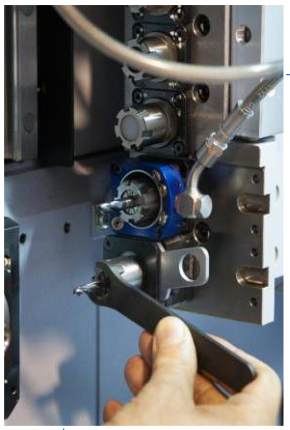

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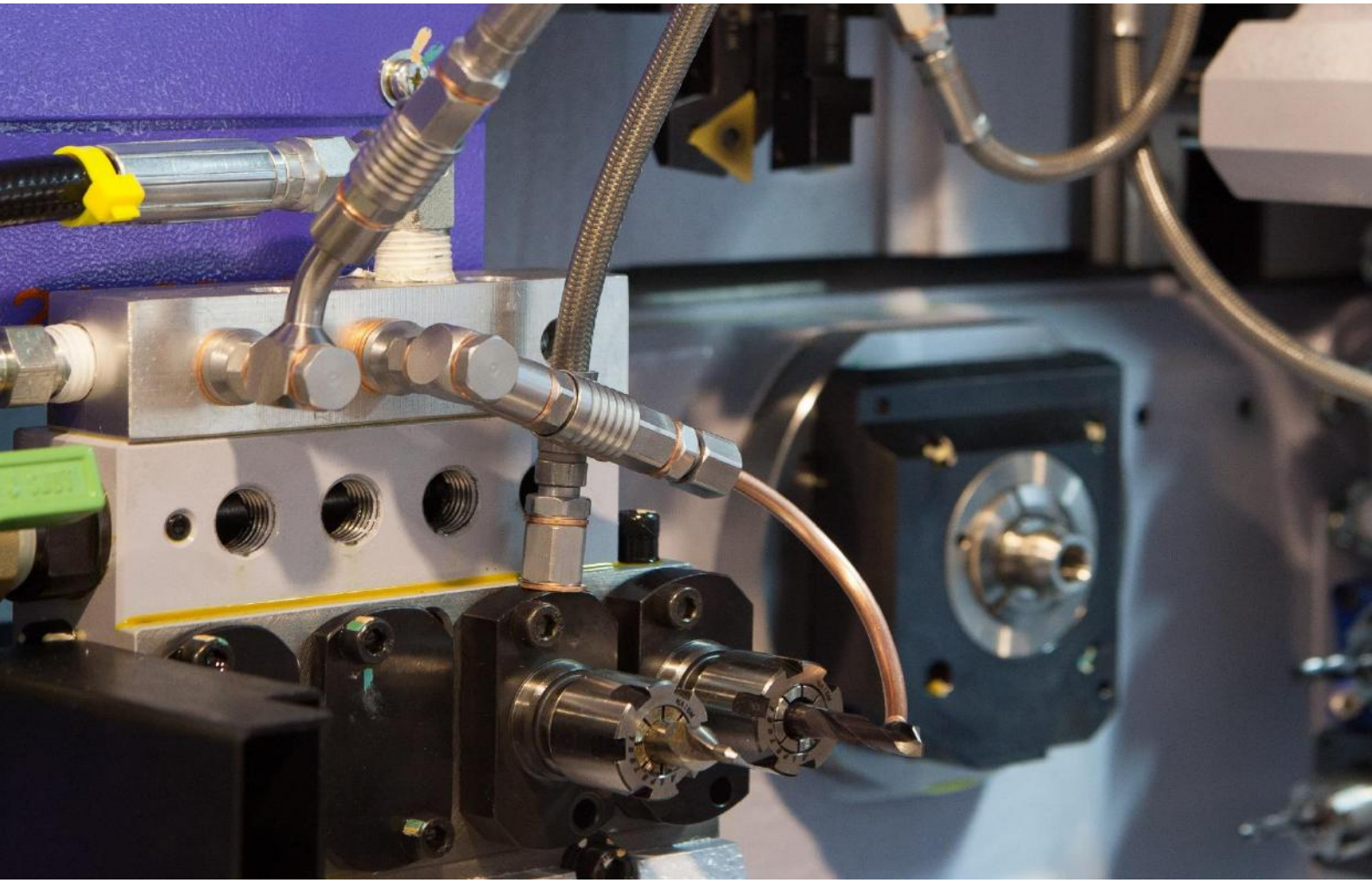
1.COMPLETE DISTRIBUTION SYSTEM WITH QUICK CONNECTIONS FOR MACHINING WITH MEDIUM AND HIGH-PRESSURE COOLANT



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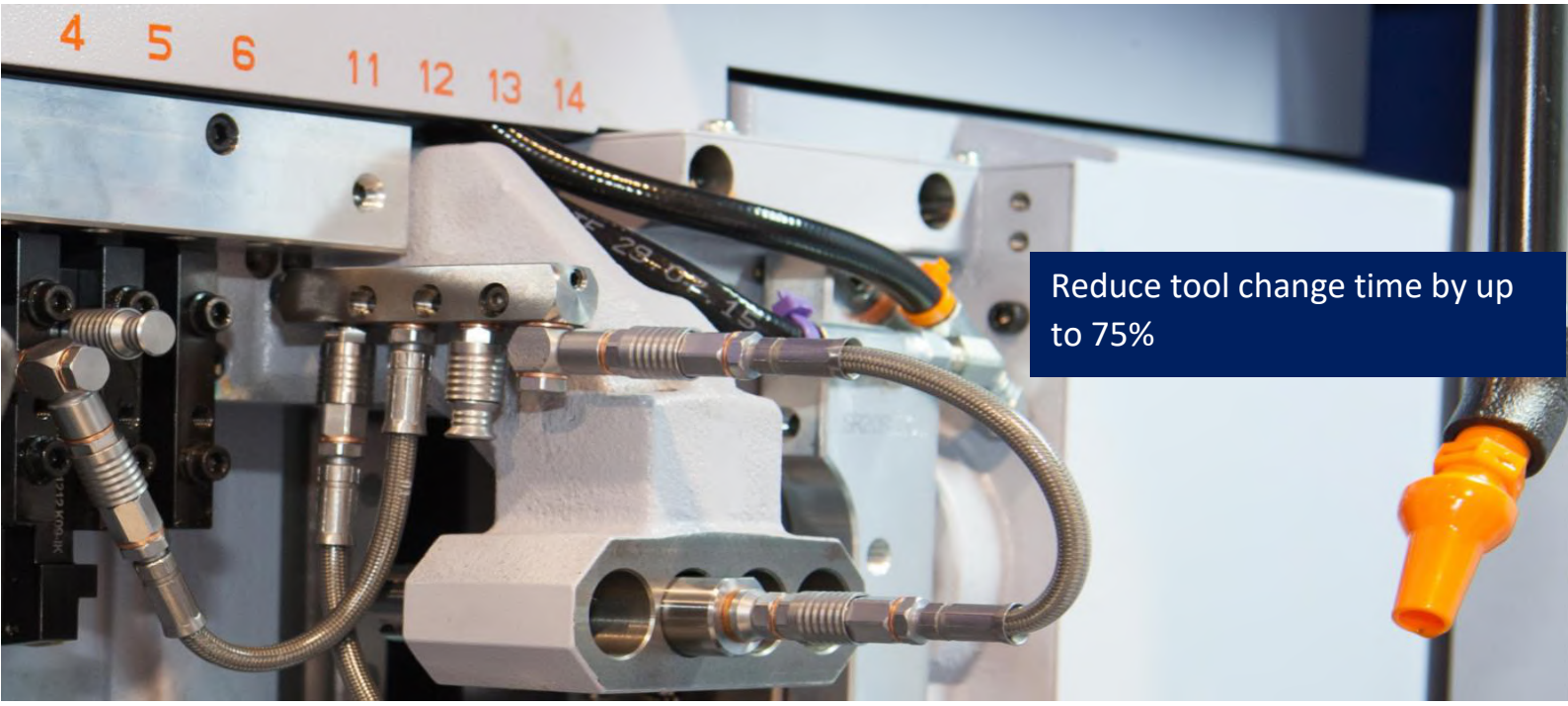
DISTRIBUTION SYSTEM WITH QUICK CONNECTION INCLUDING 2 PROGRAMS OF DIFFERENT DIMENSIONS FOR MACHINING WITH COOLANT AT MEDIUM AND HIGH-PRESSURE FOR CNC LATHES

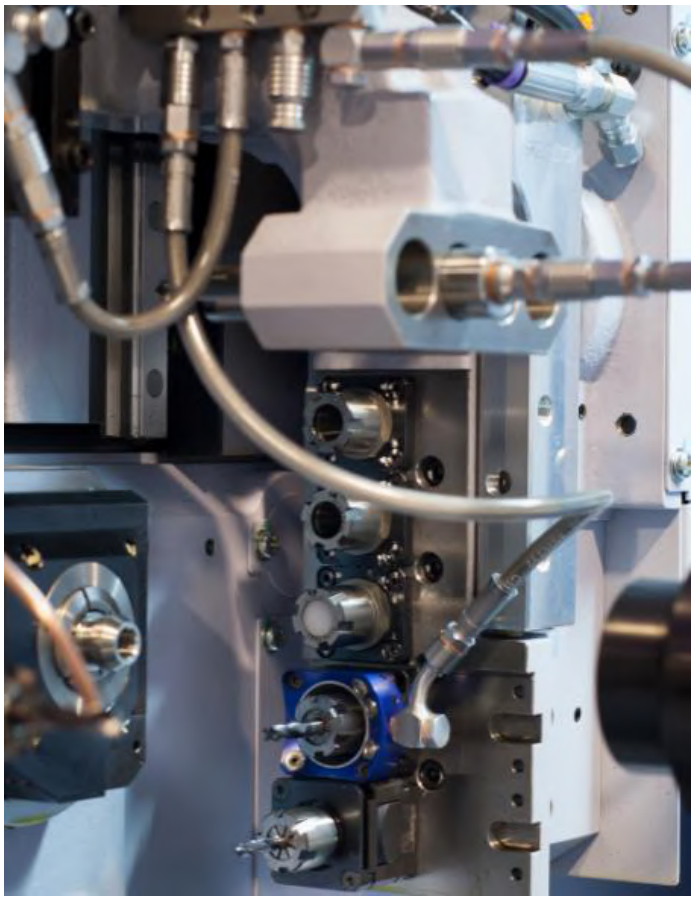
Ultra-compact quick connectors, locking and connecting plugs, flexible and rigid distribution tubes, distribution blocks, connectors, adaptors and spacers, ball and tube nozzles. A complete ecosystem of modular components to reduce time for tool set-up, tool change and optimize the way coolant is delivered all the way to the cutting edge.



Coolant distribution system (cutting oil and emulsion) totally flexible and modular, able to withstand pressures of 220 Bar and ideal for use with high pressure coolant equipment

FAST, FLEXIBLE AND SAFE TOOL MOUNTING

SCS coolant distribution systems are designed to capitalize on all the advantages offered by high pressure cooling. It allows for fast, flexible, safe and interference-free preparations for the machining of parts while ensuring the correct orientation and amount of flow rate of coolant directly to the cutting edge of the tool.



Increased tool life and efficiency - Better surface quality, and higher productivity.

(Ideal for sliding-head lathes)

ADVANTAGES:

1. Quick and precise preparations - The flow of coolant is directed to the required point and with the necessary flow. Time reduction in preparation and better machining conditions are easily achieved.

2. Allows for optimal distribution of the coolant to the different tool holders without the performance depending on the operator who makes the preparation.

3. Guarantees that after a tool change, the coolant outlets remain in the same position and do not change even if performed by different machine operators.

4. Maximum safety in performing tools changes mounted in rotary tool holders, thus avoiding possible injuries - The patented system of SCS allows to block the tool holders while keeping both hands free and making it possible to loosen the collet nut with just one hand.

5. Ease of adaptation - quick couplings and adaptors to different types of threads for tool holders or distribution blocks.

6. Flexible and reinforced tubes - Protected to withstand the impact of hot chips and with pressures of up to 220 Bar.

PRODUCT RANGE:

2 different manufacturing programs according to the required flow and internal machine available space:

- MICRO: 3.8 mm through hole for coolant supply.
- NANO: 2.3 mm through hole for coolant supply.

Pressure (Bar)	MICRO (l/min)	NANO (l/min)
2	9.5	3.5
8	19.0	7.0
15	26.0	9.6
20	30.1	11.0
30	36.9	13.5
50	47.6	17.5
80	60.3	22.1
100	67.4	24.7
150	82.5	30.2

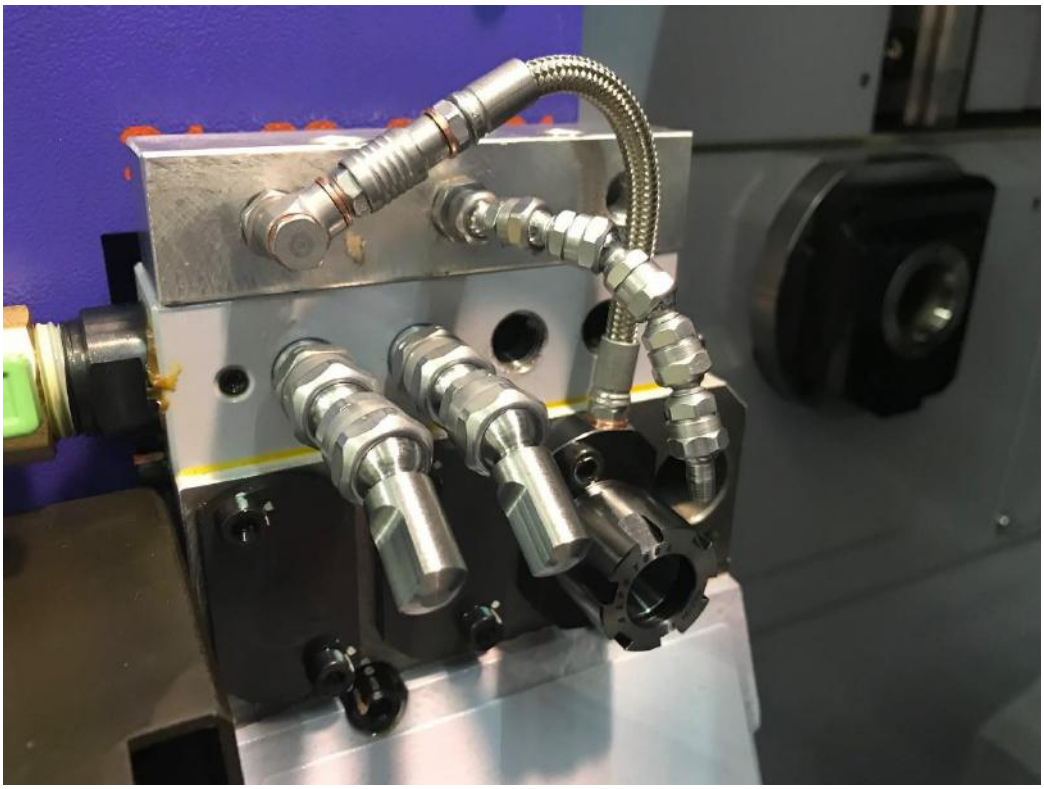
Both programs can be connected with each other and with the Articulated Steel Flexible Distribution Tubes DECA, HECTO, MEGA and GIGA programs.

BSP threads have 1 mark in the hexagon area and NPT threads have 2 marks. Metric threads have no marks. This marking allows for easy identification.

It allows to work with emulsion or cutting oil. Resistant to pressures of up to 220 bar (3,190 psi).

Item	MICRO Program	NANO Program
Minimum internal diameter of the program	3.8 mm	2.3 mm
Main program thread	M8x1	M6x1
Manufacturing material of components	Steel NiZn	Steel NiZn
Assembly wrench	SW11	SW8
Ideal for square tool shank dimension	16x16, 20x20, 25x25	8x8, 10x10, 12x12
Ideal for cylindrical tool shank dimension	Diameter≥ 16 mm	Diameter< 16 mm
Ideal for collet holder dimension	ER-16 or bigger	ER-11 or smaller
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

MICRO flexible tubes, banjos and quick connections fittings installed in a CITIZEN L12



MICRO banjo, quick connection fitting and flexible tube mounted in the tool back post of a STAR SR-20J lathe.

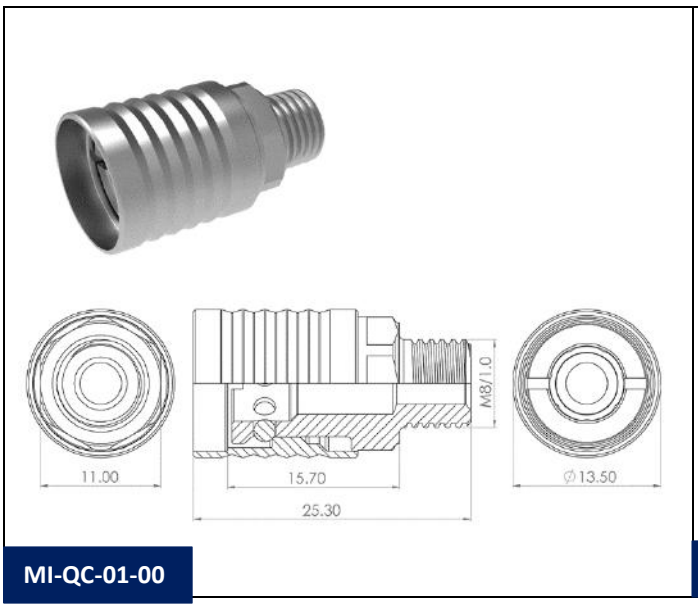
MICRO PROGRAM

The inner diameter of the MICRO program is 3.8 mm and is ideal for installation with ER-16 collet tool holders, cylindrical shank tool holders (OD ≥ 16 mm) or with square shank tool holders from 16x16 mm size.

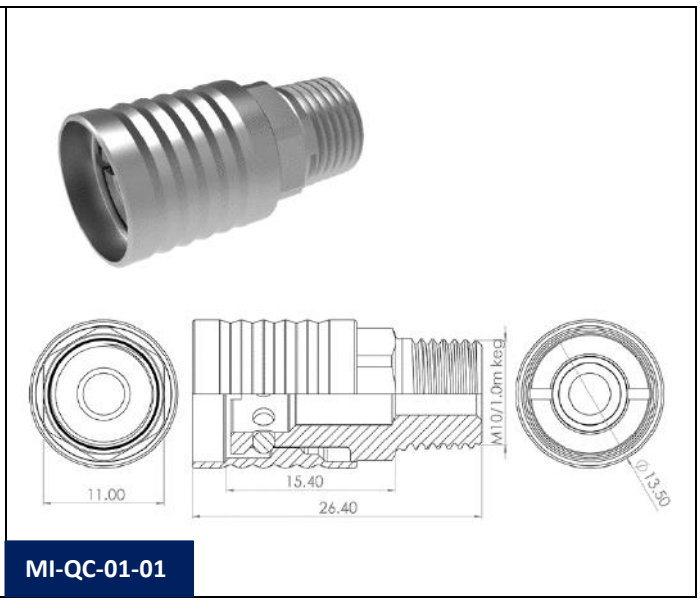
Quick connection fittings:

Quick connection fittings with very compact dimensions O.D.: 13.5 mm, I.D.: 3.8 mm, Length: 17 mm.
Material: Steel
Maximum pressure: 220 Bar (3.190 PSI)

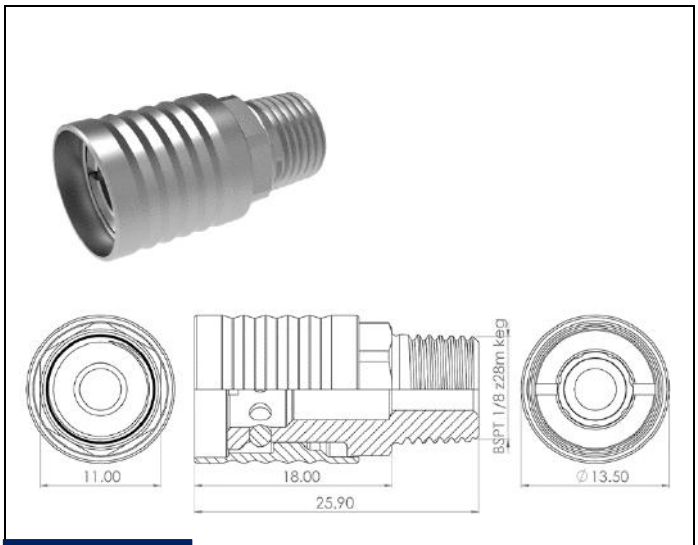
Ref.	Description
MI-QC-01-00	Quick connection fitting MICRO with M8x1(M) on one end.
MI-QC-01-01	Quick connection fitting MICRO with M10x1 keg(M) on one end.
MI-QC-01-02	Quick connection fitting MICRO with BSPT 1/8"(M) on one end.



MI-QC-01-00



MI-QC-01-01



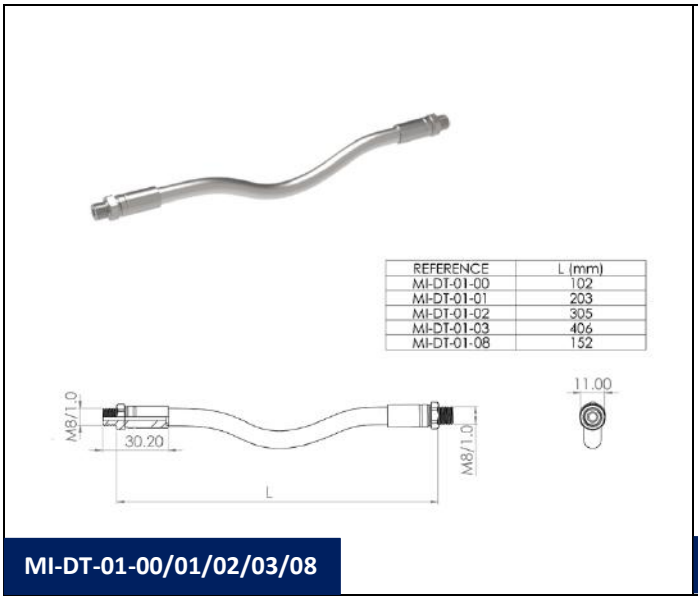
MI-QC-01-02

Distribution tubes:

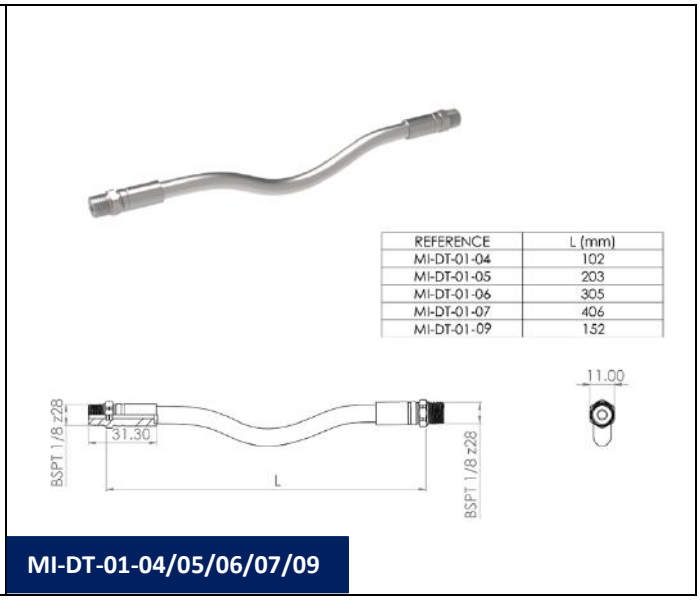
Set of distribution tubes in Teflon covered in braided stainless steel AISI 304.OD: 8 mm. ID: 3.8 mm.
Fitting in each end M8x1(M) or BSPT 1/8"(M). Material: Steel
Minimum bending radius: 30 mm
Maximum pressure: 220 Bar (3.190 PSI)

Ref.	Description
MI-DT-01-00	M8x1(M), flexible tube OD:8 mm 4" (102 mm), M8x1(M)
MI-DT-01-08	M8x1(M), flexible tube OD:8 mm 6" (152 mm), M8x1(M)
MI-DT-01-01	M8x1(M), flexible tube OD:8 mm 8" (203 mm), M8x1(M)
MI-DT-01-02	M8x1(M), flexible tube OD:8 mm 12" (305 mm), M8x1(M)
MI-DT-01-03	M8x1(M), flexible tube OD:8 mm 16" (406 mm), M8x1(M)
MI-DT-01-04	BSPT1/8"(M), flexible tube ID:.8 mm 4" (102 mm), BSPT1/8"(M)
MI-DT-01-09	BSPT1/8"(M), flexible tube ID:.8 mm 6" (152 mm), BSPT1/8"(M)
MI-DT-01-05	BSPT1/8"(M), flexible tube OD:8 mm 8" (203 mm), BSPT1/8"(M)
MI-DT-01-06	BSPT1/8"(M), flexible tube OD:8 mm 12" (305 mm), BSPT1/8"(M)
MI-DT-01-07	BSPT1/8"(M), flexible tube OD:8 mm 16" (406 mm), BSPT1/8"(M)

Note: Other flexible tube lengths available under request.



MI-DT-01-00/01/02/03/08

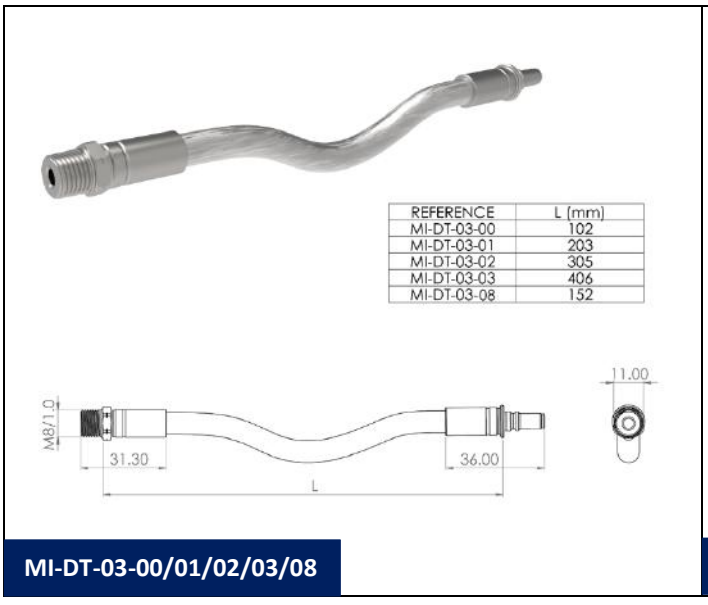


MI-DT-01-04/05/06/07/09

Set of distribution tubes in Teflon covered in braided stainless steel AISI 304.OD: 8 mm. ID: 3.8 mm.
Fitting in one end M8x1(M) or BSPT 1/8"(M) and quick connection fitting MICRO in the other end.
Material: Steel
Minimum bending radius: 30 mm
Maximum pressure: 220 Bar (3.190 PSI)

Ref.	Description
MI-DT-03-00	M8x1(M), flexible tube OD:8 mm 4" (102 mm), Quick connection fitting MICRO
MI-DT-03-08	M8x1(M), flexible tube OD:8 mm 6" (152 mm), Quick connection fitting MICRO
MI-DT-03-01	M8x1(M), flexible tube OD:8 mm 8" (203 mm), Quick connection fitting MICRO
MI-DT-03-02	M8x1(M), flexible tube OD:8 mm 12" (305 mm), Quick connection fitting MICRO
MI-DT-03-03	M8x1(M), flexible tube OD:8 mm 16" (406 mm), Quick connection fitting MICRO
MI-DT-03-04	BSPT1/8"(M), flexible tube ID:.8 mm 4" (102 mm), Quick connection fitting MICRO
MI-DT-03-09	BSPT1/8"(M), flexible tube ID:.8 mm 6" (152 mm), Quick connection fitting MICRO
MI-DT-03-05	BSPT1/8"(M), flexible tube OD:8 mm 8" (203 mm), Quick connection fitting MICRO
MI-DT-03-06	BSPT1/8"(M), flexible tube OD:8 mm 12" (305 mm), Quick connection fitting MICRO
MI-DT-03-07	BSPT1/8"(M), flexible tube OD:8 mm 16" (406 mm), Quick connection fitting MICRO

Note: Other flexible tube lengths available under request.



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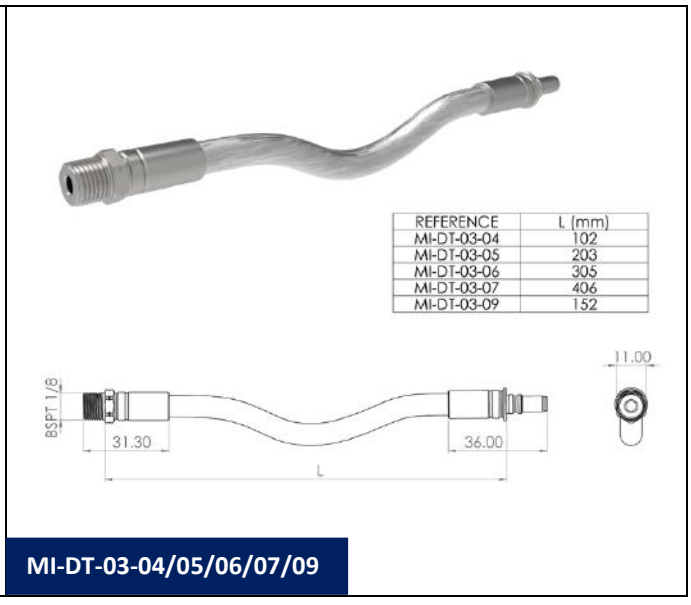
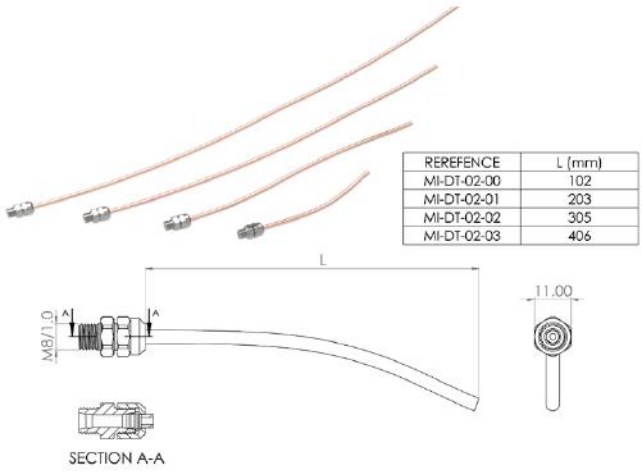


MI-DT-03-04/05/06/07/09

Copper distribution tubes OD: 4 mm, ID: 2 mm, with M8x1(M) thread in each end and coupling to the copper tube with compression ring ID:4 mm.
Maximum pressure: 220 Bar (3.190 PSI)

Ref.	Description
MI-DT-02-00	M8x1(M) with compression ring, copper tube OD:4 mm and L:4" (102 mm), open end tube.
MI-DT-02-01	M8x1(M) with compression ring, copper tube OD: 4 mm and L:8" (203 mm), open end tube.
MI-DT-02-02	M8x1(M) with compression ring, copper tube OD: 4 mm and L:12" (305 mm), open end tube.
MI-DT-02-03	M8x1(M) with compression ring, copper tube OD: 4 mm and L:16" (406 mm), open end tube.

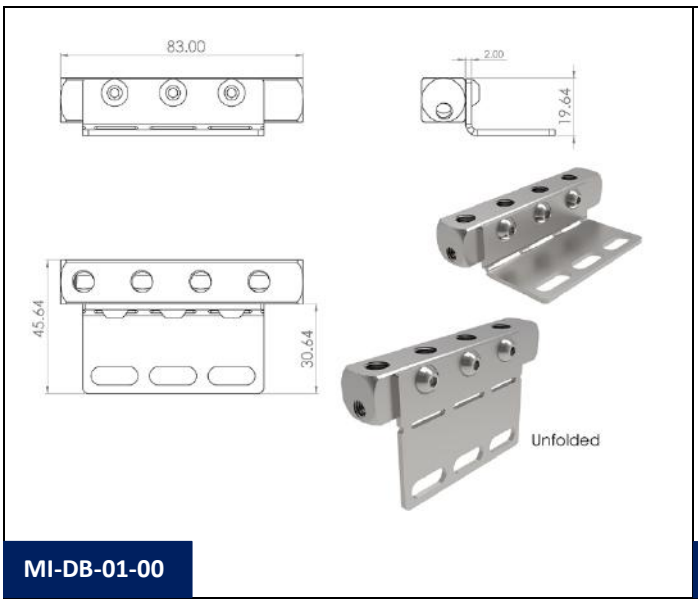


MI-DT-02-00/01/02/03

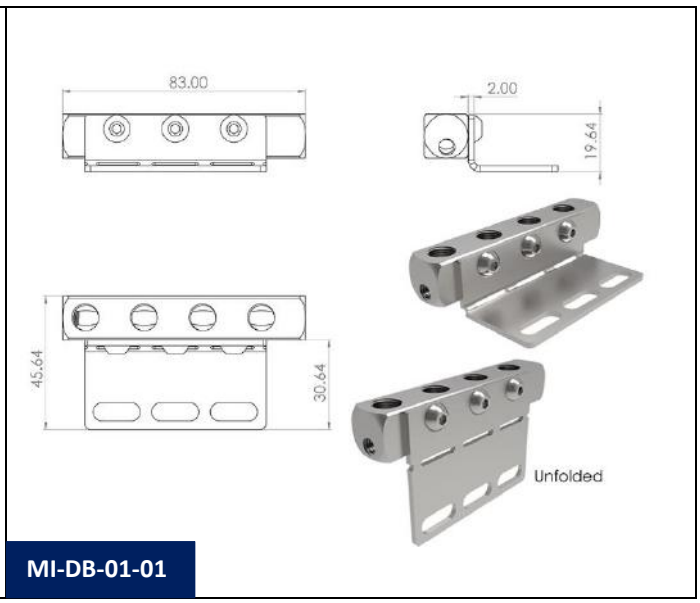
Standard coolant distribution blocks:

Compact and space saving design. Inlet M8x1(F) or BSPP 1/8"(F) and outlets M8x1(F) or BSPP 1/8"(F).
Material: Steel

Ref.	Description
MI-DB-01-00	15x15x83 mm block with coolant inlet in M8x1(F) inlet and 4 outlets in M8x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position.
MI-DB-01-01	15x15x83 mm block with coolant inlet in BSPP 1/8"(F) inlet and 4 outlets in BSPP 1/8"(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position.



MI-DB-01-00



MI-DB-01-01

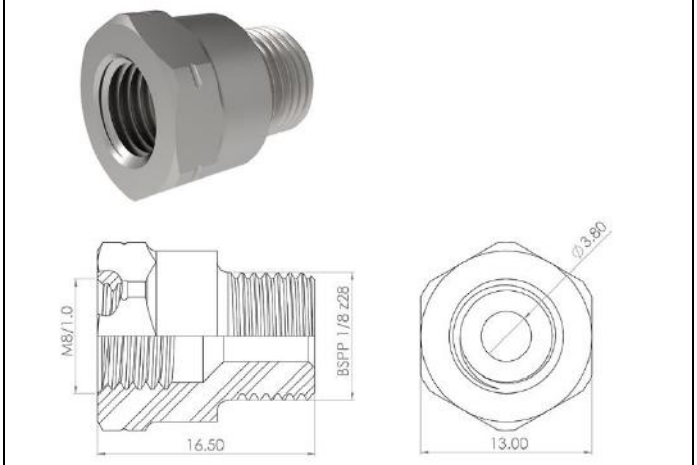
Connectors and adaptors:

To adapt connection tubes and quick connectors.
Material: Steel

- Adaptors: M8x1 to M10, M6, M5, BSPP 1/8", etc.
- Banjos: short, long, curved.
- Spacers: 10, 15 and 20 mm.
- Compression ring for copper tube

Ref.	Description
MI-CA-01-00	Adaptor M8x1(F) to BSPP 1/8"(M)
MI-CA-01-01	Adaptor M8x1(F) to M10x1(M)
MI-CA-01-02	Adaptor M8x1(F) to M8x1(M)
MI-CA-01-03	Adaptor M8x1(F) to M8x1(F)
MI-CA-01-04	Nut for compression ring ID:4 mm E11
MI-CA-01-05	Adaptor M8x1(F) to M5x0.8(M)
MI-CA-01-06	Adaptor M8x1(F) to M6x1(M)
MI-CA-01-07	Adaptor M8x1(M) to M8x1(M). Also used for compression ring ID:4 mm E11
MI-CA-01-08	Adaptor M8x1(F) to M8x1 keg(M)
MI-CA-01-09	Adaptor BSPP 1/8"(F) to M8x1(M)
MI-CA-01-10	Adaptor BSPP 1/8"(F) to BSPP 1/8"(M)
MI-CA-01-11	Adaptor M8x1(F) to BSPT 1/4"(M)
MI-CA-01-12	Adaptor M8x1(F) to BSPT 1/8"(M)
MI-CA-01-13	Adaptor BSPP 1/8"(F) to BSPT 1/8"(M)
MI-CA-01-14	Adaptor M8x1(F) to M12x1(M)
MI-CA-01-15	Adaptor M8x1(F) to M14x1(M)
MI-CA-01-16	Adaptor M8x1(F) to NPT 1/8"(M)
MI-CA-01-17	Adaptor M8x1(F) to NPT 1/16"(M)
MI-CA-01-18	Adaptor M8x1(F) to M8x1.25(M)
MI-CA-02-00	Compression ring ID:4 mm
MI-CA-03-00	Spacer H:10 mm M8x1(M)-M8x1(F)
MI-CA-03-01	Spacer H:15 mm M8x1(M)-M8x1(F)
MI-CA-03-02	Spacer H:20 mm M8x1(M)-M8x1(F)
MI-CA-03-03	Spacer H:10 mm BSPP 1/8"(M)-BSPP 1/8"(F)
MI-CA-03-04	Spacer H:15 mm BSPP 1/8"(M)-BSPP 1/8"(F)
MI-CA-03-05	Spacer H:20 mm BSPP 1/8"(M)-BSPP 1/8"(F)
MI-CA-03-06	Spacer H:10 mm M10x1(M)-M10x1(F)
MI-CA-03-07	Spacer H:15 mm M10x1(M)-M10x1(F)
MI-CA-03-08	Spacer H:20 mm M10x1(M)-M10x1(F)
MI-CA-03-09	Spacer H:10 mm M8x1(M)-BSPP 1/8"(F)
MI-CA-03-10	Spacer H:15 mm M8x1(M)-BSPP 1/8"(F)
MI-CA-03-11	Spacer H:20 mm M8x1(M)-BSPP 1/8"(F)

Ref.	Description
MI-CA-03-12	Spacer H:11 mm BSPP 1/8"(M)-BSPP 1/8"(F)
MI-CA-03-13	Spacer H:16 mm BSPP 1/8"(M)-BSPP 1/8"(F)
MI-CA-03-14	Spacer H:21 mm BSPP 1/8"(M)-BSPP 1/8"(F)
MI-CA-04-00	Short banjo M8x1(F) (does not include banjo bolt)
MI-CA-04-01	Short banjo M8x1(M) (does not include banjo bolt)
MI-CA-04-02	Long straight banjo M8x1(F) (does not include banjo bolt)
MI-CA-04-03	Long curved banjo M8x1(F) (does not include banjo bolt)
MI-CA-04-04	Banjo bolt M8x1(M)
MI-CA-04-05	Banjo bolt double length M8x1(M) to connect 2 Banjos
MI-CA-04-06	Short banjo M8x1(F) for banjo bolt BSPP 1/8"(M) or M10x1(M) (does not include banjo bolt)
MI-CA-04-07	Short banjo M8x1(M) for banjo bolt BSPP 1/8"(M) or M10x1(M) (does not include banjo bolt)
MI-CA-04-09	Long straight banjo M8x1(F) for banjo bolt BSPP 1/8"(M) or M10x1(M) (does not include banjo bolt)
MI-CA-04-10	Long curved banjo M8x1(F) for banjo bolt BSPP 1/8"(M) or M10x1(M) (does not include banjo bolt)
MI-CA-04-11	Short banjo M10x1(F) for banjo bolt M10x1(M) (does not include banjo bolt)
MI-CA-04-12	Long straight banjo M10x1(F) for banjo bolt M10x1(M) (does not include banjo bolt)
MI-CA-04-13	Short banjo BSPP 1/8"(F) for banjo bolt BSPP 1/8"(M) or M10x1(M) (does not include banjo bolt)
MI-CA-04-14	Long straight banjo BSPP 1/8"(F) for banjo bolt BSPP 1/8"(M) or M10x1(M) (does not include banjo bolt)
MI-CA-04-15	Banjo bolt M10x1(M)
MI-CA-04-16	Banjo bolt double length M10x1(M) to connect 2 Banjos
MI-CA-04-17	Banjo bolt BSPP 1/8"(M)
MI-CA-04-18	Banjo bolt double length BSPP 1/8"(M) to connect 2 Banjos



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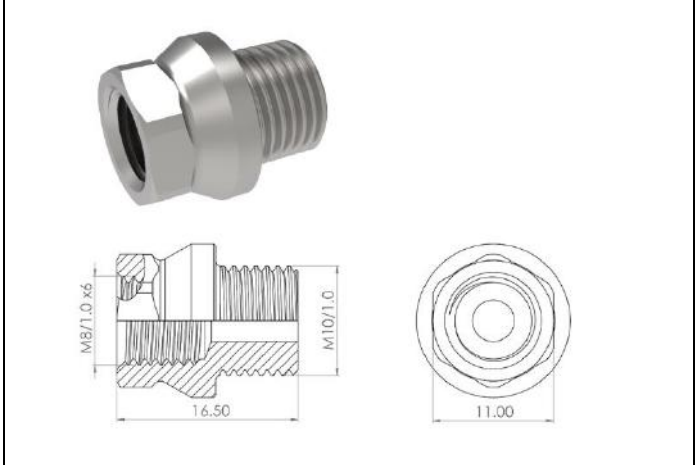

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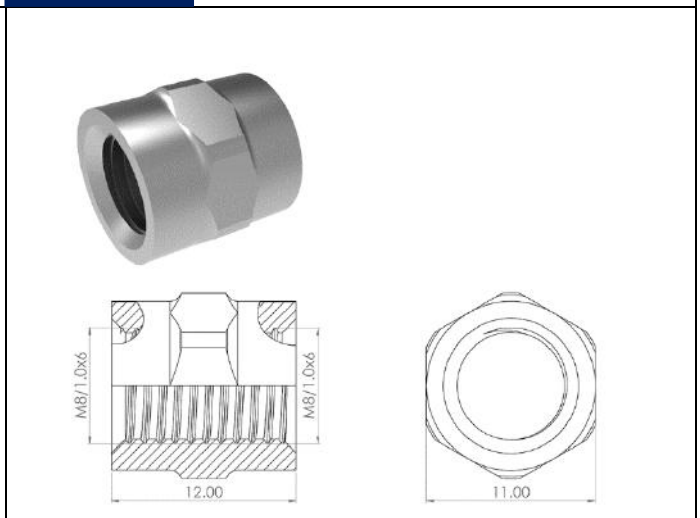
MI-CA-01-02



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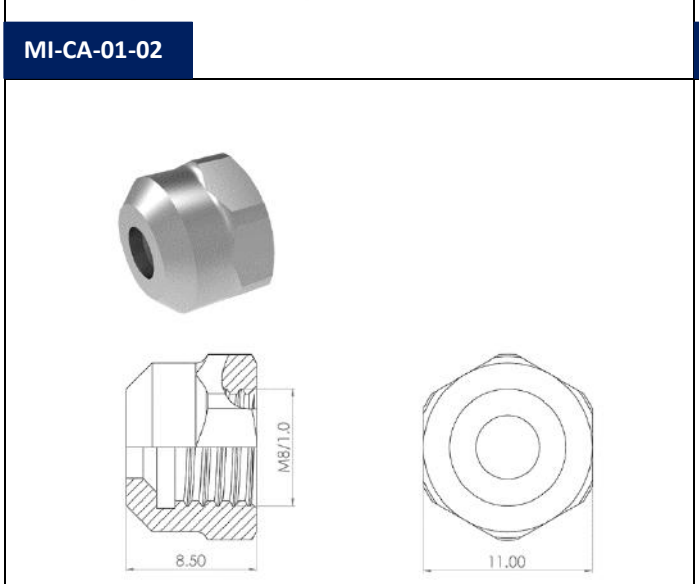

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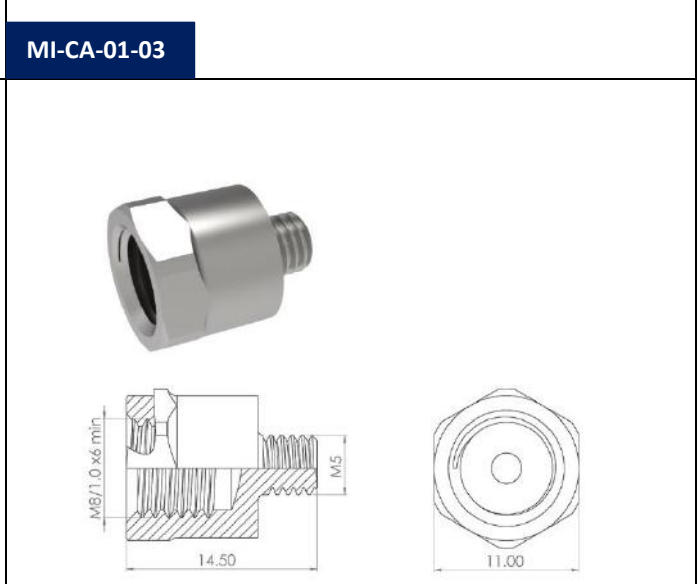

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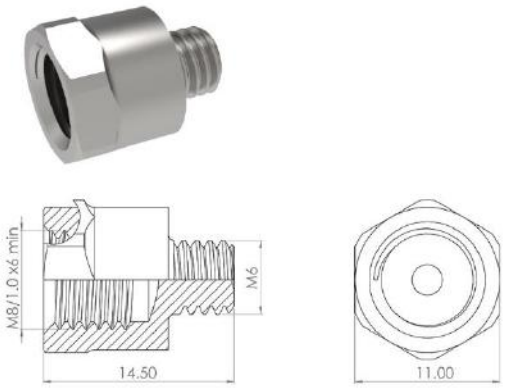

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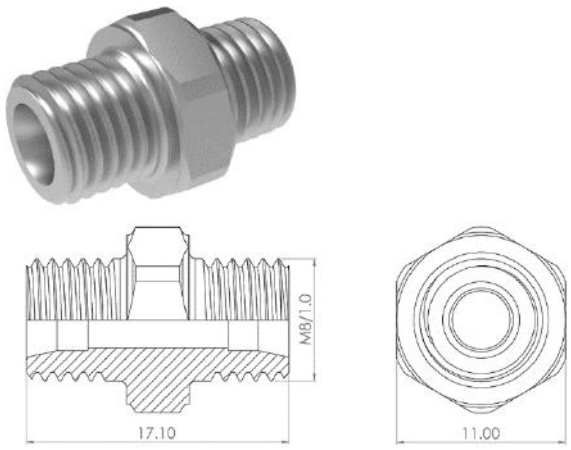

MI-CA-01-07

MI-CA-01-08

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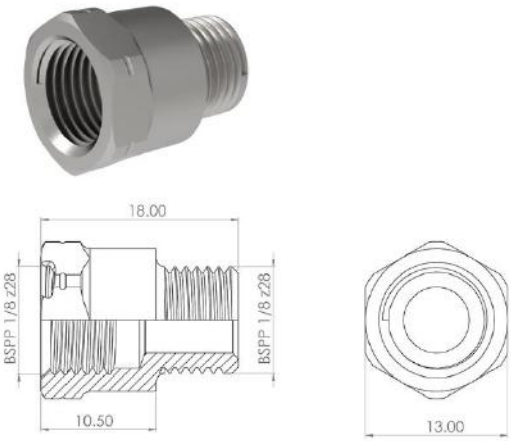

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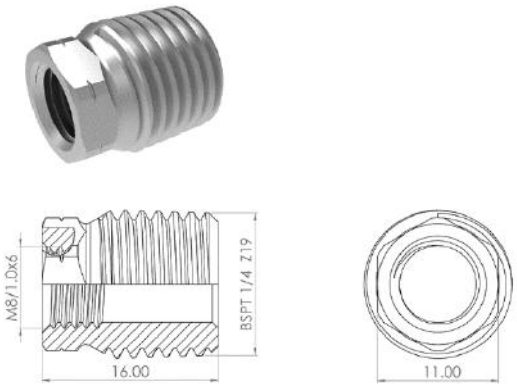

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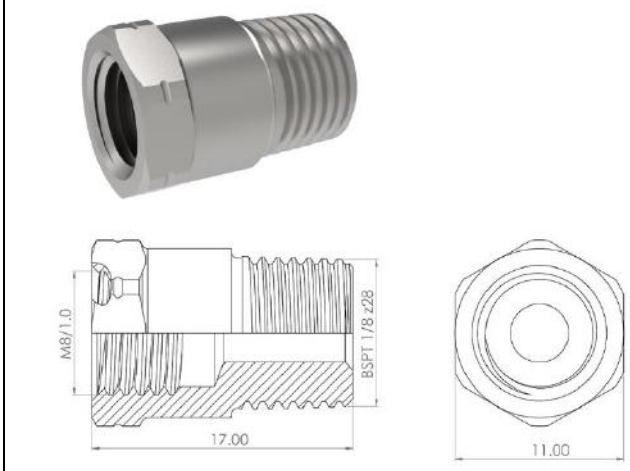

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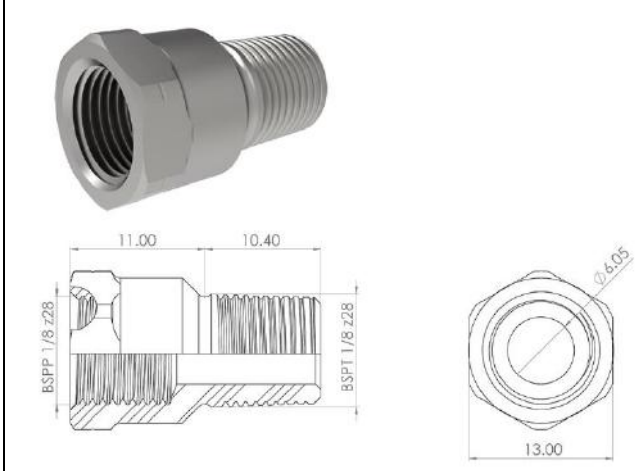


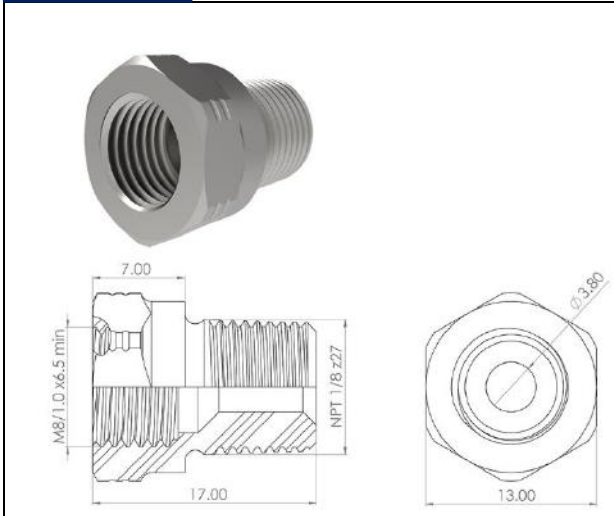
MI-CA-01-13

Drawing not available

MI-CA-01-14

Drawing not available

MI-CA-01-15



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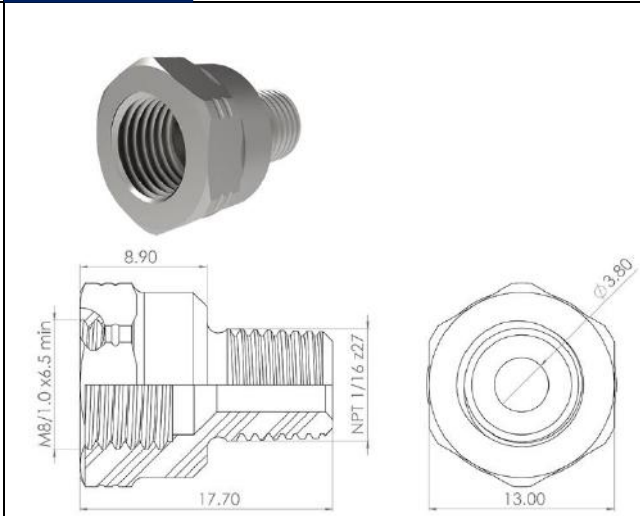

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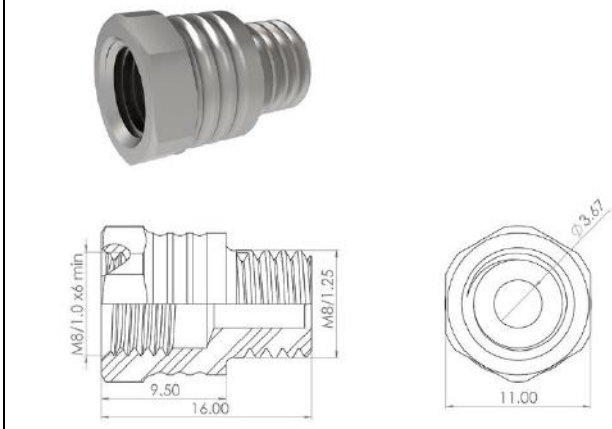

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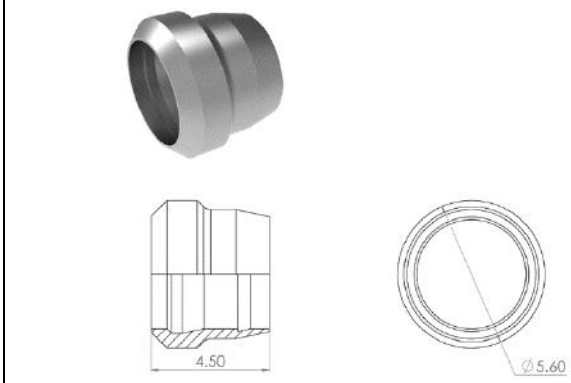

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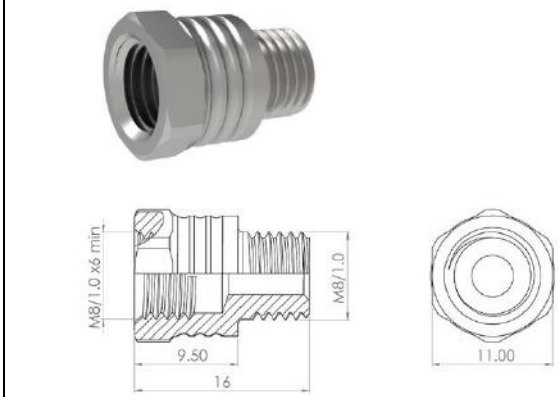

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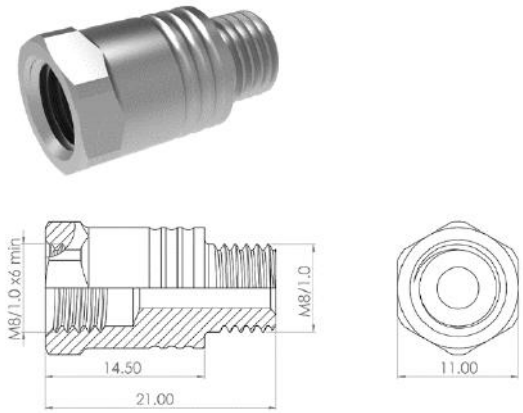
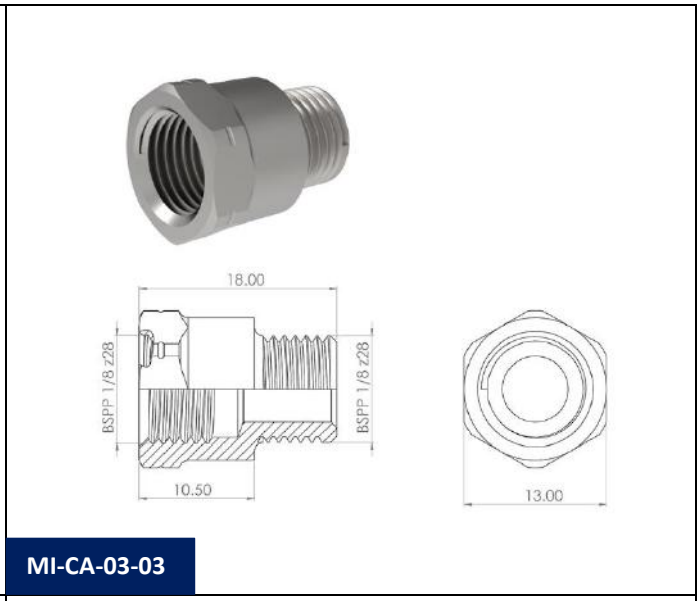


MI-CA-03-01

MI-CA-03-02



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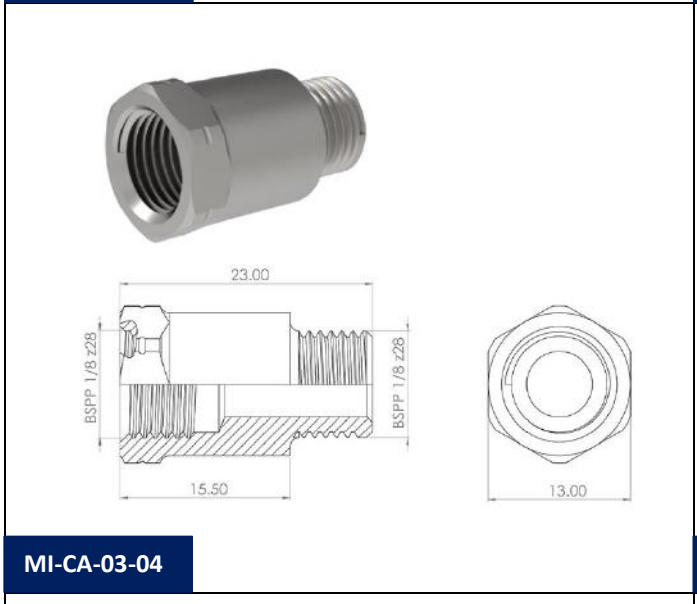
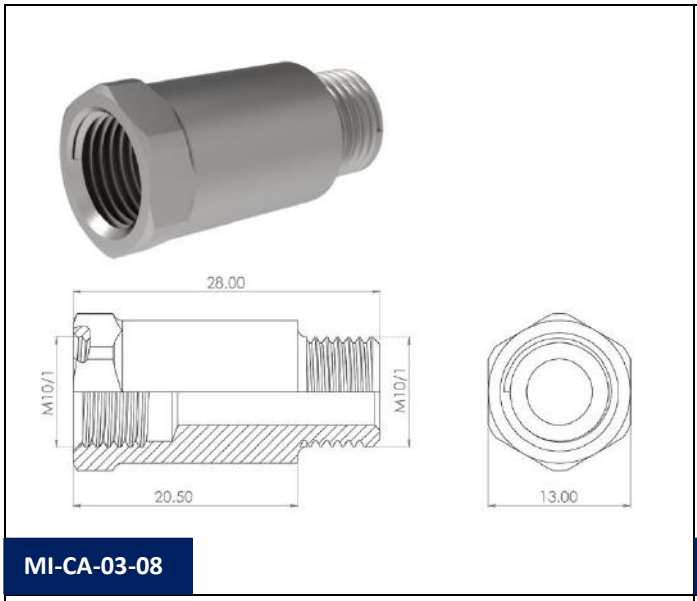


MI-CA-03-04

MI-CA-03-05

MI-CA-03-06

MI-CA-03-07



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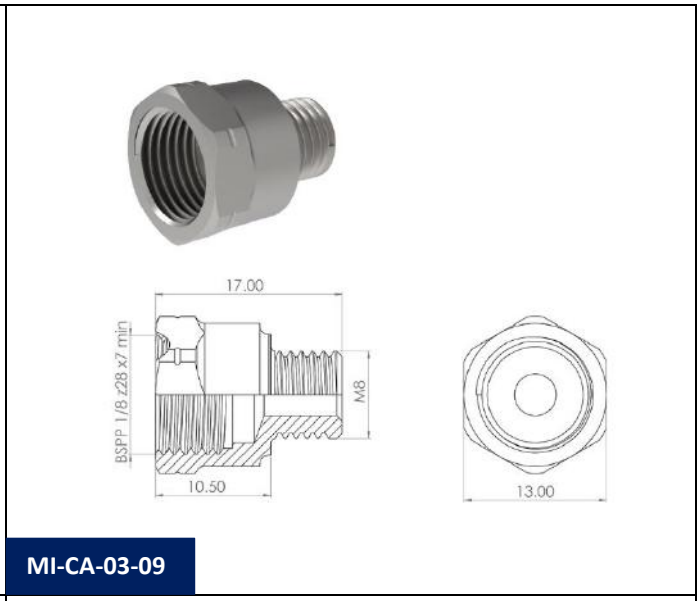

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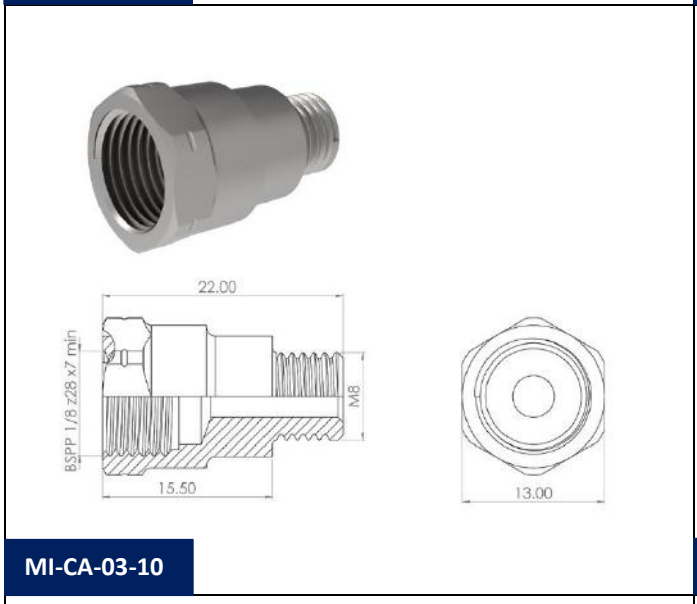

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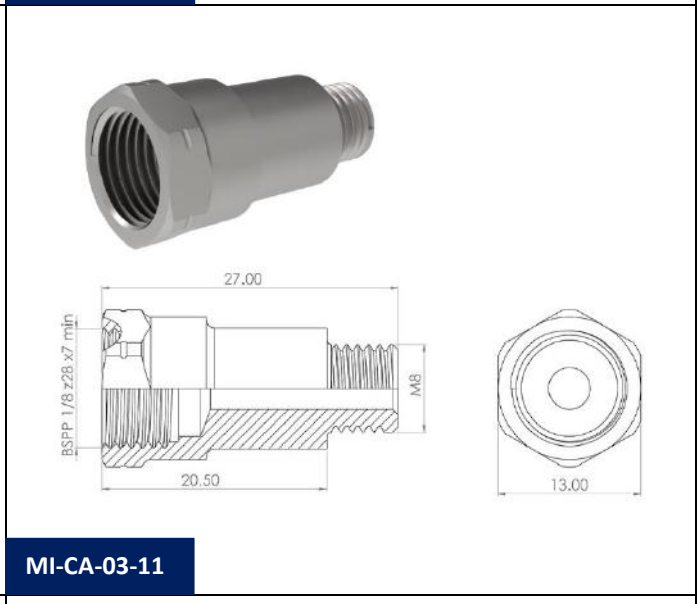

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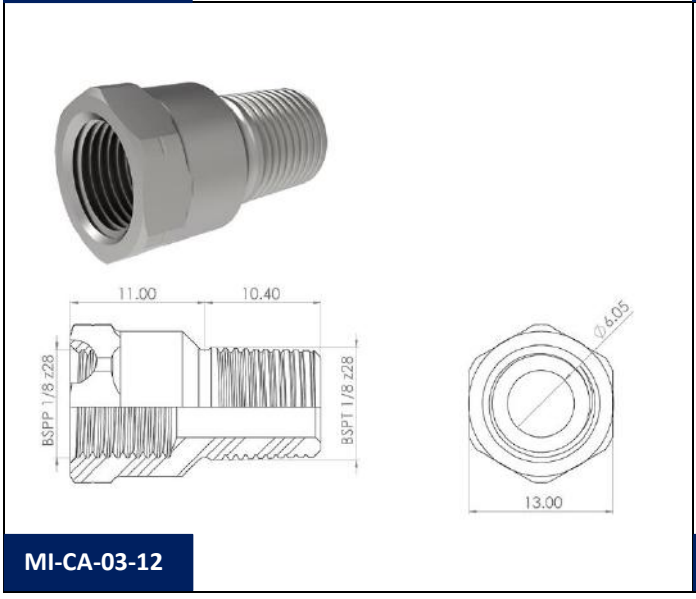

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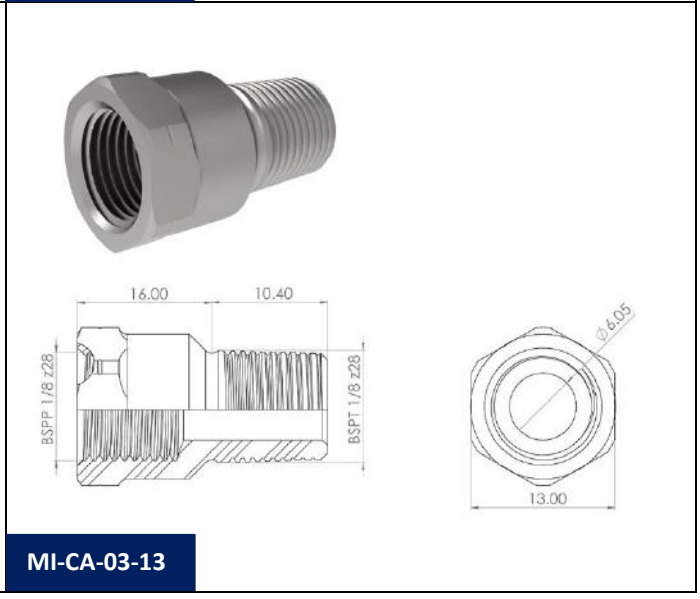

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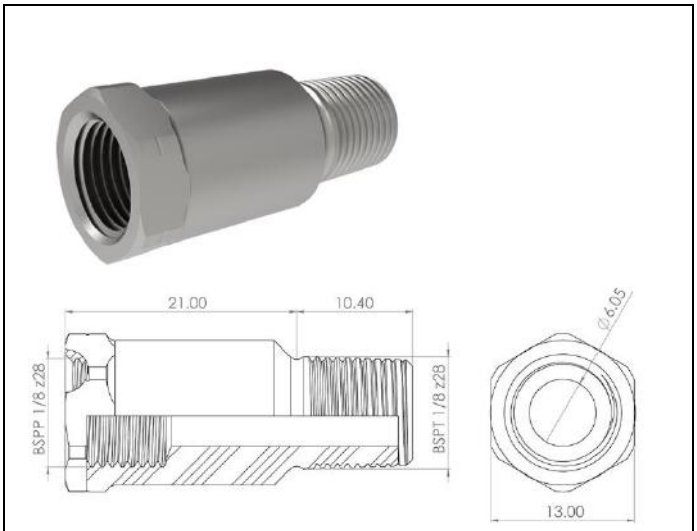

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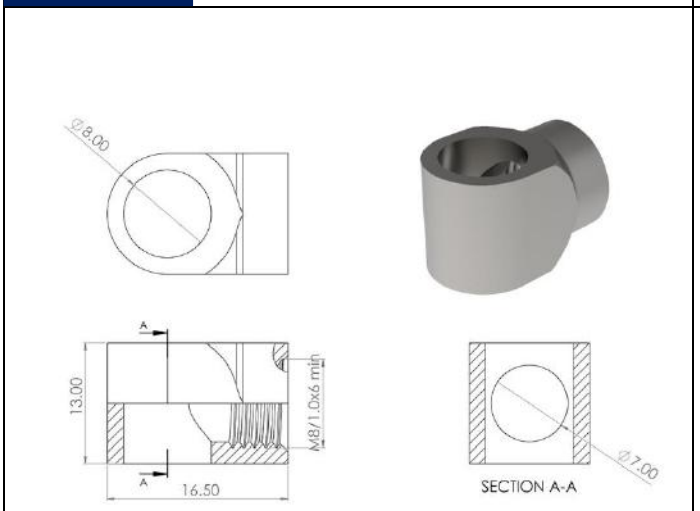

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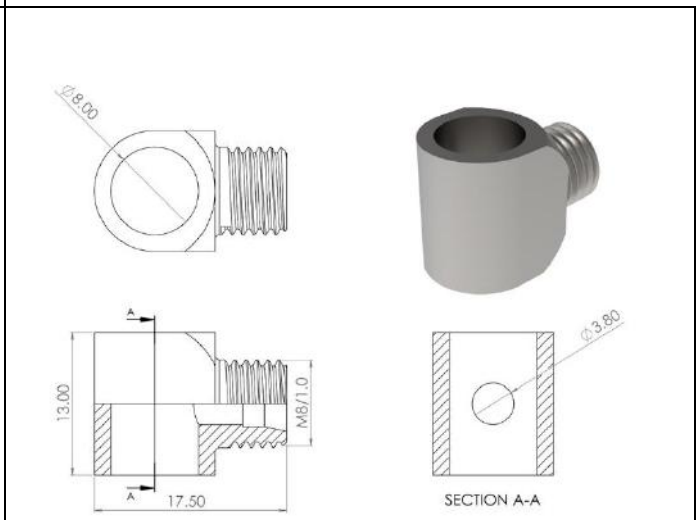
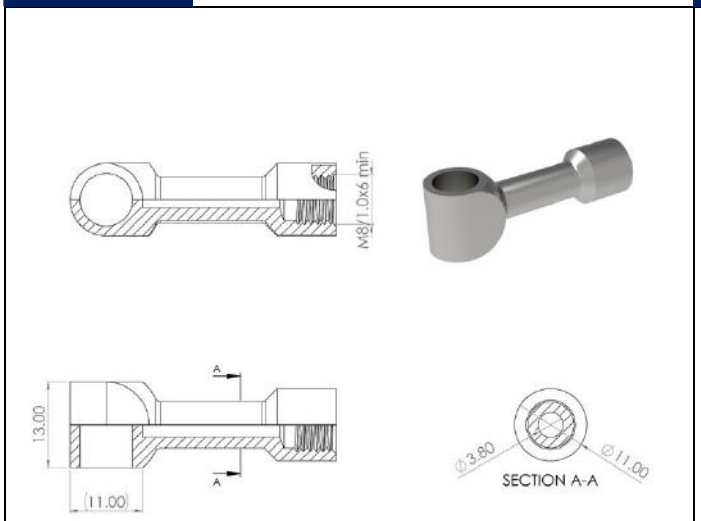
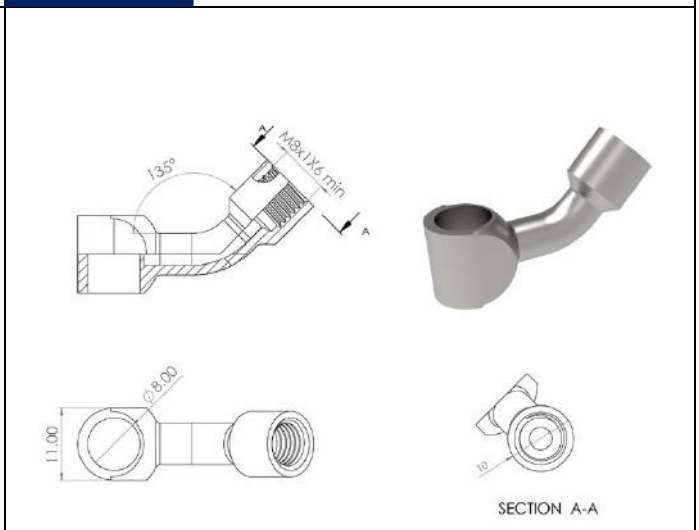


MI-CA-04-01



MI-CA-04-02



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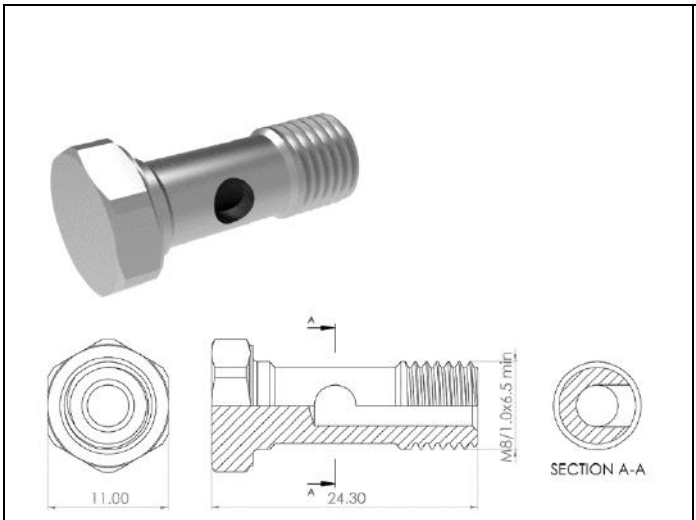

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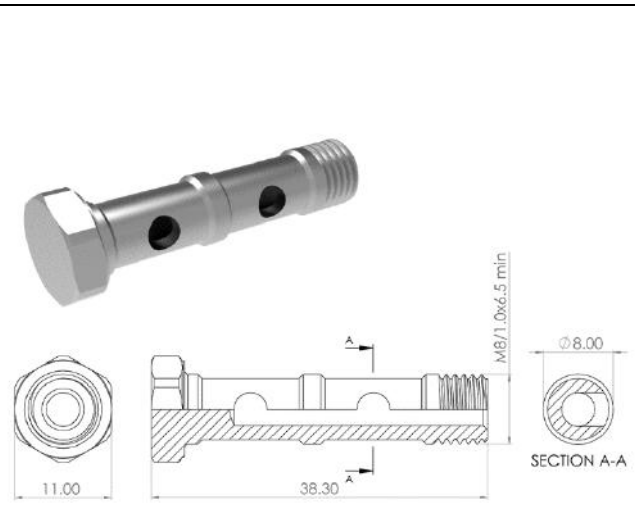

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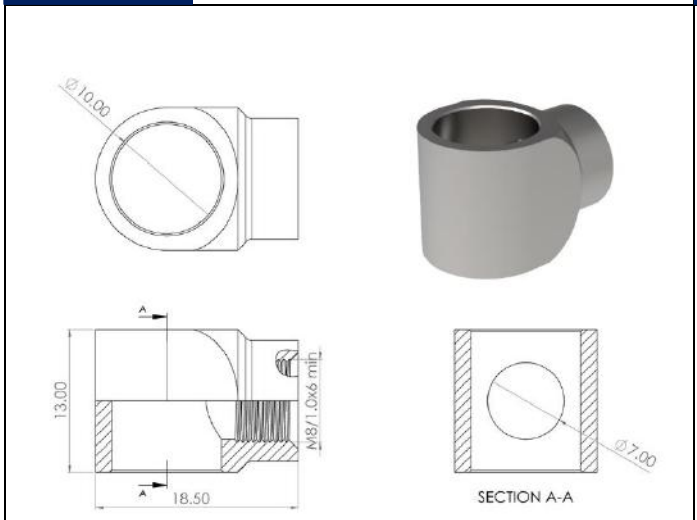

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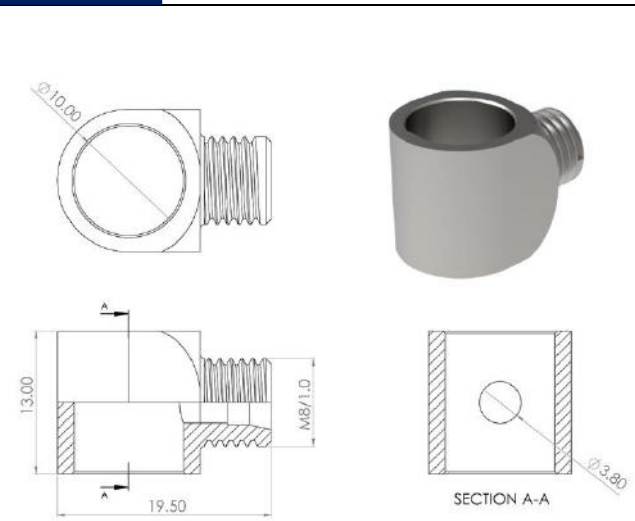

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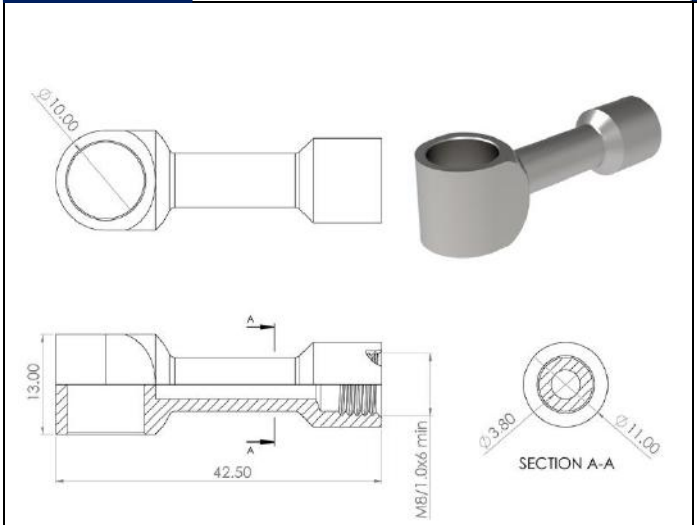

