
Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T2(F)	T1(M)	L	L1	L2	L3	SW	D
NA-CA-01-11	ADAPTOR M5x0.8(F) TO M8x1(M)	NANO	Ø4.1	M5x0.8	M8x1	12.0	5.5	1.8	6.5	11	Ø12.1
NA-CA-01-09	ADAPTOR M5x0.8(F) TO BSPT1/8"(M)		Ø4.2		BSPT1/8"-28	14.6	4.75	1.3	9.8	11	Ø12.1
NA-CA-01-05	ADAPTOR M6x1(F) TO M5x0.8(M)	NANO	Ø2.3	M6x1	M5x0.8	12.0	7.5	4.6	4.5	8	Ø8.8
NA-CA-01-02	ADAPTOR M6x1(F) TO M6x1(M)		Ø2.3		M6x1	12.5	7.5	4.6	5.0	8	Ø8.8
NA-CA-01-06	ADAPTOR M6x1(F) TO M8x1(M)		Ø3.8		M8x1	13.5	7.0	3.2	6.5	11	Ø12.1
NA-CA-01-08	ADAPTOR M6x1(F) TO M8x1 KEG(M)		Ø3.8		M8x1 KEG	12.0	6.0	3.2	6.0	8	Ø8.8
NA-CA-01-01	ADAPTOR M6x1(F) TO BSPT1/8"(M)		Ø3.8		M10x1 KEG	10.4	3.5	0.7	6.9	11	Ø12.1
NA-CA-01-00	ADAPTOR M5x0.8(F) TO BSPT1/8"(M)		Ø4.2		BSPT1/8"-28	14.6	4.7	1.35	9.8	11	Ø12.1
NA-CA-01-12	ADAPTOR M6x1(F) TO NPT1/16"(M)		Ø2.3		NPT1/16"-27	14.8	6.9	2.6	8.8	11	Ø12.1
NA-CA-01-10	ADAPTOR M6x1(F) TO NPT1/8"(M)		Ø5.0		NPT1/8"-27	13.4	4.8	1.4	8.5	11	Ø12.1
NA-CA-01-15	ADAPTOR M6x1(F) TO UNF5/16"-24(M)		Ø3.8		UNF5/16"-24	13.4	6.9	3.2	6.5	11	Ø12.1
NA-CA-01-13	ADAPTOR M6x1(F) TO UNF7/16"-20(M)		Ø5.0		UNF7/16"-20	12.0	4.9	0.4	7.1	13	Ø14.0

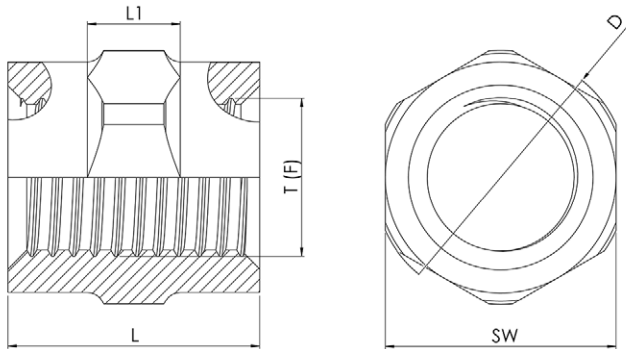
## NA/MI-CA-01 (Fig. 1) cont.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T2(F)	T1(M)	L	L1	L2	L3	SW		
MI-CA-01-05	ADAPTOR M8x1(F) TO M5x0.8(M)	MICRO	Ø2.3	M8x1	M5x0.8	14.0	9.5	5.6	4.5	11	Ø12.1	
MI-CA-01-06	ADAPTOR M8x1(F) TO M6x1(M)		Ø2.3		M6x1	14.5	9.5	5.6	5.0	11	Ø12.1	
MI-CA-01-02	ADAPTOR M8x1(F) TO M8x1(M)		Ø3.8		M8x1	16.0	9.5	6.0	6.5	11	Ø12.1	
MI-CA-01-08	ADAPTOR M8x1(F) TO M8x1 KEG(M)		Ø3.8		M8x1 KEG	16.4	9.5	6.0	6.9	11	Ø12.1	
MI-CA-01-18	ADAPTOR M8x1(F) TO M8x1.25(M)		Ø3.8		M8x1.25	16.0	9.5	6.0	6.5	11	Ø12.1	
MI-CA-01-01	ADAPTOR M8x1(F) TO M10x1(M)		Ø3.8		M10x1	16.5	9.0	5.0	7.5	11	Ø12.1	
MI-CA-01-23	ADAPTOR M8x1(F) TO M10x1.5(M)		Ø3.8		M10x1.5	16.6	9.1	4.6	7.5	13	Ø14.3	
MI-CA-01-14	ADAPTOR M8x1(F) TO M12x1(M)		Ø3.8		M12x1	TBA	TBA	TBA	TBA	TBA	TBA	
MI-CA-01-21	ADAPTOR M8x1(F) TO M13x1(M)		Ø6.0		M13x1	20.2	9.0	4.5	11.2	13	Ø14.3	
MI-CA-01-15	ADAPTOR M8x1(F) TO M14x1(M)		Ø3.8		M14x1	TBA	TBA	TBA	TBA	TBA	TBA	
MI-CA-01-00	ADAPTOR M8x1(F) TO BSPP1/8"(M)		Ø3.8		BSPP1/8"-28	16.5	9.1	4.6	7.4	13	Ø14.3	
MI-CA-01-00-B	ADAPTOR M8x1(F) TO BSPP1/8"(M).		Ø3.8		BSPP1/8"-28	16.5	9.1	4.6	7.4	11	Ø12.1	
MI-CA-01-12	ADAPTOR M8x1(F) TO BSPT1/8"(M)		Ø3.8		BSPT1/8"-28	20.3	9.1	5.5	11.2	11	Ø12.1	
MI-CA-01-12	ADAPTOR M8x1(F) TO BSPT1/4"(M)		Ø7.0		BSPT1/4"-19	18.5	5.2	1.2	13.3	13	Ø14.3	
MI-CA-01-17	ADAPTOR M8x1(F) TO NPT1/16"(M)		Ø3.8		NPT1/16"-27	17.7	8.9	4.4	8.8	13	Ø14.3	
MI-CA-01-16	ADAPTOR M8x1(F) TO NPT1/8"(M)		Ø3.8		NPT1/8"-27	17.0	7.0	2.5	10.0	13	Ø14.3	
MI-CA-01-20	ADAPTOR M8x1(F) TO UNF7/16"-20(M)		Ø3.8		UNF7/16"-20	17.0	7.0	2.5	7.5	13	Ø14.3	
MI-CA-01-09	ADAPTOR BSPP1/8"(F) TO M8x1(M)		Ø3.8		BSPP 1/8"-28	M8x1	17.0	10.5	5.0	6.5	13	Ø14.3
MI-CA-01-10	ADAPTOR BSPP1/8"(F) TO BSPP1/8"(M)		Ø6.0			BSPP1/8"-28	18.0	10.5	6.0	7.5	13	Ø14.3
MI-CA-01-13	ADAPTOR BSPP1/8"(F) TO BSPT1/8"(M)		Ø6.0			BSPT1/8"-28	21.4	11.0	7.6	10.4	13	Ø14.3
MI-CA-01-19	ADAPTOR BSPP 1/8"(F) TO NPT1/8"(M)	Ø6.0	NPT1/8"-27	20.2		11.0	6.5	9.2	13	Ø14.3		
MI-CA-01-22	ADAPTOR NPT1/8"(F) TO M8x1(M)	Ø3.8	NPT 1/8"-27	M8x1	17.5	10.0	5.5	7.5	13	Ø14.3		

## NA/MI-CA-01 (Fig. 2)

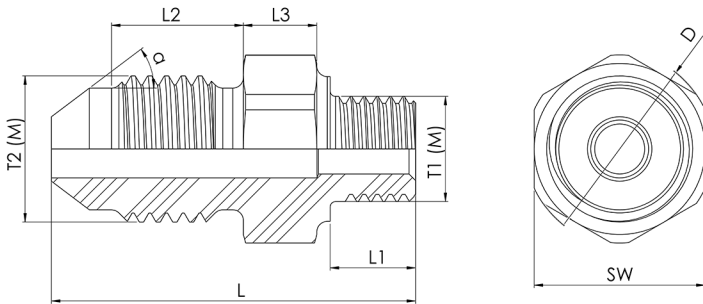
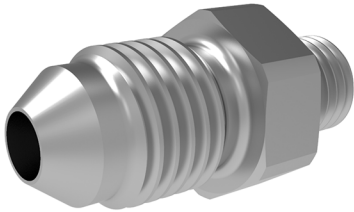
Adaptors (Female to Female).  
To adapt different elements of the system.  
Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	SW	D
NA-CA-01-03	ADAPTOR M6x1(F) TO M6x1(F)	NANO	Ø5.5	M6x1	9.0	2.5	8	Ø8.8
MI-CA-01-03	ADAPTOR M8x1(F) TO M8x1(F)	MICRO	Ø7.0	M8x1	12.0	4.5	11	Ø12.1

## NA/MI-CA-01 (Fig. 3)

Adaptors (Male to Male).  
To adapt different elements of the system.  
Material: Coated Steel.



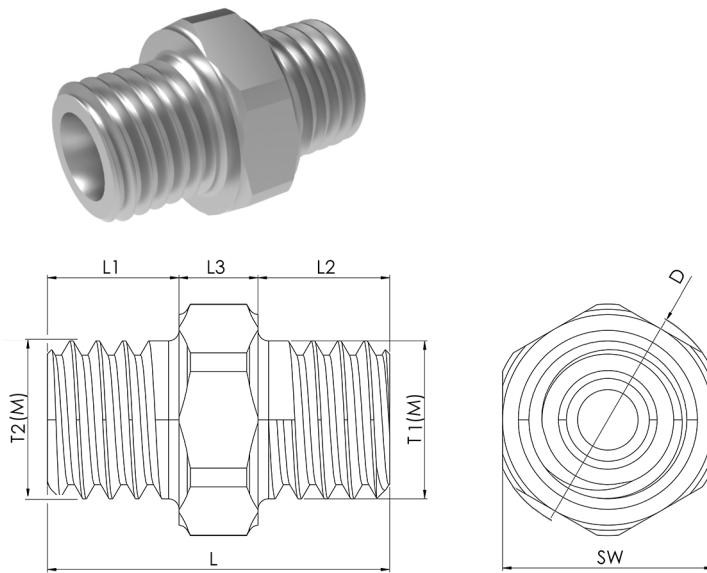
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T1(M)	T2(M)	L	L1	L2	L3	SW	D
NA-CA-01-14	ADAPTOR JIC1/4" UNF7/16"-20(M) TO M6x1(M)	NANO	Ø2.3	M6x1	JIC1/4" UNF7/16"-20	26.2	5.0	10.0	5.6	13	Ø14.3
MI-CA-01-24	ADAPTOR JIC 1/4" UNF 7/16-20(M) TO M8x1(F)	MICRO	Ø3.8	M8x1	JIC1/4" UNF7/16"-20	27.7	6.5	10.0	5.6	13	Ø14.3
MI-CA-01-25	ADAPTOR JIC1/4" UNF7/16-20(M) TO BSPP1/8"(F)		Ø4.4	BSPP1/8"-28	JIC1/4" UNF7/16"-20	28.2	7.4	10.0	6.5	13	Ø14.3

## NA/MI-CA-01 (Fig. 4)

Adaptors (Male to Male).

To adapt different elements of the system and compression ring for rigid tubes (must be used with NA/MI-CA-01 (Fig. 5) and NA/MI-CA-02).

Material: Coated Steel.



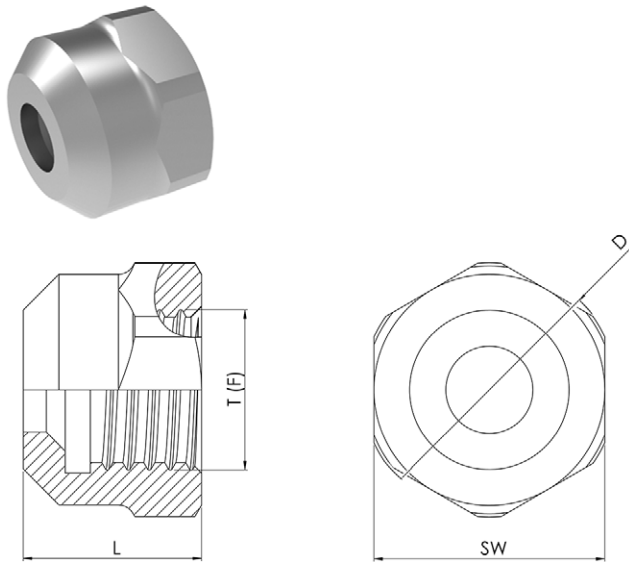
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T1(M)	T2(M)	L	L1	L2	L3	SW	D
NA-CA-01-07	ADAPTOR M6x1(M) TO M6x1(M). ALSO USED FOR COMPRESSION RING ID:3 mm SW8	NANO	Ø2.3	M6x1	M6x1	13.0	2.5	5.2	2.6	8	Ø8.8
MI-CA-01-07	ADAPTOR M8x1(M) TO M8x1(M). ALSO USED FOR COMPRESSION RING ID:4 mm SW11	MICRO	Ø3.8	M8x1	M8x1	17.1	6.5	6.5	4.1	11	Ø12.1

## NA/MI-CA-01 (Fig. 5)

Nut for compression ring.

For compression ring for clamping rigid tubes. Must be used with NA/MI-CA-01 (Fig. 4) and NA/MI-CA-02.

Material: Coated Steel.



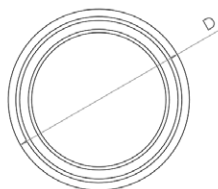
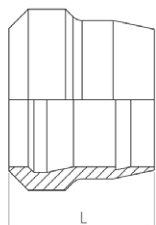
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	SW	D
NA-CA-01-04	NUT M6x1(F) FOR COMPRESSION RING ID:3 mm	NANO	Ø3.0	M6x1	6.5	8	Ø8.8
MI-CA-01-04	NUT M8x1(F) FOR COMPRESSION RING ID:4 mm	MICRO	Ø4.15	M8x1	8.5	11	Ø12.1

## NA/MI-CA-02

Compression ring.

For clamping rigid tube. Must be used with NA/MI-CA-01 (Fig. 4) and NA/MI-CA-01 (Fig. 5).

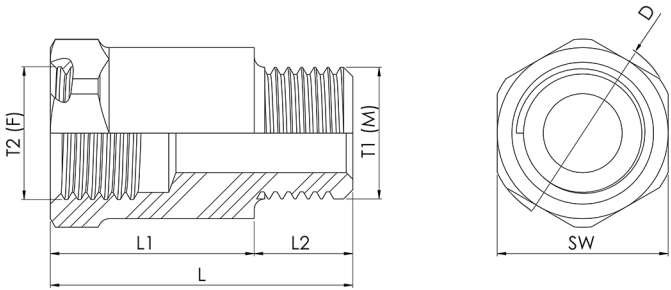
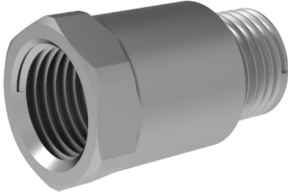
Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	L	D
NA-CA-02-00	COMPRESSION RING ID:3 mm	NANO	Ø3.1	3.3	Ø4.2
MI-CA-02-00	COMPRESSION RING ID:4 mm	MICRO	Ø4.1	4.5	Ø5.6

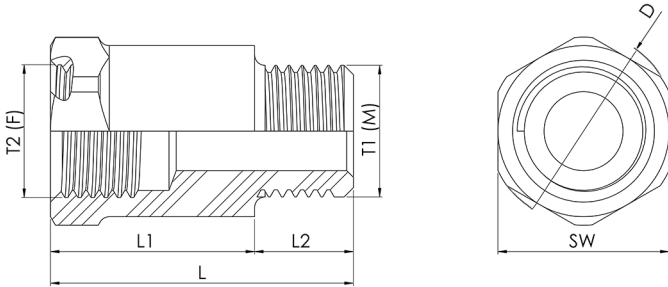
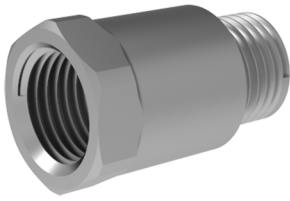
# NA/MI-CA-03

Spacers (Female to Male).  
 To avoid interference when connecting different elements.  
 Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T2(F)	T1(M)	L	L1	L2	SW	D
NA-CA-03-03	SPACER H:7 mm M5x0.8(M)-M5x0.8(F)	NANO	Ø2.3	M5x0.8	M5x0.8	11.0	6.5	4.5	8	Ø8.8
NA-CA-03-04	SPACER H:12 mm M5x0.8(M)-M5x0.8(F)					16.0	11.5			
NA-CA-03-05	SPACER H:17 mm M5x0.8(M)-M5x0.8(F)					21.0	16.5			
NA-CA-03-00	SPACER H:8 mm M6x1(M)-M6x1(F)		Ø2.3	M6x1	M6x1	12.5	7.5	5.0	8	Ø8.8
NA-CA-03-01	SPACER H:13 mm M6x1(M)-M6x1(F)					17.5	12.5			
NA-CA-03-02	SPACER H:18 mm M6x1(M)-M6x1(F)					22.5	17.5			