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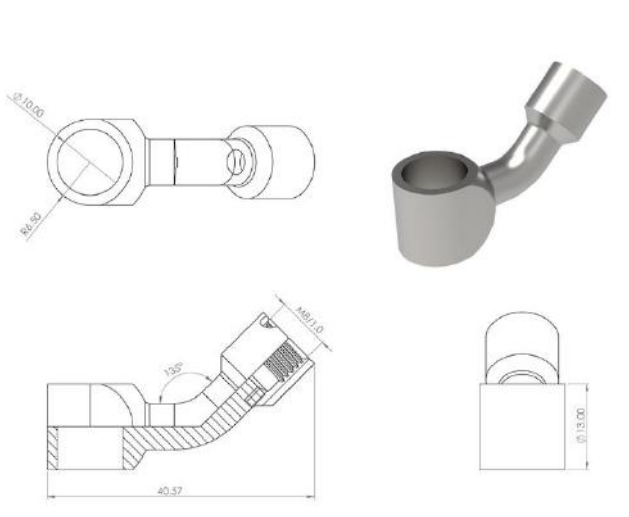
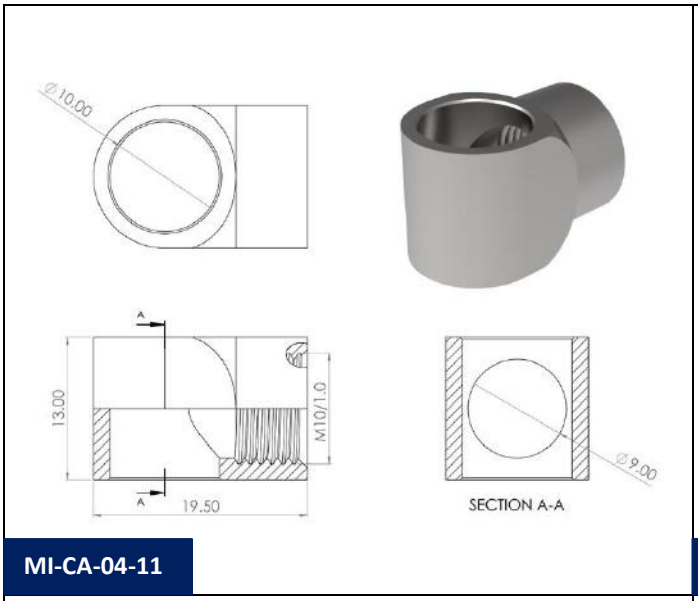


MI-CA-04-10



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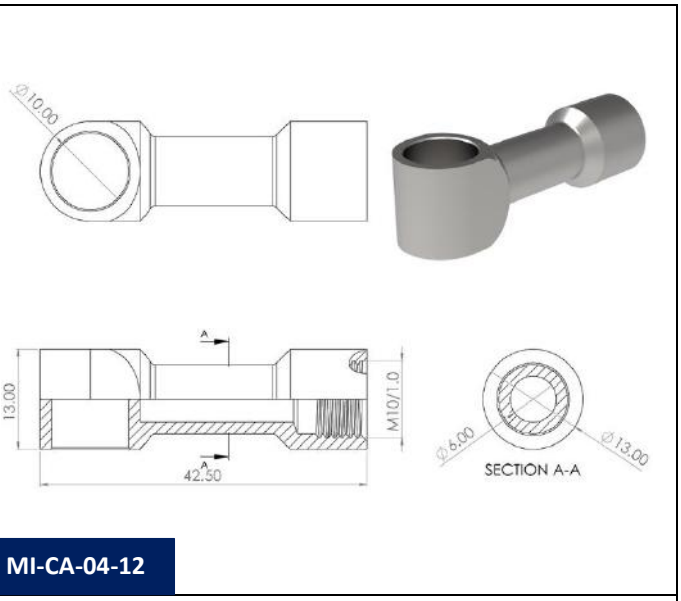

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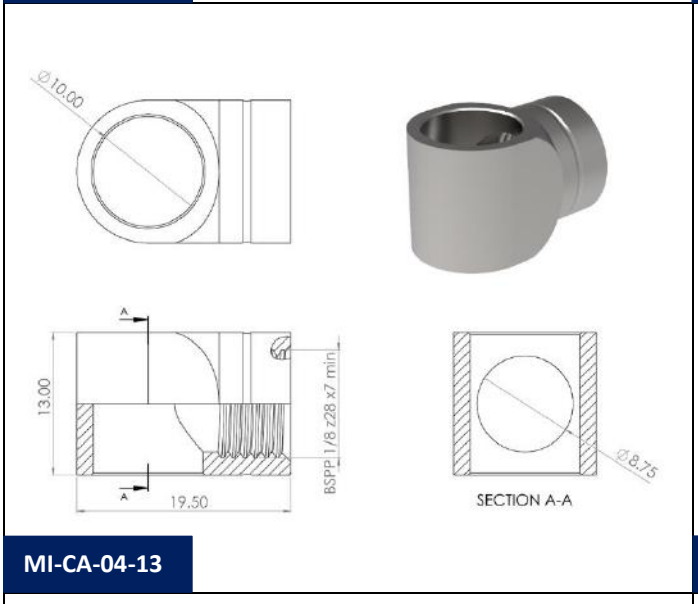

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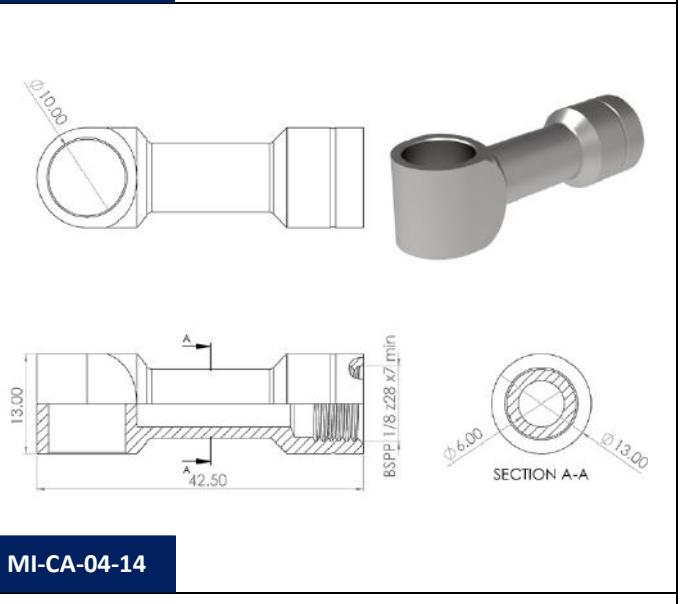

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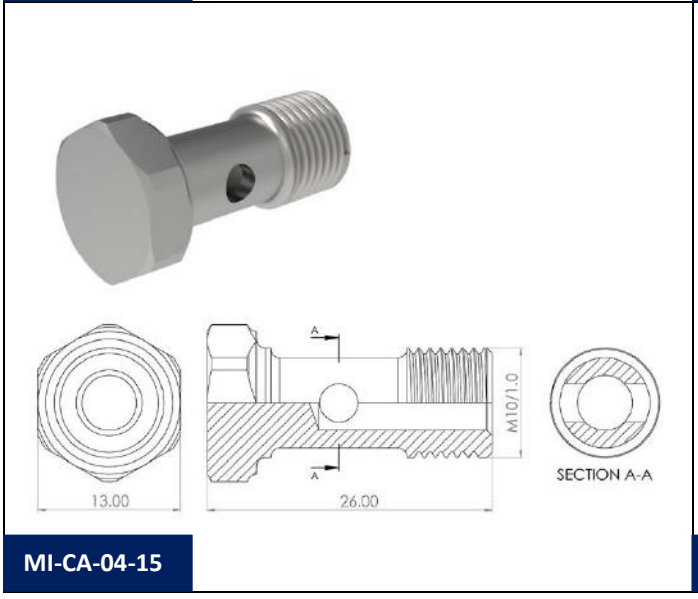

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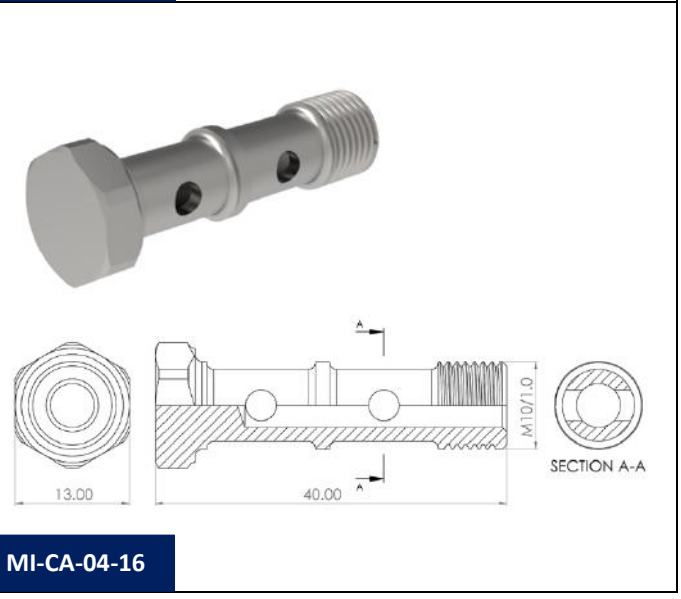

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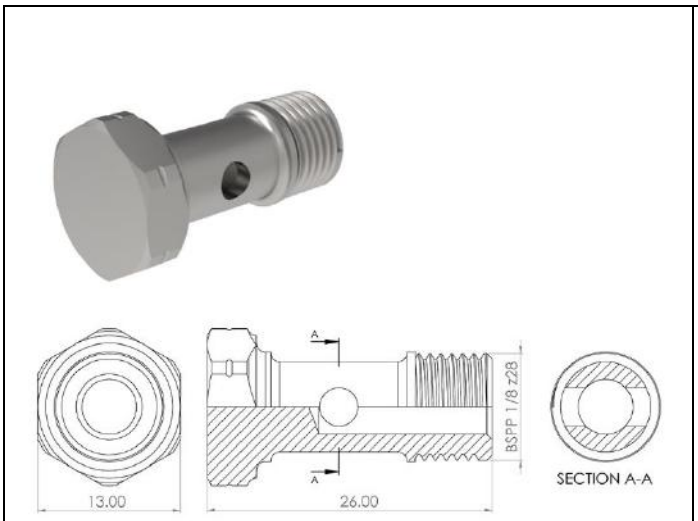

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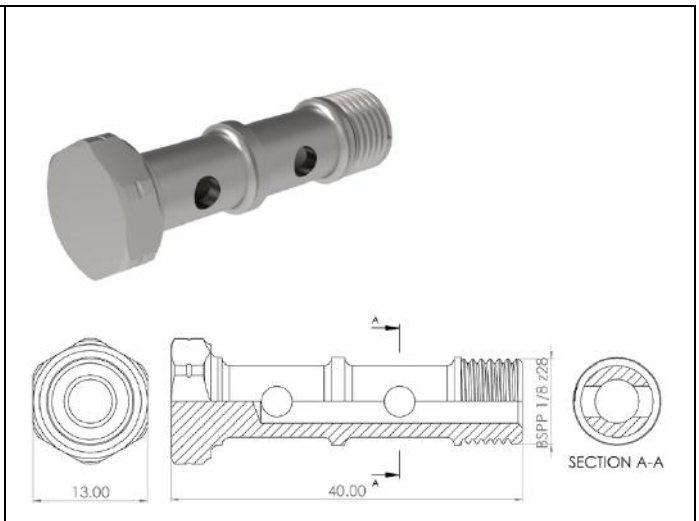
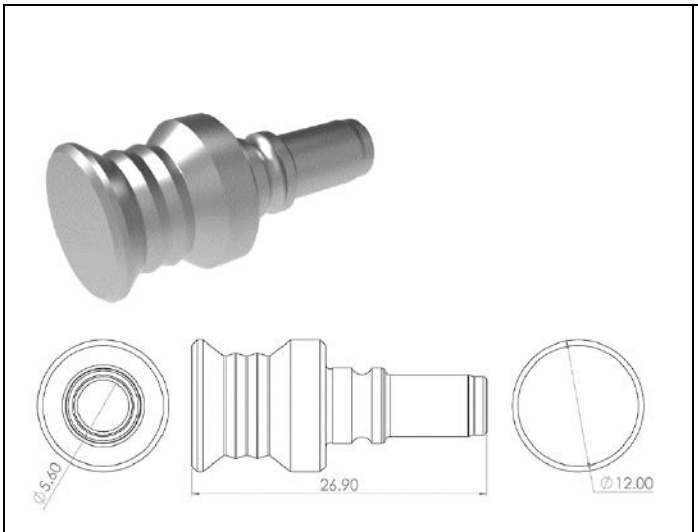


MI-CA-04-18

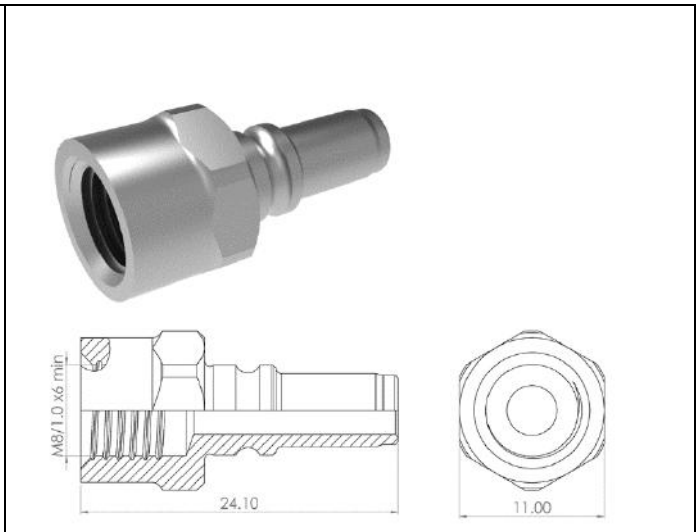
Locking and connecting plugs:

Plugs and locking plugs to connect to the quick connectors.
Material: Steel

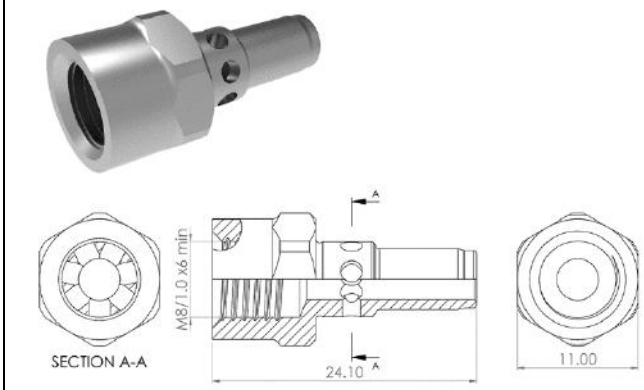
Ref.	Description
MI-CC-01-00	Sealing plug with quick connection fitting MICRO
MI-CC-01-01	Quick connection fitting MICRO to M8x1(F)
MI-CC-01-02	Non-rotating (positioning) quick connection fitting MICRO to M8x1(F)
MI-CC-01-03	Non-rotating (positioning) quick connection fitting MICRO to M8x1(M)
MI-CC-01-04	Sealing plug M8x1(M)
MI-CC-01-05	Quick connection fitting MICRO to BSPP 1/8"(F)
MI-CC-01-06	Sealing plug BSPP 1/8"(M)
MI-CC-01-07	Sealing plug BSPT 1/8"(M)



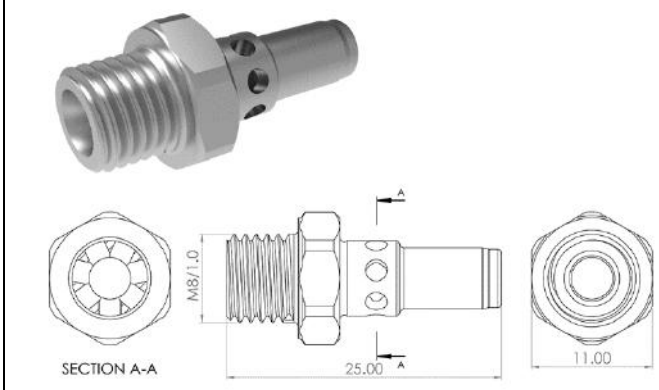
MI-CC-01-00



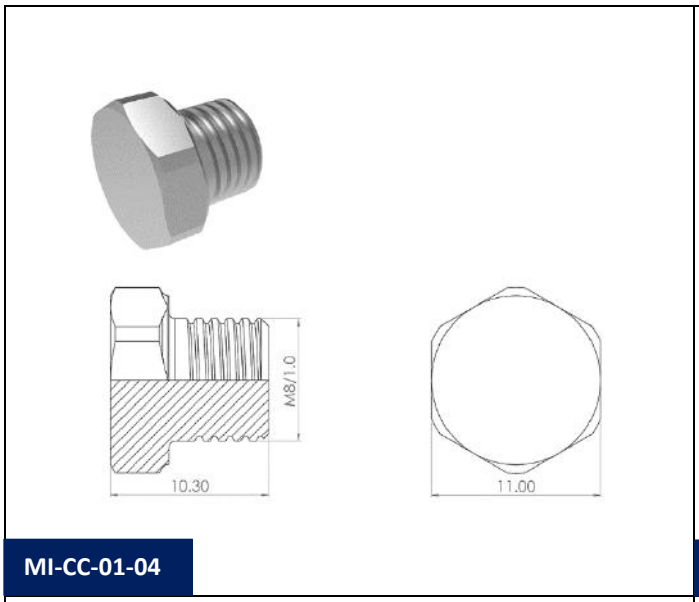
MI-CA-01-01



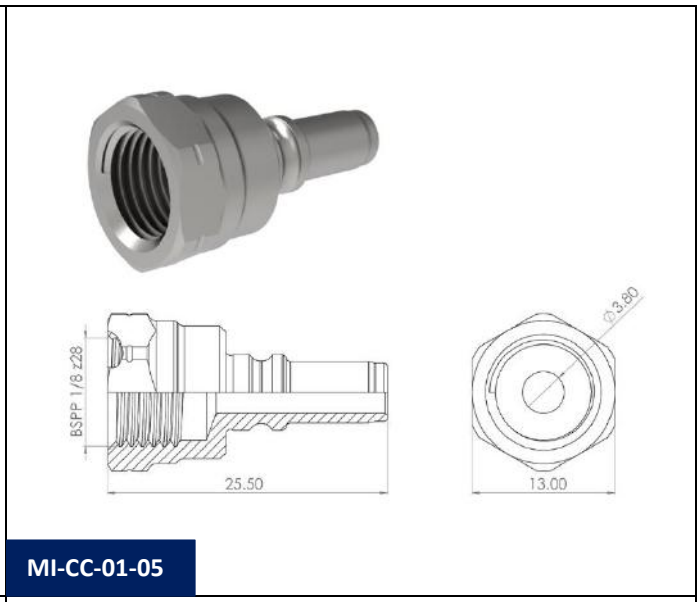
MI-CC-01-02



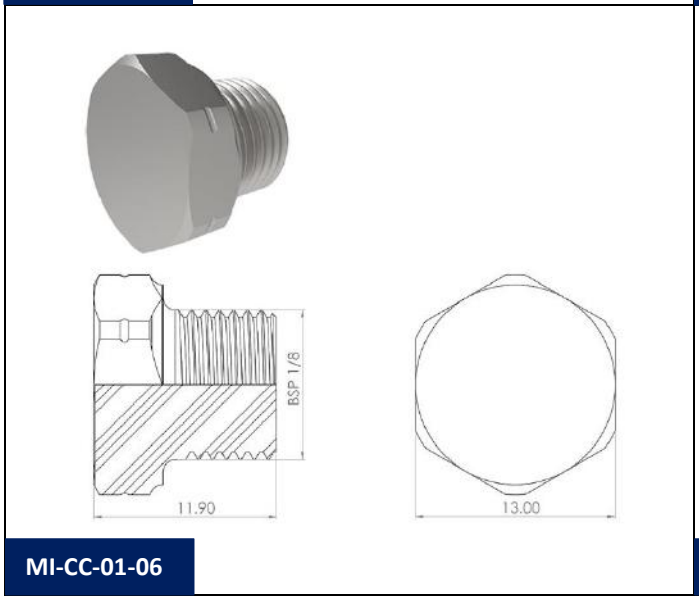
MI-CC-01-03



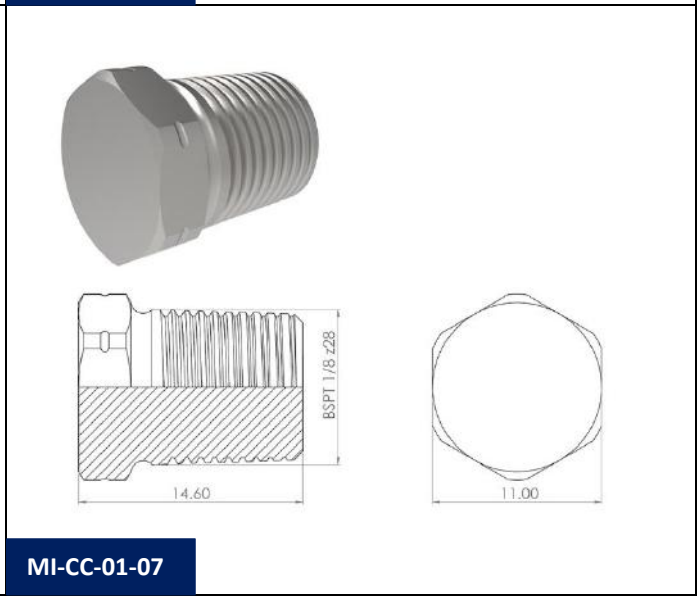
MI-CC-01-04



MI-CC-01-05



MI-CC-01-06

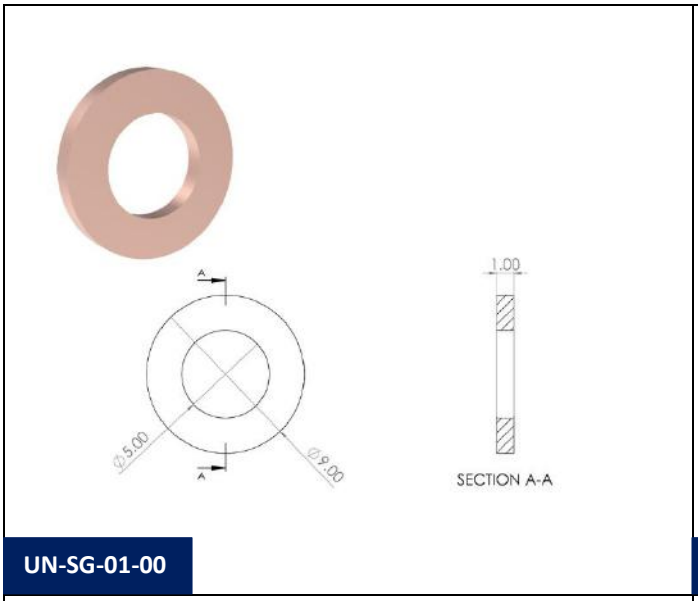


MI-CC-01-07

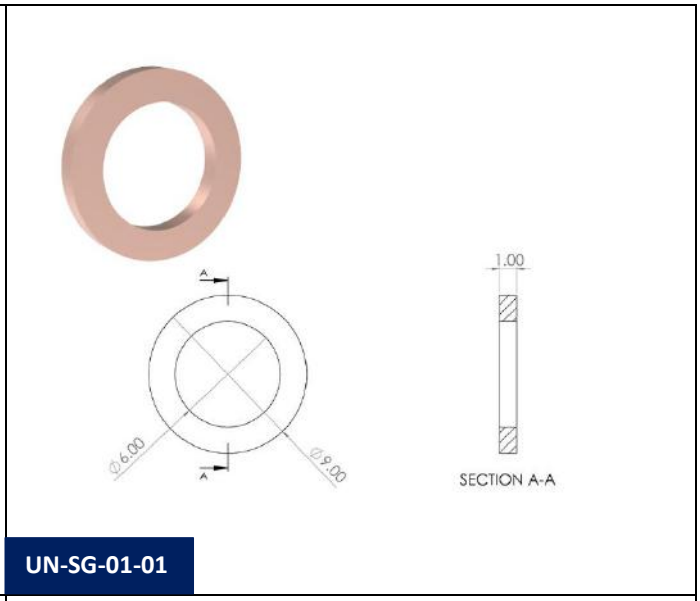
Sealing gasket:

Guarantees the tightness between the different connecting elements and according to the required diameters. Common to MICRO and NANO program.
Material: Copper.

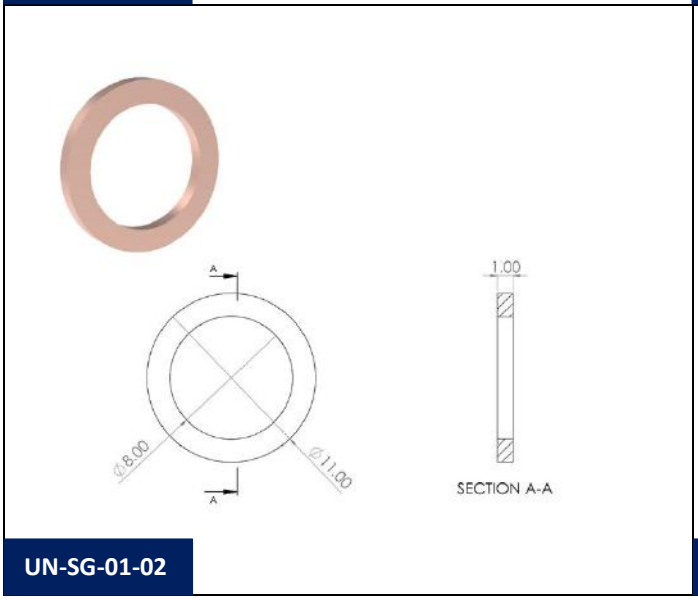
Ref.	Description
UN-SG-01-00	Sealing gasket in copper for M5 (10 units)
UN-SG-01-01	Sealing gasket in copper for M6 (10 units)
UN-SG-01-02	Sealing gasket in copper for M8 (10 units)
UN-SG-01-03	Sealing gasket in copper for M10 and BSPP 1/8" (10 units)



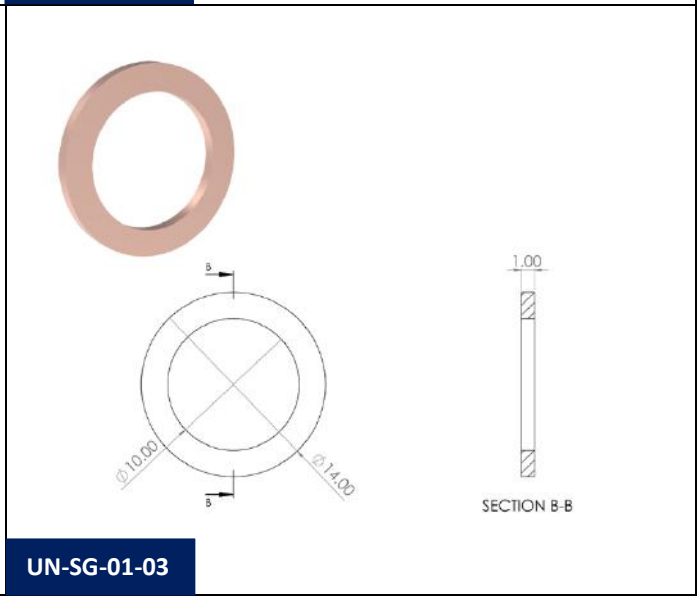
UN-SG-01-00



UN-SG-01-01



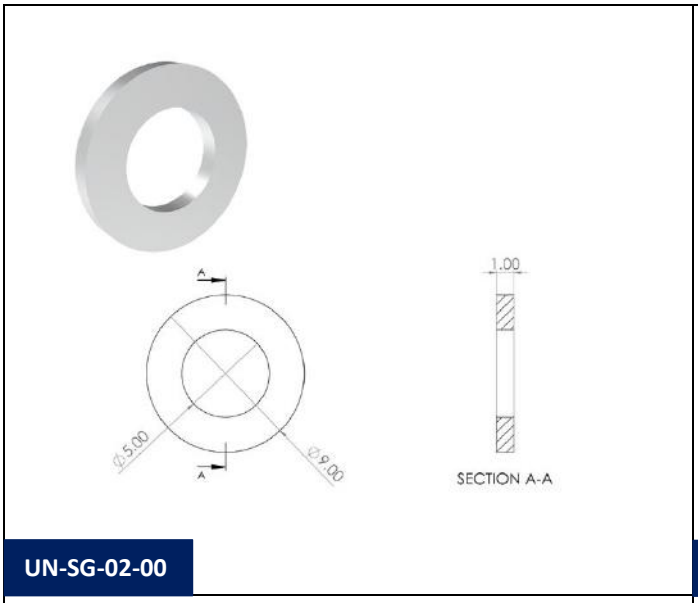
UN-SG-01-02



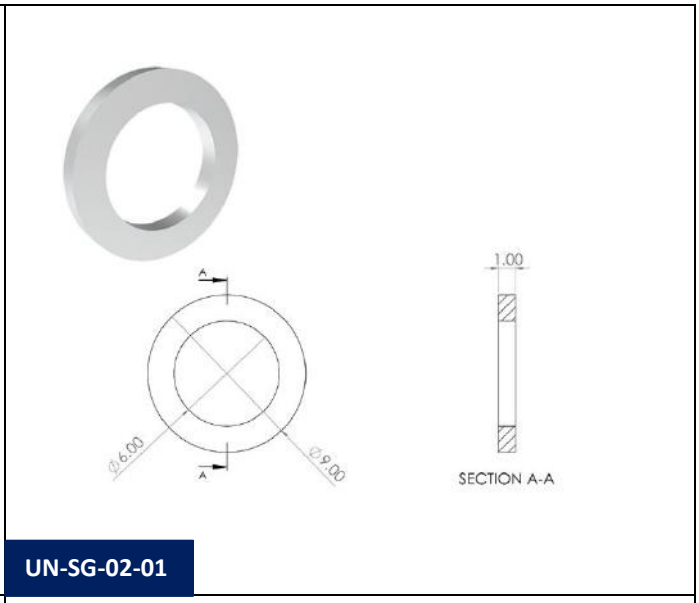
UN-SG-01-03

Guarantees the tightness between the different connecting elements and according to the required diameters. Common to MICRO and NANO program.
Material: Aluminum.

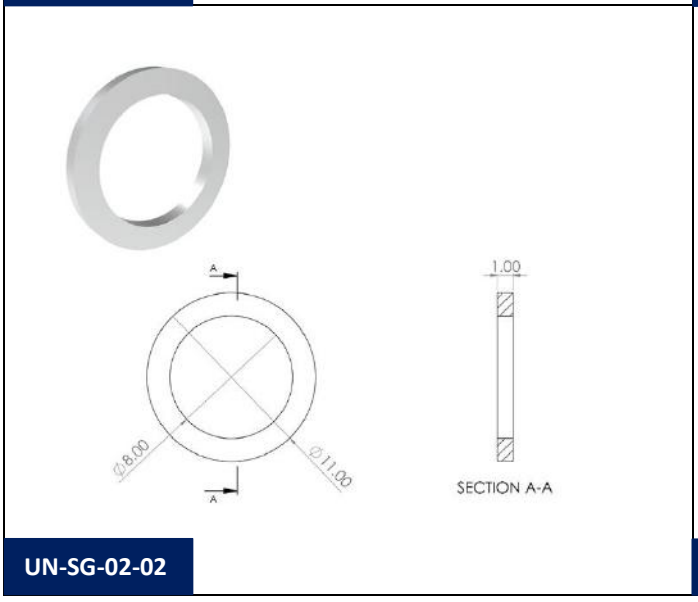
Ref.	Description
UN-SG-02-00	Sealing gasket in aluminum for M5 (10 units)
UN-SG-02-01	Sealing gasket in aluminum for M6 (10 units)
UN-SG-02-02	Sealing gasket in aluminum for M8 (10 units)
UN-SG-02-03	Sealing gasket in aluminum for M10 and BSPP 1/8" (10 units)



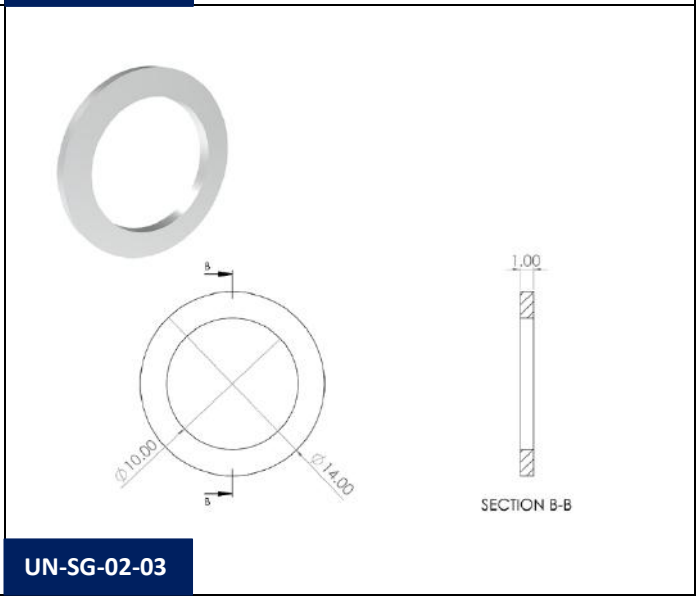
UN-SG-02-00



UN-SG-02-01



UN-SG-02-02

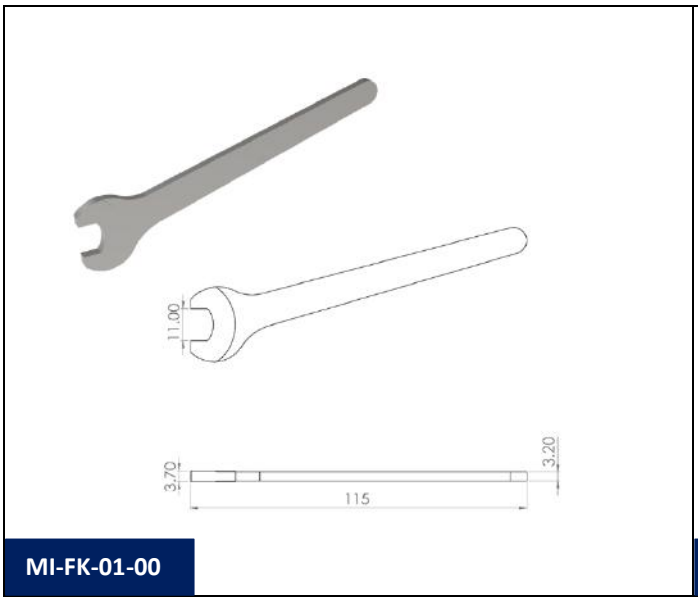


UN-SG-02-03

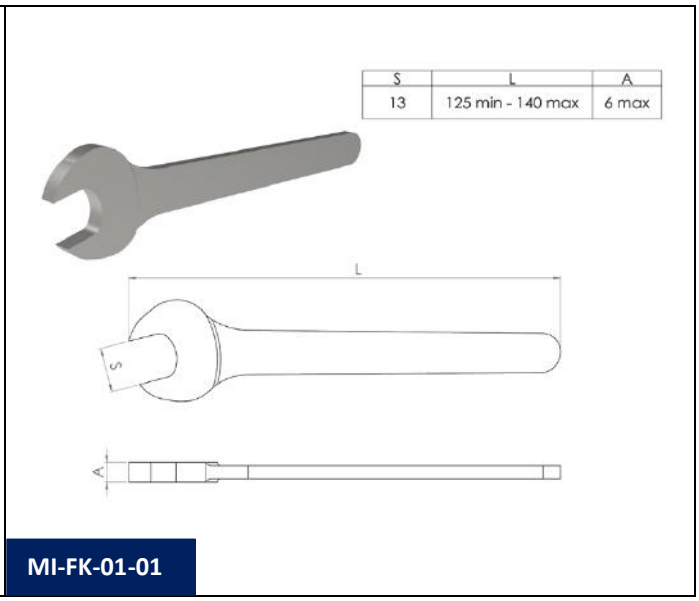
Fastening keys for the coolant distribution fittings:

Special wrenches for MICRO program assembly.

Ref.	Description
MI-FK-01-00	Wrench for assembly on the universal hexagon used in the MICRO program and in some adaptors of the NANO program. SW11
MI-FK-01-01	Wrench for assembly on hexagon used in some adaptors of the MICRO program. SW13



MI-FK-01-00

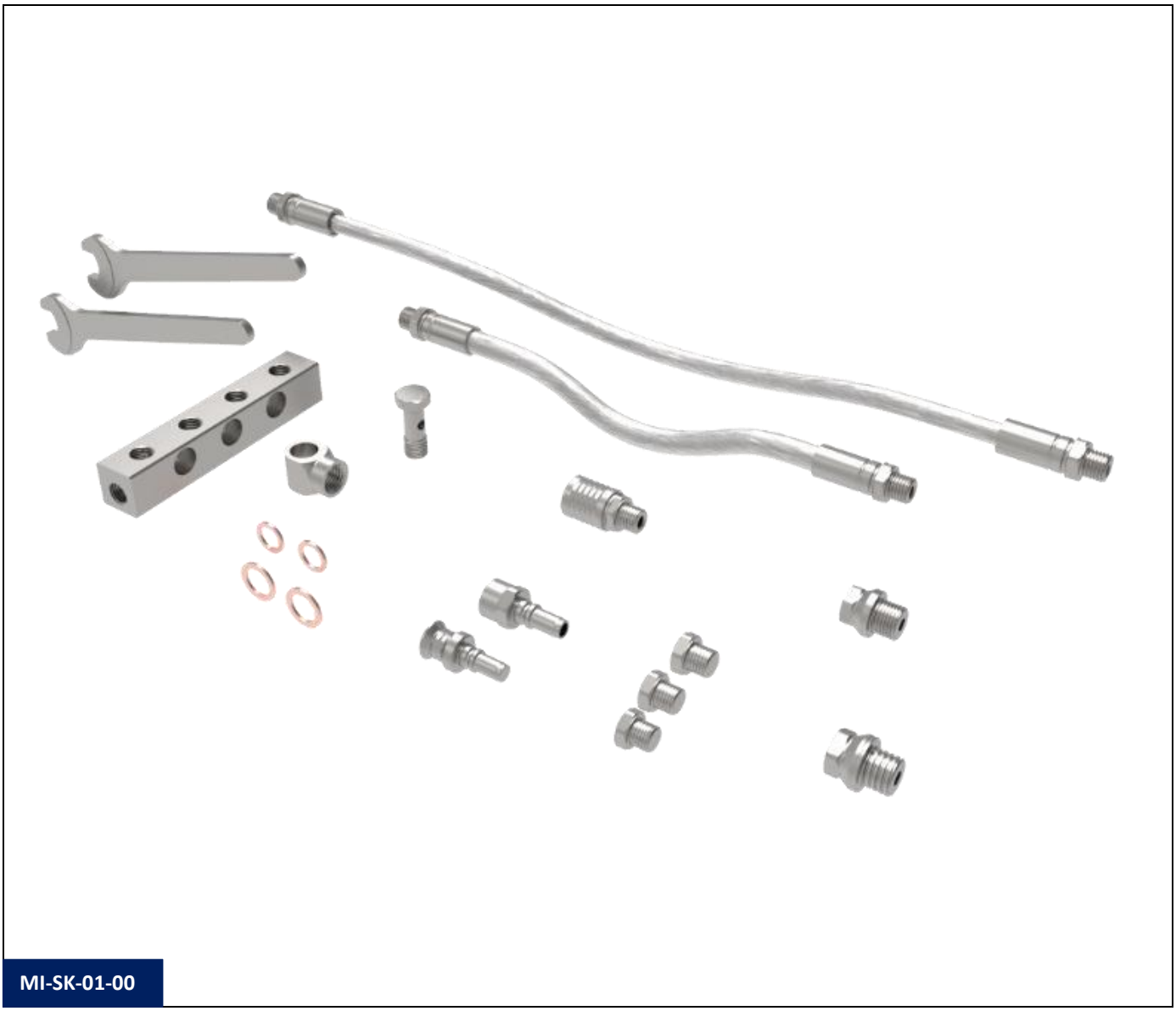


MI-FK-01-01

Starter kit:

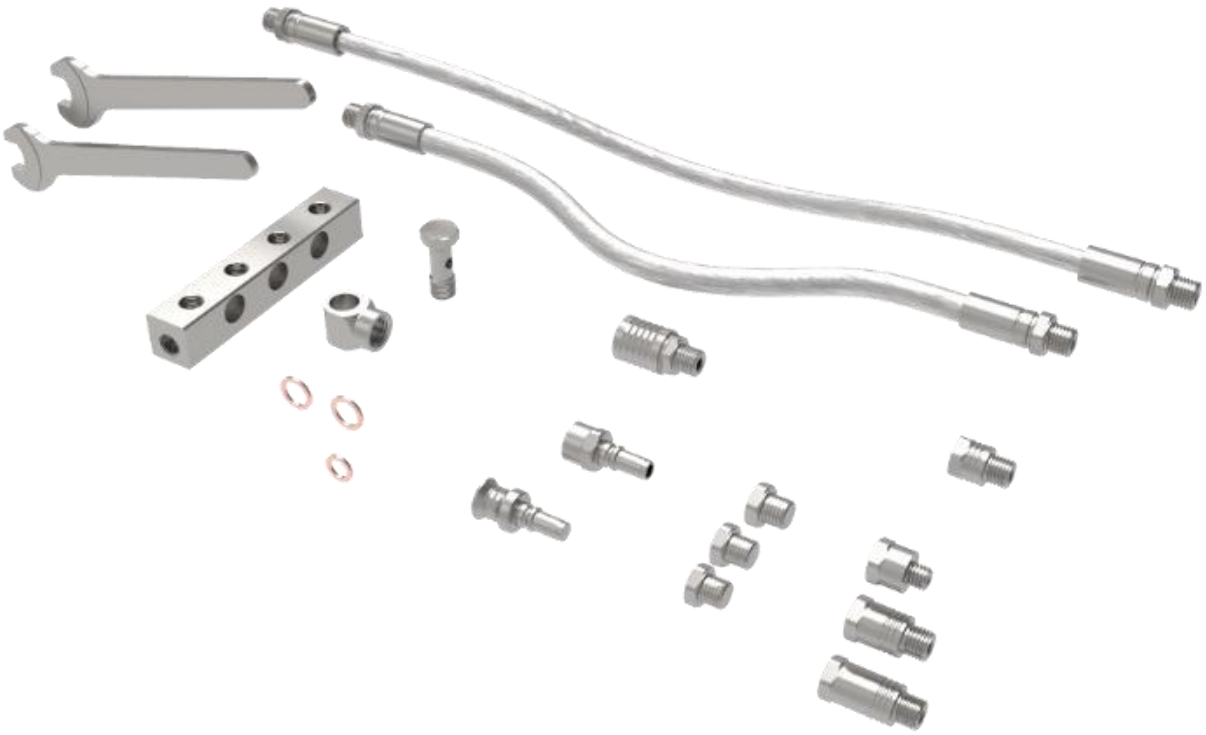
Set of components to start and become familiar with the SCS Coolant Distribution System MICRO program. Basic set of components delivered in a basic kit for the most typical applications.

Ref.	Description
MI-SK-01-00	**Basic Kit Drilling/Boring MICRO:** **For collet tool holder or round shank tool** ***Quick Connection fittings:*** 1 unit MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Distribution tubes:*** 1 unit MI-DT-01-01 M8x1(M), flexible tube OD:8 mm, 8" (203 mm), M8x1(M) 1 unit MI-DT-01-02 M8x1(M), flexible tube OD:8 mm, 12" (305 mm), M8x1(M) ***Standard coolant distribution block:*** 1 unit MI-DB-01-00 15x15x83 mm block with coolant inlet in M8x1(F) inlet and 4 outlets in M8x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position. ***Connectors and adaptors:*** 1 unit MI-CA-01-00 M8x1(F) to BSPP 1/8"(M) 1 unit MI-CA-01-01 M8x1(F) to M10x1(M) 1 unit MI-CA-04-00 Short banjo M8x1(F) 1 unit MI-CA-04-04 Banjo bolt M8x1(M) ***Locking and connecting plugs:*** 1 unit MI-CC-01-00 Sealing plug with quick connection fitting 1 unit MI-CC-01-01 Quick connection fitting MICRO to M8x1(F) 3 units MI-CC-01-04 Sealing plug M8x1(M) ***Sealing gasket:*** 2 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units) 2 units UN-SG-01-03 Sealing gasket in copper for M10 and BSPP 1/8" (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units MI-FK-01-00 Wrench for assembly on the universal hexagon used in the MICRO program. SW11



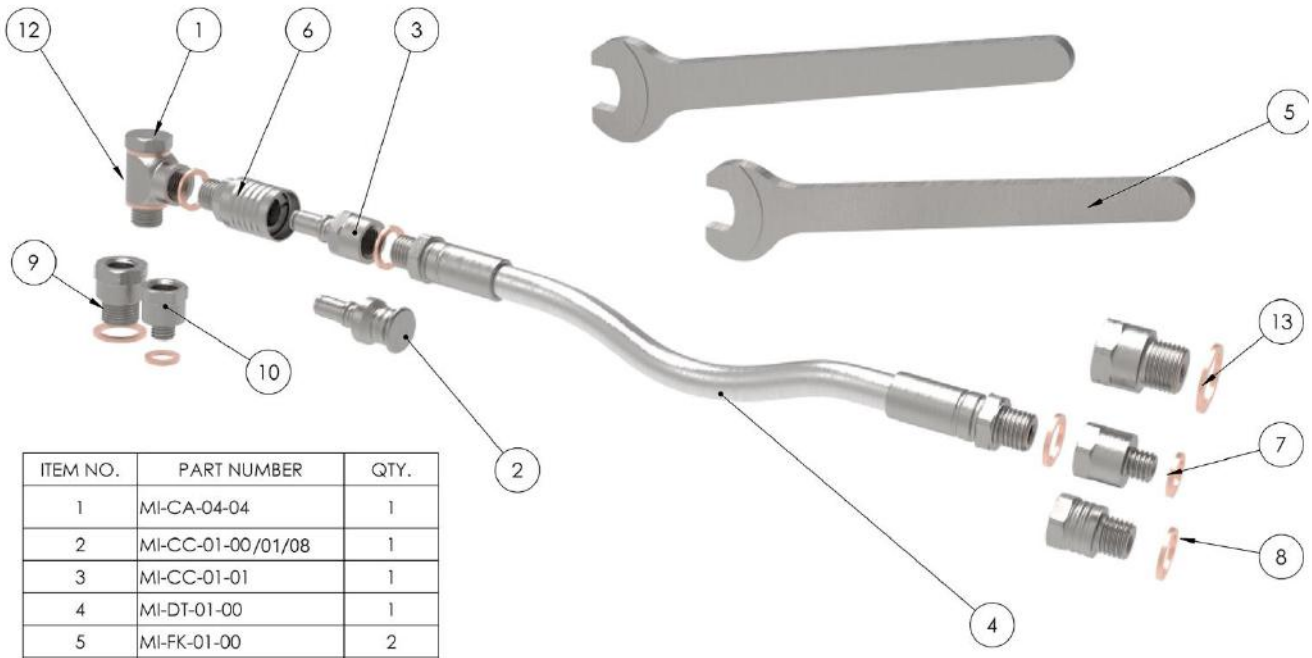
MI-SK-01-00

Ref.	Description
MI-SK-01-01	**Basic Kit Turning/Grooving/Cut off MICRO:** **For square shank tool holders** ***Quick Connection fittings:*** 1 unit MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Distribution tubes:*** 1 unit MI-DT-01-01 M8x1(M), flexible tube OD:8 mm, 8" (203 mm), M8x1(M) 1 unit MI-DT-01-02 M8x1(M), flexible tube OD:8 mm, 12" (305 mm), M8x1(M) ***Standard coolant distribution block:*** 1 unit MI-DB-01-00 15x15x83 mm block with coolant inlet in M8x1(F) inlet and 4 outlets in M8x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position. ***Connectors and adaptors:*** 1 unit MI-CA-01-06 M8x1(F) to M6x1(M) 1 unit MI-CA-03-00 Spacer H:10 mm M8x1(M) -M8x1(F) 1 unit MI-CA-03-01 Spacer H:15 mm M8x1(M) - M8x1(F) 1 unit MI-CA-03-02 Spacer H:20 mm M8x1(M) - M8x1(F) 1 unit MI-CA-04-00 Short banjo M8x1(F) 1 unit MI-CA-04-04 Banjo bolt M8x1(M) ***Locking and connecting plugs:*** 1 unit MI-CC-01-00 Sealing plug with quick connection fitting MICRO 1 unit MI-CC-01-01 Quick connection fitting MICRO to M8x1(F) 3 units MI-CC-01-04 Sealing plug M8x1(M) ***Sealing gasket:*** 1 unit UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 2 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units MI-FK-01-00 Wrench for assembly on the universal hexagon used in the MICRO program. SW11



MI-SK-01-01

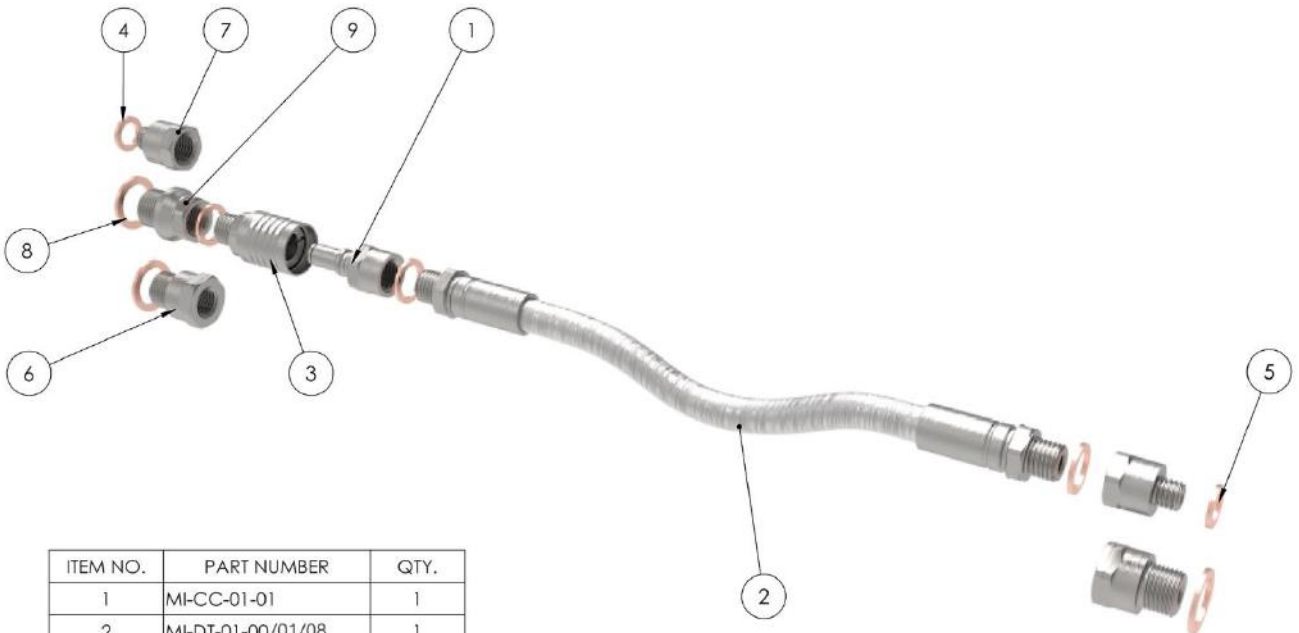
Ref.	Description
MI-SK-01-02 (102 mm flex. tube) MI-SK-01-06 (152 mm flex. tube) MI-SK-01-03 (203 mm flex. tube)	**Basic starter kit MICRO for 1 tool with flexible tube 102 or 152 or 203 mm and banjo. Assembled.** ***Quick Connection fittings:*** 1 unit MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Flexible distribution tubes:*** 1 unit MI-DT-01-00 or 01 or 08 M8x1(M), flexible tube OD:8 mm, L:4" or 6" or 8" (102 or 152 or 203 mm), M8x1(M) ***Connectors and adaptors:*** 2 units MI-CA-01-00 Adaptor M8x1(H) to BSPP 1/8"(M) 2 units MI-CA-01-06 Adaptor M8x1(H) to M6x1(M) 1 unit MI-CA-03-00 Spacer H:10 mm M8x1(M)-M8x1(F) 1 unit MI-CA-04-00 Short banjo M8x1(F) 1 unit MI-CA-04-04 Banjo bolt M8x1(M) ***Locking and connecting plugs:*** 1 unit MI-CC-01-00 Sealing plug with quick connection fitting MICRO 1 unit MI-CC-01-01 Quick connection fitting MICRO to M8x1(F) ***Sealing gaskets:*** 0.2 unit UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 0.6 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units) 0.2 units UN-SG-01-03 Sealing gasket in copper for M10 and BSPP 1/8" (10 units) ***Fastening wrenches for the fittings:*** 2 units MI-FK-01-00 Wrench for assembly on the universal hexagon used in the MICRO program. SW11



ITEM NO.	PART NUMBER	QTY.
1	MI-CA-04-04	1
2	MI-CC-01-00/01/08	1
3	MI-CC-01-01	1
4	MI-DT-01-00	1
5	MI-FK-01-00	2
6	MI-QC-01-00	1
7	UN-SG-01-01	2
8	UN-SG-01-02	6
9	MI-CA-01-00	2
10	MI-CA-01-06	2
11	MI-CA-03-00	1
12	MI-CA-04-00	1
13	UN-SG-01-03	2

MI-SK-01-02/06/03

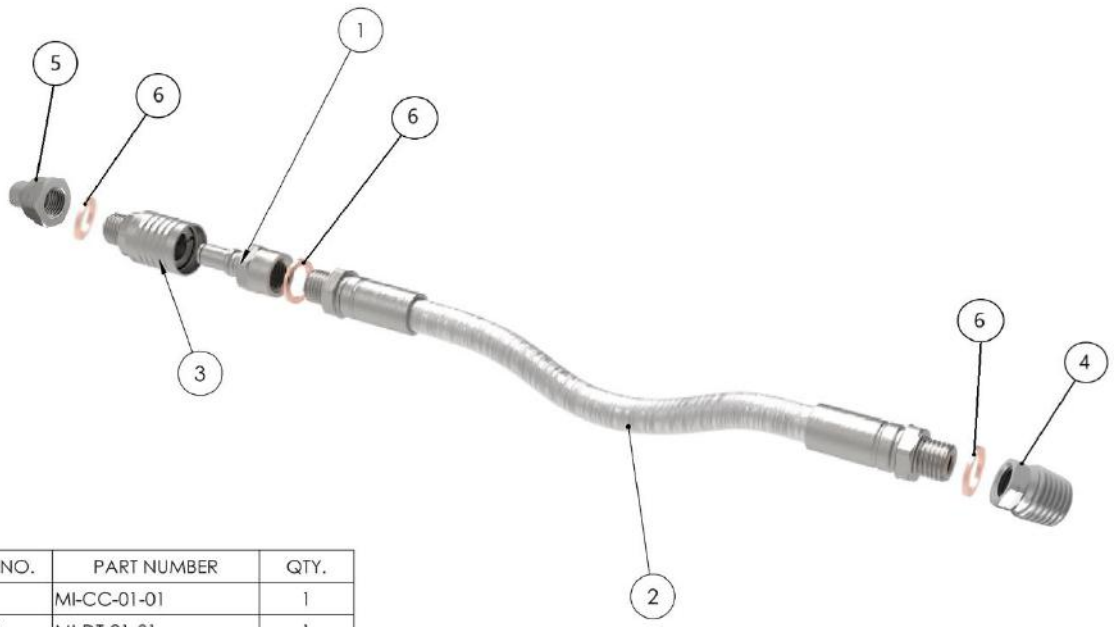
Ref.	Description
MI-SK-01-04 (102 mm flex. tube) MI-SK-01-07 (152 mm flex. tube) MI-SK-01-05 (203 mm flex. tube)	**Kit MICRO flexible tube 102 or 152 or 203 mm with quick connection fitting. Assembled.** ***Quick Connection fittings:*** 1 unit MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Flexible distribution tubes:*** 1 unit MI-DT-01-00 or 01 or 08 M8x1(M), flexible tube OD:8 mm, L:4" or 6" or 8" (102 or 152 or 203 mm), M8x1(M) ***Connectors and adaptors:*** 2 units MI-CA-01-00 Adaptor M8x1(F) to BSPP 1/8"(M) 2 units MI-CA-01-06 Adaptor M8x1(H) to M6x1(M) 1 units MI-CA-01-01 Adaptor M8x1(H) to M10x1(M) ***Locking and connecting plugs:*** 1 unit MI-CC-01-01 Quick connection fitting MICRO to M8x1(F) ***Sealing gaskets:*** 0.2 unit UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 0.3 unit UN-SG-01-02 Sealing gasket in copper for M8 (10 units) 0.3 units UN-SG-01-03 Sealing gasket in copper for M10 and BSPP 1/8" (10 units)



ITEM NO.	PART NUMBER	QTY.
1	MI-CC-01-01	1
2	MI-DT-01-00/01/08	1
3	MI-QC-01-00	1
4	UN-SG-01-01	2
5	UN-SG-01-02	3
6	MI-CA-01-00	2
7	MI-CA-01-06	2
8	UN-SG-01-03	3
9	MI-CA-01-01	1

MI-SK-01-04/07/05

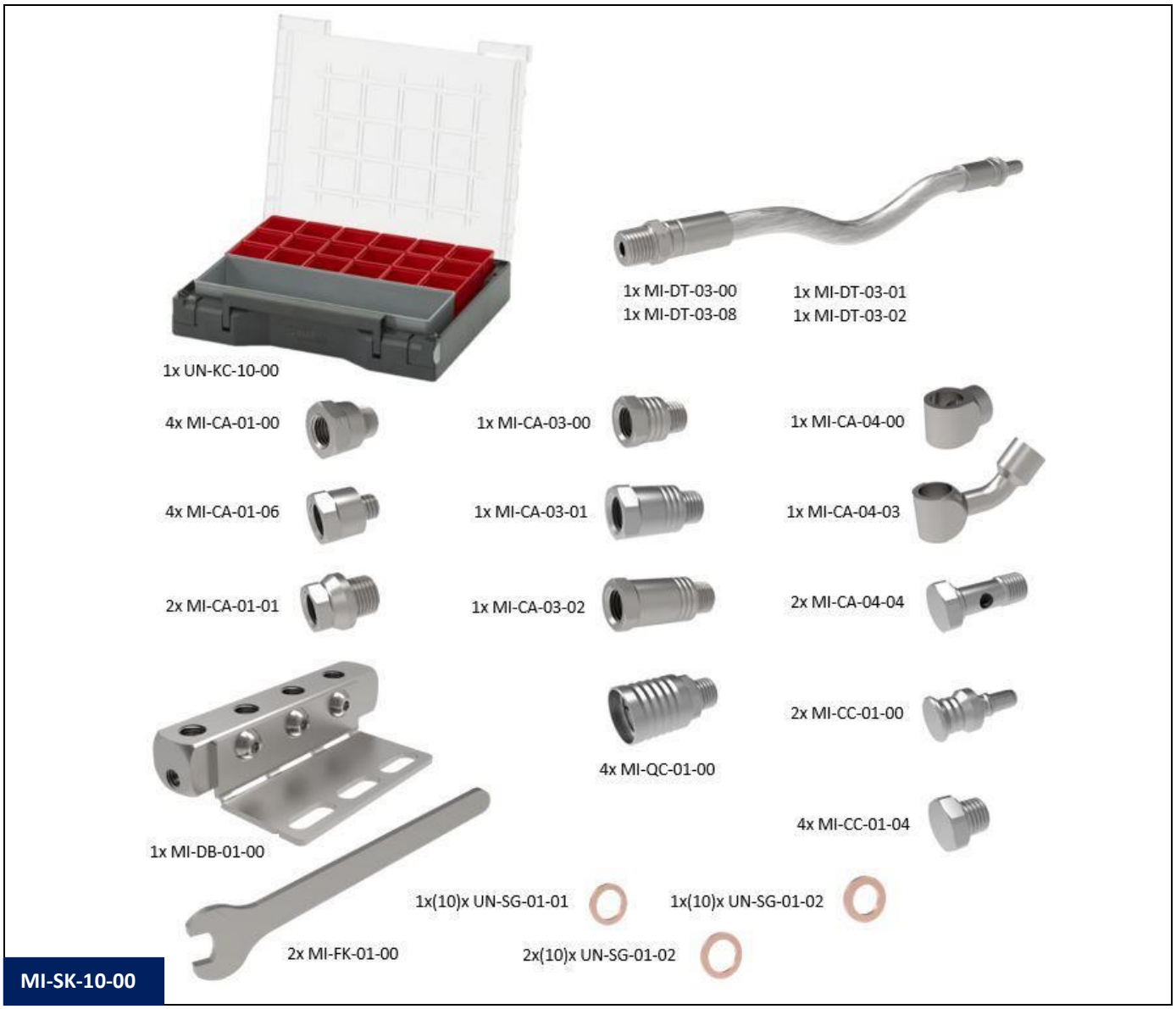
Ref.	Description
MI-SK-01-08 (203 mm flex. tube)	**Kit MICRO flexible tube 203 mm (8") with quick connection fitting. BSPT 1/4" & NPT 1/8". Assembled.** ***Quick Connection fittings:*** 1 unit MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Flexible distribution tubes:*** 1 unit MI-DT-01-01 M8x1(M), flexible tube OD:8 mm L:8" (203 mm), M8x1(M) ***Connectors and adaptors:*** 1 unit MI-CA-01-11 Adaptor M8x1(F) to BSPT 1/4"(M) 1 units MI-CA-01-16 Adaptor M8x1(F) to NPT 1/8"(M) ***Locking and connecting plugs:*** 1 unit MI-CC-01-01 Quick connection fitting MICRO to M8x1(F) ***Sealing gaskets:*** 0.2 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units)



ITEM NO.	PART NUMBER	QTY.
1	MI-CC-01-01	1
2	MI-DT-01-01	1
3	MI-QC-01-00	1
4	MI-CA-01-11	1
5	MI-CA-01-16	1
6	UN-SG-01-02	3

MI-SK-01-08

Ref.	Description
MI-SK-10-00	**Basic set Swiss-type lathe. MICRO:** **To set up a machine to work with coolant through tools.** ***Quick Connection fittings:*** 4 units MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Distribution tubes:*** 1 unit MI-DT-03-00 M8x1(M), flexible tube OD:8 mm, L:4" (102 mm), Quick connection fitting MICRO 1 unit MI-DT-03-08 M8x1(M), flexible tube OD:8 mm, L:6" (152 mm), Quick connection fitting MICRO 2 units MI-DT-03-01 M8x1(M), flexible tube OD:8 mm, L:8" (203 mm), Quick connection fitting MICRO 1 unit MI-DT-03-02 M8x1(M), flexible tube OD:8 mm, L:12" (305 mm), Quick connection fitting MICRO ***Standard coolant distribution block:*** 1 unit MI-DB-01-00 15x15x83 mm block with coolant inlet in M8x1(F) inlet and 4 outlets in M8x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position. ***Connectors and adaptors:*** 4 units MI-CA-01-00 Adaptor M8x1(F) to BSPP 1/8"(M) 4 units MI-CA-01-06 Adaptor M8x1(F) to M6x1(M) 2 units MI-CA-01-01 Adaptor M8x1(H) to M10x1(M) 1 unit MI-CA-03-00 Spacer H:10 mm M8x1(M) -M8x1(F) 1 unit MI-CA-03-01 Spacer H:15 mm M8x1(M) - M8x1(F) 1 unit MI-CA-03-02 Spacer H:20 mm M8x1(M) - M8x1(F) 1 unit MI-CA-04-00 Short banjo M8x1(F) 1 unit MI-CA-04-03 Long curved banjo M8x1(H) 2 units MI-CA-04-04 Banjo bolt M8x1(M) ***Locking and connecting plugs:*** 2 units MI-CC-01-00 Sealing plug with quick connection fitting MICRO 4 units MI-CC-01-04 Sealing plug M8x1(M) ***Sealing gasket:*** 1 unit UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 2 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units) 1 unit UN-SG-01-03 Sealing gasket in copper for M10 & BSPP 1/8" (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units MI-FK-01-00 Wrench for assembly on the universal hexagon used in the MICRO program. SW11 ***Product Case:*** 1 unit UN-KC-10-00 Assortment box. Outer dimensions (LxWxH): 35x29.5x7.1 cm in black color. Includes insertable bins in Sky Blue (RAL 5015).

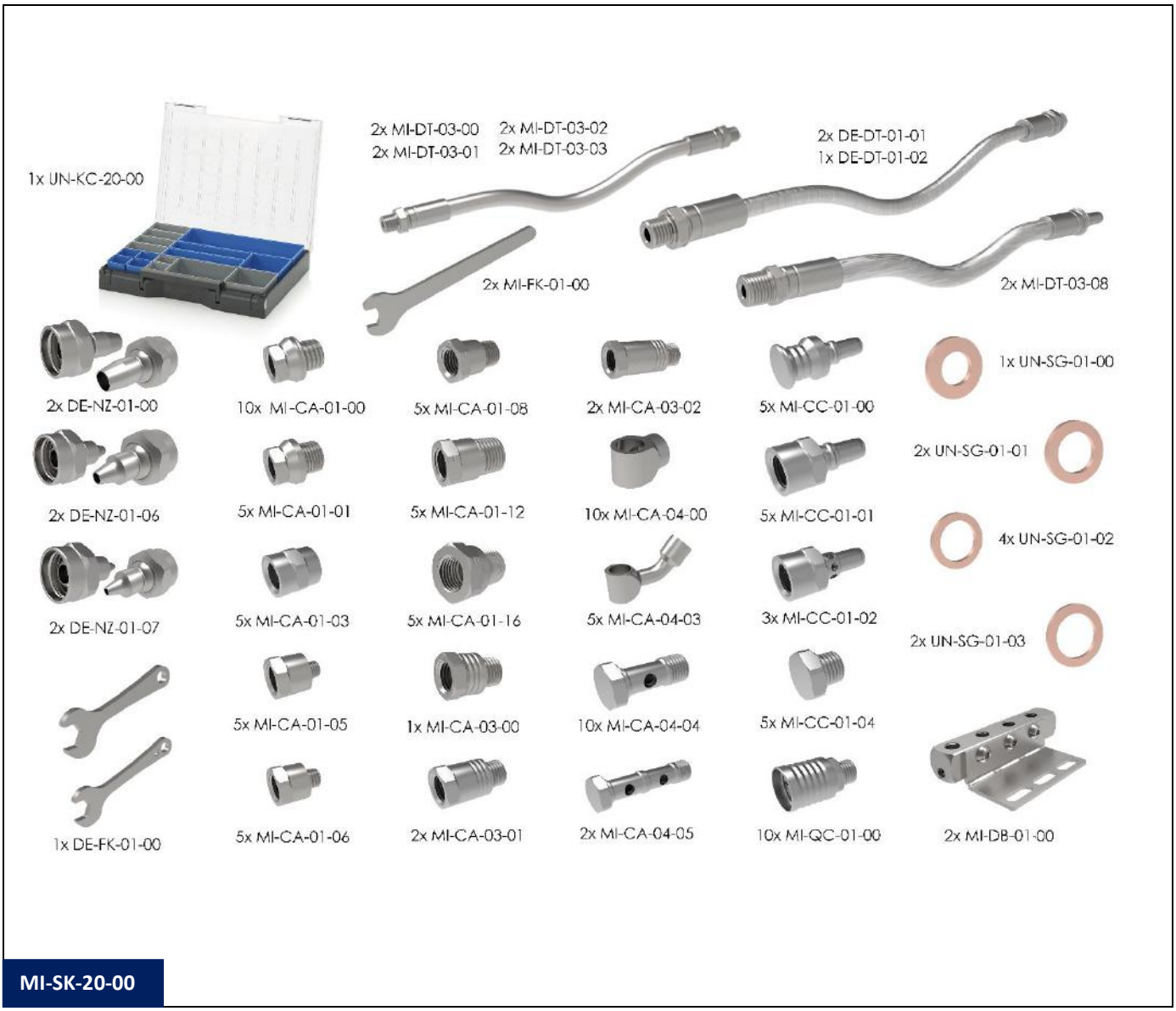

1x UN-KC-10-00
1x MI-DT-03-00
1x MI-DT-03-08
1x MI-DT-03-01
1x MI-DT-03-02
4x MI-CA-01-00
1x MI-CA-03-00
1x MI-CA-04-00
4x MI-CA-01-06
1x MI-CA-03-01
1x MI-CA-04-03
2x MI-CA-01-01
1x MI-CA-03-02
2x MI-CA-04-04
4x MI-QC-01-00
2x MI-CC-01-00
4x MI-CC-01-04
1x MI-DB-01-00
1x(10)x UN-SG-01-01
1x(10)x UN-SG-01-02
2x MI-FK-01-00
2x(10)x UN-SG-01-02

MI-SK-10-00


BASIC SET SWISS-TYPE LATHE
4 5 6 11 12 13 14
High Pressure
MI-SK-10-00 (MICRO)

Ref.	Description
MI-SK-20-00	**Extended Set Swiss-type lathe. MICRO:** **To set up a machine to work with coolant through tools and quick connection copper tubes.** ***Quick Connection fittings:*** 10 units MI-QC-01-00 Quick connection fitting MICRO with M8x1(M) on one end. ***Flexible distribution tubes:*** 2 units MI-DT-03-00 M8x1(M), flexible tube OD:8 mm, L:4" (102 mm), Quick connection fitting MICRO 2 units MI-DT-03-08 M8x1(M), flexible tube OD:8 mm, L:6" (152 mm), Quick connection fitting MICRO 2 units MI-DT-03-01 M8x1(M), flexible tube OD:8 mm, L:8" (203 mm), Quick connection fitting MICRO 2 units MI-DT-03-02 M8x1(M), flexible tube OD:8 mm, L:12" (305 mm), Quick connection fitting MICRO 2 units MI-DT-01-03 M8x1(M), flexible tube OD=8 mm, 16" (406 mm), M8x1(M) ***Copper tube Kit OD:6 mm DECA:*** 2 units DE-DT-01-01 M8x1(M) thread, nut and compression ring, copper tube OD:6 mm, ID:4 mm and L:6" (152 mm), other end with compression ring and DECA(M) thread. 1 unit DE-DT-01-02 M8x1(M) thread, nut and compression ring, copper tube OD:6 mm, ID:4 mm and L:8" (203 mm), other end with compression ring and DECA(M) thread. ***Coolant nozzles for copper tube kit:*** 2 units DE-NZ-01-00 Straight nozzle. ID:3 mm & L:9 mm 2 units DE-NZ-01-06 Straight nozzle. ID:1.5 mm & L:9 mm 2 units DE-NZ-01-07 Straight nozzle. ID:1 mm & L:9 mm ***Standard coolant distribution block:*** 2 units MI-DB-01-00 15x15x83 mm block with coolant inlet in M8x1(F) inlet and 4 outlets in M8x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position. ***Connectors and adaptors:*** 10 units MI-CA-01-00 Adaptor M8x1(F) to BSPP 1/8"(M) 5 units MI-CA-01-06 Adaptor M8x1(F) to M6x1(M) 5 units MI-CA-01-01 Adaptor M8x1(F) to M10x1(M) 5 units MI-CA-01-05 Adaptor M8x1(F) to M5x0.8(M) 5 units MI-CA-01-08 Adaptor M8x1(F) to M8x1 keg(M) 5 units MI-CA-01-12 Adaptor M8x1(F) to BSPT 1/8"(M) 5 units MI-CA-01-16 Adaptor M8x1(F) to NPT 1/8"(M)

Ref.	Description
(Cont'd) MI-SK-20-00	5 units MI-CA-01-03 Adaptor M8x1(F) to M8x1(F) 1 unit MI-CA-03-00 Spacer H:10 mm M8x1(M) -M8x1(F) 2 units MI-CA-03-01 Spacer H:15 mm M8x1(M) - M8x1(F) 2 units MI-CA-03-02 Spacer H:20 mm M8x1(M) - M8x1(F) 10 units MI-CA-04-00 Short banjo M8x1(F) 5 units MI-CA-04-03 Long curved banjo M8x1(H) 10 units MI-CA-04-04 Banjo bolt M8x1(M) 2 unitsMI-CA-04-05 Banjo bolt double length M8x1(M) to connect 2 Banjos ***Locking and connecting plugs:*** 5 units MI-CC-01-00 Sealing plug with quick connection fitting MICRO 5 units MI-CC-01-01 Quick connection fitting MICRO to M8x1(F) 3 units MI-CC-01-02 Non-rotating (positioning) quick connection fitting MICRO to M8x1(F) 5 units MI-CC-01-04 Sealing plug M8x1(M) ***Sealing gaskets:*** 1 unit UN-SG-01-00 Sealing gasket in copper for M5 (10 units) 2 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 4 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units) 2 units UN-SG-01-03 Sealing gasket in copper for M10 & BSPP 1/8" (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units MI-FK-01-00 Wrench for assembly on the universal hexagon used in the MICRO program. SW11 1 unit. DE-FK-01-00 Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9. ***Product Case*** 1 unit UN-KC-20-00 Assortment box. Outer dimensions (LxWxH): 44x35.5x7.1 cm in black color. Includes insertable bins in Sky Blue (RAL 5015).

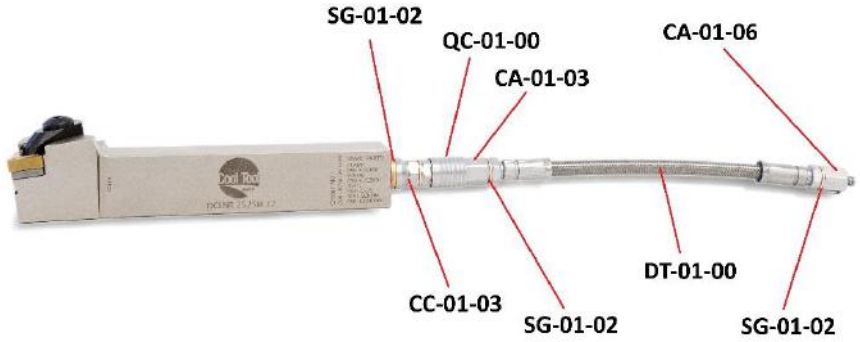

1x UN-KC-20-00
2x MI-DT-03-00
2x MI-DT-03-01
2x MI-DT-03-02
2x MI-DT-03-03
2x DE-DT-01-01
1x DE-DT-01-02
2x MI-FK-01-00
2x MI-DT-03-08
2x DE-NZ-01-00
10x MI-CA-01-00
5x MI-CA-01-08
2x MI-CA-03-02
5x MI-CC-01-00
1x UN-SG-01-00
2x DE-NZ-01-06
5x MI-CA-01-01
5x MI-CA-01-12
10x MI-CA-04-00
5x MI-CC-01-01
2x UN-SG-01-01
2x DE-NZ-01-07
5x MI-CA-01-03
5x MI-CA-01-16
5x MI-CA-04-03
3x MI-CC-01-02
4x UN-SG-01-02
5x MI-CA-01-05
1x MI-CA-03-00
10x MI-CA-04-04
5x MI-CC-01-04
2x UN-SG-01-03
1x DE-FK-01-00
5x MI-CA-01-06
2x MI-CA-03-01
2x MI-CA-04-05
10x MI-QC-01-00
2x MI-DB-01-00

MI-SK-20-00


EXTENDED SET SWISS-TYPE LATHE
4 5 6 11 12 13 14
SCS
High Pressure
MI-SK-20-00 (MICRO)
MI-SK-20-00 (NANO)

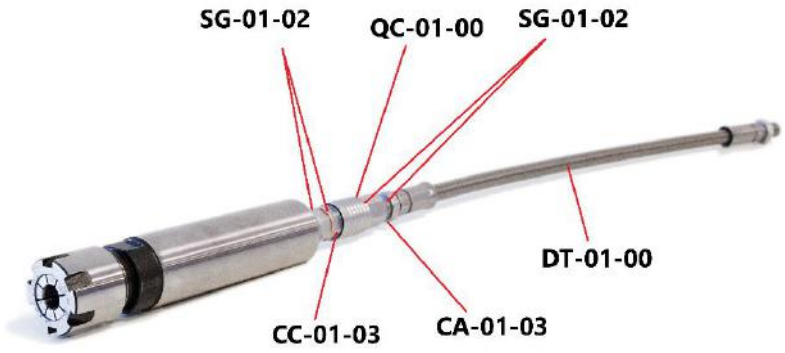
ASSEMBLY EXAMPLES:

Turning tool holder with quick connection and flexible tube of 102 mm.



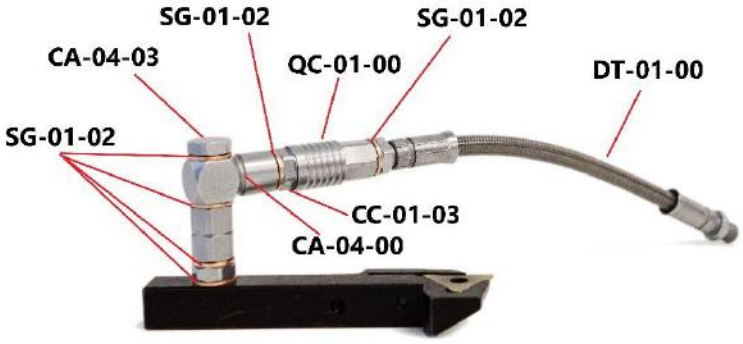
UN-SG-01-02: Sealing gasket in copper for M8
MI-CC-01-03: Non-rotating (positioning) quick connection fitting M8x1(M)
MI-QC-01-00: Quick connection fitting MICRO with M8x1(M) on one end.
MI-CA-01-03: Adaptor M8x1(F) to M8x1(F)
MI-DT-01-00: Flexible distribution tube 102 mm M8x1(M) on each end
MI-CA-01-06: Adaptor M8x1(F) to M6x1(M)

Collet sleeve with quick connection and flexible tube 102 mm.



UN-SG-01-02: Sealing gasket for M8
MI-CC-01-03: Non-rotating (positioning) quick connection fitting M8x1(M)
MI-QC-01-00: Quick connection fitting MICRO with M8x1(M) on one end.
MI-CA-01-03: Adaptor M8x1(F) to M8x1(F)
MI-DT-01-00: Flexible distribution tube 102 mm M8x1(M) on each end

Tool holder with banjo, quick connection and flexible tube 102 mm.