# NA/MI-CA-03 cont.



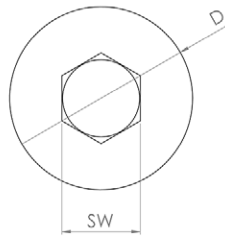
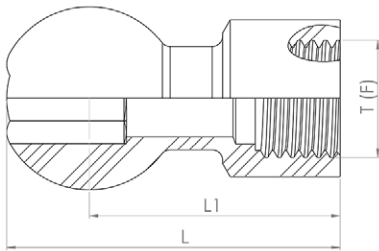
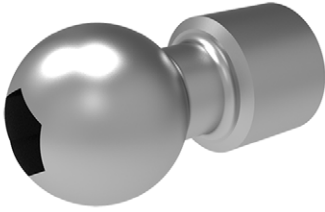
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T2(F)	T1(M)	L	L1	L2	SW	D
MI-CA-03-00	SPACER H:10 mm M8x1(M)-M8x1(F)	MICRO	Ø3.8	M8x1	M8x1	16.0	9.5	6.5	11	Ø12.1
MI-CA-03-01	SPACER H:15 mm M8x1(M)-M8x1(F)					21.0	14.5			
MI-CA-03-02	SPACER H:20 mm M8x1(M)-M8x1(F)					26.0	19.5			
MI-CA-03-18	SPACER H:11 mm M8x1(M)-NPT1/8"(F)		Ø3.8	NPT1/8"-27	M8x1	17.5	11.0	6.5	13	Ø14.3
MI-CA-03-19	SPACER H:16 mm M8x1(M)-NPT1/8"(F)					22.5	16.0			
MI-CA-03-20	SPACER H:21 mm M8x1(M)-NPT1/8"(F)					27.5	21.0			
MI-CA-03-06	SPACER H:10 mm M10x1(M)-M10x1(F)		Ø6.0	M10x1	M10x1	18.0	10.5	7.5	13	Ø14.3
MI-CA-03-07	SPACER H:15 mm M10x1(M)-M10x1(F)					23.0	15.5			
MI-CA-03-08	SPACER H:20 mm M10x1(M)-M10x1(F)					28.0	20.5			
MI-CA-03-08	SPACER H:10 mm M8x1(M)-BSPP1/8"(F)		Ø6.0	BSPP1/8"-28	M8x1	17.0	10.5	6.5	13	Ø14.3
MI-CA-03-10	SPACER H:15 mm M8x1(M)-BSPP1/8"(F)					22.0	15.5			
MI-CA-03-11	SPACER H:20 mm M8x1(M)-BSPP1/8"(F)					27.0	20.5			
MI-CA-03-03	SPACER H:10 mm BSPP1/8"(M)-BSPP1/8"(F)		Ø6.0	BSPP1/8"-28	BSPT1/8"-28	18.0	10.5	7.5	13	Ø14.3
MI-CA-03-04	SPACER H:15 mm BSPP1/8"(M)-BSPP1/8"(F)					23.0	15.5			
MI-CA-03-05	SPACER H:20 mm BSPP1/8"(M)-BSPP1/8"(F)					28.0	20.5			
MI-CA-03-12	SPACER H:10 mm BSPT1/8"(M)-BSPP1/8"(F)		Ø6.0	BSPP1/8"-28	BSPT1/8"-28	21.4	11.0	10.4	13	Ø14.3
MI-CA-03-13	SPACER H:15 mm BSPT1/8"(M)-BSPP1/8"(F)					26.4	16.0			
MI-CA-03-14	SPACER H:20 mm BSPT1/8"(M)-BSPP1/8"(F)					31.4	21.0			
MI-CA-03-15	SPACER H:11 mm NPT1/8"(M)-BSPP1/8"(F)		Ø6.0	BSPP1/8"-28	NPT1/8" 27	20.2	11.0	9.2	13	Ø14.3
MI-CA-03-16	SPACER H:16 mm NPT1/8"(M)-BSPP1/8"(F)					25.5	16.0			
MI-CA-03-17	SPACER H:21 mm NPT1/8"(M)-BSPP1/8"(F)	30.2				21.0				
MI-CA-03-18	SPACER H:11 mm M8x1(M)- NPT1/8"(F)	Ø3.8	NPT1/8"-28	M8X1	17.5	11.0	6.5	13	Ø14.3	
MI-CA-03-19	SPACER H:11 mm M8x1(M)- NPT1/8"(F)				22.5	16.0				
MI-CA-03-20	SPACER H:21 mm M8x1(M)- NPT1/8"(F)				27.5	21.0				

# MI-CA-05

Ball adaptors (Female).

To adapt coolant distribution tubes to spherical cavities of turret or tool holder.

Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	D	SW
MI-CA-05-00	ADAPTOR BALL OD:10mm TO M8x1(F).	MICRO	Ø4.2	M8x1	20.9	16.4	Ø10.0	4
MI-CA-05-01	ADAPTOR BALL OD:12mm TO M8x1(F).		Ø5.0		23.05	17.6	Ø12.0	5
MI-CA-05-02	ADAPTOR BALL OD:14mm TO M8x1(F).		Ø5.9		25.52	19.2	Ø14.0	6
MI-CA-05-03	ADAPTOR BALL OD:15mm TO M8x1(F).		Ø6.4		26.68	19.9	Ø15.0	6
MI-CA-05-04	ADAPTOR BALL OD:16mm TO M8x1(F).		Ø6.4		17.5	20.5	Ø16.0	6
MI-CA-05-05	ADAPTOR BALL OD:22mm TO M8x1(F).		Ø6.4		34.0	24.0	Ø22.0	6

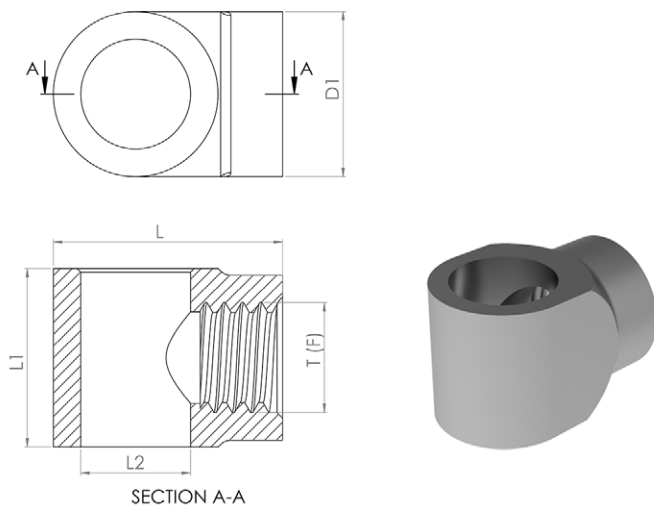
# BANJOS AND BANJO BOLTS

## NA/MI-CA-04 (Fig. 1)

90° Short banjo (Female).

For 90° angle position adjustable connections. Requires banjo bolt.

Material: Coated Steel.



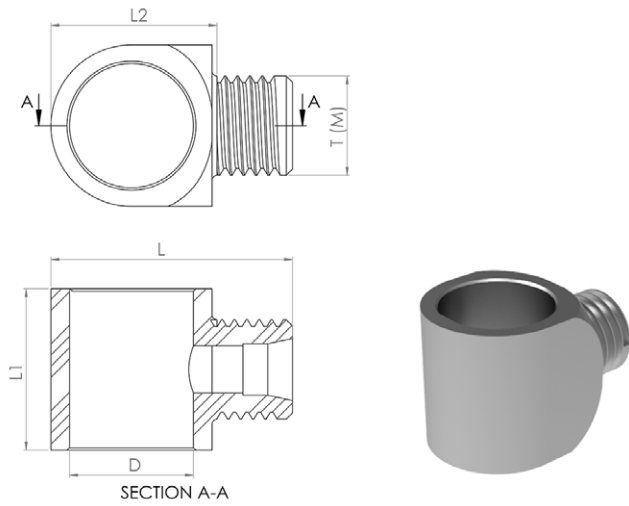
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	D	D1
NA-CA-04-00	SHORT BANJO M6x1(F) FOR M5 OR M6 BOLT	NANO	Ø2.3	M6X1	12.5	10	Ø6.0	Ø9.0
MI-CA-04-00	SHORT BANJO M8x1(F) FOR M8 BOLT	MICRO	Ø3.8	M8X1	16.5	13	Ø8.0	Ø11.0
MI-CA-04-06	SHORT BANJO M8x1(F) FOR BSPP1/8" OR M10 BOLT			M8X1	18.5	13	Ø10.0	Ø13.0
MI-CA-04-11	SHORT BANJO M10x1(F) FOR BSPP1/8" OR M10 BOLT			M10X1	19.5	13	Ø10.0	Ø13.0
MI-CA-04-13	SHORT BANJO BSPP1/8"(F) FOR BSPP1/8" OR M10 BOLT			BSPP1/8"	19.5	13	Ø10.0	Ø13.0

## NA/MI-CA-04 (Fig. 2)

90° Short banjo (Male).

For 90° angle position adjustable connections. Requires banjo bolt.

Material: Coated Steel.



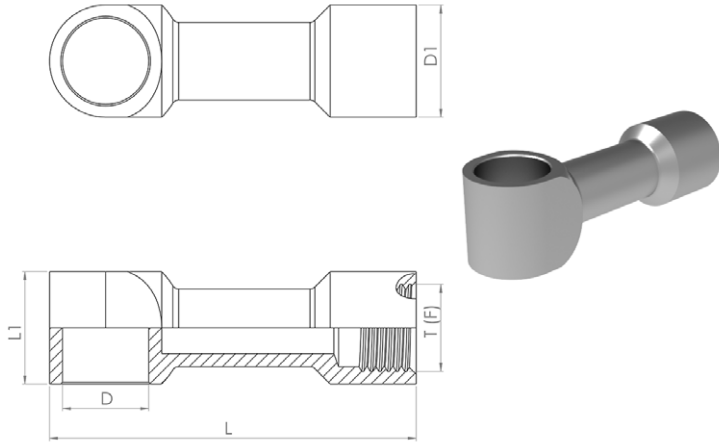
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	L2	D
NA-CA-04-01	SHORT BANJO M6x1(M) FOR M5 OR M6 BOLT	NANO	Ø2.3	M6x1	14.0	10.0	9.0	Ø6.0
MI-CA-04-01	SHORT BANJO M8x1(M) FOR M8 BOLT	MICRO	Ø3.8	M8x1	17.5	13.0	11.5	Ø8.0
MI-CA-04-07	SHORT BANJO M8x1(M) FOR B5PP1/8" OR M10 BOLT		Ø3.8	M8x1	19.5	13.0	11.5	Ø10.0

## NA/MI-CA-04 (Fig. 3)

90° Long banjo (Female).

For 90° angle position adjustable connections with extra length. Requires banjo bolt.

Material: Coated Steel.



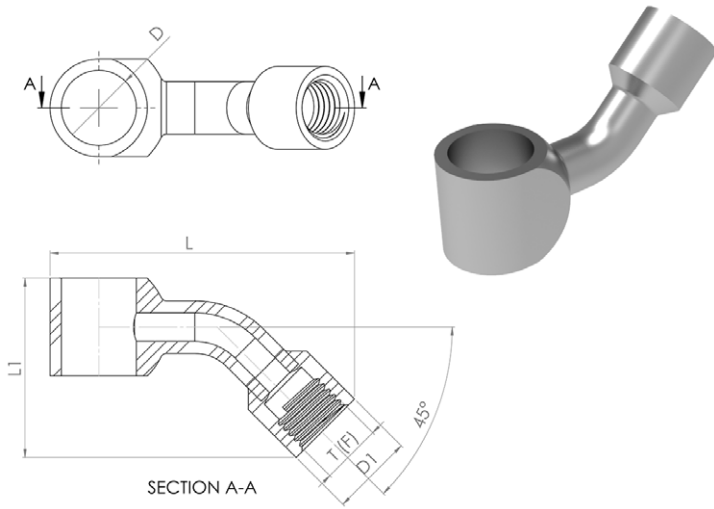
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	D	D1
NA-CA-04-02	LONG STRAIGHT BANJO M6x1(F) FOR M5 OR M6 BOLT	NANO	Ø2.3	M6x1	31.5	10.0	Ø6.0	Ø9
MI-CA-04-02	LONG STRAIGHT BANJO M8x1(F) FOR M8 BOLT	MICRO	Ø3.8	M8x1	42.5	13.0	Ø8.0	Ø11.0
MI-CA-04-09	LONG STRAIGHT BANJO M8x1(F) FOR BSPP1/8" OR M10 BOLT				42.5	13.0	Ø10.0	Ø11.0
MI-CA-04-12	LONG STRAIGHT BANJO M10x1(F) FOR BSPP1/8" OR M10 BOLT			M10x1	42.5	13.0	Ø10.0	Ø13.0
MI-CA-04-14	LONG STRAIGHT BANJO BSPP1/8"(F) FOR BSPP1/8" OR M10 BOLT			BSPP1/8"	42.5	13.0	Ø10.0	Ø13.0

## NA/MI-CA-04 (Fig. 4)

45° Long banjo (Female).

For 45° angle position adjustable connections with extra length. Requires banjo bolt.

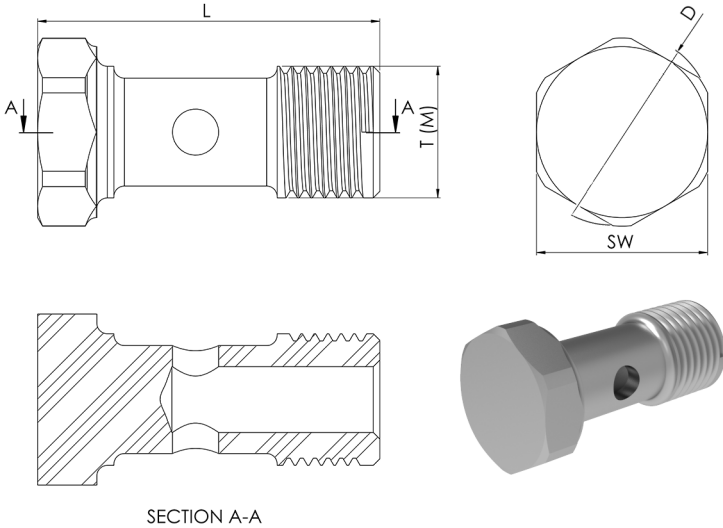
Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	L2	D
NA-CA-04-03	LONG CURVED BANJO M6x1(F) FOR M5 OR M6 BOLT	NANO	Ø2.3	M6x1	33.0	10.0	Ø6.0	Ø9.0
MI-CA-04-03	LONG CURVED BANJO M8x1(F) FOR M8 BOLT	MICRO	Ø3.8	M8x1	40.0	11.8	Ø8.0	Ø11.0
MI-CA-04-10	LONG CURVED BANJO M8x1(F) FOR BSPP1/8" OR M10 BOLT				40.5	13.0	Ø10.0	Ø11.0

# NA/MI-CA-04 (Fig. 5)

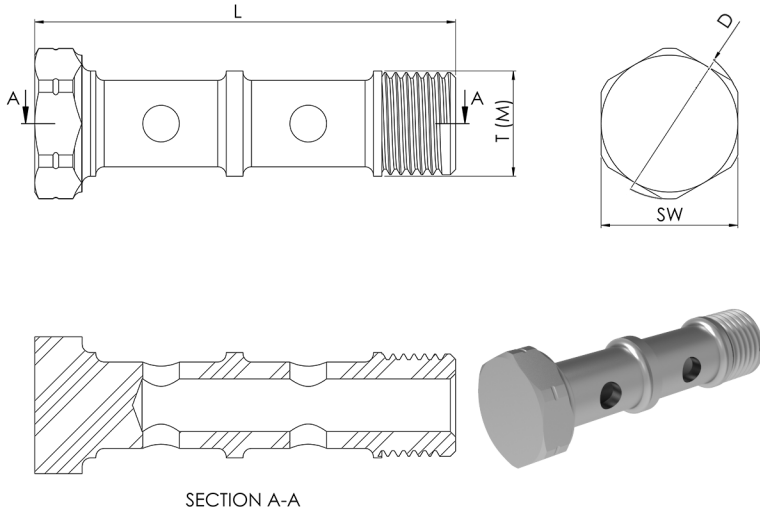
Banjo bolt (Male).  
 For assembly in banjo fitting.  
 Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	SW	D
NA-CA-04-06	BANJO BOLT M5x0.8(M)	NANO	Ø2.3	M5x0.8	18.3	8	Ø8.8
NA-CA-04-04	BANJO BOLT M6x1(M)			M6x1	18.3	8	Ø8.8
MI-CA-04-04	BANJO BOLT M8x1(M)	MICRO	Ø3.8	M8x1	24.3	11	Ø12.1
MI-CA-04-15	BANJO BOLT M10x1(M)			M10x1	26.0	13	Ø14.3
MI-CA-04-17	BANJO BOLT BSPP1/8"(M)			BSPP1/8"	26.0	13	Ø14.3

## NA/MI-CA-04 (Fig. 6)

Double length banjo bolt (Male).  
For assembly of 2 banjo fittings.  
Material: Coated Steel.

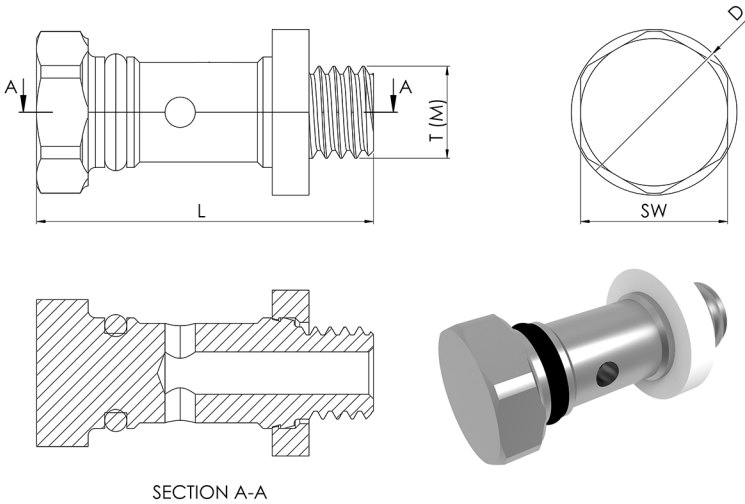


ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(M)	L	SW	D
NA-CA-04-05	DOUBLE BANJO BOLT M6x1(M) TO CONNECT 2 BANJOS	NANO	Ø2.3	M6x1	29.8	8	Ø8.8
MI-CA-04-05	DOUBLE BANJO BOLT M8x1(M) TO CONNECT 2 BANJOS	MICRO	Ø3.8	M8x1	38.3	11	Ø12.1
MI-CA-04-16	DOUBLE BANJO BOLT M10x1(M) TO CONNECT 2 BANJOS			M10x1	40.0	13	Ø14.3
MI-CA-04-18	DOUBLE BANJO BOLT BSPP1/8"(M) TO CONNECT 2 BANJOS			BSPP1/8"	40.0	13	Ø14.3

# NA-CA-04 (Fig. 7)



Banjo bolt for pre-assembled banjo (Male).  
 For pre-assembled banjo bolt + banjo for easier installation. Needs to be ordered with the selected banjo.  
 Material Coated Steel + elastomeric seal.



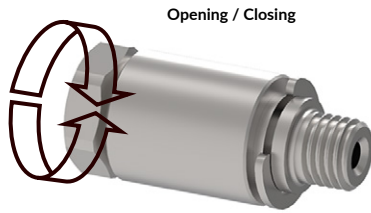
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	SW	D
NA-CA-04-08	ROTATING BANJO BOLT M5x0.8(M)	NANO	Ø2.3	M5x0.8	18.3	8	Ø8.8
NA-CA-04-07	ROTATING BANJO BOLT M6x1(M)			M6x1	18.3	8	Ø8.8

# FLOW ADJUSTMENT VALVES

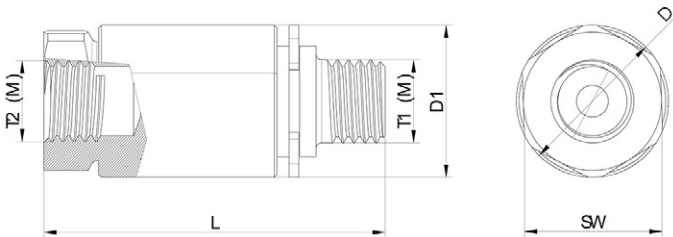
NA/MI-FA-01



Flow adjustment valve straight.  
For adjusting the coolant flow in a straight assembly (in-line).  
Material: Coated Steel.