UN-SG-01-02: Sealing gasket for M8
MI-CC-01-03: Non-rotating (positioning) quick connection fitting M8x1(M)
MI-QC-01-00: Quick connection fitting MICRO with M8x1(M) on one end.
MI-CA-04-04: Banjo bolt M8x1(M)
MI-CA-04-00: Short banjo M8x1(F)
MI-DT-01-00: Flexible distribution tube 102 mm M8x1(M) on each end

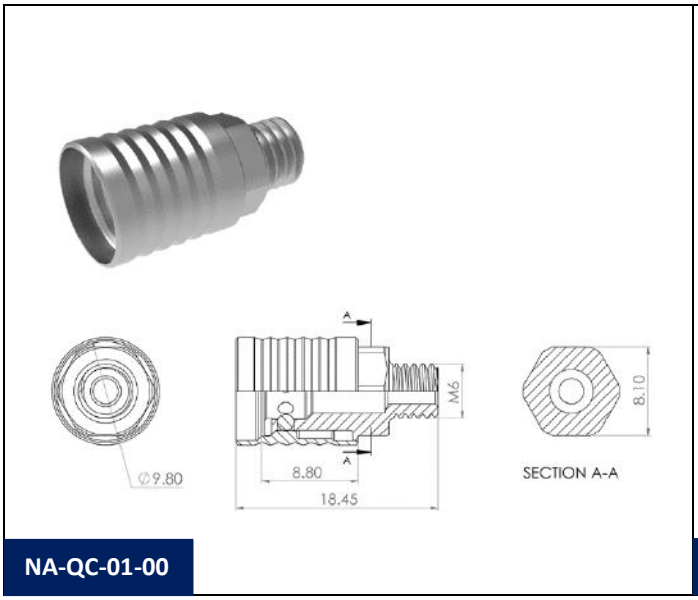
NANO PROGRAM

The inner diameter of the NANO program is 2.3 mm and is ideal for installation with ER-11 collet tool holders, small cylindrical shank tool holders (OD< 16 mm) or with square shank tool holders 12x12 mm, 10x10 mm or 8x8 mm.

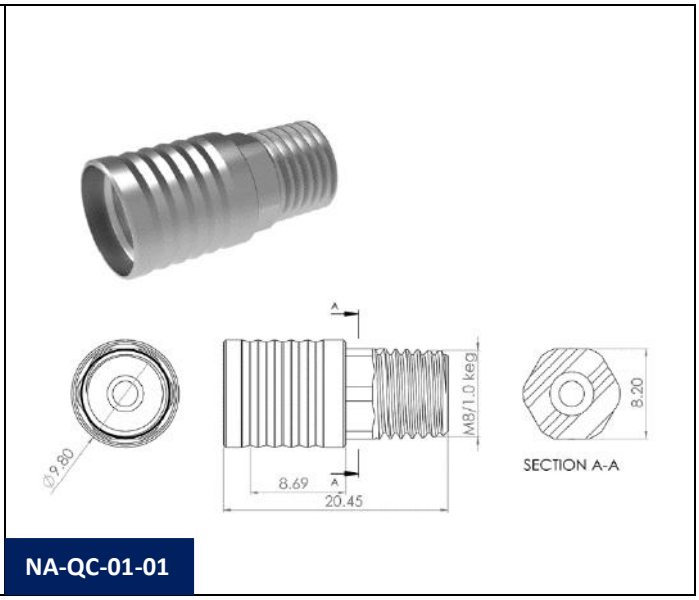
Quick connection fittings:

Quick connection fittings with ultra-compact dimensions OD:9.8 mm, ID:2.3 mm, Length:11.4 mm.
Material: Steel
Maximum pressure:220 Bar (3.190 PSI)

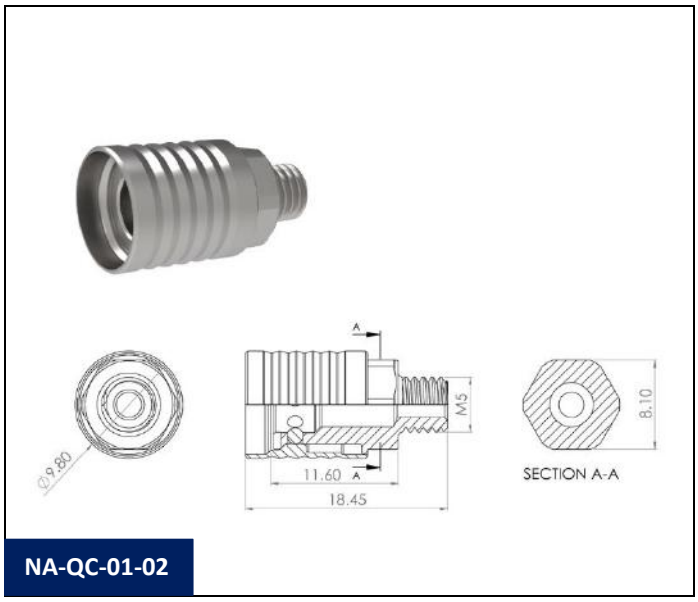
Ref.	Description
NA-QC-01-00	Quick connection fitting NANO with M6x1(M) on one end.
NA-QC-01-01	Quick connection fitting NANO with M8x1 keg(M) on one end.
NA-QC-01-02	Quick connection fitting NANO with M5x0.8(M) on one end.



NA-QC-01-00



NA-QC-01-01



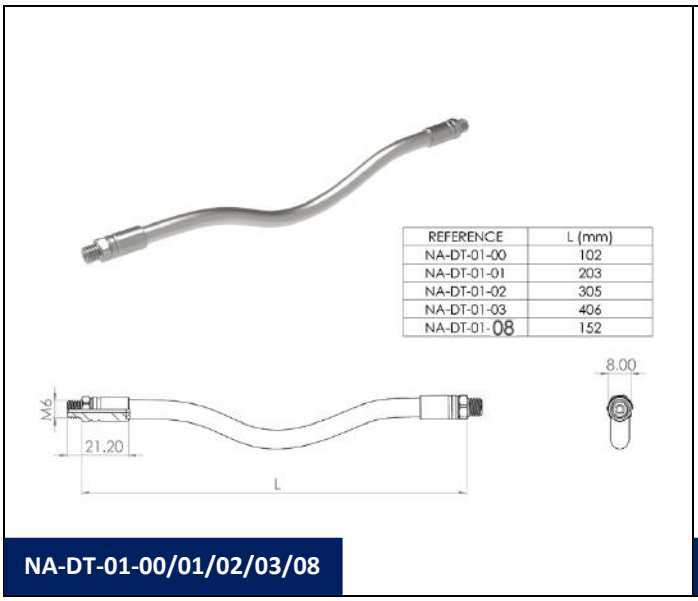
NA-QC-01-02

Distribution tubes:

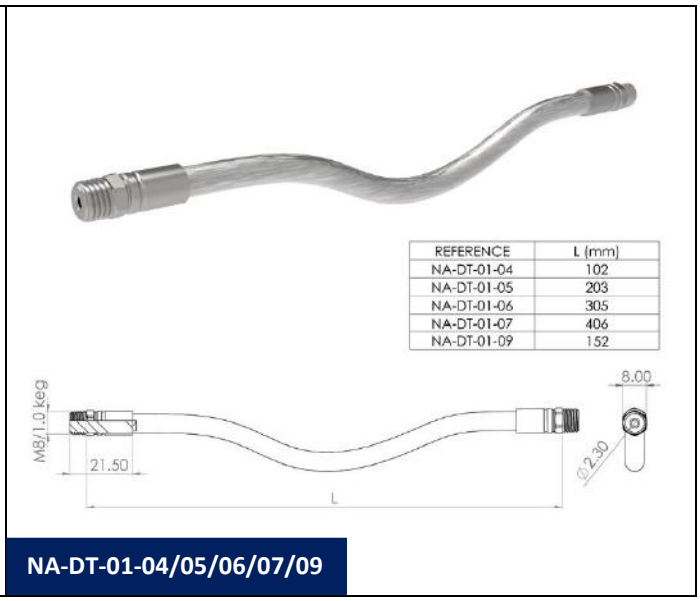
Set of distribution tubes in Teflon covered in braided stainless steel AISI 304.OD:6.5 mm. ID:2.3 mm. M6x1(M) thread or M8x1 keg(M)in each end. Material: Steel
Minimum bending radius: 15 mm
Maximum pressure: 220 Bar (3.190 PSI)

Ref.	Description
NA-DT-01-00	M6x1(M), flexible tube OD:6.5 mm, L:4" (102 mm), M6x1(M)
NA-DT-01-08	M6x1(M), flexible tube OD:6.5 mm, L:6" (152 mm), M6x1(M)
NA-DT-01-01	M6x1(M), flexible tube OD:6.5 mm, L:8" (203 mm), M6x1(M)
NA-DT-01-02	M6x1(M), flexible tube OD:6.5 mm, L:12" (305 mm), M6x1(M)
NA-DT-01-03	M6x1(M), flexible tube OD:6.5 mm, L:16" (406 mm), M6x1(M)
NA-DT-01-04	M8x1 keg(M), flexible tube OD:6.5 mm, L:4" (102 mm), M8x1 keg(M)
NA-DT-01-09	M8x1 keg(M), flexible tube OD:6.5 mm, L:6" (152 mm), M8x1 keg(M)
NA-DT-01-05	M8x1 keg(M), flexible tube OD:6.5 mm, L:8" (203 mm), M8x1 keg(M)
NA-DT-01-06	M8x1 keg(M), flexible tube OD:6.5 mm, L:12" (305 mm), M8x1 keg(M)
NA-DT-01-07	M8x1 keg(M), flexible tube OD:6.5 mm, L:16" (406 mm), M8x1 keg(M)

Note: Other flexible tube lengths available under request.



NA-DT-01-00/01/02/03/08

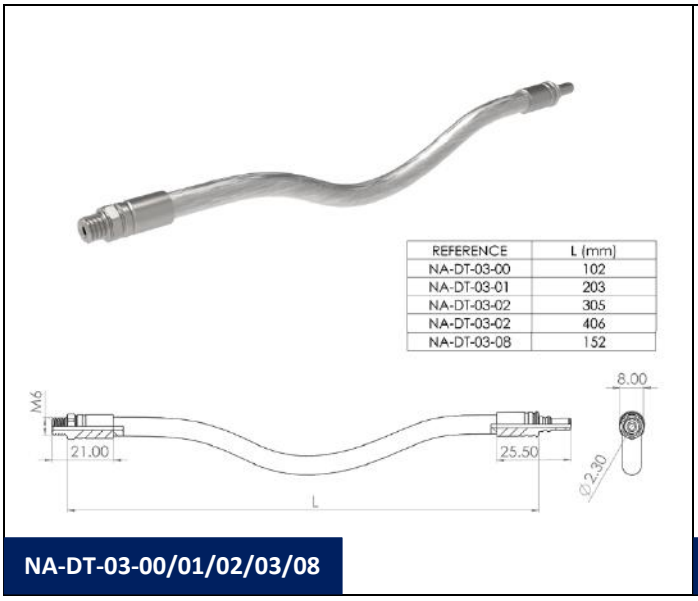


NA-DT-01-04/05/06/07/09

Set of distribution tubes in Teflon covered in braided stainless steel AISI 304.OD:6.5 mm. ID:2.3 mm. M6x1(M) thread or M8x1 keg(M) in one end and quick connection fitting NANO in the other extreme.
Material: Steel
Minimum bending radius: 15 mm
Maximum pressure: 220 Bar (3.190 PSI)

Ref.	Description
NA-DT-03-00	M6x1(M), flexible tube OD:6.5 mm, L:4" (102 mm), Quick connection fitting NANO
NA-DT-03-08	M6x1(M), flexible tube OD:6.5 mm, L:6" (152 mm), Quick connection fitting NANO
NA-DT-03-01	M6x1(M), flexible tube OD:6.5 mm, L:8" (203 mm), Quick connection fitting NANO
NA-DT-03-02	M6x1(M), flexible tube OD:6.5 mm, L:12" (305 mm), Quick connection fitting NANO
NA-DT-03-03	M6x1(M), flexible tube OD:6.5 mm, L:16" (406 mm), Quick connection fitting NANO
NA-DT-03-04	M8x1 keg(M), flexible tube OD:6.5 mm, L:4" (102 mm), Quick connection fitting NANO
NA-DT-03-09	M8x1 keg(M), flexible tube OD:6.5 mm, L:6" (152 mm), Quick connection fitting NANO
NA-DT-03-05	M8x1 keg(M), flexible tube OD:6.5 mm, L:8" (203 mm), Quick connection fitting NANO
NA-DT-03-06	M8x1 keg(M), flexible tube OD:6.5 mm, L:12" (305 mm), Quick connection fitting NANO
NA-DT-03-07	M8x1 keg(M), flexible tube OD:6.5 mm, L:16" (406 mm), Quick connection fitting NANO

Note: Other flexible tube lengths available under request.



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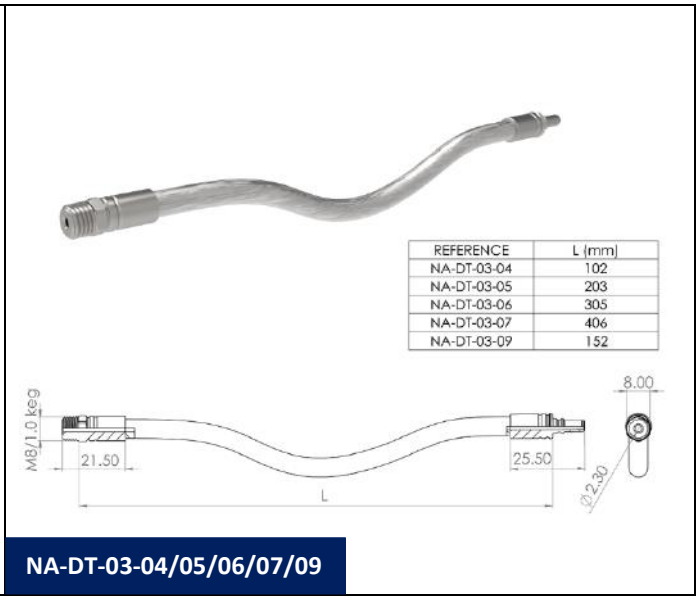
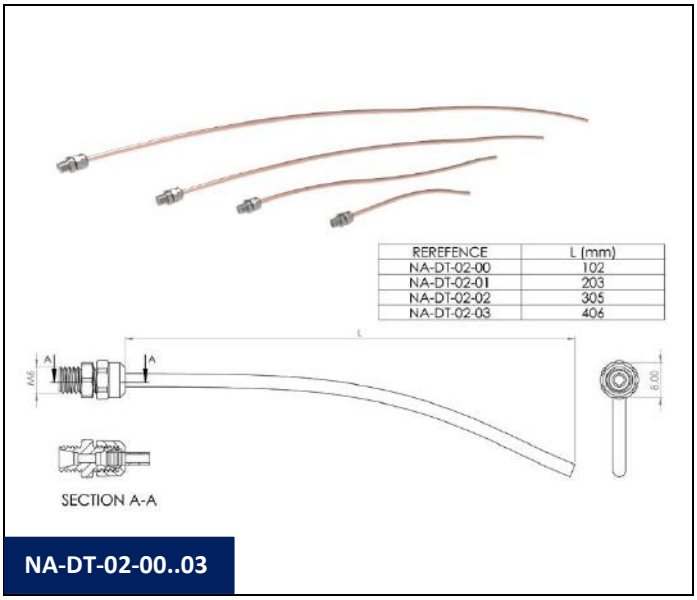


NA-DT-03-04/05/06/07/09

Copper distribution tubes OD:3 mm, ID:1 mm, with M6x1(M) thread on one end and coupling to the copper tube with compression ring ID:3 mm.
Maximum pressure: 220 Bar (3.190 PSI)

Ref.	Description
NA-DT-02-00	M6x1(M) with compression ring, copper tube OD:3 mm and L:4" (102 mm), open end tube.
NA-DT-02-01	M6x1(M) with compression ring, copper tube OD:3 mm and L:8" (203 mm), open end tube.
NA-DT-02-02	M6x1(M) with compression ring, copper tube OD:3 mm and L:12" (305 mm), open end tube.
NA-DT-02-03	M6x1(M) with compression ring, copper tube OD:3 mm and L:16" (406 mm), open end tube.

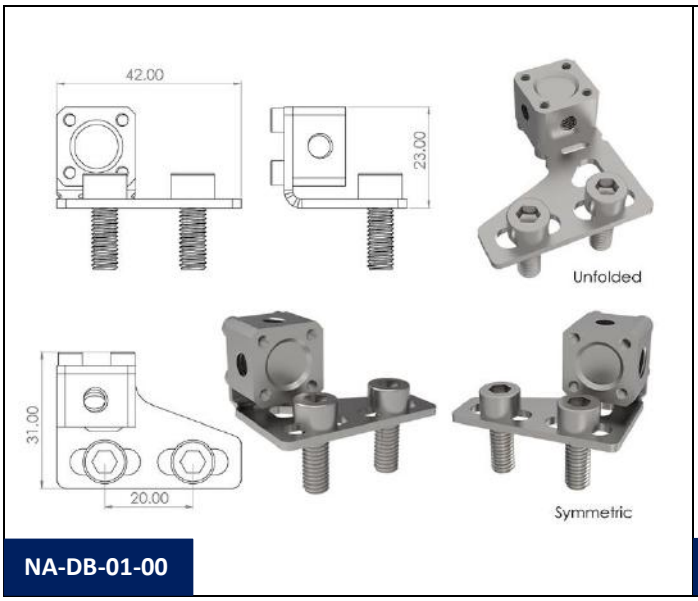


NA-DT-02-00..03

Standard coolant distribution blocks:

Compact and space saving design. Inlet M8x1(F) or M6x1(F) and outlets M6x1(F) or M5x0.8(F).
Material: Steel

Ref.	Description
NA-DB-01-00	18x18x12 mm distribution block with coolant inlet in M8x1(F) inlet and 3 outlets in M6x1(F). Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw.
NA-DB-01-01	18x18x12 mm distribution block with coolant inlet in M8x1(F) and 3 outlets in M5x0.8(F). Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw.
MI-DB-01-02	10x10x62 mm block with coolant inlet in M6x1(F) inlet and 4 outlets in M6x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position.
MI-DB-01-03	10x10x62 mm block with coolant inlet in M6x1(F) inlet and 4 outlets in M5x0.8(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position.



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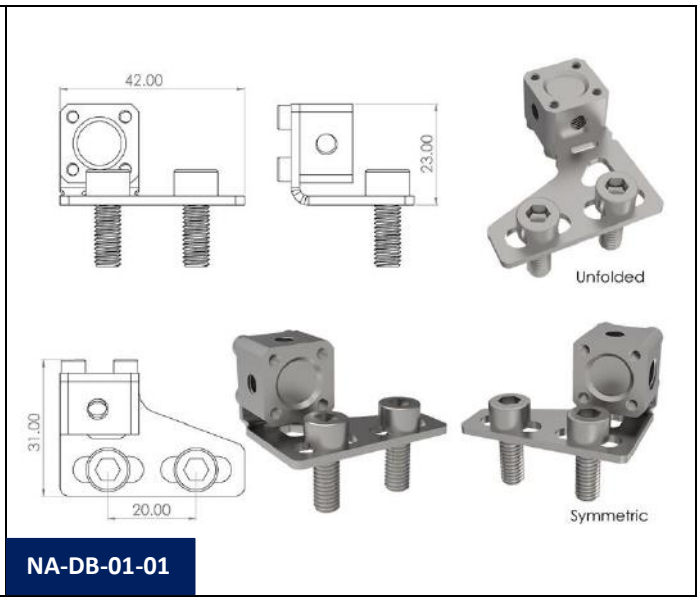

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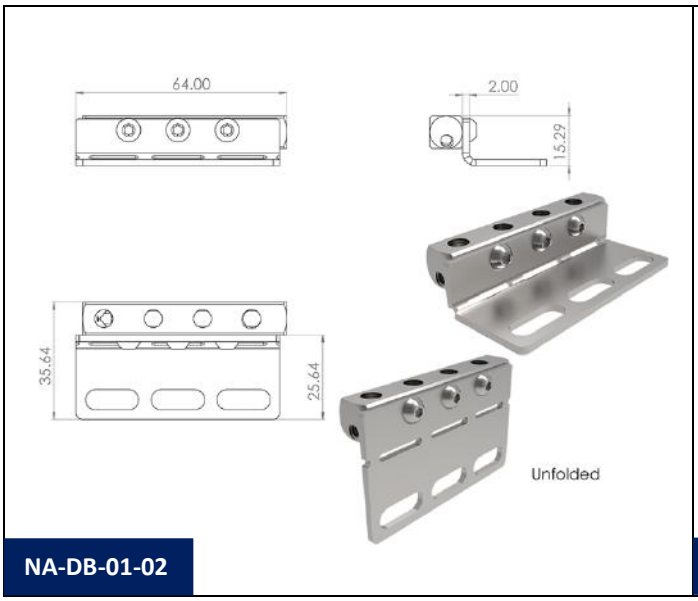
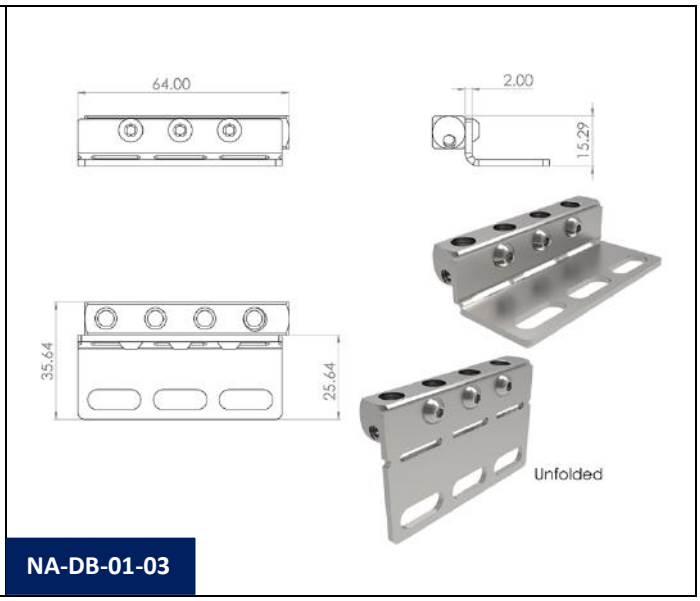


NA-DB-01-02

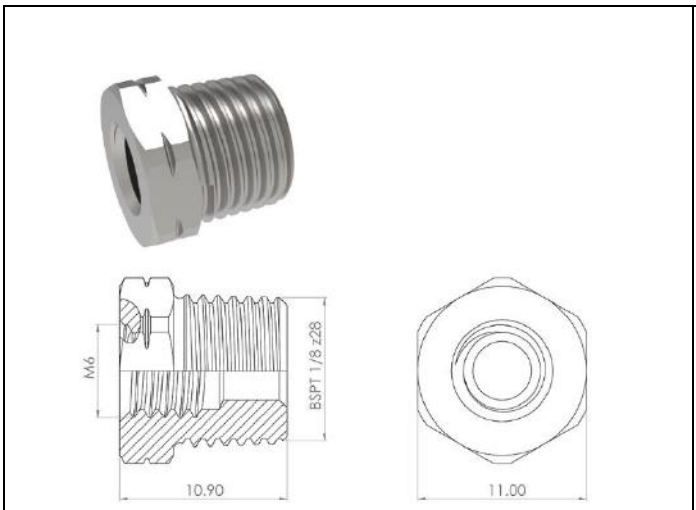


NA-DB-01-03

Connectors and adaptors:

To adapt connection tubes and quick connectors.
Material: Steel

Ref.	Description
NA-CA-01-00	Adaptor M6x1(F) to BSPT 1/8"(M)
NA-CA-01-01	Adaptor M6x1(F) to M10x1 keg(M)
NA-CA-01-02	Adaptor M6x1(F) to M6x1(M)
NA-CA-01-03	Adaptor M6x1(F) to M6x1(F)
NA-CA-01-04	Nut for compression ring ID:3 mm SW8
NA-CA-01-05	Adaptor M6x1(F) to M5x0.8(M)
NA-CA-01-06	Adaptor M6x1(F) to M8x1(M)
NA-CA-01-07	Adaptor M6x1(M) to M6x1(M). Also used for compression ring ID:3 mm SW8
NA-CA-01-08	Adaptor M6x1(F) to M8x1 keg(M)
NA-CA-01-09	Adaptor M5x0.8(F) to BSPT 1/8"(M)
NA-CA-01-10	Adaptor M6x1(F) to NPT 1/8"(M)
NA-CA-01-11	Adaptor M5x0.8(F) to M8x1(M)
NA-CA-01-12	Adaptor M6x1(F) to NPT 1/16"(M)
NA-CA-02-00	Compression ring ID:3 mm.
NA-CA-03-00	Spacer H:8 mm M6x1(M)-M6x1(F)
NA-CA-03-01	Spacer H:13 mm M6x1(M)-M6x1(F)
NA-CA-03-02	Spacer H:18 mm M6x1(M)-M6x1(F)
NA-CA-03-03	Spacer H:7 mm M5x0.8(M)-M5x0.8(F)
NA-CA-03-04	Spacer H:12 mm M5x0.8(M)-M5x0.8(F)
NA-CA-03-05	Spacer H:17 mm M5x0.8(M)-M5x0.8(F)
NA-CA-04-00	Short banjo M6x1(F) (does not include banjo bolt)
NA-CA-04-01	Short banjo M6x1(M) (does not include banjo bolt)
NA-CA-04-02	Long straight banjo M6x1(F) (does not include banjo bolt)
NA-CA-04-03	Long curved banjo M6x1(F) (does not include banjo bolt)
NA-CA-04-04	Banjo bolt M6x1(M)
NA-CA-04-05	Banjo bolt double length M6x1(M) to connect 2 Banjos
NA-CA-04-06	Banjo bolt M5x0.8(M)



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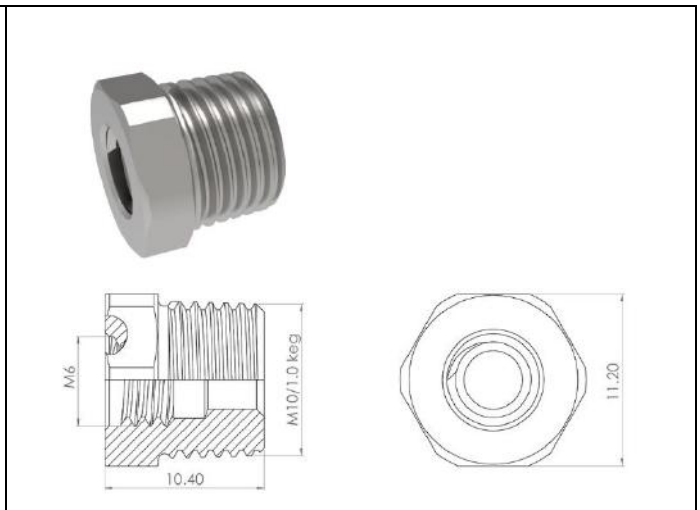

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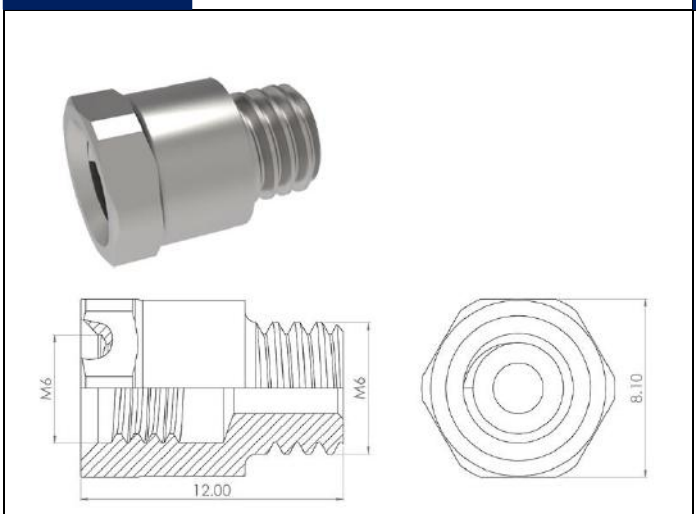

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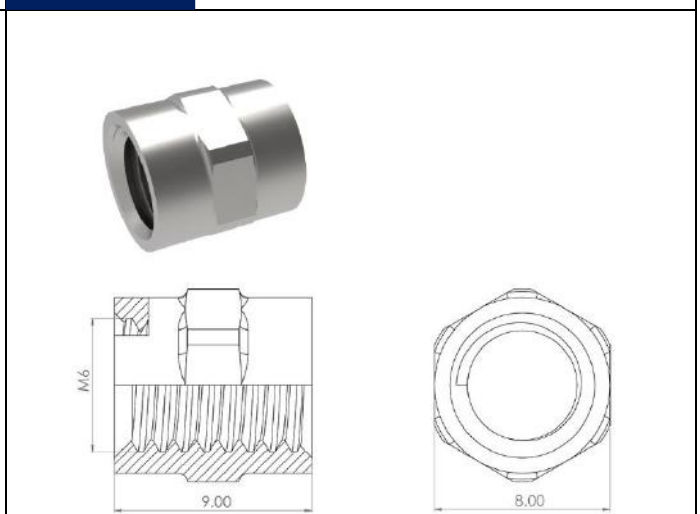

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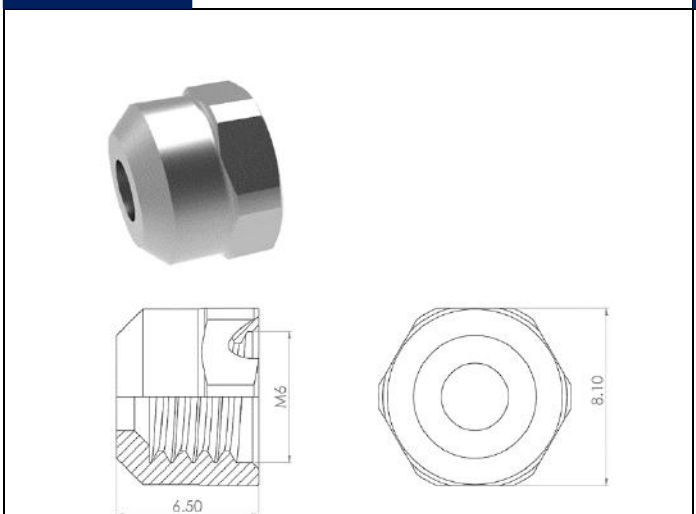

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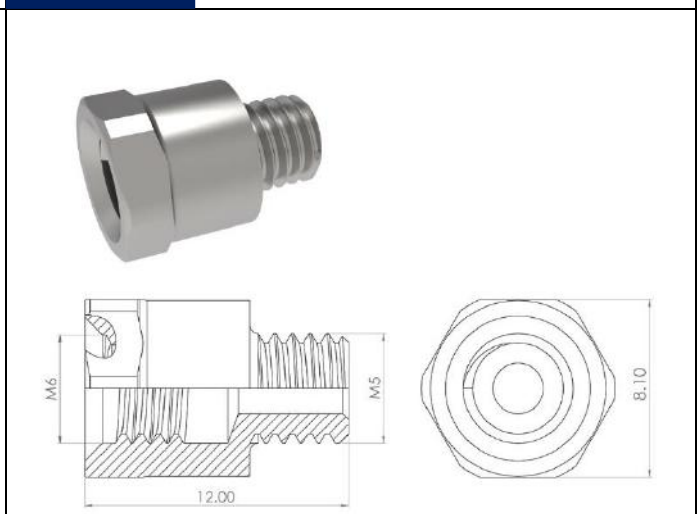

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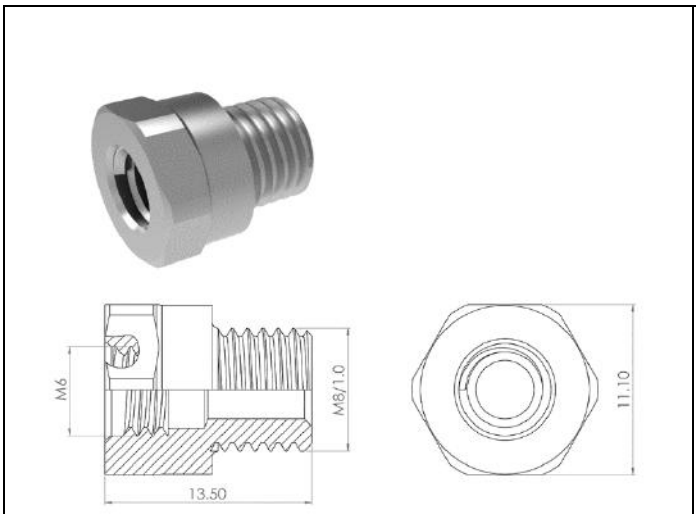

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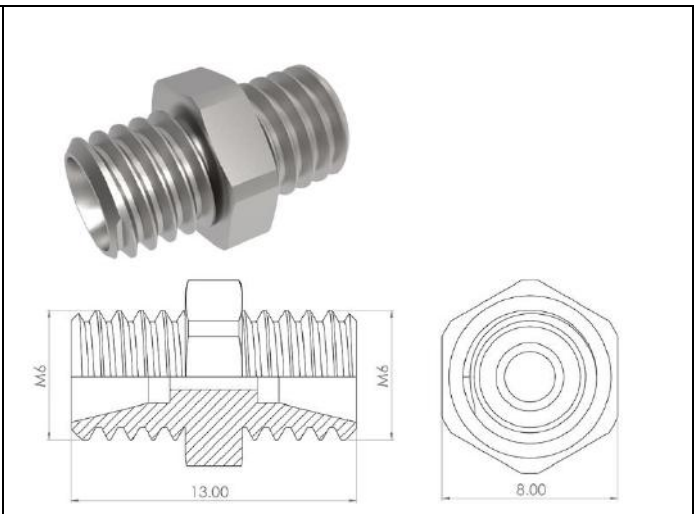

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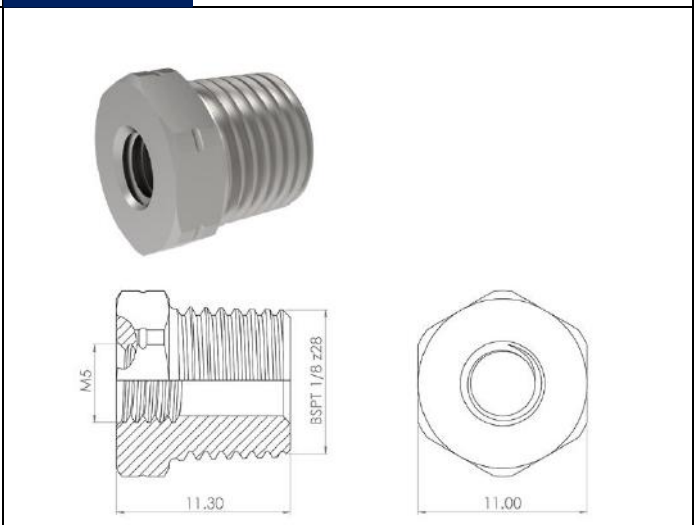
NA-CA-01-08



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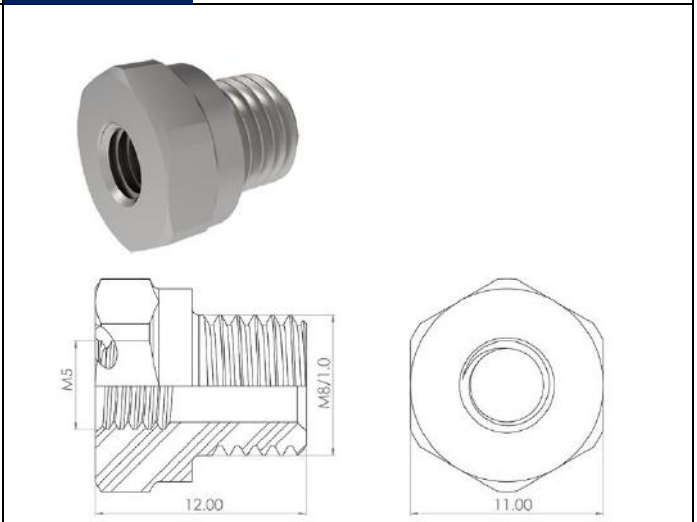

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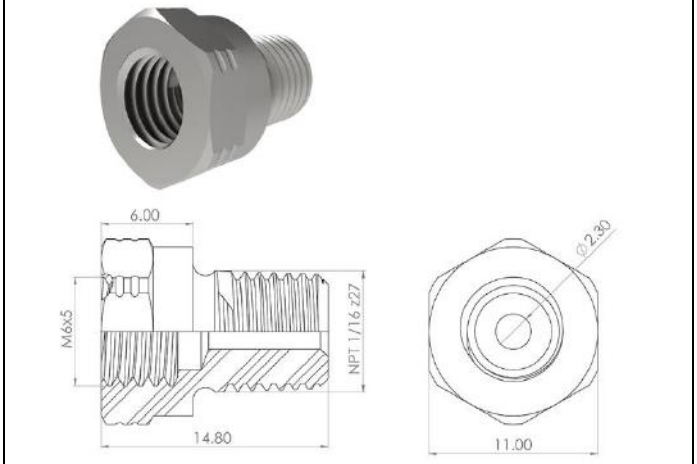

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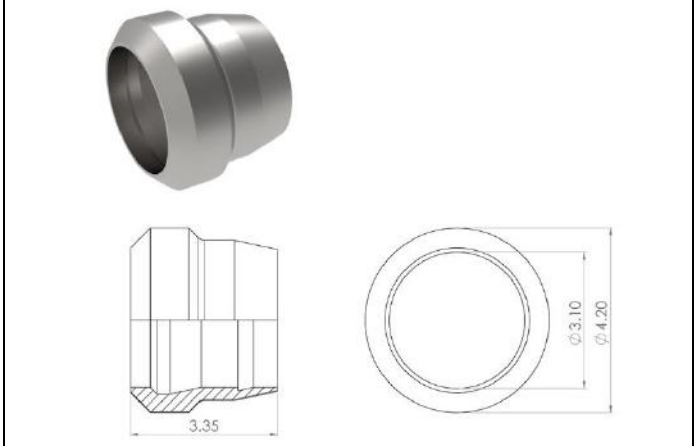

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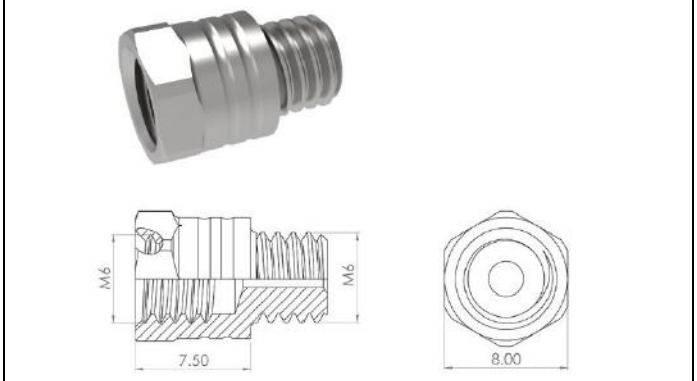

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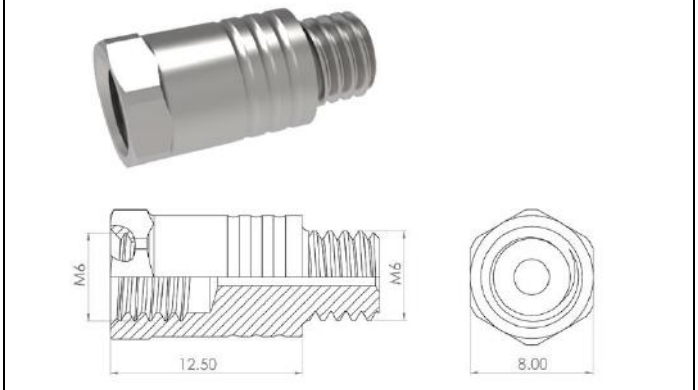

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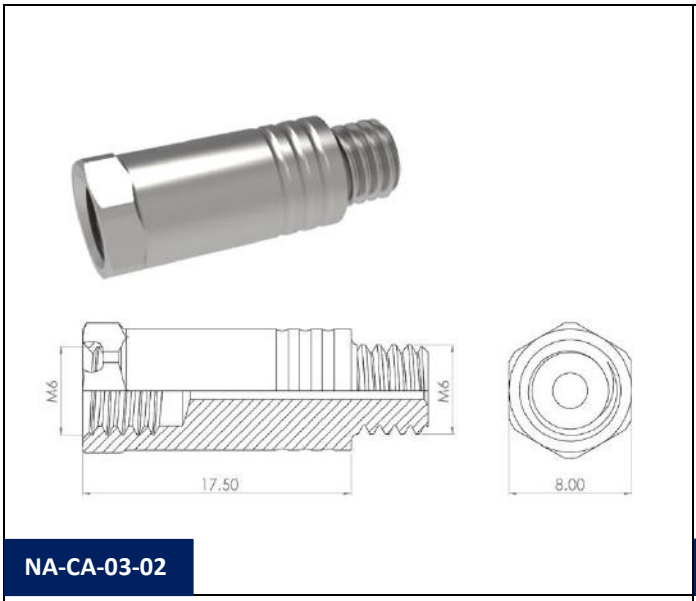

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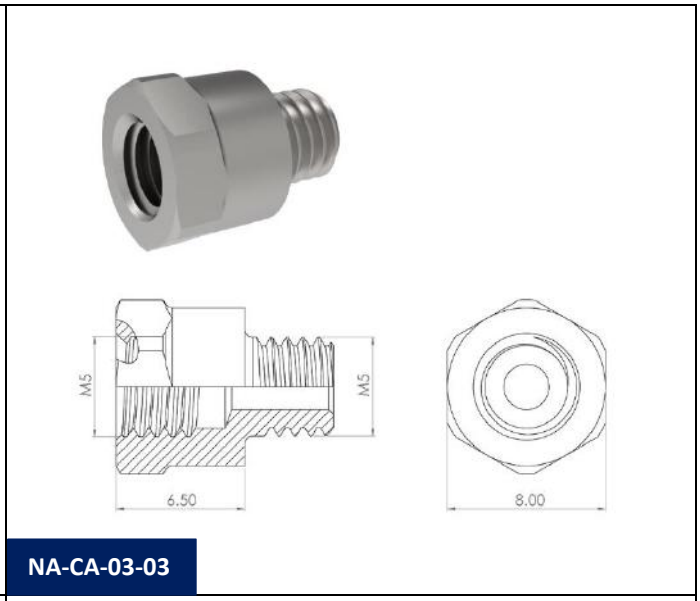

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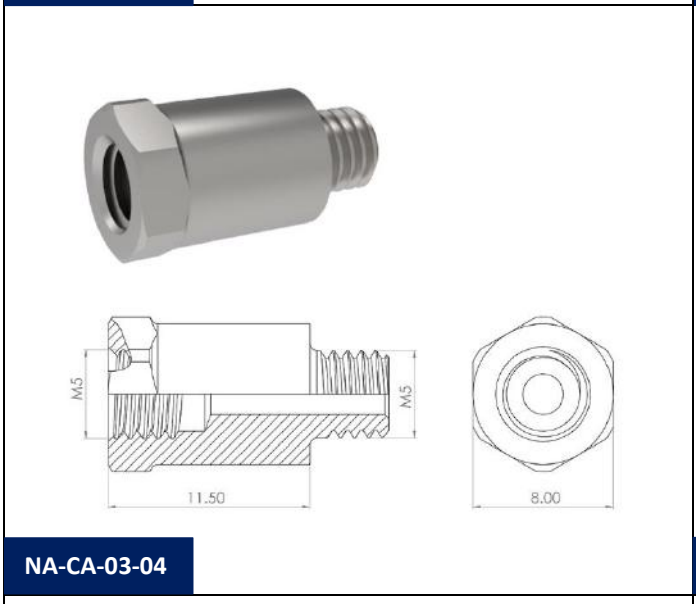

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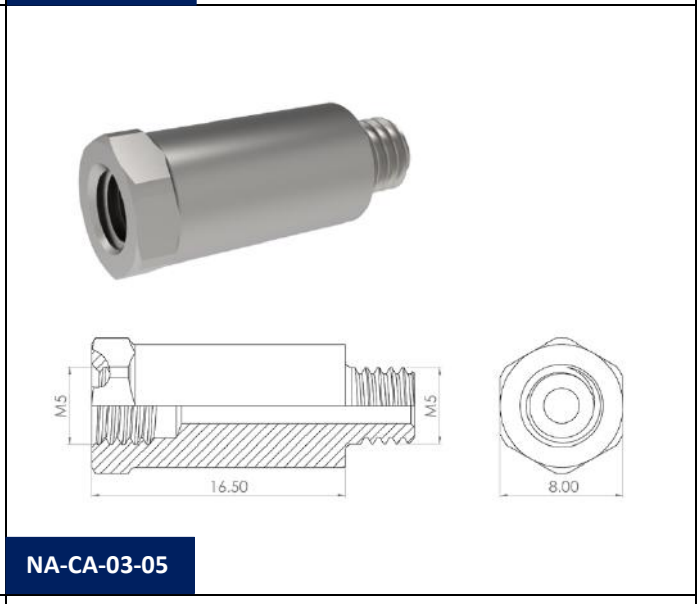

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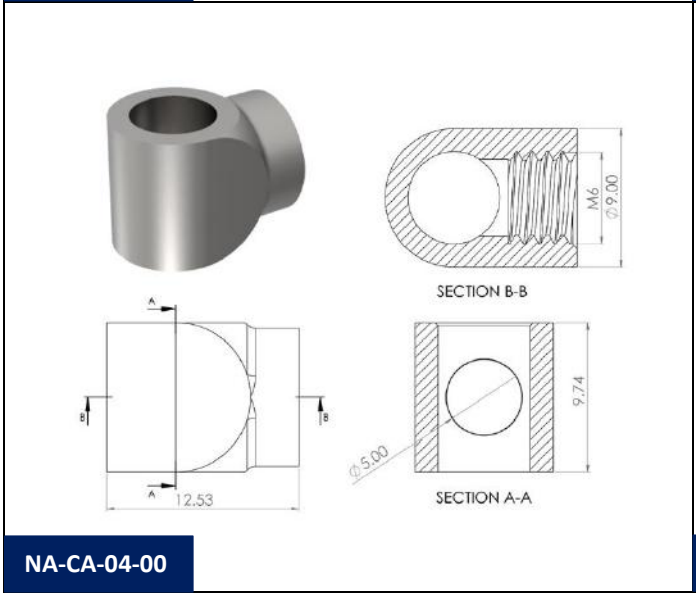

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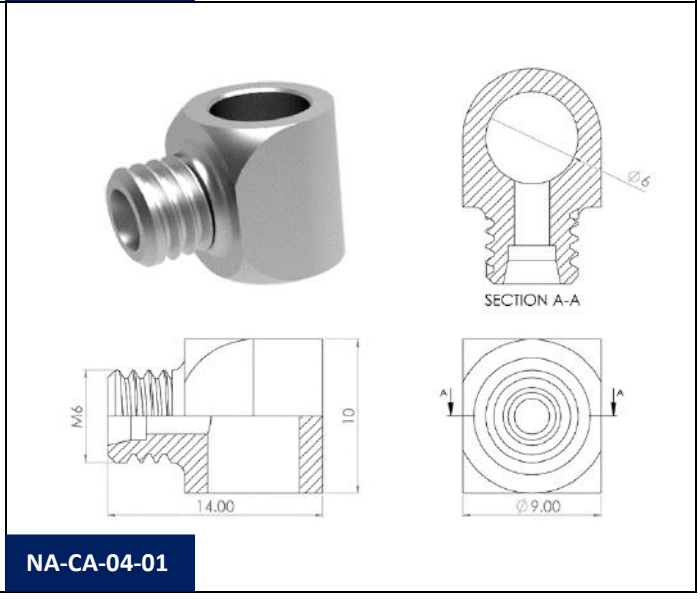

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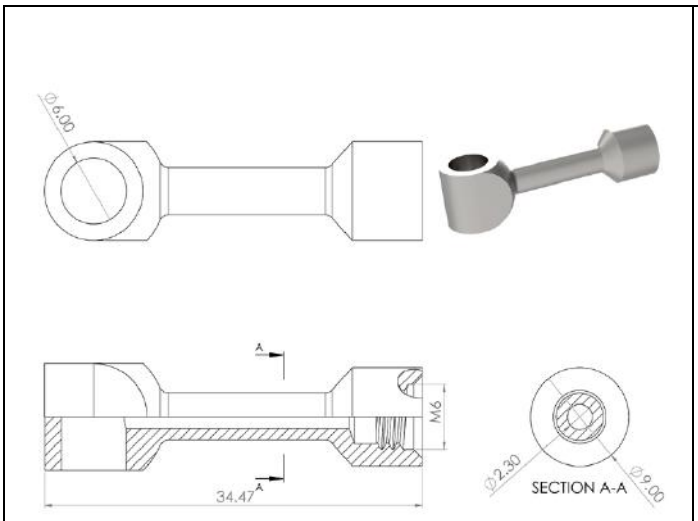

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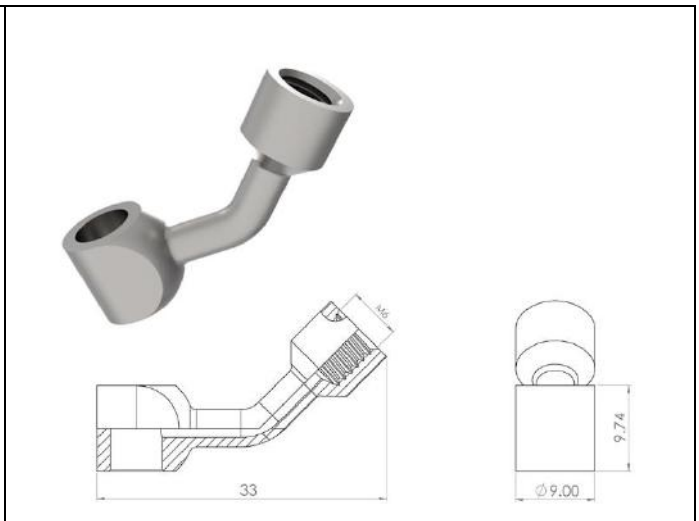

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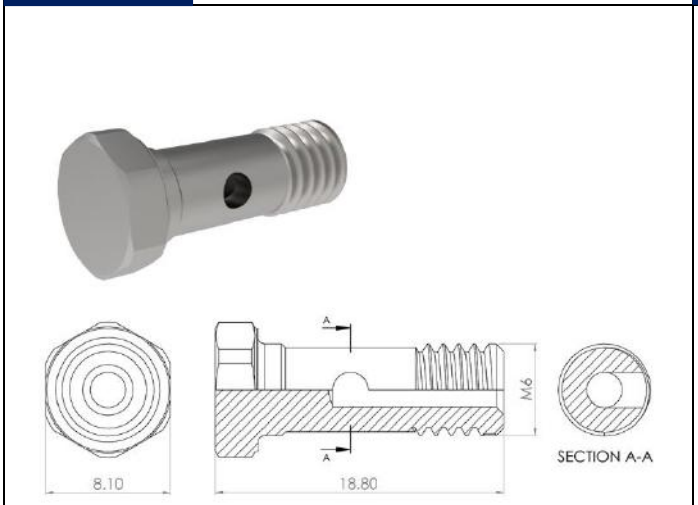

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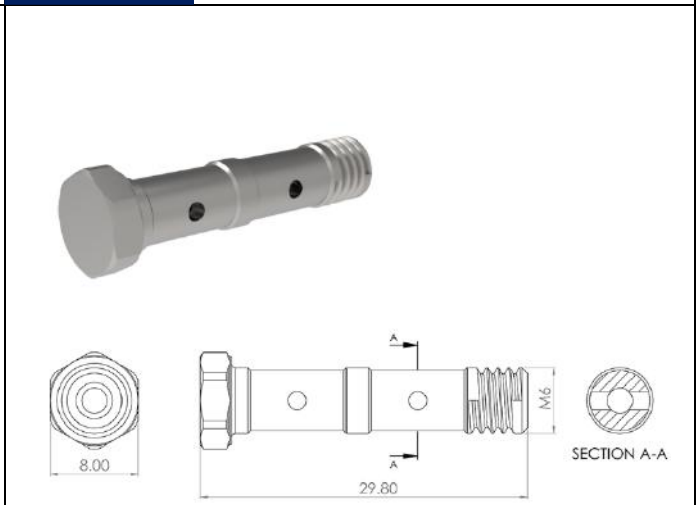

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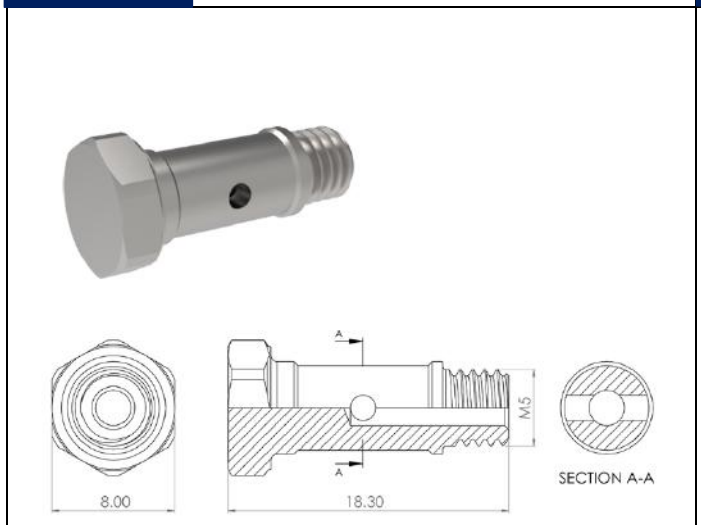
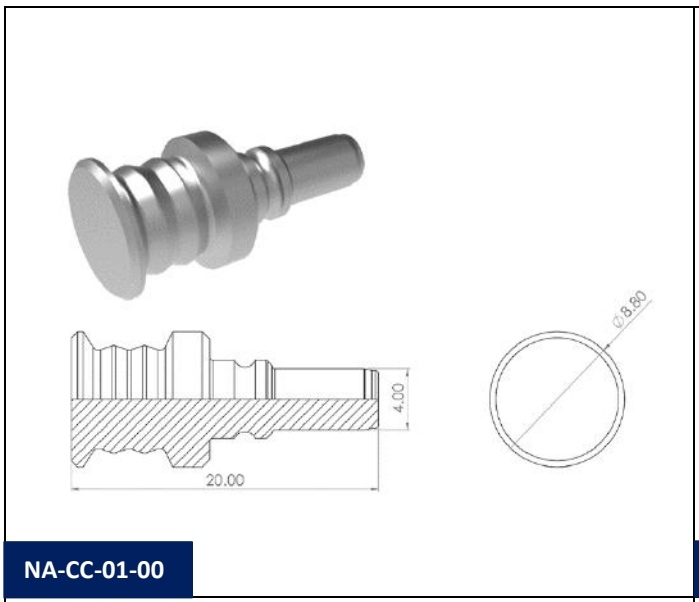


NA-CA-04-06

Locking and connecting plugs:

Plugs and locking plugs to connect to the quick connectors.
Material: Steel

Ref.	Description
NA-CC-01-00	Sealing plug with quick connection fitting NANO
NA-CC-01-01	Quick connection fitting NANO to M6x1(F)
NA-CC-01-02	Non-rotating (positioning) quick connection fitting NANO to M6x1(F)
NA-CC-01-03	Non-rotating (positioning) quick connection fitting NANO to M6x1(M)
NA-CC-01-04	Sealing plug M6x1(M)
NA-CC-01-05	Sealing plug M5x0.8(M)



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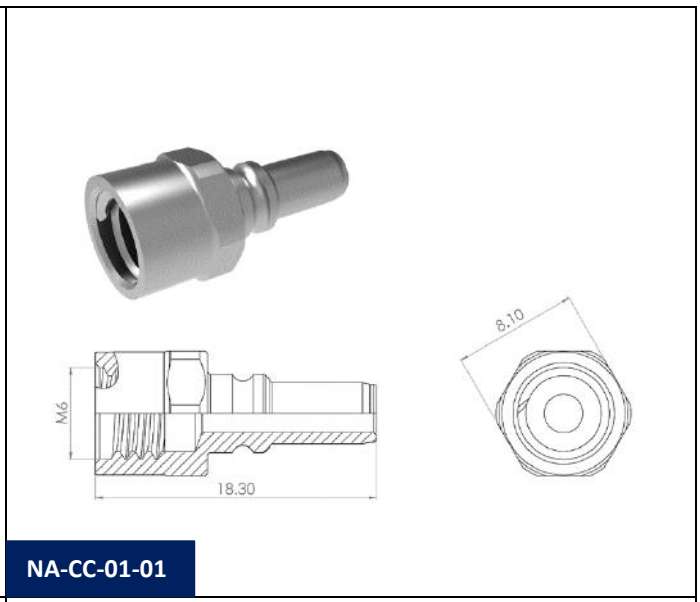

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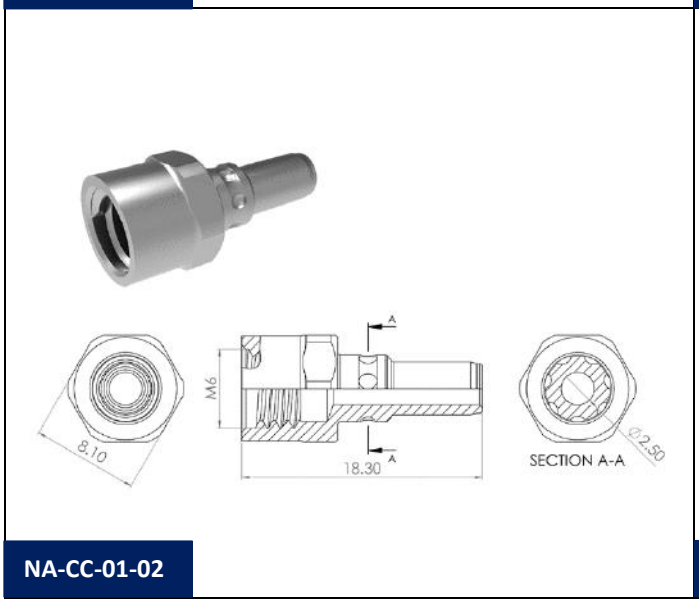

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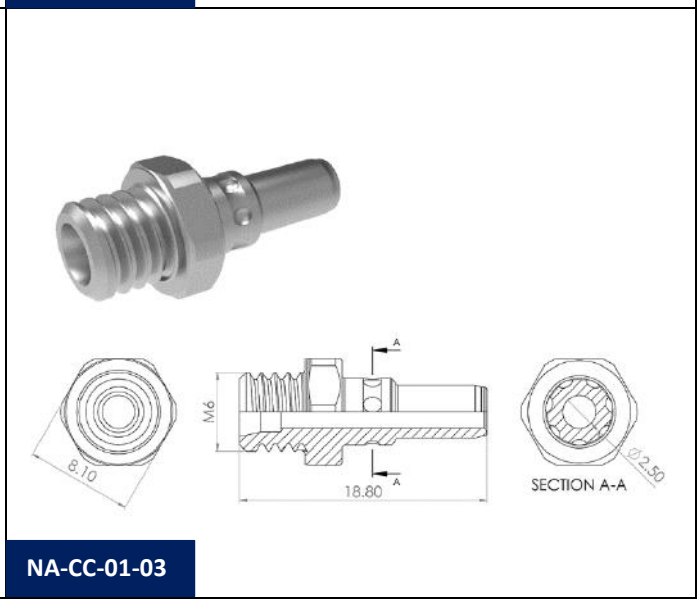

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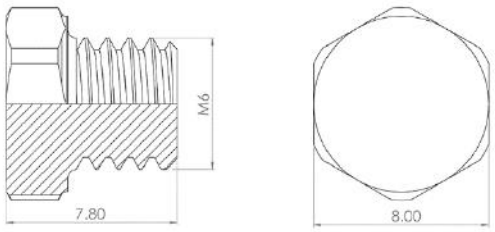

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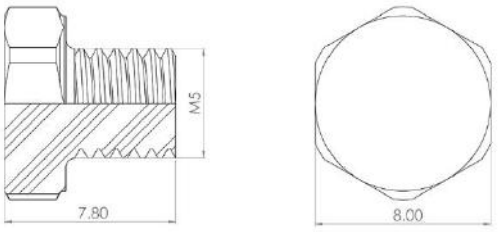
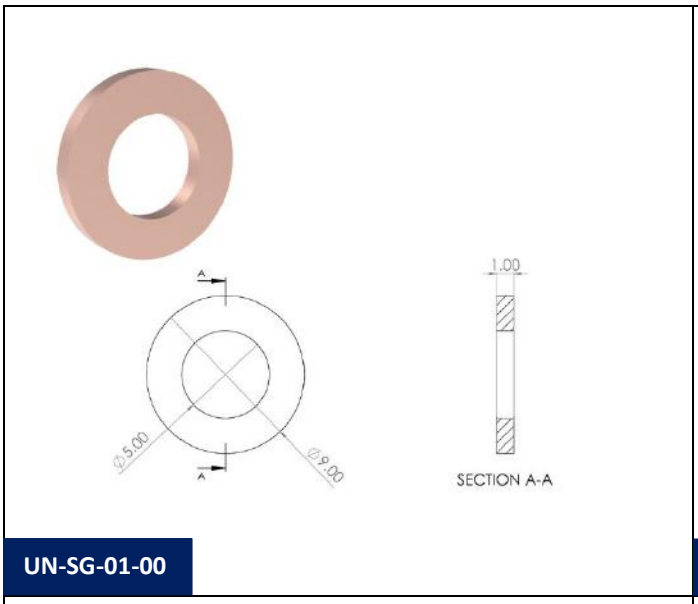


NA-CC-01-05

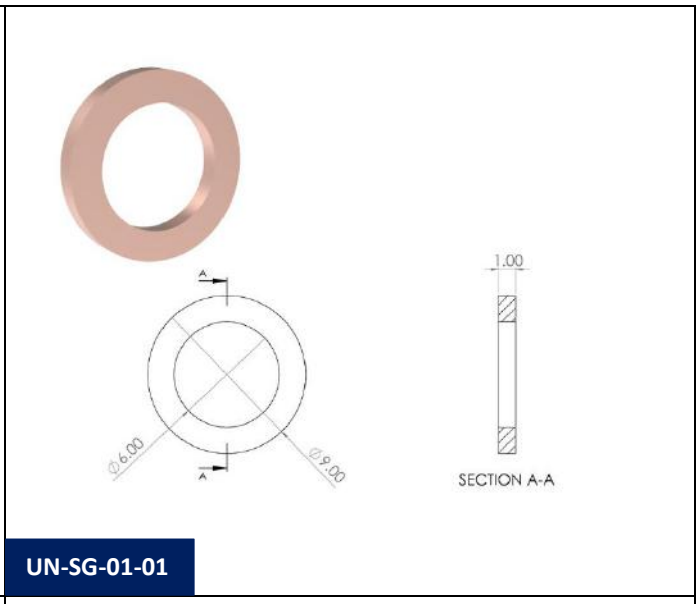
Sealing gasket:

Guarantees the tightness between the different connecting elements and according to the required diameters. Common to MICRO and NANO program.
Material: Copper.

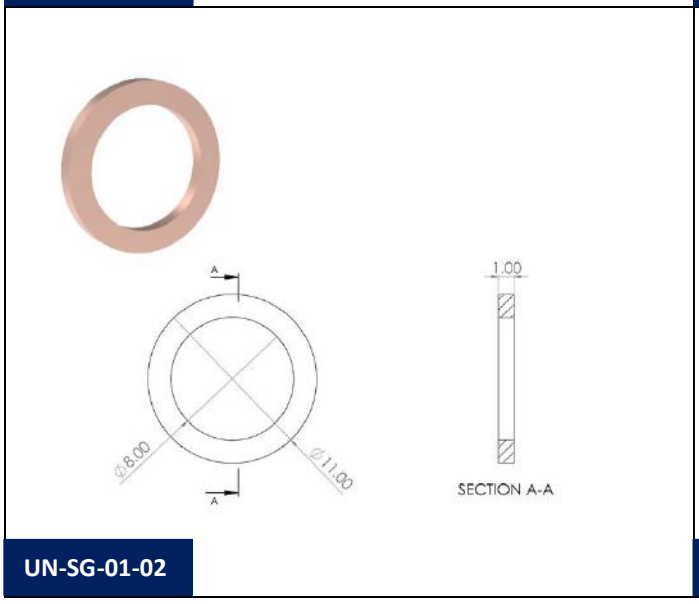
Ref.	Description
UN-SG-01-00	Sealing gasket in copper for M5 (10 units)
UN-SG-01-01	Sealing gasket in copper for M6 (10 units)
UN-SG-01-02	Sealing gasket in copper for M8 (10 units)
UN-SG-01-03	Sealing gasket in copper for M10 and BSPP 1/8" (10 units)



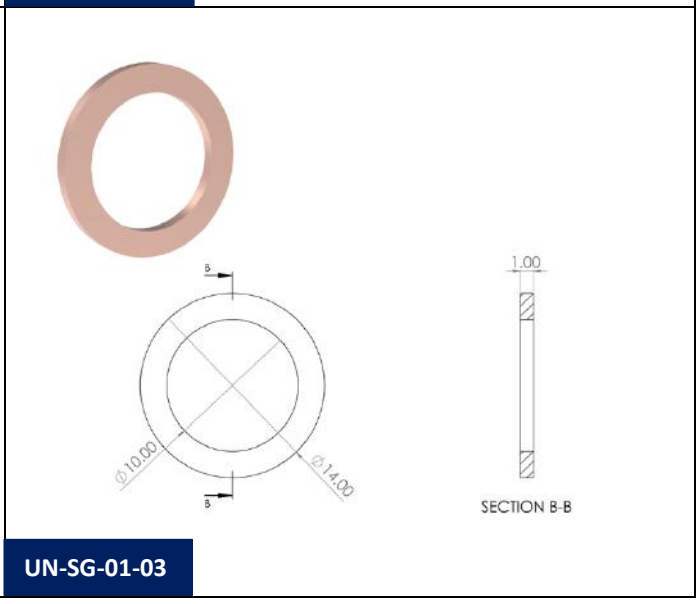
UN-SG-01-00



UN-SG-01-01



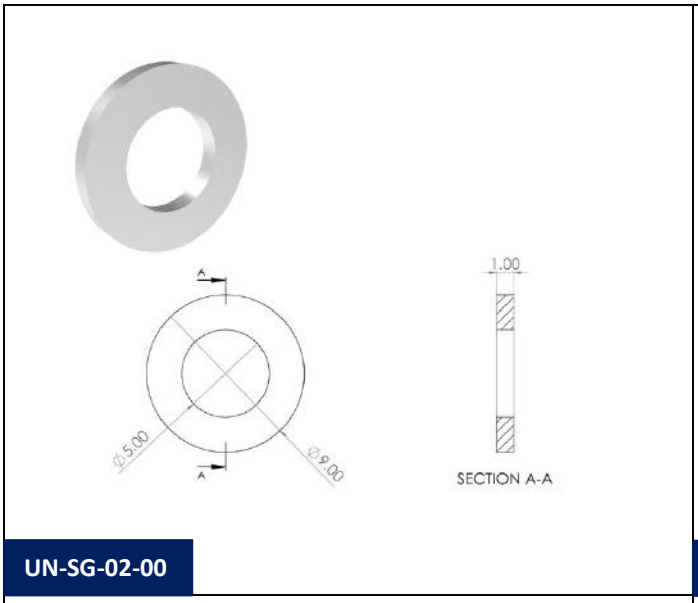
UN-SG-01-02



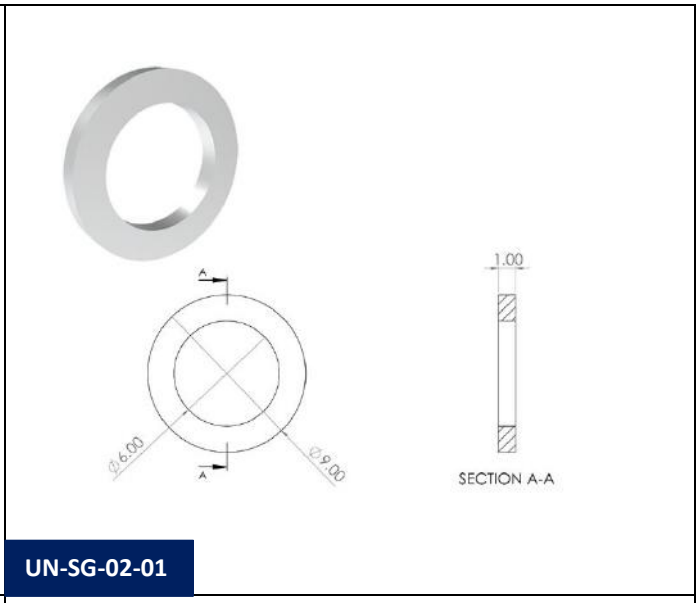
UN-SG-01-03

Guarantees the tightness between the different connecting elements and according to the required diameters. Common to MICRO and NANO program.
Material: Aluminum.

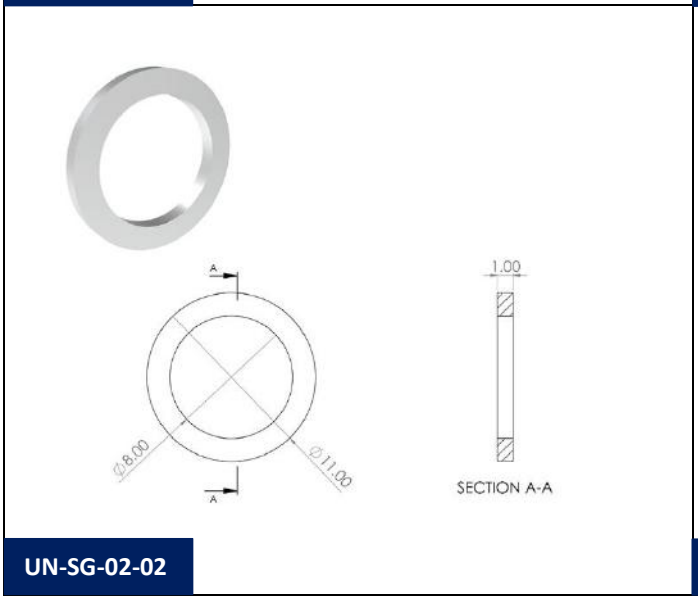
Ref.	Description
UN-SG-02-00	Sealing gasket in aluminum for M5 (10 units)
UN-SG-02-01	Sealing gasket in aluminum for M6 (10 units)
UN-SG-02-02	Sealing gasket in aluminum for M8 (10 units)
UN-SG-02-03	Sealing gasket in aluminum for M10 and BSPP 1/8" (10 units)



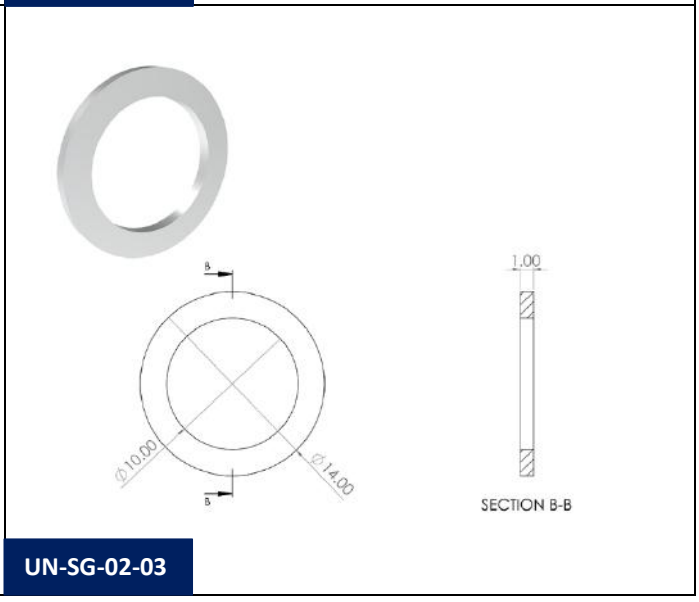
UN-SG-02-00



UN-SG-02-01



UN-SG-02-02

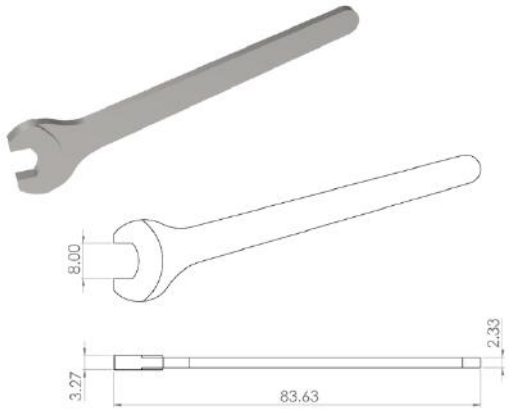


UN-SG-02-03

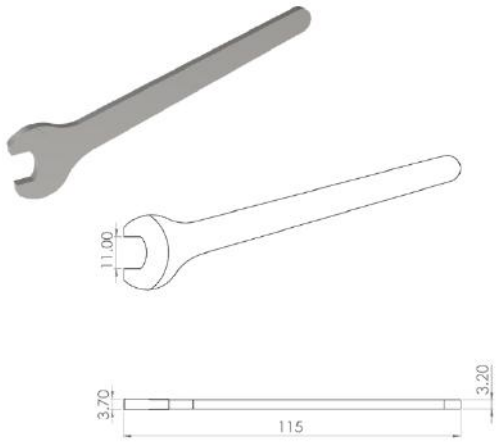
Fastening keys for the coolant distribution fittings:

Special wrenches for NANO program assembly.

Ref.	Description
NA-FK-01-00	Wrench for assembly on the universal hexagon used in the NANO program. SW8
MI-FK-01-00	Wrench for assembly on the universal hexagon used in the MICRO program and in some adaptors of the NANO program. SW11



NA-FK-01-00

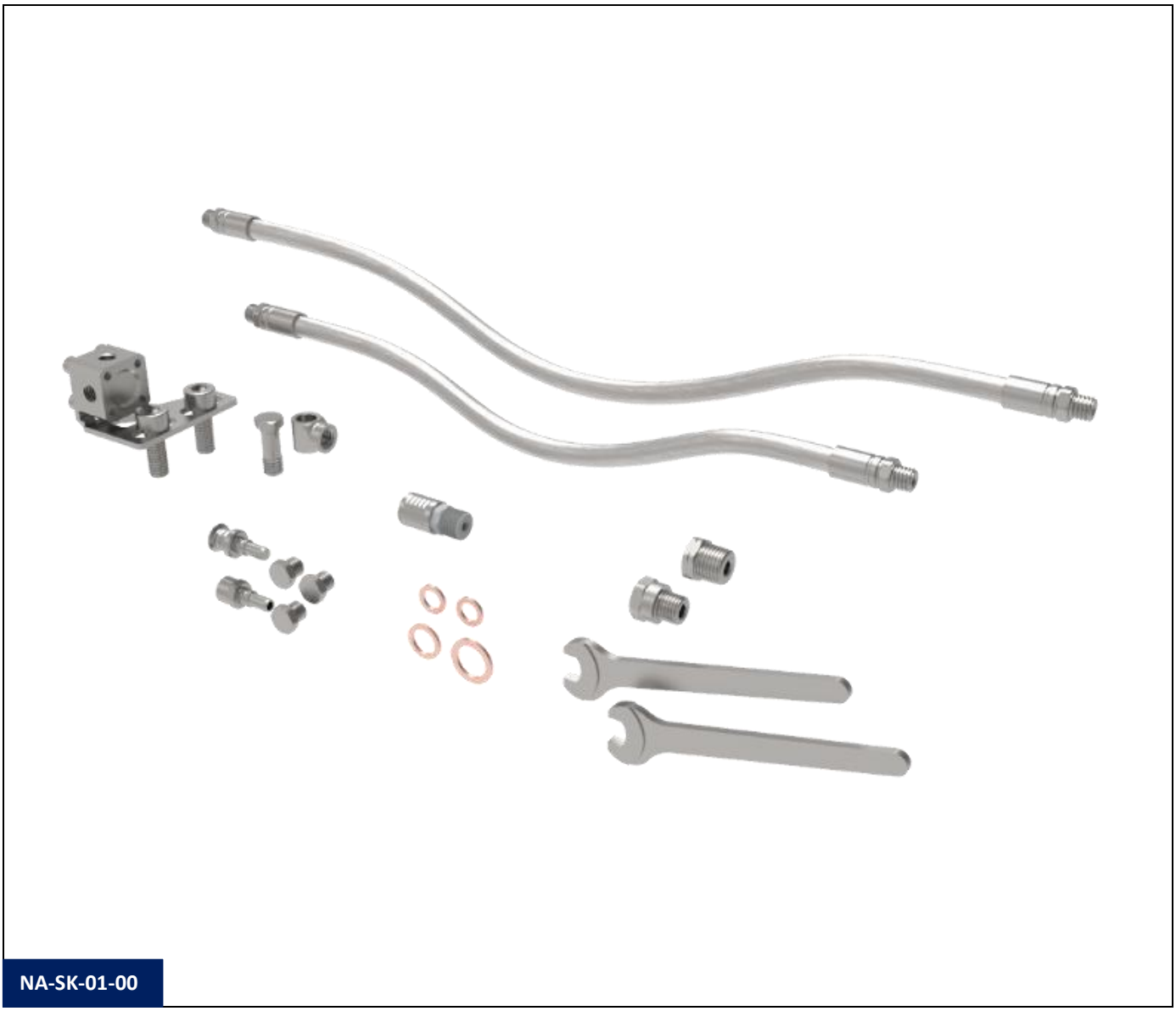


MI-FK-01-00

Starter kit:

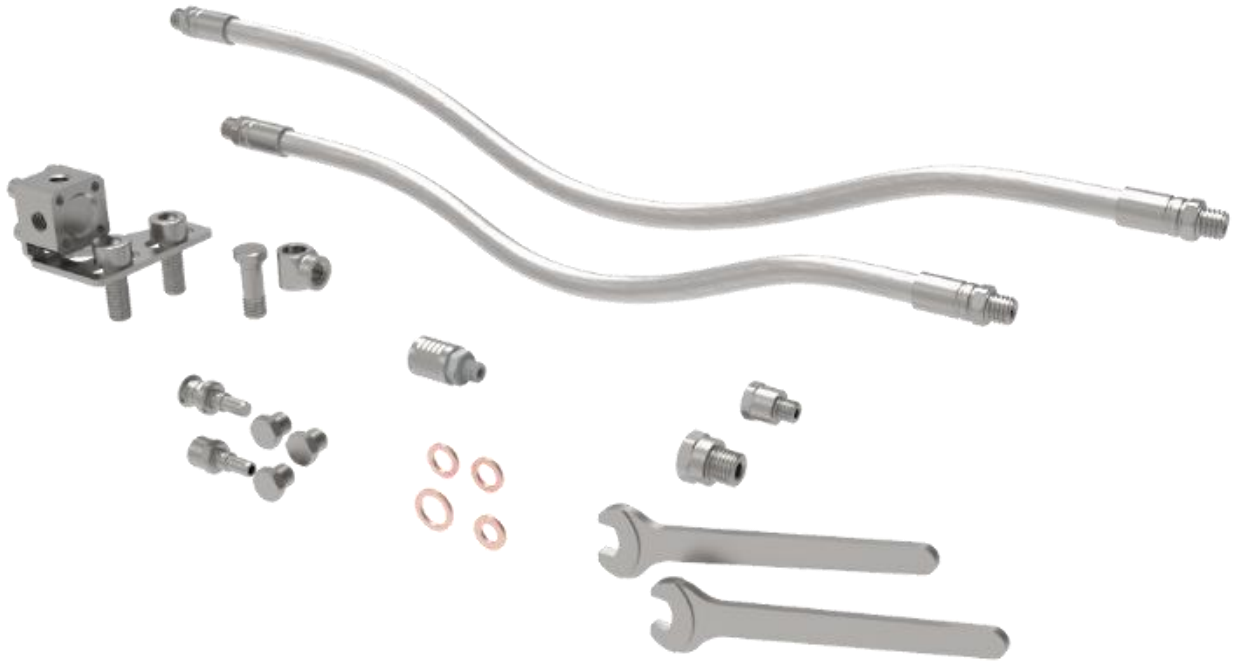
Set of components to start and become familiar with the SCS Coolant Distribution System NANO program. Basic set of components delivered in a basic kit for the most typical applications.