Opening / Closing



ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T2(M)	T1(M)	L	D1	SW	D
NA-FA-01-00	FLOW ADJUSTMENT VALVE STRAIGHT M6x1(F) TO M6x1(F)	NANO	Ø2.3	M6x1	M6x1	20.0	Ø11.0	10	Ø11.0
MI-FA-01-00	FLOW ADJUSTMENT VALVE STRAIGHT M8x1(F) TO M8x1(F)	MICRO	Ø3.8	M8x1	M8x1	24.0	Ø14.0	13	Ø14.3

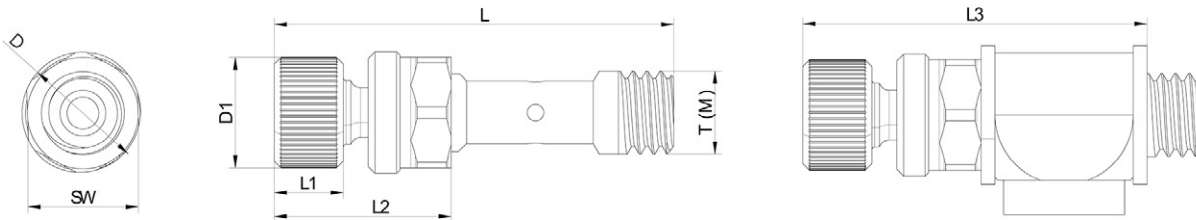
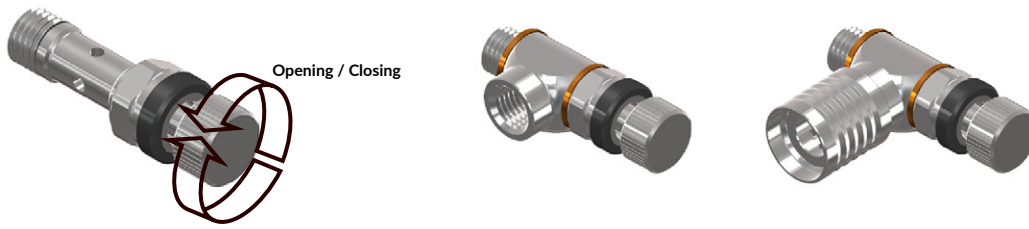
# NA/MI-FA-02



Flow adjustment valve for banjo.  
 For adjusting the coolant flow in a banjo assembly (90°). Substitutes the banjo bolt.  
 Material: Coated Steel.

NA/MI-FA-02

Example of assembly:  
 Flow adjustment valve with a banjo

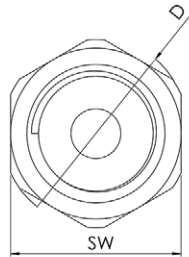
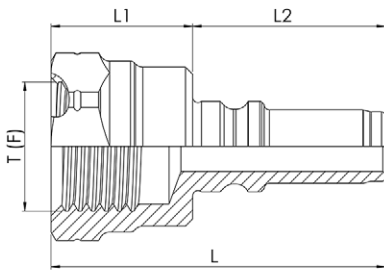
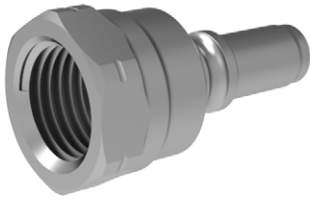


ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(M)	L	L1	L2	L3	D1	SW	D
NA-FA-02-00	FLOW ADJUSTMENT VALVE M6x1(M) FOR BANJO	NANO	Ø2.3	M6x1	34/29	5.0	13/8	30/25	Ø8.0	8	Ø8.8
MI-FA-02-00	FLOW ADJUSTMENT VALVE M8x1(M) FOR BANJO	MICRO	Ø3.8	M8x1	37.5/31.5	6.0	17/11	32/26	Ø11.0	11	Ø12.1

# QUICK CONNECTION FITTINGS AND PLUGS

## NA/MI-CC-01 (Fig. 1)

Quick connection fitting (Female).  
To connect with quick coupling fittings.  
Material: Coated Steel.



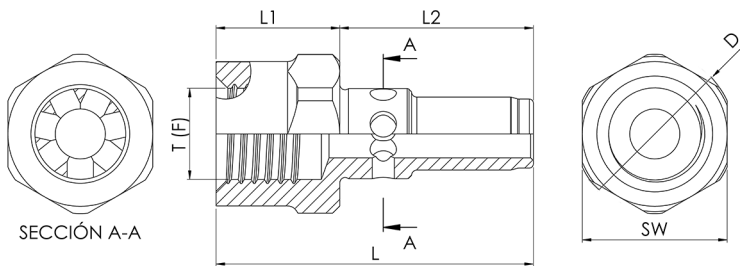
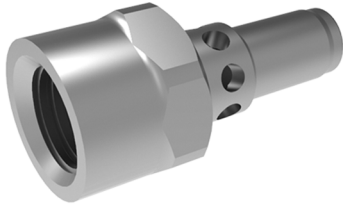
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L	L1	D	D1
NA-CC-01-01	QUICK CONNECTION FITTING NANO TO M6x1(F)	NANO	Ø2.3	M6x1	18.3	7.3	11.0	8	Ø8.8
MI-CC-01-01	QUICK CONNECTION FITTING MICRO TO M8x1(F)	MICRO	Ø3.8	M8x1	24.1	9.4	14.7	11	Ø12.1
MI-CC-01-05	QUICK CONNECTION FITTING MICRO TO BSPP1/8"(F)			BSPP1/8"	25.5	10.8	14.7	13	Ø14.3

## NA/MI-CC-01 (Fig. 2)

Non-rotating quick connection fitting (Female).

To connect rigid distribution tubes with quick coupling fittings always in the same position.

Material: Coated Steel.



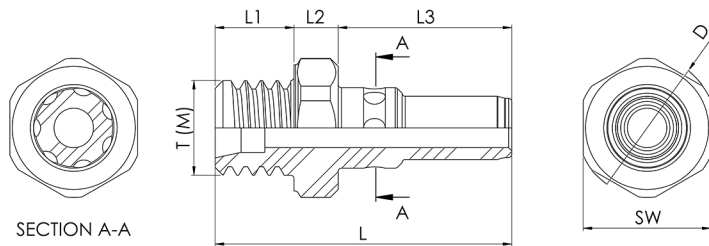
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(F)	L	L1	L2	SW	D
NA-CC-01-02	QUICK CONN. FITTING NANO NON-ROTATING TO M6x1(F)	NANO	Ø2.3	M6x1	18.6	7.3	11.3	8	Ø8.8
MI-CC-01-02	QUICK CONN. FITTING MICRO NON-ROTATING TO M8x1(F)	MICRO	Ø3.8	M8x1	24.1	9.4	14.7	11	Ø12.1

## NA/MI-CC-01 (Fig. 3)

Non-rotating quick connection fitting (Male).

To connect rigid distribution tubes with quick coupling fittings always in the same position. Allows direct coupling with nut and compression ring for rigid tubes to save space.

Material: Coated Steel.



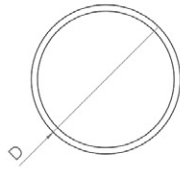
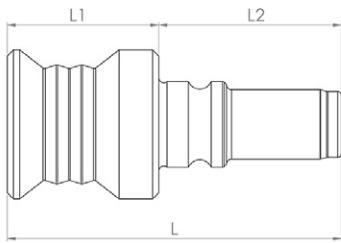
ITEM	DESCRIPTION	FAMILY	THROUGH HOLE	T(M)	L	L1	L2	L3	SW	D
NA-CC-01-03	QUICK CONN. FITTING NANO NON-ROTATING TO M6x1(M)	NANO	Ø2.3	M6x1	18.8	5.0	2.8	11.0	8	Ø8.8
MI-CC-01-03	QUICK CONN. FITTING MICRO NON-ROTATING TO M8x1(M)	MICRO	Ø3.8	M8x1	25.0	6.5	3.8	14.7	11	Ø12.1

## NA/MI-CC-01 (Fig. 4)

Sealing plug for quick coupling.

To seal a quick coupling fitting installed in the machine and not being used.

Material: Coated Steel.



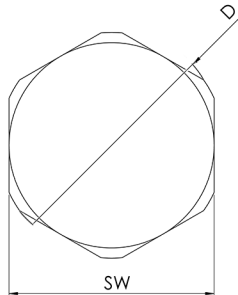
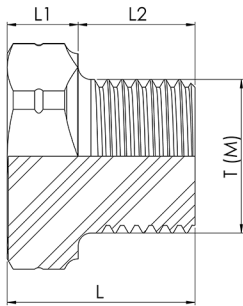
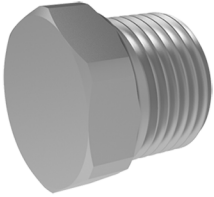
ITEM	DESCRIPTION	FAMILY	L	L1	L2	D
NA-CC-01-00	QUICK CONNECTION FITTING NANO TO SEALING PLUG	NANO	20.0	12.2	7.8	Ø8.8
MI-CC-01-00	QUICK CONNECTION FITTING MICRO TO SEALING PLUG	MICRO	26.9	12.2	14.7	Ø12.0

## NA/MI-CC-01 (Fig. 5)

Sealing plug (M).

To seal a distribution block or other element installed in the machine and not being used.

Material: Coated Steel.



ITEM	DESCRIPTION	FAMILY	T(M)	L	L1	L2	SW	D
NA-CC-01-05	SEALING PLUG M5x0.8(M)	NANO	M5x0.8	7.3	2.8	4.5	8	Ø8.8
NA-CC-01-04	SEALING PLUG M6x1(M)		M6x1	7.8	2.8	5.0	8	Ø8.8
MI-CC-01-04	SEALING PLUG M8x1(M)	MICRO	M8x1	10.3	4.5	5.8	11	Ø12.1
MI-CC-01-06	SEALING PLUG BSPP1/8"(M)		BSPP1/8"	10.3	4.5	5.8	11	Ø12.1
MI-CC-01-07	SEALING PLUG BSPT1/8"(M)		BSPT1/8"	14.6	3.4	11.2	11	Ø12.1

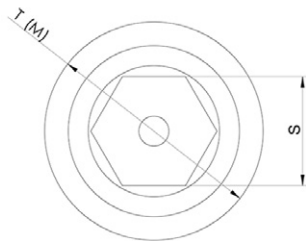
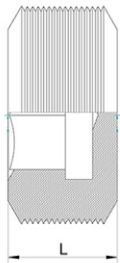
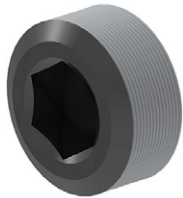
## MI-CC-01 (Fig. 6)



Screw plug (M).

To seal a distribution block or other element installed in the machine and not being used.

Material: Blued Steel



ITEM	DESCRIPTION	FAMILY	T(M)	L	S
MI-CC-01-08	SEALING PLUG M8x1(M)	MICRO	M8x1	4	4

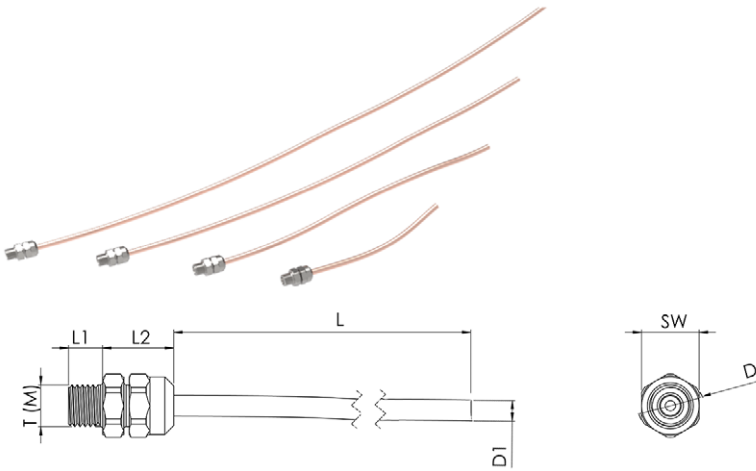
# COPPER DISTRIBUTION TUBES

## NA/MI-DT-02

Copper distribution tubes (Male).

To route the coolant in an easy way from a coolant distribution block to the cutting point of the tool.

Material: Copper (Tube) + Coated Steel (Fittings).



ITEM	DESCRIPTION	FAMILY	TUBE ID	T(M)	L	L1	L2	SW	D	D1
NA-DT-02-L102-M6	COPPER TUBE OD:3 mm ID:2 mm L=102 mm M6x1(M)	NANO	Ø2.0	M6x1	102	5.2	10.0	8	Ø8.8	Ø3.0
NA-DT-02-L203-M6	COPPER TUBE OD:3 mm ID:2 mm L=203 mm M6x1(M)				203					
NA-DT-02-L305-M6	COPPER TUBE OD:3 mm ID:2mm L=305 mm M6x1(M)				305					
NA-DT-02-L406-M6	COPPER TUBE OD:3 mm ID:2 mm L=406 mm M6x1(M)				406					
MI-DT-02-L102-M8	COPPER TUBE OD:4 mm ID:2 mm L=102 mm M8x1(M)	MICRO	Ø2.0	M8x1	102	6.5	13.6	11	Ø12.1	Ø4.0
MI-DT-02-L203-M8	COPPER TUBE OD:4 mm ID:2 mm L=203 mm M8x1(M)				203					
MI-DT-02-L305-M8	COPPER TUBE OD:4 mm ID:2 mm L=305 mm M8x1(M)				305					
MI-DT-02-L406-M8	COPPER TUBE OD:4 mm ID:2 mm L=406 mm M8x1(M)				406					

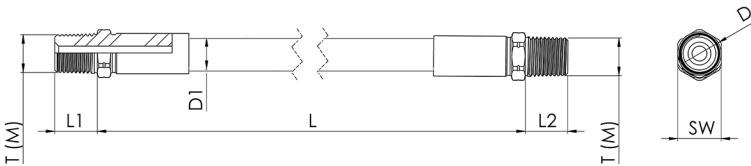
# FLEXIBLE DISTRIBUTION TUBES

## NA/MI-DT-01

Flexible distribution tubes (Male - Male).

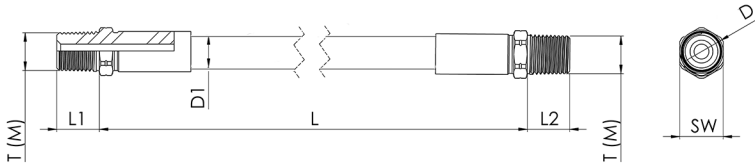
To easily connect 2 elements of the system such as coolant distribution block and tool holder. It requires to be connected to at least 1 quick coupling fitting (through a quick connector plug).

Material: Coated Steel (Fitting) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core).



ITEM	DESCRIPTION	FAMILY	TUBE ID	BENDING RADIUS	T(M)	L	L1/L2	SW	D	D1
NA-DT-01-L102-M6	FLEX TUBE OD:6.5 mm L=102 mm M6x1(M) x2	NANO	Ø2.3	15	M6x1	102	5.0	8	Ø8.8	Ø6.5
NA-DT-01-152-M6	FLEX TUBE OD:6.5 mm L=152 mm M6x1(M) x2					152				
NA-DT-01-L203-M6	FLEX TUBE OD:6.5 mm L=203 mm M6x1(M) x2					203				
NA-DT-01-L305-M6	FLEX TUBE OD:6.5 mm L=305 mm M6x1(M) x2					305				
NA-DT-01-L406-M6	FLEX TUBE OD:6.5 mm L=406 mm M6x1(M) x2					406				
NA-DT-01-L406-M6	FLEX TUBE OD:6.5 mm L=102 mm M8x1 KEG(M) x2	NANO	Ø2.3	15	M8x1 KEG	102	5.25	8	Ø8.8	Ø6.5
NA-DT-01-152-M8K	FLEX TUBE OD:6.5 mm L=152 mm M8x1 KEG(M) x2					152				
NA-DT-01-L203-M8K	FLEX TUBE OD:6.5 mm L=203 mm M8x1 KEG(M) x2					203				
NA-DT-01-L305-M8K	FLEX TUBE OD:6.5 mm L=305 mm M8x1 KEG(M) x2					305				
NA-DT-01-L406-M8K	FLEX TUBE OD:6.5 mm L=406 mm M8x1 KEG(M) x2					406				

# NA/MI-DT-01 cont.



ITEM	DESCRIPTION	FAMILY	TUBE ID	BENDING RADIUS	T(M)	L	L1/L2	SW	D	D1
MI-DT-01-L102-M8	FLEX TUBE OD:8 mm L=102 mm M8x1(M) x2	MICRO	Ø3.8	30	M8x1	102	6.5	11	Ø12.1	Ø8.0
MI-DT-01-152-M8	FLEX TUBE OD:8 mm L=152 mm M8x1(M) x2					152				
MI-DT-01-L203-M8	FLEX TUBE OD:8 mm L=203 mm M8x1(M) x2					203				
MI-DT-01-L305-M8	FLEX TUBE OD:8 mm L=305 mm M8x1(M) x2					305				
MI-DT-01-L406-M8	FLEX TUBE OD:8 mm L=406 mm M8x1(M) x2					406				
MI-DT-01-L102-BT1/8	FLEX TUBE OD:8 mm L=102 mm BSPT1/8"(M) x2	MICRO	Ø3.8	30	BSPT1/8"	102	10.8	11	Ø12.1	Ø8.0
MI-DT-01-152-BT1/8	FLEX TUBE OD:8 mm L=152 mm BSPT1/8"(M) x2					152				
MI-DT-01-L203-BT1/8	FLEX TUBE OD:8 mm L=203 mm BSPT1/8"(M) x2					203				
MI-DT-01-L305-BT1/8	FLEX TUBE OD:8 mm L=305 mm BSPT1/8"(M) x2					305				
MI-DT-01-L406-BT1/8	FLEX TUBE OD:8 mm L=406 mm BSPT1/8"(M) x2					406				

# SPECIAL TUBES:



Special length tubes to be designated as: NANO or MICRO-DT-01-Length L-Thread type T(M)  
 (1) (2) (3) (4)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) DT-01: Type of tube: "DT-01"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum L: No limit
- Tolerance L: ±2 mm

(4) Thread type T(M):

ITEM	DESIGNATION T(M)	T(M)	L1/L2
NANO	M6	M6x1(M)	5.0
	M8K	M8x1 KEG(M)	5.25
	B1/8	BSPP 1/8"(M)	7.4
MICRO	M8	M8x1(M)	6.5
	B1/8	BSPP 1/8"(M)	7.4
	BT1/8	BSPT 1/8"(M)	10.8

Example 1: NANO tube, Length: 92 mm and Thread: M6x1(M) in each end: NA-DT-01-L92-M6

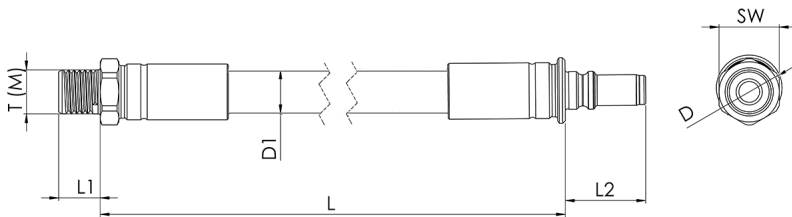
Example 2: MICRO tube, Length: 285 mm and Thread: BSPT1/8"(M) in each end: MI-DT-01-L285-BT1/8

# NA/MI-DT-03

Distribution tubes (Male - Quick Connector Plug).