Ref.	Description
NA-SK-01-00	**Basic Kit Drilling/Boring NANO:** **For collet tool holder or round shank tool** ***Quick Connection fittings:*** 1 unit NA-QC-01-00 Quick connection fitting NANO with M6x1(M) in one end. ***Distribution tubes:*** 1 unit NA-DT-01-01 M6x1(M), flexible tube OD:6.5 mm, 8" (203 mm), M6x1(M) 1 unit NA-DT-01-02 M6x1(M), flexible tube OD:6.5 mm, 12" (305 mm), M6x1(M) ***Standard coolant distribution block:*** 1 unit NA-DB-01-00 18x18x12 mm distribution block with coolant inlet in M8x1(F) inlet and 3 outlets in M6x1(F). Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. ***Connectors and adaptors:*** 1 unit NA-CA-01-00 M6x1(F) to BSPT 1/8"(M) 1 unit NA-CA-01-06 M6x1(F) to M8x1(M) 1 unit NA-CA-04-00 Short banjo M6x1(F) 1 unit NA-CA-04-04 Banjo bolt M6x1(M) ***Locking and connecting plugs:*** 1 unit NA-CC-01-00 Sealing plug with quick connection fitting NANO 1 unit NA-CC-01-01 Quick connection fitting NANO to M6x1(F) 3 units NA-CC-01-04 Sealing plug M6x1(M) ***Sealing gasket:*** 2 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 1 unit UN-SG-01-02 Sealing gasket in copper for M8 (10 units) 1 unit UN-SG-01-03 Sealing gasket in copper for M10 and BSPP 1/8" (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units NA-FK-01-00 Wrench for assembly on the universal hexagon used in the NANO program. SW8 (8 mm between flats)



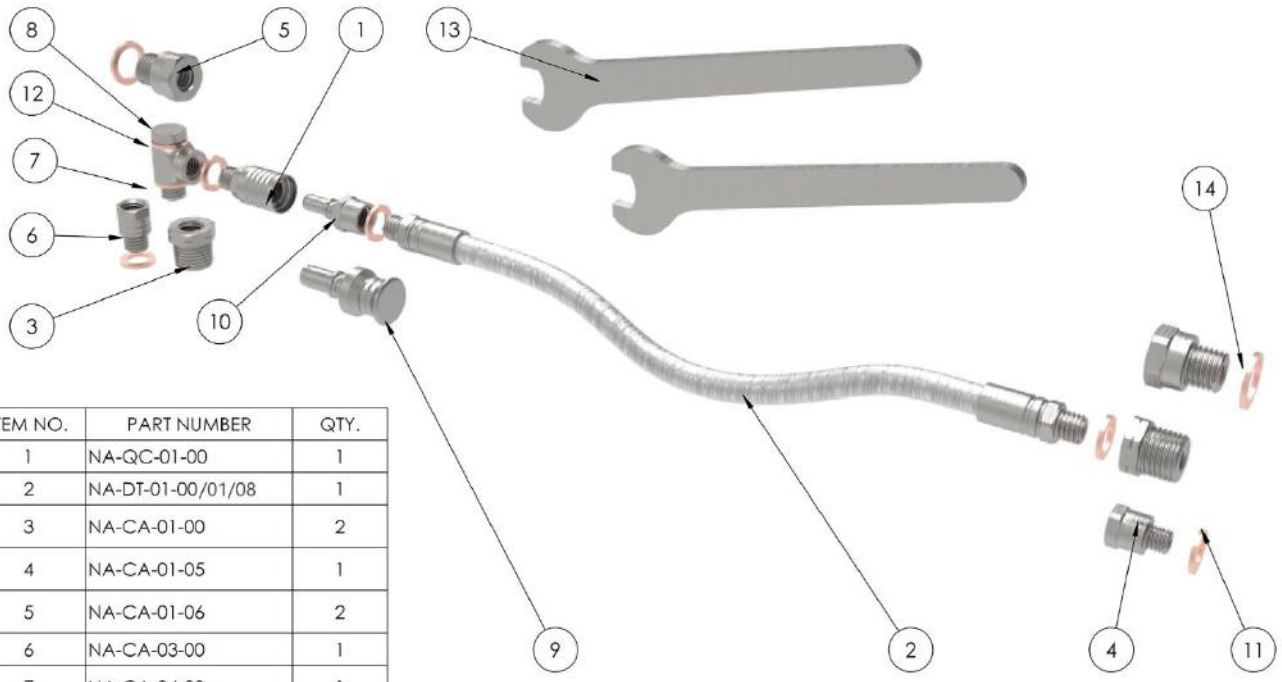
NA-SK-01-00

Ref.	Description
NA-SK-01-01	**Basic Kit Turning/Grooving/Cut off NANO:** **For square shank tool holders** ***Quick Connection fittings:*** 1 unit NA-QC-01-00 Quick connection fitting NANO with M6x1(M) on one end. ***Distribution tubes:*** 1 unit NA-DT-01-01 M6x1(M), flexible tube OD:6.5 mm, 8" (203 mm), M6x1(M) 1 unit NA-DT-01-02 M6x1(M), flexible tube OD:6.5 mm, 12" (305 mm), M6x1(M) ***Standard coolant distribution block:*** 1 unit NA-DB-01-00 18x18x12 mm distribution block with coolant inlet in M8x1(F) inlet and 3 outlets in M6x1(F). Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. ***Connectors and adaptors:*** 1 unit NA-CA-01-05 M6x1(F) to M5x0.8(M) 1 unit NA-CA-01-06 M6x1(F) to M8x1(M) 1 unit NA-CA-03-00 Spacer H:8 mm M6x1(M)-M6x1(F) 1 unit NA-CA-03-01 Spacer H:13 mm M6x1(M)-M6x1(F) 1 unit NA-CA-04-00 Short banjo M6x1(F) 1 unit NA-CA-04-04 Banjo bolt M6x1(M) ***Locking and connecting plugs:*** 1 unit NA-CC-01-00 Sealing plug with quick connection fitting NANO 1 unit NA-CC-01-01 Quick connection fitting NANO to M6x1(F) 3 units NA-CC-01-04 Sealing plug M6x1(M) ***Sealing gasket:*** 1 unit UN-SG-01-00 Sealing gasket in copper for M5 (10 units) 2 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 1 unit UN-SG-01-02 Sealing gasket in copper for M8 (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units NA-FK-01-00 Wrench for assembly on the universal hexagon used in the NANO program. SW8



NA-SK-01-01

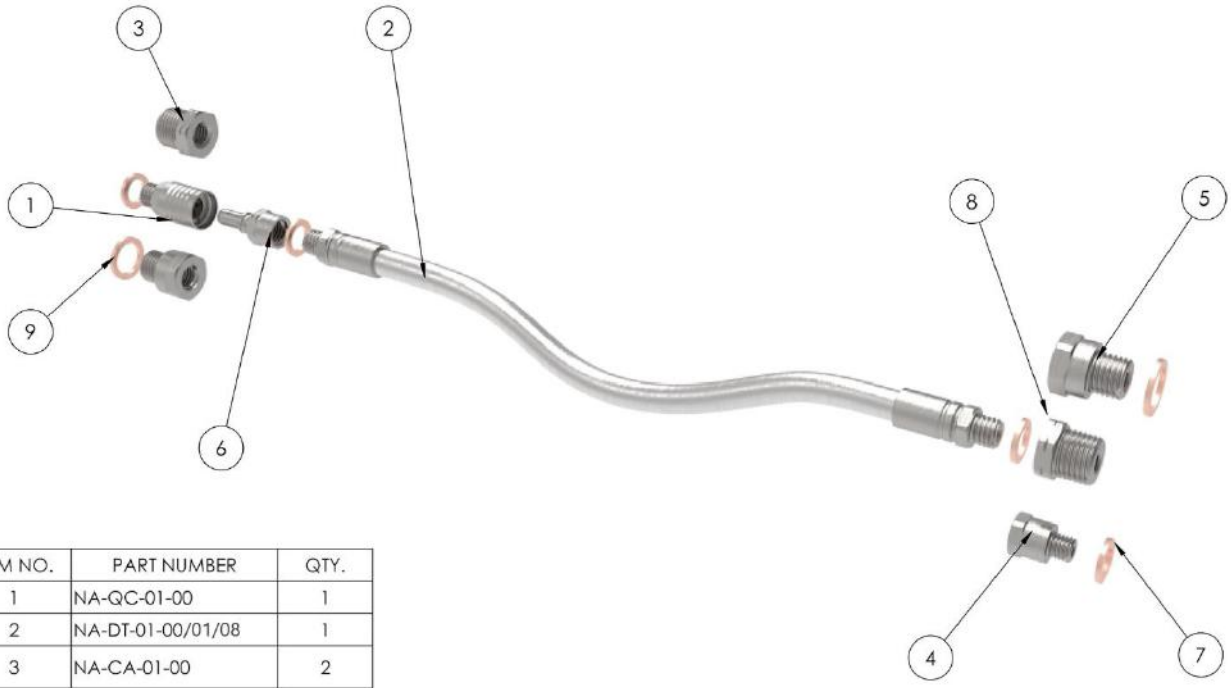
Ref.	Description
NA-SK-01-02 (102 mm flex. tube) NA-SK-01-06 (152 mm flex. tube) NA-SK-01-03 (203 mm flex. tube)	**Basic starter kit NANO for 1 tool with flexible tube 102 or 152 or 203 mm and banjo. Assembled.** ***Quick Connection fittings:*** 1 unit NA-QC-01-00 Quick connection fitting NANO with M6x1(M) on one end. ***Flexible distribution tubes:*** 1 unit NA-DT-01-00 or 01 or 08 M6x1(M), flexible tube OD:6.5 mm, L:4" or 6" or 8" (102 or 152 or 203 mm), M6x1(M) ***Connectors and adaptors:*** 2 units NA-CA-01-00 Adaptor M6x1(H) to BSPT 1/8"(M) 1 unit NA-CA-01-05 Adaptor M6x1(H) to M5x0.8(M) 2 units NA-CA-01-06 Adaptor M6x1(H) to M8x1(M) 1 unit NA-CA-03-00 Spacer H:8 mm M6x1(M)-M6x1(F) 1 unit NA-CA-04-00 Short banjo M6x1(F) 1 unit NA-CA-04-04 Banjo bolt M6x1(M) ***Locking and connecting plugs:*** 1 unit NA-CC-01-00 Sealing plug with quick connection fitting NANO 1 unit NA-CC-01-01 Quick connection fitting NANO to M6x1(F) ***Sealing gaskets:*** 0.1 unit UN-SG-01-00 Sealing gasket in copper for M5 (10 units) 0.6 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 0.2 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units) ***Fastening wrenches for the fittings:*** 2 units NA-FK-01-00 Wrench for assembly on the universal hexagon used in the NANO program. SW8



ITEM NO.	PART NUMBER	QTY.
1	NA-QC-01-00	1
2	NA-DT-01-00/01/08	1
3	NA-CA-01-00	2
4	NA-CA-01-05	1
5	NA-CA-01-06	2
6	NA-CA-03-00	1
7	NA-CA-04-00	1
8	NA-CA-04-04	1
9	NA-CC-01-00	1
10	NA-CC-01-01	1
11	UN-SG-01-00	1
12	UN-SG-01-01	6
13	NA-FK-01-00	2
14	UN-SG-01-02	2

NA-SK-01-02/06/03

Ref.	Description
NA-SK-01-04 (102 mm flex. tube) NA-SK-01-07 (152 mm flex. tube) NA-SK-01-05 (203 mm flex. tube)	**Kit NANO flexible tube 102 or 152 or 203 with quick connection fitting. Assembled.** ***Quick Connection fittings:*** 1 unit NA-QC-01-00 Quick connection fitting NANO with M6x1(M) on one end. ***Flexible distribution tubes:*** 1 unit NA-DT-01-00 or 01 or 08 M6x1(M), flexible tube OD:6.5 mm, L:4" or 6" or 8" (102 or 152 or 203 mm), M6x1(M) ***Connectors and adaptors:*** 2 units NA-CA-01-00 Adaptor M6x1(H) to BSPT 1/8"(M) 1 unit NA-CA-01-05 Adaptor M6x1(H) to M5x0.8(M) 2 units NA-CA-01-06 Adaptor M6x1(H) to M8x1(M) ***Locking and connecting plugs:*** 1 unit NA-CC-01-01 Quick connection fitting NANO to M6x1(F) ***Sealing gaskets:*** 0.1 unit UN-SG-01-00 Sealing gasket in copper for M5 (10 units) 0.3 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 0.2 units UN-SG-01-02 Sealing gasket in copper for M8 (10 units)



ITEM NO.	PART NUMBER	QTY.
1	NA-QC-01-00	1
2	NA-DT-01-00/01/08	1
3	NA-CA-01-00	2
4	NA-CA-01-05	1
5	NA-CA-01-06	2
6	NA-CC-01-01	1
7	UN-SG-01-00	1
8	UN-SG-01-01	3
9	UN-SG-01-02	2

NA-SK-01-04/07/05

Ref.	Description
NA-SK-10-00	**Basic set Swiss-type lathe. NANO:** **To set up a machine to work with coolant through tools.** ***Quick Connection fittings:*** 4 units NA-QC-01-00 Quick connection fitting NANO with M6x1(M) on one end. ***Distribution tubes:*** 1 unit NA-DT-03-00 M6x1(M), flexible tube OD:6.5 mm, L:4" (102 mm), Quick connection fitting NANO 1 unit NA-DT-03-08 M6x1(M), flexible tube OD:6.5 mm, L:6" (152 mm), Quick connection fitting NANO 2 units NA-DT-03-01 M6x1(M), flexible tube OD:6.5 mm, L:8" (203 mm), Quick connection fitting NANO 1 unit NA-DT-03-02 M6x1(M), flexible tube OD:6.5 mm, L:12" (305 mm), Quick connection fitting NANO ***Standard coolant distribution block:*** 1 unit NA-DB-01-02 block with coolant inlet in M6x1(F) inlet and 4 outlets in M6x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position. ***Connectors and adaptors:*** 4 units NA-CA-01-00 Adaptor M6x1(F) to BSPT 1/8"(M) 4 units NA-CA-01-06 Adaptor M6x1(F) to M8x1(M) 2 units NA-CA-01-01 Adaptor M6x1(H) to M10x1 keg(M) 2 units NA-CA-01-06 Adaptor M6x1(F) to M5x0.8(M) 1 unit NA-CA-03-01 Spacer H:13 mm M6x1(M) - M6x1(F) 1 unit NA-CA-03-02 Spacer H:18 mm M6x1(M) - M6x1(F) 1 unit NA-CA-04-00 Short banjo M6x1(F) 1 unit NA-CA-04-03 Long curved banjo M6x1(H) 2 units NA-CA-04-04 Banjo bolt M6x1(M) ***Locking and connecting plugs:*** 2 units NA-CC-01-00 Sealing plug with quick connection fitting NANO 4 units NA-CC-01-04 Sealing plug M6x1(M) ***Sealing gasket:*** 1 unit UN-SG-01-00 Sealing gasket in copper for M5 (10 units) 2 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) 1 unit UN-SG-01-02 Sealing gasket in copper for M8 (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units NA-FK-01-00 Wrench for assembly on the universal hexagon used in the NANO program. SW8 ***Product Case:*** 1 unit UN-KC-10-00 Assortment box. Outer dimensions (LxWxH): 35x29.5x7.1 cm in black color. Includes insertable bins in Sky Blue (RAL 5015).


1x UN-KC-10-00
1x NA-DT-03-00
1x NA-DT-03-08
1x NA-DT-03-01
1x NA-DT-03-02
4x NA-CA-01-00
2x NA-CA-01-05
1x NA-CA-04-00
4x NA-CA-01-06
1x NA-CA-03-01
1x NA-CA-04-03
2x NA-CA-01-01
1x NA-CA-03-02
2x NA-CA-04-04
2x NA-CC-01-00
4x NA-QC-01-00
4x NA-CC-01-04
1x NA-DB-01-02
1x(10)x UN-SG-01-00
1x(10)x UN-SG-01-02
2x NA-FK-01-00
2x(10)x UN-SG-01-01

NA-SK-10-00


BASIC SET SWISS-TYPE LATHE
4 5 6 11 12 13 14
SCS
High Pressure

Ref.	Description
NA-SK-20-00	**Extended Set Swiss-type lathe. NANO:** **To set up a machine to work with coolant through tools and quick connection copper tubes.** ***Quick Connection fittings:*** 10 units NA-QC-01-00 Quick connection fitting NANO with M6x1(M) on one end. ***Flexible distribution tubes:*** 2 units NA-DT-03-00 M6x1(M), flexible tube OD:6.5 mm, L:4" (102 mm), Quick connection fitting NANO 2 units NA-DT-03-08 M6x1(M), flexible tube OD:6.5 mm, L:6" (152 mm), Quick connection fitting NANO 2 units NA-DT-03-01 M6x1(M), flexible tube OD:6.5 mm, L:8" (203 mm), Quick connection fitting NANO 2 units NA-DT-03-02 M6x1(M), flexible tube OD:6.5 mm, L:12" (305 mm), Quick connection fitting NANO 2 units NA-DT-01-03 M6x1(M), flexible tube OD=6.5 mm, 16" (406 mm), M6x1(M) ***Copper tube Kit OD:6 mm DECA:*** 2 units DE-DT-01-01 M8x1(M) thread, nut and compression ring, copper tube OD:6 mm, ID:4 mm and L:6" (152 mm), other end with compression ring and DECA(M) thread. 1 unit DE-DT-01-02 M8x1(M) thread, nut and compression ring, copper tube OD:6 mm, ID:4 mm and L:8" (203 mm), other end with compression ring and DECA(M) thread. ***Coolant nozzles for copper tube kit:*** 2 units DE-NZ-01-00 Straight nozzle. ID:3 mm & L:9 mm 2 units DE-NZ-01-06 Straight nozzle. ID:1.5 mm & L:9 mm 2 units DE-NZ-01-07 Straight nozzle. ID:1 mm & L:9 mm ***Standard coolant distribution block:*** 2 units NA-DB-01-02 10x10x62 mm block with coolant inlet in M6x1(F) inlet and 4 outlets in M6x1(F) in one of the faces. Includes supporting plate to machine with 3 Fastening slotted holes for M6 screw. Reversible mounting position. ***Connectors and adaptors:*** 10 units NA-CA-01-00 Adaptor M6x1(F) to BSPT 1/8"(M) 5 units NA-CA-01-06 Adaptor M6x1(F) to M8x1(M) 5 units NA-CA-01-01 Adaptor M6x1(F) to M10x1 keg(M) 5 units NA-CA-01-05 Adaptor M6x1(F) to M5x0.8(M) 5 units NA-CA-01-08 Adaptor M6x1(F) to M8x1 keg(M) 5 units NA-CA-01-12 Adaptor M6x1(F) to NPT 1/16"(M) 5 units NA-CA-01-10 Adaptor M6x1(F) to NPT 1/8"(M)

Ref.	Description
(Cont'd) NA-SK-20-00	5 units NA-CA-01-03 Adaptor M6x1(F) to M6x1(F) 1 unit NA-CA-03-00 Spacer H:8 mm M6x1(M) -M6x1(F) 2 units NA-CA-03-01 Spacer H:13 mm M6x1(M) - M6x1(F) 2 units NA-CA-03-02 Spacer H:18 mm M6x1(M) - M6x1(F) 10 units NA-CA-04-00 Short banjo M6x1(F) 5 units NA-CA-04-03 Long curved banjo M6x1(H) 10 units NA-CA-04-04 Banjo bolt M6x1(M) 2 unitsNA-CA-04-05 Banjo bolt double length M6x1(M) to connect 2 Banjos ***Locking and connecting plugs:*** 5 units NA-CC-01-00 Sealing plug with quick connection fitting NANO 5 units NA-CC-01-01 Quick connection fitting NANO to M6x1(F) 3 units NA-CC-01-02 Non-rotating (positioning) quick connection fitting NANO to M6x1(F) 5 units NA-CC-01-04 Sealing plug M6x1(M) ***Sealing gaskets:*** 1 unit UN-SG-01-00 Sealing gasket in copper for M5 (10 units) 4 units UN-SG-01-01 Sealing gasket in copper for M6 (10 units) ***Fastening keys for the coolant distribution fittings:*** 2 units NA-FK-01-00 Wrench for assembly on the universal hexagon used in the NANO program. SW8 1 unit. DE-FK-01-00 Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9. ***Product Case:*** 1 unit UN-KC-20-00 Assortment box. Outer dimensions (LxWxH): 44x35.5x7.1 cm in black color. Includes insertable bins in Sky Blue (RAL 5015).


1x UN-KC-20-00
2x NA-DT-03-00
2x NA-DT-03-02
2x NA-DT-03-01
2x DE-DT-01-01
1x DE-DT-01-02
2x NA-DT-03-08
2x NA-DT-01-03
2x DE-NZ-01-00
10x NA-CA-01-00
5x NA-CA-01-08
2x NA-CA-03-02
5x NA-CC-01-00
1x UN-SG-01-00
2x DE-NZ-01-06
5x NA-CA-01-01
5x NA-CA-01-10
10x NA-CA-04-00
5x NA-CC-01-01
4x UN-SG-01-01
2x DE-NZ-01-07
5x NA-CA-01-03
5x NA-CA-01-12
5x NA-CA-04-03
3x NA-CC-01-02
1x UN-SG-01-02
5x NA-CA-01-05
1x NA-CA-03-00
10x NA-CA-04-04
10x NA-QC-01-00
2x NA-FK-01-00
1x DE-FK-01-00
5x NA-CA-01-06
2x NA-CA-03-01
2x NA-CA-04-05
5x NA-CC-01-04
2x NA-DB-01-02

NA-SK-20-00


EXTENDED SET SWISS-TYPE LATHE
4 5 6 11 12 13 14
SCS
High Pressure
MI-SK-20-00 (MICRO)
MI-SK-20-00 (NANO)

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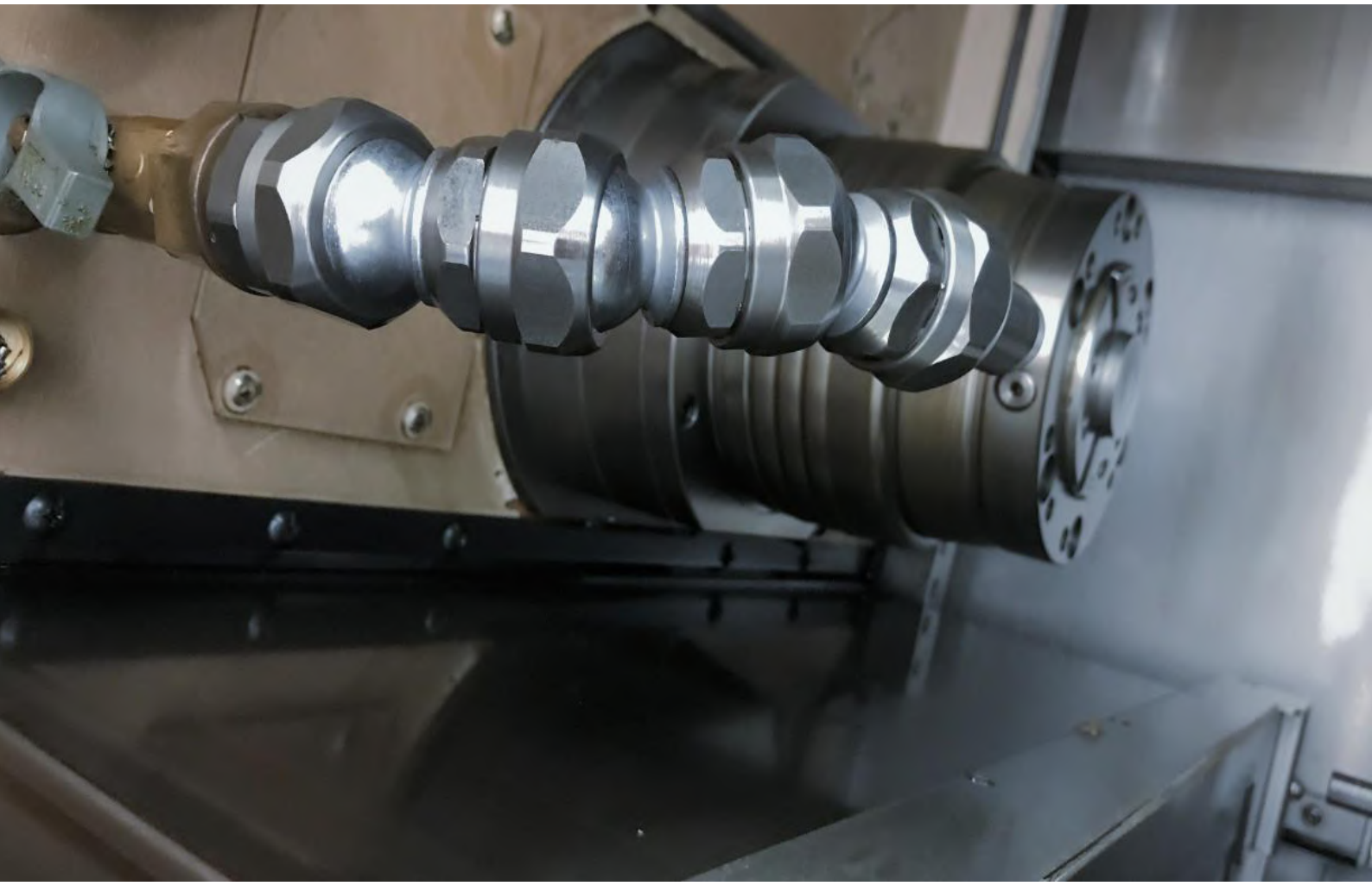
2.ARTICULATED STEEL TUBES FOR COOLANT DISTRIBUTION FOR MACHINING WITH LOW, MEDIUM AND HIGH-PRESSURE / AIR BLASTING



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COOLANT DISTRIBUTION SYSTEM WITH ARTICULATED STEEL TUBES WITH 4 DIFFERENT PROGRAMS (DIMENSIONS) FOR LOW, MEDIUM AND HIGH PRESSURE / AIR BLAST

Modular articulated system for the supply of refrigerant at low, medium or high-pressure. Also useful for air blasting operations. Ideal for both fixed-head and Swiss-type CNC lathes, vertical and horizontal machining centers, grinding or transfer machines

4 manufacturing programs according to the required flow:

- DECA: 3 mm through hole for coolant supply.
- HECT0: 6 mm through hole for coolant supply.
- MEGA: 10.5 mm through hole for coolant supply.
- GIGA: 16 mm through hole for coolant supply.

Pressure (Bar)	DECA (l/min)	HECTO (l/min)	MEGA (l/min)	GIGA (l/min)
2	6	24	73	169
8	12	48	145	338
15	16	65	199	463
20	19	75	230	534
30	23	92	282	654
50	30	119	364	844
80	38	150	460	1068
100	42	168	---	---
150	51	---	---	---

These 4 different programs can be connected with each other and with the MICRO and NANO programs.

Exclusive operation of the mechanism that allows to position and use it with low pressures without the need of tightening of the nuts, even in this mode of operation a total liquid tightness is maintained. For high-pressure work, it must be blocked to ensure stiffness.

It withstands the vibration and pressure of the refrigerant without losing the position. It can be orientated and fixed without the need to use mounting keys.

It allows to work with emulsion or cutting oil or compressed air for cooling or cleaning of the workpiece.

In the “Initial Connection” (IC) parts, BSP threads have 1 mark in the hexagon area and NPT threads have 2 marks. Metric threads have no marks. This marking allows for easy identification.

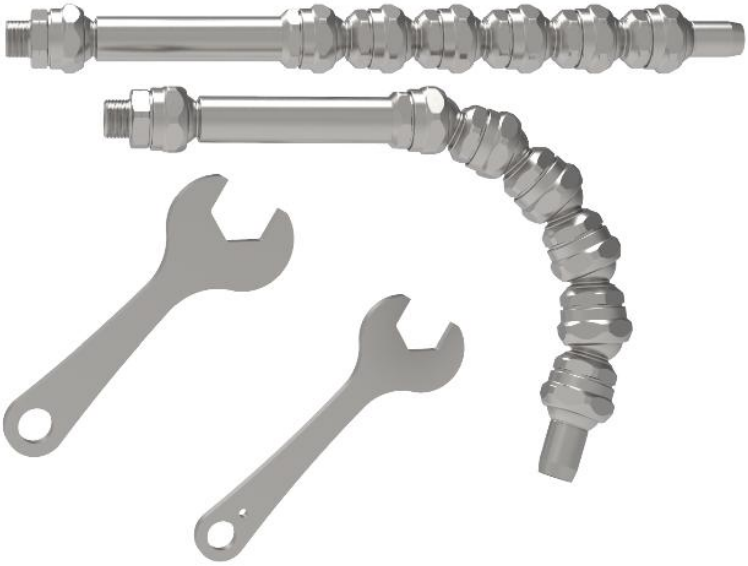
Resistant to pressures of up to 80 bar (1,160 psi) in the programs GIGA and MEGA, 100 bar (1,450 psi) in the program HECTO and 150 bar (2,175 psi) in the program DECA.

DECA PROGRAM

HECTO PROGRAM

MEGA PROGRAM

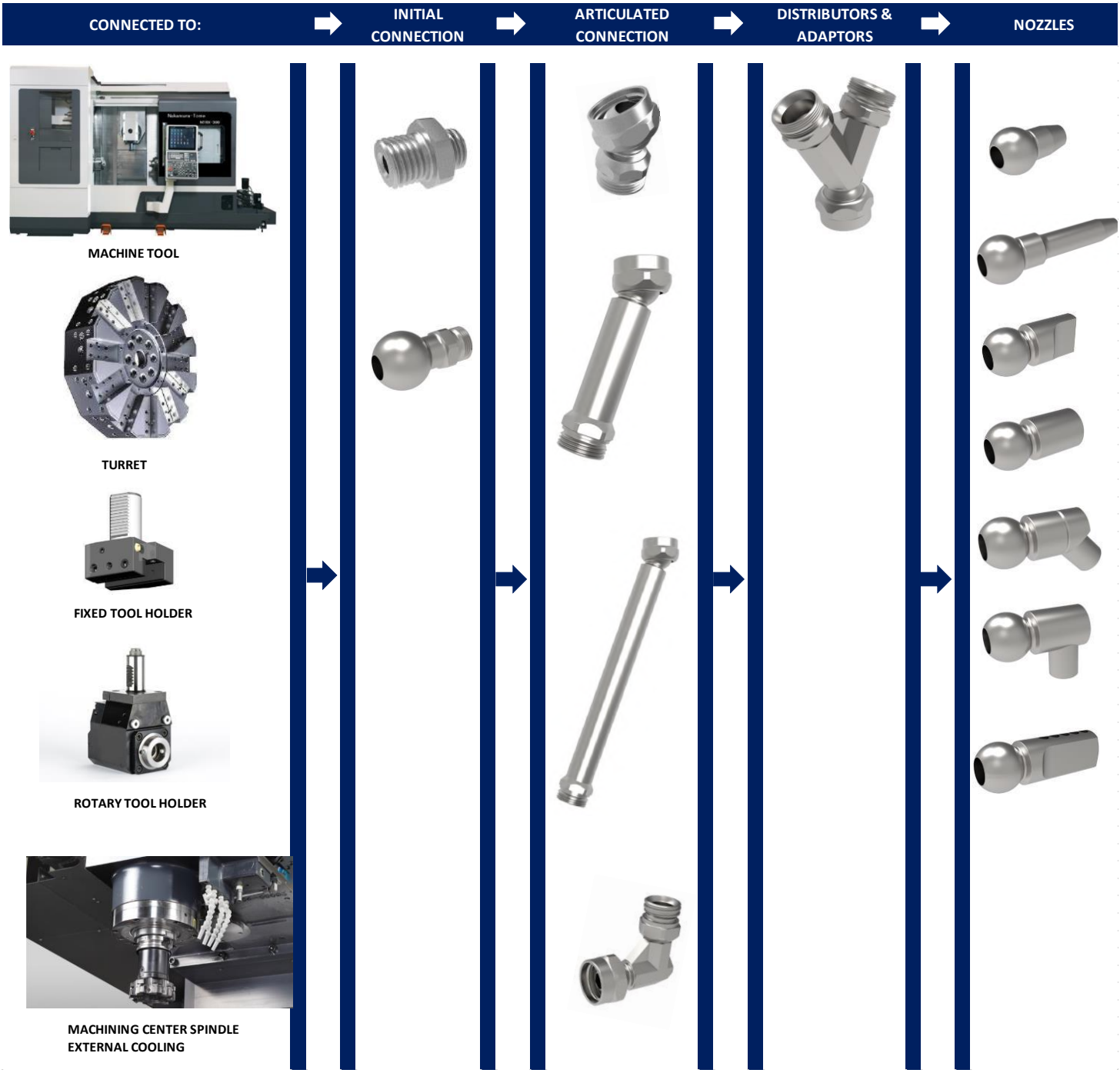
GIGA PROGRAM



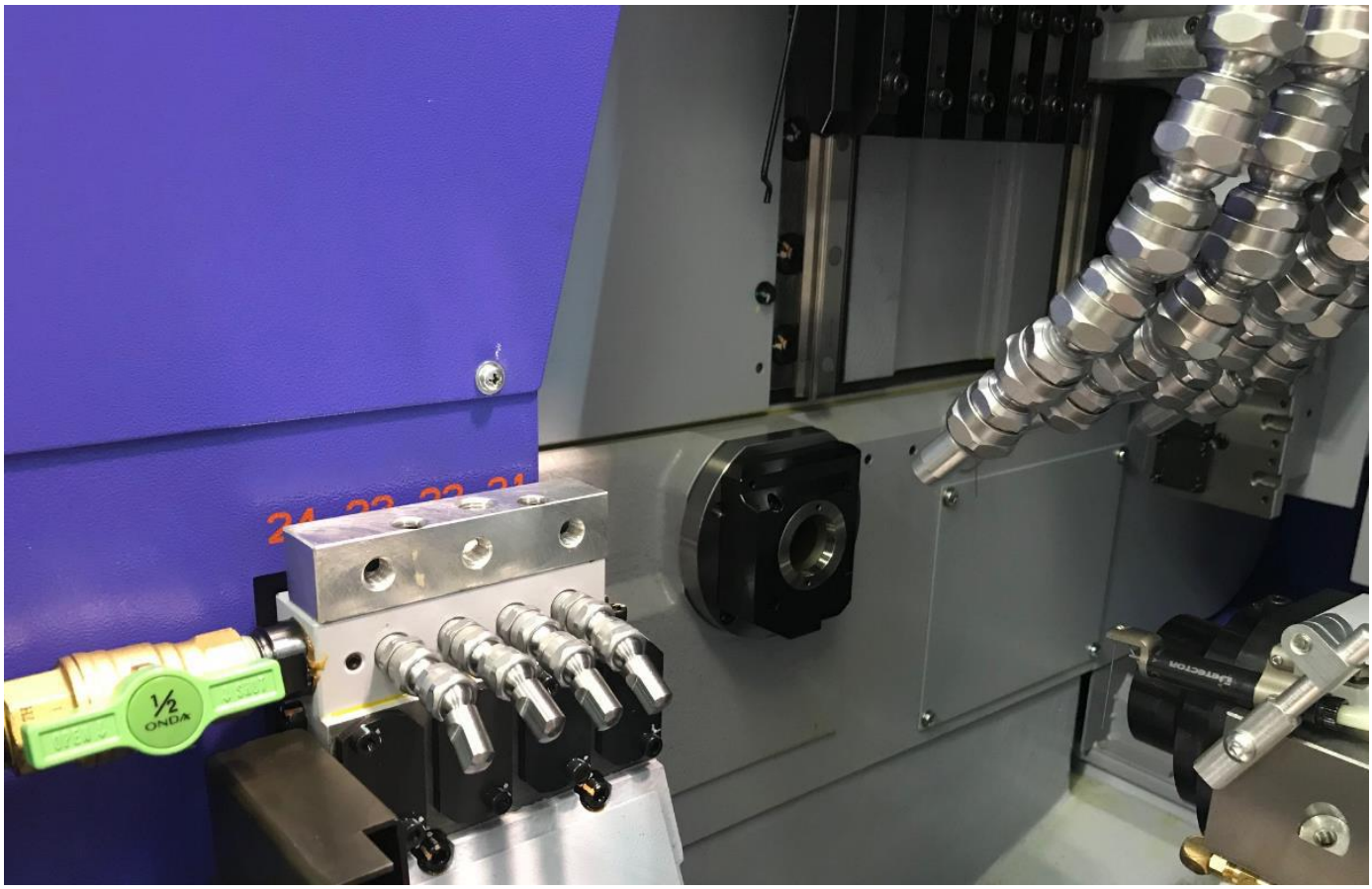
NOTE: *Do not exceed the maximum tightening torque when blocking the parts. We strongly recommend using the specific SCS wrenches for each of the articulated steel programs. Failure to follow these instructions may damage the parts and void the warranty.*

	DECA	HECTO	MEGA	GIGA
Max. Torque:	*1.8 Nm*	*6 Nm*	*28 Nm*	*40 Nm*

Articulated steel tube system assembly:



Example of installation in a Swiss-type lathe:



HECTO system mounted for tool back-post cooling

MEGA system mounted for main spindle cooling

Assembly HECTO (6 mm):

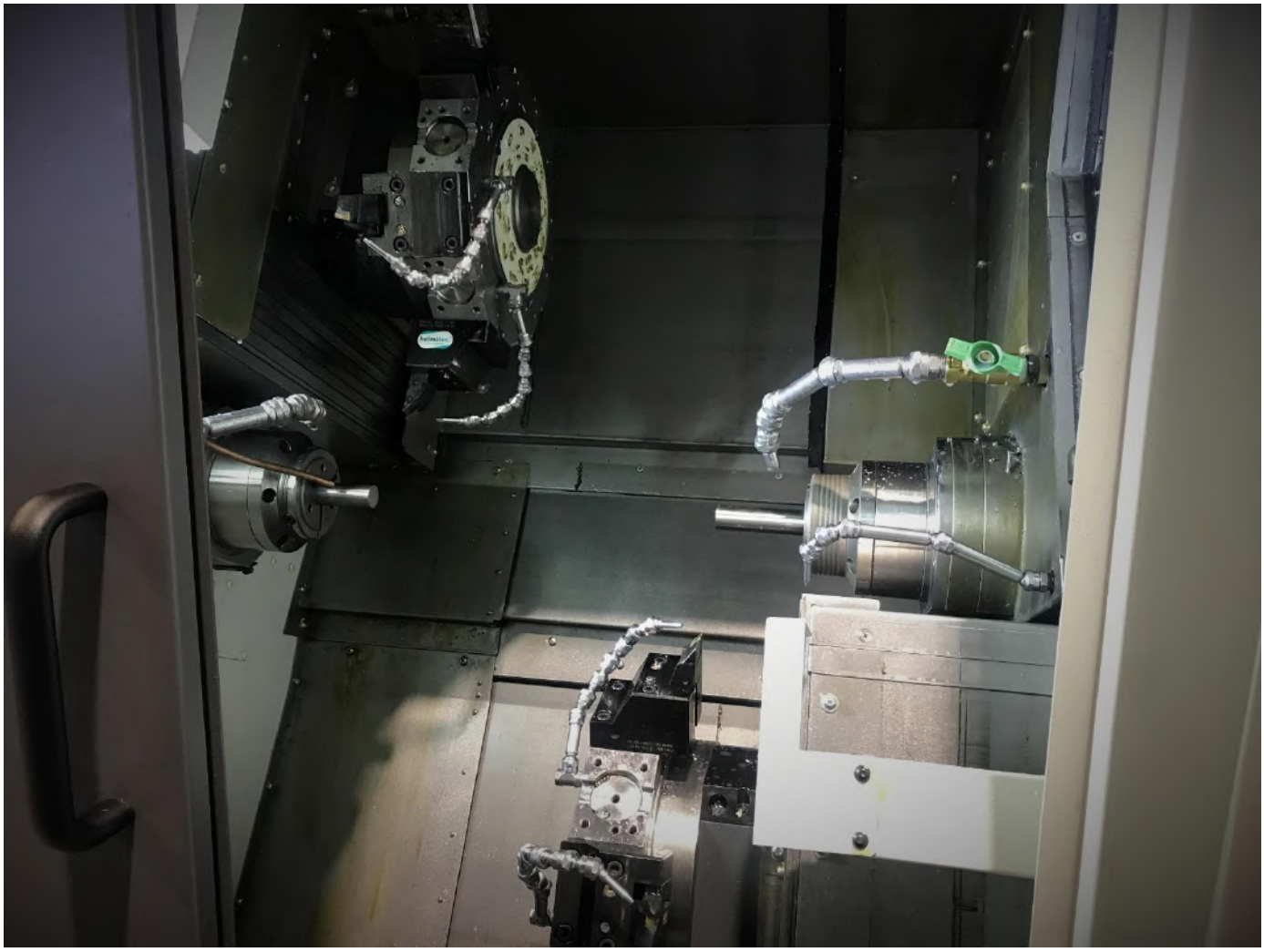
4 x 1 unit HE-IC-01-08 BSPT 1/4"(M) to articulated connection
4 x 1 unit HE-AC-01-00 Articulated connection L:20.5 mm
4 x 1 unit HE-NZ-03-00 Nozzle 90º. ID:3.4 mm x 3 & L:24 mm

Assembly MEGA (10.5 mm):

4 x 1 unit ME-IC-01-04 BSPT 3/8"(M) to articulated connection
4 x 4 unit ME-AC-01-00 Articulated connection L:28.5 mm
4 x 1 ME-AC-01-02 Articulated connection L=128.5 mm
4 x 1 unit ME-NZ-01-00 Straight nozzle. ID:10.5 mm & L:27 mm

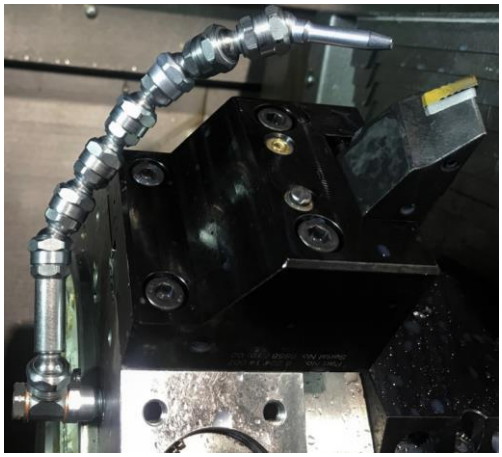
2 x 1 unit ME-IC-01-04 BSPT 3/8"(M) to articulated connection
2 x 1 unit ME-NZ-01-00 Straight nozzle. ID:10.5 mm & L:27 mm

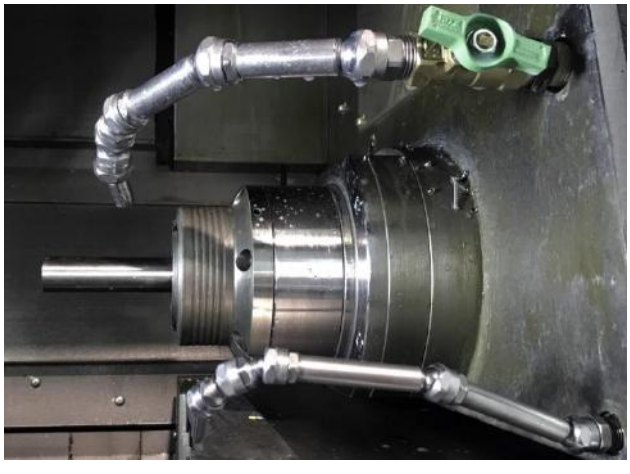
Example of installation in a 2-Spindle and 2-turret CNC lathe:



HECTO system mounted for tool cooling from turret disc

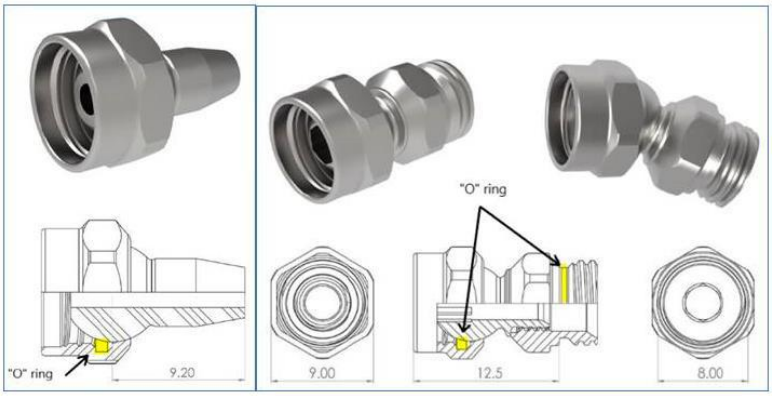
MEGA system mounted for main spindle and sub spindle chuck cleaning and cooling

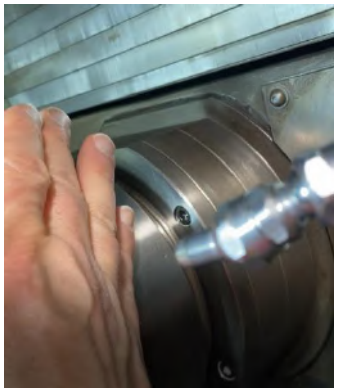




Example of air blasting application in a CNC lathe:

HECTO system mounted for air blasting of 2 jaw-chuck in sub spindle of CNC lathe before part transfer from main spindle.





Perfect application for air blasting: no leaks thanks to “O” ring seals, even with the system not firmly fixed.

Example of installation in a rotary tool holder for a CNC lathe:

DECA system mounted in rotary tool holder. Straight nozzle ID:3 mm & L:10 mm

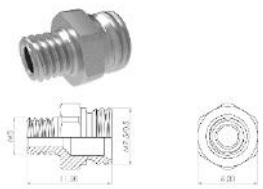
HECTO system mounted in rotary tool holder. Straight nozzle ID:6 mm & L:16 mm

HECTO system mounted in rotary tool holder. Straight nozzle ID:3 mm x 3 & L:20 mm

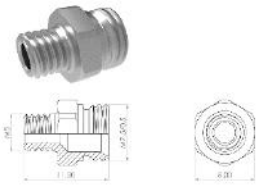
HECTO system mounted in rotary tool holder. Straight nozzle coaxial ID:3.4 x 3 & L=20 mm

DECA (3 mm) PROGRAM

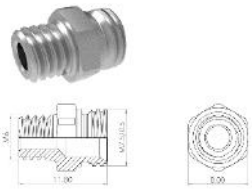
INITIAL CONNECTION
DE-IC-XX-XX



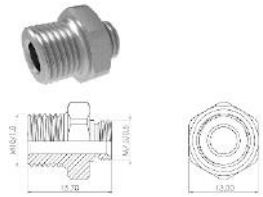
DE-IC-01-00



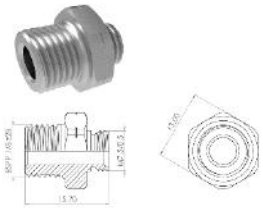
DE-IC-01-01



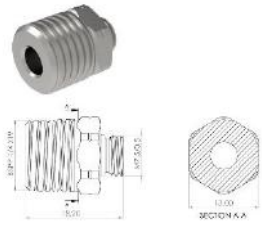
DE-IC-01-02



DE-IC-01-03



DE-IC-01-04



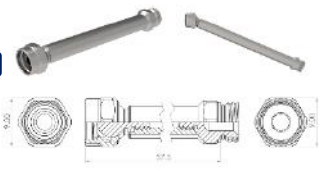
DE-IC-01-05

ARTICULATED CONNECTION
DE-AC-XX-XX

DE-AC-01-00

DE-AC-01-01

DE-AC-01-02



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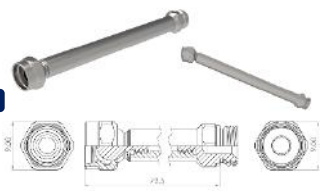
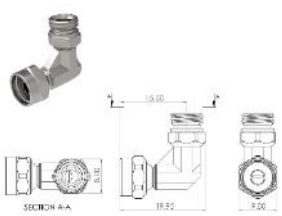
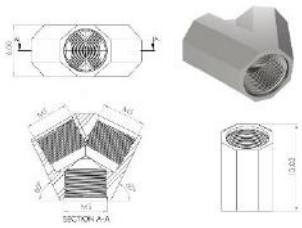


DE-AC-01-04



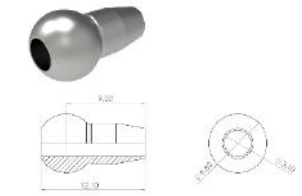
DE-AC-02-00

DISTRIBUTORS & ADAPTORS
DE-DA-XX-XX

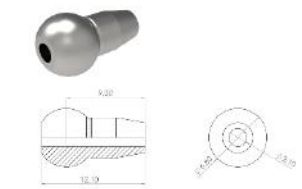


DE-DA-01-00

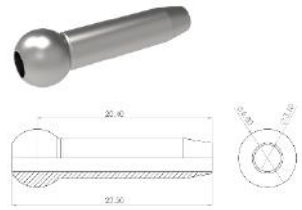
NOZZLES
DE-NZ-XX-XX



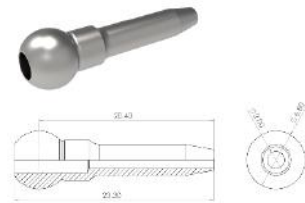
DE-NZ-01-00



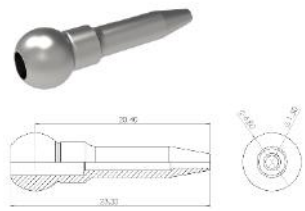
DE-NZ-01-01



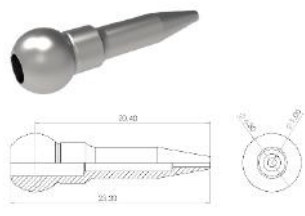
DE-NZ-01-02



DE-NZ-01-03



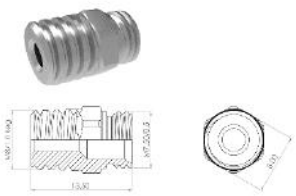
DE-NZ-01-04



DE-NZ-01-05

Cont'd

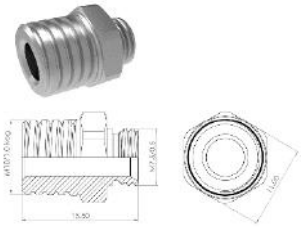
INITIAL CONNECTION	ARTICULATED CONNECTION	DISTRIBUTORS & ADAPTORS	NOZZLES
DE-IC-XX-XX	DE-AC-XX-XX	DE-DA-XX-XX	DE-NZ-XX-XX



DE-IC-01-06

Drawing not available

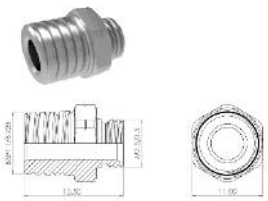
DE-NZ-02-01



DE-IC-01-07

Drawing not available

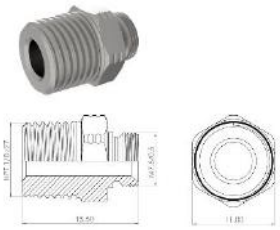
DE-NZ-02-02



DE-IC-01-08

Drawing not available

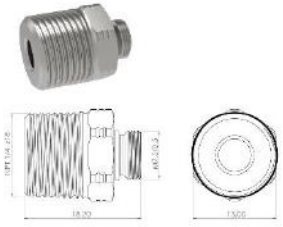
DE-NZ-02-03



DE-IC-01-09

Drawing not available

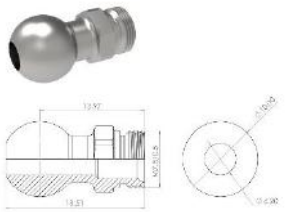
DE-NZ-02-03



DE-IC-01-10

Drawing not available

DE-NZ-03-01



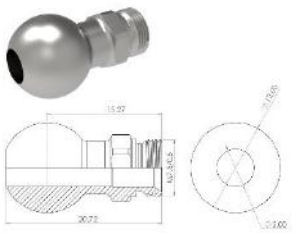
DE-IC-02-00

Drawing not available

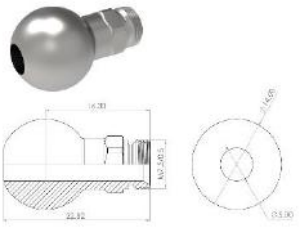
DE-NZ-03-02

Cont'd

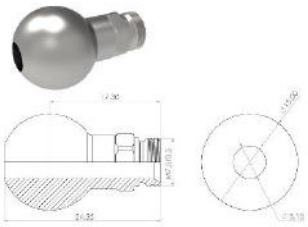
INITIAL CONNECTION	ARTICULATED CONNECTION	DISTRIBUTORS & ADAPTORS	NOZZLES
DE-IC-XX-XX	DE-AC-XX-XX	DE-DA-XX-XX	DE-NZ-XX-XX



DE-IC-02-01



DE-IC-02-02

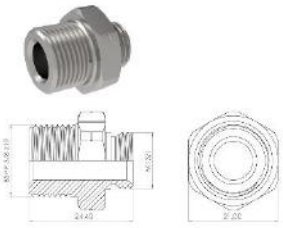


DE-IC-02-03

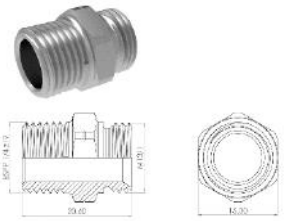
HECTO (6 mm) PROGRAM

INITIAL CONNECTION
HE-IC-XX-XX

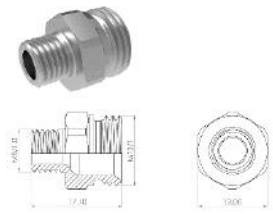
HE-IC-01-00



HE-IC-01-01



HE-IC-01-02



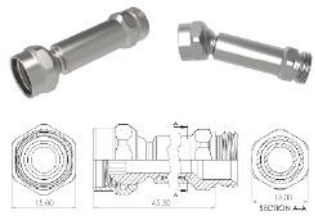
HE-IC-01-03

HE-IC-01-04

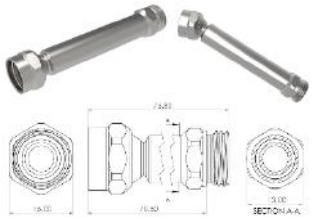
HE-IC-01-05

ARTICULATED CONNECTION
HE-AC-XX-XX

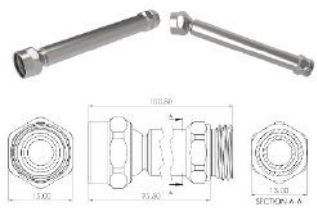
HE-AC-01-00



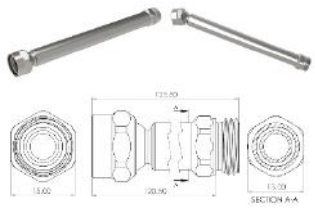
HE-AC-01-01



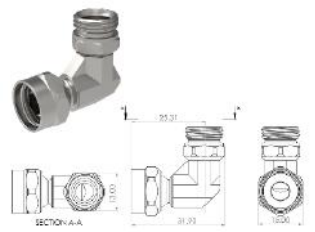
HE-AC-01-02



HE-AC-01-03



HE-AC-01-04



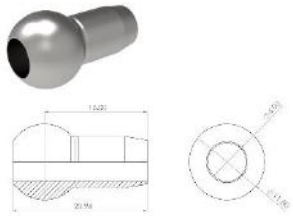
HE-AC-02-00

DISTRIBUTORS & ADAPTORS
HE-DA-XX-XX

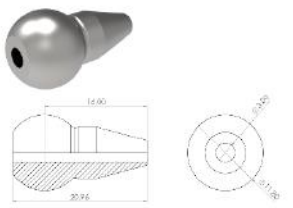
Drawing not available

HE-DA-01-00

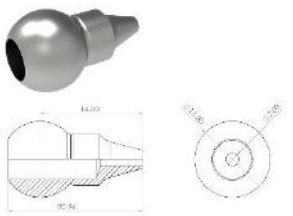
NOZZLES
HE-NZ-XX-XX



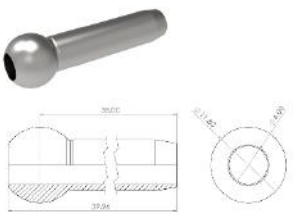
HE-NZ-01-00



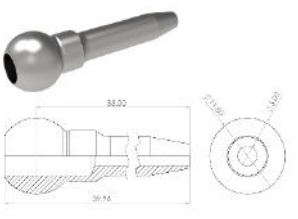
HE-NZ-01-01



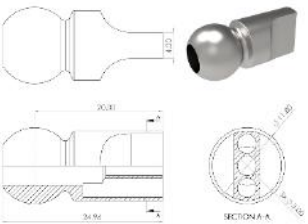
HE-NZ-01-02



HE-NZ-01-03



HE-NZ-01-04



HE-NZ-01-05

Cont'd

INITIAL CONNECTION
HE-IC-XX-XX

ARTICULATED CONNECTION
HE-AC-XX-XX

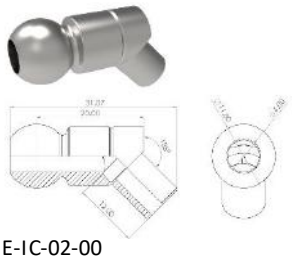
DISTRIBUTORS & ADAPTORS
HE-DA-XX-XX

NOZZLES
HE-NZ-XX-XX

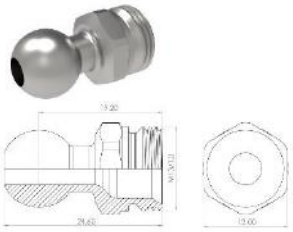
Drawing not available

HE-IC-01-06

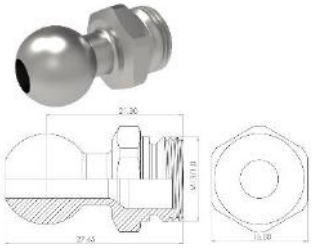
HE-IC-01-07



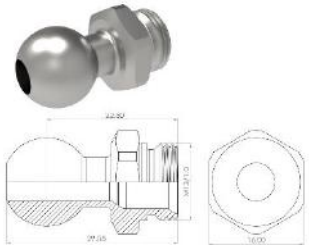
HE-IC-02-00



HE-IC-02-01

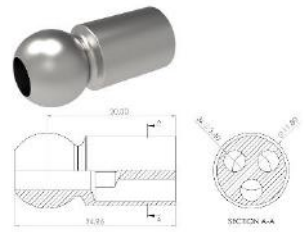


HE-IC-02-02

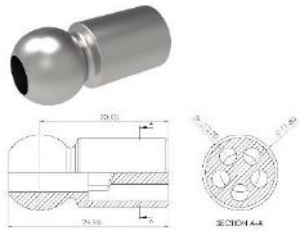


HE-IC-02-03

HE-NZ-01-06



HE-NZ-01-07



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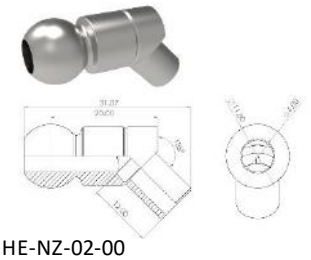

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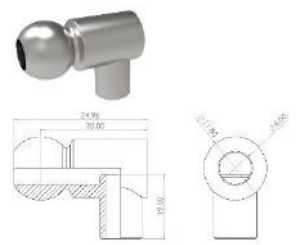
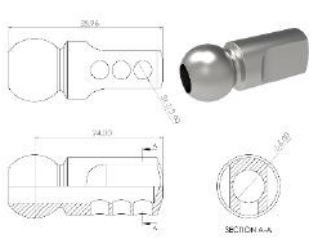


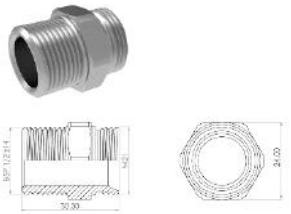
HE-NZ-03-01



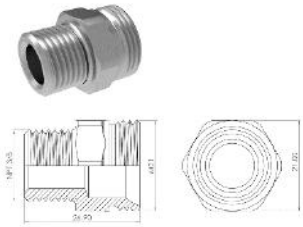
MEGA (10.5 mm) PROGRAM

INITIAL CONNECTION
ME-IC-XX-XX

ME-IC-01-00



ME-IC-01-01



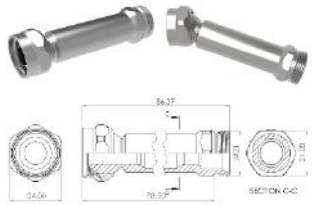
ME-IC-01-02

Drawing not available

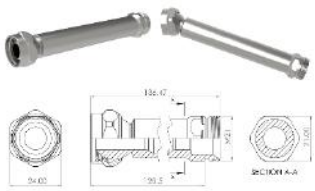
ME-IC-01-03

ARTICULATED CONNECTION
ME-AC-XX-XX

ME-AC-01-00



ME-AC-01-01



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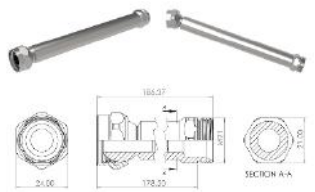

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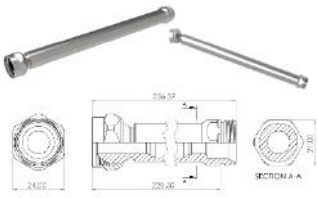
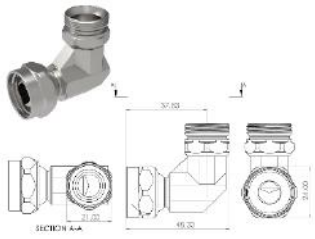


ME-AC-01-04

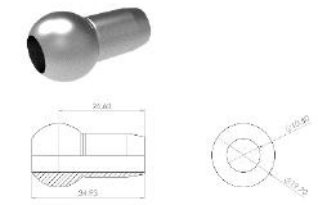


ME-AC-02-00

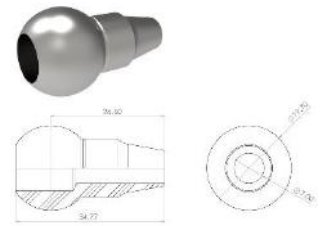
DISTRIBUTORS & ADAPTORS
ME-DA-XX-XX

ME-DA-01-00

NOZZLES
ME-NZ-XX-XX



ME-NZ-01-00



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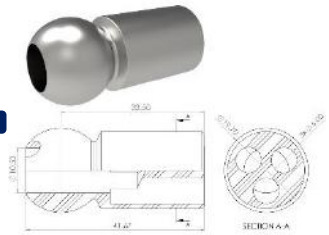


ME-NZ-01-02

ME-NZ-01-03

Drawing not available

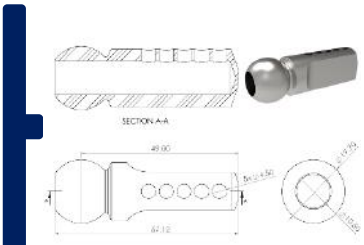
ME-NZ-02-00

Drawing not available

ME-NZ-03-00

Cont'd

INITIAL CONNECTION	ARTICULATED CONNECTION	DISTRIBUTORS & ADAPTORS	NOZZLES
ME-IC-XX-XX	ME-AC-XX-XX	ME-DA-XX-XX	ME-NZ-XX-XX



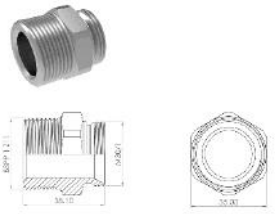
ME-NZ-03-01

GIGA (16 mm) PROGRAM

INITIAL CONNECTION
GI-IC-XX-XX

GI-IC-01-00

GI-IC-01-01

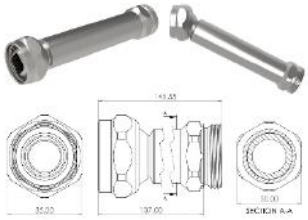


GI-IC-01-02

ARTICULATED CONNECTION
GI-AC-XX-XX

GI-AC-01-00

GI-AC-01-01



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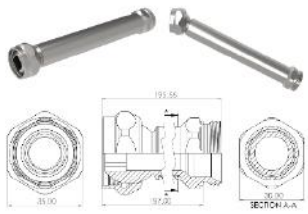
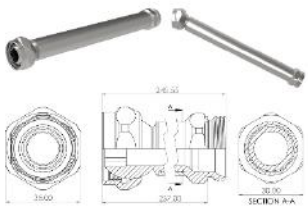


GI-AC-01-03



GI-AC-01-04

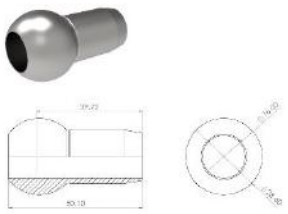
GI-AC-02-00

DISTRIBUTORS & ADAPTORS
GI-DA-XX-XX

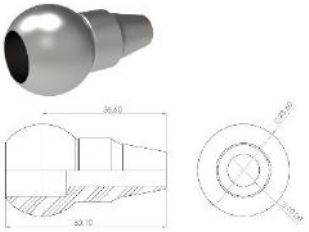
Drawing not available

GI-DA-01-00

NOZZLES
GI-NZ-XX-XX



GI-NZ-01-00



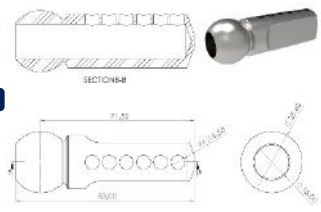
GI-NZ-01-01

Drawing not available

GI-NZ-02-00

Drawing not available

GI-NZ-03-00



GI-NZ-03-01

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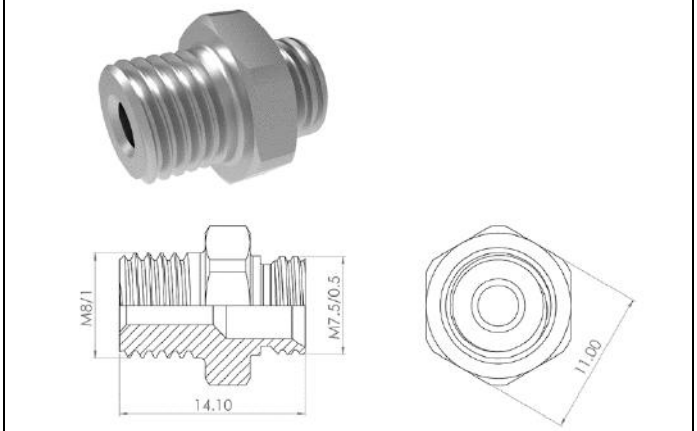
DECA (3 mm) PROGRAM

The internal through hole of the DECA program is 3 mm and is ideal for the distribution of refrigerant (oil or emulsion) in small-sized machines such as Swiss-type CNC lathes, fixed-head CNC lathes, driven tools or as distribution branches of bigger programs (HECTO, MEGA or GIGA).
Maximum torque for locking the parts of the system: 1.8 Nm
Maximum pressure: 150 Bar (2,175 psi)

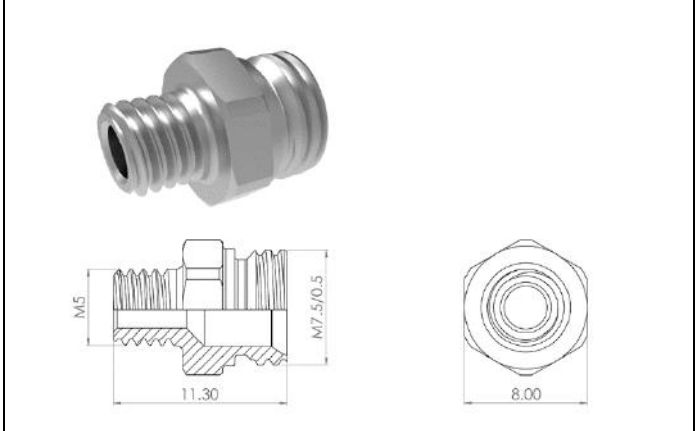
Initial connection:

Connection elements with the machine-tool or other SCS coolant distribution programs. ID:3 mm.
Material: Steel

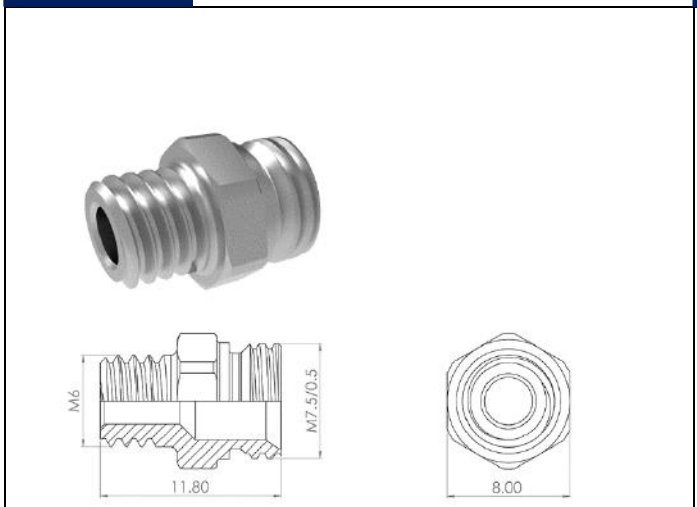
Ref.	Description
DE-IC-01-00	M8x1(M) to articulated connection DECA.
DE-IC-01-01	M5x0.8(M) to articulated connection DECA.
DE-IC-01-02	M6x1(M) to articulated connection DECA.
DE-IC-01-03	M10x1(M) to articulated connection DECA.
DE-IC-01-04	BSPP 1/8"(M) to articulated connection DECA.
DE-IC-01-05	BSPT 1/4"(M) to articulated connection DECA.
DE-IC-01-06	M8x1 keg(M) to articulated connection DECA.
DE-IC-01-07	M10x1 keg(M) to articulated connection DECA.
DE-IC-01-08	BSPT 1/8"(M) to articulated connection DECA.
DE-IC-01-09	NPT 1/8"(M) to articulated connection DECA.
DE-IC-01-10	NPT 1/4"(M) to articulated connection DECA.
DE-IC-01-11	M10x1.5(M) to articulated connection DECA.
DE-IC-01-12	M10x1(M) with 10 mm hexagon to articulated connection DECA.
DE-IC-01-13	BSPP 1/8"(M) with 10 mm hexagon to articulated connection DECA.
DE-IC-01-14	M10x1.5(M) with 10 mm hexagon to articulated connection DECA.
DE-IC-02-00	Ball OD:10 mm to articulated connection DECA.
DE-IC-02-01	Ball OD:12 mm to articulated connection DECA.
DE-IC-02-02	Ball OD:14 mm to articulated connection DECA.
DE-IC-02-03	Ball OD:15 mm to articulated connection DECA.
DE-IC-03-00	M8x1(M) to Nut for compression ring ID:6 mm DECA.



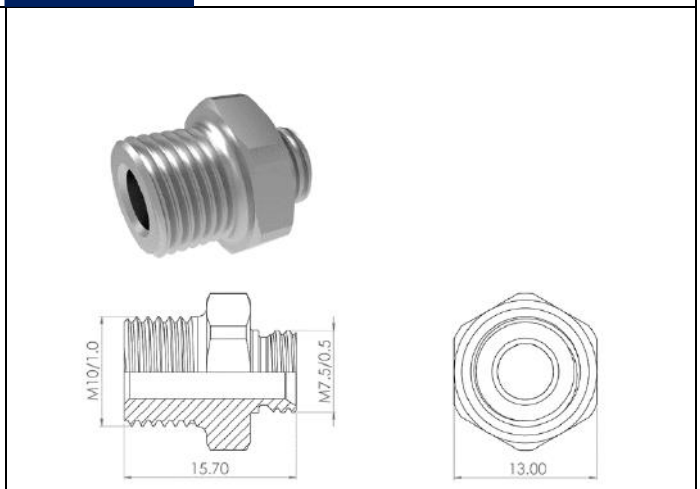
DE-IC-01-00



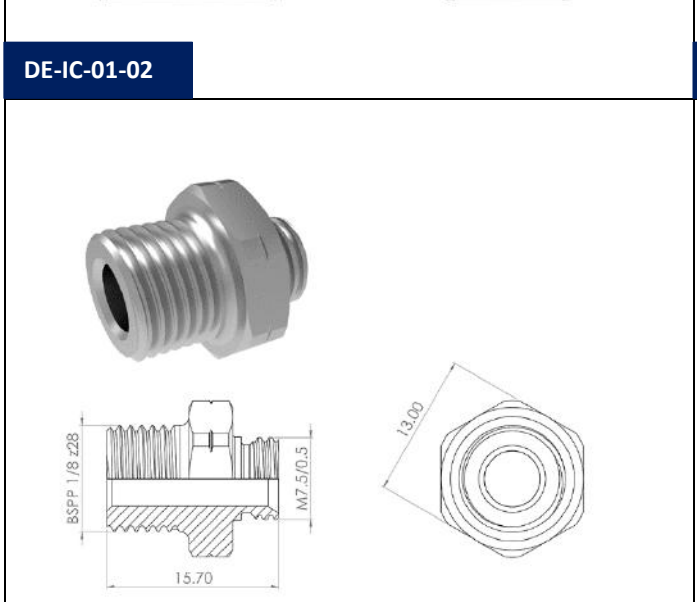
DE-IC-01-01



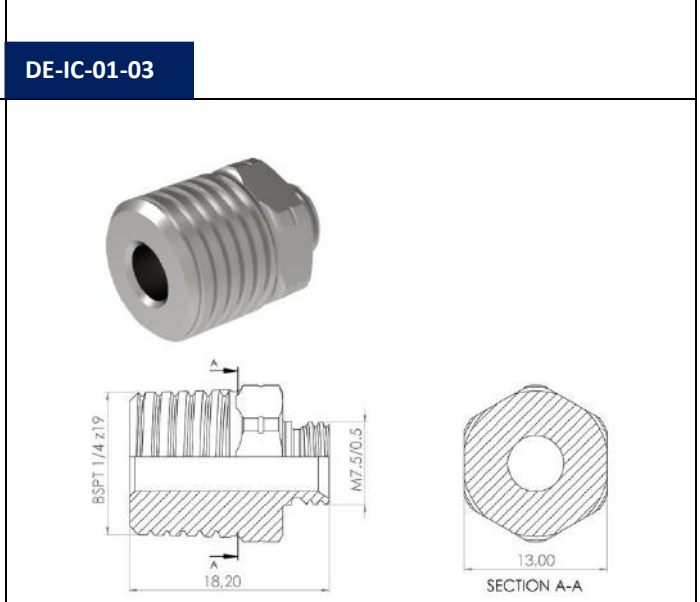
DE-IC-01-02



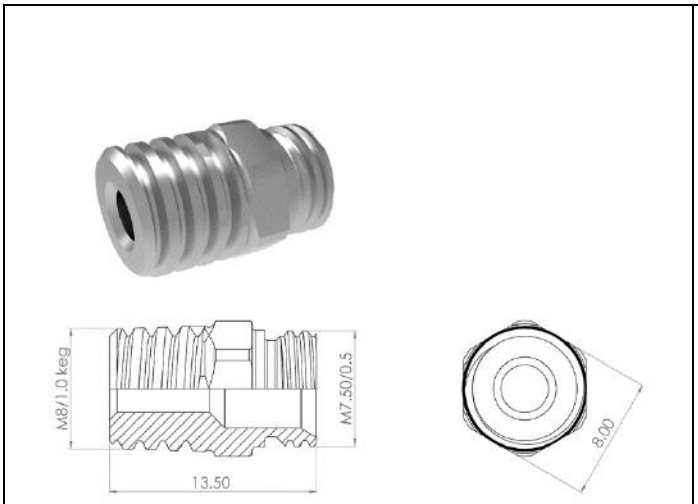
DE-IC-01-03



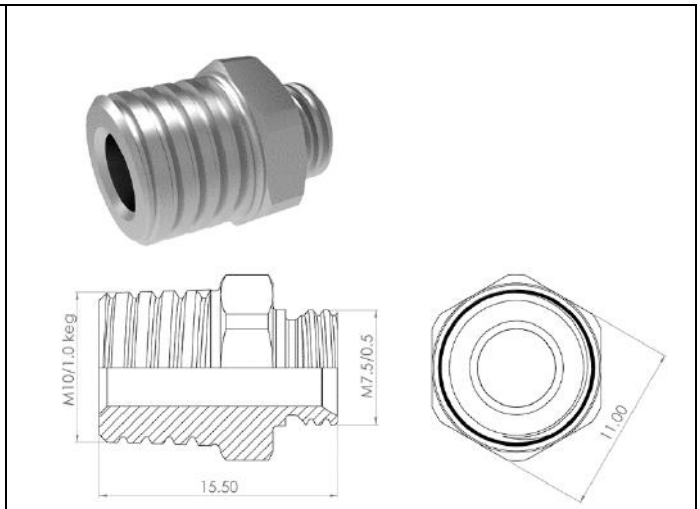
DE-IC-01-04



DE-IC-01-05

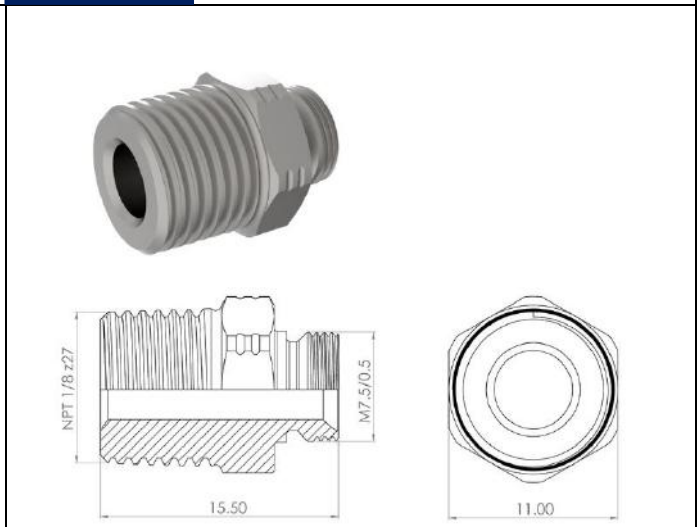


DE-IC-01-06

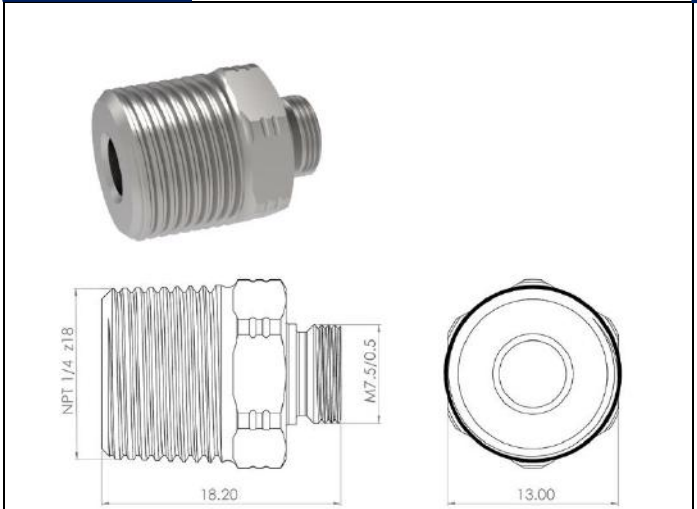


DE-IC-01-07

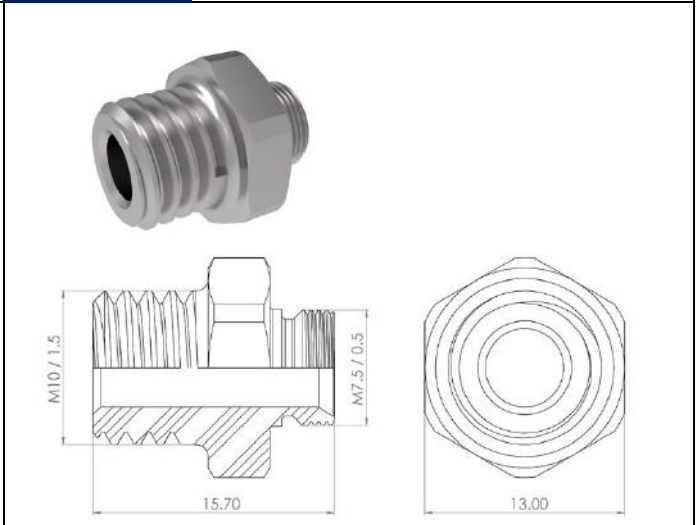
DE-IC-01-08



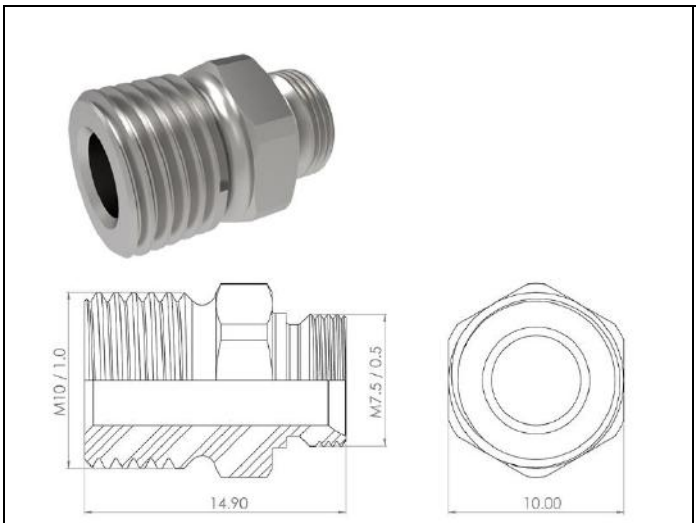
DE-IC-01-09



DE-IC-01-10



DE-IC-01-11



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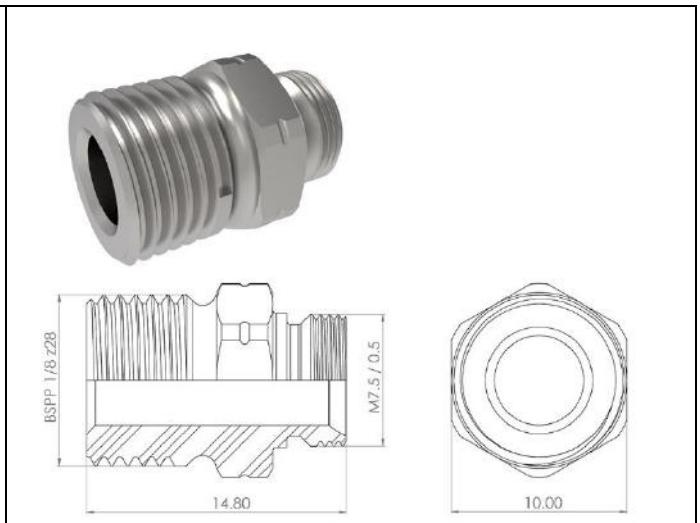
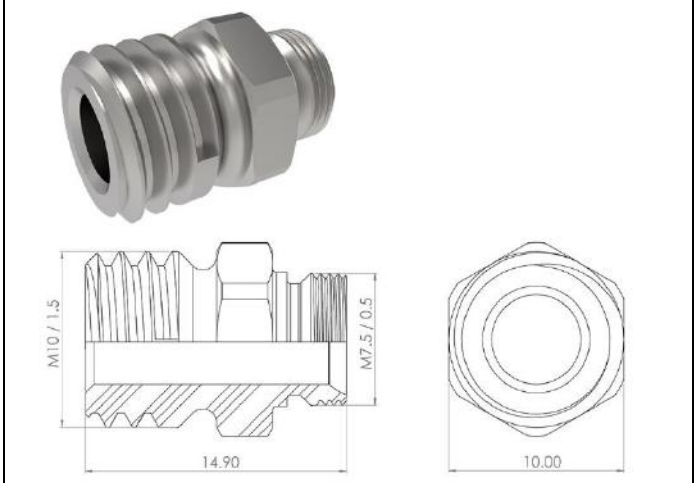
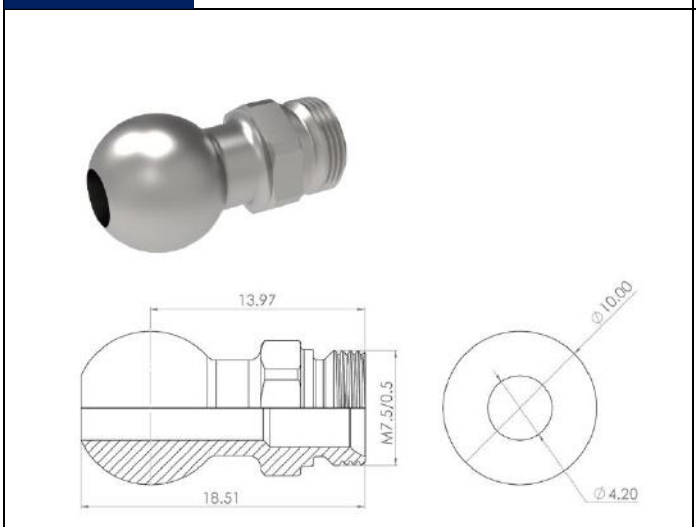


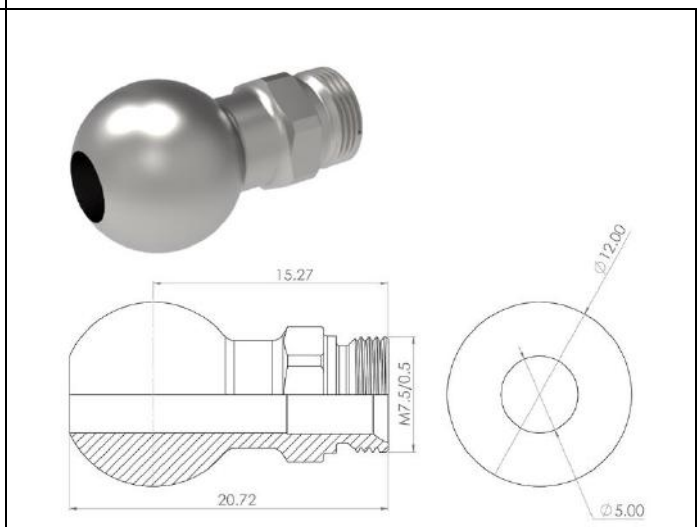
DE-IC-01-13



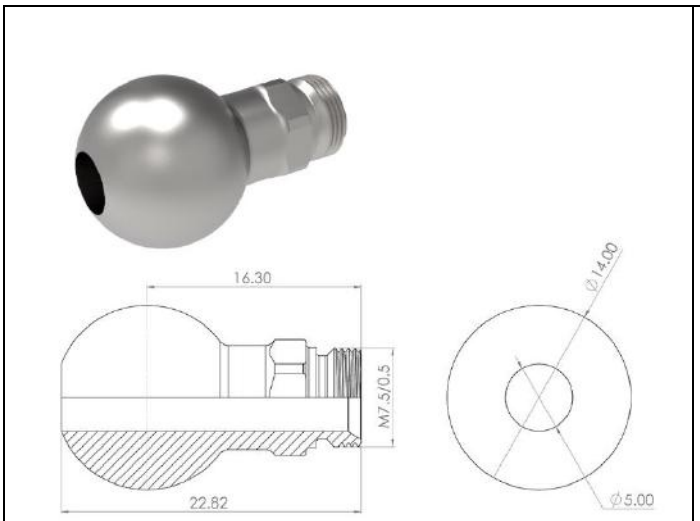
DE-IC-01-14



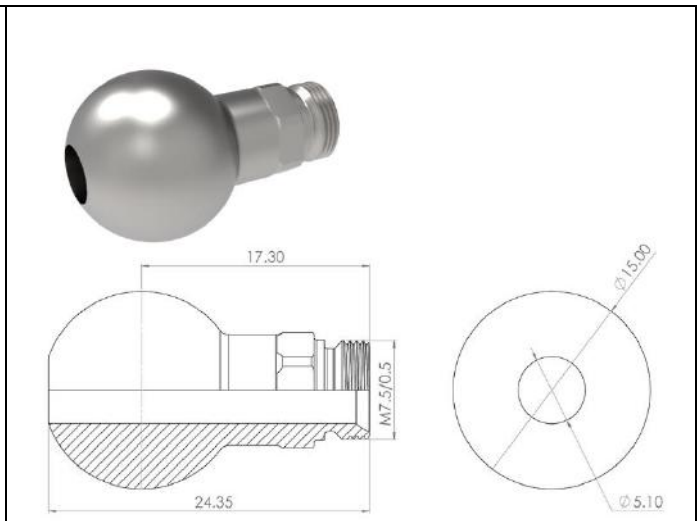
DE-IC-02-00



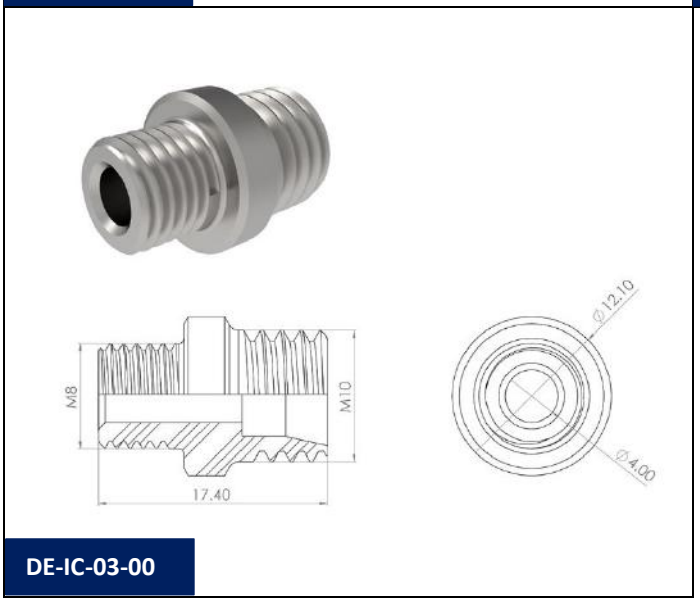
DE-IC-02-01



DE-IC-02-02



DE-IC-02-03



DE-IC-03-00

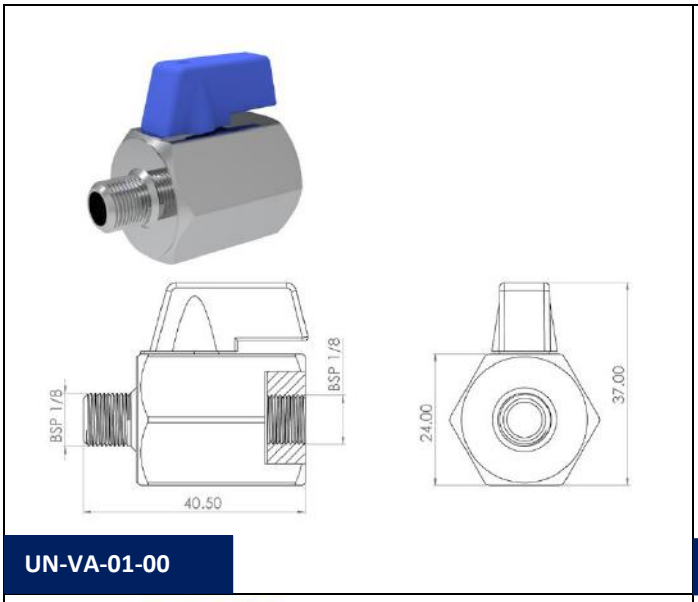
Ball valves:

Miniature ball valves for shut-off or control of the coolant flow. To be installed at the machine-tool coolant outlet.

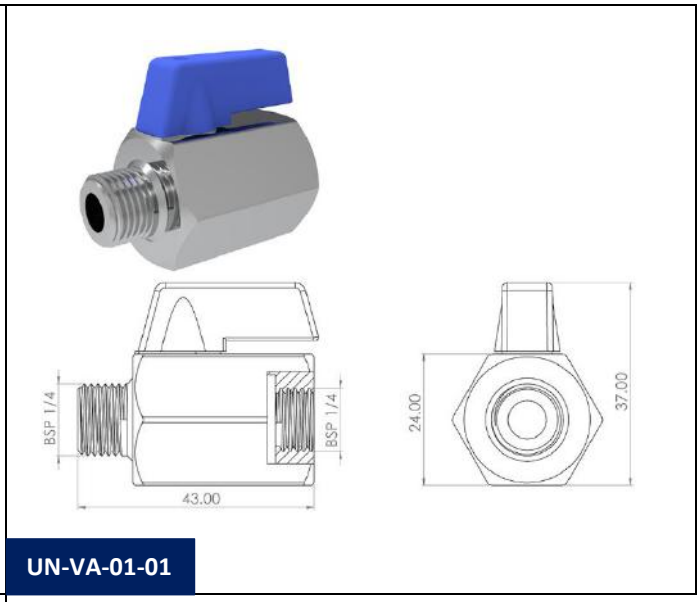
Types:

- PN10: Pressure 10 bar (145 psi). Material: Chrome plated brass.
- PN63: Pressure 63 bar (914 psi). Material: Stainless steel AISI-316

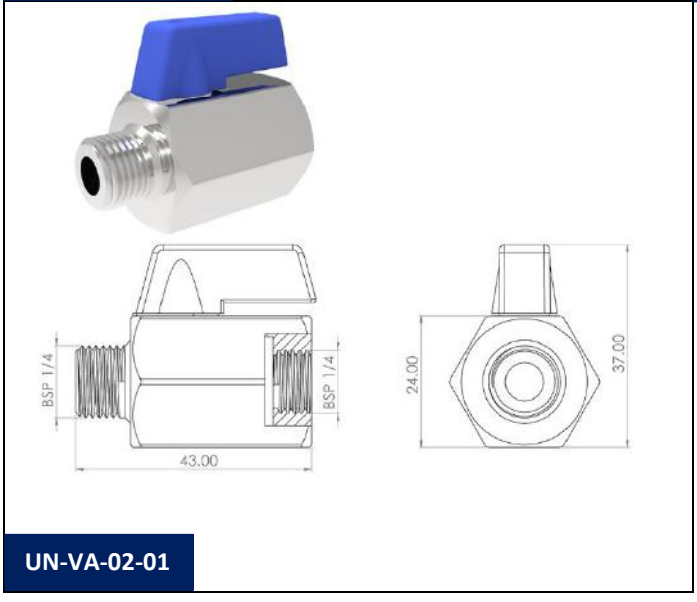
Ref.	Description
UN-VA-01-00	Closing valve PN10, BSPP 1/8"(M) and BSPP 1/8"(F) chromed-plated brass.
UN-VA-01-01	Closing valve PN10, BSPP 1/4"(M) and BSPP 1/4"(F) chromed-plated brass.
UN-VA-02-01	Closing valve PN63, BSPP 1/4"(M) and BSPP 1/4"(F) AISI-316



UN-VA-01-00



UN-VA-01-01



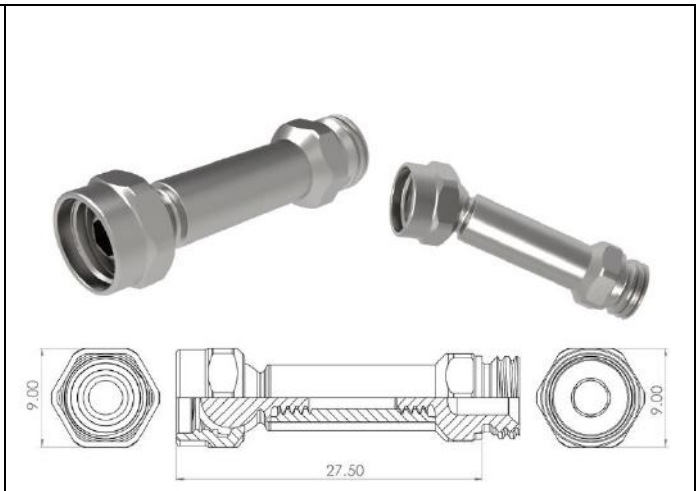
UN-VA-02-01

Articulated connection:

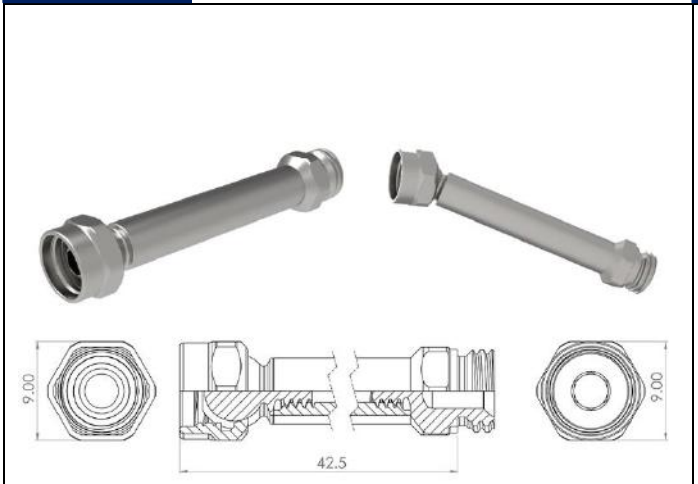
Basic articulated elements which connect to each other. Swiveling ±25º. ID:3 mm.
Material: Steel

Ref.	Description
DE-AC-01-00	Articulated connection DECA L:12.5 mm
DE-AC-01-01	Articulated connection DECA L:27.5 mm
DE-AC-01-02	Articulated connection DECA L:42.5 mm
DE-AC-01-03	Articulated connection DECA L:57.5 mm
DE-AC-01-04	Articulated connection DECA L:72.5 mm
DE-AC-02-00	Articulated connection to 90º DECA

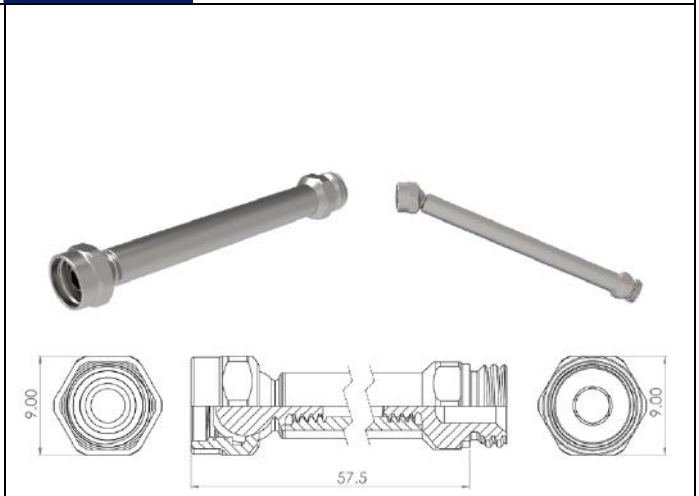
DE-AC-01-00



DE-AC-01-01



DE-AC-01-02



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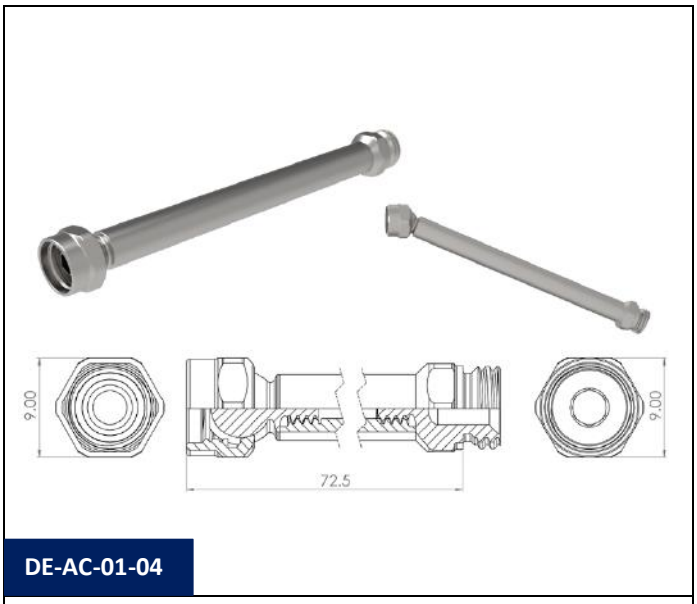

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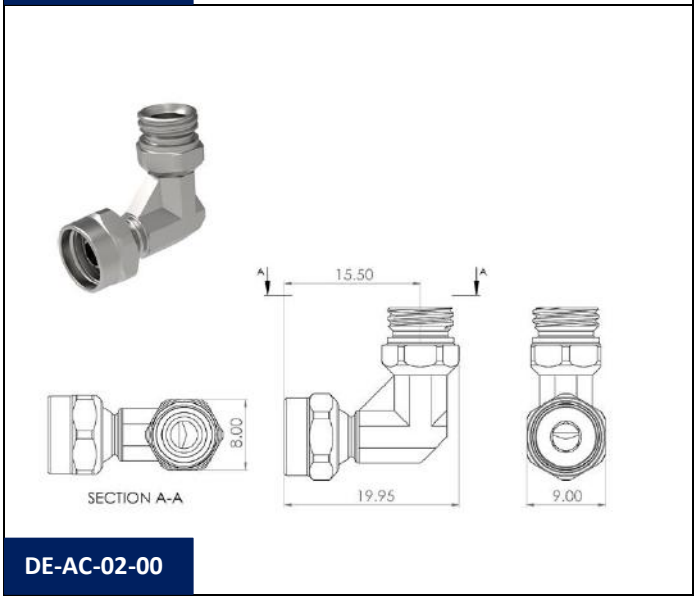
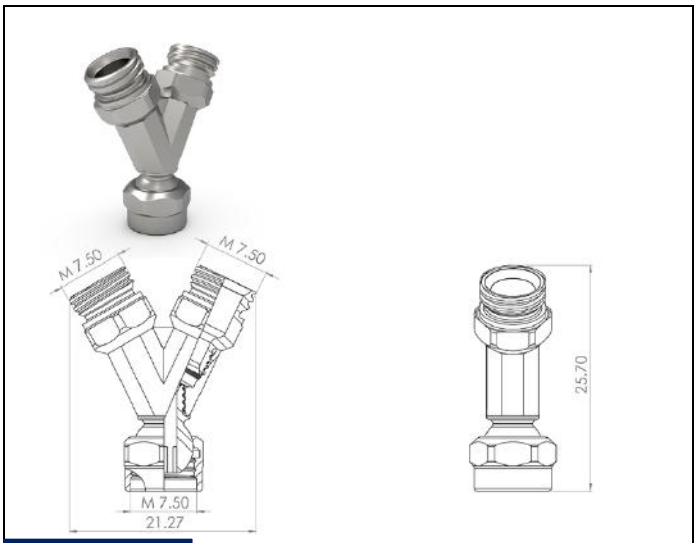


DE-AC-02-00

Distributors and adaptors:

Coolant distribution components, expansion of articulated lines and adaption to other SCS coolant distribution systems.
Material: Steel

Ref.	Description
DE-DA-01-00	“Y” distributor to articulated connection DECA
DE-DA-04-00	Nut DECA(F) for compression ring ID:6 mm
DE-DA-04-01	Adaptor DECA(M) to Nut for compression ring ID:6 mm
DE-DA-04-02	Compression ring ID:6 mm.



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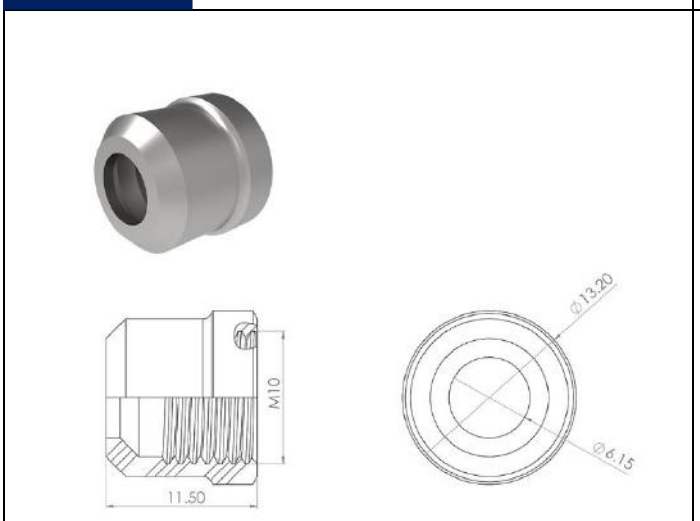

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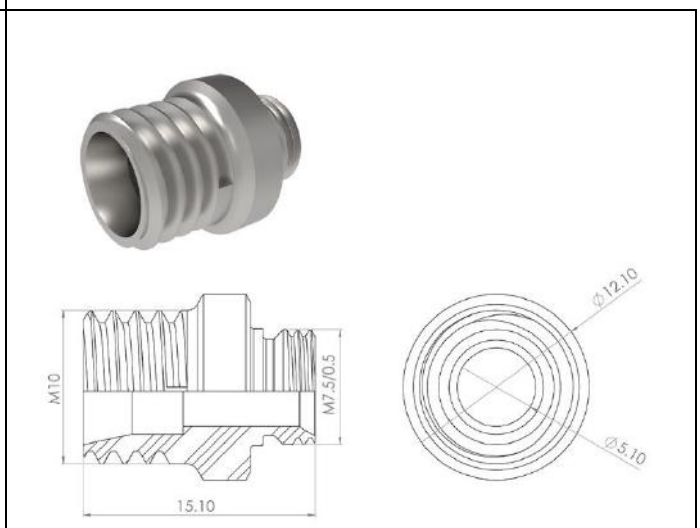

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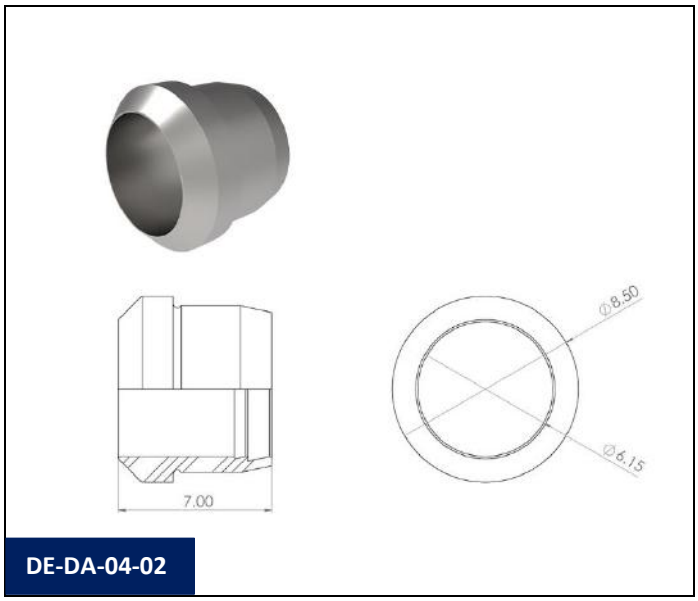
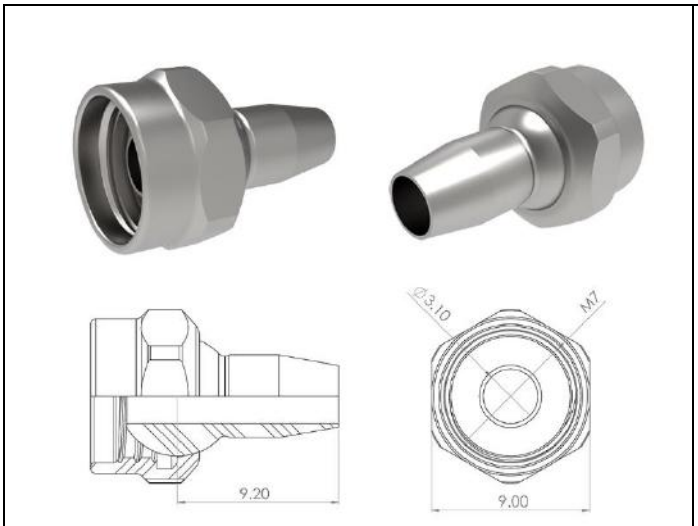


DE-DA-04-02

Coolant nozzles:

Nozzles with several designs adapted to meet different coolant delivery requirements.
Material: Steel

Ref.	Description
DE-NZ-01-00	Straight nozzle ID:3 mm & L:9 mm
DE-NZ-01-01	Straight nozzle ID:2 mm & L:9 mm
DE-NZ-01-02	Straight nozzle ID:3 mm & L:20 mm
DE-NZ-01-03	Straight nozzle ID:2 mm & L:20 mm
DE-NZ-01-04	Straight nozzle ID:1.5 mm & L:20 mm
DE-NZ-01-05	Straight nozzle ID:1 mm & L:20 mm
DE-NZ-01-06	Straight nozzle ID:1.5 mm & L:9 mm
DE-NZ-01-07	Straight nozzle ID:1 mm & L:9 mm
DE-NZ-01-08	Straight nozzle ID:2 mm x 2 & L:12 mm
DE-NZ-01-09	Straight nozzle ID:1.8 mm x 3 & L:12 mm
DE-NZ-01-10	Straight nozzle ID:0 mm & L:9 mm
DE-NZ-02-00	Nozzle 45º simple ID:3 mm & L:15 mm
DE-NZ-02-01	Nozzle curved 45º ID:2 mm & L:20 mm
DE-NZ-02-02	Nozzle curved 45º ID:1.5 mm & L:20 mm
DE-NZ-02-03	Nozzle curved 45º ID:1 mm & L:20 mm
DE-NZ-03-00	Nozzle 90º ID:3 mm & L:15 mm
DE-NZ-03-01	Nozzle 3 outlets at 90º ID:1.8 mm & L:15 mm
DE-NZ-03-02	Nozzle 90º simple ID:3 mm & L:12 mm
DE-NZ-03-03	Nozzle 90º simple ID:1.5 mm & L:12 mm
DE-NZ-03-04	Nozzle 2 outlets at 90º simple ID:1.5 mm & L:12 mm



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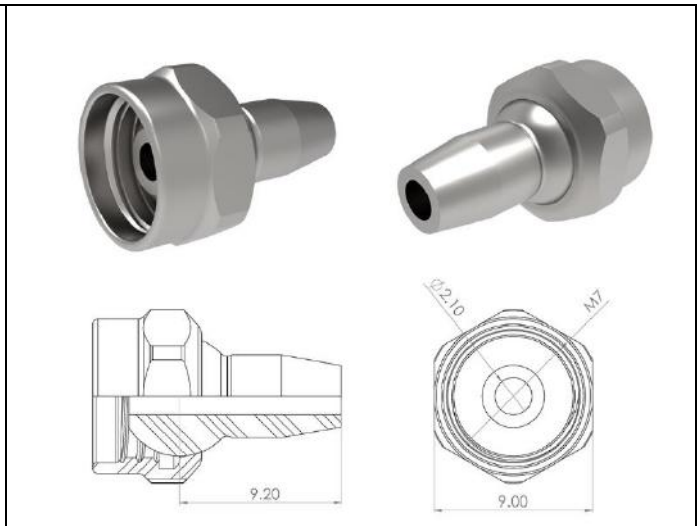

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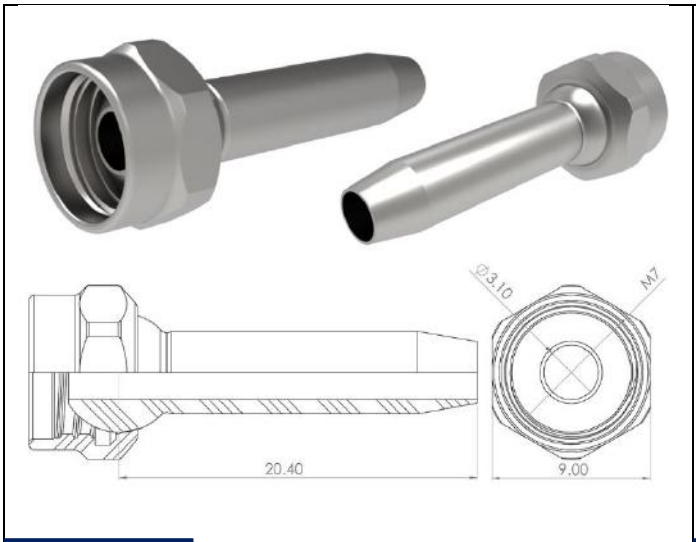

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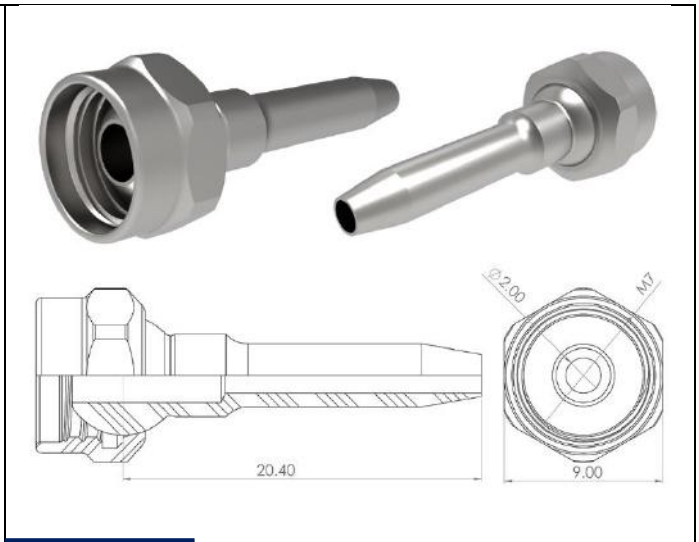
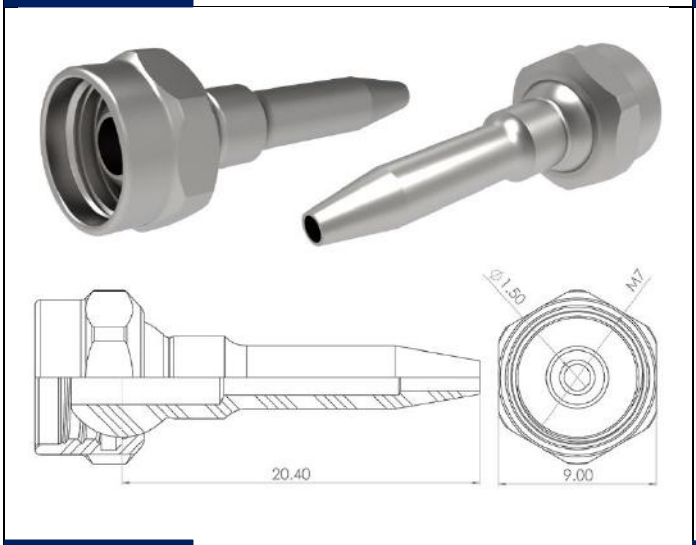


DE-NZ-01-03



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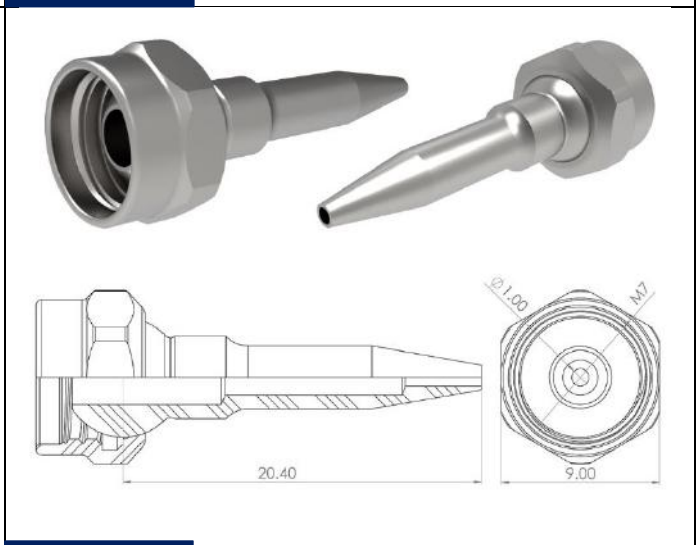

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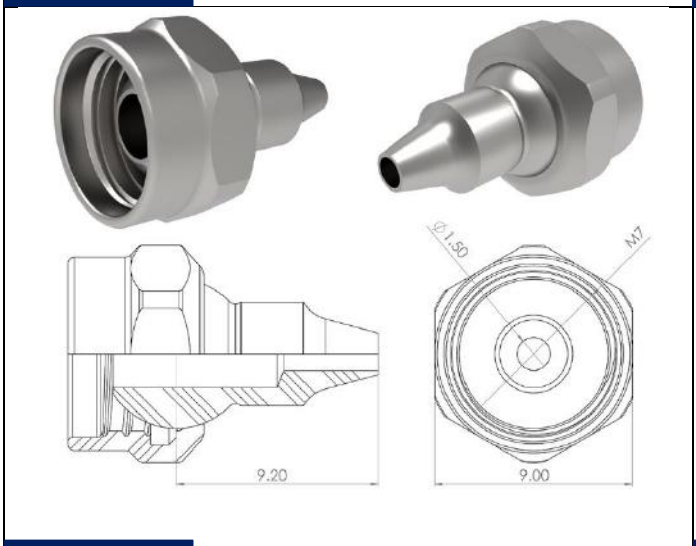

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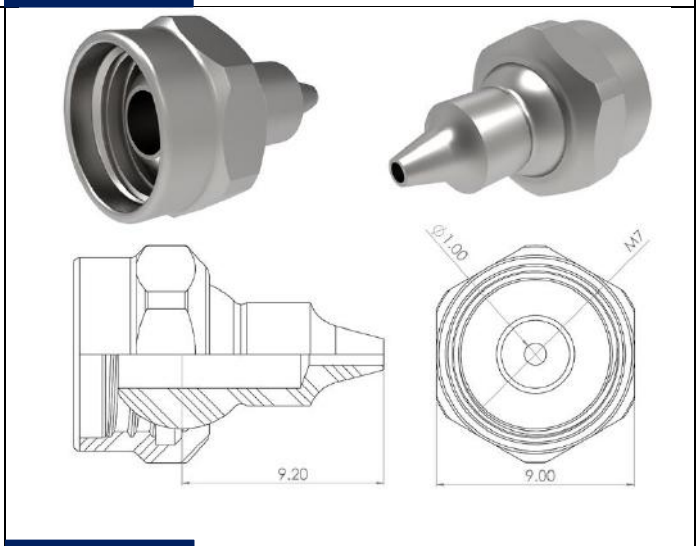

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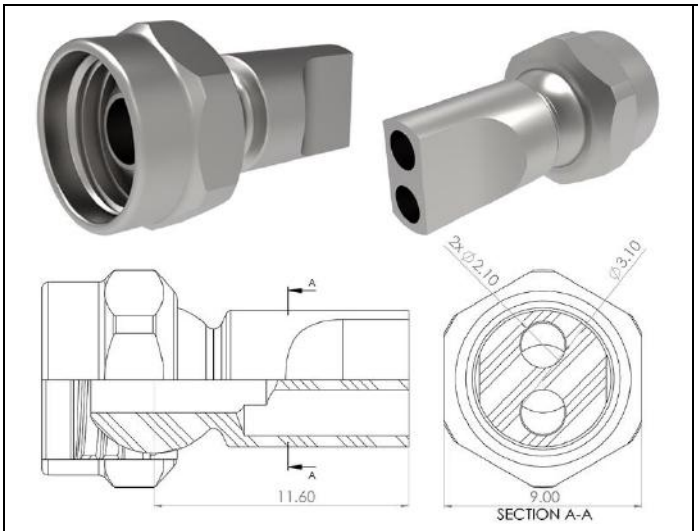

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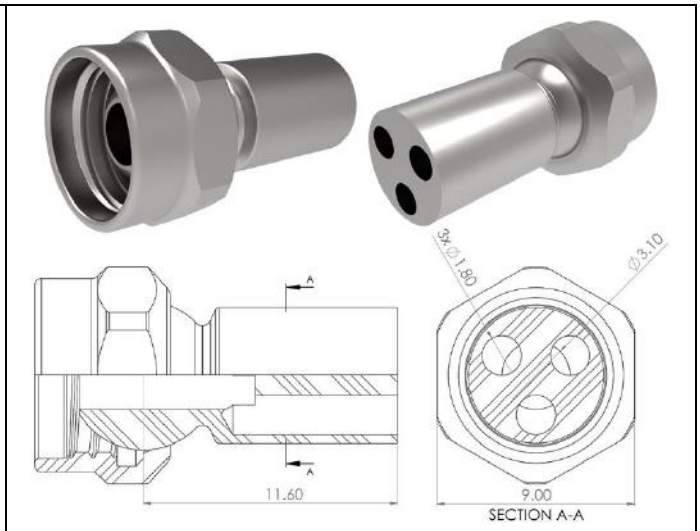

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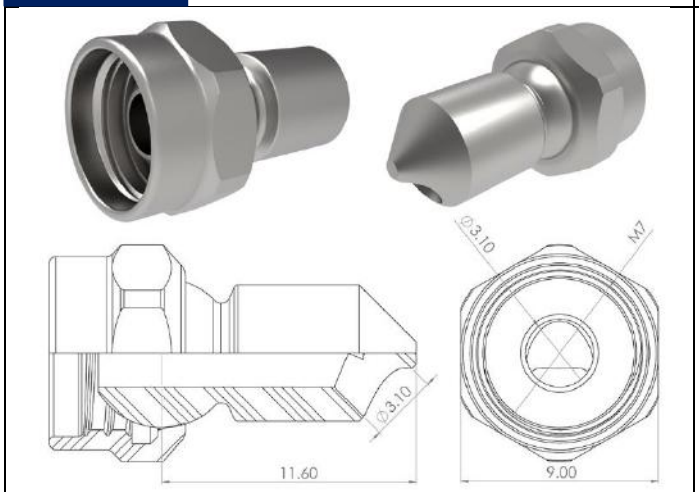
DE-NZ-01-10



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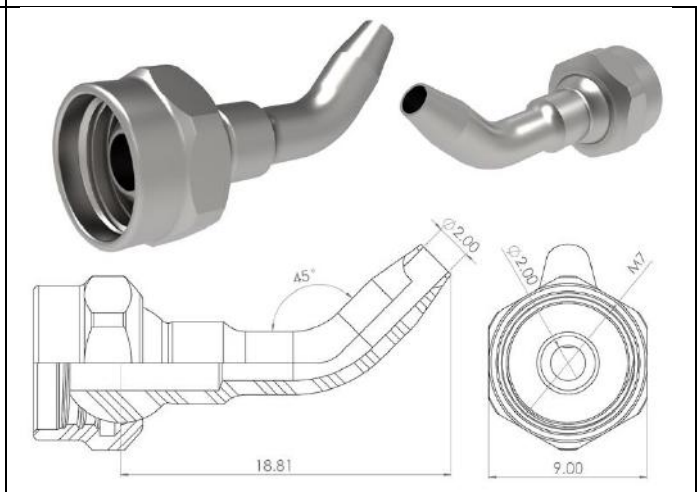

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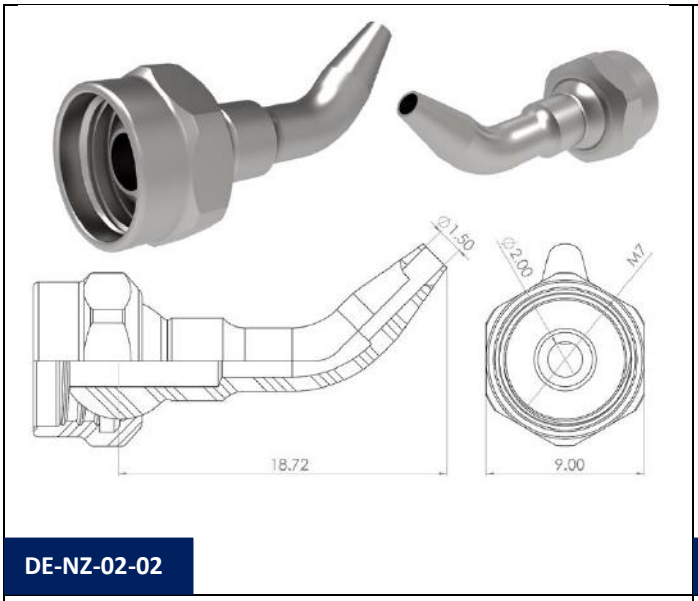

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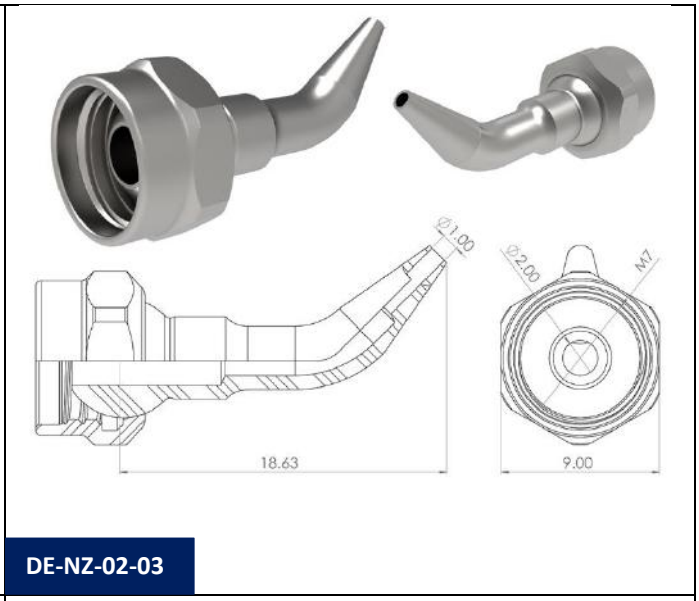

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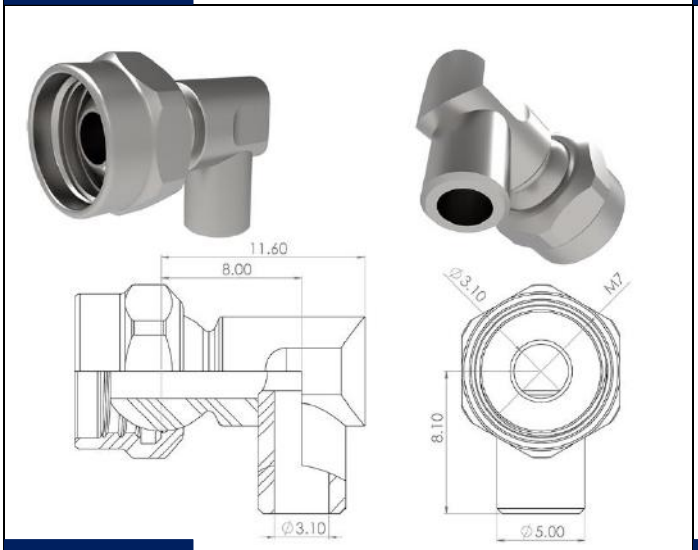

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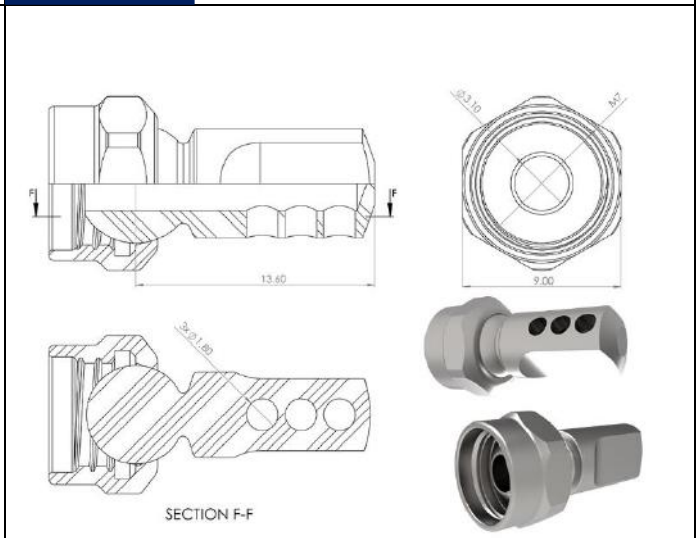

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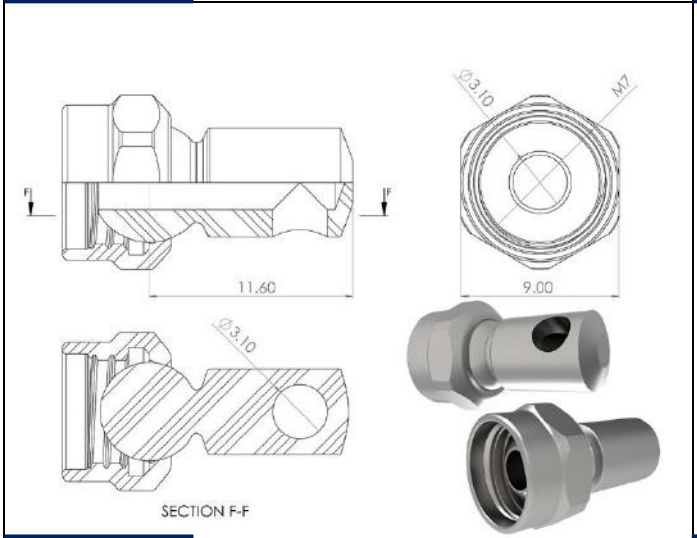


DE-NZ-03-02

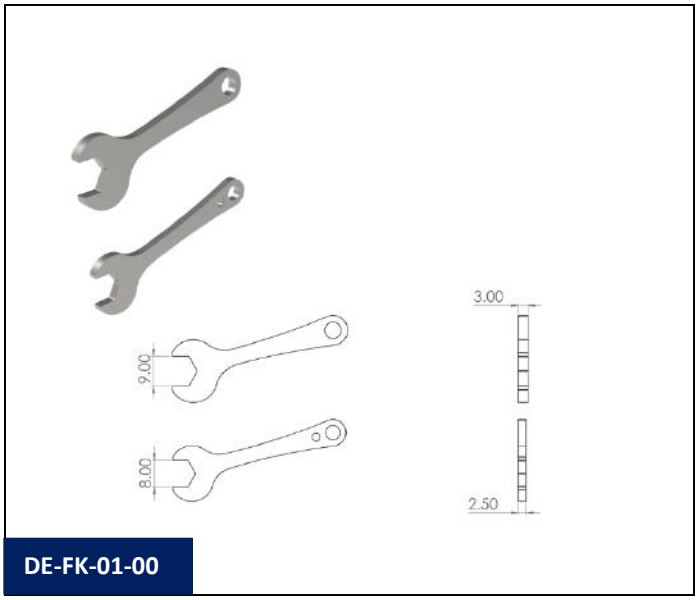
DE-NZ-03-03

DE-NZ-03-04

Fastening keys for the articulated system:

Special fastening wrenches for fastening the DECA articulated system.
Maximum torque for locking the parts of the system: 1.8 Nm

Ref.	Description
DE-FK-01-00	Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9.

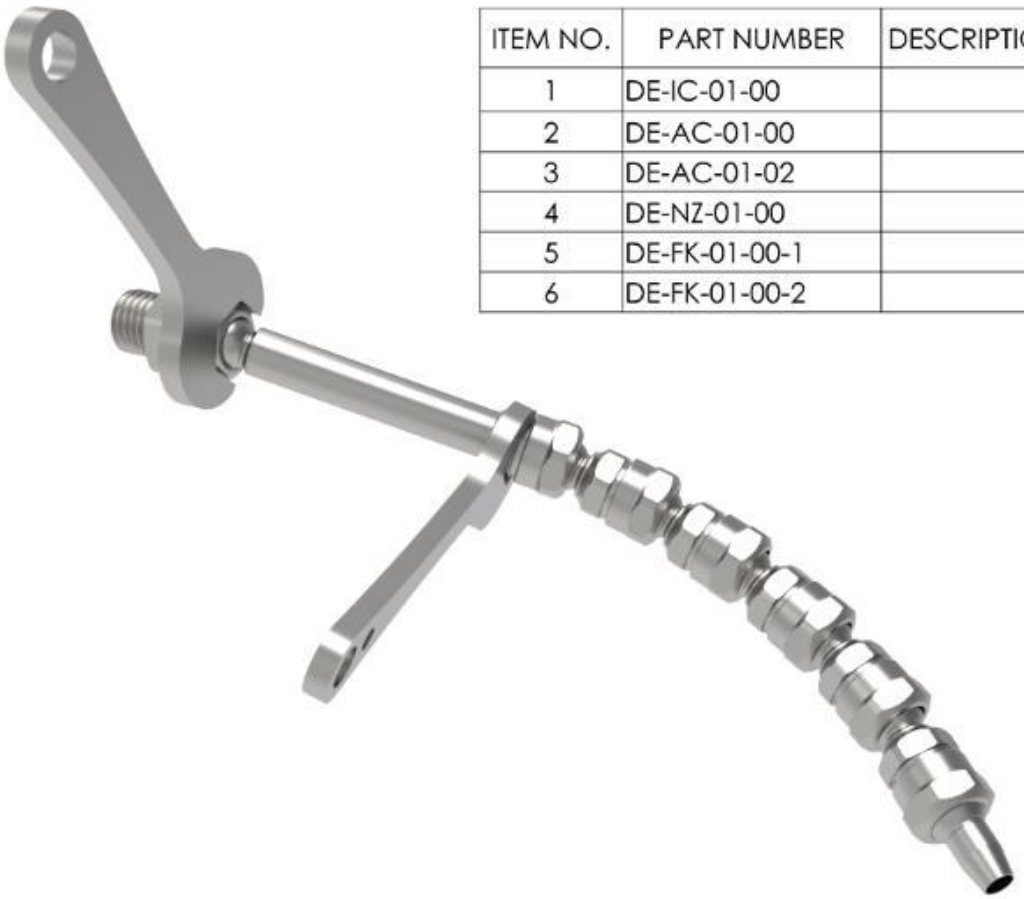


DE-FK-01-00

Starter kit:

Set of components to start and become familiar with the SCS Articulated Coolant Distribution System DECA program. Basic set of components delivered in a basic kit for the most typical applications. Weight: 30 g.

Ref.	Description
DE-SK-01-00	**Kit Single Outlet DECA:** **For general cooling with a single outlet L=135 mm.** **Weight: 30 g.** ***Initial Connection:*** 1 unit DE-IC-01-00 M8x1(M) to articulated connection DECA. ***Articulated connection:*** 5 units DE-AC-01-00 Articulated connection DECA L:12.5 mm 1 unit DE-AC-01-02 Articulated connection DECA L:42.5 mm ***Coolant nozzles:*** 1 unit DE-NZ-01-00 Straight nozzle. ID:3 mm & L:9 mm ***Fastening keys for the articulated system:*** 1 unit DE-FK-01-00 Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DE-IC-01-00		1
2	DE-AC-01-00		5
3	DE-AC-01-02		1
4	DE-NZ-01-00		1
5	DE-FK-01-00-1		1
6	DE-FK-01-00-2		1

DE-SK-01-00

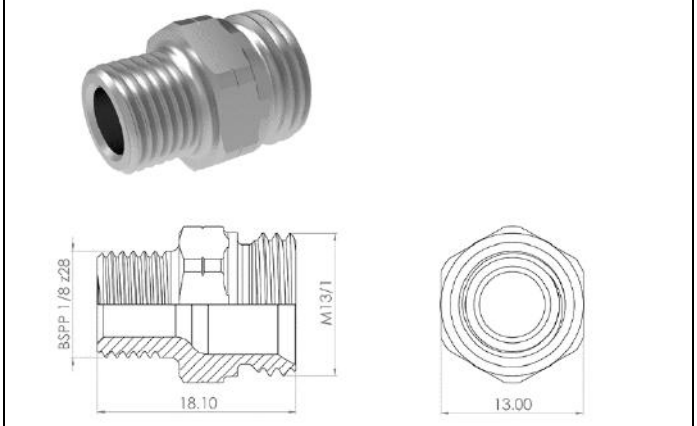
HECTO (6 mm) PROGRAM

The internal through hole of the HECTO program is 6 mm and is ideal for the distribution of air and refrigerant (oil or emulsion) in small-sized machines such as Swiss-type CNC lathes, fixed-head CNC lathes, tapping centers, grinding machines or as distribution branches of bigger programs (MEGA or GIGA).
Maximum torque for locking the parts of the system: 6 Nm
Maximum pressure: 100 Bar (1,450 psi)

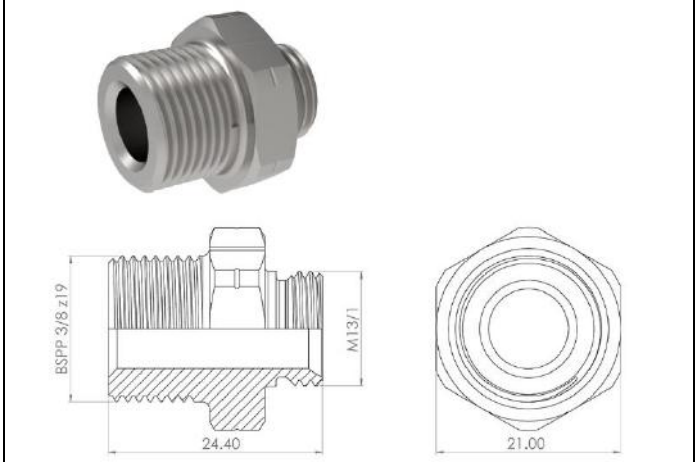
Initial connection:

Connection elements with the machine-tool or other SCS coolant distribution programs. ID:6 mm.
Material: Steel

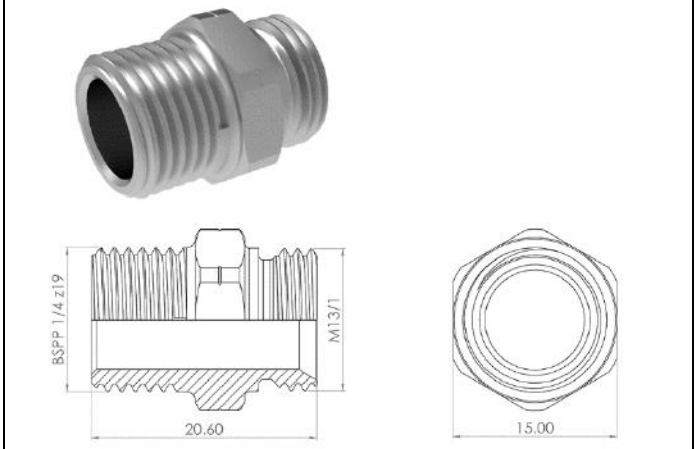
Ref.	Description
HE-IC-01-00	BSPP 1/8"(M) to articulated connection HECTO.
HE-IC-01-01	BSPP 3/8"(M) to articulated connection HECTO.
HE-IC-01-02	BSPP 1/4"(M) to articulated connection HECTO.
HE-IC-01-03	M8x1(M) to articulated connection HECTO.
HE-IC-01-04	M10x1(M) to articulated connection HECTO.
HE-IC-01-05	NPT 1/8"(M) to articulated connection HECTO.
HE-IC-01-06	NPT 3/8"(M) to articulated connection HECTO.
HE-IC-01-07	NPT 1/4"(M) to articulated connection HECTO.
HE-IC-01-08	BSPT 1/4"(M) to articulated connection HECTO.
HE-IC-02-00	Ball OD:10 mm to articulated connection HECTO.
HE-IC-02-01	Ball OD:12 mm to articulated connection HECTO.
HE-IC-02-02	Ball OD:14 mm to articulated connection HECTO.
HE-IC-02-03	Ball OD:15 mm to articulated connection HECTO.
HE-IC-03-00	BSPP 1/8"(M) to Nut for compression ring ID:8 mm HECTO.



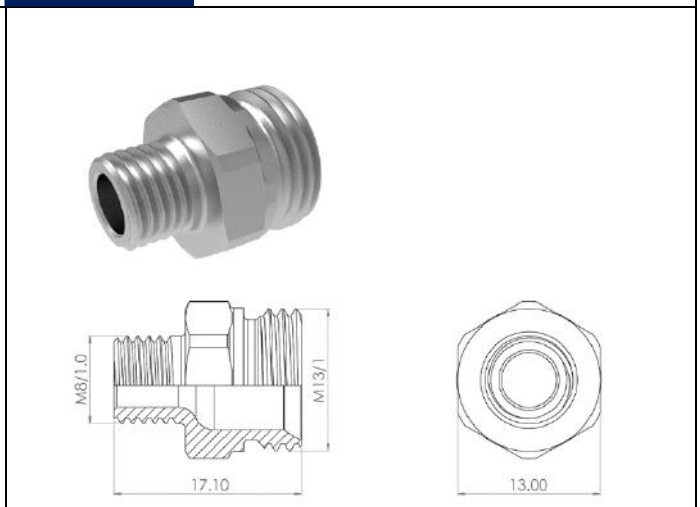
HE-IC-01-00



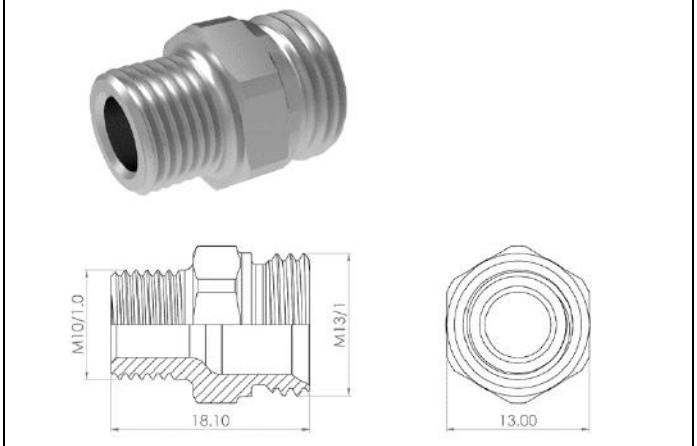
HE-IC-01-01



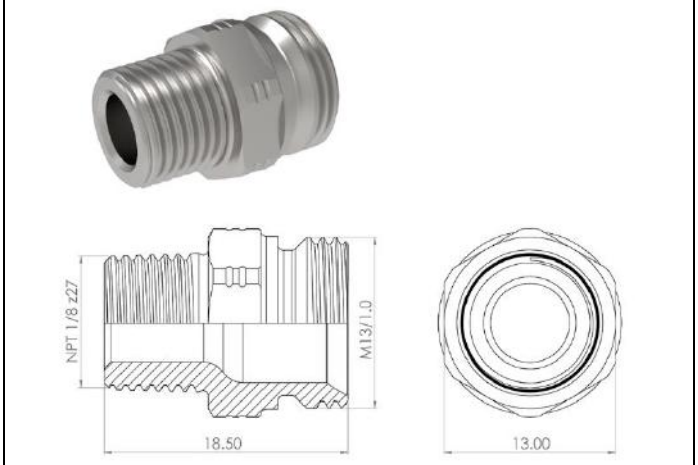
HE-IC-01-02



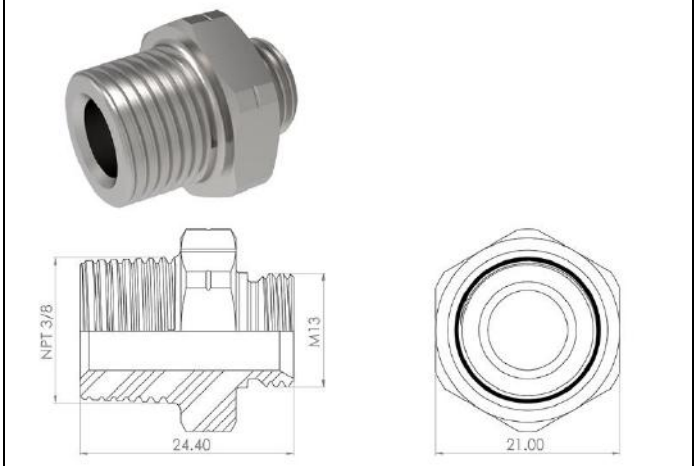
HE-IC-01-03



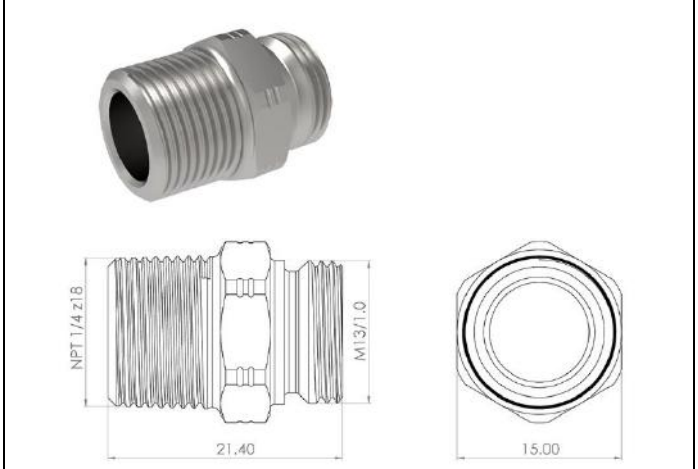
HE-IC-01-04



HE-IC-01-05

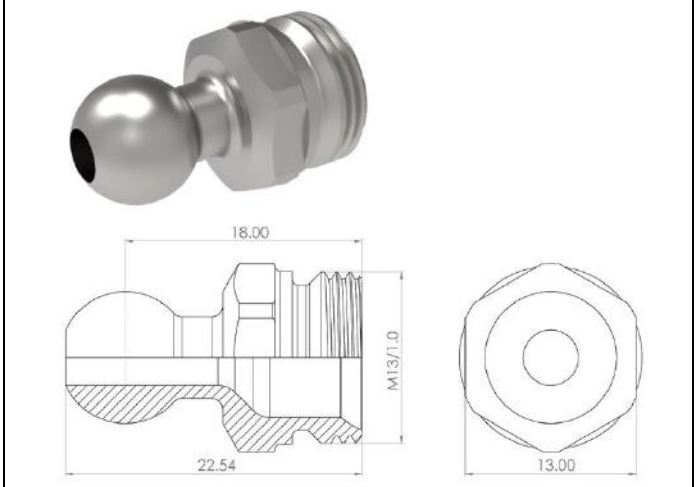


HE-IC-01-06



HE-IC-01-07

HE-IC-01-08



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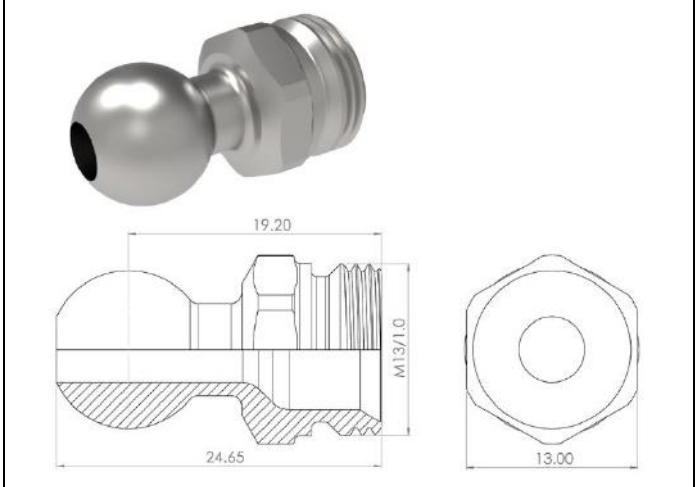

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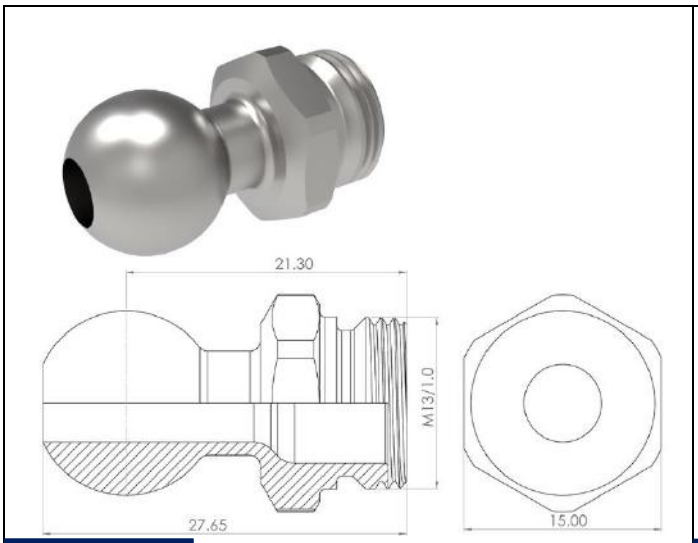

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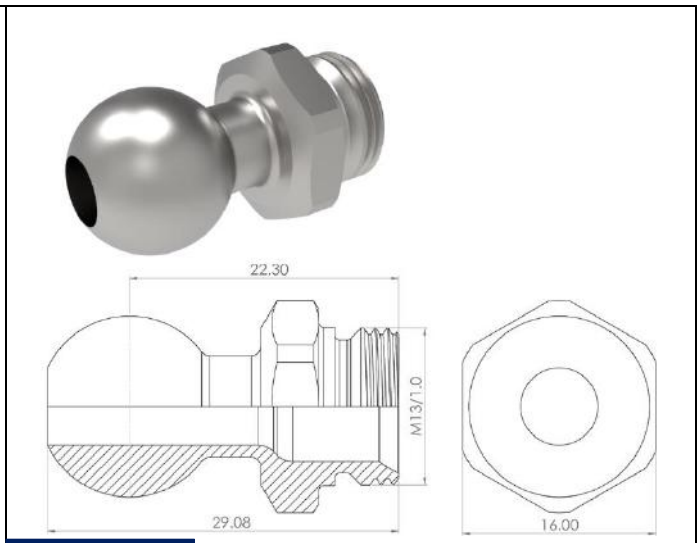


HE-IC-02-03

HE-IC-03-00

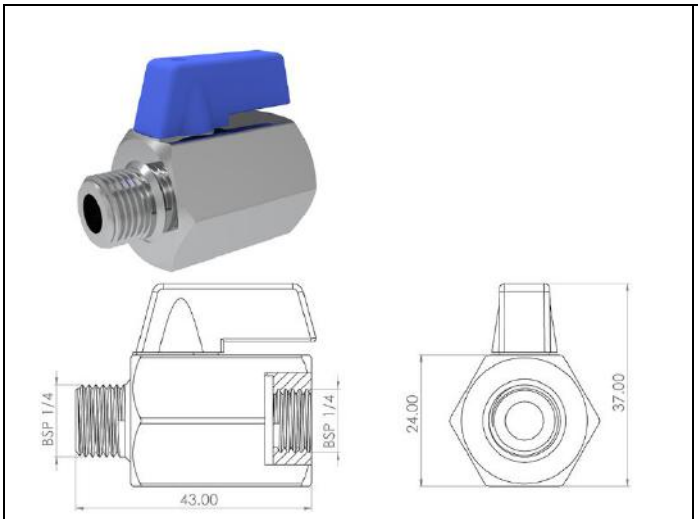
Ball valves:

Miniature ball valves for shut-off or control of the coolant flow. To be installed at the machine-tool coolant outlet.