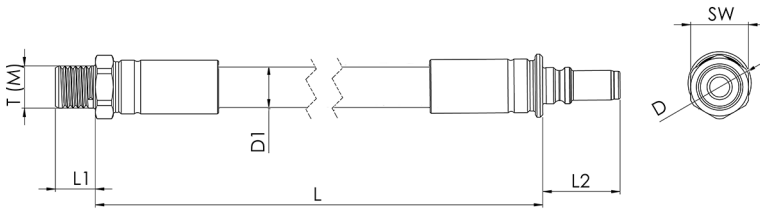
To easily connect 2 elements of the system such as coolant distribution block and tool holder. It requires to be connected to at least 1 quick coupling fitting.

Material: Coated Steel (Fitting) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core).



ITEM	DESCRIPTION	FAMILY	TUBE ID	BENDING RADIUS	T(M)	L	L1	L2	SW	D	D1
NA-DT-03-L102-M6	FLEX TUBE OD:6.5 mm L=102 mm M6x1(M)-QUICK CONNECTOR	NANO	Ø2.3	15	M6x1	102	5.0	11.0	8	Ø8.8	Ø6.5
NA-DT-03-L152-M6	FLEX TUBE OD:6.5 mm L=152 mm M6x1(M)-QUICK CONNECTOR					152					
NA-DT-03-L203-M6	FLEX TUBE OD:6.5 mm L=203 mm M6x1(M)-QUICK CONNECTOR					203					
NA-DT-03-L305-M6	FLEX TUBE OD:6.5 mm L=305 mm M6x1(M)-QUICK CONNECTOR					305					
NA-DT-03-L406-M6	FLEX TUBE OD:6.5 mm L=406 mm M6x1(M)-QUICK CONNECTOR					406					
NA-DT-03-L102-M8K	FLEX TUBE OD:6.5 mm L=102 mm M8x1 KEG(M)-QUICK CONNECTOR	NANO	Ø2.3	15	M8x1 KEG	102	5.25	11.0	8	Ø8.8	Ø6.5
NA-DT-03-L152-M8K	FLEX TUBE OD:6.5 mm L=152 mm M8x1 KEG(M)-QUICK CONNECTOR					152					
NA-DT-03-L203-M8K	FLEX TUBE OD:6.5 mm L=203 mm M8x1 KEG (M)-QUICK CONNECTOR					203					
NA-DT-03-L305-M8K	FLEX TUBE OD:6.5 mm L=305 mm M8x1 KEG(M)-QUICK CONNECTOR					305					
NA-DT-03-L406-M8K	FLEX TUBE OD:6.5 mm L=406 mm M8x1 KEG(M)-QUICK CONNECTOR					406					

# NA/MI-DT-03 cont.



ITEM	DESCRIPTION	FAMILY	TUBE ID	BENDING RADIUS	T(M)	L	L1	L2	SW	D1	
MI-DT-03-L102-M8	FLEX TUBE OD:8 mm L=102 mm M8x1(M)-QUICK CONNECTOR	MICRO	Ø3.8	30	M8x1	102	6.5	14.7	11	Ø12.1	Ø8.0
MI-DT-03-L152-M8	FLEX TUBE OD:8 mm L=152 mm M8x1(M)-QUICK CONNECTOR					152					
MI-DT-03-L203-M8	FLEX TUBE OD:8 mm L=203 mm M8x1(M)-QUICK CONNECTOR					203					
MI-DT-03-L305-M8	FLEX TUBE OD:8 mm L=305 mm M8x1(M)-QUICK CONNECTOR					305					
MI-DT-03-L406-M8	FLEX TUBE OD:8 mm L=406 mm M8x1(M)-QUICK CONNECTOR					406					
MI-DT-03-L102-B1/8	FLEX TUBE OD:8 mm L=102 mm BSPP1/8"(M)-QUICK CONNECTOR	MICRO	Ø3.8	30	BSPP1/8"	102	7.4	14.7	11	Ø12.1	Ø8.0
MI-DT-03-L152-B1/8	FLEX TUBE OD:8 mm L=152 mm BSPP1/8"(M)-QUICK CONNECTOR					152					
MI-DT-03-L203-B1/8	FLEX TUBE OD:8 mm L=203 mm BSPP1/8"(M)-QUICK CONNECTOR					203					
MI-DT-03-L305-B1/8	FLEX TUBE OD:8 mm L=305 mm BSPP1/8"(M)-QUICK CONNECTOR					305					
MI-DT-03-L406-B1/8	FLEX TUBE OD:8 mm L=406 mm BSPP1/8"(M)-QUICK CONNECTOR					406					
MI-DT-03-L102-BT1/8	FLEX TUBE OD:8 mm L=102 mm BSPT1/8"(M)-QUICK CONNECTOR	MICRO	Ø3.8	30	BSPT1/8"	102	10.8	14.7	11	Ø12.1	Ø8.0
MI-DT-03-L152-BT1/8	FLEX TUBE OD:8 mm L=152 mm BSPT1/8"(M)-QUICK CONNECTOR					152					
MI-DT-03-L203-BT1/8	FLEX TUBE OD:8 mm L=203 mm BSPT1/8"(M)-QUICK CONNECTOR					203					
MI-DT-03-L305-BT1/8	FLEX TUBE OD:8 mm L=305 mm BSPT1/8"(M)-QUICK CONNECTOR					305					
MI-DT-03-L406-BT1/8	FLEX TUBE OD:8 mm L=406 mm BSPT1/8"(M)-QUICK CONNECTOR					406					

# SPECIAL TUBES:



Special length tubes to be designated as: NANO or MICRO-DT-03-Length L-Thread type T(M)  
 (1) (2) (3) (4)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) DT-03: Type of tube: "DT-03"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum L: No limit
- Tolerance L: ±2 mm

(4) Thread type T(M):

ITEM	DESIGNATION T(M)	T(M)	L1
NANO	M6	M6x1(M)	5.0
	M8K	M8x1 KEG(M)	5.25
	B1/8	BSPP 1/8"(M)	7.4
MICRO	M8	M8x1(M)	6.5
	B1/8	BSPP 1/8"(M)	7.4
	BT1/8	BSPT 1/8"(M)	10.8

Example 1: NANO tube, Length: 766 mm and Thread: M8x1 KEG(M) in fitting side: NA-DT-03-L766-M8K

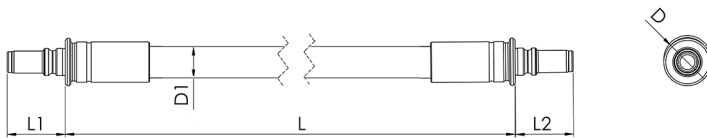
Example 2: MICRO tube, Length: 1626 mm and Thread: BSPP1/8"(M) in fitting side: MI-DT-03-L1626-B1/8

# NA/MI-DT-05



Distribution tubes (Quick Connector Plug - Quick Connector Plug).

To easily connect 2 elements of the system such as coolant distribution block and tool holder. Must be connected to 2 quick coupling fittings.  
Material: Coated Steel (Fitting) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core).



ITEM	DESCRIPTION	FAMILY	TUBE ID	BENDING RADIUS	L	L1/L2	D	D1
NA-DT-05-L102	FLEX TUBE OD:6.5 mm L=102 mm QUICK CONNECTOR x2	NANO	Ø2.3	15	102	11.0	Ø8.0	Ø6.5
NA-DT-05-L102	FLEX TUBE OD:6.5 mm L=152 mm QUICK CONNECTOR x2				152			
NA-DT-05-L102	FLEX TUBE OD:6.5 mm L=203 mm QUICK CONNECTOR x2				203			
NA-DT-05-L102	FLEX TUBE OD:6.5 mm L=305 mm QUICK CONNECTOR x2				305			
NA-DT-05-L102	FLEX TUBE OD:6.5 mm L=406 mm QUICK CONNECTOR x2				406			
NA-DT-05-L102	FLEX TUBE OD:8 mm L=102 mm QUICK CONNECTOR x2	MICRO	Ø3.8	30	102	14.7	Ø11.0	Ø8.0
NA-DT-05-L102	FLEX TUBE OD:8 mm L=152 mm QUICK CONNECTOR x2				152			
NA-DT-05-L102	FLEX TUBE OD:8 mm L=203 mm QUICK CONNECTOR x2				203			
NA-DT-05-L102	FLEX TUBE OD:8 mm L=305 mm QUICK CONNECTOR x2				305			
NA-DT-05-L102	FLEX TUBE OD:8 mm L=406 mm QUICK CONNECTOR x2				406			

# SPECIAL TUBES:



Special length tubes to be designated as: NANO or MICRO-DT-05-Length L  
(1) (2) (3)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) DT-05: Type of tube: "DT-05"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum L: No limit
- Tolerance L:  $\pm 2$  mm

Example 1: NANO tube, Length: 485 mm and quick connector plug in each end: NA-DT-05-L485

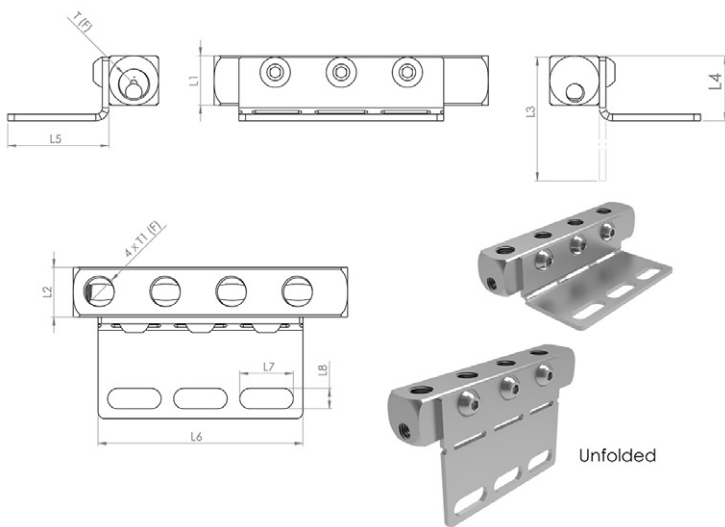
Example 2: MICRO tube, Length: 178 mm and quick connector plug in each end: MI-DT-05-L178

# COOLANT DISTRIBUTION BLOCKS

Standard distribution block.

For coolant distribution with 1 inlet (F). 4 outlets (F) and sheet metal support for assembly.

Material: Coated steel.



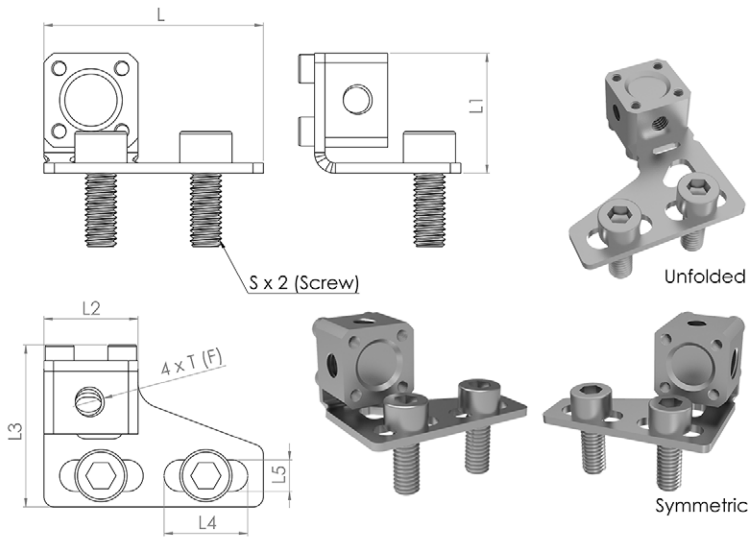
ITEM	DESCRIPTION	FAMILY	T(F)	T1(F)	L	L1	L2	L3	L4	L5	L6	L7	L8
NA-DB-01-03	MANIFOLD 10x10x62mm 4 OUTLETS M5x0.8(F)+1 INLET M6x1(F)	NANO	M6x1	M5x0.8	64.0	10.0	10.0	37.0	15.25	25.65	62.0	16.2	6.2
NA-DB-01-02	MANIFOLD 10x10x62mm 4 OUTLETS M6x1(F)+1 INLET M6x1(F)		M6x1	M6x1									
MI-DB-01-00	MANIFOLD 15x15x83mm 4 OUTLETS M8x1(F)+1 INLET M8x1(F)	MICRO	M8x1	M8x1	83.0	15.0	15.0	47.0	19.5	30.65	62.0	16.2	6.2
MI-DB-01-01	MANIFOLD 15x15x83mm 4 OUTLETS BSPP1/8"(F)+1 INLET BSPP1/8"(F)		BSPP1/8"	BSPP1/8"									

# NA-DB (Fig.2)

**Compact distribution block.**

For coolant distribution block with 1 inlet (F). 3 outlets (F) and sheet metal support for assembly.

Material: Coated Steel.

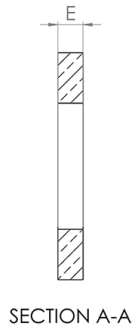
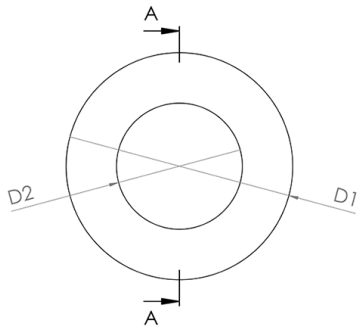
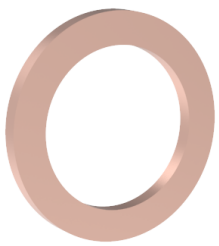


ITEM	DESCRIPTION	FAMILY	T(F)	L	L1	L2	L3	L4	L5	S
NA-DB-01-01	MANIFOLD 18x18x12mm 3 OUT. M5x0.8(F)+1 INLET M8x1(F)	NANO	M5x0.8	42.0	23.0	18.0	31.0	23.0	6.0	M6
NA-DB-01-00	MANIFOLD 18x18x12mm 3 OUT. M6x1(F)+1 INLET M8x1(F)		M6x1							

# SEALING GASKETS

## UN-SG-01

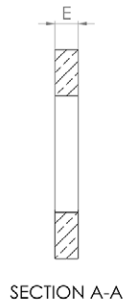
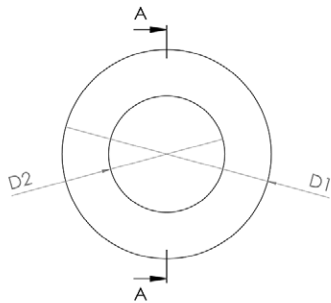
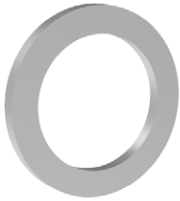
Copper sealing gasket.  
 Guarantees the liquid tightness between the different connecting elements.  
 Material: Copper.



ITEM	DESCRIPTION	FAMILY	E	D1	D2
UN-SG-01-00	COPPER WASHER M5 (10 UNITS)	UNIVERSAL	1.0	Ø9.0	Ø5.0
UN-SG-01-01	COPPER WASHER M6 (10 UNITS)			Ø9.0	Ø6.0
UN-SG-01-02	COPPER WASHER M8 (10 UNITS) AND UNF5/16" (10 UNITS)			Ø11.0	Ø8.0
UN-SG-01-03	COPPER WASHER M10 AND BSPP1/8" (10 UNITS)			Ø14.0	Ø10.0

# UN-SG-02

Aluminum sealing gasket.  
 Guarantees the liquid tightness between the different connecting elements.  
 Material: Aluminum.

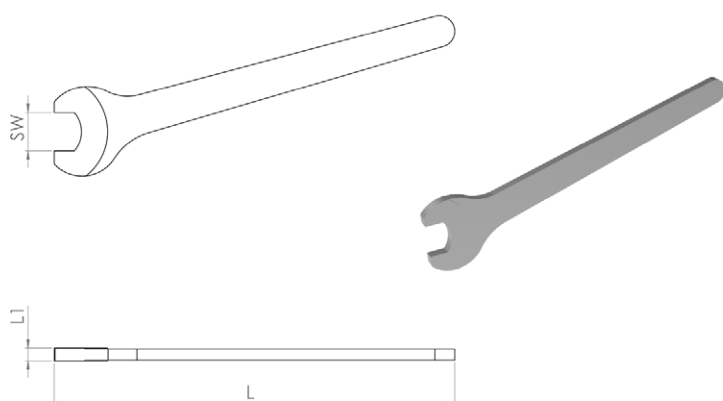


ITEM	DESCRIPTION	FAMILY	E	D1	D2
UN-SG-02-00	ALUMINUM WASHER M5 (10 UNITS)	UNIVERSAL	1.0	Ø9.0	Ø5.0
UN-SG-02-01	ALUMINUM WASHER M6 (10 UNITS)			Ø9.0	Ø6.0
UN-SG-02-02	ALUMINUM WASHER M8 AND UNF5/16" (10 UNITS)			Ø11.0	Ø8.0
UN-SG-02-03	ALUMINUM WASHER M10 AND BSPP1/8" (10 UNITS)			Ø14.0	Ø10.0

# WRENCHES

## NA/MI-FK

Fastening keys.  
Special wrenches for assembly of the system components.  
Material: Coated steel



ITEM	DESCRIPTION	FAMILY	L	L1	SW
NA-FK-01-00	FIXED WRENCH FOR ASSEMBLY NANO PROGRAM. SW8	NANO	90	2.5	8
MI-FK-01-00	FIXED WRENCH FOR ASSEMBLY MICRO/NANO PROGRAM. SW11	MICRO	110	3.7	11
MI-FK-01-01	FIXED WRENCH FOR ASSEMBLY MICRO/NANO PROGRAM. SW13		130	5.8	13

# BANJO KITS

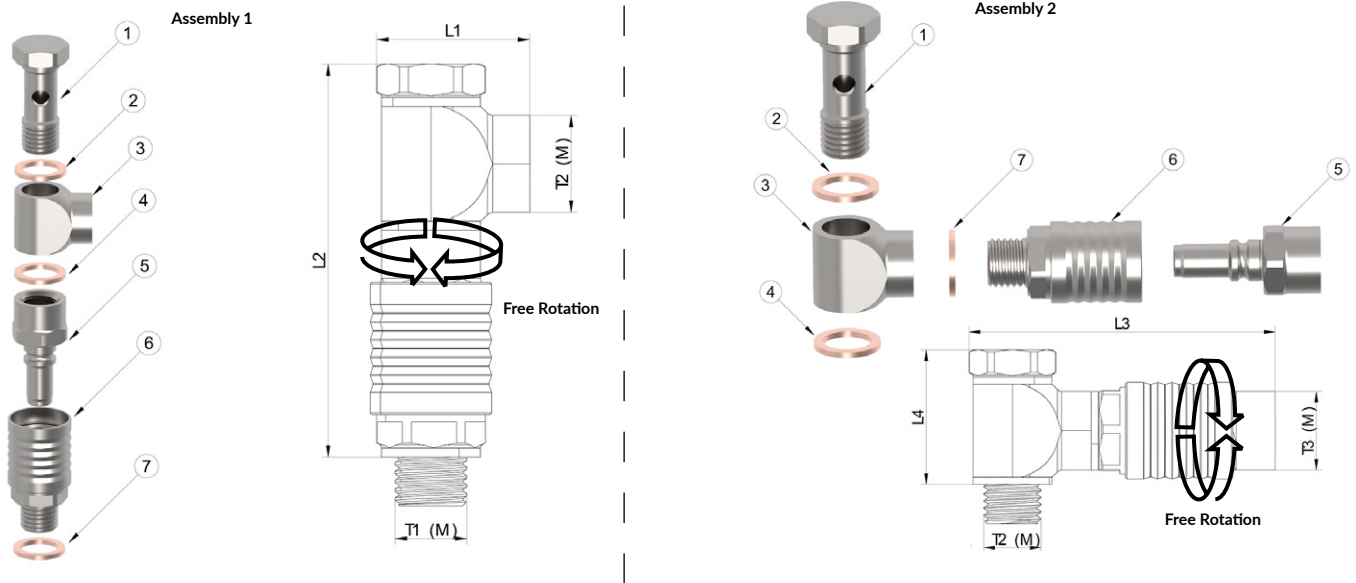
## NA/MI-BK-01 (Fig. 1)



Banjo Kit (Short banjo + Banjo bolt + Quick coupling and Quick connection fitting).

For easy selection of components with 2 possible assemblies of banjo and quick coupling fitting to connect to a flexible tube.

Material: Coated Steel (Fittings) + Copper (sealing gasket).



- ① Banjo bolt NA/MI-CA-04-□□ with thread T2(M)
- ② Sealing gasket UN-SG-01-□□
- ③ Short banjo NA/MI-CA-04-□□
- ④ Sealing gasket UN-SG-01-□□

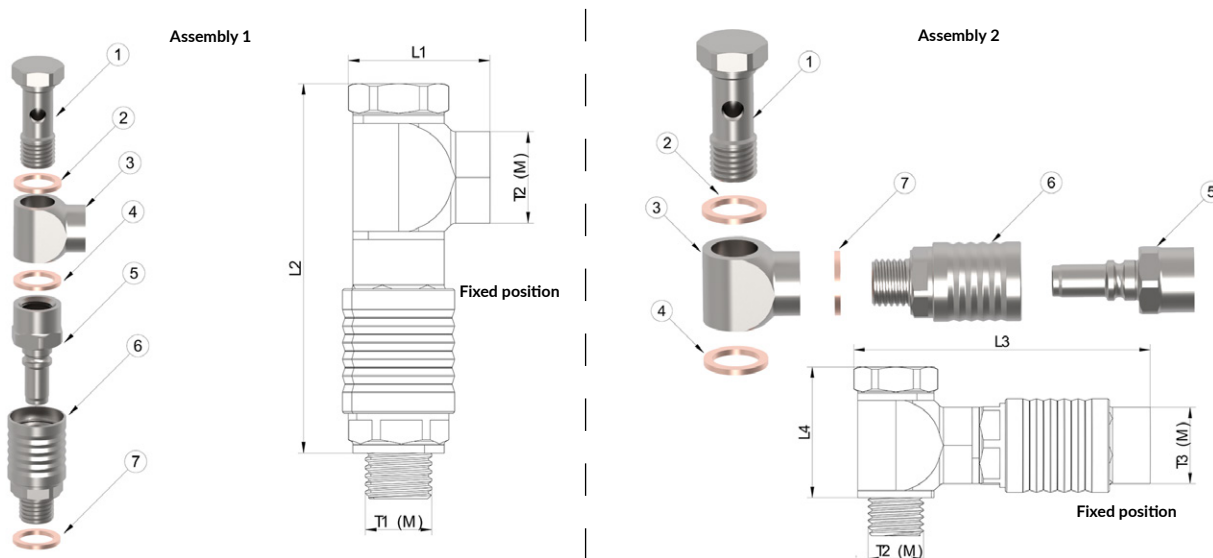
- ⑤ Quick connection fitting NA/MI-CC-01-□□ with thread T3(M)
- ⑥ Quick coupling fitting NA/MI-QC-01-□□ with thread T1(M)
- ⑦ Sealing gasket UN-SG-01-□□

KIT	KIT COMPOSITION (see drawing)	FAMILY	THROUGH HOLE	T1(M)	T2/T3(M)	L1	L2	L3	L4
NA-BK-01-00-M5-M6 (Assembly 2 not possible)	① NA-CA-04-04 ② ④ UN-SG-01-01 ③ NA-CA-04-00 ⑤ NA-CC-01-01 ⑥ NA-QC-01-02 ⑦ UN-SG-01-00	NANO	Ø2.3	M5x0.8	M6x1	10.50	33.50	---	---
NA-BK-01-00-M6-M6	① NA-CA-04-04 ② ④ ⑦ UN-SG-01-01 ③ NA-CA-04-00 ⑤ NA-CC-01-01 ⑥ NA-QC-01-00			M6x1	M6x1	10.50	33.50	40.75	14.25
MI-BK-01-00-M8-M8	① MI-CA-04-04 ② ④ ⑦ UN-SG-01-02 ③ MI-CA-04-00 ⑤ MI-CC-01-01 ⑥ MI-QC-01-00	MICRO	Ø3.8	M8x1	M8x1	17.00	44.5	46.10	18.8
MI-BK-01-00-B1/8-M8 (Assembly 2 not possible)	① MI-CA-04-04 ② ④ UN-SG-01-02 ③ MI-CA-04-00 ⑤ MI-CC-01-01 ⑥ MI-QC-01-03 ⑦ UN-SG-01-03			BSPP1/8"	M8x1	17.00	49.70	---	---
MI-BK-01-00-B1/8-B1/8	① MI-CA-04-17 ② ④ ⑦ UN-SG-01-03 ③ MI-CA-04-13 ⑤ MI-CC-01-05 ⑥ MI-QC-01-03			BSPP1/8"	BSPP1/8"	20.00	56.00	49.70	26

# NA/MI-BK-01 (Fig. 2)



Banjo Kit (Short banjo + Banjo bolt + Quick coupling and Non-rotating (positioning) quick connection fitting).  
 For easy selection of components with 2 possible assemblies of banjo and quick coupling fitting to connect to copper distribution tubes (NA/MI-DT-02) where positioning is required.  
 Material: Coated Steel (Fittings) + Copper (sealing gasket).



- ① Banjo bolt NA/MI-CA-04-□□ with thread T2(M)
- ② Sealing gasket UN-SG-01-□□
- ③ Short banjo NA/MI-CA-04-□□
- ④ Sealing gasket UN-SG-01-□□
- ⑤ Non-rotating quick connection fitting NA/MI-CC-01-02 with thread T3(M)
- ⑥ Quick coupling fitting NA/MI-QC-01-□□ with thread T1(M)
- ⑦ Sealing gasket UN-SG-01-□□

KIT	KIT COMPOSITION (see drawing)	FAMILY	THROUGH HOLE	T1(M)	T2/T3(M)	L1	L2	L3	L4
NA-BK-01-01-M5-M6 (Assembly 2 not possible)	① NA-CA-04-04 ② ④ UN-SG-01-01 ③ NA-CA-04-00 ⑤ NA-CC-01-02 ⑥ NA-QC-01-02 ⑦ UN-SG-01-00	NANO	Ø2.3	M5x0.8	M6x1	10.50	34.00	---	---
NA-BK-01-01-M6-M6	① NA-CA-04-04 ② ④ ⑦ UN-SG-01-01 ③ NA-CA-04-00 ⑤ NA-CC-01-02 ⑥ NA-QC-01-00			M6x1	M6x1	10.50	34.50	35.00	14.25
MI-BK-01-01-M8-M8	① MI-CA-04-04 ② ④ ⑦ UN-SG-01-02 ③ MI-CA-04-00 ⑤ MI-CC-01-02 ⑥ MI-QC-01-00	MICRO	Ø3.8	M8x1	M8x1	17.00	47.75	46.10	18.80
MI-BK-01-01-B1/8-M8 (Assembly 2 not possible)	① MI-CA-04-04 ② ④ UN-SG-01-02 ③ MI-CA-04-00 ⑤ MI-CC-01-02 ⑥ MI-QC-01-03 ⑦ UN-SG-01-03			BSPP1/8"	M8x1	17.00	17.00	---	---

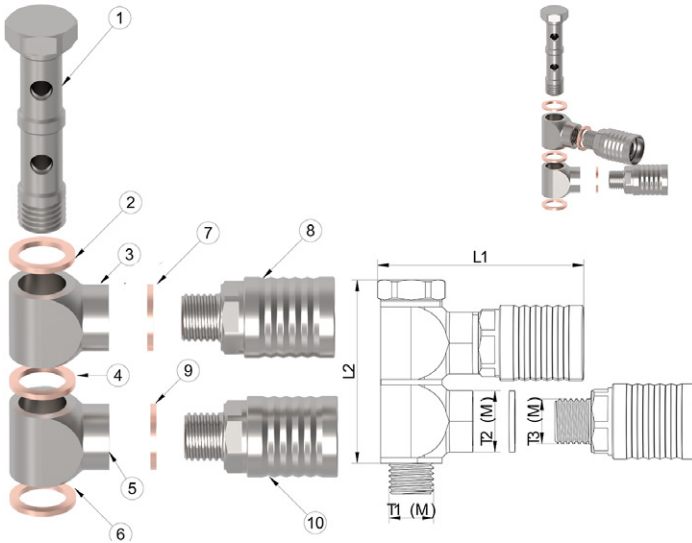
# NA/MI-BK-11



Banjo Kit (2 x Short banjo + Double banjo bolt + 2 x Quick coupling).

For easy selection of components including 2 banjos and 2 quick couplings to immediately create a distributor to connect flexible distribution tubes or copper tubes.

Material: Coated Steel (Fittings) + Copper (sealing gasket).



- ① Banjo bolt NA/MI-CA-04-□□ with thread T1(M)
- ② Sealing gasket UN-SG-01-□□ for thread T1(M)
- ③ Short banjo NA/MI-CA-04-□□ with thread T2(F)
- ④ Sealing gasket UN-SG-01-□□ for thread T1(M)
- ⑤ Short banjo NA/MI-CA-04-□□ with thread T2(F)
- ⑥ Sealing gasket UN-SG-01-□□ for thread T1(M)
- ⑦ Sealing gasket UN-SG-01-□□ for thread T3(M)
- ⑧ Quick coupling fitting NA/MI-QC-01-□□
- ⑨ Sealing gasket UN-SG-01-□□ for thread T3(M)
- ⑩ Quick coupling fitting NA/MI-QC-01-□□ with thread T3(M)

	KIT COMPOSITION (see drawing)	FAMILY	THROUGH HOLE	T1(M)	T2(F)/T3(M)	L1	L2
NA-BK-11-00-M6-M6	① NA-CA-04-04 ② ④ ⑥ ⑦ ⑨ UN-SG-01-01 ③ ⑤ NA-CA-04-00 ⑧ ⑩ NA-QC-01-00	NANO	Ø2.3	M6x1	M6x1	27.00	14.50
NA-BK-11-00-M6-M6	① MI-CA-04-04 ② ④ ⑥ ⑦ ⑨ UN-SG-01-02 ③ ⑤ MI-CA-04-00 ⑧ ⑩ MI-QC-01-00	MICRO	Ø3.8	M8x1	M8x1	36.85	18.80
MI-BK-11-00-B1/8-M8	① MI-CA-04-18 ② ④ ⑥ UN-SG-01-03 ③ ⑤ MI-CA-04-06 ⑦ ⑨ UN-SG-01-02 ⑧ ⑩ MI-QC-01-00			BSPP-1/8"	M8x1	38.00	34.00
MI-BK-11-00-B1/8-B1/8	① MI-CA-04-18 ② ④ ⑥ ⑦ ⑨ UN-SG-01-03 ③ ⑤ MI-CA-04-13 ⑧ ⑩ MI-QC-01-03			BSPP-1/8"	BSPP-1/8"	44.00	34.00

# COPPER TUBE KITS

NA/MI-CK-01



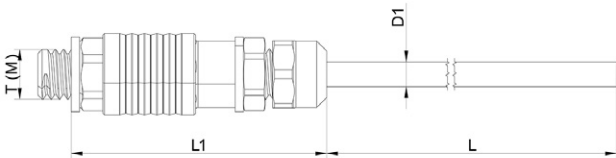
Copper tube Kit (Copper tube NA/MI-DT-02 + Quick coupling fitting).

For easy selection of components including copper distribution tube with quick coupling and sealing gaskets. Non-rotating (positioning).

Material: Coated Steel (Fittings) + Copper (Quick coupling & sealing gasket).



- ① Copper distribution tube NA/MI-DT-02-L□□□
- ② Sealing gasket UN-SG-01-□□
- ③ Non-rotating quick connection fitting NA/MI-CC-01-02
- ④ Quick coupling fitting NA/MI-QC-01-□□ with thread T(M)
- ⑤ Sealing gasket UN-SG-01-□□ for thread T(M)



KIT	KIT COMPOSITION (see drawing)	FAMILY	TUBE ID	T1(M)	L	L1	D1
NA-CK-01-L102-M5	① NA-DT-02-L□□□ ② UN-SG-01-01 ③ NA-CC-01-02 ④ NA-QC-01-02 ⑤ UN-SG-01-00	NANO	Ø2	M5x0.8	102	30.70	Ø3
NA-CK-01-L203-M5					203		
NA-CK-01-L305-M5					305		
NA-CK-01-L102-M6	① NA-DT-02-L□□□ ② ⑤ UN-SG-01-01 ③ NA-CC-01-02 ④ NA-QC-01-00	NANO	Ø2	M6x1	102	30.70	Ø3
NA-CK-01-L203-M6					203		
NA-CK-01-L305-M6					305		
MI-CK-01-L102-M8	① MI-DT-02-L□□□ ② ⑤ UN-SG-01-02 ③ MI-CC-01-02 ④ MI-QC-01-00	MICRO	Ø2	M8x1	102	39.70	Ø4
MI-CK-01-L203-M8					203		
MI-CK-01-L305-M8					305		
MI-CK-01-L102-B1/8	① MI-DT-02-L□□□ ② UN-SG-01-01 ③ MI-CC-01-02 ④ MI-QC-01-00 ⑤ UN-SG-01-03	MICRO	Ø2	BSPP1/8"	102	39.70	Ø4
MI-CK-01-L203-B1/8					203		
MI-CK-01-L305-B1/8					305		
MI-CK-01-L102-BT1/8	① MI-DT-02-L□□□ ② UN-SG-01-01 ③ MI-CC-01-02 ④ MI-QC-01-02 ⑤ --	MICRO	Ø2	BSPT1/8"	102	38.70	Ø4
MI-CK-01-L203-BT1/8					203		
MI-CK-01-L305-BT1/8					305		

# FLEXIBLE TUBE KITS

## NA/MI-SK-01

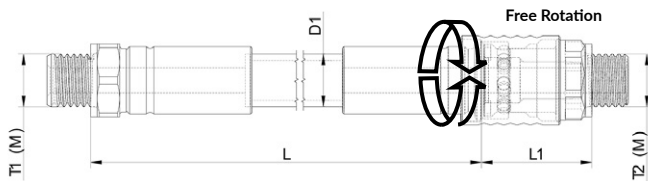
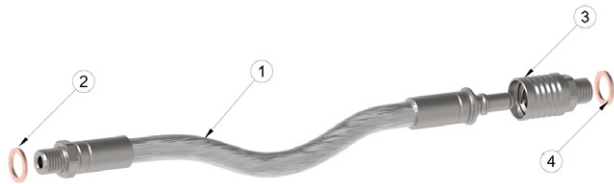


Flexible tube Kit (Flexible tube NA/MI-DT-03 + Quick coupling fitting).

For easy selection of components including flexible distribution tube with thread fitting (M) in one end and Quick coupling fitting (M) in the other end and sealing gaskets.

Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (sealing gasket).

- ① Flexible distribution tube NA/MI-DT-03-L□□□-T1(M)
- ② Sealing gasket UN-SG-01-□□ for thread T1(M)
- ③ Quick coupling fitting NA/MI-QC-01-□□ with thread T2(M)
- ④ Sealing gasket UN-SG-01-□□ for thread T2(M).