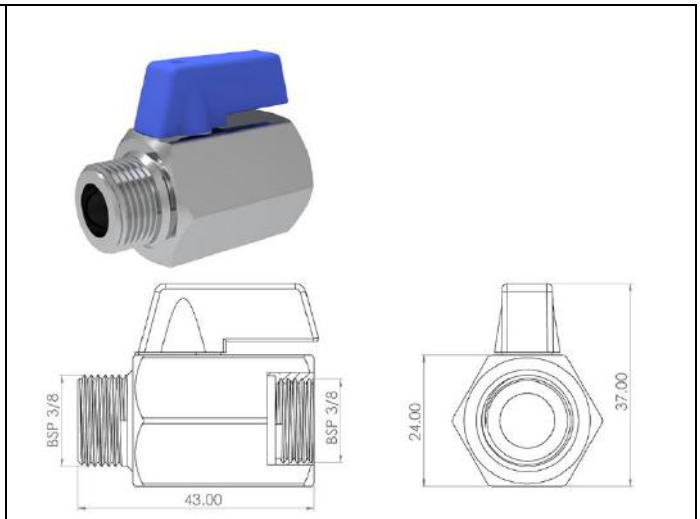
Types:

- PN10: Pressure 10 bar (145 psi). Material: Chrome plated brass.
- PN63: Pressure 63 bar (914 psi). Material: Stainless steel AISI-316

Ref.	Description
UN-VA-01-00	Closing valve PN10, BSPP 1/8"(M) and BSPP 1/8"(F) chromed-plated brass.
UN-VA-01-01	Closing valve PN10, BSPP 1/4"(M) and BSPP 1/4"(F) chromed-plated brass.
UN-VA-01-02	Closing valve PN10, BSPP 3/8"(M) and BSPP 3/8"(F) chromed-plated brass.
UN-VA-02-01	Closing valve PN63, BSPP 1/4"(M) and BSPP 1/4"(F) AISI-316
UN-VA-02-02	Closing valve PN63, BSPP 3/8"(M) and BSPP 3/8"(F) AISI-316



UN-VA-01-01



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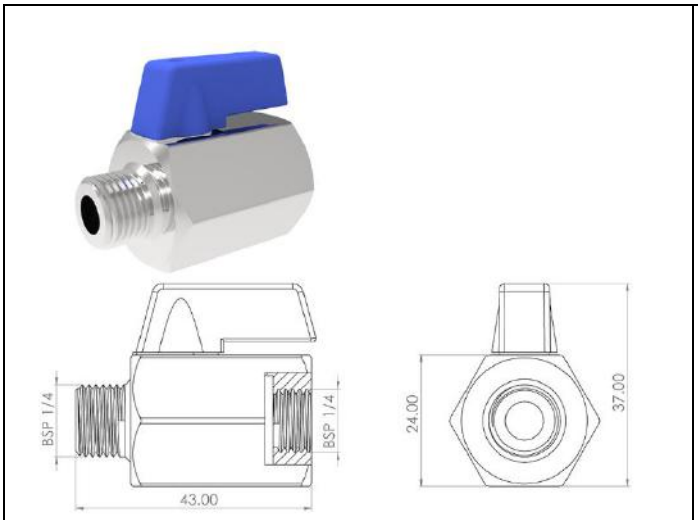

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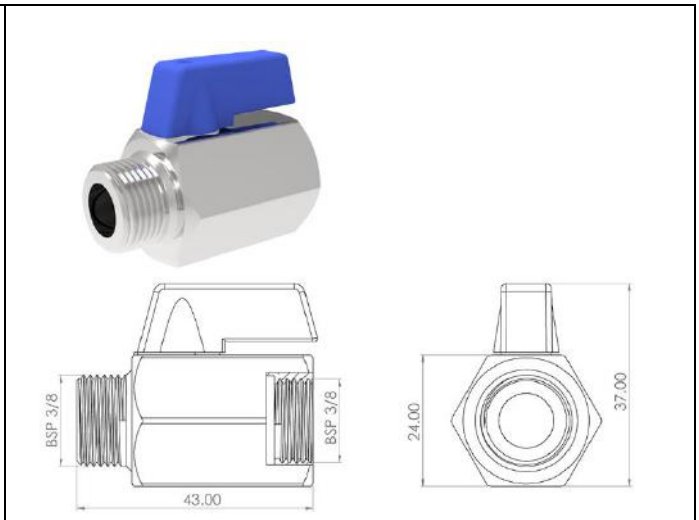
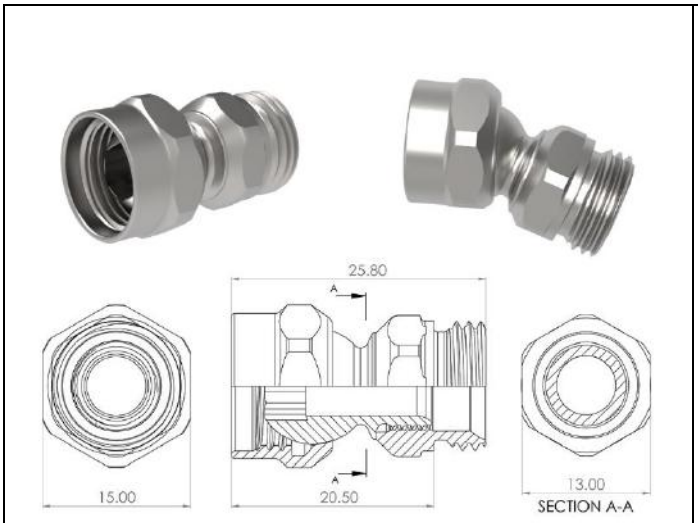


UN-VA-02-2

Articulated connection:

Basic articulated elements which connect to each other. Swiveling ±25º. ID:6 mm.
Material: Steel

Ref.	Description
HE-AC-01-00	Articulated connection HECTO L:20.5 mm
HE-AC-01-01	Articulated connection HECTO L:45.5 mm
HE-AC-01-02	Articulated connection HECTO L:70.5 mm
HE-AC-01-03	Articulated connection HECTO L:95.5 mm
HE-AC-01-04	Articulated connection HECTO L:120.5 mm
HE-AC-01-05	Articulated connection HECTO L:195.5 mm
HE-AC-01-06	Articulated connection HECTO L:295.5 mm
HE-AC-02-00	Articulated connection to 90º HECTO



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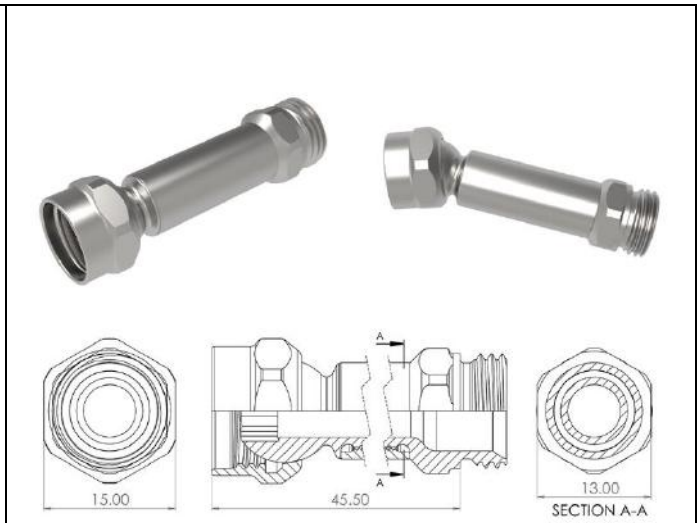

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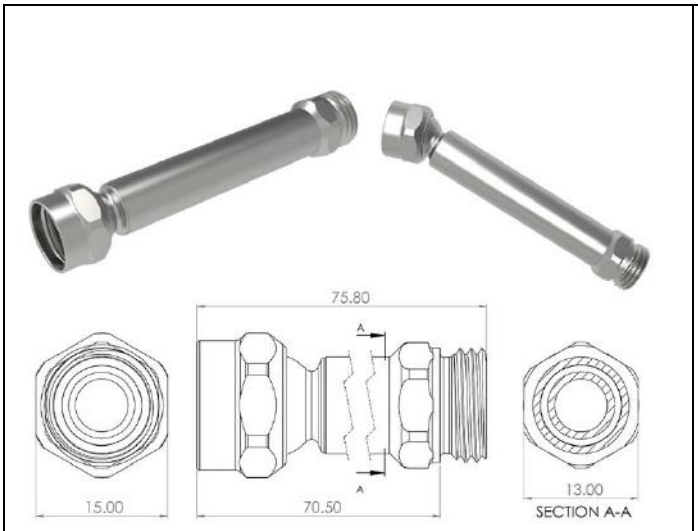
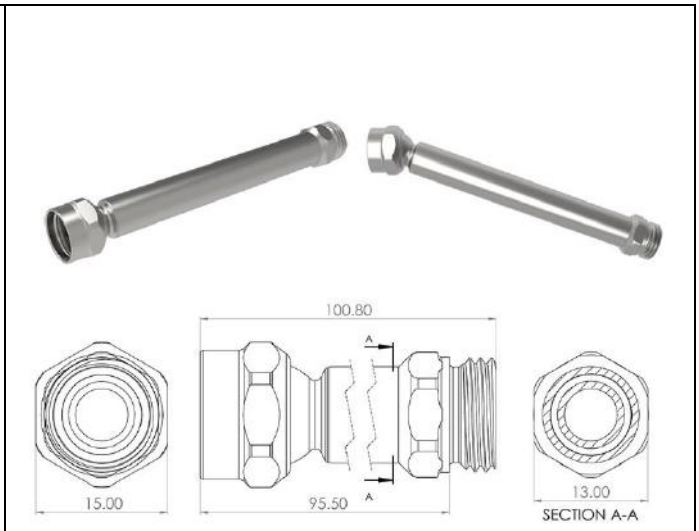
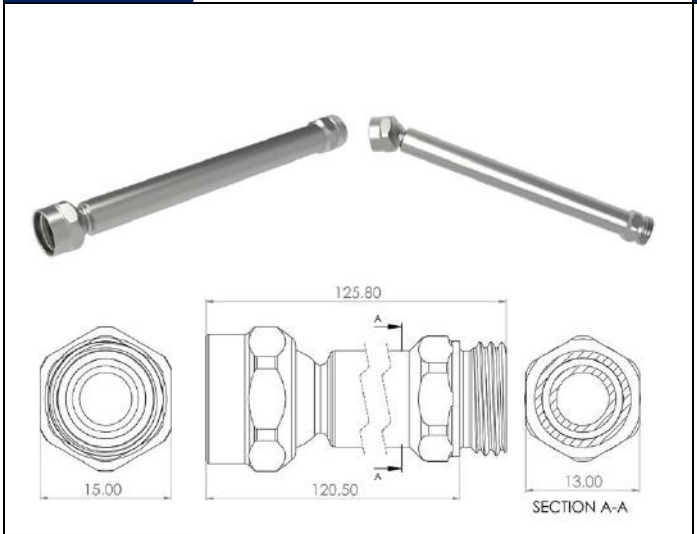


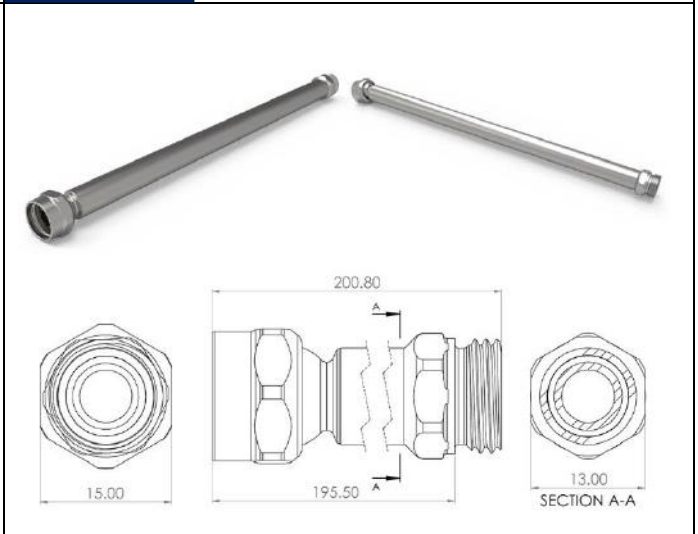
HE-AC-01-02



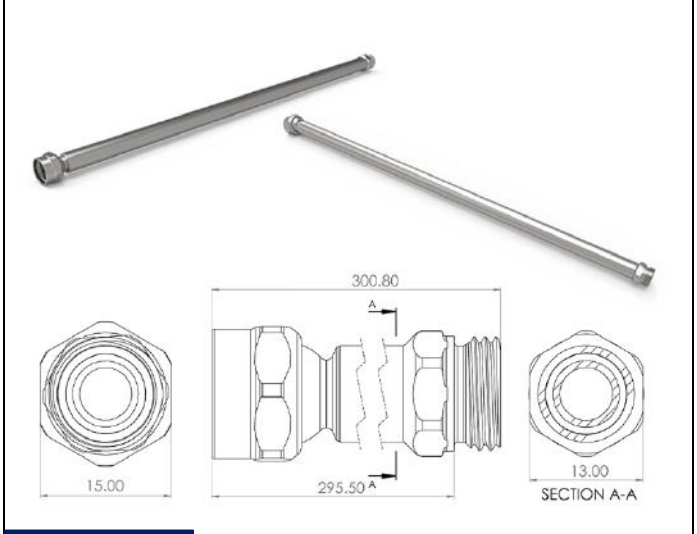
HE-AC-01-03



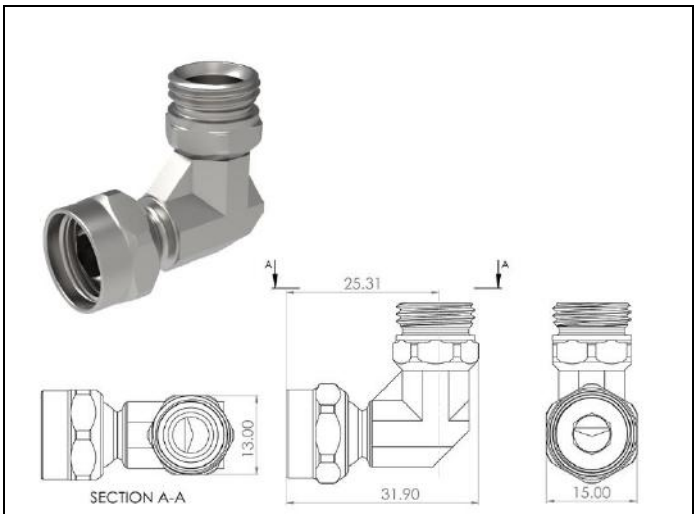
HE-AC-01-04



HE-AC-01-05



HE-AC-01-06

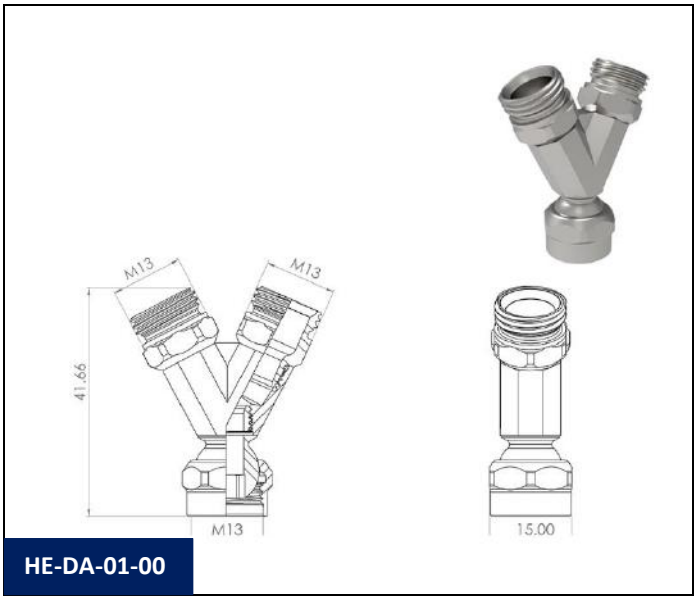


HE-AC-02-00

Distributors and adaptors:

Coolant distribution components, expansion of articulated lines and adaption to other SCS coolant distribution systems.
Material: Steel

Ref.	Description
HE-DA-01-00	“Y” distributor to articulated connection HECTO
HE-DA-02-00	Short banjo HECTO connection with banjo bolt BSPP 1/8"(M) and sealing gaskets in copper
HE-DA-02-01	Two short banjos HECTO connection with long banjo bolt BSPP 1/8"(M) and sealing gaskets in copper
HE-DA-02-02	Short banjo HECTO connection with banjo bolt M10x1(M) and sealing gaskets in copper
HE-DA-02-03	Two short banjos HECTO connection with long banjo bolt M10x1(M) and sealing gaskets in copper
HE-DA-03-00	Expandable distributor with 90º outlets. Includes connection to machine BSPT 1/4", short banjo HECTO connection and banjo bolt
HE-DA-03-01	Additional outlet for distributor HE-DA-03-00. Includes short banjo HECTO connection and banjo bolt for expansion
HE-DA-04-00	Nut HECTO(F) for compression ring ID:8 mm
HE-DA-04-01	Adaptor HECTO(M) to Nut for compression ring ID:8 mm
HE-DA-04-02	Compression ring ID:8 mm. HECTO



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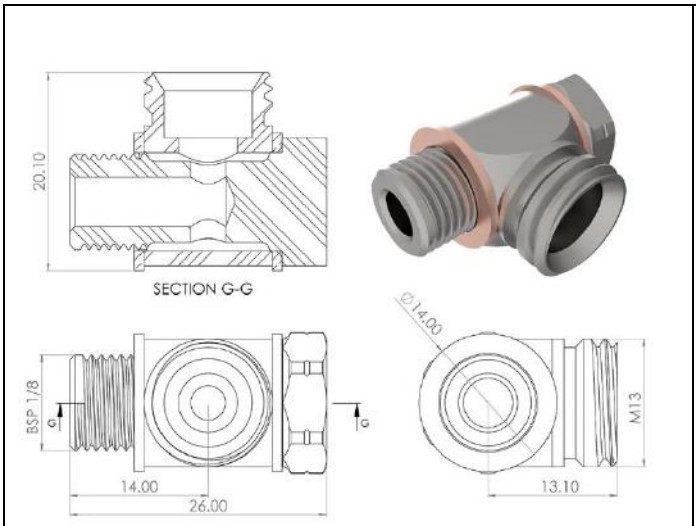

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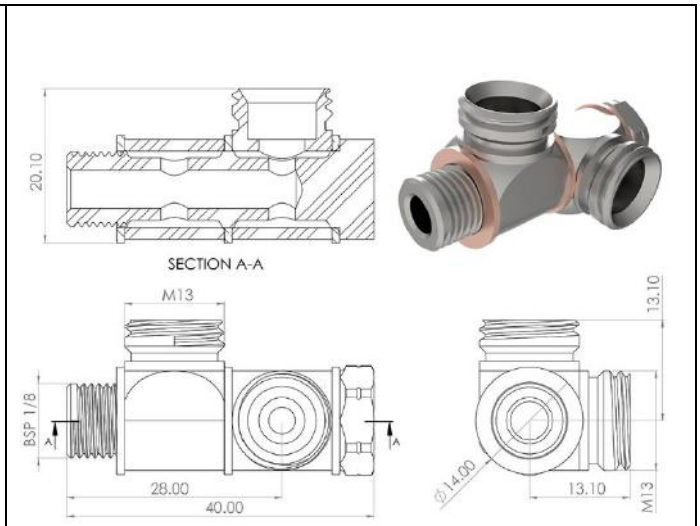

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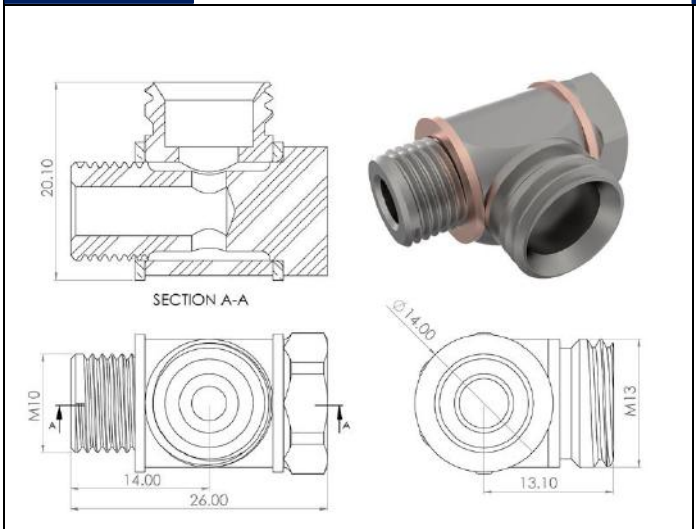

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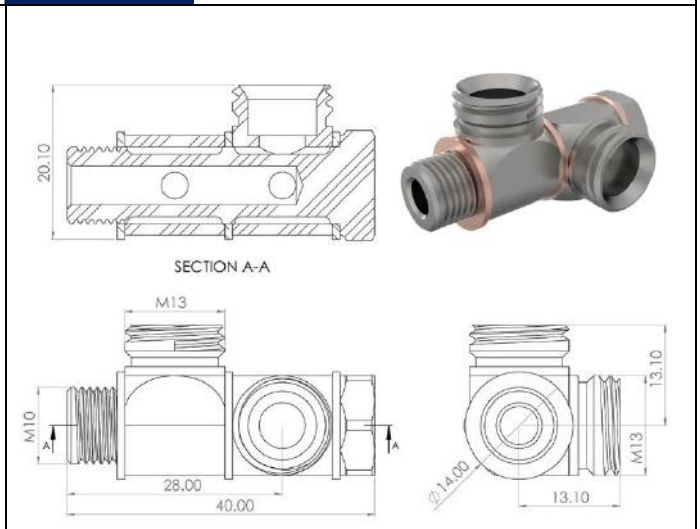

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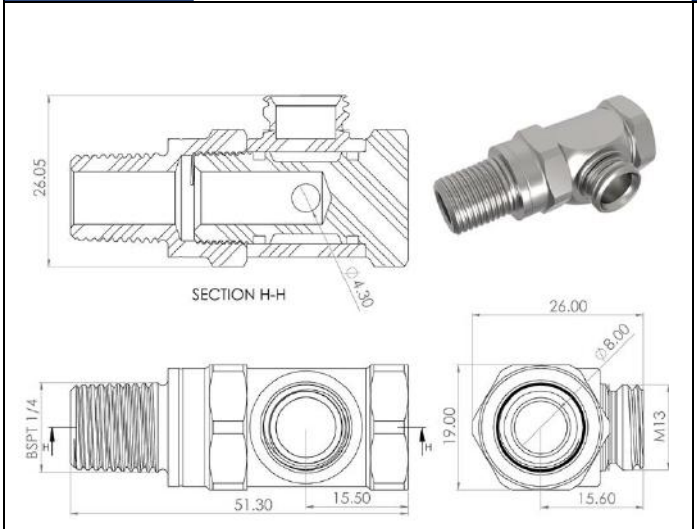

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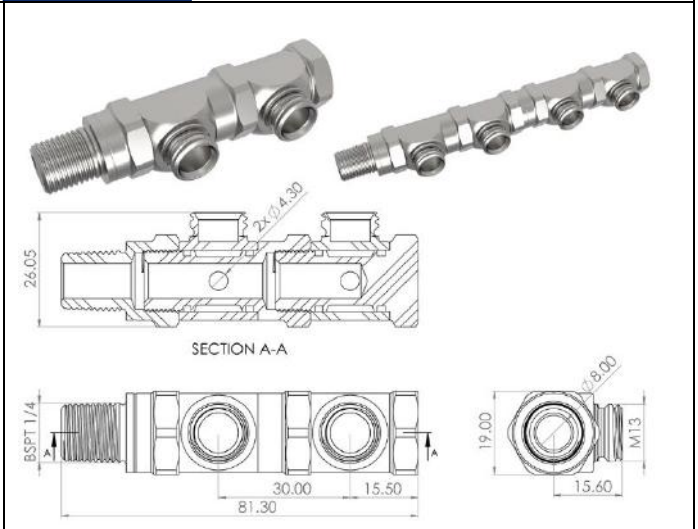

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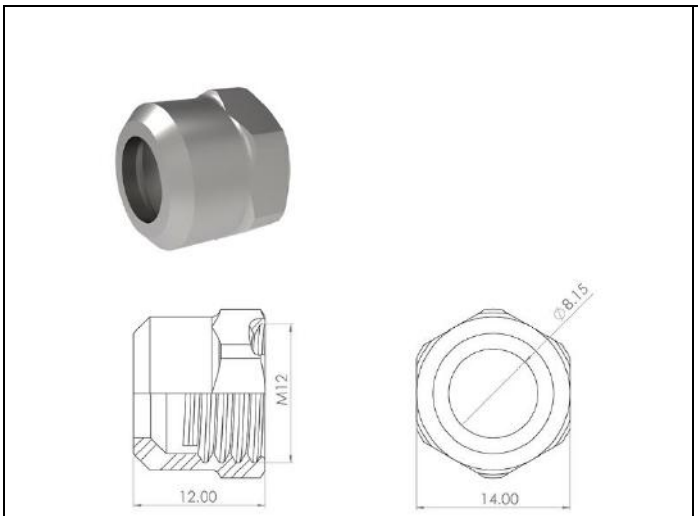
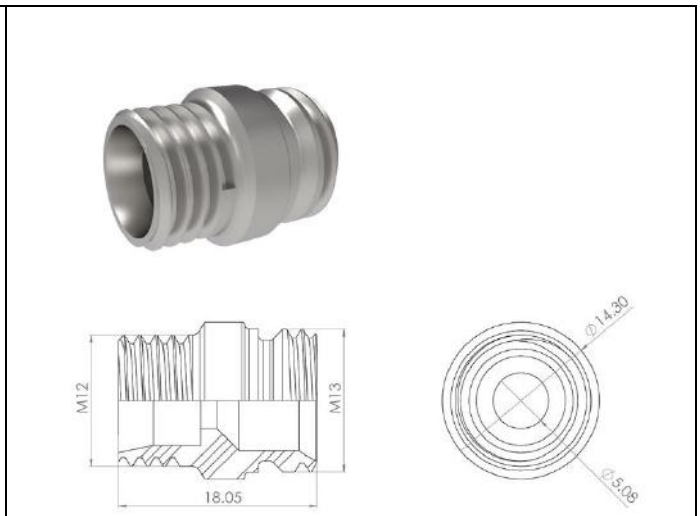


HE-DA-04-00



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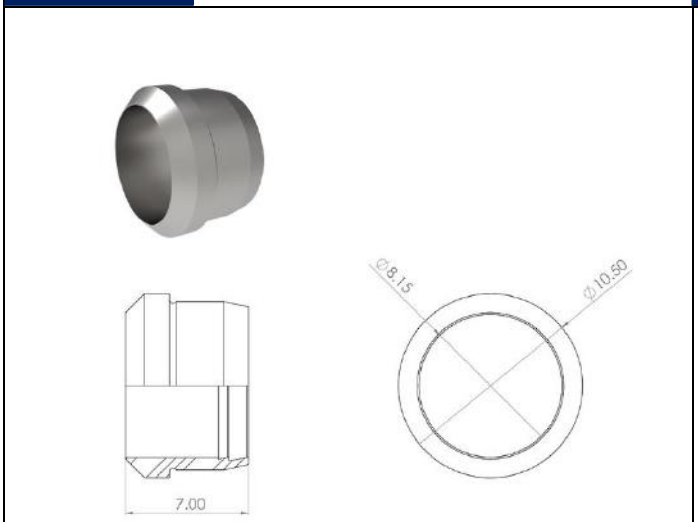
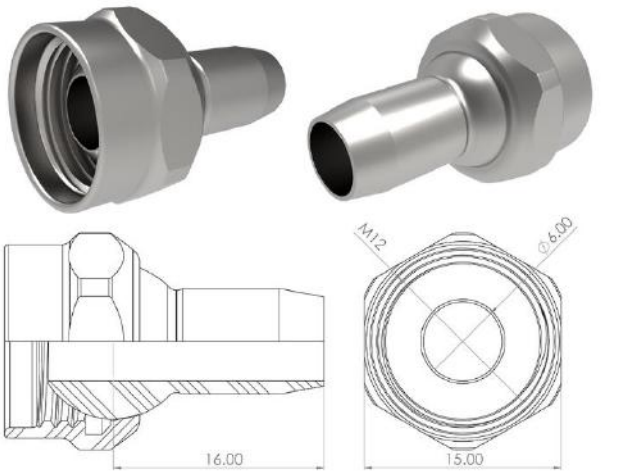


HE-DA-04-02

Coolant nozzles:

Nozzles with several designs adapted to meet different coolant delivery requirements.
Material: Steel

Ref.	Description
HE-NZ-01-00	Straight nozzle. ID:6 mm & L:16 mm
HE-NZ-01-01	Straight nozzle. ID:3 mm & L:16 mm
HE-NZ-01-02	Straight nozzle. ID:2 mm & L:16 mm
HE-NZ-01-03	Straight nozzle. ID:6 mm & L:35 mm
HE-NZ-01-04	Straight nozzle. ID:3 mm & L:35 mm
HE-NZ-01-05	Straight nozzle. ID:3 mm x 3 & L:20 mm
HE-NZ-01-06	Straight nozzle coaxial. ID:3.4 x 3 & L=20 mm
HE-NZ-01-07	Straight nozzle coaxial. ID:2.7 x 5 & L=20 mm
HE-NZ-01-08	Straight nozzle. ID:1 mm & L:16 mm
HE-NZ-02-00	Nozzle 45º. ID:6 mm & L:23.5 mm
HE-NZ-02-01	Nozzle 45º simple. ID:6 mm & L:20 mm
HE-NZ-03-00	Nozzle 90º. ID:6 mm & L:20 mm
HE-NZ-03-01	Nozzle 90º. ID:3.4 mm x 3 & L:24 mm
HE-NZ-03-02	Nozzle 90º simple. ID:6 mm & L:20 mm



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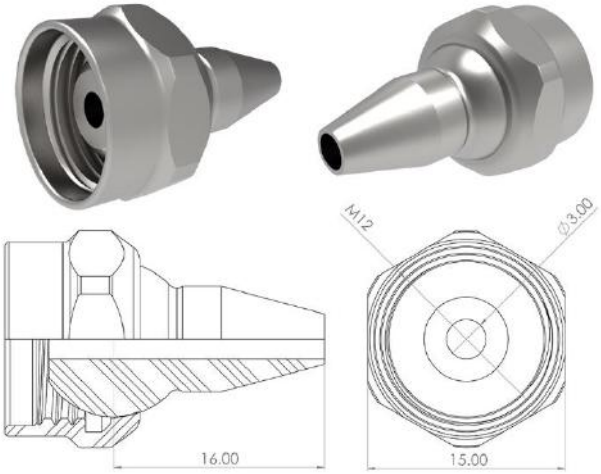

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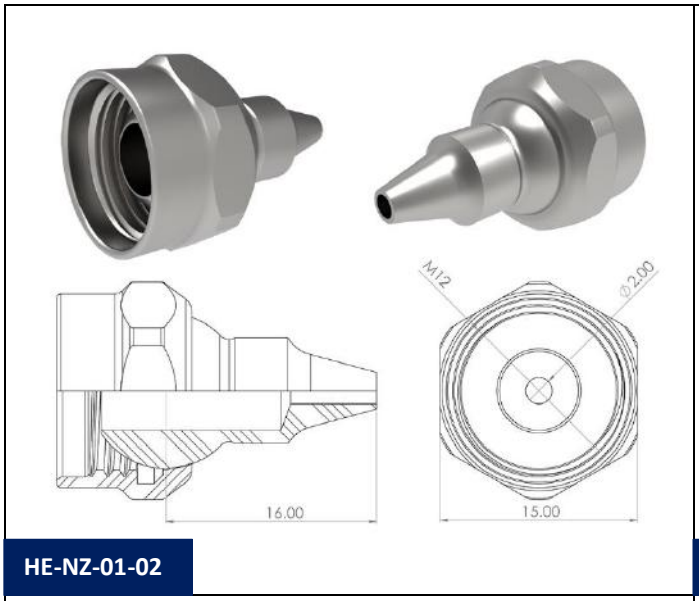

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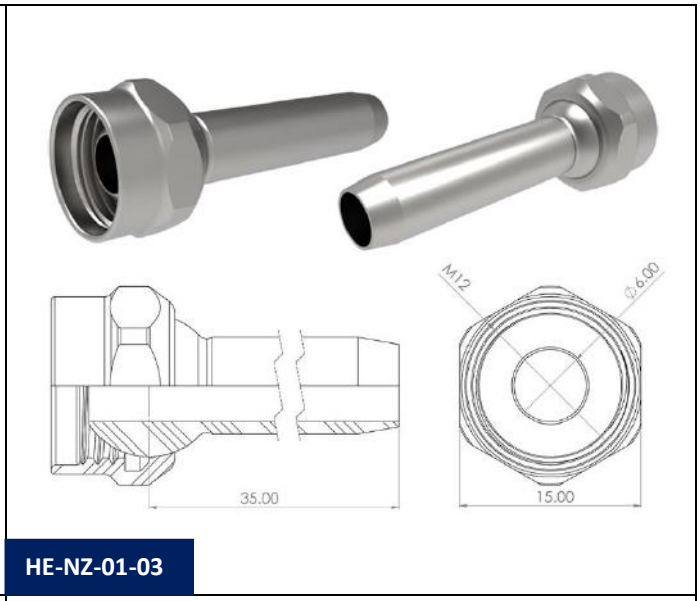

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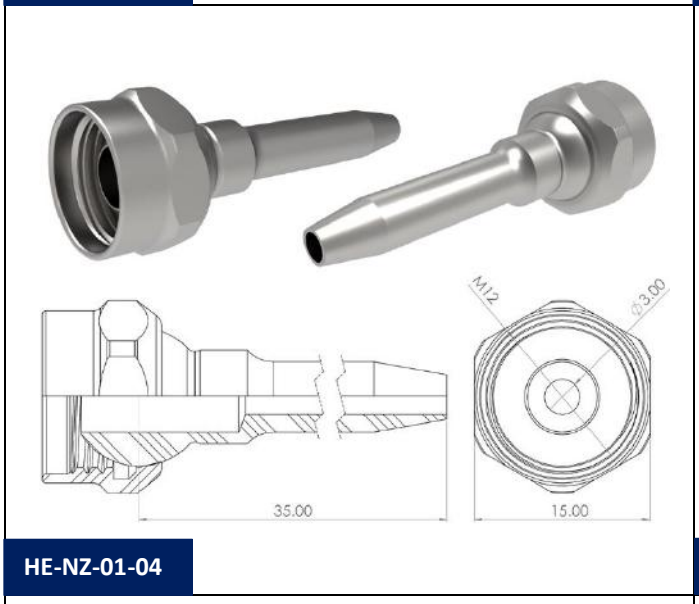

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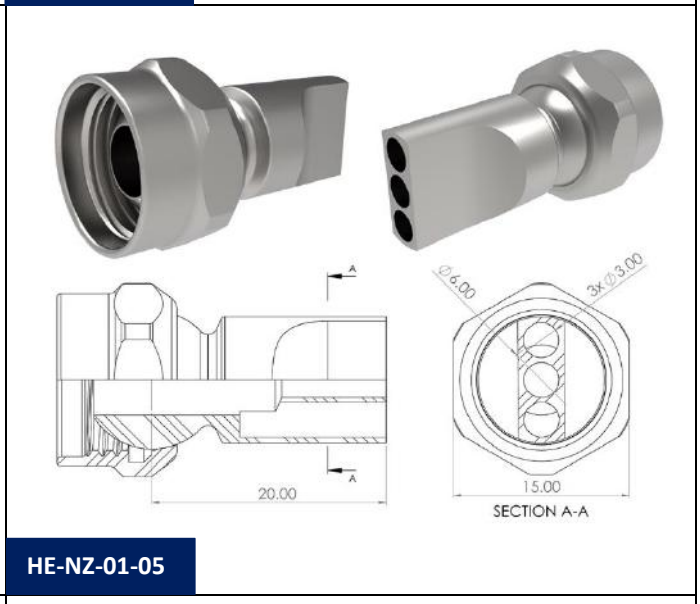

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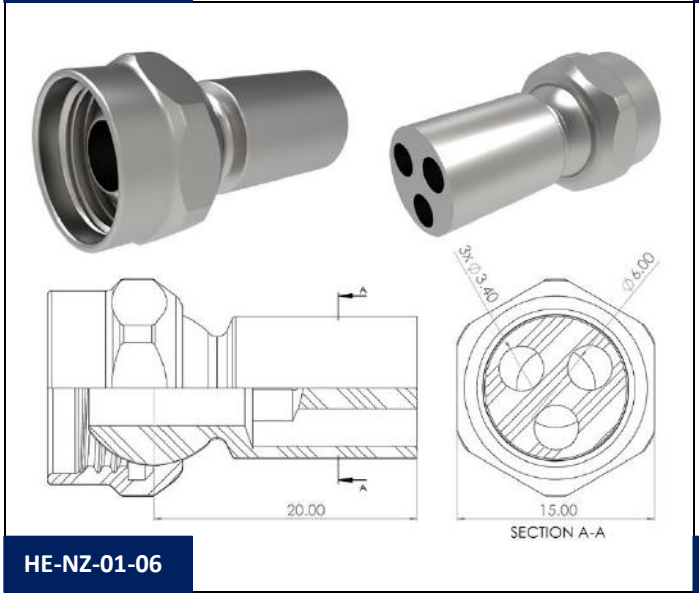
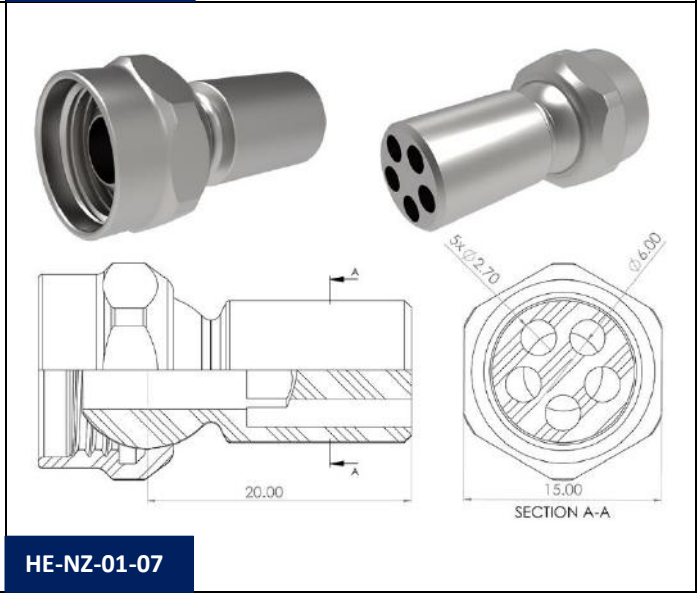


HE-NZ-01-06



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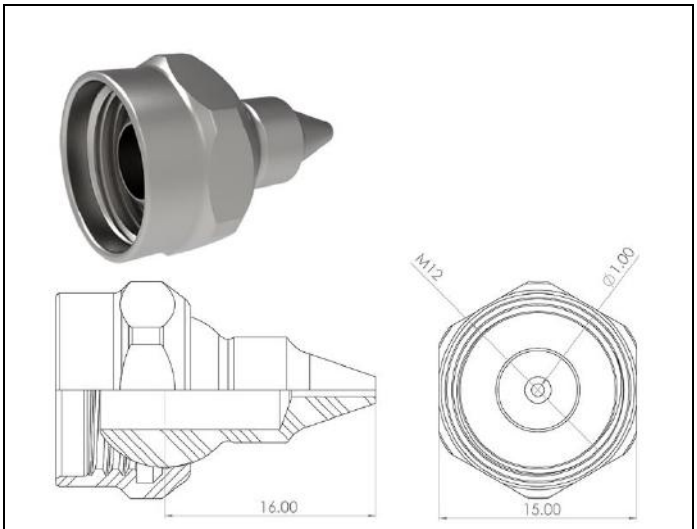

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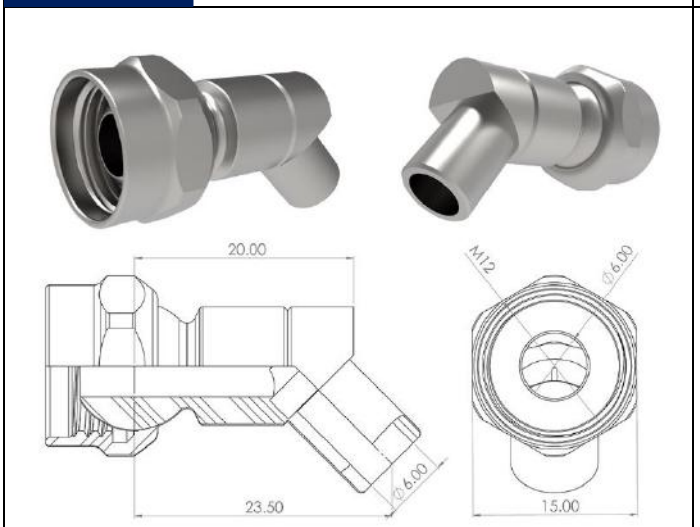
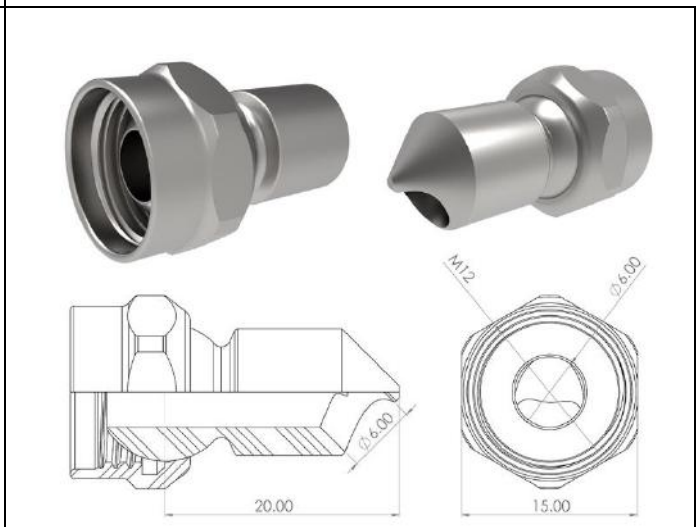


HE-NZ-02-00



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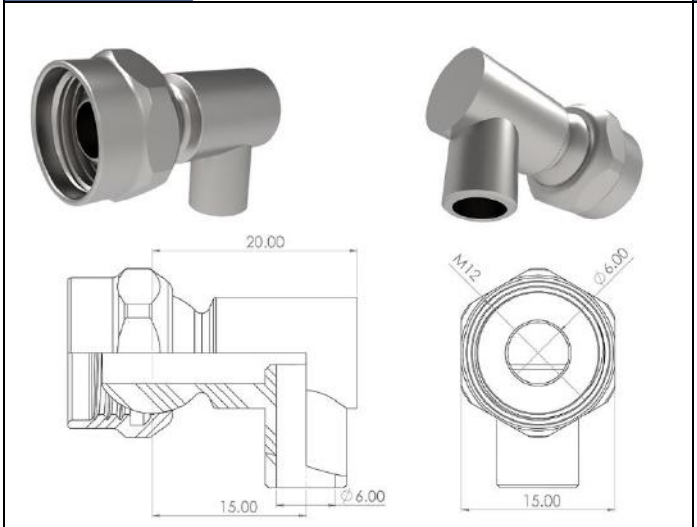

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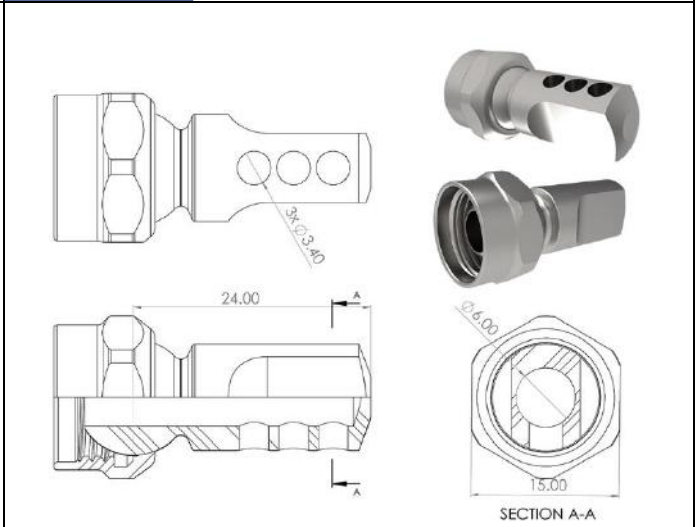

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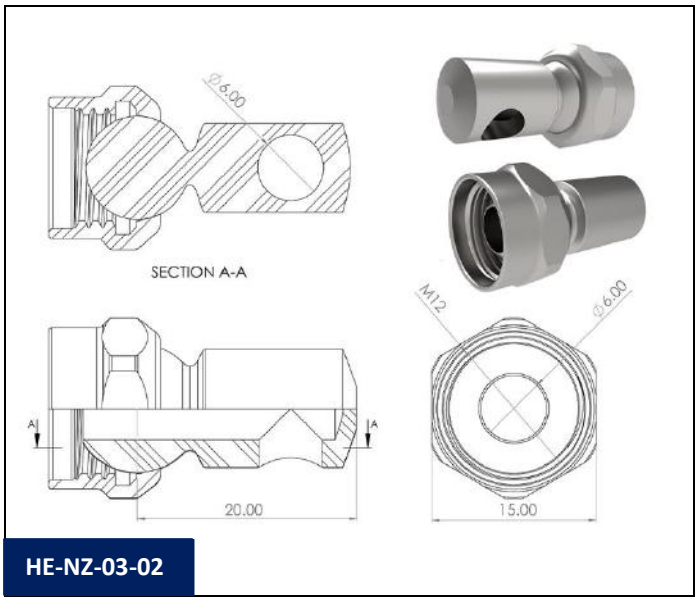
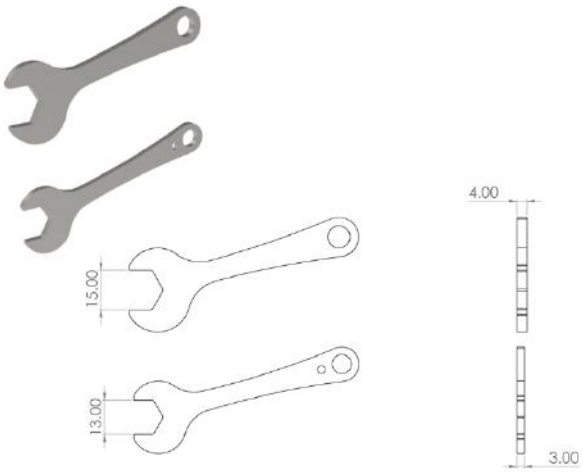


HE-NZ-03-02

Fastening keys for the articulated system:

Special fastening wrenches for fastening the HECTO articulated system.
Maximum torque for locking the parts of the system: 6 Nm

Ref.	Description
HE-FK-01-00	Wrenches for fastening the 2 hexagons used in the HECTO program. SW13 & SW15.

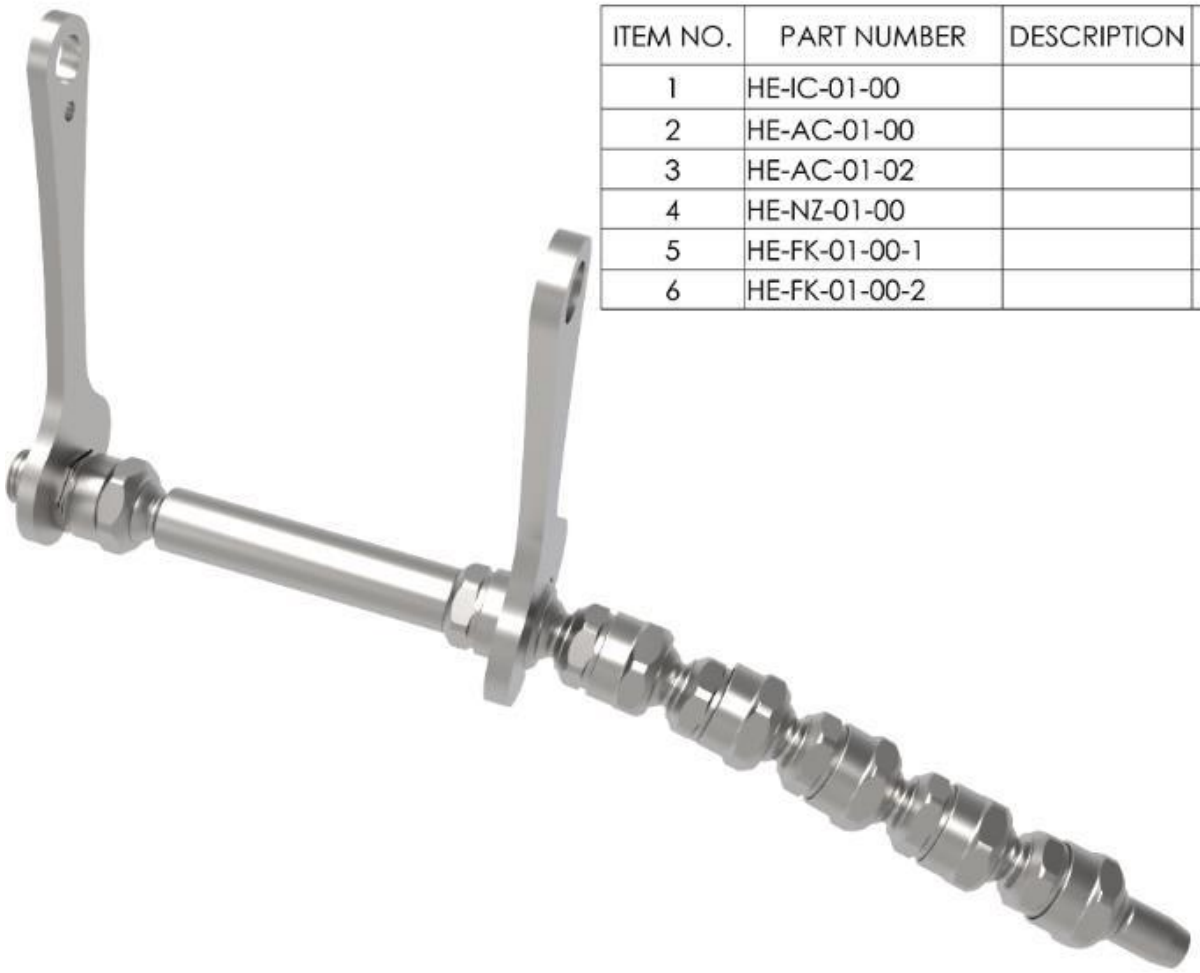


HE-FK-01-00

Starter kit:

Set of components to start and become familiar with the SCS Articulated Coolant Distribution System DECA program. Basic set of components delivered in a basic kit for the most typical applications.

Ref.	Description
HE-SK-01-00	**Kit Single Outlet HECTO:** **For general cooling with a single outlet L=220 mm.** **Weight: 120 g.** ***Initial Connection:*** 1 unit HE-IC-01-00 BSPP 1/8"M to articulated connection HECTO. ***Articulated connection:*** 5 units HE-AC-01-00 Articulated connection HECTO L:20.5 mm 1 unit HE-AC-01-02 Articulated connection HECTO L:70.5 mm ***Coolant nozzles:*** 1 unit HE-NZ-01-00 Straight nozzle. ID:6 mm & L:16 mm ***Fastening wrenches for the articulated system:*** 1 unit HE-FK-01-00 Wrenches for fastening the 2 hexagons used in the HECTO program. SW13 & SW15.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-01-00		1
2	HE-AC-01-00		5
3	HE-AC-01-02		1
4	HE-NZ-01-00		1
5	HE-FK-01-00-1		1
6	HE-FK-01-00-2		1

HE-SK-01-00

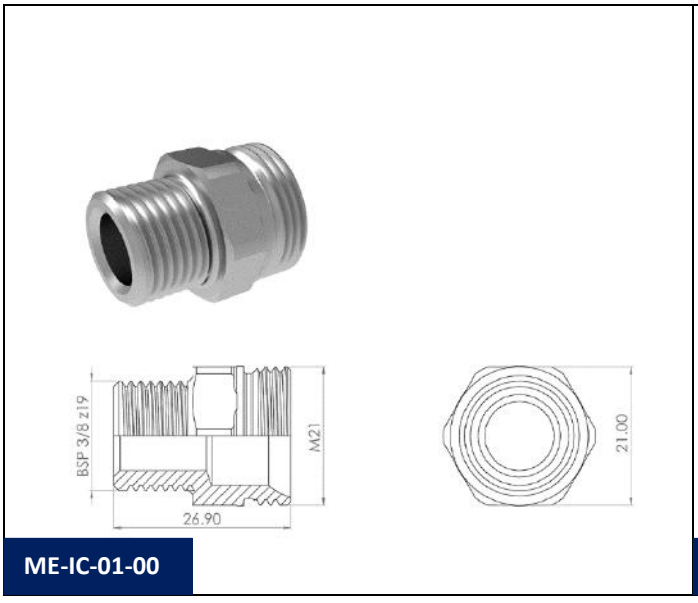
MEGA (10.5 mm) PROGRAM

The internal through hole of the MEGA program is 10.5 mm and is ideal for the distribution of air and refrigerant (oil or emulsion) in medium and large-sized machines such as CNC lathes, machining centers, grinding machines or as distribution branches of the biggest program (GIGA).
Maximum torque for locking the parts of the system: 28 Nm
Maximum pressure: 80 Bar (1,160 psi)

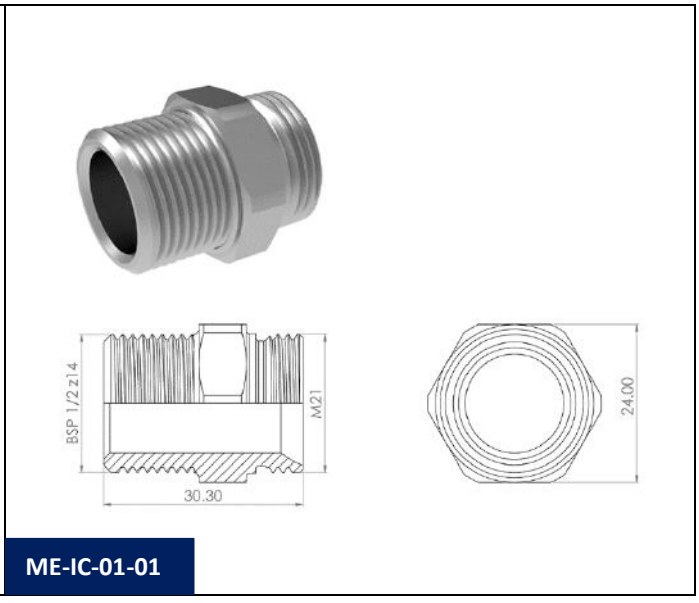
Initial connection:

Connection elements with the machine-tool or other SCS coolant distribution programs. ID:10.5 mm.
Material: Steel

Ref.	Description
ME-IC-01-00	BSPP 3/8"(M) to articulated connection MEGA.
ME-IC-01-01	BSPP 1/2"(M) to articulated connection MEGA.
ME-IC-01-02	NPT 3/8"(M) to articulated connection MEGA.
ME-IC-01-03	NPT 1/2"(M) to articulated connection MEGA.
ME-IC-01-04	BSPT 3/8"(M) to articulated connection MEGA.
ME-IC-01-05	BSPT 1/2"(M) to articulated connection MEGA.



ME-IC-01-00



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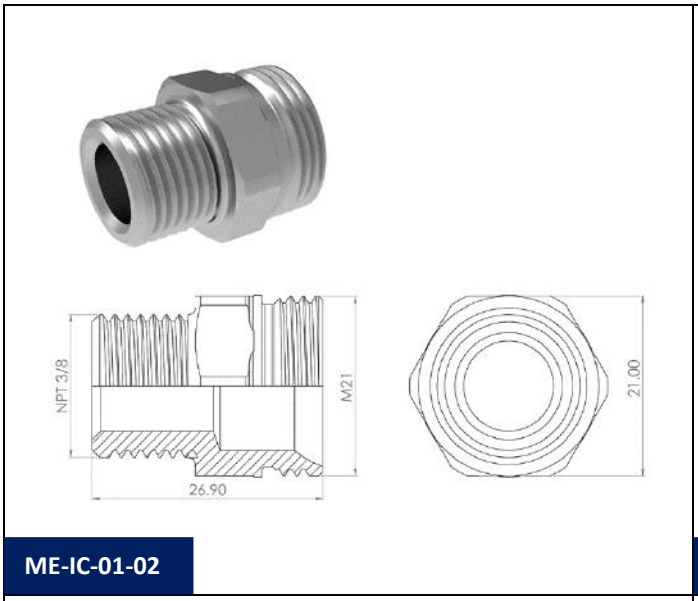

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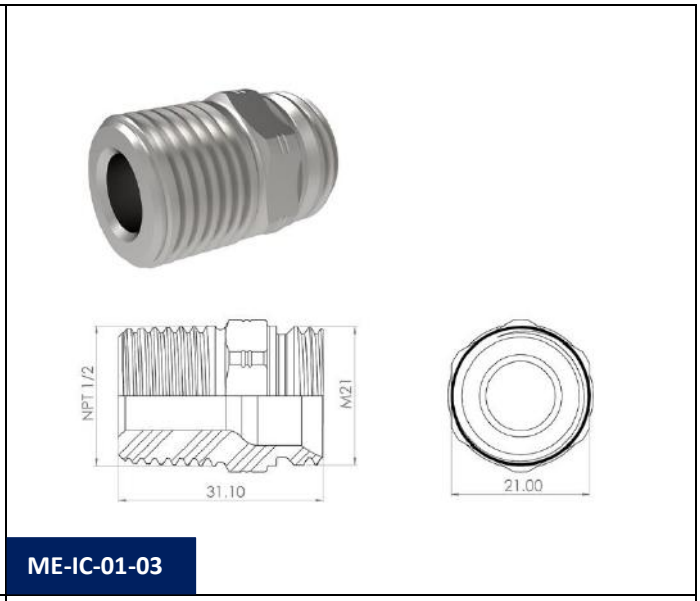
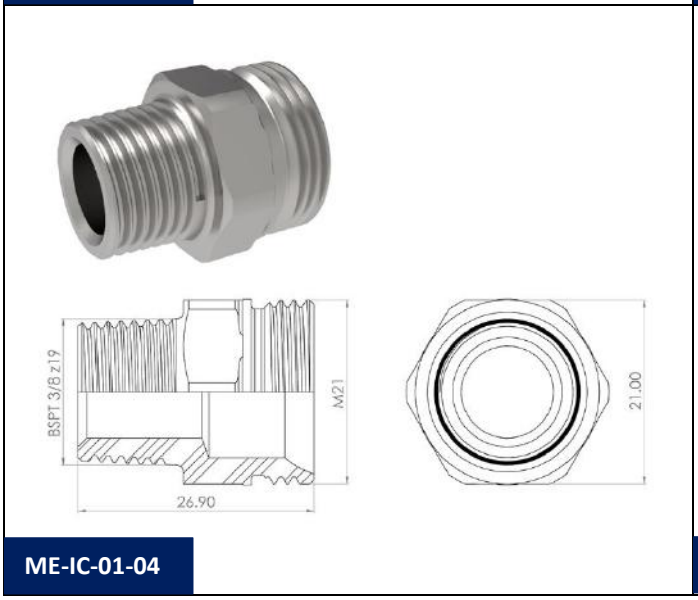


ME-IC-01-03



ME-IC-01-04

ME-IC-01-05

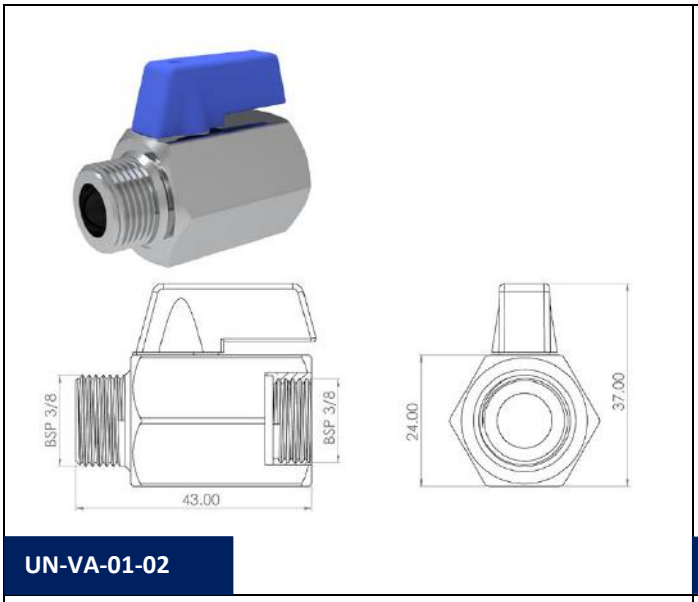
Ball valves:

Miniature ball valves for shut-off or control of the coolant flow. To be installed at the machine-tool coolant outlet.

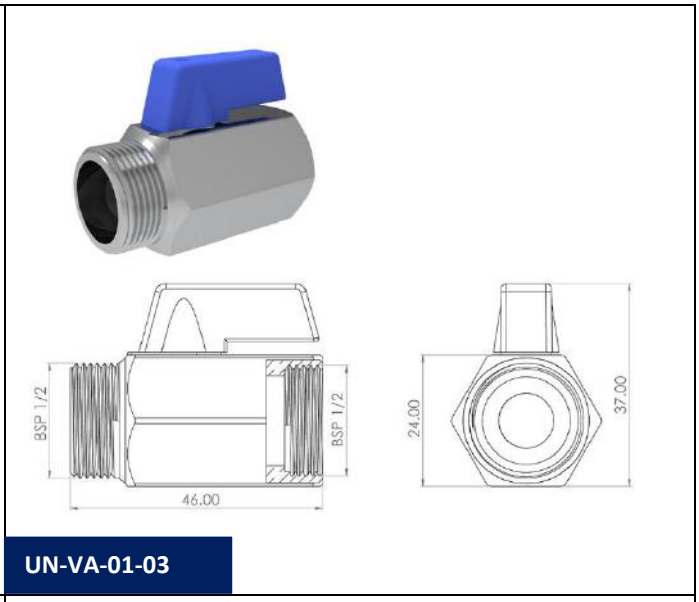
Types:

- PN10: Pressure 10 bar (145 psi). Material: Chrome plated brass.
- PN63: Pressure 63 bar (914 psi). Material: Stainless steel AISI-316

Ref.	Description
UN-VA-01-02	Closing valve PN10, BSPP 3/8"(M) and BSPP 3/8"(F) chromed-plated brass.
UN-VA-01-03	Closing valve PN10, BSPP 1/2"(M) and BSPP 1/2"(F) chromed-plated brass.
UN-VA-02-02	Closing valve PN63, BSPP 3/8"(M) and BSPP 3/8"(F) AISI-316
UN-VA-02-03	Closing valve PN63, BSPP 1/2"(M) and BSPP 1/2"(F) AISI-316



UN-VA-01-02



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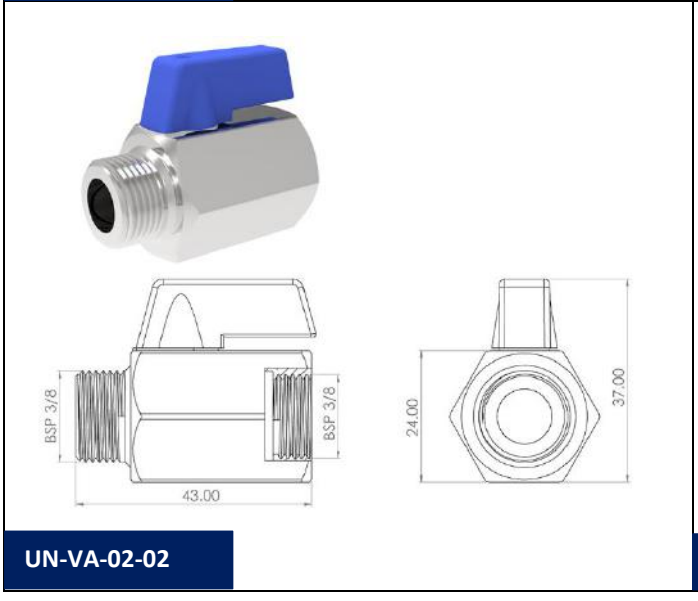
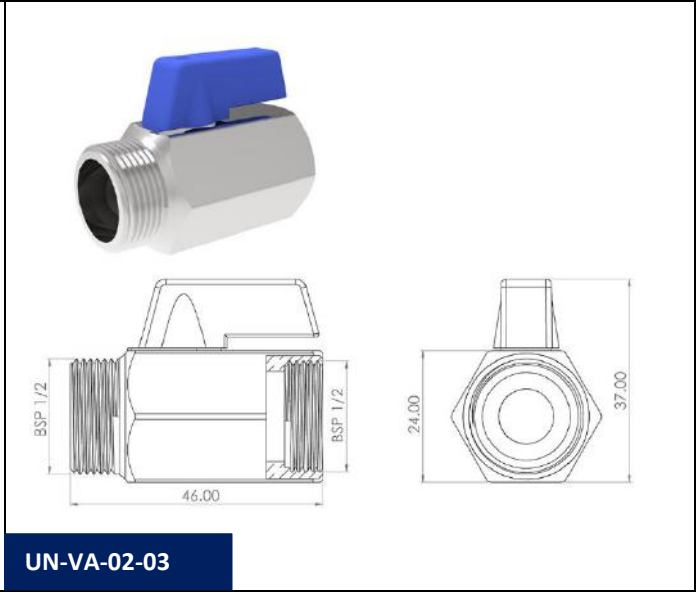


UN-VA-02-02

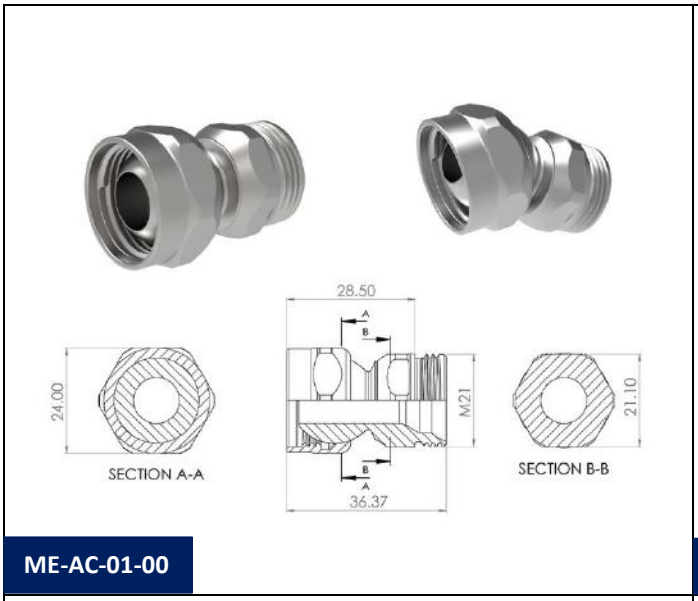


UN-VA-02-03

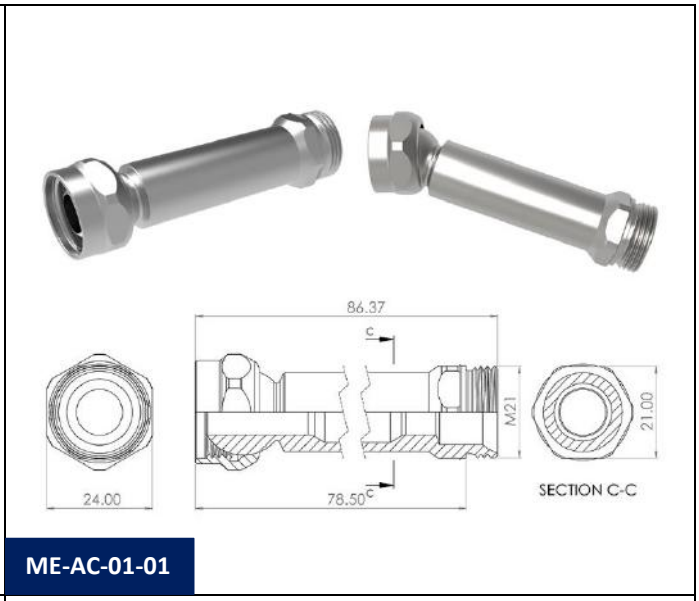
Articulated connection:

Basic articulated elements which connect to each other. Swiveling ±25º. ID:10.5 mm.
Material: Steel

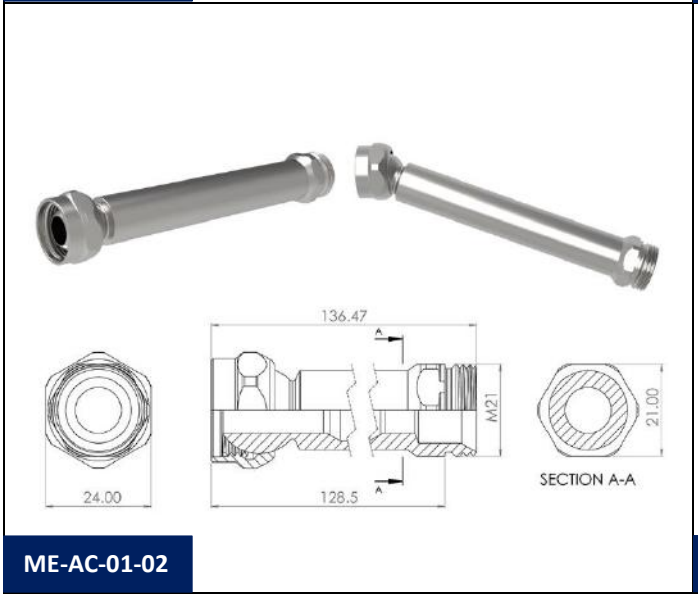
Ref.	Description
ME-AC-01-00	Articulated connection MEGA L:28.5 mm
ME-AC-01-01	Articulated connection MEGA L:78.5 mm
ME-AC-01-02	Articulated connection MEGA L:128.5 mm
ME-AC-01-03	Articulated connection MEGA L:178.5 mm
ME-AC-01-04	Articulated connection MEGA L:228.5 mm
ME-AC-02-00	Articulated connection to 90º MEGA



ME-AC-01-00



ME-AC-01-01



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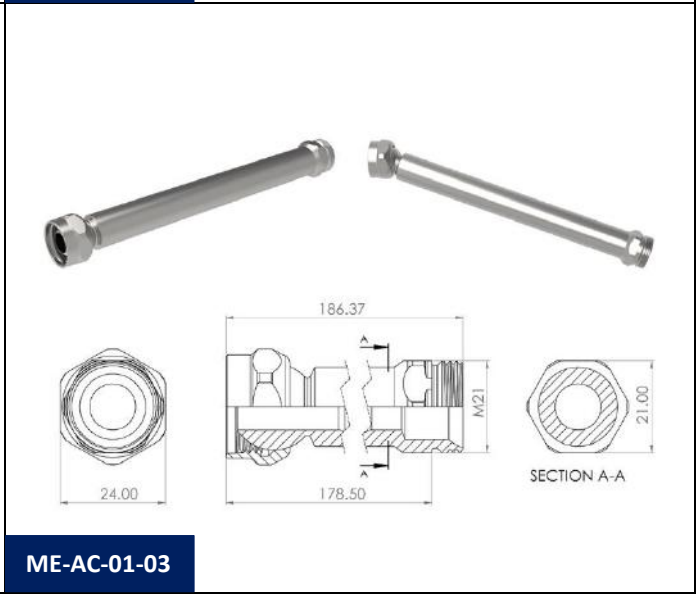

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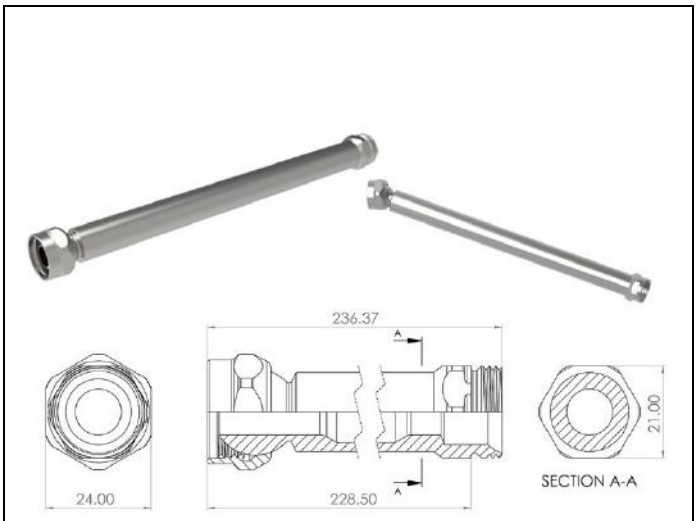

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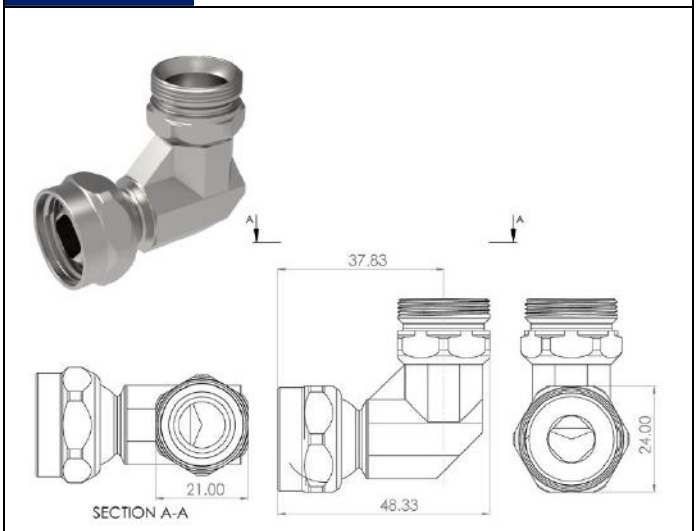
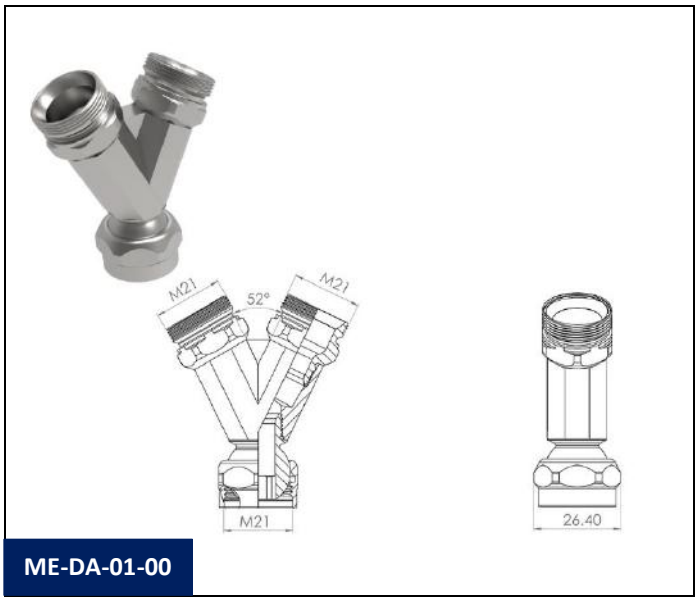


ME-AC-02-00

Distributors and adaptors:

Coolant distribution components, expansion of articulated lines and adaption to other SCS coolant distribution systems.
Material: Steel

Ref.	Description
ME-DA-01-00	“Y” distributor to articulated connection MEGA

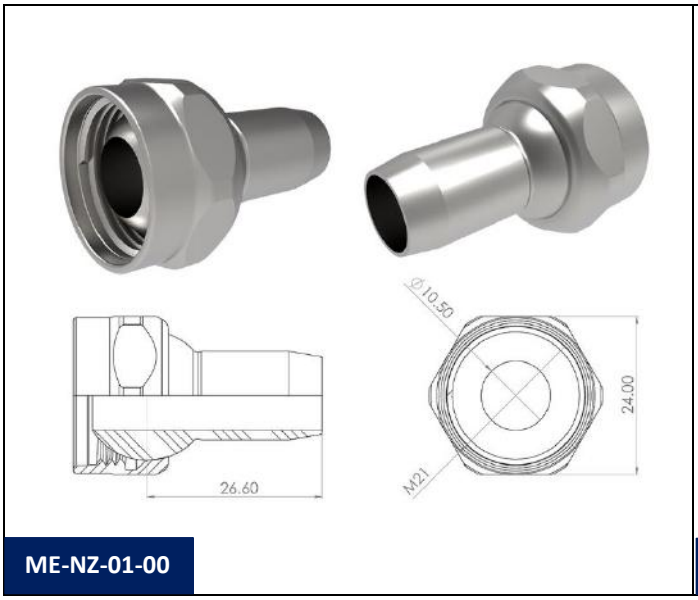


ME-DA-01-00

Coolant nozzles:

Nozzles with several designs adapted to meet different coolant delivery requirements.
Material: Steel

Ref.	Description
ME-NZ-01-00	Straight nozzle ID:10.5 mm & L:27 mm
ME-NZ-01-01	Straight nozzle ID:7 mm & L:27
ME-NZ-01-02	Straight coaxial nozzle ID:6 mm x 3 & L:34
ME-NZ-01-03	Straight coaxial nozzle ID:4.6 mm x 5 & L:34
ME-NZ-01-04	Straight nozzle ID:6 mm x2 & L:34 mm
ME-NZ-02-00	Nozzle 45º ID:10.5 mm & L:50 mm
ME-NZ-02-01	Nozzle 45º simple ID:10.5 mm & L:34 mm
ME-NZ-03-00	Nozzle 90º ID:10.5 mm & L:34 mm
ME-NZ-03-01	Nozzle 5 outlets at 90º ID:4.5 mm & L:49 mm
ME-NZ-03-02	Nozzle 90º simple ID:10.5 mm & L:34 mm
ME-NZ-04-00	Modular nozzle body W:68 mm & H:18 mm. Must be mounted with ME-NZ-04-01 or ME-NA-04-02
ME-NZ-04-01	Modular nozzle outlet 0º slot W:60 mm & H:2 mm. Must be mounted with ME-NZ-04-00
ME-NZ-04-02	Modular nozzle outlet 0º multibore DI:3 mm x 13. Must be mounted with ME-NZ-04-00



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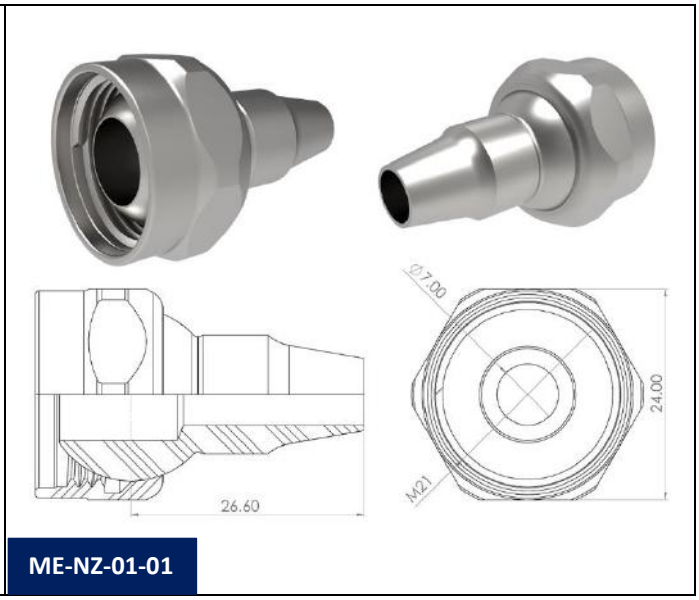

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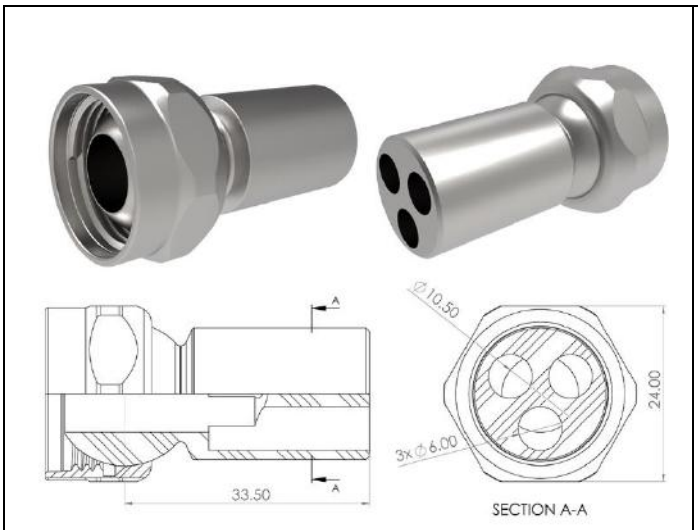