KIT	KIT COMPOSITION (see drawing)	FAMILY	TUBE ID	BENDING RADIUS	T1(M)	T2(M)	L	L1	D1
NA-SK-01-L102-M6-M6	① NA-DT-03-L□□□ ② UN-SG-01-01 ③ NA-QC-01-00 ④ UN-SG-01-01	NANO	Ø2.3	15	M6x1	M6x1	102	12.85	Ø6.5
NA-SK-01-L152-M6-M6							203		
NA-SK-01-L203-M6-M6							305		
NA-SK-01-L305-M6-M6							102		
NA-SK-01-L406-M6-M6							203		
MI-SK-01-L102-M8-M8	① MI-DT-03-L□□□ ② UN-SG-01-02 ③ MI-QC-01-00 ④ UN-SG-01-02	MICRO	Ø3.8	30	M8x1	M8x1	305	16.30	Ø8.0
MI-SK-01-L152-M8-M8							102		
MI-SK-01-L203-M8-M8							203		
MI-SK-01-L305-M8-M8							305		
MI-SK-01-L406-M8-M8							102		
MI-SK-01-L102-B1/8	① MI-DT-03-L□□□ ② UN-SG-01-03 ③ MI-QC-01-03 ④ UN-SG-01-03	MICRO	Ø3.8	30	BSPP1/8	BSPP1/8	203	21.30	Ø8.0
MI-SK-01-L152-B1/8							305		
MI-SK-01-L203-B1/8							102		
MI-SK-01-L305-B1/8							203		
MI-SK-01-L406-B1/8							305		

# SPECIAL KITS:

Special length flexible tubes and T1(M) and T2(M) threads. To be designated as: NANO or MICRO-SK-01-Length L-Thread type T1(M) – Thread type T2(M)  
 (1) (2) (3) (4) (5)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) SK-01 Type of kit: "SK-01"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum: No limit
- Tolerance L: ±2 mm

(4) Thread type fitting side T1(M): Designation T1(M) according to the table below.

**Note:** When the required thread T1(M) is not listed below, please select M6 (for NANO) and M8 (for MICRO) and add to the kit the necessary adaptor in the list of NA/MI-CA-01-□□ together with the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T1(M)	T1(M)	COMPOSITION (see drawing)
NANO	M6	M6x1(M)	① NA-DT-03-L□□-M6 ② UN-SG-01-01
	M8K	M8x1 KEG(M)	① NA-DT-03-L□□-M8K ② --
	B1/8	BSPP 1/8"(M)	① NA-DT-03-L□□-B1/8 ② UN-SG-01-03
MICRO	M8	M8x1(M)	① MI-DT-03-L□□-M8 ② UN-SG-01-02
	B1/8	BSPP 1/8"(M)	① MI-DT-03-L□□-B1/8 ② UN-SG-01-03
	BT1/8	BSPT 1/8"(M)	① MI-DT-03-L□□-BT1/8 ② --

(5) Thread type Quick coupling fitting T2(M): Designation T2(M) according to the table below.

Note: When the required thread T2(M) is not listed below, please select T2(M): M6 (for NANO) and M8 (for MICRO) and add to the kit an adaptor in the list of NA/MI-CA-01-□□ and the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T2(M)	T2(M)	COMPOSITION (see drawing)	L1
NANO	M5	M5x0.8(M)	③ NA-QC-01-02 ④ UN-SG-01-00	12.85
	M6	M6x1(M)	③ NA-QC-01-00 ④ UN-SG-01-01	12.85
	M8	M8x1(M)	③ NA-QC-01-04 ④ UN-SG-01-02	16.20
	M8K	M8x1 KEG(M)	③ NA-QC-01-01 ④ --	12.45
	U5/16	UNF 5/16"-24(M)	③ NA-QC-01-03 ④ UN-SG-01-02	16.20
MICRO	M8	M8x1(M)	③ MI-QC-01-00 ④ UN-SG-01-02	16.30
	M10K	M10x1 KEG(M)	③ MI-QC-01-01 ④ --	15.30
	B1/8	BSPP 1/8"(M)	③ MI-QC-01-03 ④ UN-SG-01-03	20.50
	BT1/8	BSPT 1/8"(M)	③ MI-QC-01-02 ④ --	15.30

Example 1: NANO tube, Length: 140 mm and Thread: BSPP 1/8"(M) in fitting side T1(M) and Thread M8x1 KEG(M) in quick coupling fitting side T2(M): **NA-SK-01-L140-B1/8-M8K**

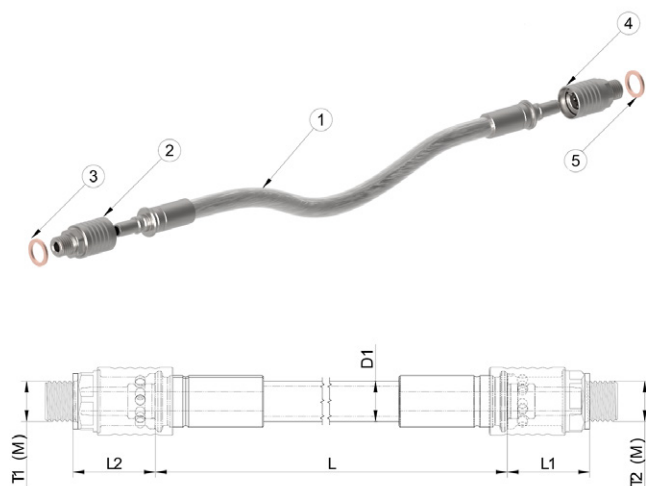
Example 2: MICRO tube, Length: 415 mm and Thread: BSPP 1/8"(M) in fitting side T1(M) and Thread M8x1(M) in quick coupling fitting side T2(M): **MI-SK-01-L415-B1/8-M8**

# NA/MI-SK-02



Flexible tube Kit (Flexible tube NA/MI-DT-05 + Quick coupling fitting in both ends).

For easy selection of components including flexible distribution tube with Quick coupling fitting (M) in both ends and sealing gaskets.  
Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (sealing gasket).



- ① Flexible distribution tube NA/MI-DT-05-L000
- ② Quick coupling fitting NA/MI-QC-01-00 with thread T1(M)
- ③ Sealing gasket for fitting thread T1(M)
- ④ Quick coupling fitting NA/MI-QC-01-00 with thread T2(M).
- ⑤ Sealing gasket for Quick coupling fitting thread T2(M).

	KIT COMPOSITION (see drawing)	FAMILY	TUBE ID	BENDING RADIUS	T1(M)	T2(M)	L	L1/L2	D1
NA-SK-02-L102-M6-M6	① NA-DT-05-L000 ② NA-QC-01-00 ③ UN-SG-01-01 ④ NA-QC-01-00 ⑤ UN-SG-01-01	NANO	Ø2.3	15	M6x1	M6x1	102	12.85	Ø6.5
NA-SK-02-L152-M6-M6							152		
NA-SK-02-L203-M6-M6							203		
NA-SK-02-L305-M6-M6							305		
NA-SK-02-L406-M6-M6							406		
MI-SK-02-L102-M8-M8	① MI-DT-05-L000 ② MI-QC-01-00 ③ UN-SG-01-02 ④ MI-QC-01-00 ⑤ UN-SG-01-02	NANO	Ø3.8	30	M8x1	M8x1	102	16.30	Ø8.0
MI-SK-02-L152-M8-M8							152		
MI-SK-02-L203-M8-M8							203		
MI-SK-02-L305-M8-M8							305		
MI-SK-02-L406-M8-M8							406		
MI-SK-02-L102-B1/8	① MI-DT-05-L000 ② MI-QC-01-03 ③ UN-SG-01-03 ④ MI-QC-01-03 ⑤ UN-SG-01-03	NANO	Ø3.8	30	BSPP1/8"	BSPP1/8"	102	21.30	Ø8.0
MI-SK-02-L152-B1/8							152		
MI-SK-02-L203-B1/8							203		
MI-SK-02-L305-B1/8							305		
MI-SK-02-L406-B1/8							406		

# SPECIAL KITS:

Special length flexible tubes and T1(M) and T2(M) threads. To be designated as: NANO or MICRO-SK-02-Length L-Thread type T1(M) - Thread type T2(M)  
 (1) (2) (3) (4) (5)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) SK-01 Type of kit: "SK-02"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum: No limit
- Tolerance L: ±2 mm

(4) Thread type quick coupling fitting T1(M): Designation T1(M) according to the table below.

Note: When the required thread T1(M) is not listed below, please select M6 (for NANO) and M8 (for MICRO) and add to the kit the necessary adaptor in the list of NA/MI-CA-01-□□ together with the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T1(M)	T1(M)	COMPOSITION (see drawing)	L2
NANO	M5	M5x0.8(M)	② NA-QC-01-02 ③ UN-SG-01-00	12.85
	M6	M6x1(M)	② NA-QC-01-00 ③ UN-SG-01-01	12.85
	M8	M8x1(M)	② NA-QC-01-04 ③ UN-SG-01-02	16.20
	M8K	M8x1 KEG(M)	② NA-QC-01-01 ③ --	12.45
	U5/16	UNF 5/16"-24(M)	② NA-QC-01-03 ③ UN-SG-01-02	16.20
MICRO	M8	M8x1(M)	② MI-QC-01-00 ③ UN-SG-01-02	16.30
	M10K	M10x1 KEG(M)	② MI-QC-01-01 ③ --	15.30
	B1/8	BSPP 1/8"(M)	② MI-QC-01-03 ③ UN-SG-01-03	20.50
	BT1/8	BSPT 1/8"(M)	② MI-QC-01-02 ③ --	15.30

(5) Thread type Quick coupling fitting T2(M): Designation T2(M) according to the table below.

Note: When the required thread T2(M) is not listed below, please select T2(M): M6 (for NANO) and M8 (for MICRO) and add to the kit an adaptor in the list of NA/MI-CA-01-□□ and the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T2(M)	T2(M)	COMPOSITION (see drawing)	L1
NANO	M5	M5x0.8(M)	③ NA-QC-01-02 ④ UN-SG-01-00	12.85
	M6	M6x1(M)	③ NA-QC-01-00 ④ UN-SG-01-01	12.85
	M8	M8x1(M)	③ NA-QC-01-04 ④ UN-SG-01-02	16.20
	M8K	M8x1 KEG(M)	③ NA-QC-01-01 ④ --	12.45
	U5/16	UNF 5/16"-24(M)	③ NA-QC-01-03 ④ UN-SG-01-02	16.20
MICRO	M8	M8x1(M)	③ MI-QC-01-00 ④ UN-SG-01-02	16.30
	M10K	M10x1 KEG(M)	③ MI-QC-01-01 ④ --	15.30
	B1/8	BSPP 1/8"(M)	③ MI-QC-01-03 ④ UN-SG-01-03	20.50
	BT1/8	BSPT 1/8"(M)	③ MI-QC-01-02 ④ --	15.30

Example 1: NANO tube, length: 286 mm and Thread: M6x1 (M) in quick coupling fitting side T1(M) and Thread UNF 5/16"-24(M) in quick coupling fitting side T2(M): **NA-SK-02-L286-M6-U5/16**

Example 2: MICRO tube, length: 1230 mm and Thread: BSPT1/8"(M) in quick coupling fitting side T1(M) and Thread M8x1(M) in quick coupling fitting side T2(M): **MI-SK-02-L1230-BT1/8-M8**

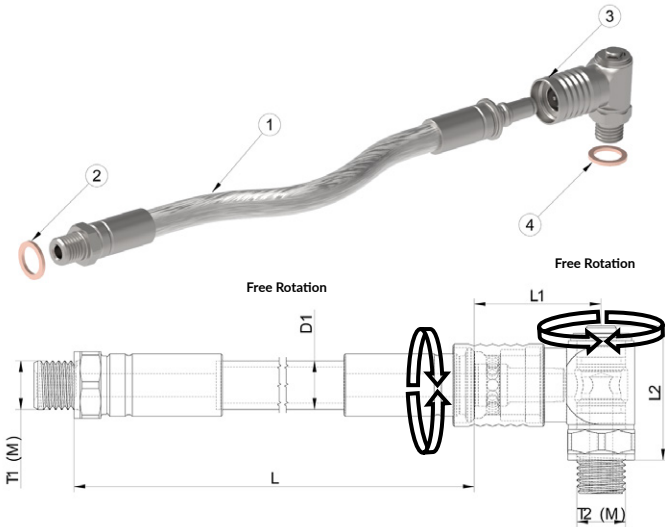
# NA/MI-SK-03



Flexible tube Kit (Flexible tube NA/MI-DT-03 + Quick coupling fitting with short banjo and integrated rotary banjo bolt).

For easy selection of components including flexible distribution tube with thread fitting (M) in one end and Quick coupling fitting with short banjo and integrated rotary banjo bolt (M) in the other end and sealing gaskets.

Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (sealing gasket).



- ① Flexible distribution tube NA/MI-DT-03-L□□□-T1(M)
- ② Sealing gasket for fitting thread T1(M)
- ③ Quick coupling fitting with short banjo and integrated rotary banjo bolt NA/MI-QC-03-□□ with thread T2(M).
- ④ Sealing gasket for Quick coupling fitting thread T2(M).

	KIT COMPOSITION (see drawing)	FAMILY	TUBE ID	BENDING RADIUS	T1(M)	T2(M)	L	L1	L2	D1
NA-SK-03-L102-M6-M6	① NA-DT-03-L□□□-M6 ② UN-SG-01-01 ③ NA-QC-03-00 ④ UN-SG-01-01	NANO	Ø2.3	15	M8x1	M6x1	102	15.8	15.9	Ø6.5
NA-SK-03-L152-M6-M6							152			
NA-SK-03-L203-M6-M6							203			
NA-SK-03-L305-M6-M6							305			
NA-SK-03-L406-M6-M6							406			
MI-SK-03-L102-M8-M8	① MI-DT-03-L□□□-M8 ② UN-SG-01-02 ③ MI-QC-03-00 ④ UN-SG-01-02	MICRO	Ø3.8	30	M8x1	M8x1	102	21.0	22.0	Ø8.0
MI-SK-03-L152-M8-M8							152			
MI-SK-03-L203-M8-M8							203			
MI-SK-03-L305-M8-M8							305			
MI-SK-03-L406-M8-M8							406			
MI-SK-03-L102-B1/8	① MI-DT-03-L□□□-B1/8 ② UN-SG-01-03 ③ MI-QC-03-01 ④ UN-SG-01-03	MICRO	Ø3.8	30	BSPP1/8"	BSPP1/8"	102	21.0	22.0	Ø8.0
MI-SK-03-L152-B1/8							152			
MI-SK-03-L203-B1/8							203			
MI-SK-03-L305-B1/8							305			
MI-SK-03-L406-B1/8							406			

# SPECIAL KITS:

Special length flexible tubes and T1(M) and T2(M) threads. To be designated as: NANO or MICRO-SK-03-Length L-Thread type T1(M) - Thread type T2(M)  
 (1) (2) (3) (4) (5)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) SK-01 Type of kit: "SK-03"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum: No limit
- Tolerance L: ±2 mm

(4) Thread type fitting side T1(M): Designation T1(M) according to the table below.

**Note:** When the required thread T1(M) is not listed below, please select M6 (for NANO) and M8 (for MICRO) and add to the kit the necessary adaptor in the list of NA/MI-CA-01-□□ together with the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T1(M)	T1(M)	COMPOSITION (see drawing)
NANO	M6	M6x1(M)	① NA-DT-03-L□□-M6 ② UN-SG-01-01
	M8K	M8x1 KEG(M)	① NA-DT-03-L□□-M8K ② --
	B1/8	BSPP 1/8"(M)	① NA-DT-03-L□□-B1/8 ② UN-SG-01-03
MICRO	M8	M8x1(M)	① MI-DT-03-L□□-M8 ② UN-SG-01-02
	B1/8	BSPP 1/8"(M)	① MI-DT-03-L□□-B1/8 ② UN-SG-01-03
	BT1/8	BSPT 1/8"(M)	① MI-DT-03-L□□-BT1/8 ② --

(5) Thread type Quick coupling fitting with short banjo and integrated rotary banjo bolt side T2(M): Designation T2(M) according to the table below.

Note: When the required thread T2(M) is not listed below, please select T2(M): M6 (for NANO) and M8 (for MICRO) and add to the kit an adaptor in the list of NA/MI-CA-01-□□ and the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T2(M)	T2(M)	COMPOSITION (see drawing)	L1	L2
NANO	M5	M5x0.8(M)	③ NA-QC-03-01 ④ UN-SG-01-00	15.80	15.2
	M6	M6x1(M)	③ NA-QC-03-00 ④ UN-SG-01-01	15.80	15.9
	M8	M8x1(M)	③ NA-QC-03-03 ④ UN-SG-01-02	15.80	17.1
	U5/16	UNF 5/16"-24(M)	③ NA-QC-03-02 ④ UN-SG-01-02	15.80	17.1
MICRO	M8	M8x1(M)	③ MI-QC-03-00 ④ UN-SG-01-02	21.00	22.0
	M10	M10x1(M)	③ MI-QC-03-00 ④ UN-SG-01-02	21.00	22.0
	B1/8	BSPP 1/8"(M)	③ MI-QC-03-01 ④ UN-SG-01-03	21.00	22.0

Example 1: NANO tube, length: 190 mm and Thread: BSPP 1/8 (M) in fitting side T1(M) and Thread UNF 5/16-24(M) in Quick coupling fitting with short banjo and integrated rotary banjo bolt side T2(M):  
**NA-SK-03-L190-B1/8-U5/16**

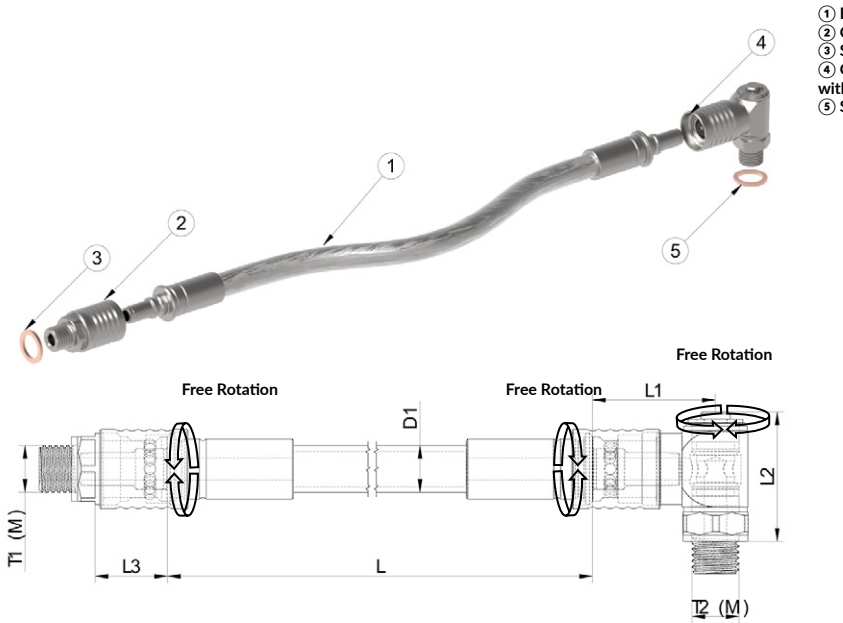
Example 2: MICRO tube, length: 225 mm and Thread: BSPT 1/8(M) in fitting side T1(M) and Thread M8x1(M) in Quick coupling fitting with short banjo and integrated rotary banjo bolt side T2(M):  
**MI-SK-03-L225-BT1/8-M8**



Flexible tube Kit (Flexible tube NA/MI-DT-05 + Quick coupling fitting in one end and Quick coupling fitting with short banjo and integrated rotary banjo bolt in the other end).