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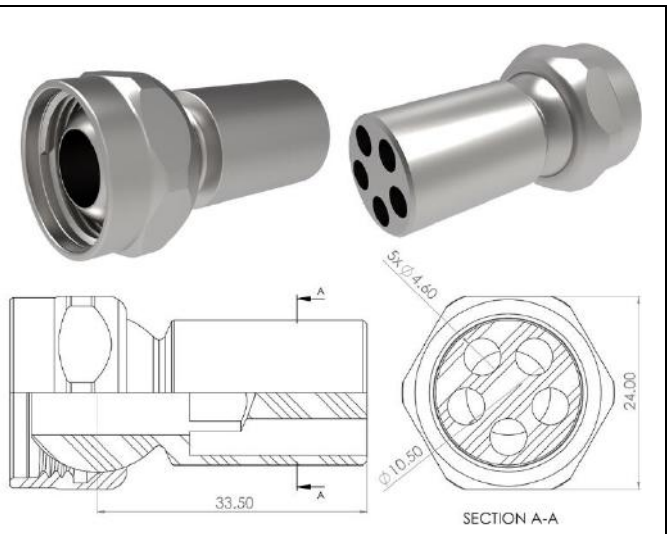
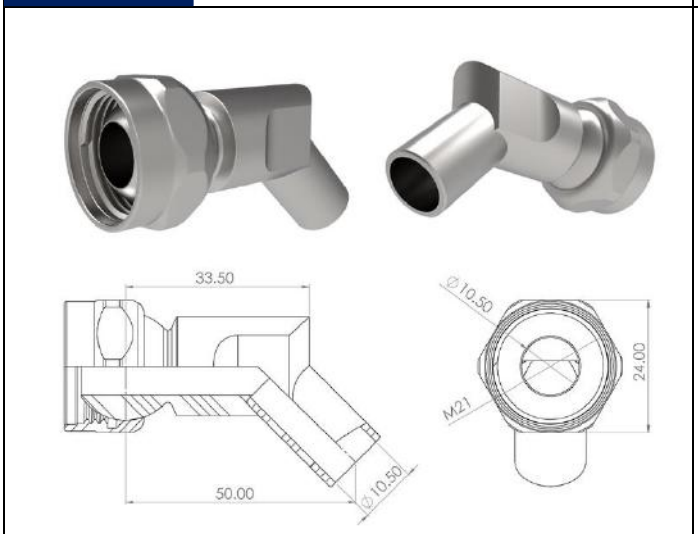


ME-NZ-01-03

ME-NZ-01-04



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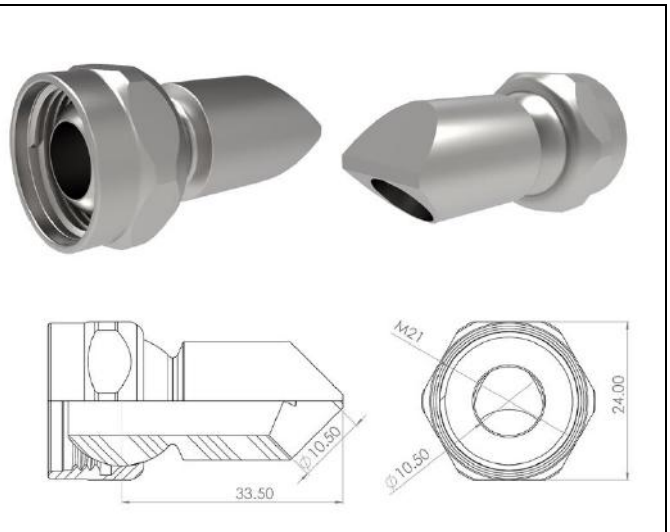

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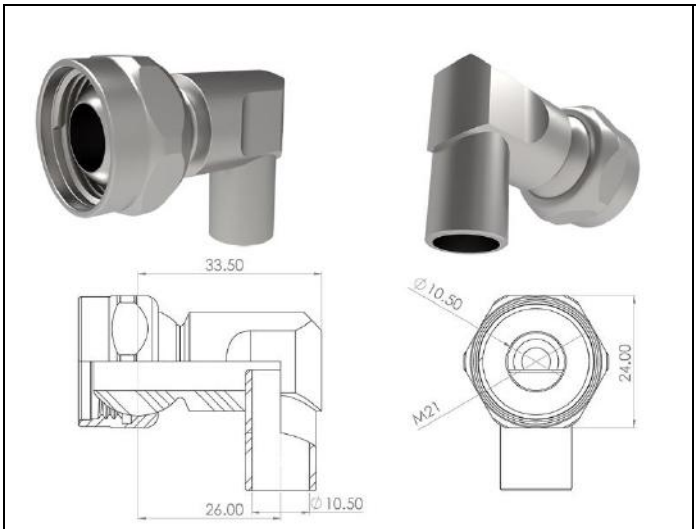

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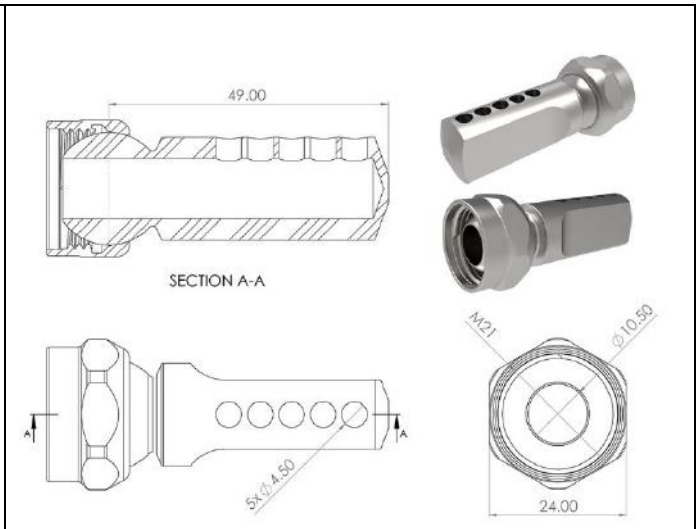

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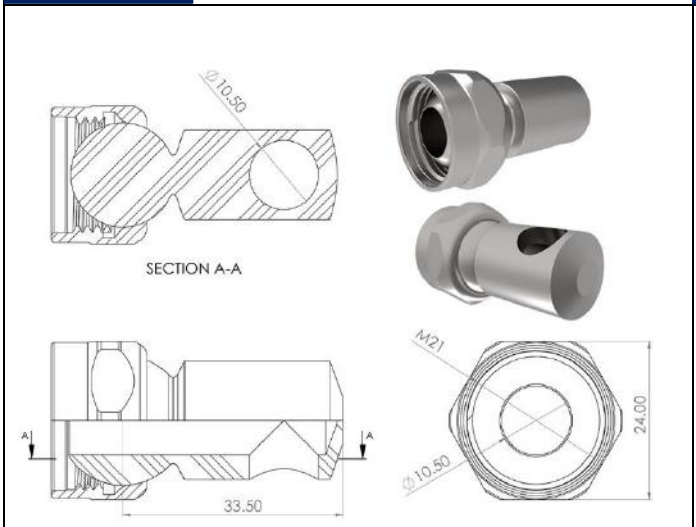
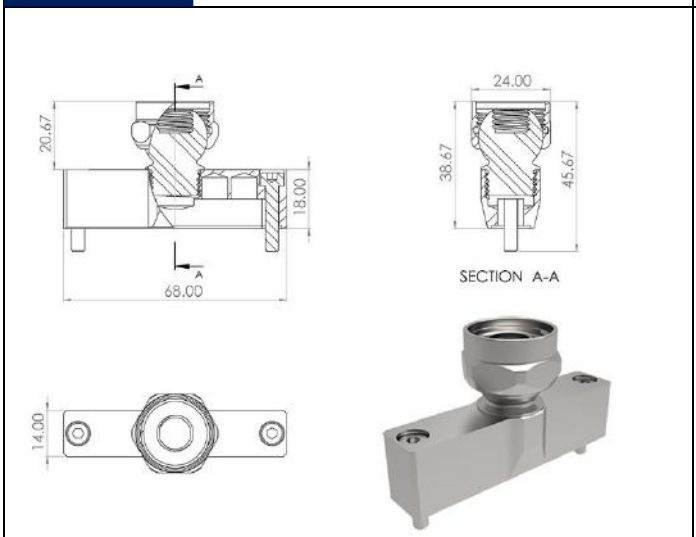
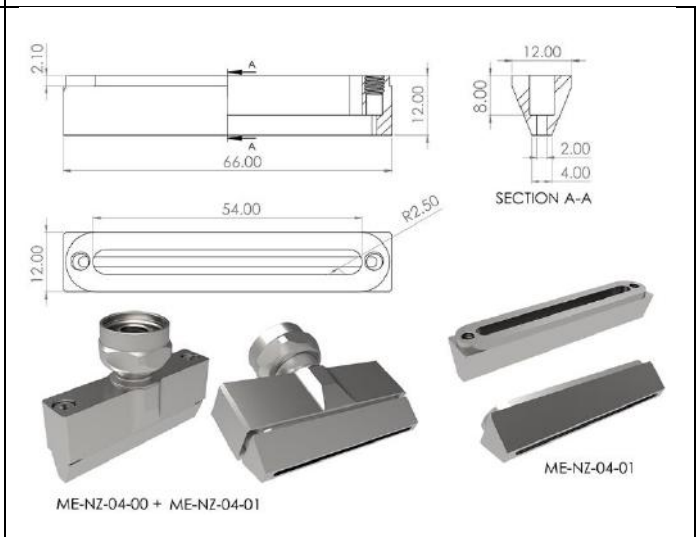


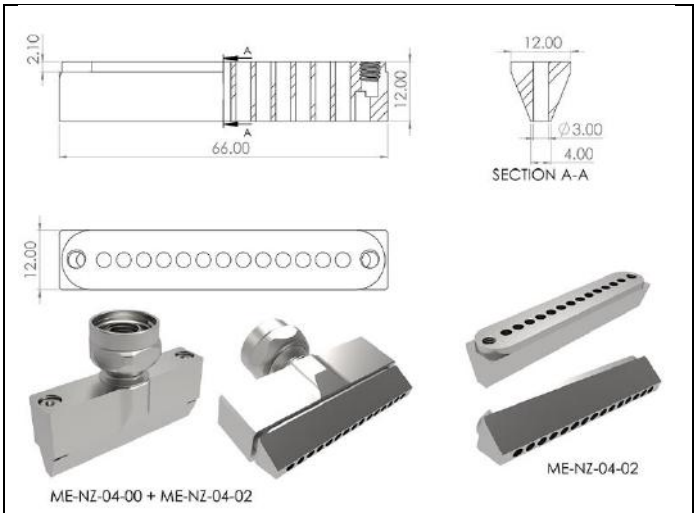
ME-NZ-03-02



ME-NZ-04-00



ME-NZ-04-01


2.10
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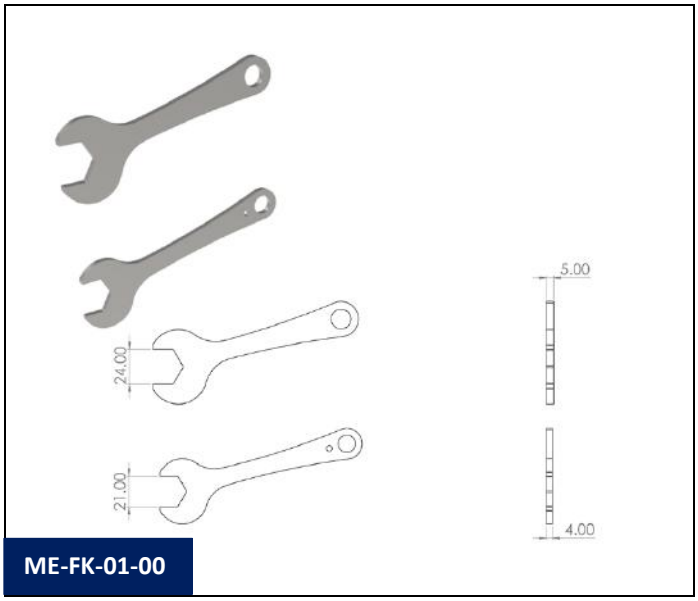
4.00
SECTION A-A
12.00
ME-NZ-04-00 + ME-NZ-04-02
ME-NZ-04-02

ME-NZ-04-02

Fastening keys for the articulated system:

Special fastening wrenches for fastening the MEGA articulated system.
Maximum torque for locking the parts of the system: 28 Nm

Ref.	Description
ME-FK-01-00	Wrenches for fastening the 2 hexagons used in the MEGA program. SW21 & SW24.

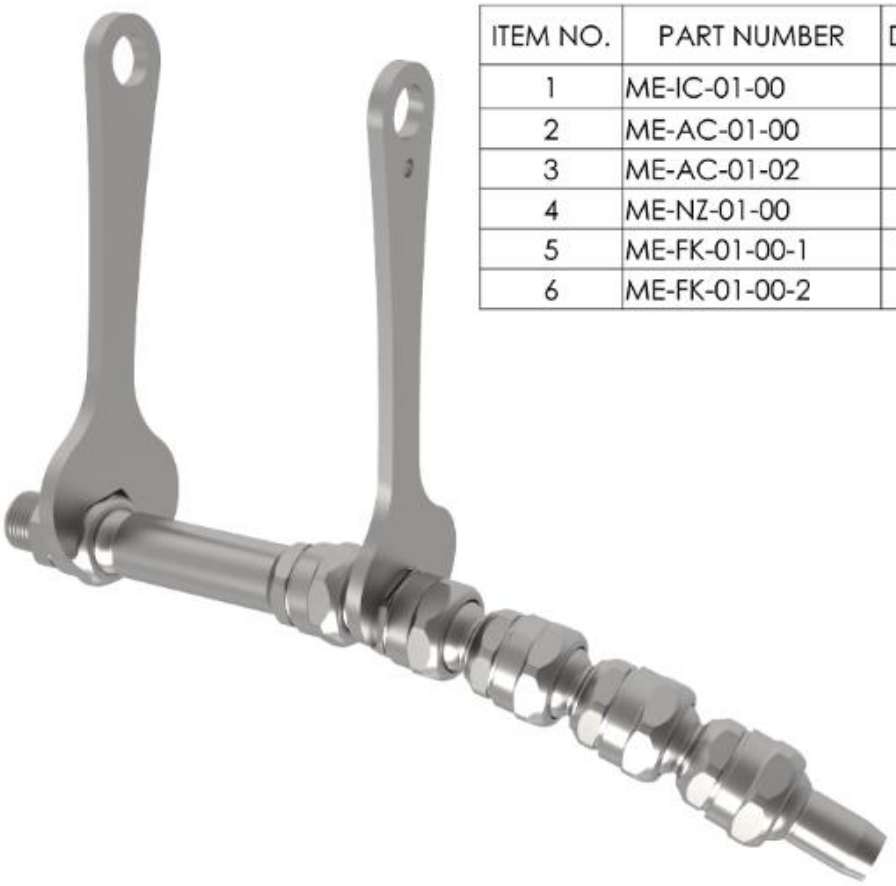


ME-FK-01-00

Starter kit:

Set of components to start and become familiar with the SCS Articulated Coolant Distribution System MEGA program. Basic set of components delivered in a basic kit for the most typical applications.

Ref.	Description
ME-SK-01-00	**Kit Single Outlet MEGA:** **For general cooling with a single outlet L=260 mm.** **Weight: 440 g.** ***Initial Connection:*** 1 unit ME-IC-01-00 BSPP 3/8"(M) to articulated connection MEGA. ***Articulated connection:*** 5 units ME-AC-01-00 Articulated connection MEGA L:28.5 mm 1 unit ME-AC-01-01 Articulated connection MEGA L:78.5 mm ***Coolant nozzles:*** 1 unit ME-NZ-01-00 Straight nozzle. ID:10.5 mm & L:27 mm ***Fastening keys for the articulated system:*** 1 unit ME-FK-01-00 Wrenches for fastening the 2 hexagons used in the MEGA program. SW21 & SW24.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ME-IC-01-00		1
2	ME-AC-01-00		5
3	ME-AC-01-02		1
4	ME-NZ-01-00		1
5	ME-FK-01-00-1		1
6	ME-FK-01-00-2		1

ME-SK-01-00

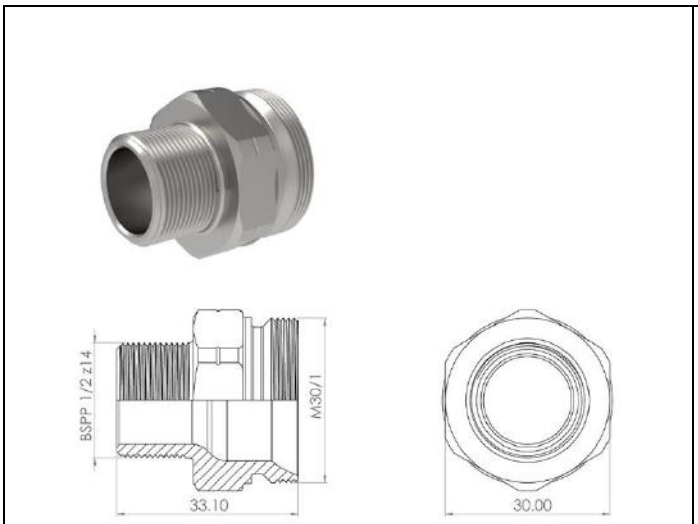
GIGA (16 mm) PROGRAM

The internal through hole of the GIGA program is 16 mm and is ideal for the distribution of air and refrigerant (oil or emulsion) in medium and large-sized machines such as CNC lathes, machining centers or grinding machines.
Maximum torque for locking the parts of the system: 40 Nm
Maximum pressure: 80 Bar (1,160 psi)

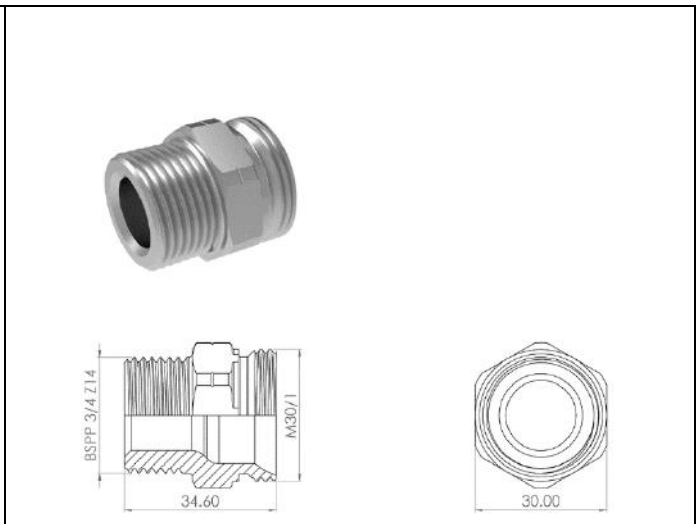
Initial connection:

Connection elements with the machine-tool or other SCS coolant distribution programs. ID:16 mm.
Material: Steel

Ref.	Description
GI-IC-01-00	BSPP 1/2"(M) to articulated connection GIGA.
GI-IC-01-01	BSPP 3/4"(M) to articulated connection GIGA.
GI-IC-01-02	BSPP 1"(M) to articulated connection GIGA.
GI-IC-01-03	NPT 1/2"(M) to articulated connection GIGA.
GI-IC-01-04	NPT 3/4"(M) to articulated connection GIGA.
GI-IC-01-05	NPT 1"(M) to articulated connection GIGA.
GI-IC-01-06	BSPT 1/2"(M) to articulated connection GIGA.
GI-IC-01-07	BSPT 3/4"(M) to articulated connection GIGA.



GI-IC-01-00



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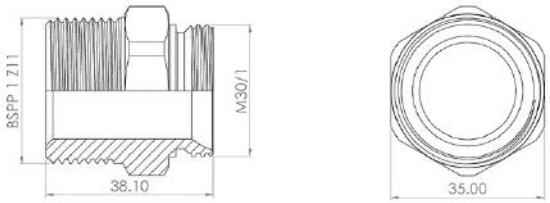

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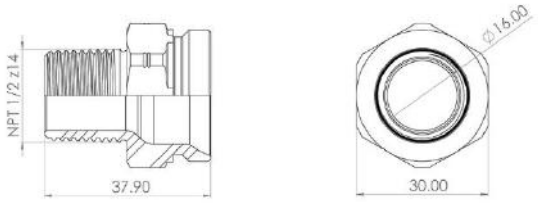
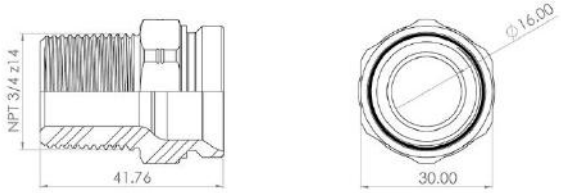


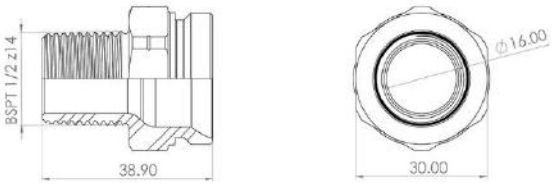
GI-IC-01-03



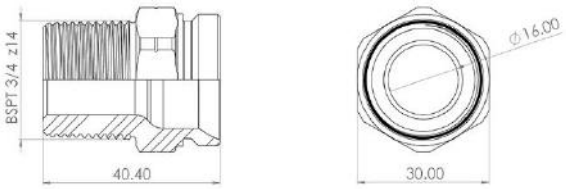
GI-IC-01-04

Drawing not available

GI-IC-01-05



GI-IC-01-06



GI-IC-01-07

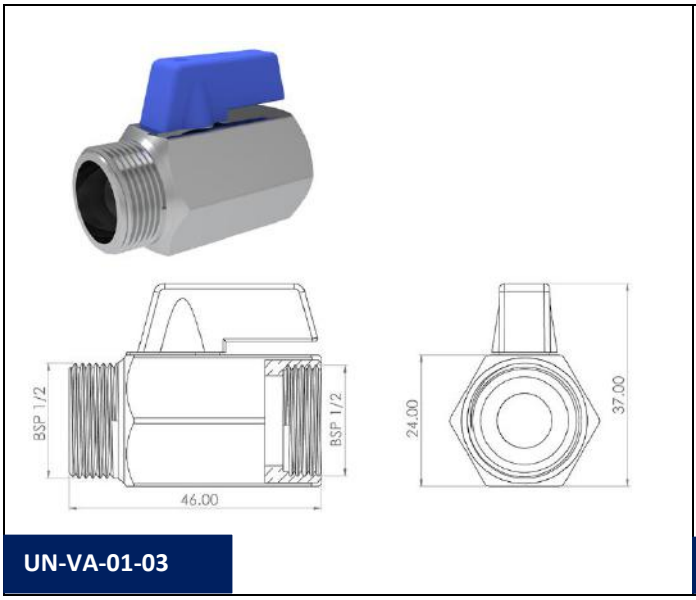
Ball valves:

Miniature ball valves for shut-off or control of the coolant flow. To be installed at the machine-tool coolant outlet.

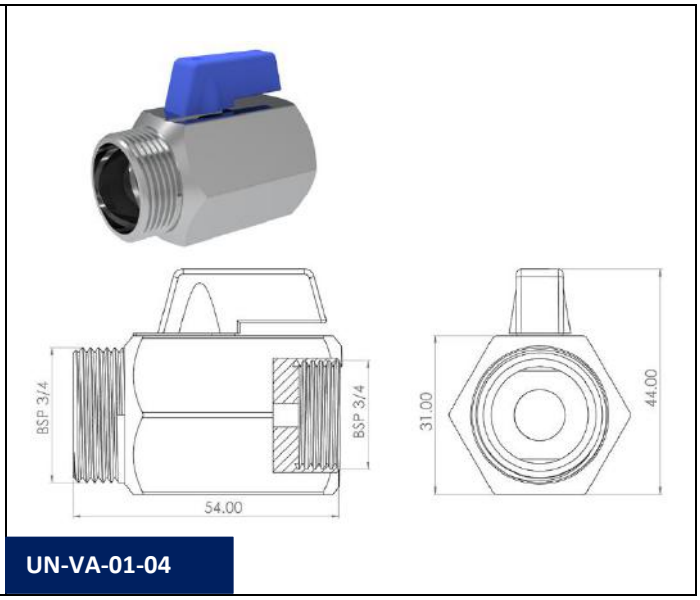
Types:

- PN10: Pressure 10 bar (145 psi). Material: Chrome plated brass.
- PN63: Pressure 63 bar (914 psi). Material: Stainless steel AISI-316

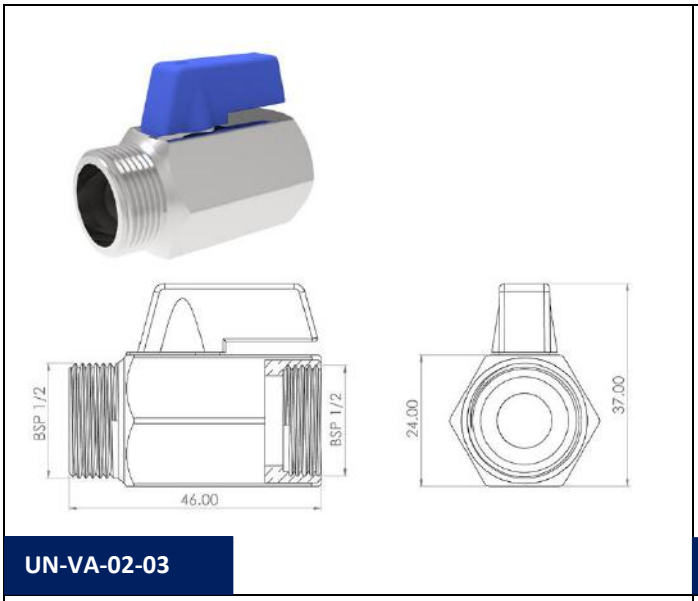
Ref.	Description
UN-VA-01-03	Closing valve PN10, BSPP 1/2"(M) and BSPP 1/2"(F) chromed-plated brass.
UN-VA-01-04	Closing valve PN10, BSPP 3/4"(M) and BSPP 3/4"(F) chromed-plated brass.
UN-VA-02-03	Closing valve PN63, BSPP 1/2"(M) and BSPP 1/2"(F) AISI-316
UN-VA-02-04	Closing valve PN63, BSPP 3/4"(M) and BSPP 3/4"(F) AISI-316
UN-VA-02-05	Closing valve PN63, BSPP 1"(M) and BSPP 1"(F) AISI-316



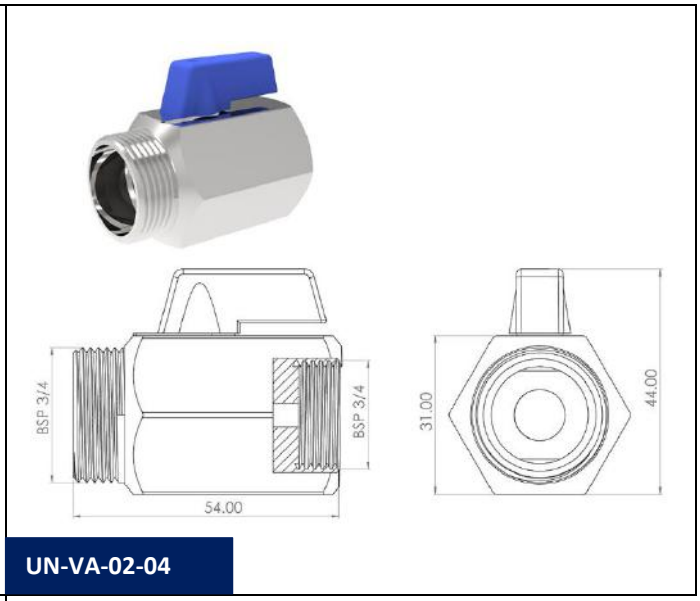
UN-VA-01-03



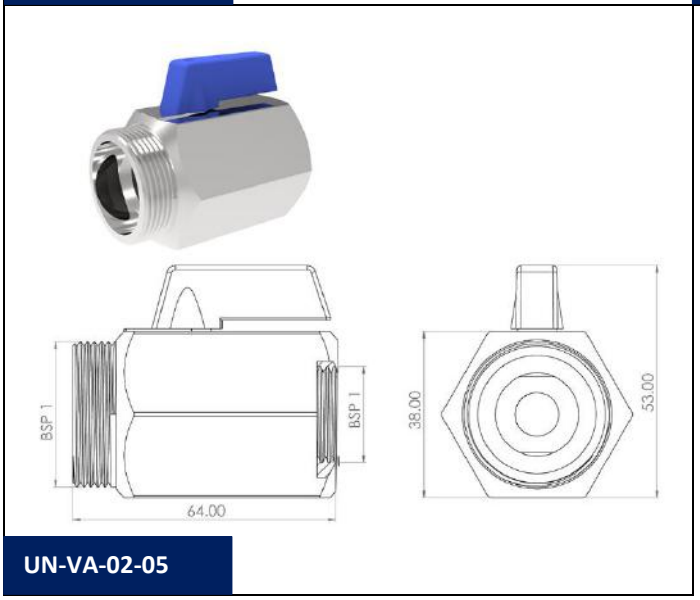
UN-VA-01-04



UN-VA-02-03



UN-VA-02-04



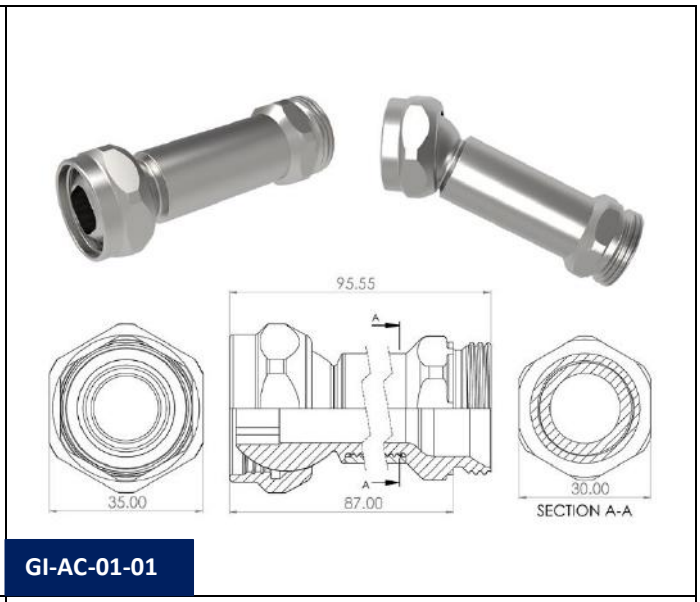
UN-VA-02-05

Articulated connection:

Basic articulated elements which connect to each other. Swiveling ±25º. ID:16 mm.
Material: Steel

Ref.	Description
GI-AC-01-00	Articulated connection GIGA L:37 mm
GI-AC-01-01	Articulated connection GIGA L:87 mm
GI-AC-01-02	Articulated connection GIGA L:137 mm
GI-AC-01-03	Articulated connection GIGA L:187 mm
GI-AC-01-04	Articulated connection GIGA L:237 mm
GI-AC-02-00	Articulated connection to 90º GIGA

GI-AC-01-00



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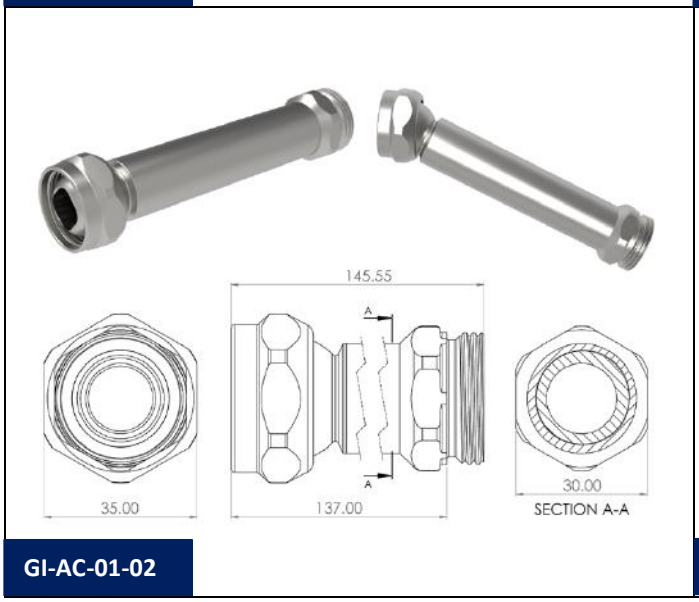
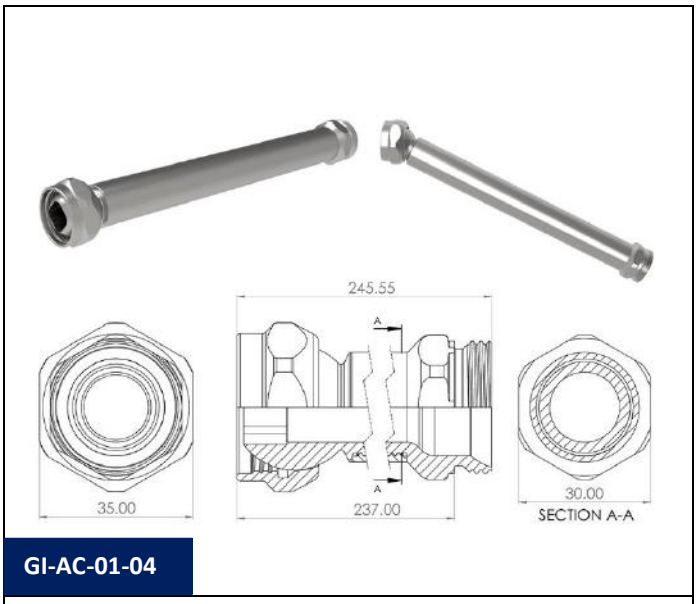


GI-AC-01-02

GI-AC-01-03



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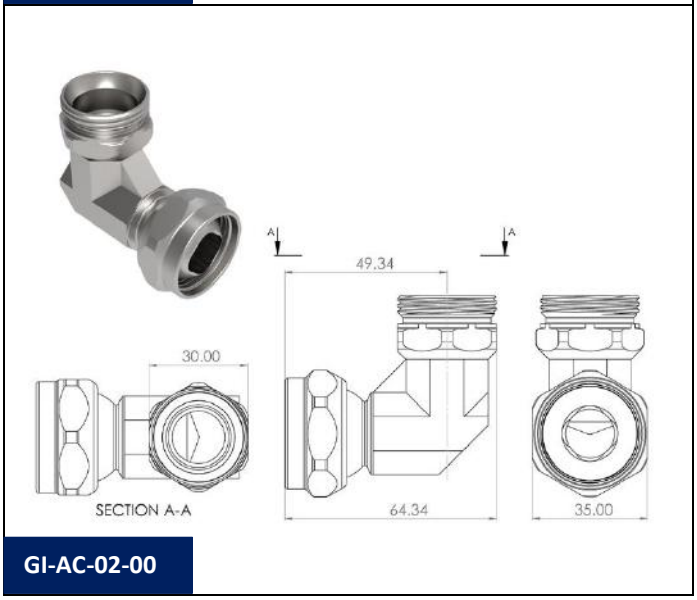
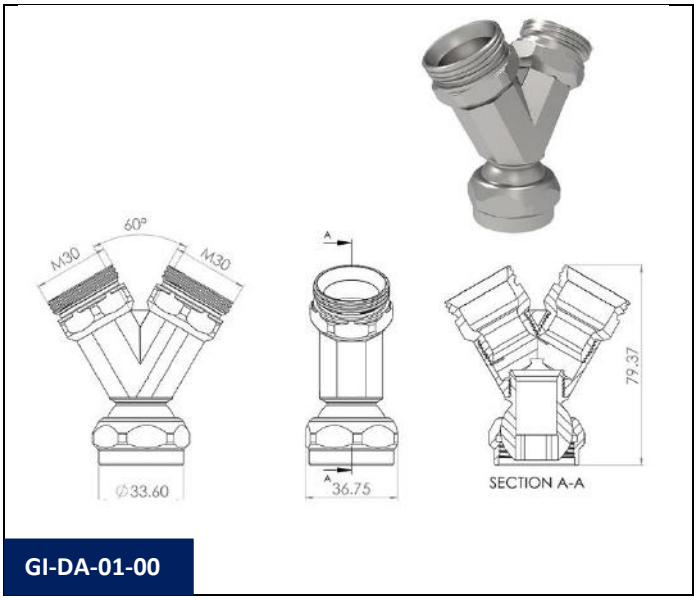


GI-AC-02-00

Distributors and adaptors:

Coolant distribution components, expansion of articulated lines and adaption to other SCS coolant distribution systems.
Material: Steel

Ref.	Description
GI-DA-01-00	“Y” distributor to articulated connection GIGA

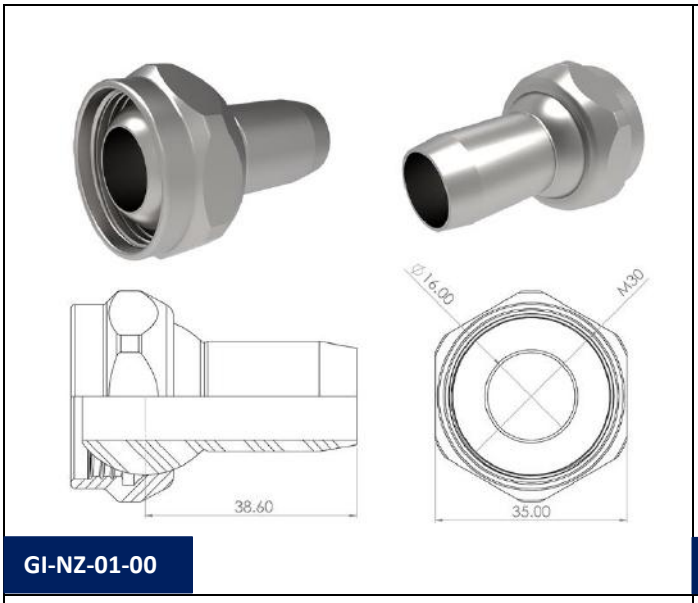


GI-DA-01-00

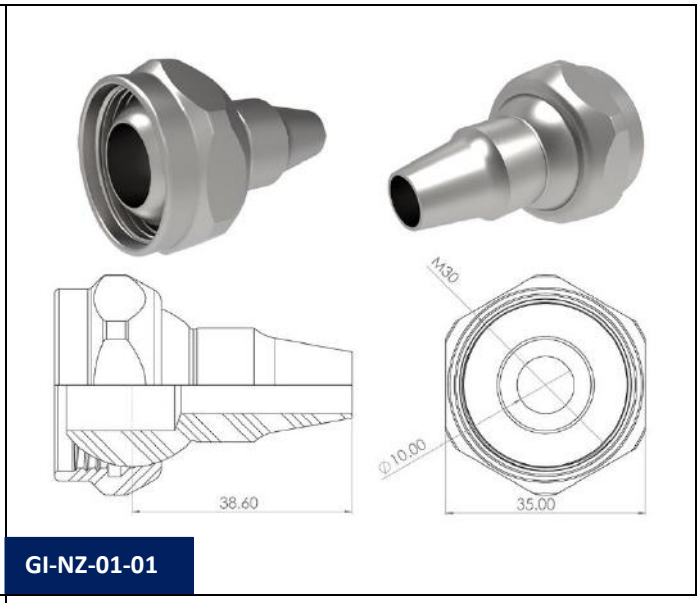
Coolant nozzles:

Nozzles with several designs adapted to meet different coolant delivery requirements.
Material: Steel

Ref.	Description
GI-NZ-01-00	Straight nozzle. ID:16 mm & L:38.5 mm
GI-NZ-01-01	Straight nozzle. ID:10 mm & L:38.5
GI-NZ-02-00	Nozzle 45º. ID:16 mm & L:38.5 mm
GI-NZ-03-00	Nozzle 90º. ID:16 mm & L:38.5 mm
GI-NZ-03-01	Nozzle 6 outlets at 90º. ID:6.5 mm & L:78 mm



GI-NZ-01-00



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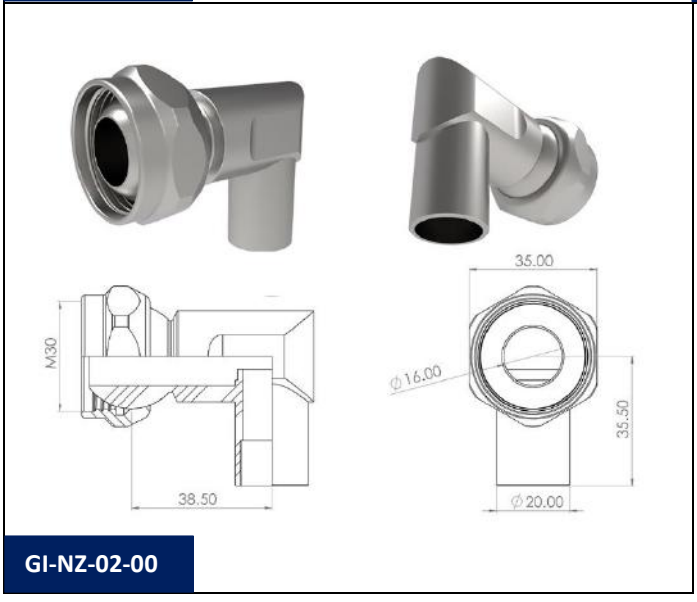

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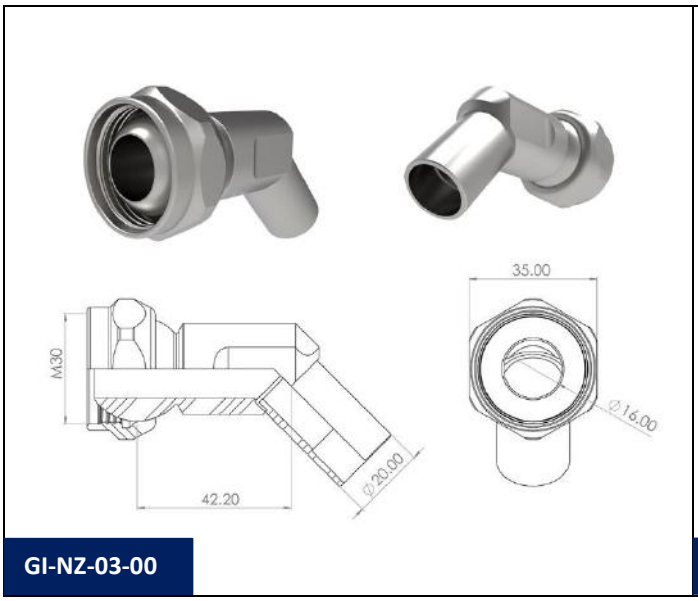

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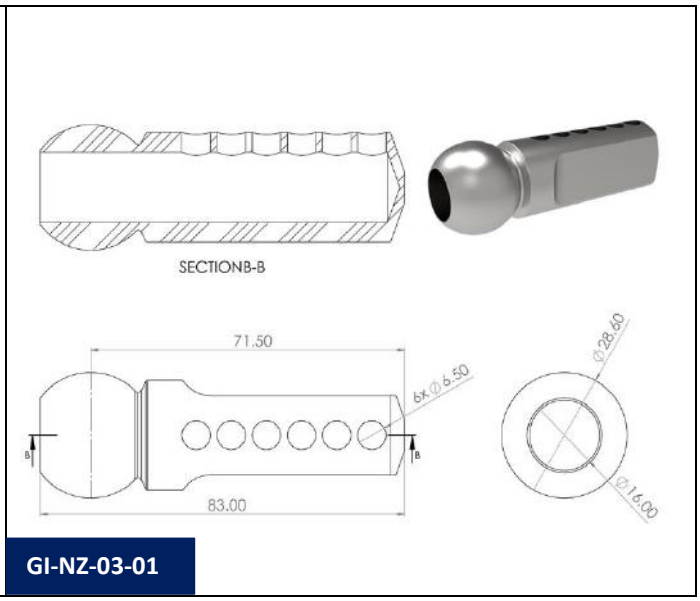
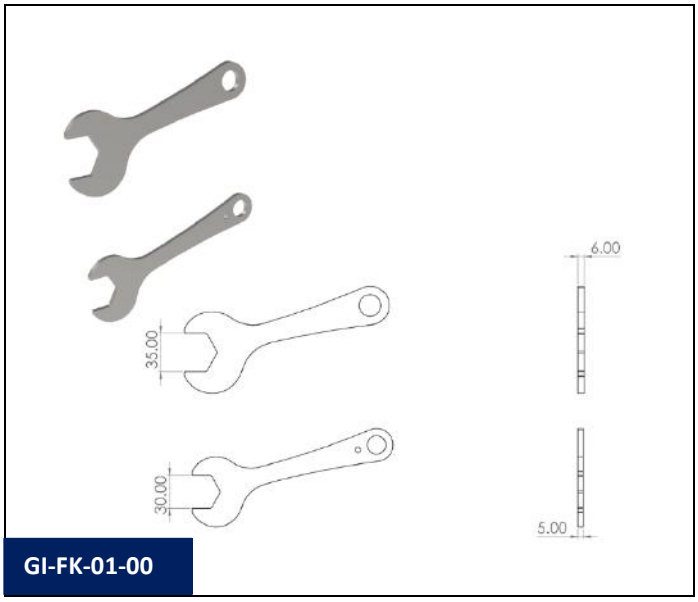


GI-NZ-03-01

Fastening keys for the articulated system:

Special fastening wrenches for fastening the GIGA articulated system.
Maximum torque for locking the parts of the system: 40 Nm

Ref.	Description
GI-FK-01-00	Wrenches for fastening the 2 hexagons used in the GIGA program. SW30 & SW35.

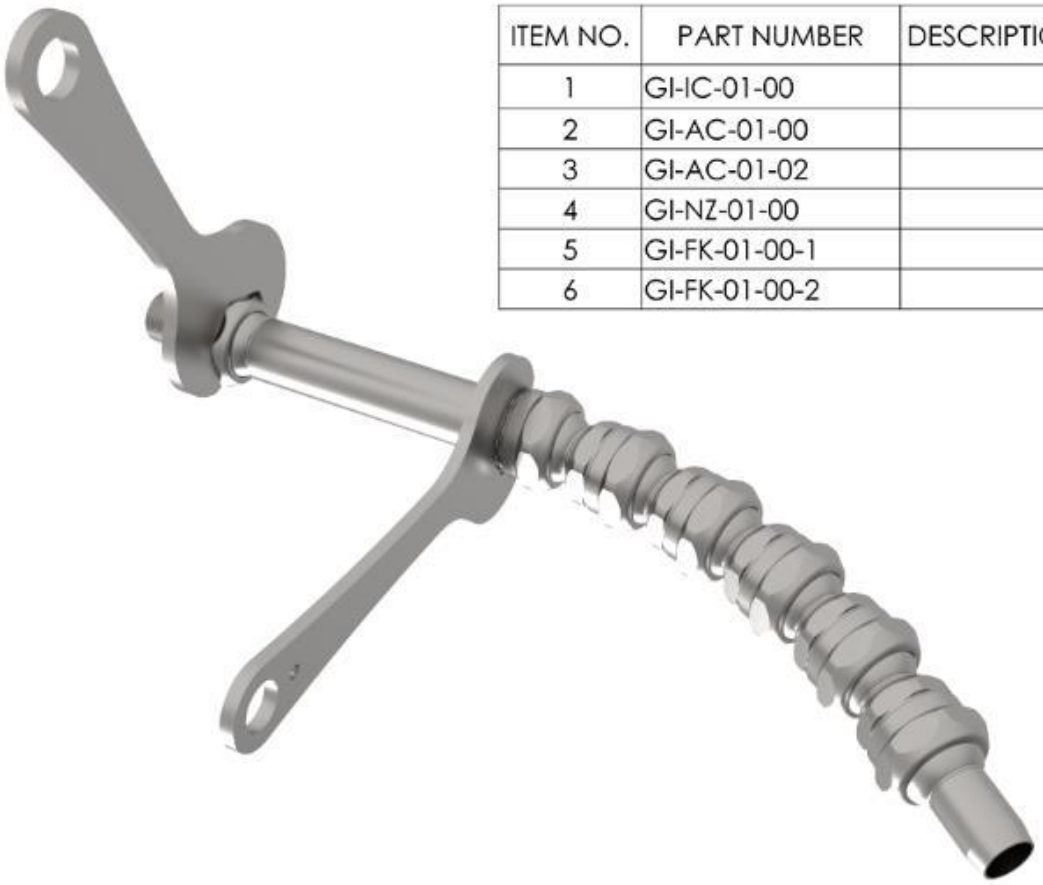


GI-FK-01-00

Starter kit:

Set of components to start and become familiar with the SCS Articulated Coolant Distribution System GIGA program. Basic set of components delivered in a basic kit for the most typical applications.

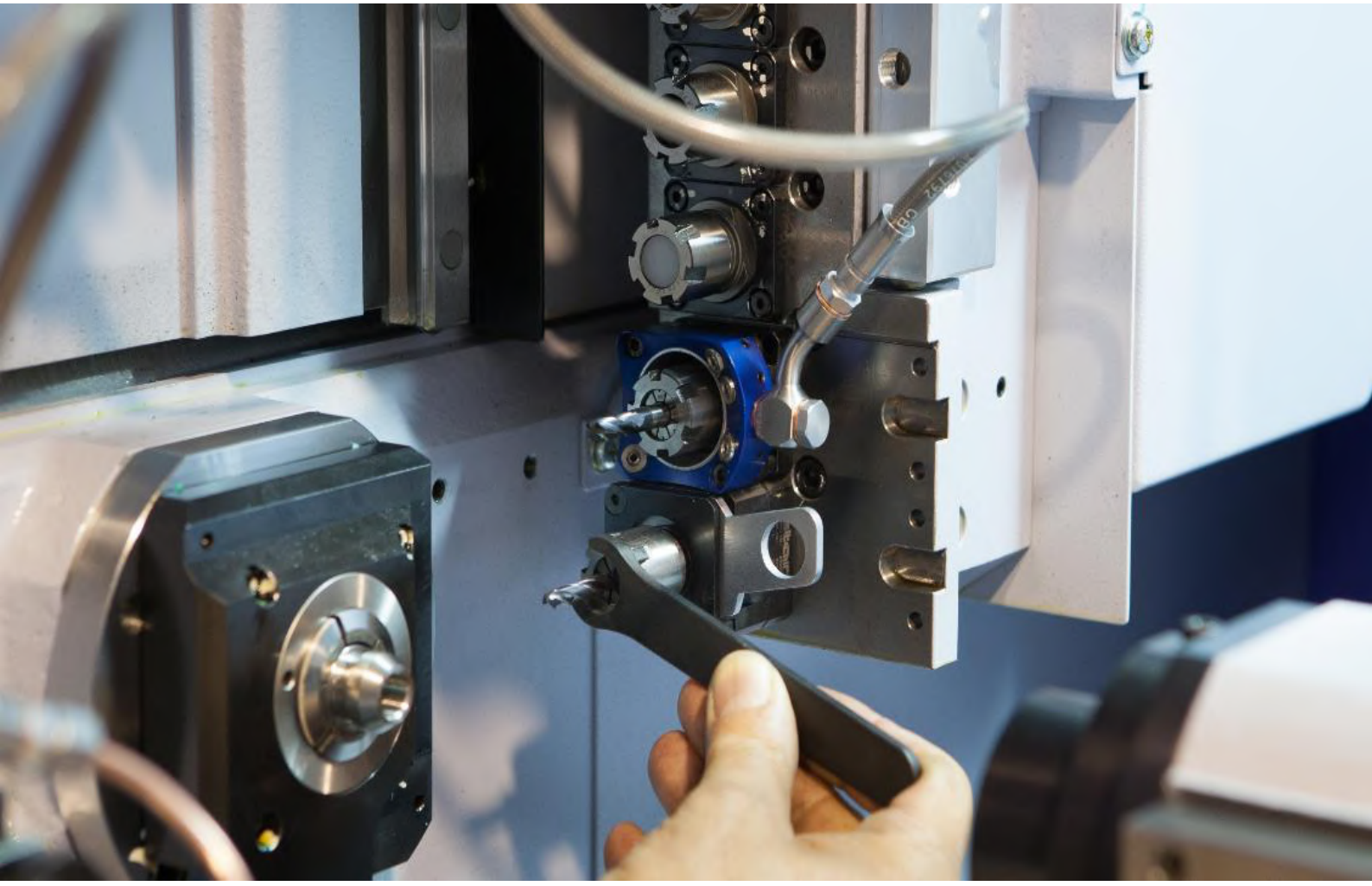
Ref.	Description
GI-SK-01-00	**Kit Single Outlet GIGA:** **For general cooling with a single outlet L=330 mm.** **Weight: 1160 g.** ***Initial Connection:*** 1 unit GI-IC-01-00 BSPP 1/2"(M) to articulated connection GIGA. ***Articulated connection:*** 5 units GI-AC-01-00 Articulated connection GIGA L:37 mm 1 unit GI-AC-01-01 Articulated connection GIGA L:87 mm ***Coolant nozzles:*** 1 unit GI-NZ-01-00 Straight nozzle. ID:16 mm & L:38.5 mm ***Fastening keys for the articulated system:*** 1 unit GI-FK-01-00 Wrenches for fastening the 2 hexagons used in the GIGA program. SW30 & SW35.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GI-IC-01-00		1
2	GI-AC-01-00		5
3	GI-AC-01-02		1
4	GI-NZ-01-00		1
5	GI-FK-01-00-1		1
6	GI-FK-01-00-2		1

GI-SK-01-00

3.ACCESSORIES FOR SAFETY AND PRODUCTIVITY IMPROVEMENT



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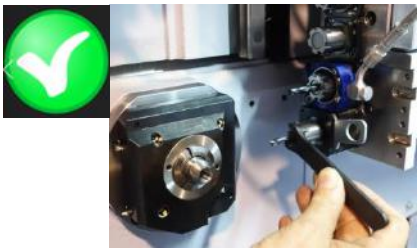
ACCESSORIES FOR SAFETY AND PRODUCTIVITY IMPROVEMENT IN THE PREPARATION AND OPERATION OF CNC LATHES

Protective covers for tool holders ER-collets, locking systems for safe tool change in driven tool holders, coolant distribution rings for fixed and driven tool holders.

A set of different components that help improve productivity in the CNC lathe operation and safety while performing a tool change or machine set-up.

Minimize the risk of accidents, improve productivity and precision

Locking systems for safe tool change in driven tool holders*.



The traditional system for tool change in driven tool holders is not safe.

Manual tool change is not safe, and it is easy that the operator suffers from small cuts to severe injuries.

- ✘ Both hands needed to unlock the collet nut of the driven tool.
- ✘ Uncomfortable position of the operator, often unable to maintain stability and hold, having to literally enter the machine.
- ✘ High risk of cutting with the edge of tools mounted on other blocks of the machine.
- ✘ Possibility of severe injuries in case one of the unlocking keys disengages and the operator loses balance.

The SCS Safe Tool Change system minimizes the risk of injury and greatly reduces tool change time.

- ✓ By inserting a locking key into the slot of the tool changing device the driven tool holder becomes blocked.
- ✓ Only one hand is needed to unlock the collet nut.

- ✓ The operator can be in a much more comfortable position and use the hand that is free to hold himself in position, have better stability and therefore avoid losing balance.

- ✓ The Safe Tool Change device remains installed in the machine without altering its operation and serves as the basis for the SCS refrigerant distribution systems.

***Patent pending**

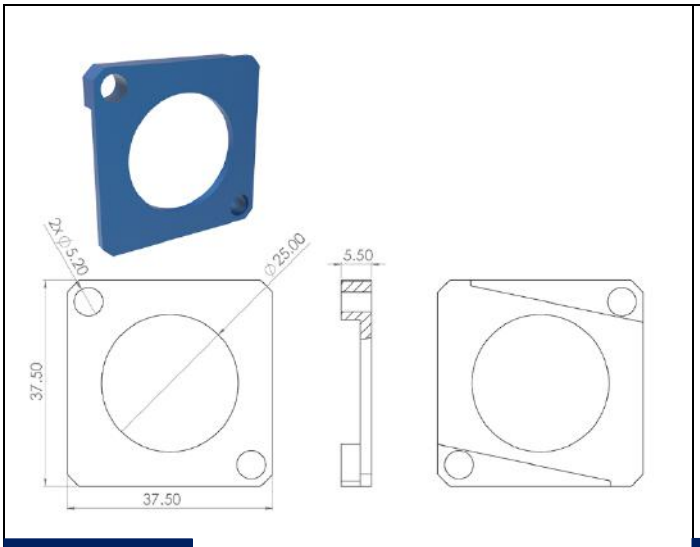
Blocking systems for safe tool change in driven tool holders for CNC lathes:

Improves drastically the safety of machine-tool operators and avoids potential injuries in the tool change or adjustment of tools in rotary tool holders (collet type). *Patent pending
Material: Steel

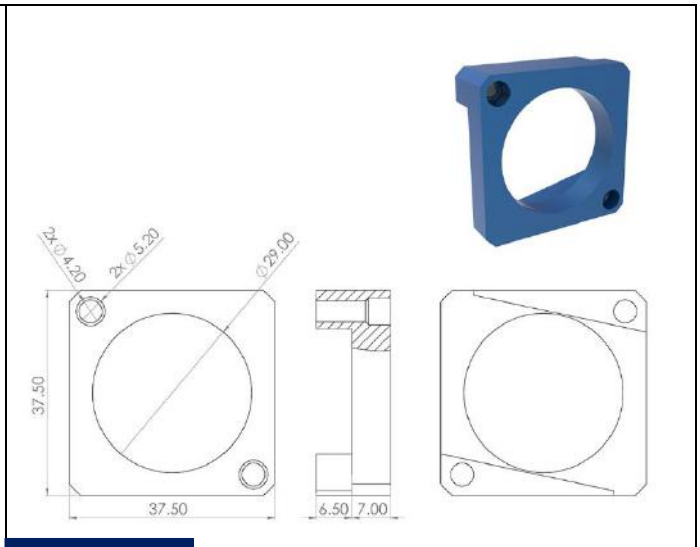
STAR

Ref.	Description
SP-BS-01-00	Blocking system for mounting in radial rotary tool holder ref. 331-50-00 with ER-16 collet in STAR lathes: ECAS-12/20, SB-12/20R, SR-20J/JN/SR-20RIII, SR-20RII, SR-20RIV, SR-32J/JN, SR-32JII-A, SR-32JII-B, SV-12, SV-20, SV-32, SV-32JII, SV-38R, SW-20. Includes fixation screws. Does not include locking key ER-16 ref. SP-BS-03-00.
SP-BS-01-01	Blocking system for mounting in radial rotary tool holder ref. 7.072.950 with ER-20 collet in STAR lathes: SR-20J/JN/SR-20RIII, SR-20RII, SR-20RIV, SR-32J/JN, SR-32JII-A, SR-32JII-B, SV-12, SV-20, SV-32, SV-32JII, SW-20. Includes fixation screws. Does not include locking key ER-20 ref. SP-BS-03-01.
SP-BS-01-02	Blocking system for mounting in radial rotary tool holder ref. 571-55-00 or ref. 7.073.789 with ER-16 collet in STAR lathes: ECAS-12/20, ECAS-32T, SB-12/20R, SR-20J/JN/SR-20RIII, SR-20RII, SR-20RIV, SV-38R, SW-20. Includes fixation screws. Does not include locking key ER-16 ref. SP-BS-03-00.
SP-BS-01-03	Blocking system for mounting in back side tool holders ref. 0R1-61 with ER-16 collet in STAR lathes: SB-12/20R, SR-32JII-A, SR-32JII-B, SR-38 (Type A/B), SV-20R, SW-12RII, SW-20. Includes fixation screws. Does not include locking key ER-16 ref. SP-BS-03-02.
SP-BS-01-04	Blocking system for mounting in back side tool holders ref. 571-61-00 with ER-16 collet in STAR lathes: ECAS12/20, SB-12/20R, SR-20J/JN, SR-20RIII, SR-20RII, SR-20RIV, SR-32J/JN, SR-32JII-A, SW-12RII. Includes fixation screws. Does not include locking key ER-16 ref. SP-BS-03-03.
SP-BS-01-05	Blocking system for mounting in standard triple radial rotary tool holder (non-cartridge type) with ER-16 collet in main tool post of STAR lathes: SR-20J/JN/SR-20RIII, SR-20RII, SR-20RIV, SR-32J/JN, SR-32JII-A, SR-32JII-B. Includes fixation screws. Does not include locking key ER-16 ref. SP-BS-03-04. Note: SP-BS-01-05 interferes with SP-BS-01-00 with 331-50-00 tool holder if mounted in the adjacent position. We suggest installing instead SP-BS-01-02 with tool holder 571-50-00.

Ref.	Description
SP-BS-03-00	Blocking key for ER-16 collet for SP-BS-01-00/02
SP-BS-03-01	Blocking key for ER-20 collet for SP-BS-01-01
SP-BS-03-02	Blocking key for ER-16 collet for SP-BS-01-03
SP-BS-03-03	Blocking key for ER-16 collet for SP-BS-01-04
SP-BS-03-04	Blocking key for ER-16 collet for SP-BS-01-05

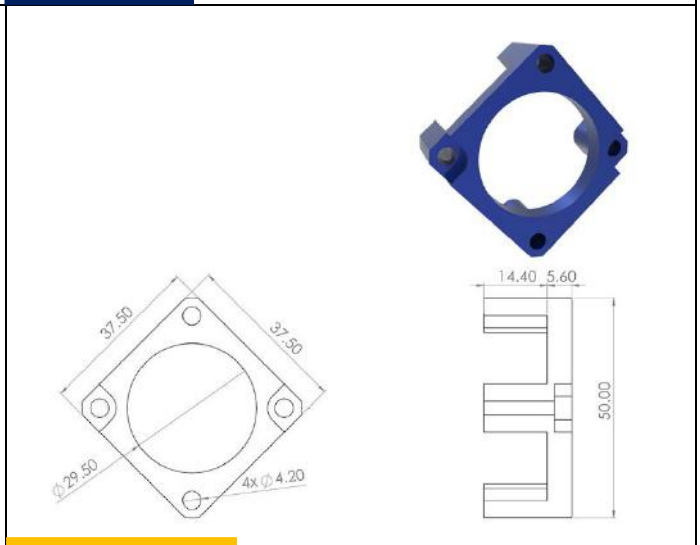


SP-BS-01-00

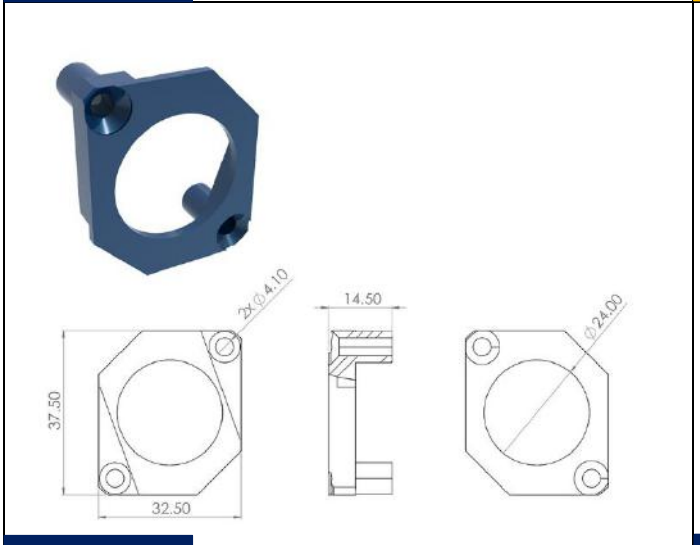


SP-BS-01-01

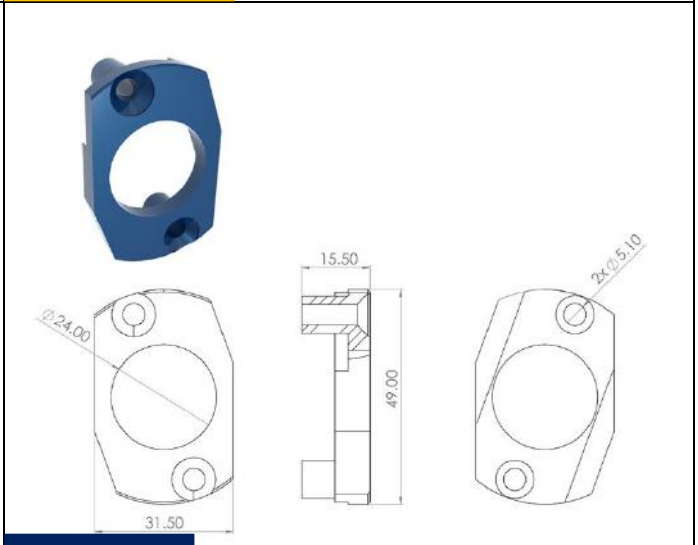
SP-BS-01-02



***SP-BS-01-02-01**

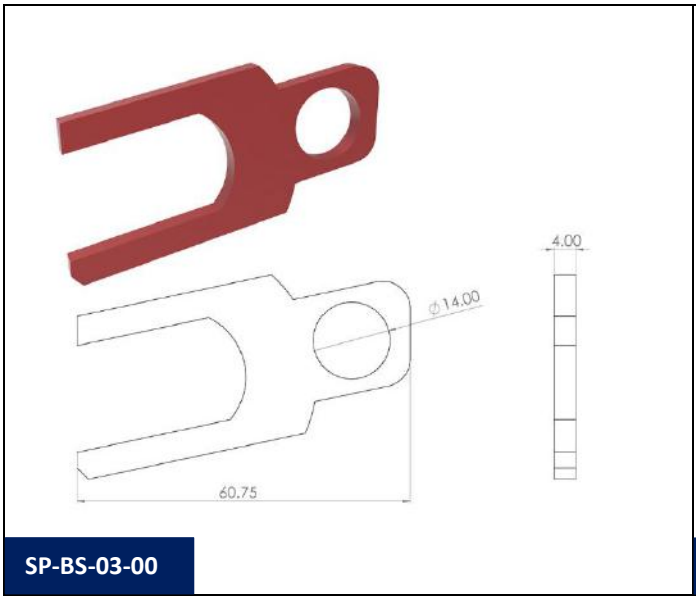


SP-BS-01-03

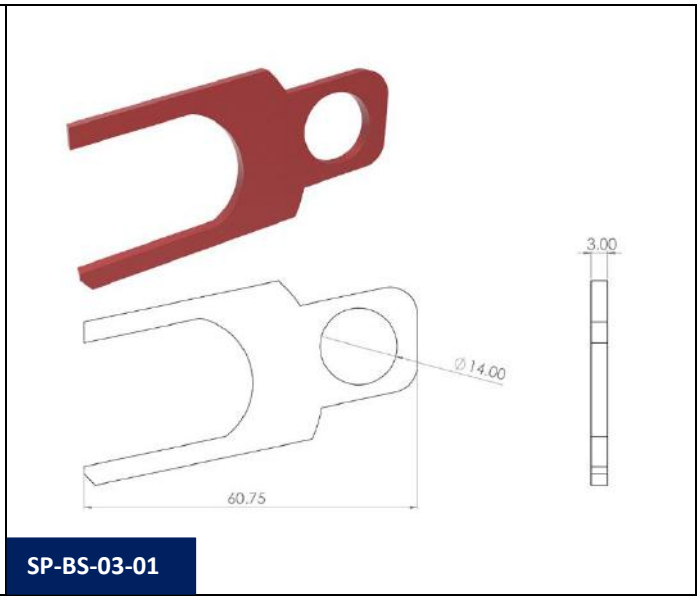


SP-BS-01-04

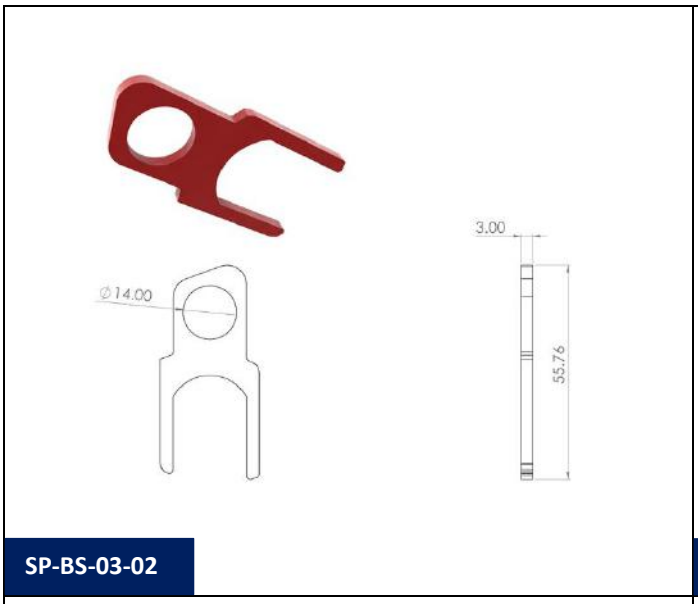
SP-BS-01-05



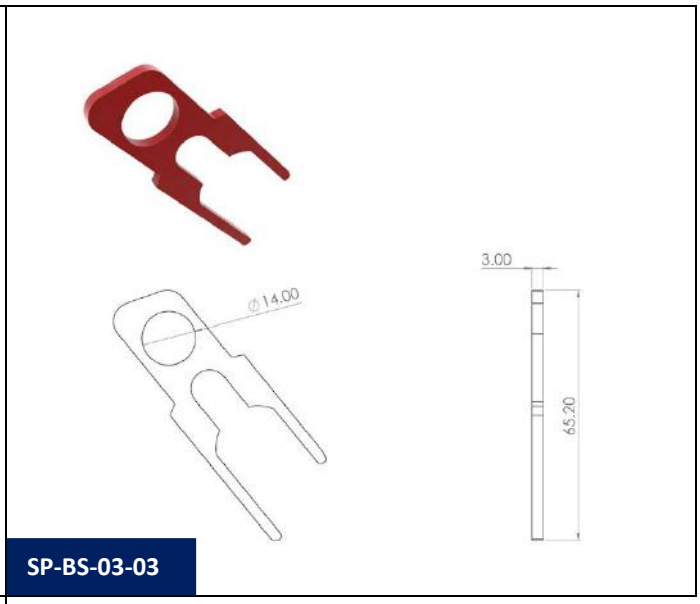
SP-BS-03-00



SP-BS-03-01



SP-BS-03-02



SP-BS-03-03

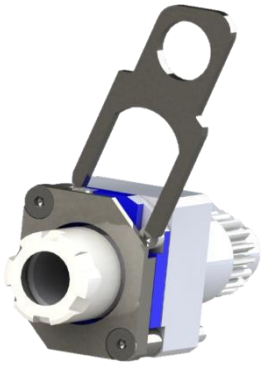
SP-BS-03-04

SP-BS-01-00 + SP-BS-03-00

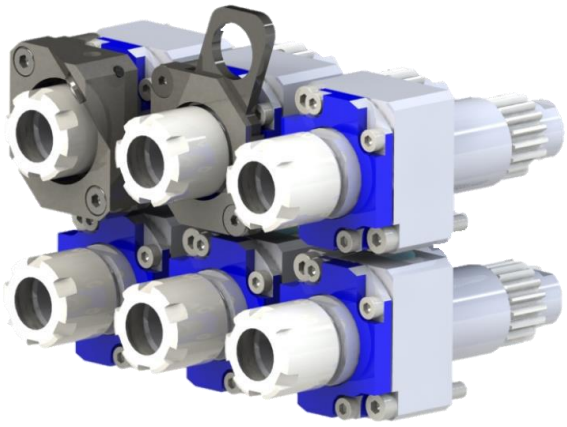
SP-BS-01-00 + SP-BS-03-00 Mounted on a STAR 331-50-00 rotary tool holder

SP-BS-01-02 + SP-BS-03-00

SP-BS-01-03 + SP-BS-03-02

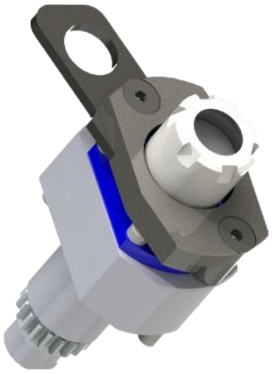


SP-BS-01-03 + SP-BS-03-02 Mounted on a STAR 0R1-61 rotary tool holder



Back tool post of a STAR SW-12RII with SP-BS-01-03 + SP-BS-03-02 mounted on 0R1-61 rotary tool holder

SP-BS-01-04 + SP-BS-03-03



SP-BS-01-04 + SP-BS-03-03 Mounted on a STAR 571-61-00 rotary tool holder

Back tool post of a STAR SB-20R with SP-BS-01-04 + SP-BS-03-03 mounted on 571-61-00 rotary tool holder

SP-BS-01-05 + SP-BS-03-04

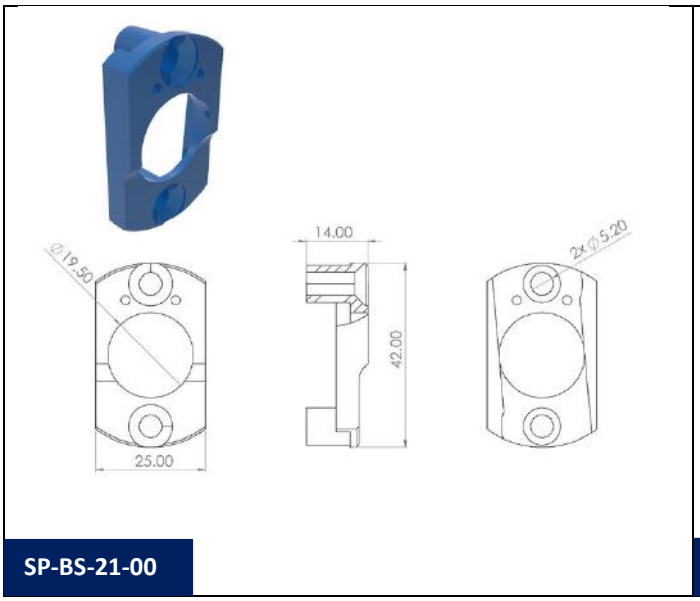
SP-BS-01-05 + SP-BS-03-04 blocking the middle non-cartridge type rotary tool holder in the main tool post STAR SR-20 / 32

SP-BS-01-05 + SP-BS-03-04 blocking the lower non-cartridge rotary tool holder in the main tool post STAR SR-20 / 32

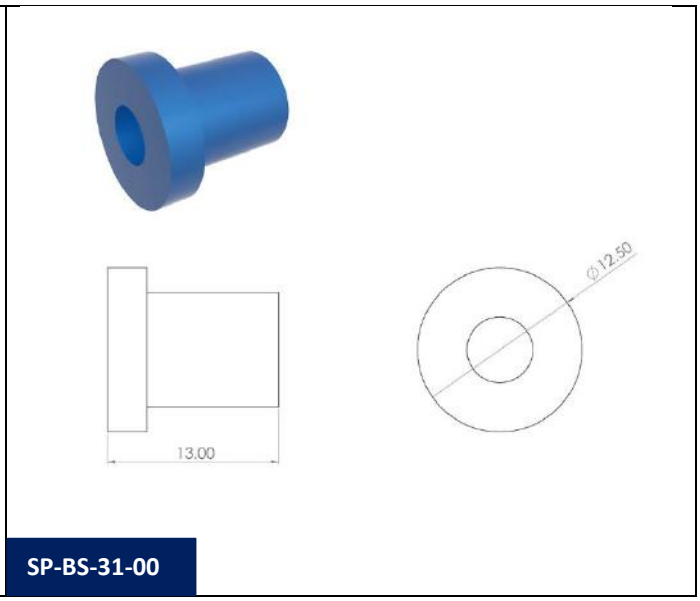
CITIZEN

Ref.	Description
SP-BS-21-00	Blocking system for mounting in radial rotary tool holder in main gang ref. GSC-807 with ER-11 collet in CITIZEN lathe K12/16E. Includes fixation screws. Does not include locking key ER-11 ref. SP-BS-23-00.
SP-BS-31-00	Blocking system with lock pin for mounting in radial rotary tool holder in main gang ref. GSC-807 with ER-11 collet in CITIZEN lathe K12/16E. Includes fixation screw. Does not include locking key ER-11 ref. SP-BS-33-00.