For easy selection of components including flexible distribution tube with Quick coupling (M) in one end and Quick coupling fitting with short banjo and integrated rotary banjo bolt (M) in the other end and sealing gaskets.

Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (sealing gasket).



- ① Flexible distribution tube NA/MI-DT-05-L□□□
- ② Quick coupling fitting NA/MI-QC-01-□□ with thread T1(M)
- ③ Sealing gasket for fitting thread T1(M)
- ④ Quick coupling fitting with short banjo and integrated rotary banjo bolt NA/MI-QC-01-□□ with thread T2(M).
- ⑤ Sealing gasket for Quick coupling fitting thread T2(M).

KIT	KIT COMPOSITION (see drawing)	FAMILY	TUBE ID	BENDING RADIUS	T1(M)	T2(M)	L	L1	L2	L3	D1
NA-SK-04-L102-M6-M6	① NA-DT-05-L□□□ ② NA-QC-01-00 ③ UN-SG-01-01 ④ NA-QC-03-00 ⑤ UN-SG-01-01	NANO	Ø2.3	15	M6x1	M6x1	102	15.8	15.9	12.85	Ø6.5
NA-SK-04-L152-M6-M6							152				
NA-SK-04-L203-M6-M6							203				
NA-SK-04-L305-M6-M6							305				
NA-SK-04-L406-M6-M6							406				
MI-SK-04-L102-M8-M8	① MI-DT-05-L□□□ ② MI-QC-01-00 ③ UN-SG-01-02 ④ MI-QC-03-00 ⑤ UN-SG-01-02	MICRO	Ø3.8	30	M8x1	M8x1	102	21.0	22.0	16.30	Ø8.0
MI-SK-04-L152-M8-M8							152				
MI-SK-04-L203-M8-M8							203				
MI-SK-04-L305-M8-M8							305				
MI-SK-04-L406-M8-M8							406				
MI-SK-04-L102-B1/8	① MI-DT-05-L□□□ ② MI-QC-01-03 ③ UN-SG-01-03 ④ MI-QC-03-01 ⑤ UN-SG-01-03	MICRO	Ø3.8	30	BSPP1/8"	BSPP1/8"	102	21.0	22.0	20.5	Ø8.0
MI-SK-04-L152-B1/8							152				
MI-SK-04-L203-B1/8							203				
MI-SK-04-L305-B1/8							305				
MI-SK-04-L406-B1/8							406				

# SPECIAL KITS:

Special length flexible tubes and T1(M) and T2(M) threads. To be designated as: NANO or MICRO-SK-04-Length L-Thread type T1(M) - Thread type T2(M)

(1) (2) (3) (4) (5)

(1) NANO or MICRO family tube: "NA" or "MI"

(2) SK-01 Type of kit: "SK-04"

(3) Length L: "L"+L dimension in mm

**Note:**

- Minimum steps in L: 1 mm
- Minimum L: 50 mm
- Maximum: No limit
- Tolerance L: ±2 mm

(4) Thread type Quick coupling fitting T1(M): Designation T1(M) according to the table below.

Note: When the required thread T1(M) is not listed below, please select M6 (for NANO) and M8 (for MICRO) and add to the kit the necessary adaptor in the list of NA/MI-CA-01-□□ together with the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T1(M)	T1(M)	COMPOSITION (see drawing)	L3
NANO	M5	M5x0.8(M)	② NA-QC-01-02 ③ UN-SG-01-00	12.85
	M6	M6x1(M)	② NA-QC-01-00 ③ UN-SG-01-01	12.85
	M8	M8x1(M)	② NA-QC-01-04 ③ UN-SG-01-02	16.20
	M8K	M8x1 KEG(M)	② NA-QC-01-01 ③ --	12.45
	U5/16	UNF 5/16"-24(M)	② NA-QC-01-03 ③ UN-SG-01-02	16.20
MICRO	M8	M8x1(M)	② MI-QC-01-00 ③ UN-SG-01-02	16.30
	M10K	M10x1 KEG(M)	② MI-QC-01-01 ③ --	15.30
	B1/8	BSPP 1/8"(M)	② MI-QC-01-03 ③ UN-SG-01-03	20.50
	BT1/8	BSPT 1/8"(M)	② MI-QC-01-02 ③ --	15.30

5) Thread type Quick coupling fitting with short banjo and integrated rotary banjo bolt side T2(M): Designation T2(M) according to the table below.

Note: When the required thread T2(M) is not listed below, please select T2(M): M6 (for NANO) and M8 (for MICRO) and add to the kit an adaptor in the list of NA/MI-CA-01-□□ and the corresponding sealing gasket UN-SG-01-□□ (not required for conical threads).

FAMILY	DESIGNATION T2(M)	T2(M)	COMPOSITION (see drawing)	L1	L2
NANO	M5	M5x0.8(M)	③ NA-QC-03-01 ④ UN-SG-01-00	15.80	15.2
	M6	M6x1(M)	③ NA-QC-03-00 ④ UN-SG-01-01	15.80	15.9
	M8	M8x1(M)	③ NA-QC-03-03 ④ UN-SG-01-02	15.80	17.1
	U5/16	UNF 5/16"-24(M)	③ NA-QC-03-02 ④ UN-SG-01-02	15.80	17.1
MICRO	M8	M8x1(M)	③ MI-QC-03-00 ④ UN-SG-01-02	21.00	22.0
	M10	M10x1(M)	③ MI-QC-03-02 ④ UN-SG-01-03	21.00	22.0
	B1/8	BSPP 1/8"(M)	③ MI-QC-03-01 ④ UN-SG-01-03	21.00	22.0

Example 1: NANO tube, length: 222 mm and Thread: M8x1 (M) in Quick coupling fitting side T1(M) and Thread M5x0.8(M) in Quick coupling fitting with short banjo and integrated rotary banjo bolt side T2(M):  
**NA-SK-04-L222-M8-M5**

Example 2: MICRO tube, length: 330 mm and Thread: BSPP 1/8"(M) in Quick coupling fitting side T1(M) and Thread BSPP 1/8"(M) in Quick coupling fitting with short banjo and integrated rotary banjo bolt side T2(M):  
**MI-SK-04-L330-B1/8-B1/8**

# STARTER KITS

## NA-SK-10-00

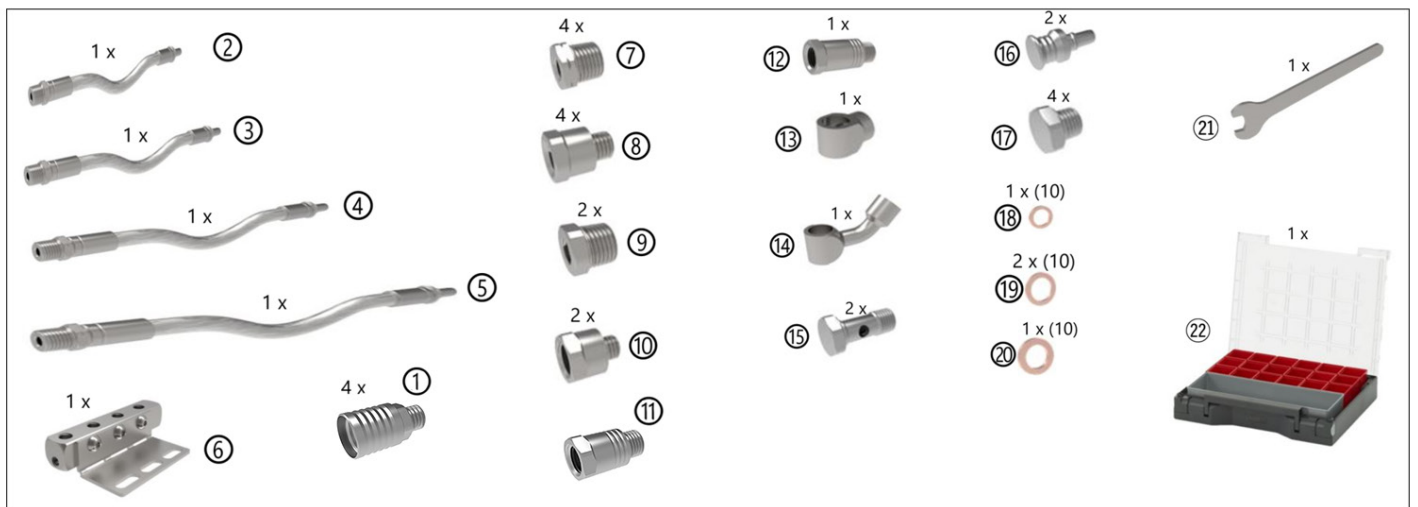
Starter Kit NANO (Basic set Swiss-type lathe).

To set up a machine to work with coolant through the tools. Ideal for small diameter lathes with small tooling.

Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (sealing gasket).



## NA-SK-10-00



KIT	KIT COMPOSITION (see drawing)	DESCRIPTION
NA-SK-10-00	Quick coupling fittings:	
	① 4 x NA-QC-01-00	QUICK COUPLING NANO WITH M6x1(M) ON ONE END
	Flexible distribution tubes:	
	② 1 x NA-DT-03-L102-M6	FLEX TUBE OD:6.5 mm L=102 mm M6x1(M)-QUICK CONNECTOR
	③ 1 x NA-DT-03-L152-M6	FLEX TUBE OD:6.5 mm L=152 mm M6x1(M)-QUICK CONNECTOR TUBE
	④ 1 x NA-DT-03-L152-M6	FLEX TUBE OD:6.5 mm L=203 mm M6x1(M)-QUICK CONNECTOR
	⑤ 1 x NA-DT-03-L203-M6	FLEX TUBE OD:6.5 mm L=305 mm M6x1(M)-QUICK CONNECTOR
	Standard coolant distribution block:	
	⑥ 1 x NA-DB-01-02	MANIFOLD 10x10x62mm 4 OUTLETS M6x1(F)+1 INLET M6x1(F)
	Adaptors (Female to Male):	
	⑦ 4 x NA-CA-01-00	ADAPTOR M6x1(F) TO BSPT1/8"(M)
	⑧ 4 x NA-CA-01-06	ADAPTOR M6x1(F) TO M8x1(M)
	⑨ 2 x NA-CA-01-01	ADAPTOR M6x1(F) TO M10x1 KEG(M)
	⑩ 2 x NA-CA-01-05	ADAPTOR M6x1(F) TO M5x0.8(M)
	Spacers (Female to Male):	
	⑪ 1 x NA-CA-03-01	SPACER H:13 mm M6x1(M)-M6x1(F)
	⑫ 1 x NA-CA-03-02	SPACER H:18 mm M6x1(M)-M6x1(F)
	Banjos and banjo bolts:	
	⑬ 1 x NA-CA-04-00	SHORT BANJO M6x1(F) FOR M5 OR M6 BOLT
	⑭ 1 x NA-CA-04-03	LONG CURVED BANJO M6x1(F) FOR M5 OR M6 BOLT
	⑮ 2 x NA-CA-04-04	BANJO BOLT M6x1(M)
	Sealing plugs:	
⑯ 2 x NA-CC-01-00	QUICK CONNECTION FITTING NANO TO SEALING PLUG	
⑰ 4 x NA-CC-01-04	SEALING PLUG M6X1(M)	
Sealing gaskets:		
⑱ 1 x UN-SG-01-00	COPPER WASHER M5 (10 UNITS)	
⑲ 2 x UN-SG-01-01	COPPER WASHER M6 (10 UNITS)	
⑳ 1 x UN-SG-01-02	COPPER WASHER M8 (10 UNITS) AND UNF5/16" (10 UNITS)	
Fastening keys:		
㉑ 2 x NA-FK-01-00	FIXED WRENCH FOR ASSEMBLY NANO PROGRAM. SW8	
Product Case:		
㉒ 1 x UN-KC-10-00	BLACK PLASTIC CASE 35x29.5 cm FOR KIT SCS	

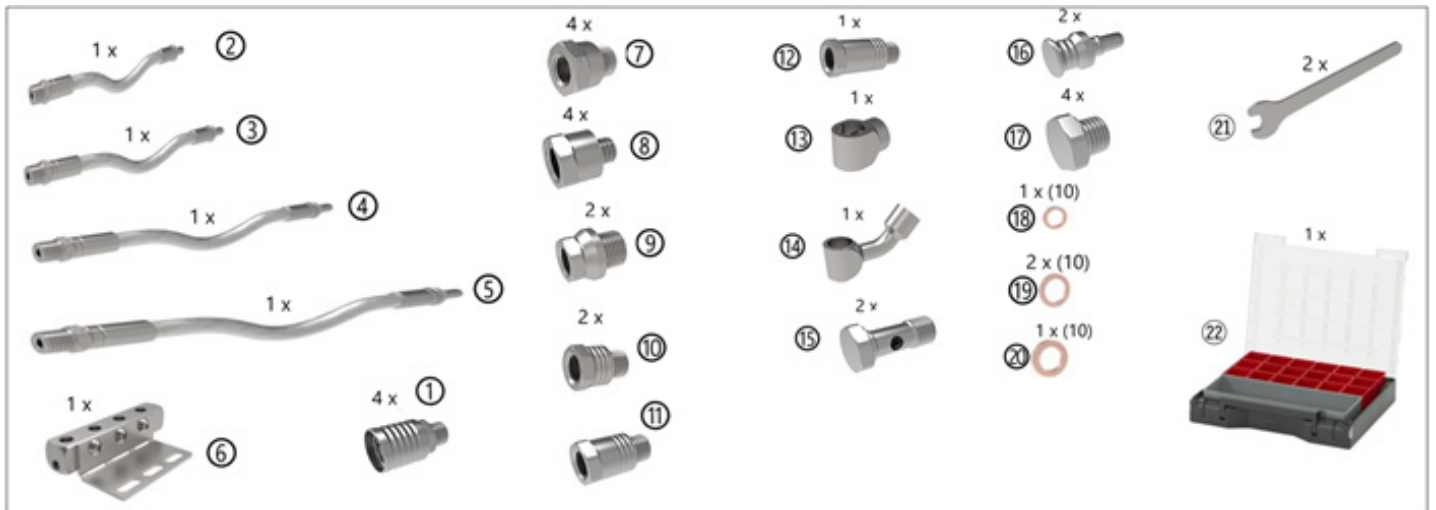
# MI-SK-10-00

Starter Kit MICRO (Basic set Swiss-type lathe).

To set up a machine to work with coolant through the tools. Ideal for bigger diameter lathes or with sufficient internal space.  
 Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (sealing gasket).



# MI-SK-10-00



KIT	KIT COMPOSITION (see drawing)	DESCRIPTION
MI-SK-10-00	Quick coupling fittings:	
	① 4 x MI-QC-01-00	QUICK COUPLING MICRO WITH M8x1(M) ON ONE END
	Flexible distribution tubes:	
	② 1 x MI-DT-03-L102-M8	FLEX TUBE OD:8 mm L=102 mm M8x1(M)-QUICK CONNECTOR
	③ 1 x MI-DT-03-L152-M8	FLEX TUBE OD:8 mm L=152 mm M8x1(M)-QUICK CONNECTOR
	④ 1 x MI-DT-03-L203-M8	FLEX TUBE OD:8 mm L=203 mm M8x1(M)-QUICK CONNECTOR
	⑤ 1 x MI-DT-03-L305-M8	FLEX TUBE OD:8 mm L=305 mm M8x1(M)-QUICK CONNECTOR
	Standard coolant distribution block:	
	⑥ 1 x MI-DB-01-00	MANIFOLD 15x15x83 mm 4 OUTLETS M8x1(F)+1 INLET M8x1(F)
	Adaptors (Female to Male):	
	⑦ 4 x MI-CA-01-00	ADAPTOR M8x1(F) TO BSPP1/8"(M)
	⑧ 4 x MI-CA-01-06	ADAPTOR M8x1(F) TO M6x1(M)
	⑨ 2 x MI-CA-01-01	ADAPTOR M8x1(F) TO M10x1(M)
	Spacers (Female to Male):	
	⑩ 1 x MI-CA-03-00	SPACER H:10 mm M8x1(M)-M8x1(F)
	⑪ 1 x MI-CA-03-01	SPACER H:15 mm M8x1(M)-M8x1(F)
	⑫ 1 x MI-CA-03-02	SPACER H:20 mm M8x1(M)-M8x1(F)
	Banjos and banjo bolts:	
	⑬ 1 x MI-CA-04-00	SHORT BANJO M8x1(F) FOR M8 BOLT
	⑭ 1 x MI-CA-04-03	LONG CURVED BANJO M8x1(F) FOR M8 BOLT
	⑮ 2 x MI-CA-04-04	BANJO BOLT M8x1(M)
	Sealing plugs:	
⑯ 2 x MI-CC-01-00	QUICK CONNECTION FITTING MICRO TO SEALING PLUG	
⑰ 4 x MI-CC-01-04	SEALING PLUG M8X1(M)	
Sealing gaskets:		
⑱ 2 x UN-SG-01-02	COPPER WASHER M6 (10 UNITS)	
⑲ 2 x UN-SG-01-02	COPPER WASHER M8 AND UNF5/16" (10 UNITS)	
⑳ 1 x UN-SG-01-03	COPPER WASHER M10 AND BSPP1/8" (10 UNITS)	
Fastening keys:		
㉑ 2 x MI-FK-01-00	FIXED WRENCH FOR ASSEMBLY MICRO PROGRAM. SW11	
Product Case:		
㉒ 1 x UN-KC-10-00	BLACK PLASTIC CASE 35x29.5 cm FOR KIT SCS	

# NA-SK-20-00

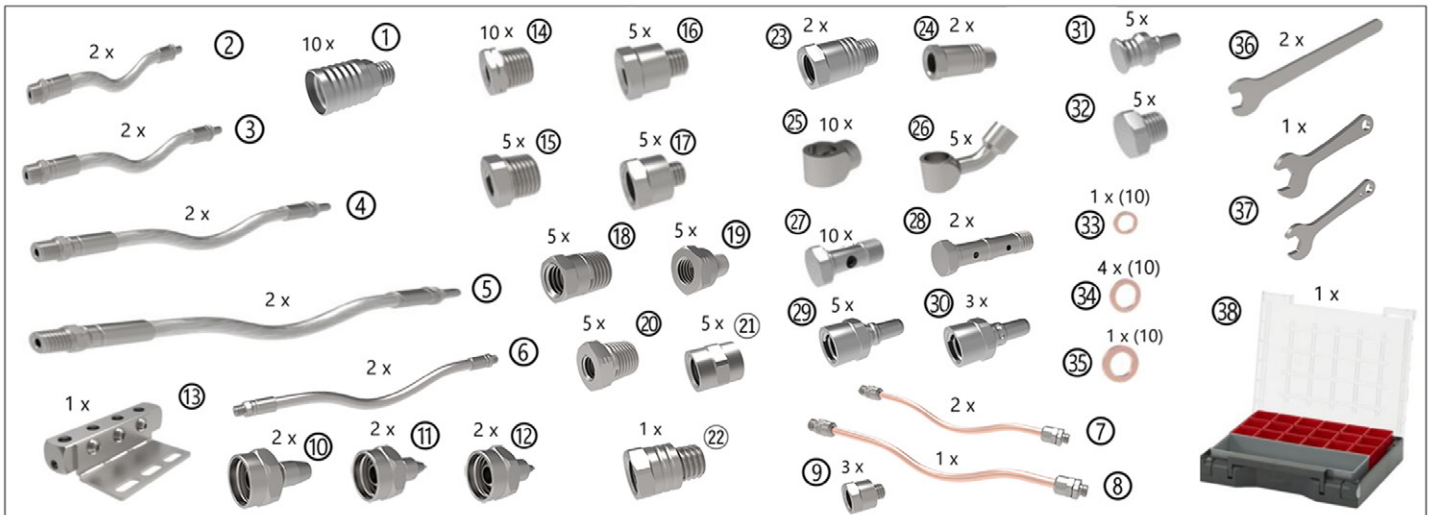
Starter Kit NANO (Extended set Swiss-type lathe).

To set up a machine to work with coolant through the tools. Ideal for small diameter lathes with small tooling.

Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (tubes and sealing gasket).



# NA-SK-20-00



KIT	KIT COMPOSITION (see drawing)	DESCRIPTION
NA-SK-20-00	Quick coupling fittings:	
	① 10 x NA-QC-01-00	QUICK COUPLING NANO WITH M6x1(M) ON ONE END
	Flexible distribution tubes:	FLEX TUBE OD:6.5 mm L=102 mm M6x1(M)-QUICK CONNECTOR
	② 2 x NA-DT-03-L102-M6	
	③ 2 x NA-DT-03-L152-M6	FLEX TUBE OD:6.5 mm L=152 mm M6x1(M)-QUICK CONNECTOR
	④ 2 x NA-DT-03-L203-M6	FLEX TUBE OD:6.5 mm L=203 mm M6x1(M)-QUICK CONNECTOR
	⑤ 2 x NA-DT-03-L305-M6	FLEX TUBE OD:6.5 mm L=305 mm M6x1(M)-QUICK CONNECTOR
	⑥ 2 x NA-DT-01-L406-M6	FLEX TUBE OD:6.5 mm L=406 mm M6x1(M) x2
	Copper tube kit OD: 6 mm ID: 4 mm. DECA:	
	⑦ 2 x DE-DT-01-L152-M8	COPPER TUBE OD:6mm L=152 mm M8x1(M) & DECA(M)
	⑧ 1 x DE-DT-01-L203-M8	COPPER TUBE OD:6mm L=203 mm M8x1(M) & DECA(M)
	⑨ 3 x MI-CA-01-06 (assembled in the tubes)	ADAPTOR M8x1(F) TO M6x1(M)
	Coolant nozzles for copper tubes DECA:	
	⑩ 2 x DE-NZ-01-00	STRAIGHT OUTLET NOZZLE ID=3 mm L=9 mm
	⑪ 2 x DE-NZ-01-06	STRAIGHT OUTLET NOZZLE ID=1.5 mm L=9 mm
	⑫ 2 x DE-NZ-01-07	STRAIGHT OUTLET NOZZLE ID=1 mm L=9 mm
	Standard coolant distribution block:	
	⑬ 2 x NA-DB-01-02	MANIFOLD 10x10x62 mm 4 OUTLETS M6x1(F)+1 INLET M6x1(F)
	Adaptors (Female to Male):	
	⑭ 10 x NA-CA-01-00	ADAPTOR M6x1(F) TO BSPT1/8"(M)
	⑮ 5 x NA-CA-01-06	ADAPTOR M6x1(F) TO M8x1(M)
	⑯ 5 x NA-CA-01-01	ADAPTOR M6x1(F) TO M10x1 KEG(M)
	⑰ 5 x NA-CA-01-05	ADAPTOR M6x1(F) TO M5x0.8(M)
	⑱ 5 x NA-CA-01-08	ADAPTOR M6x1(F) TO M8x1 KEG(M)
	⑲ 5 x NA-CA-01-12	ADAPTOR M6x1(F) TO NPT1/16"(M)
	⑳ 5 x NA-CA-01-10	ADAPTOR M6x1(F) TO NPT1/8"(M)
	㉑ 5 x NA-CA-01-03	ADAPTOR M6x1(F) TO M6x1(M)
	Spacers (Female to Male):	
	㉒ 1 x NA-CA-03-00	SPACER H:8 mm M6x1(M)-M6x1(F)
	㉓ 2 x NA-CA-03-01	SPACER H:13 mm M6x1(M)-M6x1(F)
	㉔ 2 x NA-CA-03-02	SPACER H:18 mm M6x1(M)-M6x1(F)
	Banjos and banjo bolts:	
	㉕ 10 x NA-CA-04-00	SHORT BANJO M6x1(F) FOR M5 OR M6 BOLT
	㉖ 5 x NA-CA-04-03	LONG CURVED BANJO M6x1(F) FOR M5 OR M6 BOLT
	㉗ 10 x NA-CA-04-04	BANJO BOLT M6x1(M)
	㉘ 2 x NA-CA-04-05	DOUBLE BANJO BOLT M6x1(M) TO CONNECT 2 BANJOS
	Quick connection fittings:	
	㉙ 5 x NA-CC-01-01	QUICK CONNECTION FITTING NANO TO M6x1(F)
㉚ 3 x NA-CC-01-02	QUICK CONN. FITTING NANO NON-ROTATING TO M6x1(F)	
Sealing plugs:		
㉛ 5 x NA-CC-01-00	QUICK CONNECTION FITTING NANO TO SEALING PLUG	
㉜ 5 x NA-CC-01-04	SEALING PLUG M6x1(M)	
Sealing gaskets:		
㉝ 1 x UN-SG-01-00	COPPER WASHER M5 (10 UNITS)	
㉞ 4 x UN-SG-01-01	COPPER WASHER M6 (10 UNITS)	
㉟ 1 x UN-SG-01-02	COPPER WASHER M8 (10 UNITS) AND UNF5/16" (10 UNITS)	
Fastening keys:		
㊱ 2 x NA-FK-01-00	FIXED WRENCH FOR ASSEMBLY NANO PROGRAM. SW8	
㊲ 1 x DE-FK-01-00	WRENCHES FASTENING 2 HEXAG. DECA PROGRAM. SW8-SW9	
Product Case:		
㊳ 1 x UN-KC-20-00	BLACK PLASTIC CASE 35x29.5 cm FOR KIT SCS	

# MI-SK-20-00

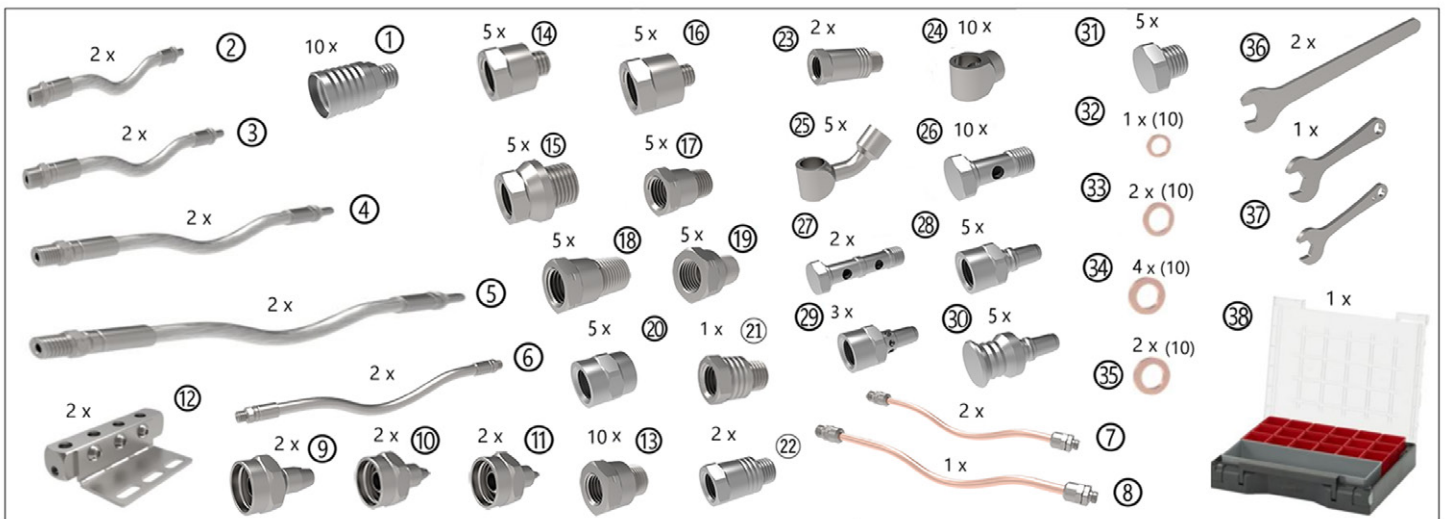
Starter Kit MICRO (Extended set Swiss-type lathe).

To set up a machine to work with coolant through the tools. Ideal for bigger diameter lathes or with sufficient internal space.

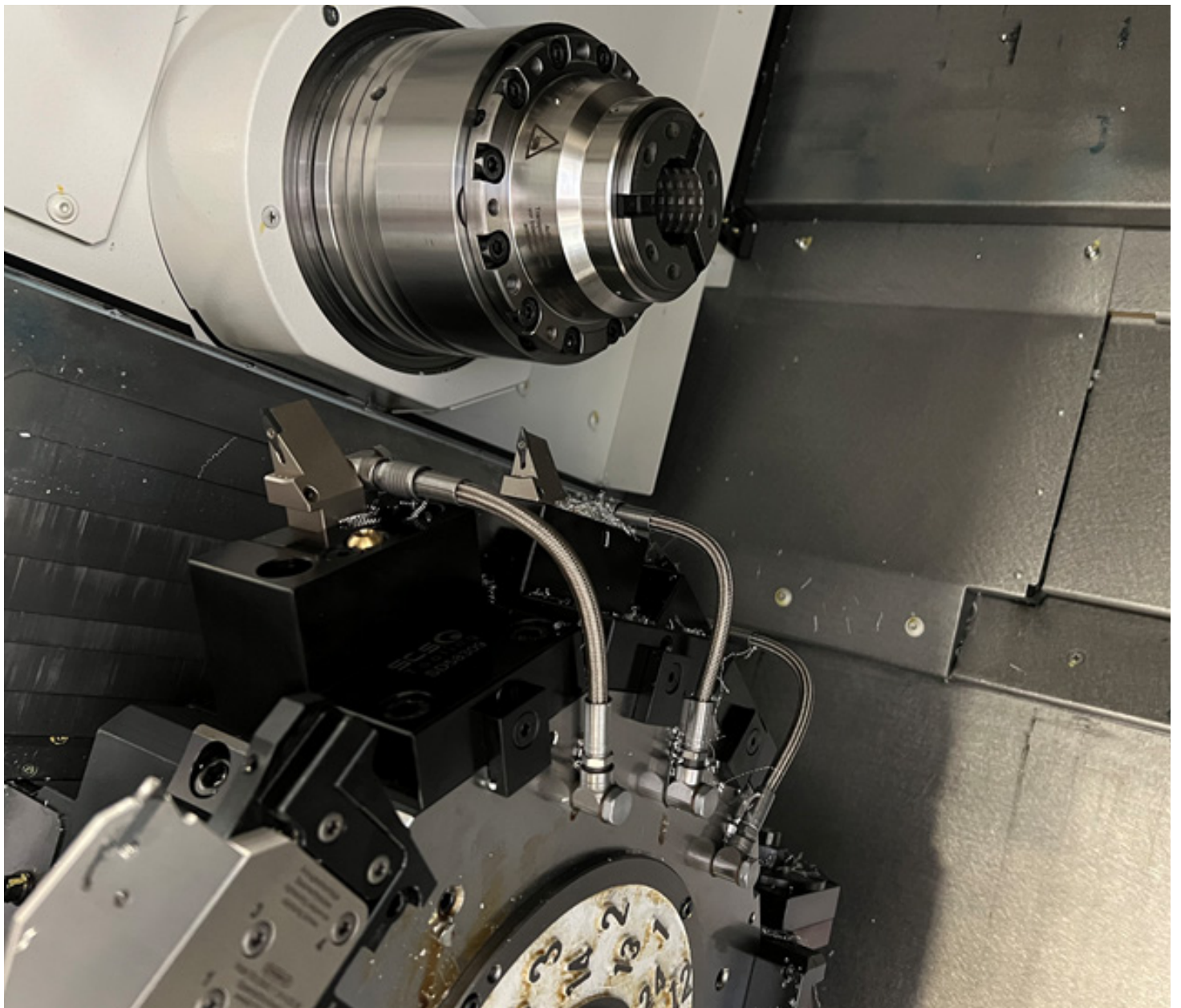
Material: Coated Steel (Fittings) + Stainless Steel AISI-304 (External braiding) + Teflon (Internal core) + Copper (tubes and sealing gasket).



# MI-SK-20-00



KIT	KIT COMPOSITION (see drawing)	DESCRIPTION
NA-SK-20-00	Quick coupling fittings:	
	① 10 x MI-QC-01-00	QUICK COUPLING MICRO WITH M8x1(M) ON ONE END
	Flexible distribution tubes:	
	② 2 x MI-DT-03-L102-M8	FLEX TUBE OD:8 mm L=102 mm M8x1(M)-QUICK CONNECTOR
	③ 2 x MI-DT-03-L152-M8	FLEX TUBE OD:8 mm L=152 mm M8x1(M)-QUICK CONNECTOR
	④ 2 x MI-DT-03-L203-M8	FLEX TUBE OD:8 mm L=203 mm M8x1(M)-QUICK CONNECTOR
	⑤ 2 x MI-DT-03-L305-M8	FLEX TUBE OD:8 mm L=305 mm M8x1(M)-QUICK CONNECTOR
	⑥ 2 x MI-DT-01-L406-M8	
	Copper tube kit OD: 6 mm ID: 4 mm. DECA:	FLEX TUBE OD:8 mm L=406 mm M8x1(M) x2
	⑦ 2 x DE-DT-01-L152-M8	COPPER TUBE OD:6mm L=152 mm M8x1(M) & DECA(M)
	⑧ 1 x DE-DT-01-L203-M8	COPPER TUBE OD:6mm L=203 mm M8x1(M) & DECA(M)
	Coolant nozzles for copper tubes DECA:	
	⑨ 2 x DE-NZ-01-00	STRAIGHT OUTLET NOZZLE ID=3 mm L=9 mm
	⑩ 2 x DE-NZ-01-06	STRAIGHT OUTLET NOZZLE ID=1.5 mm L=9 mm
	⑪ 2 x DE-NZ-01-07	STRAIGHT OUTLET NOZZLE ID=1 mm L=9 mm
	Standard coolant distribution block:	
	⑫ 2 x MI-DB-01-00	MANIFOLD 15x15x83 mm 4 OUTLETS M8x1(F)+1 INLET M8x1(F)
	Adaptors (Female to Male):	
	⑬ 10 x MI-CA-01-00	ADAPTOR M8x1(F) TO BSPP1/8"(M)
	⑭ 5 x MI-CA-01-06	ADAPTOR M8x1(F) TO M6x1(M)
	⑮ 5 x MI-CA-01-01	ADAPTOR M8x1(F) TO M10x1(M)
	⑯ 5 x MI-CA-01-05	ADAPTOR M8x1(F) TO M5x0.8(M)
	⑰ 5 x MI-CA-01-08	ADAPTOR M8x1(F) TO M8x1 KEG(M)
	⑱ 5 x MI-CA-01-12	ADAPTOR M8x1(F) TO BSPT1/8"(M)
	⑲ 5 x MI-CA-01-16	ADAPTOR M8x1(F) TO NPT1/8"(M)
	⑳ 5 x MI-CA-01-03	ADAPTOR M8x1(F) TO M8x1(M)
	Spacers (Female to Male):	
	㉑ 1 x MI-CA-03-00	SPACER H:10 mm M8x1(M)-M8x1(F)
	㉒ 2 x MI-CA-03-01	SPACER H:15 mm M8x1(M)-M8x1(F)
	㉓ 2 x MI-CA-03-02	SPACER H:20 mm M8x1(M)-M8x1(F)
	Banjos and banjo bolts:	
	㉔ 10 x MI-CA-04-00	SHORT BANJO M8x1(F) FOR M8 BOLT
	㉕ 5 x MI-CA-04-03	LONG CURVED BANJO M8x1(F) FOR M8 BOLT
	㉖ 10 x MI-CA-04-04	BANJO BOLT M8x1(M)
	㉗ 2 x MI-CA-04-05	DOUBLE BANJO BOLT M8x1(M) TO CONNECT 2 BANJOS
	Quick connection fittings:	
	㉘ 5 x MI-CC-01-01	QUICK CONNECTION FITTING MICRO TO M8x1(F)
	㉙ 3 x MI-CC-01-02	QUICK CONN. FITTING MICRO NON-ROTATING TO M8x1(F)
Sealing plugs:		
㉚ 5 x MI-CC-01-00	QUICK CONNECTION FITTING MICRO TO SEALING PLUG	
㉛ 5 x MI-CC-01-04	SEALING PLUG M8x1(M)	
Sealing gaskets:		
㉜ 1 x UN-SG-01-00	COPPER WASHER M5 (10 UNITS)	
㉝ 2 x UN-SG-01-01	COPPER WASHER M8 (10 UNITS)	
㉞ 4 x UN-SG-01-02	COPPER WASHER M8 (10 UNITS) AND UNF5/16" (10 UNITS)	
㉟ 2 x UN-SG-01-02	COPPER WASHER M8 (10 UNITS) AND UNF5/16" (10 UNITS)	
Fastening keys:		
㊱ 2 x MI-FK-01-00	FIXED WRENCH FOR ASSEMBLY MICRO PROGRAM. SW8	
㊲ 1 x DE-FK-01-00	WRENCHES FASTENING 2 HEXAG. DECA PROGRAM. SW8-SW9	
Product Case:		
㊳ 1 x UN-KC-20-00	BLACK PLASTIC CASE 35x29.5 cm FOR KIT SCS	



## PRODUCTS FOR COOLANT DISTRIBUTION

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