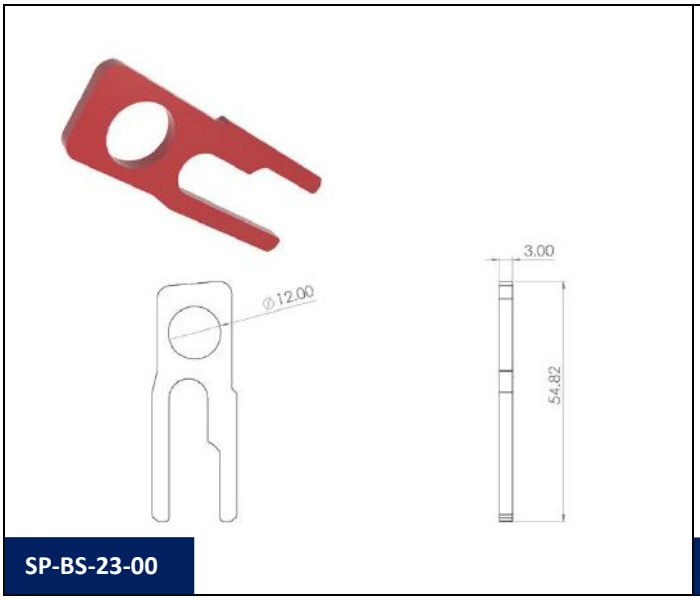
Ref.	Description
SP-BS-23-00	Blocking key for ER-11 collet for SP-BS-21-00
SP-BS-33-00	Blocking key for ER-11 collet for SP-BS-31-00



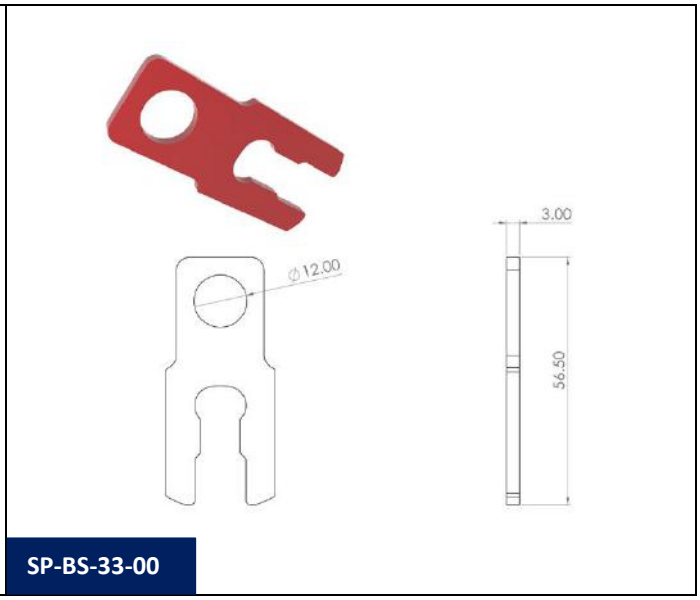
SP-BS-21-00



SP-BS-31-00



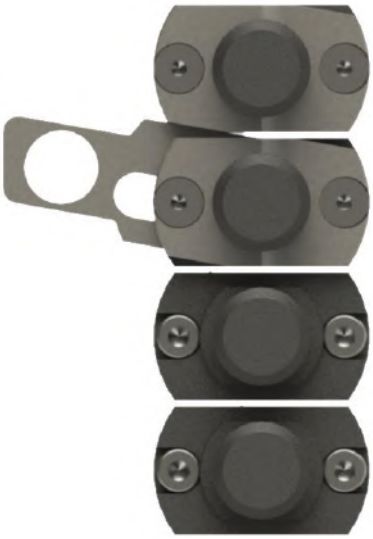
SP-BS-23-00



SP-BS-33-00

SP-BS-21-00 + SP-BS-23-00

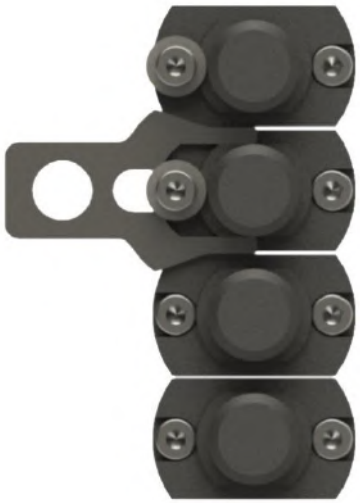
SP-BS-21-00 + SP-BS-23-00 Mounted on a CITIZEN GSC-807 rotary tool holder



Main tool post of a CITIZEN K12/16E with SP-BS-21-00 + SP-BS-23-00 mounted on GSC-807 rotary tool holder

SP-BS-31-00 + SP-BS-33-00

SP-BS-31-00 + SP-BS-33-00 Mounted on a CITIZEN GSC-807 rotary tool holder



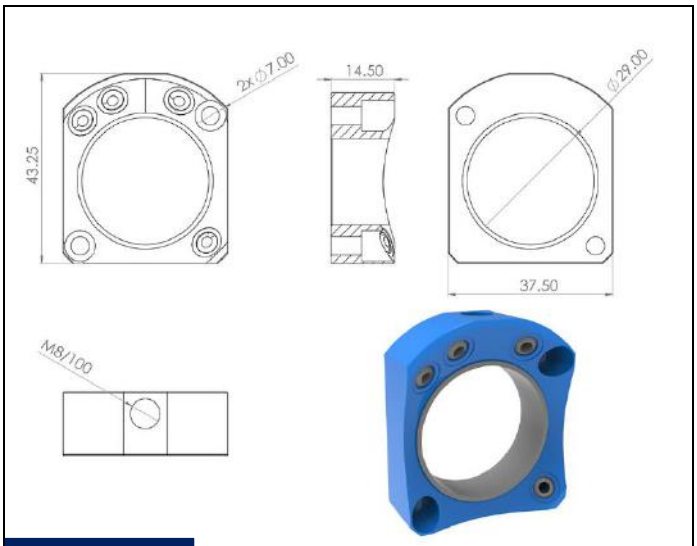
Main tool post of a CITIZEN K12/16E with SP-BS-31-00 + SP-BS-33-00 mounted on GSC-807 rotary tool holder

Coolant distribution rings for fixed and driven tool holders in CNC lathes:

The coolant flow can be easily and efficiently oriented towards the cutting edge of the tools mounted in the driven tool holders.
To be assembled on top of the Blocking system for safe tool change ref. SP-BS-01-XX.
Material: Aluminum or Steel depending on model.

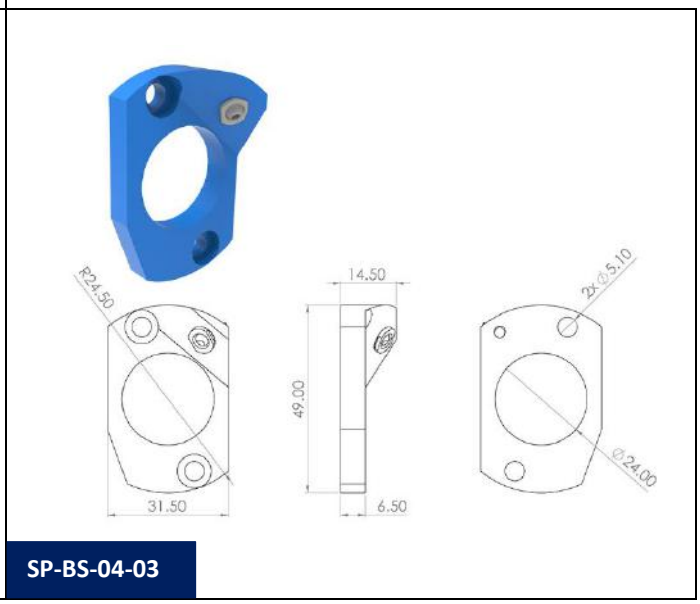
STAR

Ref.	Description
SP-BS-04-00	Coolant distribution ring with inlet M8x1(F) and maximum 4 orientable ball-type nozzle outlets with ID:2 mm. To be mounted in STAR lathes: 1. Radial driven tool holder ref. 331-50-00 with ER-16 collet. 2. Radial driven tool holder ref. 7.072.950 with ER-20 collet 3. Radial driven tool holder ref. 571-55-00 or ref. 7.073.789 with ER-16 collet. Requires the following Blocking systems as a base for assembly. For 1. ref. SP-BS-01-00, for 2. ref. SP-BS-01-01 and for 3. ref. SP-BS-01-02. Does not include Wrench for locking/unlocking coolant ball-type nozzle ref. SP-BS-05-00 or Pin for orienting the ball-type nozzle ref. SP-BS-05-01.
SP-BS-04-02	Coolant distribution ring with inlet M6x1(F) and 1 orientable ball-type nozzle outlet with ID:2 mm. To be mounted in STAR lathes: ● Back post driven tool holder ref. 0R1-61 with ER-16 collet. Requires Blocking system ref. SP-BS-01-03 as a base for assembly. Does not include Wrench for locking/unlocking coolant ball-type nozzle ref. SP-BS-05-00 or Pin for orienting the ball-type nozzle ref. SP-BS-05-01.
SP-BS-04-03	Coolant distribution ring with inlet M6x1(F) and 1 orientable ball-type nozzle outlets with ID:2 mm. To be mounted in STAR lathes: ● Back post driven tool holder ref. 571-61-00 with ER-16 collet. Requires Blocking system ref. SP-BS-01-04 as a base for assembly. Does not include Wrench for locking/unlocking coolant ball-type nozzle ref. SP-BS-05-00 or Pin for orienting the ball-type nozzle ref. SP-BS-05-01.



SP-BS-04-00

SP-BS-04-02



SP-BS-04-03

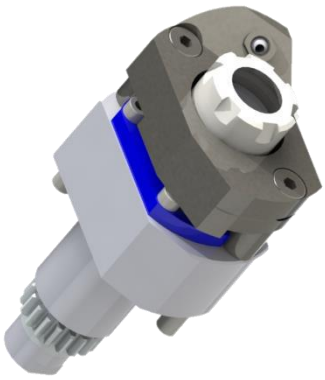
SP-BS-04-00

SP-BS-04-00 + SP-BS-01-00 + SP-BS-03-00 + MICRO program banjo and flexible tube

SP-BS-04-02

SP-BS-04-02 + SP-BS-01-03

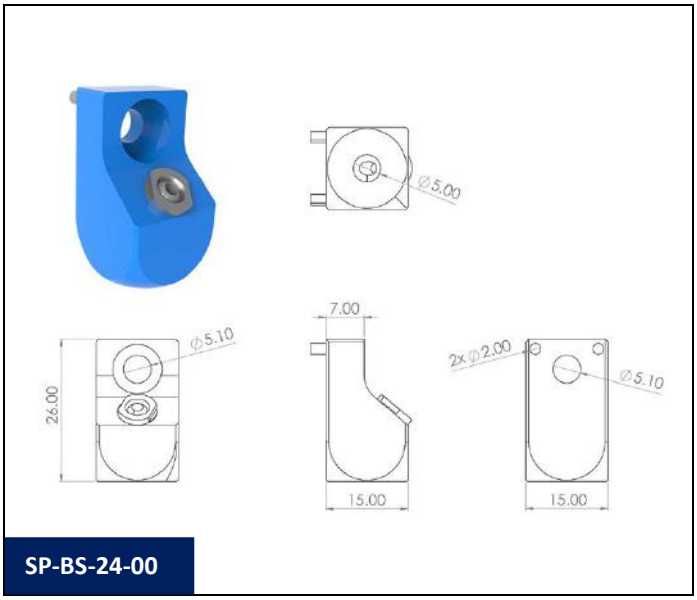
SP-BS-04-03



SP-BS-04-03 + SP-BS-01-04

CITIZEN

Ref.	Description
SP-BS-24-00	Coolant distribution ring with inlet M6x1(F) and 1 orientable ball-type nozzle outlets with ID:2 mm. To be mounted in CITIZEN lathe: ● Radial driven tool holder in main gang ref. GSC-807 with ER-11 collet. Requires Blocking system ref. SP-BS-21-00 as a base for assembly. Does not include Wrench for locking/unlocking coolant ball-type nozzle ref. SP-BS-05-00 or Pin for orienting the ball-type nozzle ref. SP-BS-05-01.



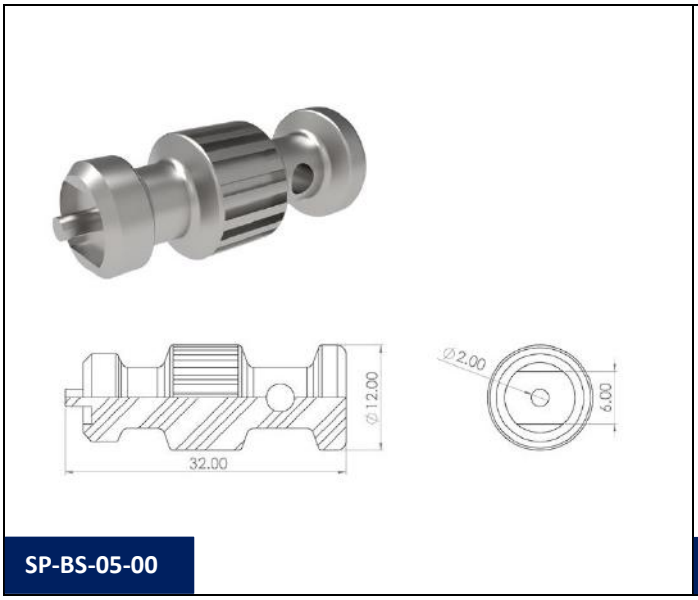
SP-BS-24-00

SP-BS-24-00

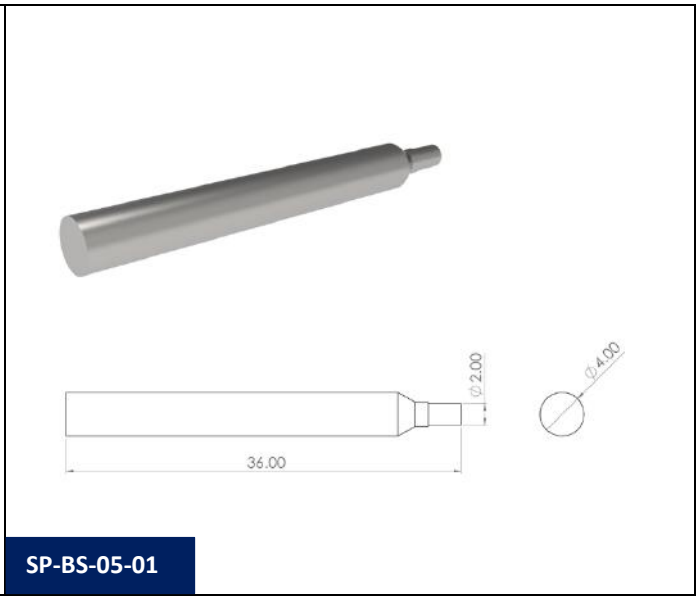
SP-BS-24-00 + SP-BS-21-00

TOOLING

Ref.	Description
SP-BS-05-00	Wrench for locking/unlocking the adjustable ball-type nozzle of the coolant distribution rings ref. SP-BS-04-00/01/02/03 SP-BS-24-00
SP-BS-05-01	Pin for orienting the adjustable ball-type nozzle of the coolant distribution rings ref. SP-BS-04-00/01/02/03 and SP-BS-24-00



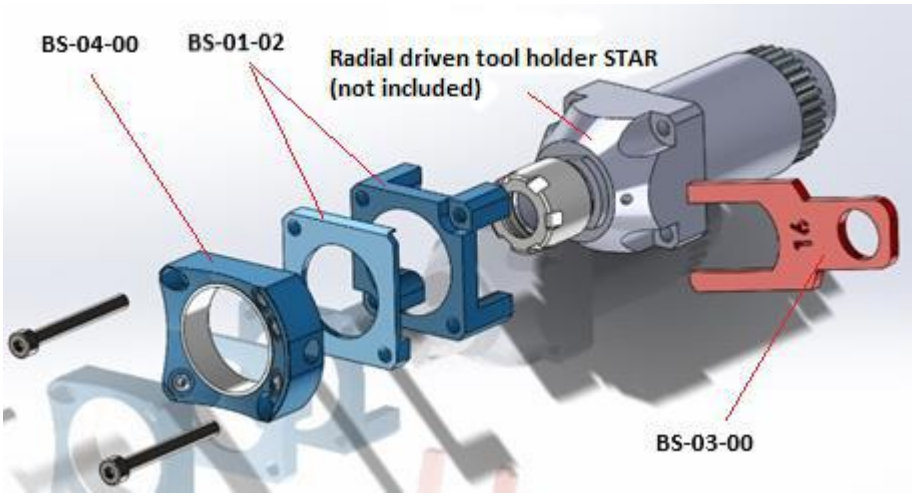
SP-BS-05-00



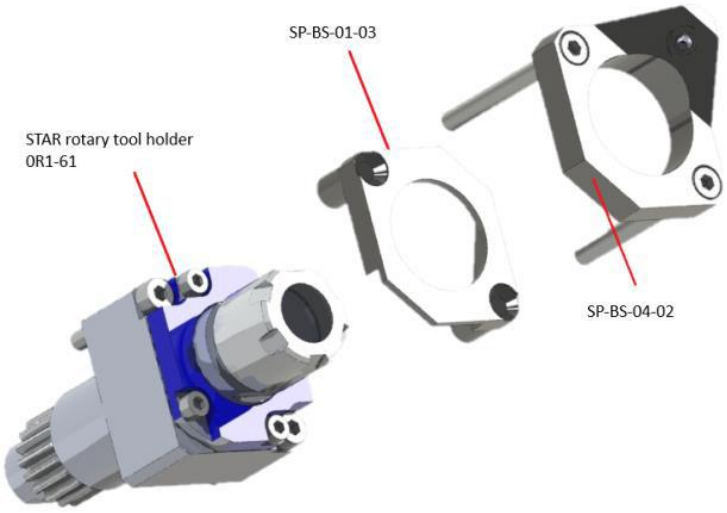
SP-BS-05-01

EXAMPLE OF ASSEMBLY:

Blocking systems for safe tool change and coolant distribution ring for driven tool holders.



SP-BS-04-00: Coolant distribution ring with inlet M8x1(F) and 4 orientable ball-type nozzle outlets
SP-BS-01-02: Blocking system for radial driven tool holder ref. 571-55-00 or ref. 7.073.789 with ER-16 Collet for STAR lathe
SP-BS-03-00: Blocking key for ER-16 collet



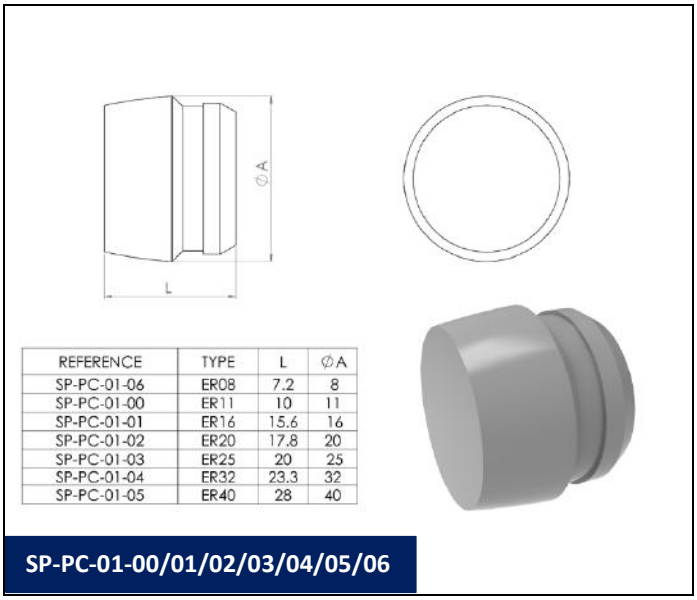
SP-BS-04-02: Coolant distribution ring with inlet M6x1(F) and 1 orientable ball-type nozzle outlet
SP-BS-01-03: Blocking system for driven tool holder ref. 0R1-61 with ER-16 Collet for STAR lathe
SP-BS-03-02: Blocking key for ER-16 collet (not shown in the drawing)

SP-BS-04-03: Coolant distribution ring with inlet M6x1(F) and 1 orientable ball-type nozzle outlet
SP-BS-01-04: Blocking system for driven tool holder ref. 571-61-00 with ER-16
Collet for STAR lathe
SP-BS-03-03: Blocking key for ER-16 collet (not shown in the drawing)

Protective covers for ER-collet tool holders:

Protects against undesired coolant, chips or dirt ingress into driven or fixed tool holders with ER-collet clamping system, especially when mounted in the machine and not in use.
Material: White polyamide.

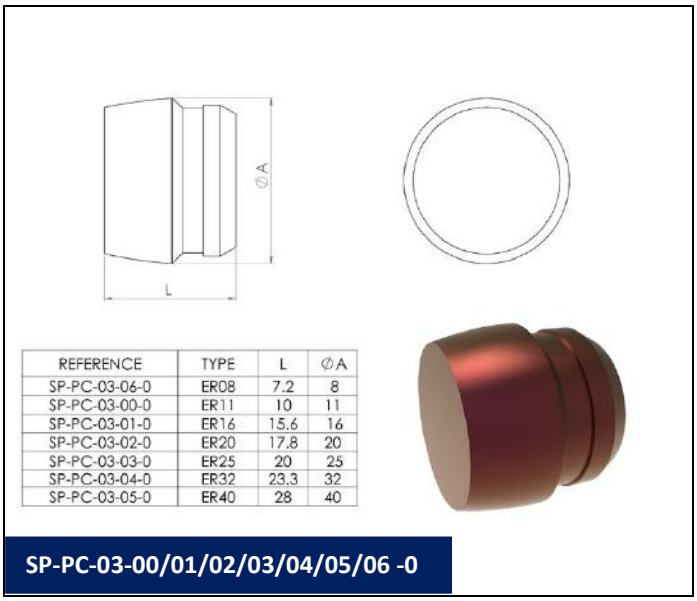
Ref.	Description
SP-PC-01-00	Protective cover in white polyamide for tool holder with collet type ER-11
SP-PC-01-01	Protective cover in white polyamide for tool holder with collet type ER-16
SP-PC-01-02	Protective cover in white polyamide for tool holder with collet type ER-20
SP-PC-01-03	Protective cover in white polyamide for tool holder with collet type ER-25
SP-PC-01-04	Protective cover in white polyamide for tool holder with collet type ER-32
SP-PC-01-05	Protective cover in white polyamide for tool holder with collet type ER-40
SP-PC-01-06	Protective cover in white polyamide for tool holder with collet type ER-8



SP-PC-01-00/01/02/03/04/05/06

Protects against undesired coolant, chips or dirt ingress into driven or fixed tool holders with ER-collet clamping system, especially when mounted in the machine and not in use.
Material: Red anodized aluminum.

Ref.	Description
SP-PC-03-00-0	Protective cover in red anodized aluminum. for tool holder with collet type ER-11
SP-PC-03-01-0	Protective cover in red anodized aluminum for tool holder with collet type ER-16
SP-PC-03-02-0	Protective cover in red anodized aluminum for tool holder with collet type ER-20
SP-PC-03-03-0	Protective cover in red anodized aluminum for tool holder with collet type ER-25
SP-PC-03-04-0	Protective cover in red anodized aluminum for tool holder with collet type ER-32
SP-PC-03-05-0	Protective cover in red anodized aluminum for tool holder with collet type ER-40
SP-PC-03-06-0	Protective cover in red anodized aluminum for tool holder with collet type ER-8

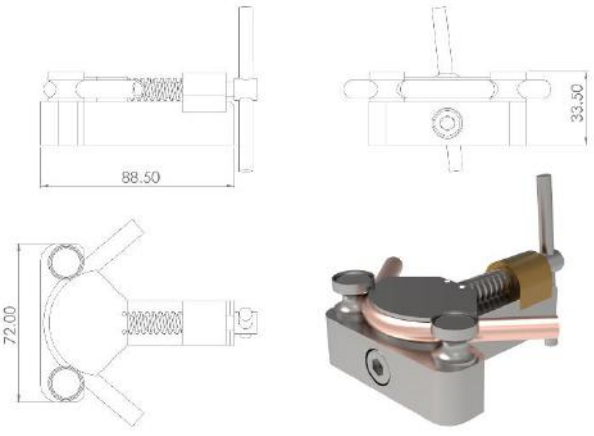


SP-PC-03-00/01/02/03/04/05/06 -0

Manual tool for accurate bending of coolant tubes:

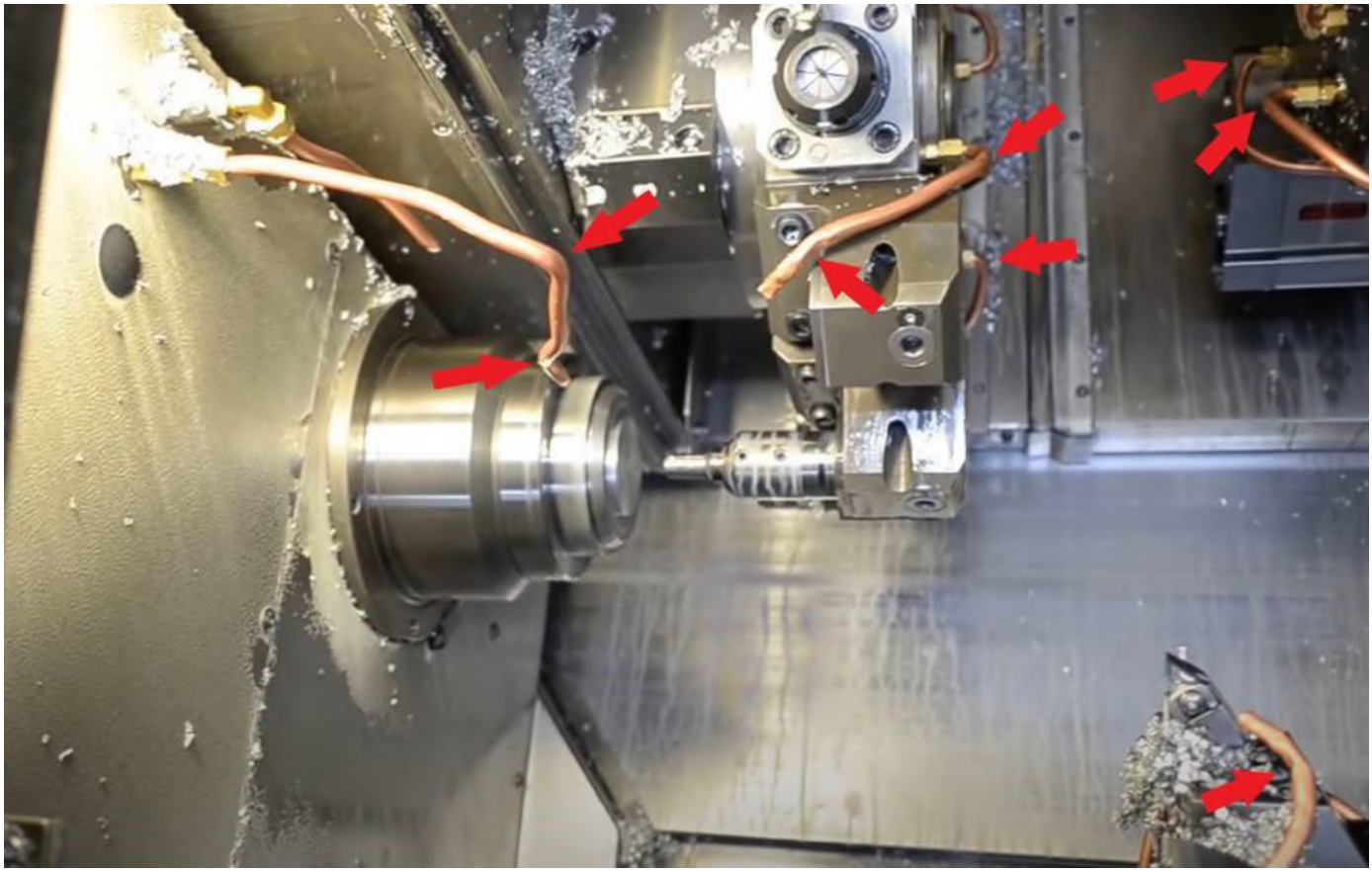
The SCS manual tube bending tool improves drastically the bending precision, thus avoiding undesired strangling of steel or copper coolant tubes and reducing the minimum bending radius.
In combination with the copper or steel tube adaptors from the HECTO program, it allows the use of quick connection fittings and all the range of nozzles, bringing efficiency of traditional coolant tubes to a new dimension.
Ideal for use with steel or copper tubes with an outer diameter of 8 mm and a wall thickness of 1 mm.

Ref.	Description
SP-BT-01-00	Manual tool for precision bending of copper or steel coolant tubes OD:8 mm with a wall thickness of 1 mm.

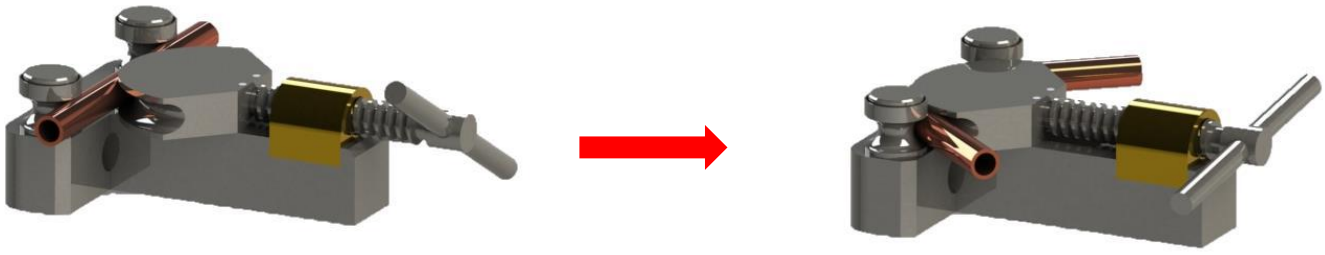


SP-BT-01-00

The problem:



The solution:



4.MACHINE KITS. COMPLETE PRE-ASSEMBLED PARTS READY TO INSTALL IN MACHINES OR TOOL HOLDERS

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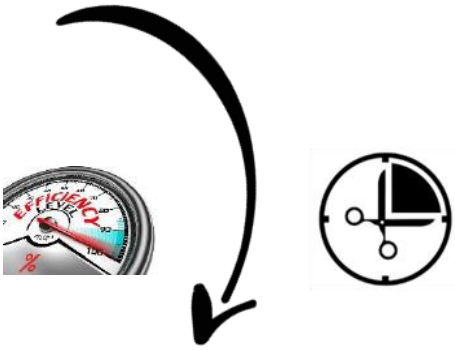
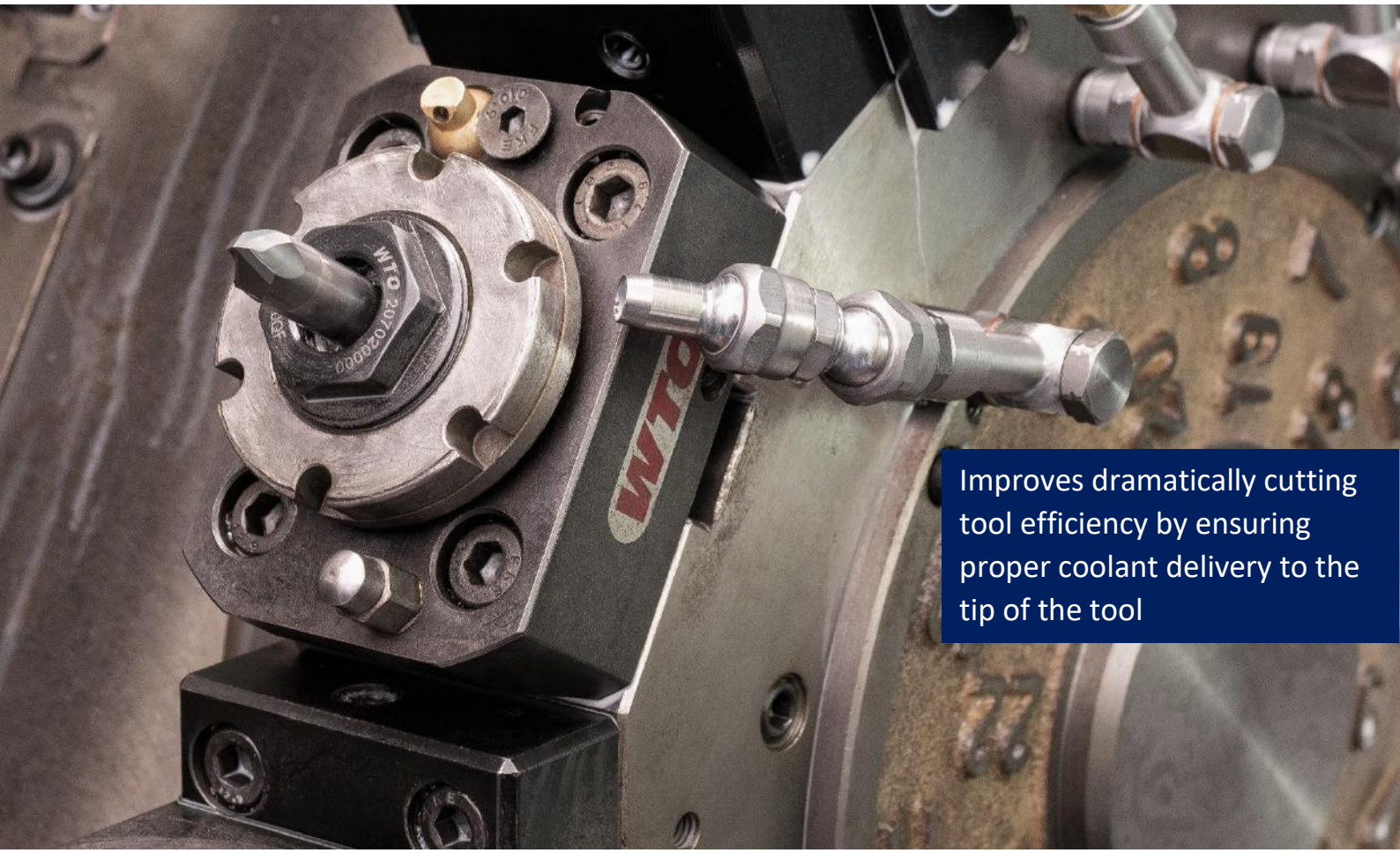
MACHINE KITS. PRE-ASSEMBLED PARTS READY TO INSTALL IN MACHINES OR TOOL HOLDERS IMPROVING REALIABILITY AND EFFICIENCY OF COOLANT DELIVERY

Complete sets of articulated steel tubes to substitute traditional plastic tubes installed in the machine which cannot withstand coolant pressure. Pre-defined kits for top selling machines and possibility of customized solutions with basic information and a photograph of existing plastic tubing to substitute.

Kits for turret disc mounting to improve cooling to the tool holders and kits for tool holders, both driven and fixed with ball type adaptors and complete range of nozzles. No need for copper tubes with inconsistent bending and non-existing nozzle.



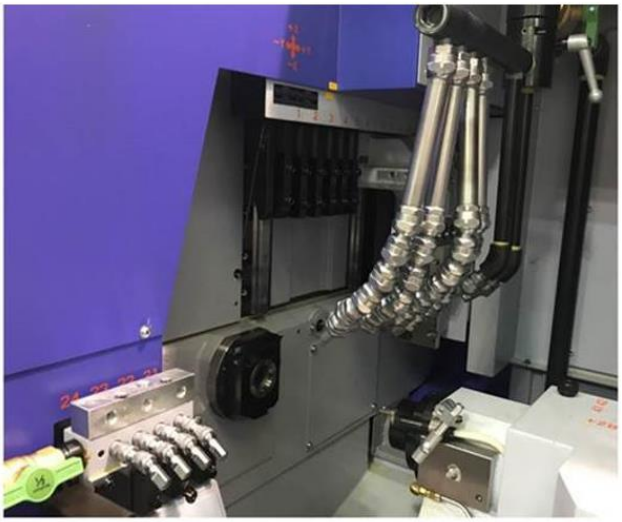


Example: STAR SV-12/20/32 Series – Kit of articulated steel tubes

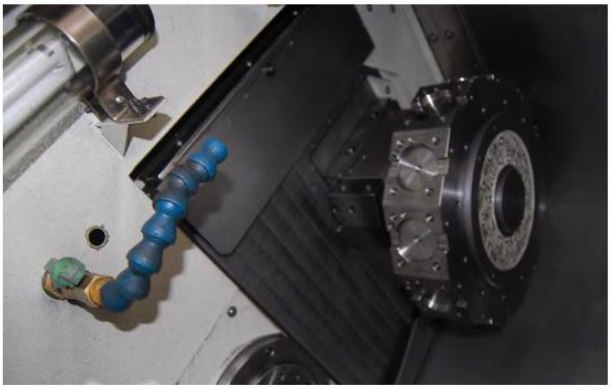
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
1	ME-IC-01-04	General cooling – Main and Subspindle	10x1	
2	ME-AC-01-00	General cooling – Main and Subspindle	10x6	
3	ME-AC-01-01	General cooling – Main and Subspindle	10x1	
4	ME-NZ-01-00	General cooling – Main and Subspindle	6x1	
5	ME-NZ-01-01	General cooling – Main and Subspindle	4x1	
6	ME-FK-01-00	Fastening keys	1x1	

BEFORE

AFTER

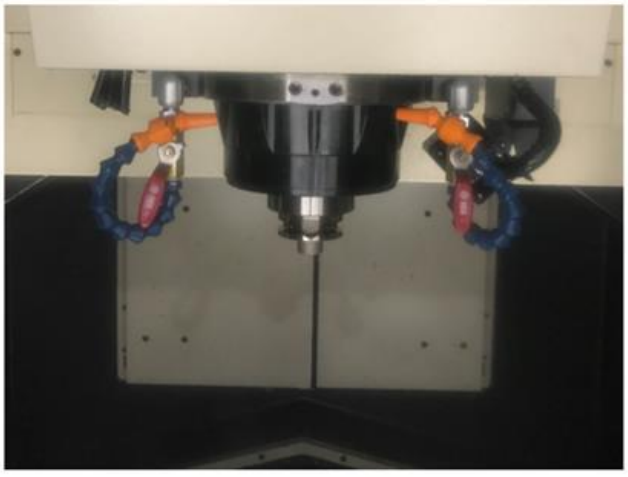


BEFORE



AFTER

BEFORE



AFTER

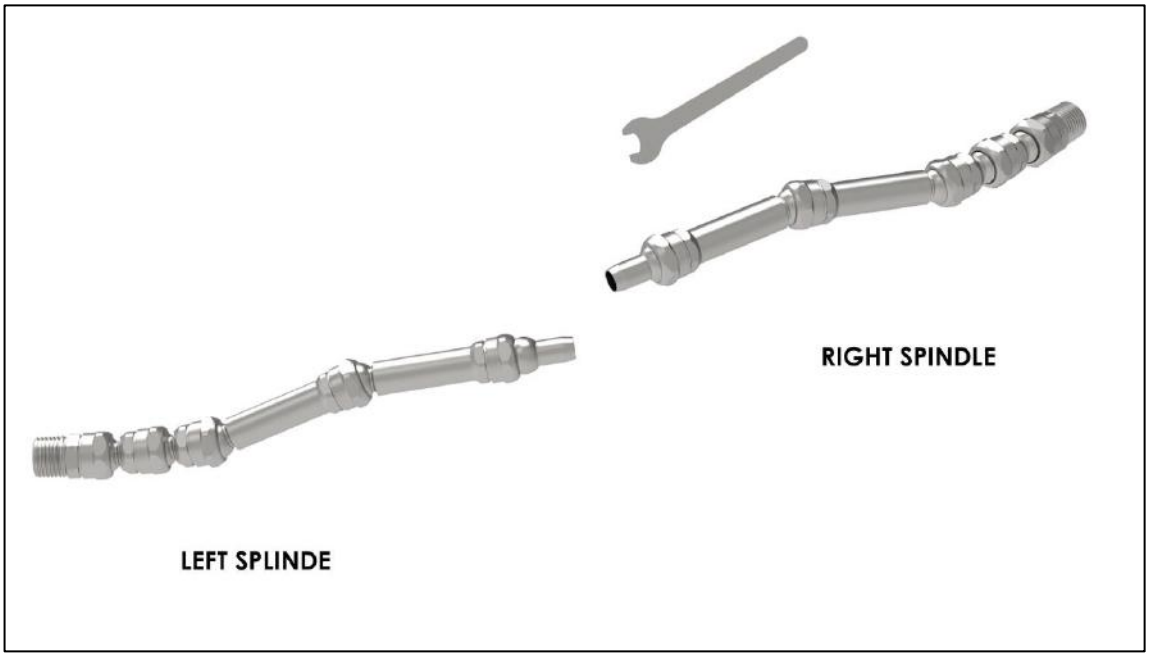
Kits for general cooling of machines:

To substitute plastic tubes with articulated steel tubes. Guarantees security in the positioning. Withholds the vibration and pressure of the coolant without losing position. Guarantees that the coolant will always be directed to the same point.

We can prepare kits for any machine, just send the pictures of existing plastic articulated tubes and connection thread to the machine and we will send a quotation.

NAKAMURA-TOME

Ref.	Description
MK-NT-01-00	Kit Single Outlet MEGA for main spindle or sub spindle for NAKAMURA lathes series AS-200, SC-100/150, WT-100/150 and WY-100/150.
MK-NT-01-01	Kit Single Outlet MEGA for main and sub spindle for NAKAMURA lathes series AS-200, SC-100/150, WT-100/150 and WY-100/150.
MK-NT-01-02	Kit Single Outlet GIGA for main and sub spindle for NAKAMURA lathes series SC-250/300, WT-250/300 and WY-250.
MK-NT-01-03	Kit Single Outlet GIGA for main and sub spindle for NAKAMURA lathes series SC-250/300, WT-250/300 and WY-250.

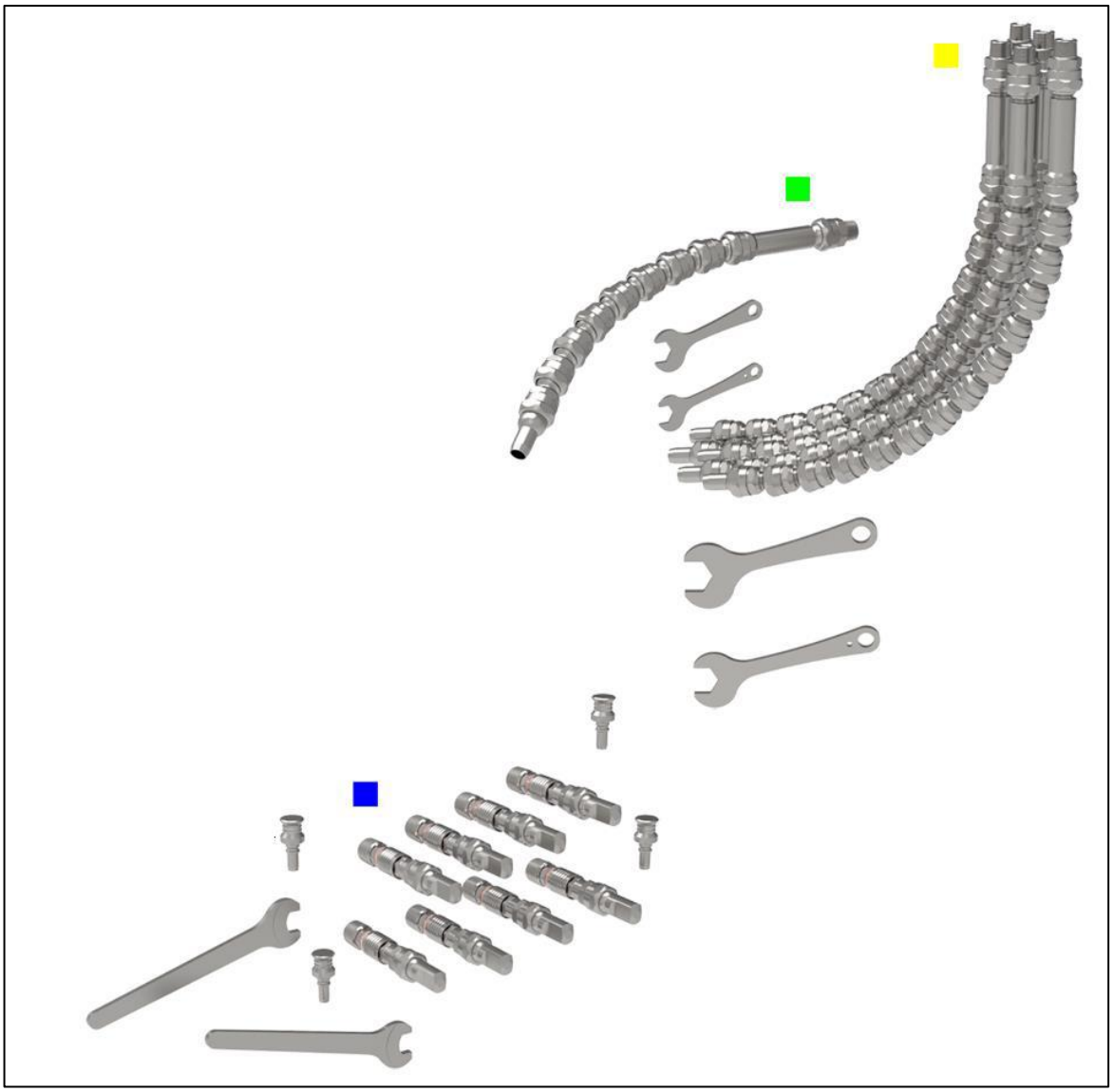


Example: MK-NT-01-01 - Kit of articulated steel tubes

STAR MICRONICS

Ref.	Description
MK-SM-01-00	Kit articulated steel tubes MEGA (6 tubes) + HECTO (4 tubes) for STAR SR-20J. General cooling and back tool post.
MK-SM-01-00-B	Kit articulated steel tubes MEGA (6 tubes) + HECTO (4 tubes) for STAR SR-20J. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-01	Kit articulated steel tubes MEGA (5 tubes) + HECTO (8 tubes) for STAR SR-20JII. General cooling and back tool post.
MK-SM-01-01-B	Kit articulated steel tubes MEGA (5 tubes) + HECTO (8 tubes) for STAR SR-20JII. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-02	Kit articulated steel tubes MEGA (6 tubes) + HECTO (8 tubes) for STAR SR-20R IV. General cooling and back tool post.
MK-SM-01-02-B	Kit articulated steel tubes MEGA (6 tubes) + HECTO (8 tubes) for STAR SR-20R IV. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-03	Kit articulated steel tubes MEGA (9 tubes) + HECTO (8 tubes) for STAR SR-38. General cooling and back tool post.
MK-SM-01-03-B	Kit articulated steel tubes MEGA (9 tubes) + HECTO (8 tubes) for STAR SR-38. General cooling and back tool post with quick connection fittings.
MK-SM-01-04	Kit articulated steel tubes MEGA (5 tubes) + HECTO (4 tubes) for STAR SR-32J. General cooling and back tool post.
MK-SM-01-04-B	Kit articulated steel tubes MEGA (5 tubes) + HECTO (4 tubes) for STAR SR-32J. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-05	Kit articulated steel tubes MEGA (10 tubes) for STAR SV-12/20/32. General cooling for main and sub spindle.
MK-SM-01-06	Kit articulated steel tubes MEGA (6 tubes) +HECTO (8 tubes) for STAR SW-12RII. General cooling and back tool post.
MK-SM-01-06-B	Kit articulated steel tubes MEGA (6 tubes) +HECTO (8 tubes) for STAR SW-12RII. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-07	Kit articulated steel tubes MEGA (7 tubes) + HECTO (4 tubes) for STAR SW-20. General cooling and back tool post.
MK-SM-01-07-B	Kit articulated steel tubes MEGA (7 tubes) + HECTO (4 tubes) for STAR SW-20. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-08	Kit articulated steel tubes MEGA (10 tubes) + HECTO (8 tubes) for STAR SV-20R. General cooling and back tool post.

Ref.	Description
MK-SM-01-08-B	Kit articulated steel tubes MEGA (10 tubes) + HECTO (8 tubes) for STAR SV-20R. General cooling and back tool post articulated tubes with quick connection fittings.
MK-SM-01-09	Kit articulated steel tubes MEGA (5 tubes) + HECTO (4 tubes) for STAR SB-20R. General cooling and back tool post.
MK-SM-01-10	Kit articulated steel tubes MEGA (3 tubes) + HECTO (4 tubes) for STAR SR-10J. General cooling main and sub spindle.
MK-SM-01-11	Kit articulated steel tubes MEGA (17 tubes) + HECTO (1 tube) for STAR ST-20 and ST-38. General cooling main and sub spindle.



Example: MK-SM-01-02-B - Kit of articulated steel tubes for STAR SR-20R IV with quick connectors fittings for the articulated steel tubes mounted in the back-tool post.

CITIZEN

Ref.	Description
MK-CI-01-00	Kit articulated steel tubes HECTO (5 tubes) for CITIZEN R04 & R07.
MK-CI-01-01	Kit articulated steel tubes HECTO (5 tubes) for CITIZEN B12/B16.
MK-CI-01-02	Kit articulated steel tubes HECTO (9 tubes) + MEGA (1 tube) for CITIZEN K12 & K16.
MK-CI-01-03	Kit articulated steel tubes MEGA (9 tubes) for CITIZEN A20 VII.
MK-CI-01-04	Kit articulated steel tubes HECTO (3 tubes) + MEGA (6 tubes) for CITIZEN A32.
MK-CI-01-05	Kit articulated steel tubes HECTO (9 tubes) for CITIZEN L12.
MK-CI-01-06	Kit articulated steel tubes HECTO (7 tubes) for CITIZEN L20.
MK-CI-01-07	Kit articulated steel tubes HECTO (4 tubes) + MEGA (6 tubes) for CITIZEN L20 X.
MK-CI-01-08	Kit articulated steel tubes HECTO (4 tubes) + MEGA (4 tubes) for CITIZEN L20 XII.
MK-CI-01-09	Kit articulated steel tubes HECTO (2 tubes) + MEGA (11 tubes) for CITIZEN M16 VIII.
MK-CI-01-10	Kit articulated steel tubes MEGA (14 tubes) for CITIZEN M32 V.
MK-CI-01-11	Kit articulated steel tubes MEGA (14 tubes) for CITIZEN M32 VIII.

Kits for tool holders: Articulated steel tubes

Articulated steel tubes to substitute brass nozzle ball or brass tube. Avoids wear and consequent mechanical slack as all parts are manufactured in steel. Provides a much better orientation of the nozzle and delivery of coolant. The complete range of nozzles in the SCS program can be used to optimize cooling.

Ref.	Description
MK-TH-01-00	Kit for stationary or driven tool holder. Initial connection: Ball Ø 10 mm. HECTO. (1 x HE-IC-02-00 + 4 x HE-AC-01-00 + 1x HE-NZ-01-00)
MK-TH-01-01	Kit for stationary or driven tool holder. Initial connection: Ball Ø 12 mm. HECTO. (1 x HE-IC-02-01 + 4 x HE-AC-01-00 + 1x HE-NZ-01-00)
MK-TH-01-02	Kit for stationary or driven tool holder. Initial connection: Ball Ø 14 mm. HECTO. (1 x HE-IC-02-02 + 4 x HE-AC-01-00 + 1x HE-NZ-01-00)
MK-TH-01-03	Kit for stationary or driven tool holder. Initial connection: Ball Ø 15 mm. HECTO. (1 x HE-IC-02-03 + 4 x HE-AC-01-00 + 1x HE-NZ-01-00)
MK-TH-01-04	Kit for stationary or driven tool holder. Initial connection: BSPP 1/8". HECTO. (1 x HE-IC-01-00 + 4 x HE-AC-01-00 + 1x HE-NZ-01-00)

MK-TH-01-04 – Kit mounted in a rotary tool holder with 4 articulated segments, straight nozzle ID:6 mm and BSPP 1/8” connection.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-02-00		1
2	HE-AC-01-00		4
3	HE-NZ-01-00		1

MK-TH-01-00

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-02-01		1
2	HE-AC-01-00		4
3	HE-NZ-01-00		1

MK-TH-01-01

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-02-02		1
2	HE-AC-01-00		4
3	HE-NZ-01-00		1

MK-TH-01-02

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-02-03		1
2	HE-AC-01-00		4
3	HE-NZ-01-00		1

MK-TH-01-03

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-IC-01-00		1
2	HE-AC-01-00		4
3	HE-NZ-01-00		1

MK-TH-01-04

Kits for general cooling: Steel nozzles and initial connection adaptable to copper or steel tubes

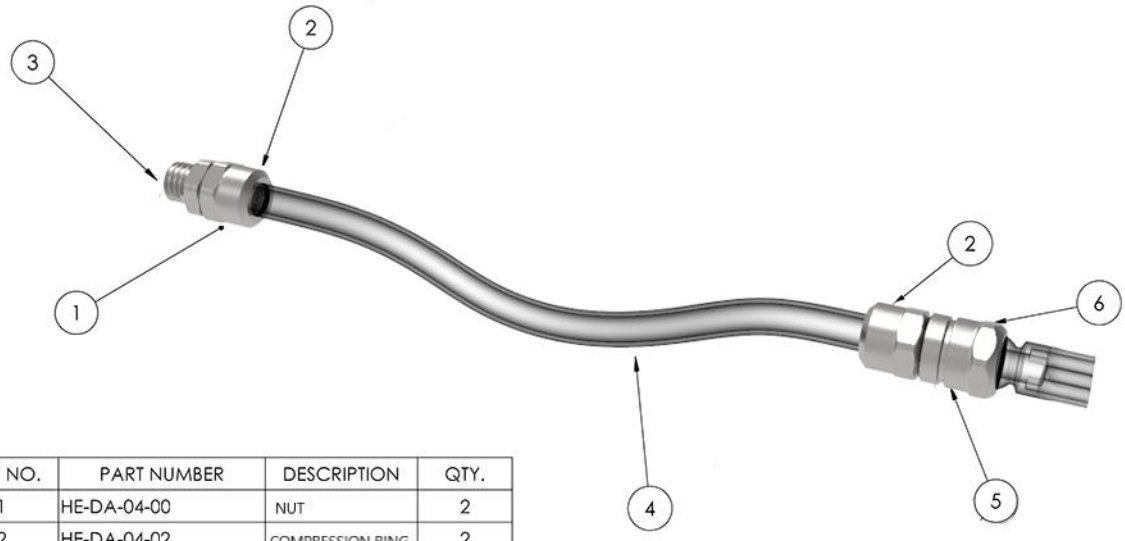
Steel nozzles from the HECTO or DECA (though hole 6 mm or 3 mm) family attached to copper or steel tubes take full advantage of precise coolant flow through machined nozzles with the flexibility and low-cost of widely used tubes. This solution represents a step forward in traditional cooling using copper or steel tubes in which the operator flattens the end of the tube with little or no guarantee on the exact flow and precision directing the coolant stream.

Additionally, any nozzle from the HECTO or DECA family can be used, thus optimizing cooling delivery. The connection to the tool holder can be done using fittings of the HECTO or DECA family. A low-cost solution which improves dramatically the coolant delivery on existing machines.

The SCS Manual tube bending tool ref. SP-BT-01-00 is highly recommended to ensure small and perfect radius bending without strangling the coolant tube (outer diameter 8 mm).

With no tube included (OD:8 mm ID:6 mm). Connecting parts only. HECTO.

Ref.	Description
MK-GC-01-00	**Basic kit for connecting tube OD:8 mm (steel or copper) with HECTO range of nozzles and initial connection BSPP1/8".** **For general cooling with any nozzle from the HECTO family:** **(Recommended to purchase HECTO system wrenches to avoid excessive torque ref. HE-FK-01-00)** ***Initial Connection:*** 1 unit HE-IC-03-00 BSPP 1/8"(M) to Nut for compression ring ID:8 mm HECTO. ***Parts for adapting OD:8 mm tube:*** 2 units HE-DA-04-00 Nut HECTO(H) to compression ring ID:8 mm. 2 units HE-DA-04-02 Compression ring ID:8 mm. HECTO. 1 unit HE-DA-04-01 Adaptor HECTO(M) to Nut for compression ring ID:8 mm.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-DA-04-00	NUT	2
2	HE-DA-04-02	COMPRESSION RING	2
3	HE-IC-03-00	BSPP1/8" - NUT	1
4	COPPER/STEEL TUBE	NOT INCLUDED	1
5	HE-DA-04-01	ADAPT. HECTO-NUT	1
6	HE-NZ-01-05	NOT INCLUDED	1

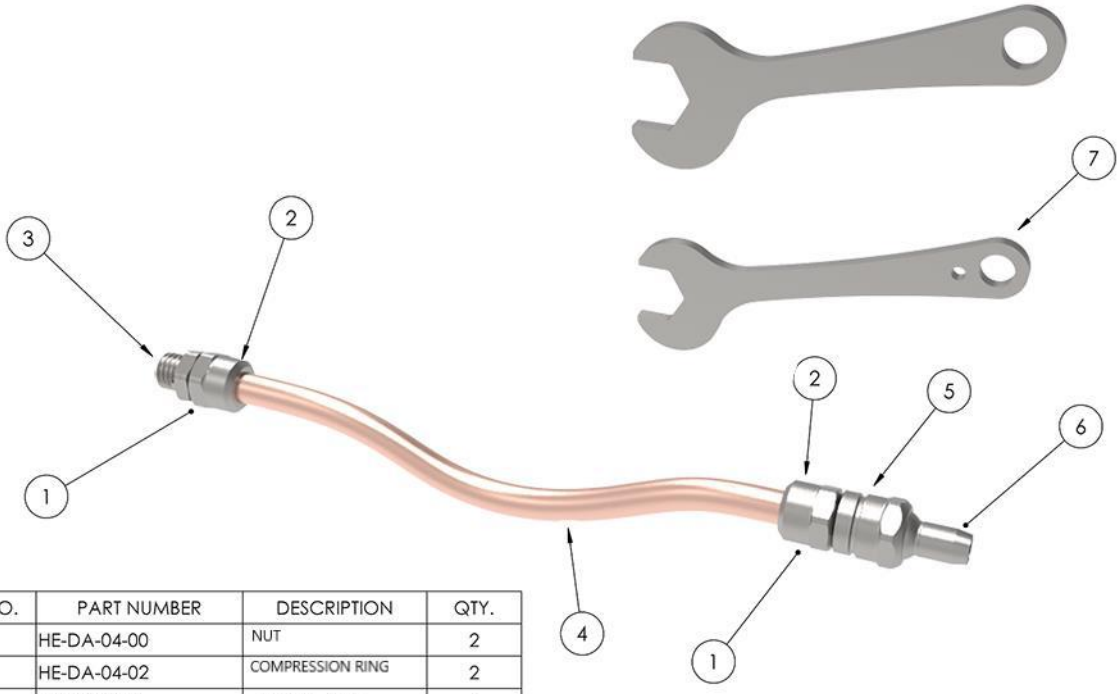
Tube OD:8 mm not included. Drawn just for better understanding of the functionality of the parts

Nozzle HE-NZ-01-05 not included

MK-GC-01-00

With Copper tube OD:8 mm ID:6 mm. HECTO.

Ref.	Description
MK-GC-02-00 (102mm copper tube) MK-GC-02-01 (152mm copper tube) MK-GC-02-02 (203mm copper tube) MK-GC-02-03 (305mm copper tube)	**Kit copper tube OD: 8 mm, ID:6 mm, L=4"/6"/8"/12" (102/152/203/305 mm), initial connection BSPP1/8" and HECTO nozzle:** **For general cooling with a single outlet L=4"/6"/8"/12" (102/152/203/305 mm).** ***Copper tube Kit OD: 8 mm HECTO:*** 1 unit. HE-DT-01-00/01/02/03 BSPP1/8"(M) thread, nut and compression ring, copper tube OD:8 mm, ID:6 mm and L:4"/6"/8"/12" (102/152/203/305 mm), other end with compression ring and HECTO(M) thread. ***Coolant nozzles:*** 1 unit HE-NZ-01-00 Straight nozzle. ID:6 mm & L:16 mm ***Fastening wrenches for the articulated system:*** 1 unit HE-FK-01-00 Wrenches for fastening the 2 hexagons used in the HECTO program. SW13 & SW15.



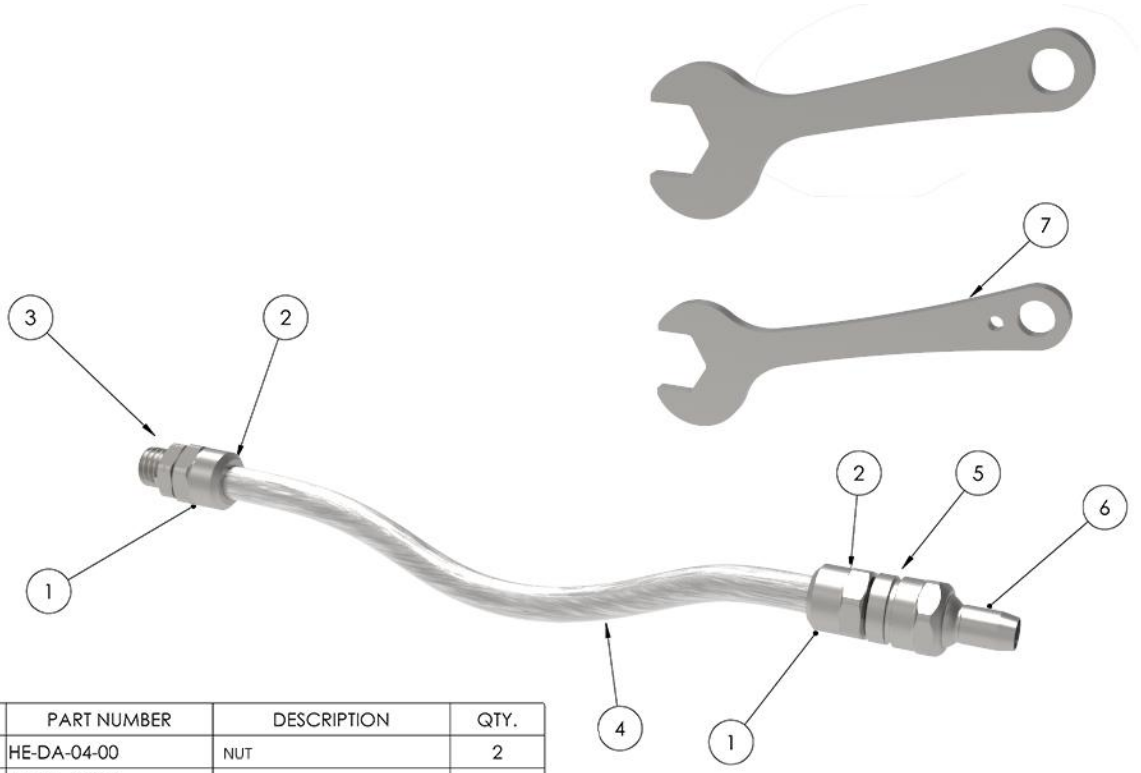
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-DA-04-00	NUT	2
2	HE-DA-04-02	COMPRESSION RING	2
3	HE-IC-03-00	BSPP1/8" - NUT	1
4	Copper tube	102/152/203/305 mm*	1
5	HE-DA-04-01	ADAPT. HECTO-NUT	1
6	HE-NZ-01-00	NOZZLE STRAIGHT	1
7	HE-FK-01-00	WRENCHES HECTO	1

*The copper tube can be cut and bended to the desired length and shape by the customer

MK-GC-02-00/01/02/03

With Steel tube OD:8 mm ID:6 mm. HECTO.

Ref.	Description
MK-GC-03-00 (102mm steel tube) MK-GC-03-01 (152mm steel tube) MK-GC-03-02 (203mm steel tube) MK-GC-03-03 (305mm steel tube)	**Kit steel tube OD: 8 mm, ID:6 mm, L=4"/6"/8"/12" (102/152/203/305 mm), initial connection BSPP1/8" and HECTO nozzle:** **For general cooling with a single outlet L=4"/6"/8"/12" (102/152/203/305 mm).** ***Steel tube Kit OD: 8 mm HECTO:*** 1 unit. HE-DT-02-00/01/02/03 BSPP1/8"(M) thread, nut and compression ring, steel tube OD:8 mm, ID:6 mm and L:4"/6"/8"/12" (102/152/203/305 mm), other end with compression ring and HECTO(M) thread. ***Coolant nozzles:*** 1 unit HE-NZ-01-00 Straight nozzle. ID:6 mm & L:16 mm ***Fastening wrenches for the articulated system:*** 1 unit HE-FK-01-00 Wrenches for fastening the 2 hexagons used in the HECTO program. SW13 & SW15.



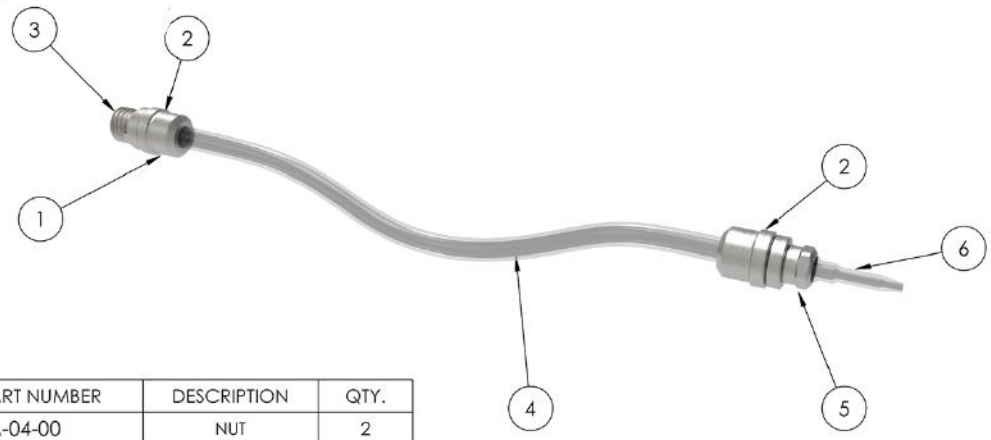
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HE-DA-04-00	NUT	2
2	HE-DA-04-02	COMPRESSION RING	
3	HE-IC-03-00	BPSPP1/8" - NUT	1
4	Steel tube	102/152/203/305 mm*	1
5	HE-DA-04-01	ADAPT.HECTO-NUT	1
6	HE-NZ-01-00	NOZZLE STRAIGHT	1
7	HE-FK-01-00	WRENCHES HECTO	1

*The steel tube can be cut and bended to the desired length and shape by the customer

MK-GC-03-00/01/02/03

With no tube included (OD:6 mm ID:4 mm). Connecting parts only. DECA.

Ref.	Description
MK-GC-11-00	**Basic kit for connecting tube OD:6 mm (steel or copper) with DECA range of nozzles and initial connection M8x1.** **For general cooling with any nozzle from the DECA family:** **(Recommended to purchase DECA system wrenches to avoid excessive torque ref. DE-FK-01-00)** ***Initial Connection:*** 1 unit DE-IC-03-00 M8x1(M) to Nut for compression ring ID:6 mm DECA. ***Parts for adapting OD:6 mm tube:*** 2 units DE-DA-04-00 Nut DECA(H) to compression ring ID:6 mm. 2 units DE-DA-04-02 Compression ring ID:6 mm. DECA. 1 unit DE-DA-04-01 Adaptor DECA(M) to Nut for compression ring ID:6 mm.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DE-DA-04-00	NUT	2
2	DE-DA-04-02	COMPRESSION RING	2
3	DE-IC-03-00	M8x1 to NUT	1
4	Cooper/Steel tube	Not included	1
5	DE-DA-04-01	ADAPT. DECA NUT	1
6	DE-NZ-01-04	Not included	1

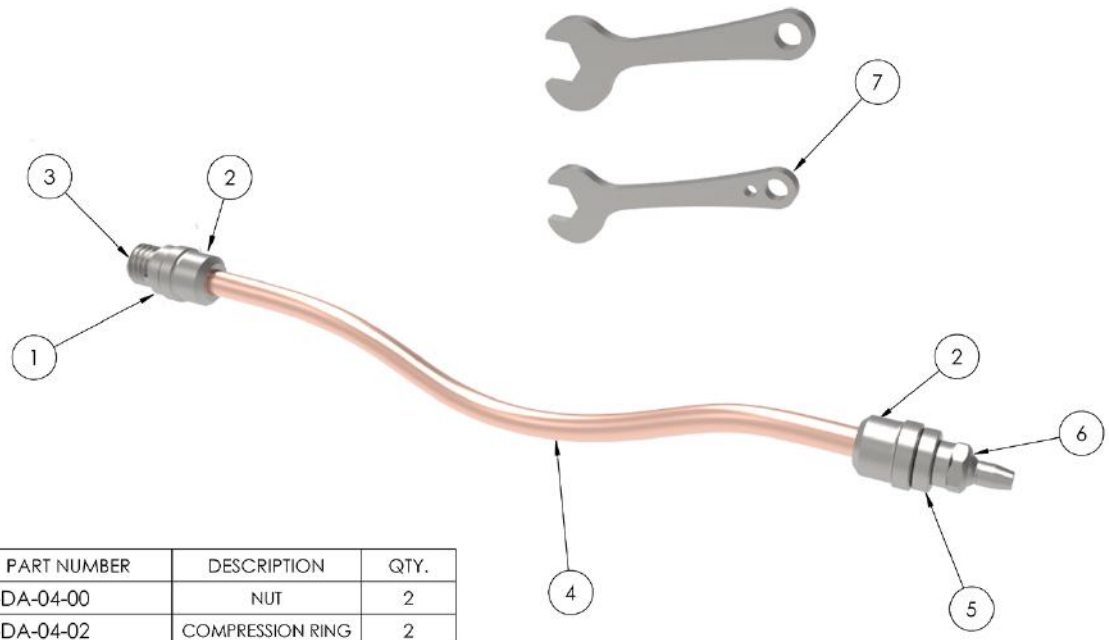
Tube OD: 6 mm not included. Drawn just for better understanding of the functionality of the parts

Nozzle DE-NZ-01-04 not included

MK-GC-11-00

With Copper tube OD:6 mm ID:4 mm. DECA.

Ref.	Description
MK-GC-12-00 (102mm copper tube) MK-GC-12-01 (152mm copper tube) MK-GC-12-02 (203mm copper tube) MK-GC-12-03 (305mm copper tube)	**Kit copper tube OD: 6 mm, ID:4 mm, L=4"/6"/8"/12" (102/152/203/305 mm), initial connection M8x1 and DECA nozzle:** **For general cooling with a single outlet L=4"/6"/8"/12" (102/152/203/305 mm).** ***Copper tube Kit OD: 6 mm DECA:*** 1 unit. DE-DT-01-00/01/02/03 M8x1(M) thread, nut and compression ring, copper tube OD:6 mm, ID:4 mm and L:4"/6"/8"/12" (102/152/203/305 mm), other end with compression ring and DECA(M) thread. ***Coolant nozzles:*** 1 unit DE-NZ-01-00 Straight nozzle. ID:3 mm & L:9 mm ***Fastening wrenches for the articulated system:*** 1 unit DE-FK-01-00 Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9.



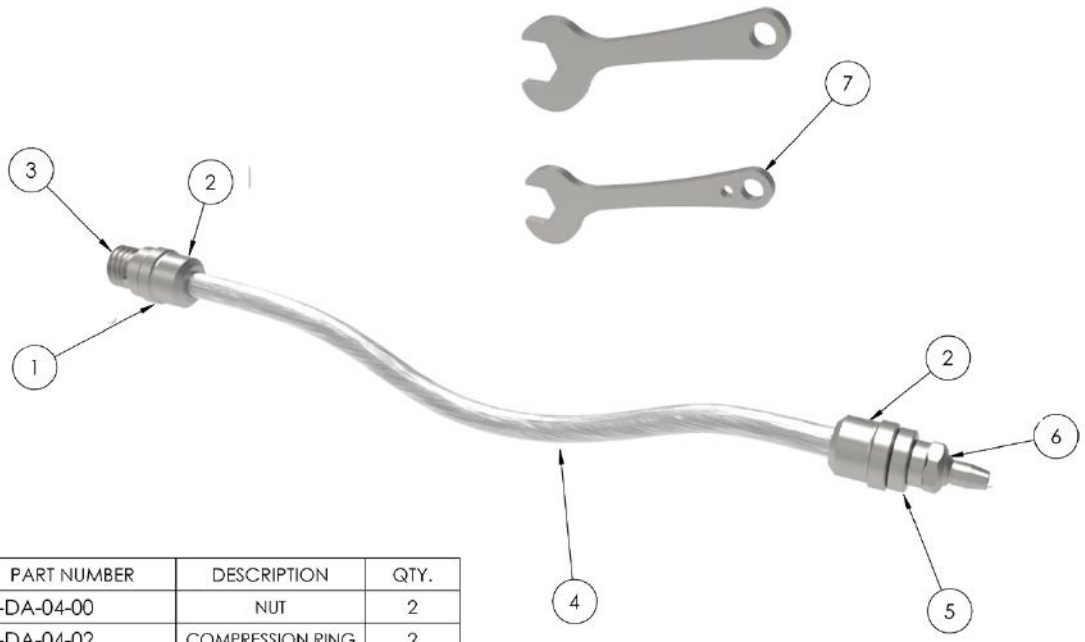
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DE-DA-04-00	NUT	2
2	DE-DA-04-02	COMPRESSION RING	2
3	DE-IC-03-00	M8x1 to NUT	1
4	Copper tube	102/152/203/305mm*	1
5	DE-DA-04-01	ADAPT. DECA NUT	1
6	DE-NZ-01-00	NOZZLE STRAIGHT	1
7	DE-FK-01-00	WRENCHES DECA	1

*The copper tube can be cut and bended to the desired length and shape by the customer

MK-GC-12-00/01/02/03

With Steel tube OD:6 mm ID:4 mm. DECA.

Ref.	Description
MK-GC-13-00 (102mm steel tube) MK-GC-13-01 (152mm steel tube) MK-GC-13-02 (203mm steel tube) MK-GC-13-03 (305mm steel tube)	**Kit steel tube OD: 6 mm, ID:4 mm, L=4"/6"/8"/12" (102/152/203/305 mm), initial connection M8x1 and DECA nozzle:** **For general cooling with a single outlet L=4"/6"/8"/12" (102/152/203/305 mm).** ***Steel tube Kit OD: 6 mm DECA:*** 1 unit. DE-DT-02-00/01/02/03 M8x1(M) thread, nut and compression ring, steel tube OD:6 mm, ID:4 mm and L:4"/6"/8"/12" (102/152/203/305 mm), other end with compression ring and DECA(M) thread. ***Coolant nozzles:*** 1 unit DE-NZ-01-00 Straight nozzle. ID:3 mm & L:9 mm ***Fastening wrenches for the articulated system:*** 1 unit DE-FK-01-00 Wrenches for fastening the 2 hexagons used in the DECA program. SW8 & SW9.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DE-DA-04-00	NUT	2
2	DE-DA-04-02	COMPRESSION RING	2
3	DE-IC-03-00	M8x1 to NUT	1
4	Steel tube	102/152/203/305mm*	1
5	DE-DA-04-01	ADAPT. DECA NUT	1
6	DE-NZ-01-00	NOZZLE STRAIGHT	1
7	DE-FK-01-00	WRENCHES DECA	1

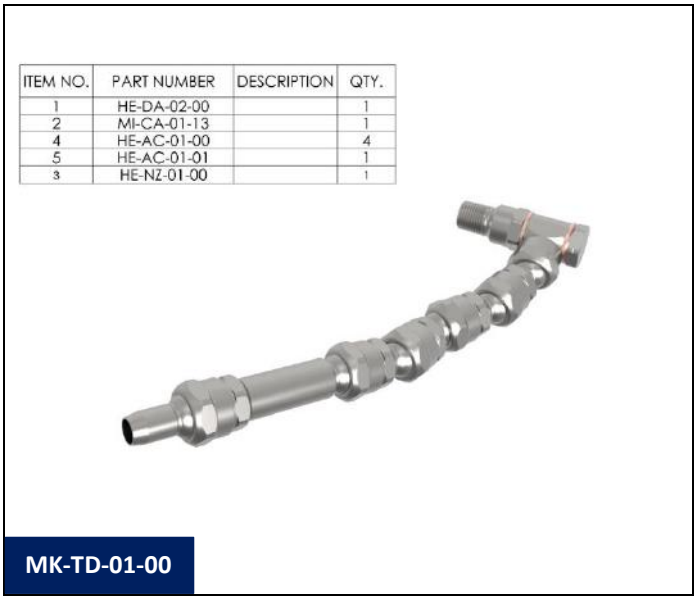
*The steel tube can be cut and bended to the desired length and shape by the customer

MK-GC-13-00/01/02/03

Kits for CNC turret disc – 90º outlet:

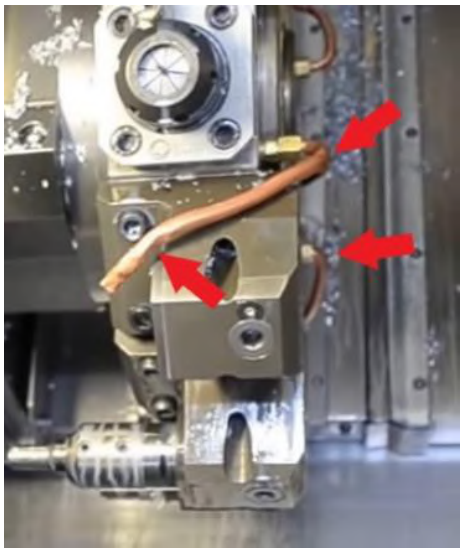
To substitute copper tubes. Traditional cooling with copper tubes implies inconsistent bending with potential strangling of the coolant flow. The extreme of tube (coolant outlet) is just shaped by flattening it without any precision. This kit brings all the advantages and possibilities of the SCS articulated steel tubes maximizing the coolant flow and allowing to easily direct the coolant stream where it is truly needed.

Ref.	Description
MK-TD-01-00	Kit single 90º outlet on back face of turret disc. BSPT 1/8". HECTO. (1 x HE-DA-02-00 + 1 x MI-CA-01-13 + 4 x HE-AC-01-00 + 1 x HE-AC-01-01 + 1x HE-NZ-01-00)

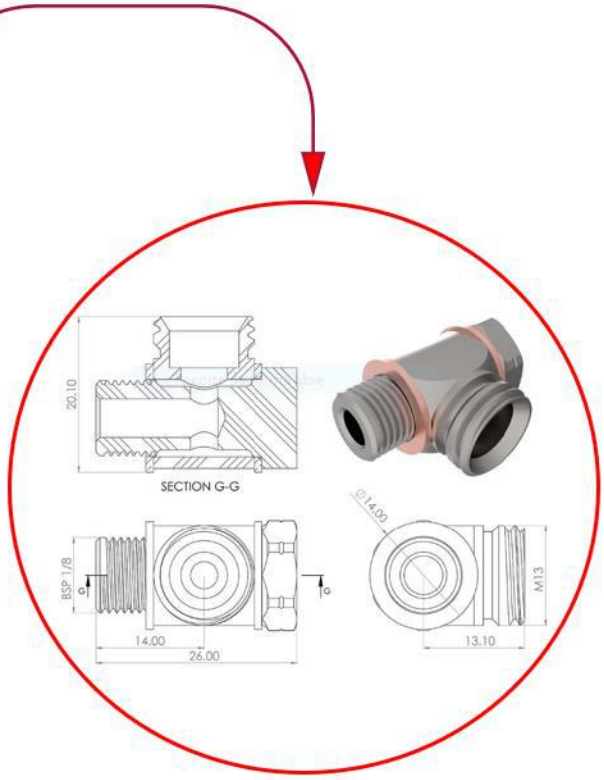


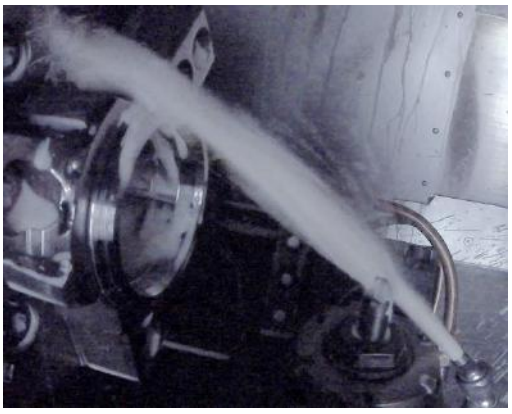
MK-TD-01-00

The problem:



The solution:





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